

Visions of the Arctic Future: Blending Computational Text Analysis And Structured Futuring to Create Story-based Scenarios

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Abstract

The future of Arctic social systems and natural environments is highly uncertain. Climate change will lead to unprecedented phenomena in the pan-Arctic region, such as regular shipping traffic through the Arctic Ocean, urban growth, military activity, expanding agricultural frontiers, and transformed Indigenous societies. While intergovernmental to local organizations have produced numerous synthesis-based visions of the future, a challenge in any scenario exercise is capturing the ‘possibility’ space of change. In this work, we employ a computational text analysis to generate unique thematic input for novel, story-based visions of the Arctic. Specifically, we develop a corpus of more than 2,000 articles in publicly accessible, English-language Arctic newspapers that discuss the future in the Arctic. We then perform a latent Dirichlet allocation, resulting in ten distinct topics and sets of associated keywords. From these topics and keywords, we design ten story-based scenarios employing the Mānoa mashup, science fiction prototyping, and other methods. Our results demonstrate that computational text analysis can feed directly into a creative futuring process, whereby the output stories can be traced clearly back to the original topics and keywords. We discuss our findings in the context of the broader field of Arctic scenarios and show that the results of this computational text analysis produce complementary stories to the existing scenario literature. We conclude that story-based scenarios can provide vital texture toward understanding the myriad possible Arctic futures.

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Key Points:

- Imaginative scenarios are an essential approach for designing futures in an accelerating era of social and environmental change in the Arctic.
- Story-based scenarios blended with computational text analysis provide an entirely new method for envisioning the future.
- Our scenario methods mirror other work on Arctic futures, though with important idiosyncrasies related to divergent regional changes.

Abstract

The future of Arctic social systems and natural environments is highly uncertain. Climate change will lead to unprecedented phenomena in the pan-Arctic region, such as regular shipping traffic through the Arctic Ocean, urban growth, military activity, expanding agricultural frontiers, and transformed Indigenous societies. While intergovernmental to local organizations have produced numerous synthesis-based visions of the future, a challenge in any scenario exercise is capturing the ‘possibility’ space of change. In this work, we

employ a computational text analysis to generate unique thematic input for novel, story-based visions of the Arctic. Specifically, we develop a corpus of more than 2,000 articles in publicly accessible, English-language Arctic newspapers that discuss the future in the Arctic. We then perform a latent Dirichlet allocation, resulting in ten distinct topics and sets of associated keywords. From these topics and keywords, we design ten story-based scenarios employing the Mānoa mashup, science fiction prototyping, and other methods. Our results demonstrate that computational text analysis can feed directly into a creative futuring process, whereby the output stories can be traced clearly back to the original topics and keywords. We discuss our findings in the context of the broader field of Arctic scenarios and show that the results of this computational text analysis produce complementary stories to the existing scenario literature. We conclude that story-based scenarios can provide vital texture toward understanding the myriad possible Arctic futures.

Plain Language Summary

The Arctic will profoundly change in the 21st century. Climate changes and other increasing human pressures will transform many parts of the region beyond contemporary recognition. We need ways to capture the current, Arctic-based perspectives of this future change and to provide engaging visions of where it might be headed. First, we use a computer-assisted analysis of more than 2000 news articles that all discuss the future of the Arctic. Second, we take the insights from this analysis and produce a set of story-based scenarios. We do this by blending science fiction prototyping, the Mānoa method, and others to produce speculative fiction scenarios. In our results, we produce ten new, creative scenarios of the Arctic future. We find that our story-based results have themes that are consistent with some existing Arctic scenarios. Moving forward, we think that the methods we use will improve the accessibility future scenarios.

Introduction

The future of Arctic social systems and natural environments is highly uncertain (Arctic Council, 2016; Fresco & Timm, 2016). Future climate change will lead to unprecedented phenomena in the pan-Arctic region, such as regular shipping traffic through the Arctic Ocean, urban growth, military activity, and expanding agricultural frontiers (Arctic Council, 2009; Cameron, 2012). Such impacts will challenge centuries of local and traditional knowledge (Ford et al., 2016; Krupnik & Jolly, 2002). Moreover, the unprecedented pace and character of Arctic social and environmental change reveals the limitations of traditional, quantitative scenario methods that privilege model-based projections inherently rooted in past observational data (Petrov et al., 2016). These knowledge and research gaps suggest an opportunity for novel tools providing comprehensive and, perhaps more importantly, imaginative scenarios of the future. Equipped with such scenarios, the Earth system science community could be better positioned to anticipate the social, economic, ecological, and technological changes that may unfold in the near future.

1.1 A rapidly changing Arctic may require new approaches

Underpinned by complex desires related to acquiring geopolitical hegemony, resource control, and urban growth, the Arctic is often viewed as a key focal point for cultural, economic, and military power in the 21st century (Arctic Research Consortium of the U. S, 2018; Brigham, 2007; Corbett et al., 2010; Mazurier et al., 2020; Network, 2008; Young, 2010, 2011). In parallel to these expansionist ambitions, the Arctic is experiencing the fastest geophysical changes taking place on the planet related to climate change, as noted in the accelerated loss of sea ice, changes in freeze thaw cycles of permafrost, and the expansion of boreal ecological systems into the Arctic region (Crate & Fedorov, 2013; Dodds, 2010; Post et al., 2009; Steiner et al., 2019; Stroeve et al., 2012). These efforts to understand the future have led to a surfeit of models, projections, and forecasts for the Arctic (Proshutinsky et al., 2016, 2020). In contrast, the local and regional experiences of those who dwell in the Arctic tend to receive considerably less attention (Cost, 2015; Falardeau et al., 2019; N. Wormbs et al., 2018).

1.2 Computational text analysis complements existing methods

It is a staggering challenge to collect, interpret, and prioritize the vast literature on Arctic system change - and then synthesize this information into scenarios about the future. Systematic meta-analysis of Arctic

futures work (Arbo et al., 2013) has revealed the utility of synthetic review, but such meta-analysis may also be too narrowly focused on relatively small sample sizes (e.g., less than 100 articles). Others have argued that there is simply too much content to consume, and, as a result, pre-existing knowledge and biases are employed to filter content (Schatzmann et al., 2013). Thus, there is a need for complimentary approaches that can scan the information across hundreds or thousands of documents and across a broad range of disciplines to accurately understand the trajectory of where the world is heading (Kwon et al., 2017).

In thinking about the future Arctic, it is necessary to think well outside-the-box regarding nonlinear changes in technology and global change (Dator, 1993, 2019; Johnson, 2011). One method for addressing biased selection of evidence can be to develop a large corpus of literature that captures a very broad range of content related to the future Arctic. However, human cognitive biases actively disregard information that seems outlandish or strange (Schoemaker, 2004), making unbiased interpretation a persistent challenge.

Computational text analysis can assist in addressing this bias by providing a complimentary means of thematic identification and analysis of a corpus of literature. In other words, a computer program can be used to potentially reduce human selection bias by ‘reading’ the thousands of texts and ‘interpreting’ different patterns than a human might see. Specifically, machine learning-based latent Dirichlet allocation can enable the rapid analysis of large, text-based datasets to reveal thematically distinct clusters of information (Asmussen & Møller, 2019).

This approach has been used in a limited way for scenarios related to drone technology (Kwon et al., 2017) and electric cars (Kim et al., 2016). Considerable opportunity exists to leverage these methods and fully incorporate them into detailed visions of the future Arctic (Kayser & Blind, 2017; Kayser & Shala, 2016).

1.3 Storytelling can convey compelling scenario worlds

Scenarios of the future vary widely in terms of approach, style, and depth of detail (Kishita et al., 2016), yet often only describe a possible future world, based on projections and interpretations of large amounts of data. While descriptive scenarios can be creative, these approaches often fail to inspire action, engage the public, or interest policymakers (Milkoreit, 2017). Story-based scenarios with characters and plot development have emerged as successful vehicles for impactful sustainability scenarios (Calvert, 2019; Johnson & Winkelman, 2017; Merrie et al., 2018; Spijkers et al., 2021). Story-based methods can be understood as *narrative, fictional depictions of future worlds*. Storytelling methods are meaningfully different from narrative approaches, since they represent a deeper exploration of future worlds (Carbonell et al., 2017), and they allow participants to explore how their daily lives, values, and habits can be mapped onto different contexts (Raven & Elahi, 2015).

The purpose of the present work is to demonstrate how a latent Dirichlet allocation (LDA) analysis may input directly into a creative, structured futuring process (Fig 1). We define structured futuring as a *systematic, multi-step approach for creatively developing a story setting, set of characters, and plot that interrogates a particular topic or set of topics*. We are explicitly not aiming to provide a definitive new set of comprehensive scenarios, especially given the absence of participation with Indigenous and local communities in the Arctic. On the contrary, we are piloting this approach in the Arctic region both because of the extensive, existing scenario work available for comparison, as well as the diversity of challenges that are being faced by Arctic societies (Akiwenzie-Damm et al., 2019).

However, this does not mean that we ignore the context or the place where the text data originated. While our project is not participatory, we have endeavored to situate each story thoughtfully and critically in a specific future context, by telling multiple stories that reflect the diversity of the Arctic population, including ethnicities, gender identities, ages, and Indigeneity. Moreover, we aim to provide a “multiplicity of voices” through the eventual stories that are told (D’ignazio and Klein, 2020), while acknowledging the partiality of the perspectives that we can bring to bear given the limits that our perspectives permit (Weinberger, 2009). Finally, our scenarios aim to engage the humanities via the transformation of a computational text analysis into stories (and later artwork) that embrace open-interpretation, ambiguity and complexity (Drucker, 2011). We reflect more on the future of these methods in the Discussion section.

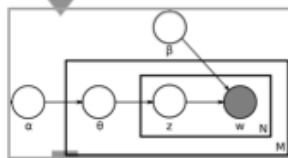
Computational topic modeling



Corpus collection and
conversion to plaintext



Conversion of corpus to
machine readable text



Perform latent Dirichlet
allocation (LDA) in Python

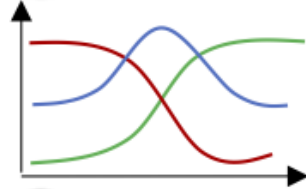


Analyze and visualize results
of LDA in Python, revealing
the Topics and Keywords

Worldbuilding (i.e. creating a story setting)



For each Topic, use
Keywords to imagine how
these elements in the future
interact with one another



Use 3-Horizons framework
to organize interactions
along a spectrum of time &
dominant paradigm



Probe reality, and examine
the broader cultural context
in which the emergent
world is set



Push social & technological
aspects toward
ridiculousness

Figure 1. Conceptual overview of how the topic modeling analysis feeds into the structured futuring process, including worldbuilding and story creation.

2 Data and Methods

2.1 News article corpus on the future of the Arctic

We collected news articles from multiple Arctic regional news sources. These articles were available in publicly accessible, English-language Arctic newspapers, specifically: The Arctic Sounder, Arctic Today, The Barents Observer, CBC North, The Moscow Times, Nunatsiaq News, and Radio Canada International. These sources were selected based on a set of preliminary conversations with community leaders, scientific experts and public officials from throughout the Arctic. We use the Google Search engine as a method of discovery, and a temporal window of search of 2010-2020. These dates do not correspond to any specific event, but rather capture a recent, contemporary set of published perspectives on the future Arctic.

For most sources, we simply used the search term ‘future’ as a filter of the articles, given the publication itself was an ‘arctic’ publication. For Radio Canada International and The Moscow Times, we used both ‘arctic’ and ‘future’ as a filter. While the language of the sources was restricted to English-language texts, there are news resources coming from the entire pan-Arctic region, including Russia, Finland, Sweden, Norway, Iceland, Canada, Greenland, and Alaska. The purpose for this broad collection is to ensure that the information from the regional (i.e. spatially extensive, less granular, more general) and the local (i.e. spatially specific, more detailed, deeper knowledge), spans the possibility space of a large fraction of the Arctic discourse about the future, available in English-language newspapers. While additional words could have been used, such as ‘projection’, ‘forecast’, or ‘scenario’, we were intentional about using a simple, straightforward — and hopefully repeatable — procedure. We rely on the word ‘future’ as our primary search term, for multiple reasons. First, ‘future’ is commonly used as both a noun and an adjective. As a noun, ‘future’ is defined as “the time that will come after the present or the events that will happen then” (OED Online, 2021). Likewise, as an adjective, ‘future’ is defined as “That is to be, or will be, hereafter.” These definitions are precisely the meaning we are after. Second, there are very few nouns in the English language that are commonly used to convey this definition, with less commonly used words including “hereafter” and “tomorrow”. There are some synonyms of ‘future’ as an adjective, though these tend to be less precise (words include: anticipate, expected). Thus, the simple choice of ‘future’ in this case allows us to target the definition of the word future, with a straightforward approach.

While the Google Search algorithm often displays tens of thousands of search returns, a user only has access to approximately 300 entries. Thus, we limit the collection of articles to the top 300 articles returned from each source. The order of entries from a Google search employs the proprietary PageRank algorithm that sorts and orders webpages based on the number of other links to them on the internet. This will inevitably lead to some skew in the types of articles that are listed at the top, and we anticipate that future work could use alternative search approaches that would potentially yield different sets of articles. That is, however, beyond the scope of this work. Ultimately, by using Google Search we ensure the method is free and generally easy for others to use, without any fee-based licenses.

The potential for biases exists in multiple aspects of this corpus. First, we only use English-language texts (or texts that were translated into English). As a result, there is an *anglophone* bias that may include implicit or tacit perspectives that are difficult to surface, not least related to the legacy of settler colonialism in Indigenous communities in the Arctic. Along with this, we note that the LDA implicitly absorbs biases of the corpus itself, including: the vocabulary of the news article authors, the political biases of the article authors themselves, and the editorial biases of the news sources and their publishers. In acknowledging the various contexts that constrain the creation of these source articles (D’ignazio and Klein, 2020), we aim to definitively underline that this machine learning method contains its own variety of bias.

Second, we are implicitly adopting the biases of the search algorithm that was used — in this case a Google-based search. While this is certainly a bias, we intend for this method to be theoretically accessible to anyone, which would exclude many scholarly search products, which often require paid subscriptions or memberships

to specialized organizations. While other forms of written information about the future of the Arctic region exist (such as journal articles, reports, or other forms of information), we wanted to collect publicly-available and currently discussed ideas about the future. Freely available news articles serve this aim by providing publicly available information.

Finally, we note that the composition of the research team is not local or Indigenous to the Arctic, and is only capable of interpreting English-language texts. Moreover, since the goal was to generate written stories from computational text analysis, both the input and the output needed to be in English. Also, while a future goal of this type of work could include engagement of local and Indigenous communities in the Arctic, this work aims to demonstrate the method’s potential, by using publicly available documents written for and by an audience that exists in, or is concerned with, the Arctic. That being said, the data should be interpreted as originating from texts that were written from specific positions of cultural power throughout the Arctic and near-Arctic, rather than representative of a reality devoid of these power dynamics (D’Ignazio and Klein, 2020).

2.2 Text preparation and conversion

Each document was saved in a plaintext file, and manually stripped of erroneous material that did not pertain to the article itself, including strings of characters associated with unrelated website HTML (i.e., Hypertext Markup Language), unrelated publication text, or advertisements. Once the corpus of texts was identified, we generated a machine-readable corpus using Python-based scripts that can batch-convert documents to text strings. It is important to note that the corpus is being used for educational and research purposes only, and that the corpus itself is not publicly distributed.

2.3 Latent Dirichlet allocation (LDA)

Using the GENSIM package, in addition to several other Python-based tools, we performed the tasks of converting the strings of text into a vectorized set of inputs for analysis, including tokenization, lemmatization, and stop-word filtering (Řehůřek & Sojka, 2010; Sarkar, 2019). Next, we performed the latent Dirichlet allocation (LDA). LDA is a machine-learning based approach for taking a large corpus of texts, and revealing the latent (i.e., hidden), patterns of keywords and topics that occur across the corpus. Below, is a more detailed explanation of the process, including the corresponding versions of each software package used. We note that multiple methods of text analysis could be suitable for identifying semantically distinct topics from a large corpus, such as latent semantic analysis (LSA) or latent semantic indexing (LSI). We employ LDA primarily because it produces highly interpretable topics (Kayser and Shala, 2014) with intuitive topic visualization options (Sievert and Shirley, 2014).

We use Python version 3.7.7 for this entire analysis. The initial step for the LDA is to pre-process each document using the Python-based Natural Language Toolkit (NLTK) version 3.4.4. Tokenization is the initial step of breaking the text within each document in the corpus into the individual units of meaning, in this case, individual words. Stopwords are then removed, including frequently used words such as “the”, “and”, “as”, etc. As a note we used both Gensim and NLTK since the tokenization process in Gensim led to spurious words that persistently passed through the tokenization filters that we implemented using Gensim. NLTK was used as a substitute since it was more effective at the tokenization procedure, for our specific task.

Lemmatization is the final step in the corpus preparation, which helps reduce the remaining words to their basic form, e.g., changing past tense versions of a word to a common form. These steps result in a tokenized corpus of texts. It is possible that lemmatization eliminates potentially valuable temporal context for articles, specifically signaling past, present, and future tenses. However, in this analysis we wanted to maximize the set of distinct words to characterize the future, rather than find (potentially) multiple words with the same root albeit with different tenses. Future work could explore this question, though it is outside the scope of this work.

Next, the Gensim Python package (version 3.8.0) is used for the LDA, which is a method that iteratively

identifies the latent topic structure across the corpus. This is completed by repeatedly evaluating sets of words, and learning which clusterings lead to coherent, distinct, topics. There are several parameters that can be adjusted, but the most consequential for our work is the number of topics that are being sought in the analysis. We performed a sensitivity analysis, varying the number of topics for which the corpus was clustered, and calculated the resulting Coherence scores for all analyzed numbers of clusters. Coherence measures the degree of semantic similarity, which helps distinguish between statistical artefacts and actual semantic relatedness. So, a better Coherence score implies greater semantic similarity among the terms in each topic cluster. There are several metrics for Coherence, and based on a systematic review of various coherence metrics, we employ the C_v metric (Röder et al., 2015). For our purposes, we aimed for each topic to be internally, semantically, similar enough to support a coherent storytelling process. Thus, we aimed for the highest Coherence score.

2.4 Visualize LDA results and identify scenario seeds

Using the pyLDAvis package in Gensim (Sievert and Shirley, 2014), we visualized the Intertopic Distance Map, based on a principal component analysis calculated within pyLDAvis. Additionally, we show the 30 most relevant terms for each topic. The Intertopic Distance Map was leveraged as a quadrant space (i.e., the four sections created by the two axes) and we labeled the axes to provide scenario context based on exogenous drivers; this is further elaborated in Section 3.3 below. The process of creating a quadrant space to construct scenarios is a central feature of many scenario analyses (Raven, 2014; Raven and Elahi, 2015; Merrie et al., 2018).

2.5 Employ structured futuring methods to take the LDA to a story-based scenario

We develop a process for creatively blending the topic’s keywords and the topic’s context, to construct a novel scenario world (i.e., the setting of the story), produce characters who inhabit this scenario world, and develop a brief plot. The first step is the same for all scenarios:

Define the axes of the Intertopic distance map: Label the axes of the principal component quadrants to define overarching context for each scenario, to ensure that themes which are close to one another in the principal component quadrant space are similar in some way, while those far apart are dissimilar. Build from existing work that employs similar scenario quadrants (Raven, 2014; Raven and Elahi, 2015; Merrie et al., 2018).

The subsequent steps are repeated for each scenario, though the details of each diverge according to the topics and keywords identified for each scenario (a full example of these steps are given in Section 3.5). Relevant references corresponding to each step are provided below:

1. *Summarize keywords* : Examine the set of 30 keywords for the topic, and manually summarize into a core topic. If there is a specific location(s), use this to provide a setting for the world.
2. *Distill core topic* : Based on the keyword summary, identify a suitable core topic (Kwon et al., 2017).
3. *Explore topic and keywords with futures wheels* : Based on the core topic, the keywords, and the intertopic context, brainstorm how the ideas might be connected to one another in the future. Look for both logical and contradictory connections (Pereira et al., 2018).
4. *Use 3-horizons framework to build a future history* : Placing the futures wheels brainstorm at the end of the third horizon, begin to identify how the world has transformed from the present day to the hypothetical future world. Identify key events or changes that had to unfold to get from the present to the future (Sharpe et al., 2016).
5. *Probe reality and cultural change* : Zoom-out from the specific scenario world that is emerging, and explore what changes exist in governance, education, culture, the arts, economy, and more (Hamann et al., 2020).
6. *Push toward ridiculousness* : Select several of the keywords or other ideas and identify the most radical technological or social changes that could unfold in the future. Include some of these in the scenario (Dator, 1993; Merrie et al., 2018).
7. *Visualize character(s)* : Take the nascent future world and visualize a scene from the world. Explore the type of character that is revealed in this scene and articulate what the character is doing in the

visualization. Based on this, define relevant attributes for understanding this character (internal and external motivations; fears and hopes; past experiences; etc.).

8. *Design plot based on world and character* : Based on the character and the world, identify a challenge that could emerge that would allow the character to change or adapt in some way. Then, identify how a character might deal with such a challenge (Johnson, 2011).
9. *Build story beats* : Use the character and the basic plot to articulate the story-beats that will form the scaffold of the story. Story beats include: *Every day...*, *Until one day...*, *Because of this...*, *Because of that...*, *Until finally...*, and *Ever since then...*
10. *Write story* : Using the story-beat scaffold, begin writing the creative story of the character moving through the world, responding to a challenge, and navigating the consequences of these actions.
11. *Test story for fidelity* : Ensure that the resultant story contains key elements from the LDA analysis, including the intertopic context, the topic keywords, and the core topic.

In an effort to critically participate in the representation of diverse situations in the Arctic, we intentionally and explicitly represent storylines that take place in different social, cultural, and national contexts. We also intentionally represent characters of different ages, classes, and genders to provide a critical lens through which to view issues of social power. By exposing these goals, we hope to clarify the importance of situating stories thoughtfully, particularly in parts of the world populated by people who have been historically marginalized or harmed.

3 Results

3.1 Corpus construction

We collected 2,058 articles from our set of Arctic news sources. Each source provided 300 news articles, except for Arctic Today, in which we found a total of 258 articles in our search. More articles were returned that were published toward the end of the decade, than toward the beginning, which is possibly a result of the Google Search algorithm (Fig S11). Each article was saved in a plaintext format, and its metadata was recorded, which is available in Supplemental Table 1. The 2,058 articles were then batch-converted from plaintext files to machine-readable strings. Other methods exist for characterizing corpus composition, including bi- and tri-gram frequency (the frequency of certain sequences of word pairs, or triads). In our work, however, we employ the term frequencies that are specifically related to each of the LDA-derived topics.

3.2 Computational topic modeling

We iteratively performed the LDA by varying the number of topics, and measuring the corresponding Coherence score (discussed in Section 2.3; see Fig S12). The highest Coherence score in our analysis was 0.54, and was achieved with eleven clusters. It is worth noting that Coherence is a relative metric related to the corpus itself. Additional information on the statistical optimization of latent Dirichlet allocation (LDA) methods is discussed in depth in other work (Chang et al., 2009; Hecking & Leydesdorff, 2018; Röder et al. 2015). Thus, the result of our LDA analysis was eleven semantically different topic clusters.

Topic coherence is one way to quantitatively assess how well the topic model is able to capture distinct topics with distinct sets of meaning, i.e., semantic similarity. Given that the purpose of the LDA in this research is to feed directly into a semantically meaningful task, i.e., creative storytelling, the qualitative process we employ serves as a second, though informal, metric of whether the identified topics are semantically meaningful. Indeed, topic eleven was ignored in this analysis given its clear lack of meaning, despite being identified by the LDA as a distinct topic. Other methods exist for detecting meaningfulness in a corpus, including word or topic intrusion (Chang et al., 2009). While beyond the scope of this research, since the authors themselves served as the human test of whether a topic was semantically meaningful or not, these methods could be a useful complement in research where there is no subsequent step that assesses topic meaning.

The LDA produced a variety of results, including a set of overall term frequencies across the entire corpus (Fig 2, right side), a set of latent topics composed of keywords, as well as various measures of ‘intertopic’

distance in a set of principal component axes (Fig 2, left side). The spread of the topics is not uniform across the distance map, which highlights that some of the topics may be more related to one another than not. This is not a problem and will be leveraged, as discussed in the next section. The Intertopic Distance Map shows that the first ten topics represent substantial portions of the corpus, while the eleventh topic (while quantitatively unique), contains text that is two orders of magnitude lower in frequency across the corpus. Thus, we ignored the eleventh topic, and are left with ten distinct topics.

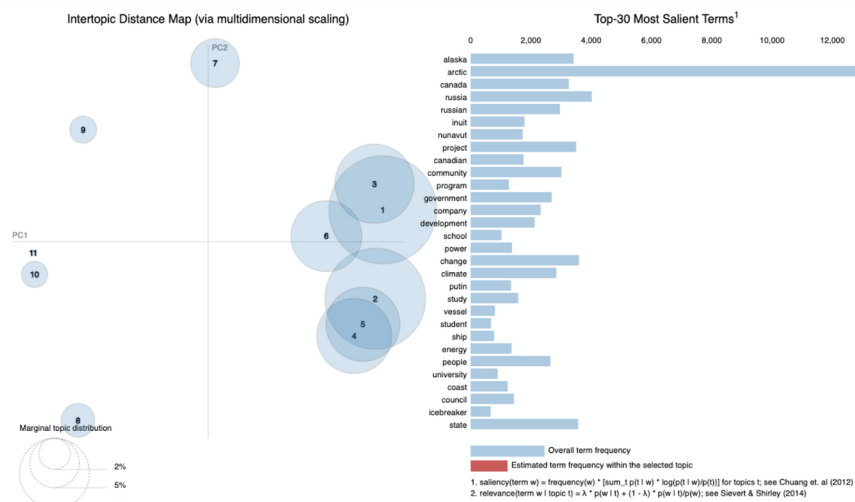


Fig 2. Results of the latent Dirichlet allocation, with thematic dominance and clustering visualized on the left, and the baseline frequency of keywords across the entire corpus depicted on the right. This was generated using the freely available pyLDAvis software in the GENSIM Python package.

3.3 LDA topic quadrants

We labeled the axes of the principal component quadrants to define overarching context for the scenarios, to ensure that topics which are close to one another in the quadrant space are similar in some way, while those far apart are dissimilar. To be clear, this step is entirely user-defined, and relies on human interpretation of the text analysis. For the purposes of our scenarios, which aim to explore the *future* of the Arctic, we use two broad features that would serve as exogenous drivers for the entire region: climate change severity and regional levels of cooperation.

The x-axis describes the relative severity of climate change in the Arctic region, with the right side representing anticipated climate changes, and the left side representing extreme climate changes. Given the overwhelming evidence to date of how the Arctic is disproportionately sensitive to climate change (Dodds, 2010; Post et al., 2009; Steiner et al., 2019; Stroeve et al., 2012), the concentration of most of the scenarios in that domain is supported empirically. The left side of the x-axis represents more extreme climate changes, which we acknowledge are possible in the range of climate projections, as well as being exceptionally consequential to the region.

The y-axis describes whether the Arctic region is characterized by conflict or cooperation. The top of this axis represents high cooperation, including economically, politically, socially, and militarily. The bottom of this axis represents low cooperation. In this way, the bulk of the thematic clusters are somewhat neutral, and this is broadly reflected in the patchy history of Arctic cooperation (Osherenko & Young, 2005). There have been periods of peace and international cooperation, exemplified, for example, by the effectiveness of the Arctic Council (Young, 2010). Likewise, there have been profound periods of conflict (Keil, 2014; Rahbek-Clemmensen, 2017; Young, 2011), as well as targeted violence toward Indigenous peoples (Crawford, 2014;

Salusky et al., 2021).

To be clear — the position of the topic clusters in this quadrant space does not determine the content of the scenario but helps to frame the *context* of the scenario. Thus, when the scenarios produced in this analysis are compared with one another, those that were identified computationally as more tightly clustered exist in similar types of geopolitical and climatic contexts (i.e., topics 1, 2, 3, 4, 5, 6), whereas those that were distributed throughout the intertopic space will be more idiosyncratic (i.e., topics 7, 8, 9, 10).

3.4 Distribution of topic clusters in the Intertopic Distance Map

We can clearly interpret the current dominance of each topic relative to the others, with topics 1-6 being quite dominant and topics 7-10 being less so. This information provides additional context of how representative a given theme is for the entire corpus. Here we provide a summary showing each topic with its corresponding keywords (Table 1).

Table 1. Summary of topic clusters with corresponding top 30 keywords in that cluster with terms listed in descending order of relevance within the topic (i.e., the first term is the most salient to the topic)

Topic #	Top 30 Keywords in each topic
Overall corpus term frequency	alaska, arctic, canada, russia, russian, inuit, nunavut, project, canadian, community, progra
1	people, alaska, community, state, future, would, years, public, project, local, think, issue, r
2	arctic, change, climate, research, study, ocean, polar, water, years, could, bear, north, futur
3	arctic, council, region, norway, country, state, barents, international, norwegian, china, clim
4	arctic, first, north, building, guard, would, winter, include, plan, future, build, photo, servi
5	project, company, energy, million, development, industry, investment, infrastructure, produ
6	russia, russian, putin, state, moscow, country, military, headline, president, gazprom, power
7	canada, inuit, nunavut, canadian, government, community, iqaluit, indigenous, territory, fe
8	vessel, ship, icebreaker, nuclear, power, cruise, expedition, murmansk, coast, route, fleet, vo
9	alaska, caribou, lease, refuge, development, wildlife, national, coastal, administration, trum
10	student, school, program, college, education, youth, university, graduate, award, skill, colle

3.5 Creating story scenarios from the LDA topics

While the creation of each of the ten stories was inherently unique, we nonetheless detail the process for one of the stories (Topic #5, “Concession 60”) to illustrate what the structured futuring process looks like in practice (Fig 3). The full creative processes for all the stories are documented in the Supplement. While the LDA objectively revealed the keywords for this approach, every other step was a structured, imaginative endeavor. As such, a very large number of stories could conceivably emerge from the starting point of the topic model. However, a key goal of this method is to maintain fidelity in the eventual story concepts and ideas to the original LDA topic context and keywords (Steps 1 and 2).

While each step is described in the Methods section of this text, we examine here the step-by-step approach displayed in Fig 3, corresponding to the steps for constructing the story for Topic #5, entitled ‘Concession 60’:

1. For Topic #5, the two-quadrant context was *expected climate change* and *low cooperation*.
2. The keywords for Topic #5 were clustered around the concepts of ‘industrial development’, ‘finance’, ‘extraction’, and ‘agreements’.
3. Based on these keywords, the core topic was labeled ‘Extractive, industrial Arctic’.
4. Next, using Futures Wheels we brainstormed interconnections that might emerge in the future among these keywords in Topic #5, in the context of the labeled quadrants.
5. Then, we used the ideas from Step 4 in a Three Horizons exercise and explored the changing paradigms

that would wax and wane over time, leading to a future characterized as an ‘Extractive, industrial Arctic.’

6. Next, we took our ideas and keywords from Steps 2-5, and reflected on the broader regional and global aspects of how the world in Topic #5 may interact with this idea of a future Arctic.
7. In ‘pushing toward ridiculousness’ and given the topic of extraction and industrialization in the Arctic, we considered what aspects of society, economy, and technology could be dramatically different from the present. In this way, we explored ideas of labor, drone monitoring, and nano-mining that are, at present, not socially, economically, or technologically in existence.
8. Equipped with a mature setting in which a story might unfold, we develop a character named *Misha Park*, a climate migrant from the United States who had migrated north, to an undisclosed Arctic location.
9. Based on the extractive, industrial Arctic and the climate migrant, Misha, we developed a plot that explored how a climate migrant might be entrapped in exploitative labor practices to sate ongoing global demand for rare earth metals.
10. Using the story beats method, we identified the major turning points of the narrative for the character, focusing on a day in the life of an indentured laborer in future rare earth mining operations, who also suffers from the trauma that she experienced as a climate migrant.
11. Using all this preparatory work, the story was drafted around each story beat, ensuring that Misha had a satisfying character arc, and that the story adequately explored the future world of an extractive, industrial Arctic.
12. Qualitative review was employed to check whether the eventual story could reflect back to the original keywords from the LDA, with prominent themes in the story related to ‘infrastructure’, ‘investment’, ‘mining’, ‘resource’, and ‘production’.

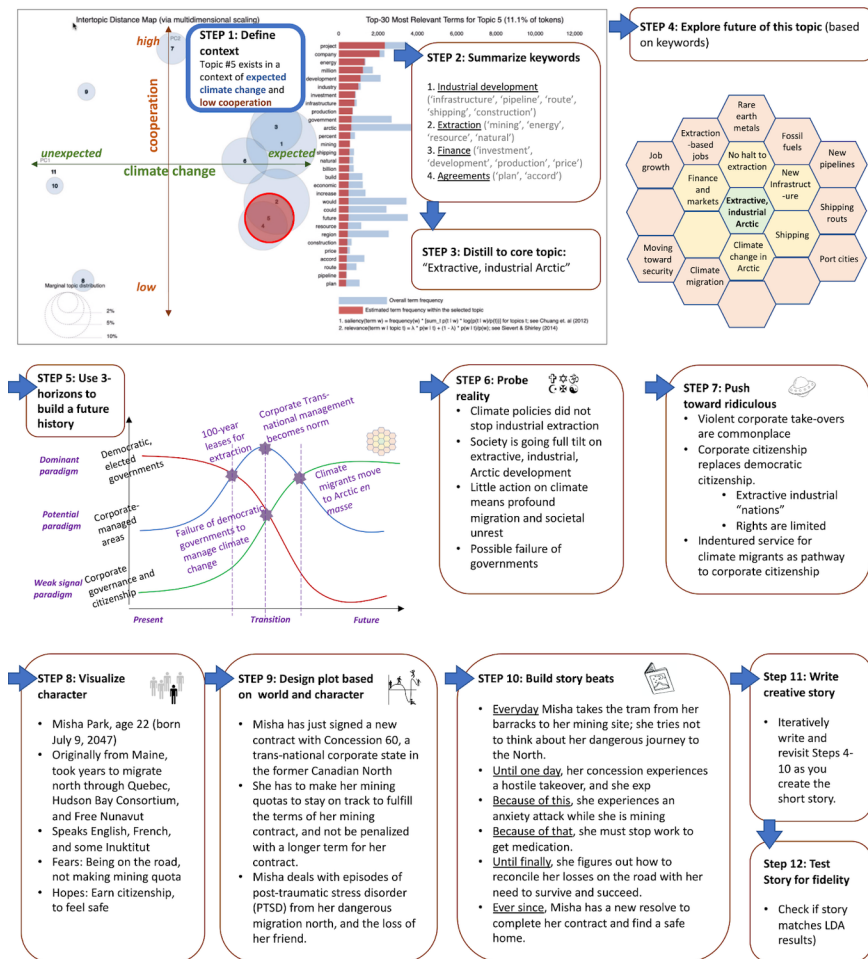


Fig 3. Summary of the story-based scenario creation procedure for Topic #5 'Concession 60'. Steps begin at the top left, and can be read left-to-right, and top-to-bottom.

3.6 Description of stories from LDA themes

We briefly share an overview of all ten stories in Table 2, and the full stories are included in the Supplement. The important result presented in this manuscript is not the collection of scenarios per se, but rather the method for feeding the LDA approach into a structured futuring process. Thus, while the ten scenarios are valid in their own right, we emphasize that the purpose of these scenarios is to illustrate the outcome of the blended LDA and structured futuring approach.

Table 2. Overview of stories, including theme, title, and brief description of the world and story.

Topic #: Title of Story

1: Campus Utqiagvik

Story: The outgoing civic leader in Campus Utqiagvik is visiting the grocery store, and is experiencing nostalgia and a sense of loss.

2: Nanook Station

Story: A corporate spy is secretly monitoring scientific advancements at a scientific outpost on Devon Island near Baffin Bay.

3: Security Detail

Topic #: Title of Story

Story: *Else Larsen, the security detail for the Norwegian delegates to an Arctic Council meeting, compares the public and private lives of the delegates.*
 4: *The Last Preserve*

Story: A student group is on an ocean-going ship visiting a preserved island environment in the Yukon, Canada, where the group discovers a hidden treasure.
 5: *Concession 60*

Story: *A person begins a work contract with a mining conglomerate, and experiences traumatic memories of her migration to the Arctic.*
 6: *Putin's Gambit*

Story: A future history in the style of a popular podcast, where a story unfolds of how Russian political leadership miscalculates the future of the Arctic.
 7: *Voice from the Past*

Story: *During a meeting among trade representatives from Inuit Nunangat and Canada, an off-hand prejudiced comment leads to a heated exchange.*
 8: *Icebreaker*

Story: Two individuals on a permanent Russian icebreaking station near the Kara Sea must decide how to deal with a potential conflict.
 9: *Assisted Migration*

Story: *A group of biologists, tasked with monitoring and guiding the Porcupine Caribou herd northward encounters a technological challenge.*
 10: *School's Out Forever*

Story: A family on a homestead in the Sakha region of the former Russian Federation shares stories about what the world will be like in the future.

4 Discussion

4.1 Scenarios connect back to the LDA analysis

Following the structured futuring approach, and the creation of the story-based scenarios, we examined whether the resultant stories bore a resemblance to the original LDA topics. Each of the narratives was iteratively reviewed to ensure both that (a) the story content reflected the corresponding topic clustering and the topic keywords, and (b) that each story did not too-closely resemble the content of another set of topic keywords. This review process helped to ensure that each scenario depicted relatively unique elements of the future. While outside the scope of the present analysis, future work could endeavor to explicitly determine whether the keywords present in a resultant scenario are quantitatively distinct from other scenarios. However, this would be challenging due to the short word count of the story scenarios, which are each between 1,500 and 2,500 words.

4.2 Comparison with narrative scenarios across the global Arctic

We find notable thematic overlap among various other narrative scenario efforts, sampled from research conducted around the global Arctic. In Table 3, we highlight some of these other scenarios, with corresponding descriptions of thematic overlap. The narrative scenarios highlighted in Table 3 provide a sample of the existing literature on the topic of the future of the Arctic region. While it is interesting that some of the scenarios that we have produced are thematically well-represented in the Arctic scenario literature (e.g., “Concession 60”, “Assisted Migration”), there is one that notably has no apparent representation in the existing literature.

“Putin’s Gambit” describes a world that has made tremendous global progress on climate change action and emissions reductions, except for Russia, where its politics have fostered continued fossil fuel exploration. From a scenario perspective, this is in large part due to Russia’s continued and projected reliance on fossil fuels as a major part of its economy (Ilinova et al., 2020; Keil, 2014). Thus, a contradiction emerges where despite global progress being made on the topic of emissions reduction, there is a significant aberration in the Russian economy. The brief thematic review in Table 3 suggests that this combination of themes may be under-represented in the existing scenario literature.

Table 3. Comparison of a sample of existing Arctic scenario narratives with the ten scenarios produced in this analysis

Topic #: Title of Story	Scenario literature featuring similar ideas
1: Campus Utqiagvik	Lovecraft (2019), "Scenario #5"; Falardeau et al. (2019) "Havakatigiit"
2: Nanook Station	Lovecraft (2019), "Scenario #2"; Nilsson et al. (2017), "Inequality"
3: Security Detail	Lovecraft (2019), "Scenario #4"; Global Business Network (2008), "Arctic Saga"; Brigham (2007b)
4: The Last Preserve	Global Business Network (2008), "Polar Preserve"
5: Concession 60	Global Business Network (2008), "Arctic Race"; Brigham (2007b), "Globalized Frontier"; Nilsson
6: Putin's Gambit	- - -
7: Voice from the Past	Lovecraft (2019), "Scenario #7"; Falardeau et al. (2019) "Kablonak"
8: Icebreaker	Lovecraft (2019), "Scenario #1"; Global Business Network (2008), "Arctic Race"; Brigham (2007b)
9: Assisted Migration	Lovecraft (2019), "Scenario #3"; Global Business Network (2008), "Arctic Saga"; Brigham (2007b)
10: School's Out Forever	Lovecraft (2019), "Scenario #6"; Global Business Network (2008), "Polar Lows"

4.3 Stories permit creative visions of the future

An advantage of combining a distant time-horizon (e.g., the end of the 21st century) with a creative approach to scenario generation (e.g. science fiction prototyping), is the ability to play with themes that are outlandish or perhaps ridiculous, at least compared to the present day (Dator, 1993; Johnson, 2011). In the context of the Arctic, there are a significant number of factors that will lead to diverse and wide-ranging outcomes, in particular the roles of Indigenous identities in the future (e.g., Latulippe & Klenk, 2020), pronounced ecological change (Post et al., 2009), and radical technological advances (Akiwenzie-Damm et al., 2019; Asinnajaq, 2017).

The process of developing a story-based future inherently requires creativity, which is neither easy to quantify nor easy to train. Moreover, narrative scenarios can prove to be tremendously engaging to readers of scenarios, by immersing a reader in a story rather than providing only a description (Burnam-Fink, 2015). With this demonstration of blending computational text analysis with storytelling, a next step could be to engage Arctic participants directly in both the curation of a novel corpus of literature on the future, and to participate in the imagining of new visions of the future. Stepping back, this work can be seen as examining how human creativity can productively collaborate with machine learning methods. Indeed, in an era where algorithms dominate discourse about what to expect from and of the future, there is an urgency for demonstrations of the critical role of humanistic perspectives.

Artwork is an additional mode of contending with the complex content and questions embedded in scenarios, and can include visual art, spoken word, musical interpretation, or theatrical production (Grimberg et al., 2019; Jacobs et al., 2017; Merrie et al., 2018). As such, art can be leveraged to meaningfully engage a much broader audience that otherwise would not have a clear way to participate in the process of envisioning Arctic futures. Art can tap into deep-seated human experience, and it can be leveraged to connect wide-ranging audiences with important, worthwhile topics, with which they might not otherwise engage (Akiwenzie-Damm et al., 2019; Ramachandran & Hirstein, 1999). While full discussion is beyond the scope of this article, visual concept art has been developed to accompany the ten visions of the Arctic presented in this article. This artwork provides an engaging and immersive complement for the stories themselves. An example is shown in Fig 4.



Figure 4. Examples of visual art for two of the story-based scenarios. The top panel is an image inspired by ‘Concession 60’ (i.e., Topic #5), and the bottom panel is an image inspired by ‘Assisted Migration’ (i.e., Topic #9). Artwork is used with permission by Patrick W. Keys and Fabio Comin. All rights reserved by the creators.

4.4 Positionality and interpretation

The authors of this work emphasize that the analysis, particularly the subjective interpretation of the LDA results and the development of stories, reflects individual positionality (i.e., Western, non-Indigenous), perspective (i.e., external to the Arctic), and social privilege (i.e., scientists from a research university). Awareness of this is critical to appropriately situate and contextualize the scenarios themselves, both as readers and writers. A story-based scenario process is inevitably subjective, which is in fact part of the motivation, given that stories can be an accessible format for engaging broad audiences on complex topics. Nonetheless, we clarify our own positionality above to provide additional context for those engaging with these stories.

4.5 Future work

This work is intended to be a starting point for those interested in expanding the scope of Arctic scenarios, by blending computational methods with imaginative, story-based approaches. While the present analysis is limited to two authors who are not currently located in the Arctic, we hope that this pilot demonstration can serve as a launchpad for engaging new partners. Specifically, we hope that communities that are local and Indigenous to the Arctic will find the scenarios engaging and explore the story-based methodology to develop future scenarios tailored to their own communities.

A next step of this work could be to identify communities in the Arctic that might specifically be a good

fit for this type of scenario process. Potential partners could include colleges and universities, particularly those with a focus on educating local populations, for example Iisagvik College located in Utqiagvik, Alaska. Such a partnership could include a combination of scenario-based learning, as well as collaborative research, both among students and faculty. Eventually, if such a scenario approach were successful in an Arctic academic context, a broader effort could be made to work with communities beyond academia, including tribal organizations and local governments. Many other examples of structured futuring exist in Arctic contexts including with Indigenous communities (e.g., Falardeau et al., 2019), though few explicitly link the methods we discuss in this article (specifically computational text analysis and story-based futures). All efforts in the Arctic, however, are characterized by a need for deep engagement with local communities, which require time, communication, and honest partnership.

Some complexities exist for this work to be relevant for Arctic communities, not least the technical barriers that exist for collecting relevant texts, developing multi-lingual analytical capacity, the provision of computing hardware, as well as technical training for personnel. At the same time the entire method presented here does not need to be adopted in its entirety. It is conceivable that a user of this work could take our LDA analysis, and use it as a jumping off point, such that other scenarios could be created following our story-based approach yet based on the same LDA output. This would sidestep the barriers to computational text analysis and would permit new interpretation of the LDA results in a way that reflected the perspective of the new users.

There are numerous possibilities for future expansion of the computational text analysis. First, exploration of non-English corpuses is a frontier for this work, not least because of the linguistic diversity present in the Arctic. While it is well beyond the scope of this analysis, collaborative research teams, possibly leveraging circumpolar research networks, could leverage considerable local capacity. Groups such as the Inuit Circumpolar Council, International Arctic Science Committee and others could serve as valuable partners for such an effort. In a similar context, several types of corpuses could be collaboratively constructed, that explore differences among distinct aspects of Arctic identity. This could include Indigenous and non-Indigenous identities, as well as other cultural, national, and ethnic groupings. To that end, methods such as word or topic intrusion could be explicitly co-developed with stakeholders or partners to strengthen topic model analyses, with local, on-the-ground perspectives and knowledge. Finally, additional approaches could be employed to connect any resultant scenarios further back to the original corpus composition. First, information about the topic distribution across documents could help test whether the scenarios reflect the document composition more directly. Second, bi- and tri-gram frequency across the corpus could be used to examine whether and how the eventual scenarios relate to the raw, unanalyzed corpus.

As with the non-English analysis discussed above, such a comparative approach would require broad collaboration among diverse groups throughout the Arctic region. A central concern of work that engages Indigenous and local people in the collection and interpretation of perspectives on the future, is that of appropriately situating this knowledge. Likewise, it would be necessary to carefully evaluate the biases of the research questions that are asked. Substantial effort would be required to detail the context of perspectives on the future, and likewise to understand the cultural dynamics from which these perspectives originate (D’ignazio and Klein, 2020).

This hybrid method of blending computational text analysis with story-based approaches is not intended to be stand-alone. Rather, it can serve as a complement to existing scenario development practices, including conventional geophysical and Earth system science projections of Arctic change. Moreover, this method provides a broad perspective on locally driven, place-based initiatives. In this way, the methods and results presented in this article can serve as a platform for interweaving regional and circumpolar themes into local scenario efforts.

5 Conclusions

The future Arctic will be profoundly different from that observed in the present. We contribute a new approach toward creating scenarios of the future Arctic, by blending computational text analysis with struc-

tured futuring. The topic modeling yielded a set of distinct thematic clusters of keywords, which were directly employed in the creation of story-based visions of the future Arctic. The stories that were created permit a visit to ten different, textured, and vital visions of the future. While the stories are interesting, the major contribution of this work is to demonstrate a method of how topic modeling can be used directly in an imaginative scenario process. In the future, we anticipate that computational text analysis could be incorporated as a component of general scenario methods, to simultaneously provide an unsupervised scan of existing literature, as well as to provide orthogonal insight that might not be present in the existing worldview of the scenario creators. Similarly, we anticipate that creative story-based methods will become increasingly important for making sense of a world experiencing accelerating and surprising change.

Acknowledgments, Samples, and Data

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Figure 1 . Conceptual overview of how the topic modeling analysis feeds into the structured futuring process, including worldbuilding and story creation

Figure 2. Results of the latent Dirichlet allocation, with thematic dominance and clustering visualized on the left, and the baseline frequency of keywords across the entire corpus depicted on the right. This was generated using the freely available pyLDAvis software in the GENSIM Python package.

Figure 3. Summary of the story-based scenario creation procedure for Topic #5 ‘Concession 60’. Steps begin at the top left, and can be read left-to-right, and top-to-bottom.

Figure 4. Examples of visual art for two of the story-based scenarios. The top panel is an image inspired by ‘Concession 60’ (i.e., Topic #5), and the bottom panel is an image inspired by ‘Assisted Migration’ (i.e., Topic #9). Artwork is used with permission by Patrick W. Keys and Fabio Comin. All rights reserved.

Table 1 . Summary of topic clusters with corresponding top 30 keywords in that cluster with terms listed in descending order of relevance within the topic (i.e., the first term is the most salient to the topic).

Table 2 . Overview of stories, including theme, title, and brief description of the world and story.

Table 3 . Comparison of a sample of existing Arctic scenario narratives with the ten scenarios produced in this analysis

Visions of the Arctic Future: Blending Computational Text Analysis and Structured Futuring to Create Story-based Scenarios

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Key Points:

- Imaginative scenarios are an essential approach for designing futures in an accelerating era of social and environmental change in the Arctic.
- Story-based scenarios blended with computational text analysis provide an entirely new method for envisioning the future.
- Our scenario methods mirror other work on Arctic futures, though with important idiosyncrasies related to divergent regional changes.

Abstract

The future of Arctic social systems and natural environments is highly uncertain. Climate change will lead to unprecedented phenomena in the pan-Arctic region, such as regular shipping traffic through the Arctic Ocean, urban growth, military activity, expanding agricultural frontiers, and transformed Indigenous societies. While intergovernmental to local organizations have produced numerous synthesis-based visions of the future, a challenge in any scenario exercise is capturing the ‘possibility’ space of change. In this work, we employ a computational text analysis to generate unique thematic input for novel, story-based visions of the Arctic. Specifically, we develop a corpus of more than 2,000 articles in publicly accessible, English-language Arctic newspapers that discuss the future in the Arctic. We then perform a latent Dirichlet allocation, resulting in ten distinct topics and sets of associated keywords. From these topics and keywords, we design ten story-based scenarios employing the Mānoa mashup, science fiction prototyping, and other methods. Our results demonstrate that computational text analysis can feed directly into a creative futuring process, whereby the output stories can be traced clearly back to the original topics and keywords. We discuss our findings in the context of the broader field of Arctic scenarios and show that the results of this computational text analysis produce complementary stories to the existing scenario literature. We conclude that story-based scenarios can provide vital texture toward understanding the myriad possible Arctic futures.

Plain Language Summary

The Arctic will profoundly change in the 21st century. Climate changes and other increasing human pressures will transform many parts of the region beyond contemporary recognition. We need ways to capture the current, Arctic-based perspectives of this future change and to provide engaging visions of where it might be headed. First, we use a computer-assisted analysis of more than 2000 news articles that all discuss the future of the Arctic. Second, we take the insights from this analysis and produce a set of story-based scenarios. We do this by blending science fiction prototyping, the Mānoa method, and others to produce speculative fiction scenarios. In our results, we produce ten new, creative scenarios of the Arctic future. We find that our story-

48 based results have themes that are consistent with some existing Arctic scenarios. Moving
49 forward, we think that the methods we use will improve the accessibility future scenarios.

50

Introduction

The future of Arctic social systems and natural environments is highly uncertain (Arctic Council, 2016; Fresco & Timm, 2016). Future climate change will lead to unprecedented phenomena in the pan-Arctic region, such as regular shipping traffic through the Arctic Ocean, urban growth, military activity, and expanding agricultural frontiers (Arctic Council, 2009; Cameron, 2012). Such impacts will challenge centuries of local and traditional knowledge (Ford et al., 2016; Krupnik & Jolly, 2002). Moreover, the unprecedented pace and character of Arctic social and environmental change reveals the limitations of traditional, quantitative scenario methods that privilege model-based projections inherently rooted in past observational data (Petrov et al., 2016). These knowledge and research gaps suggest an opportunity for novel tools providing comprehensive and, perhaps more importantly, imaginative scenarios of the future. Equipped with such scenarios, the Earth system science community could be better positioned to anticipate the social, economic, ecological, and technological changes that may unfold in the near future.

1.1 A rapidly changing Arctic may require new approaches

Underpinned by complex desires related to acquiring geopolitical hegemony, resource control, and urban growth, the Arctic is often viewed as a key focal point for cultural, economic, and military power in the 21st century (Arctic Research Consortium of the U. S, 2018; Brigham, 2007; Corbett et al., 2010; Mazurier et al., 2020; Network, 2008; Young, 2010, 2011). In parallel to these expansionist ambitions, the Arctic is experiencing the fastest geophysical changes taking place on the planet related to climate change, as noted in the accelerated loss of sea ice, changes in freeze thaw cycles of permafrost, and the expansion of boreal ecological systems into the Arctic region (Crate & Fedorov, 2013; Dodds, 2010; Post et al., 2009; Steiner et al., 2019; Stroeve et al., 2012). These efforts to understand the future have led to a surfeit of models, projections, and forecasts for the Arctic (Proshutinsky et al., 2016, 2020). In contrast, the local and regional experiences of those who dwell in the Arctic tend to receive considerably less attention (Cost, 2015; Falardeau et al., 2019; N. Wormbs et al., 2018).

1.2 Computational text analysis complements existing methods

It is a staggering challenge to collect, interpret, and prioritize the vast literature on Arctic system change - and then synthesize this information into scenarios about the future. Systematic meta-analysis of Arctic futures work (Arbo et al., 2013) has revealed the utility of synthetic review, but such meta-analysis may also be too narrowly focused on relatively small sample sizes (e.g., less than 100 articles). Others have argued that there is simply too much content to consume, and, as a result, pre-existing knowledge and biases are employed to filter content (Schatzmann et al., 2013). Thus, there is a need for complimentary approaches that can scan the information across hundreds or thousands of documents and across a broad range of disciplines to accurately understand the trajectory of where the world is heading (Kwon et al., 2017).

In thinking about the future Arctic, it is necessary to think well outside-the-box regarding nonlinear changes in technology and global change (Dator, 1993, 2019; Johnson, 2011). One method for addressing biased selection of evidence can be to develop a large corpus of literature that captures a very broad range of content related to the future Arctic. However, human cognitive biases actively disregard information that seems outlandish or strange (Schoemaker, 2004), making unbiased interpretation a persistent challenge.

Computational text analysis can assist in addressing this bias by providing a complimentary means of thematic identification and analysis of a corpus of literature. In other words, a computer program can be used to potentially reduce human selection bias by 'reading' the thousands of texts and 'interpreting' different patterns than a human might see. Specifically, machine learning-based latent Dirichlet allocation can enable the rapid analysis of large, text-based datasets to reveal thematically distinct clusters of information (Asmussen & Møller, 2019).

This approach has been used in a limited way for scenarios related to drone technology (Kwon et al., 2017) and electric cars (Kim et al., 2016). Considerable opportunity exists to leverage these methods and fully incorporate them into detailed visions of the future Arctic (Kayser & Blind, 2017; Kayser & Shala, 2016).

1.3 Storytelling can convey compelling scenario worlds

Scenarios of the future vary widely in terms of approach, style, and depth of detail (Kishita et al., 2016), yet often only describe a possible future world, based on projections and interpretations of large amounts of data. While descriptive scenarios can be creative, these approaches often fail to inspire action, engage the public, or interest policymakers (Milkoreit, 2017). Story-based scenarios with characters and plot development have emerged as successful vehicles for impactful sustainability scenarios (Calvert, 2019; Johnson & Winkelman, 2017; Merrie et al., 2018; Spijkers et al., 2021). Story-based methods can be understood as *narrative, fictional depictions of future worlds*. Storytelling methods are meaningfully different from narrative approaches, since they represent a deeper exploration of future worlds (Carbonell et al., 2017), and they allow participants to explore how their daily lives, values, and habits can be mapped onto different contexts (Raven & Elahi, 2015).

The purpose of the present work is to demonstrate how a latent Dirichlet allocation (LDA) analysis may input directly into a creative, structured futuring process (Fig 1). We define structured futuring as a *systematic, multi-step approach for creatively developing a story setting, set of characters, and plot that interrogates a particular topic or set of topics*. We are explicitly not aiming to provide a definitive new set of comprehensive scenarios, especially given the absence of participation with Indigenous and local communities in the Arctic. On the contrary, we are piloting this approach in the Arctic region both because of the extensive, existing scenario work available for comparison, as well as the diversity of challenges that are being faced by Arctic societies (Akiwenzie-Damm et al., 2019).

However, this does not mean that we ignore the context or the place where the text data originated. While our project is not participatory, we have endeavored to situate each story thoughtfully and critically in a specific future context, by telling multiple stories that reflect the diversity of the Arctic population, including ethnicities, gender identities, ages, and Indigeneity. Moreover, we aim to provide a “multiplicity of voices” through the eventual stories that are told (D’ignazio and Klein, 2020), while acknowledging the partiality of the perspectives that we can bring to bear given the limits that our perspectives permit (Weinberger, 2009). Finally, our scenarios aim to engage the humanities via the transformation of a computational text analysis into stories (and later artwork) that embrace open-interpretation, ambiguity and complexity (Drucker, 2011). We reflect more on the future of these methods in the Discussion section.

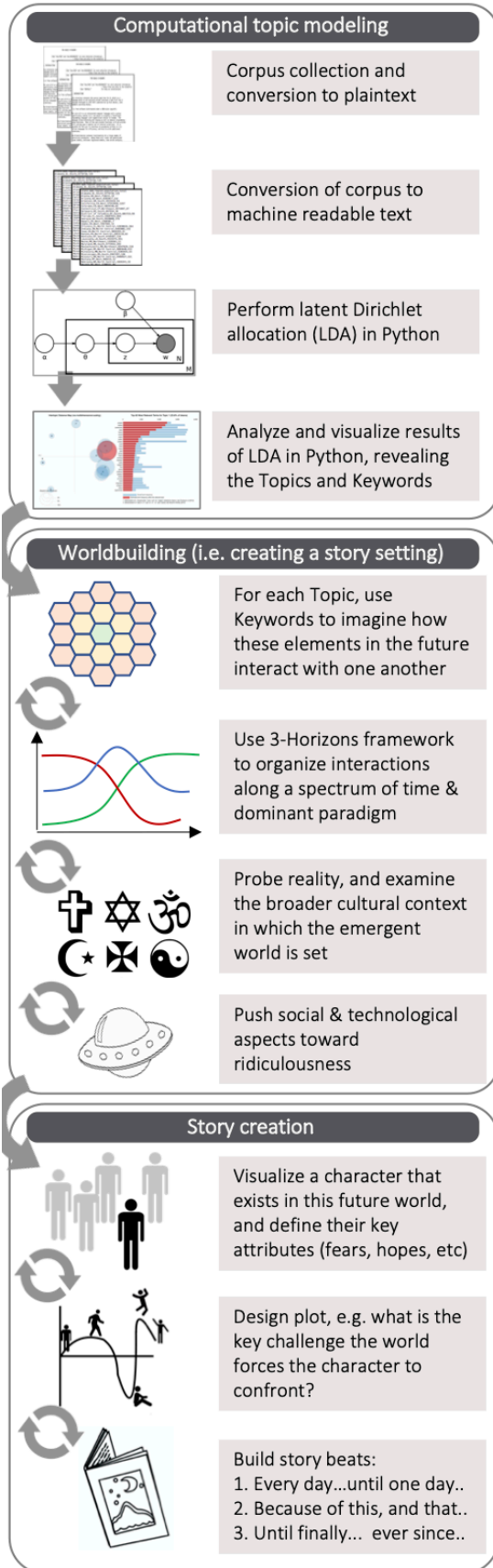


Figure 1. Conceptual overview of how the topic modeling analysis feeds into the structured futuring process, including worldbuilding and story creation.

2 Data and Methods

2.1 News article corpus on the future of the Arctic

We collected news articles from multiple Arctic regional news sources. These articles were available in publicly accessible, English-language Arctic newspapers, specifically: The Arctic Sounder, Arctic Today, The Barents Observer, CBC North, The Moscow Times, Nunatsiaq News, and Radio Canada International. These sources were selected based on a set of preliminary conversations with community leaders, scientific experts and public officials from throughout the Arctic. We use the Google Search engine as a method of discovery, and a temporal window of search of 2010-2020. These dates do not correspond to any specific event, but rather capture a recent, contemporary set of published perspectives on the future Arctic.

For most sources, we simply used the search term ‘future’ as a filter of the articles, given the publication itself was an ‘arctic’ publication. For Radio Canada International and The Moscow Times, we used both ‘arctic’ and ‘future’ as a filter. While the language of the sources was restricted to English-language texts, there are news resources coming from the entire pan-Arctic region, including Russia, Finland, Sweden, Norway, Iceland, Canada, Greenland, and Alaska. The purpose for this broad collection is to ensure that the information from the regional (i.e. spatially extensive, less granular, more general) and the local (i.e. spatially specific, more detailed, deeper knowledge), spans the possibility space of a large fraction of the Arctic discourse about the future, available in English-language newspapers. While additional words could have been used, such as ‘projection’, ‘forecast’, or ‘scenario’, we were intentional about using a simple, straightforward — and hopefully repeatable — procedure. We rely on the word ‘future’ as our primary search term, for multiple reasons. First, ‘future’ is commonly used as both a noun and an adjective. As a noun, ‘future’ is defined as “the time that will come after the present or the events that will happen then” (OED Online, 2021). Likewise, as an adjective, ‘future’ is defined as “That is to be, or will be, hereafter.” These definitions are precisely the meaning we are after. Second, there are very few nouns in the English language that are commonly used to convey this definition, with less commonly used words including “hereafter”

and "tomorrow". There are some synonyms of 'future' as an adjective, though these tend to be less precise (words include: anticipate, expected). Thus, the simple choice of 'future' in this case allows us to target the definition of the word future, with a straightforward approach.

While the Google Search algorithm often displays tens of thousands of search returns, a user only has access to approximately 300 entries. Thus, we limit the collection of articles to the top 300 articles returned from each source. The order of entries from a Google search employs the proprietary PageRank algorithm that sorts and orders webpages based on the number of other links to them on the internet. This will inevitably lead to some skew in the types of articles that are listed at the top, and we anticipate that future work could use alternative search approaches that would potentially yield different sets of articles. That is, however, beyond the scope of this work. Ultimately, by using Google Search we ensure the method is free and generally easy for others to use, without any fee-based licenses.

The potential for biases exists in multiple aspects of this corpus. First, we only use English-language texts (or texts that were translated into English). As a result, there is an *anglophone* bias that may include implicit or tacit perspectives that are difficult to surface, not least related to the legacy of settler colonialism in Indigenous communities in the Arctic. Along with this, we note that the LDA implicitly absorbs biases of the corpus itself, including: the vocabulary of the news article authors, the political biases of the article authors themselves, and the editorial biases of the news sources and their publishers. In acknowledging the various contexts that constrain the creation of these source articles (D'ignazio and Klein, 2020), we aim to definitively underline that this machine learning method contains its own variety of bias.

Second, we are implicitly adopting the biases of the search algorithm that was used — in this case a Google-based search. While this is certainly a bias, we intend for this method to be theoretically accessible to anyone, which would exclude many scholarly search products, which often require paid subscriptions or memberships to specialized organizations. While other forms of written information about the future of the Arctic region exist (such as journal articles, reports, or other forms of information), we wanted to collect publicly-available and currently discussed

ideas about the future. Freely available news articles serve this aim by providing publicly available information.

Finally, we note that the composition of the research team is not local or Indigenous to the Arctic, and is only capable of interpreting English-language texts. Moreover, since the goal was to generate written stories from computational text analysis, both the input and the output needed to be in English. Also, while a future goal of this type of work could include engagement of local and Indigenous communities in the Arctic, this work aims to demonstrate the method's potential, by using publicly available documents written for and by an audience that exists in, or is concerned with, the Arctic. That being said, the data should be interpreted as originating from texts that were written from specific positions of cultural power throughout the Arctic and near-Arctic, rather than representative of a reality devoid of these power dynamics (D'ignazio and Klein, 2020).

2.2 Text preparation and conversion

Each document was saved in a plaintext file, and manually stripped of erroneous material that did not pertain to the article itself, including strings of characters associated with unrelated website HTML (i.e., Hypertext Markup Language), unrelated publication text, or advertisements. Once the corpus of texts was identified, we generated a machine-readable corpus using Python-based scripts that can batch-convert documents to text strings. It is important to note that the corpus is being used for educational and research purposes only, and that the corpus itself is not publicly distributed.

2.3 Latent Dirichlet allocation (LDA)

Using the GENSIM package, in addition to several other Python-based tools, we performed the tasks of converting the strings of text into a vectorized set of inputs for analysis, including tokenization, lemmatization, and stop-word filtering (Řehůřek & Sojka, 2010; Sarkar, 2019). Next, we performed the latent Dirichlet allocation (LDA). LDA is a machine-learning based approach for taking a large corpus of texts, and revealing the latent (i.e., hidden), patterns of keywords and topics that occur across the corpus. Below, is a more detailed explanation of the process, including the corresponding versions of each software package used. We note that

multiple methods of text analysis could be suitable for identifying semantically distinct topics from a large corpus, such as latent semantic analysis (LSA) or latent semantic indexing (LSI). We employ LDA primarily because it produces highly interpretable topics (Kayser and Shala, 2014) with intuitive topic visualization options (Sievert and Shirley, 2014).

We use Python version 3.7.7 for this entire analysis. The initial step for the LDA is to pre-process each document using the Python-based Natural Language Toolkit (NLTK) version 3.4.4. Tokenization is the initial step of breaking the text within each document in the corpus into the individual units of meaning, in this case, individual words. Stopwords are then removed, including frequently used words such as “the”, “and”, “as”, etc. As a note we used both Gensim and NLTK since the tokenization process in Gensim led to spurious words that persistently passed through the tokenization filters that we implemented using Gensim. NLTK was used as a substitute since it was more effective at the tokenization procedure, for our specific task.

Lemmatization is the final step in the corpus preparation, which helps reduce the remaining words to their basic form, e.g., changing past tense versions of a word to a common form. These steps result in a tokenized corpus of texts. It is possible that lemmatization eliminates potentially valuable temporal context for articles, specifically signaling past, present, and future tenses. However, in this analysis we wanted to maximize the set of distinct words to characterize the future, rather than find (potentially) multiple words with the same root albeit with different tenses. Future work could explore this question, though it is outside the scope of this work.

Next, the Gensim Python package (version 3.8.0) is used for the LDA, which is a method that iteratively identifies the latent topic structure across the corpus. This is completed by repeatedly evaluating sets of words, and learning which clusterings lead to coherent, distinct, topics. There are several parameters that can be adjusted, but the most consequential for our work is the number of topics that are being sought in the analysis. We performed a sensitivity analysis, varying the number of topics for which the corpus was clustered, and calculated the resulting Coherence scores for all analyzed numbers of clusters. Coherence measures the degree of semantic similarity, which helps distinguish between statistical artefacts and actual semantic relatedness. So, a better Coherence score implies greater semantic similarity among the terms in

each topic cluster. There are several metrics for Coherence, and based on a systematic review of various coherence metrics, we employ the C_v metric (Röder et al., 2015). For our purposes, we aimed for each topic to be internally, semantically, similar enough to support a coherent storytelling process. Thus, we aimed for the highest Coherence score.

2.4 Visualize LDA results and identify scenario seeds

Using the pyLDAvis package in Gensim (Sievert and Shirley, 2014), we visualized the Intertopic Distance Map, based on a principal component analysis calculated within pyLDAvis. Additionally, we show the 30 most relevant terms for each topic. The Intertopic Distance Map was leveraged as a quadrant space (i.e., the four sections created by the two axes) and we labeled the axes to provide scenario context based on exogenous drivers; this is further elaborated in Section 3.3 below. The process of creating a quadrant space to construct scenarios is a central feature of many scenario analyses (Raven, 2014; Raven and Elahi, 2015; Merrie et al., 2018).

2.5 Employ structured futuring methods to take the LDA to a story-based scenario

We develop a process for creatively blending the topic's keywords and the topic's context, to construct a novel scenario world (i.e., the setting of the story), produce characters who inhabit this scenario world, and develop a brief plot. The first step is the same for all scenarios:

1. *Define the axes of the Intertopic distance map:* Label the axes of the principal component quadrants to define overarching context for each scenario, to ensure that themes which are close to one another in the principal component quadrant space are similar in some

way, while those far apart are dissimilar. Build from existing work that employs similar scenario quadrants (Raven, 2014; Raven and Elahi, 2015; Merrie et al., 2018).

The subsequent steps are repeated for each scenario, though the details of each diverge according to the topics and keywords identified for each scenario (a full example of these steps are given in Section 3.5). Relevant references corresponding to each step are provided below:

2. *Summarize keywords*: Examine the set of 30 keywords for the topic, and manually summarize into a core topic. If there is a specific location(s), use this to provide a setting for the world.
3. *Distill core topic*: Based on the keyword summary, identify a suitable core topic (Kwon et al., 2017).
4. *Explore topic and keywords with futures wheels*: Based on the core topic, the keywords, and the intertopic context, brainstorm how the ideas might be connected to one another in the future. Look for both logical and contradictory connections (Pereira et al., 2018).
5. *Use 3-horizons framework to build a future history*: Placing the futures wheels brainstorm at the end of the third horizon, begin to identify how the world has transformed from the present day to the hypothetical future world. Identify key events or changes that had to unfold to get from the present to the future (Sharpe et al., 2016).
6. *Probe reality and cultural change*: Zoom-out from the specific scenario world that is emerging, and explore what changes exist in governance, education, culture, the arts, economy, and more (Hamann et al., 2020).
7. *Push toward ridiculousness*: Select several of the keywords or other ideas and identify the most radical technological or social changes that could unfold in the future. Include some of these in the scenario (Dator, 1993; Merrie et al., 2018).
8. *Visualize character(s)*: Take the nascent future world and visualize a scene from the world. Explore the type of character that is revealed in this scene and articulate what the character is doing in the visualization. Based on this, define relevant attributes for

understanding this character (internal and external motivations; fears and hopes; past experiences; etc.).

9. *Design plot based on world and character*: Based on the character and the world, identify a challenge that could emerge that would allow the character to change or adapt in some way. Then, identify how a character might deal with such a challenge (Johnson, 2011).

10. *Build story beats*: Use the character and the basic plot to articulate the story-beats that will form the scaffold of the story. Story beats include: *Every day...*, *Until one day...*, *Because of this...*, *Because of that...*, *Until finally...*, and *Ever since then...*

11. *Write story*: Using the story-beat scaffold, begin writing the creative story of the character moving through the world, responding to a challenge, and navigating the consequences of these actions.

12. *Test story for fidelity*: Ensure that the resultant story contains key elements from the LDA analysis, including the intertopic context, the topic keywords, and the core topic.

In an effort to critically participate in the representation of diverse situations in the Arctic, we intentionally and explicitly represent storylines that take place in different social, cultural, and national contexts. We also intentionally represent characters of different ages, classes, and genders to provide a critical lens through which to view issues of social power. By exposing these goals, we hope to clarify the importance of situating stories thoughtfully, particularly in parts of the world populated by people who have been historically marginalized or harmed.

3 Results

3.1 Corpus construction

We collected 2,058 articles from our set of Arctic news sources. Each source provided 300 news articles, except for Arctic Today, in which we found a total of 258 articles in our search. More articles were returned that were published toward the end of the decade, than toward the beginning, which is possibly a result of the Google Search algorithm (Fig S11). Each article was saved in a plaintext format, and its metadata was recorded, which is available in Supplemental

Table 1. The 2,058 articles were then batch-converted from plaintext files to machine-readable strings. Other methods exist for characterizing corpus composition, including bi- and tri-gram frequency (the frequency of certain sequences of word pairs, or triads). In our work, however, we employ the term frequencies that are specifically related to each of the LDA-derived topics.

3.2 Computational topic modeling

We iteratively performed the LDA by varying the number of topics, and measuring the corresponding Coherence score (discussed in Section 2.3; see Fig S12). The highest Coherence score in our analysis was 0.54, and was achieved with eleven clusters. It is worth noting that Coherence is a relative metric related to the corpus itself. Additional information on the statistical optimization of latent Dirichlet allocation (LDA) methods is discussed in depth in other work (Chang et al., 2009; Hecking & Leydesdorff, 2018; Röder et al. 2015). Thus, the result of our LDA analysis was eleven semantically different topic clusters.

Topic coherence is one way to quantitatively assess how well the topic model is able to capture distinct topics with distinct sets of meaning, i.e., semantic similarity. Given that the purpose of the LDA in this research is to feed directly into a semantically meaningful task, i.e., creative storytelling, the qualitative process we employ serves as a second, though informal, metric of whether the identified topics are semantically meaningful. Indeed, topic eleven was ignored in this analysis given its clear lack of meaning, despite being identified by the LDA as a distinct topic. Other methods exist for detecting meaningfulness in a corpus, including word or topic intrusion (Chang et al., 2009). While beyond the scope of this research, since the authors themselves served as the human test of whether a topic was semantically meaningful or not, these methods could be a useful complement in research where there is no subsequent step that assesses topic meaning.

The LDA produced a variety of results, including a set of overall term frequencies across the entire corpus (Fig 2, right side), a set of latent topics composed of keywords, as well as various measures of ‘intertopic’ distance in a set of principal component axes (Fig 2, left side). The spread of the topics is not uniform across the distance map, which highlights that some of the topics may be more related to one another than not. This is not a problem and will be leveraged, as discussed in the next section. The Intertopic Distance Map shows that the first ten

topics represent substantial portions of the corpus, while the eleventh topic (while quantitatively unique), contains text that is two orders of magnitude lower in frequency across the corpus. Thus, we ignored the eleventh topic, and are left with ten distinct topics.

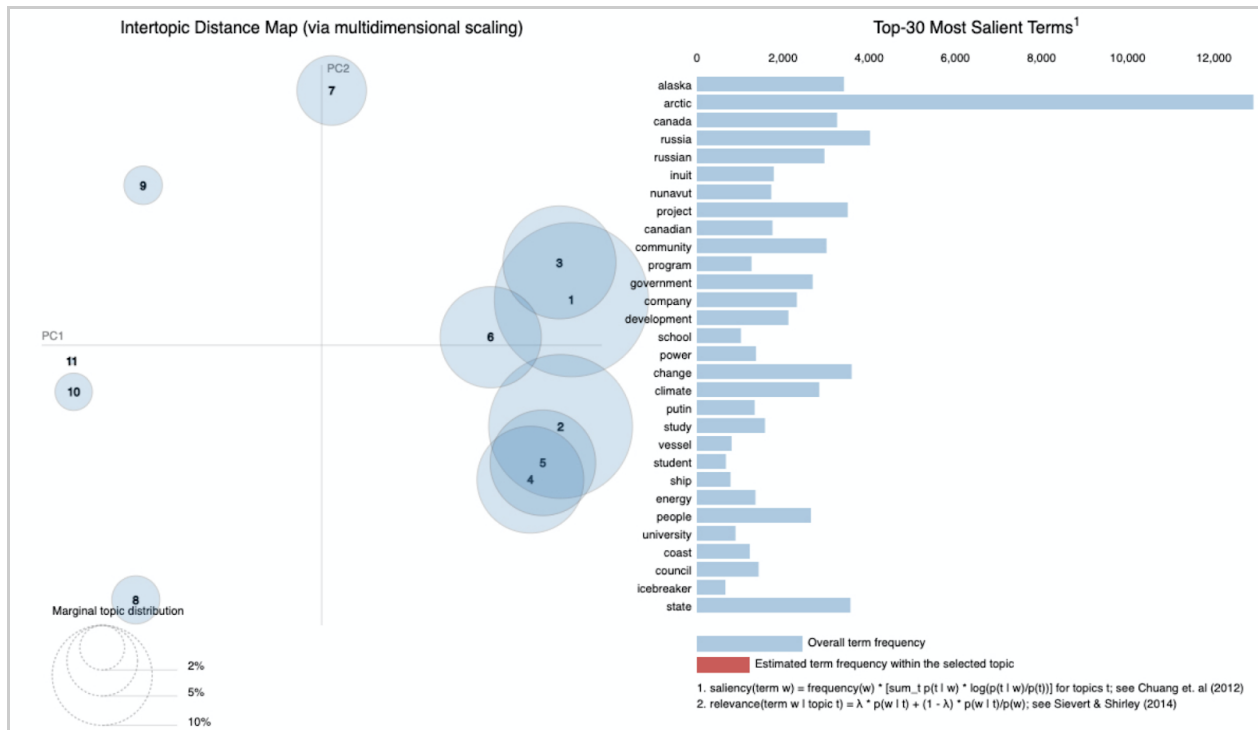


Fig 2. Results of the latent Dirichlet allocation, with thematic dominance and clustering visualized on the left, and the baseline frequency of keywords across the entire corpus depicted on the right. This was generated using the freely available pyLDAvis software in the GENSIM Python package.

3.3 LDA topic quadrants

We labeled the axes of the principal component quadrants to define overarching context for the scenarios, to ensure that topics which are close to one another in the quadrant space are similar in some way, while those far apart are dissimilar. To be clear, this step is entirely user-defined, and relies on human interpretation of the text analysis. For the purposes of our scenarios, which aim

to explore the *future* of the Arctic, we use two broad features that would serve as exogenous drivers for the entire region: climate change severity and regional levels of cooperation.

The x-axis describes the relative severity of climate change in the Arctic region, with the right side representing anticipated climate changes, and the left side representing extreme climate changes. Given the overwhelming evidence to date of how the Arctic is disproportionately sensitive to climate change (Dodds, 2010; Post et al., 2009; Steiner et al., 2019; Stroeve et al., 2012), the concentration of most of the scenarios in that domain is supported empirically. The left side of the x-axis represents more extreme climate changes, which we acknowledge are possible in the range of climate projections, as well as being exceptionally consequential to the region.

The y-axis describes whether the Arctic region is characterized by conflict or cooperation. The top of this axis represents high cooperation, including economically, politically, socially, and militarily. The bottom of this axis represents low cooperation. In this way, the bulk of the thematic clusters are somewhat neutral, and this is broadly reflected in the patchy history of Arctic cooperation (Osherenko & Young, 2005). There have been periods of peace and international cooperation, exemplified, for example, by the effectiveness of the Arctic Council (Young, 2010). Likewise, there have been profound periods of conflict (Keil, 2014; Rahbek-Clemmensen, 2017; Young, 2011), as well as targeted violence toward Indigenous peoples (Crawford, 2014; Salusky et al., 2021).

To be clear — the position of the topic clusters in this quadrant space does not determine the content of the scenario but helps to frame the *context* of the scenario. Thus, when the scenarios produced in this analysis are compared with one another, those that were identified computationally as more tightly clustered exist in similar types of geopolitical and climatic contexts (i.e., topics 1, 2, 3, 4, 5, 6), whereas those that were distributed throughout the intertopic space will be more idiosyncratic (i.e., topics 7, 8, 9, 10).

3.4 Distribution of topic clusters in the Intertopic Distance Map

We can clearly interpret the current dominance of each topic relative to the others, with topics 1-6 being quite dominant and topics 7-10 being less so. This information provides additional

context of how representative a given theme is for the entire corpus. Here we provide a summary showing each topic with its corresponding keywords (Table 1).

Table 1. Summary of topic clusters with corresponding top 30 keywords in that cluster with terms listed in descending order of relevance within the topic (i.e., the first term is the most salient to the topic)

Topic #	Top 30 Keywords in each topic
Overall corpus term frequency	alaska, arctic, canada, russia, russian, inuit, nunavut, project, canadian, community, program, government, company, development, school, power, change, climate, putin, study, vessel, student, ship, energy, people, university, coast, council, icebreaker, state
1	people, alaska, community, state, future, would, years, public, project, local, think, issue, right, group, friend, working, member, really, support, first, going, continue, alaskan, family, provide, need, important, program, place, opportunity
2	arctic, change, climate, research, study, ocean, polar, water, years, could, bear, north, future, researcher, population, report, temperature, summer, fishery, scientist, found, increase, university, marine, impact, permafrost, warming, island, region, species
3	arctic, council, region, norway, country, state, barents, international, norwegian, china, climate, meeting, finland, agreement, policy, greenland, chinese, include, minister, north, issue, change, russia, observer, security, northern, development, cooperation, nation, unite
4	arctic, first, north, building, guard, would, winter, include, plan, future, build, photo, service, yukon, northwest, three, search, system, coast, base, northern, place, n.w.t., mission, could, rescue, design, technology, space, station
5	project, company, energy, million, development, industry, investment, infrastructure, production, government, arctic, percent, mining, shipping, natural, billion, build, economic, increase, would, could future, resource, region, construction, price, accord, route, pipeline, plan
6	russia, russian, putin, state, moscow, country, military, headline, president, gazprom, power, political, vladimir, defense, rosneft, would, authorities, ukraine, report, foreign, sanction, minister, force, soviet, ministry, ruble, china, kremlin, control, government
7	canada, inuit, nunavut, canadian, government, community, iqaluit, indigenous, territory, federal, minister, protect, ottawa, trudeau, marine, northwest, arctic, national, tuktoyatuk, agreement, organization, report, northern, sahar, conservation, quebec, baffin, inlet, nunavik, president
8	vessel, ship, icebreaker, nuclear, power, cruise, expedition, murmansk, coast, route, fleet, voyage, waters, northern, svalbard, submarine, class, rosatom, passage, sailing, meter, shipyard, sail, plant, floating, hurtigruten, josef, pevek, tanker, reactor
9	alaska, caribou, lease, refuge, development, wildlife, national, coastal, administration, trump, plain, hilcorp, drilling, environmental, protect, statement, yereth, bureau, management, porcupine, slope, gwich'in, corps, murkowski, protection, comment, prudhoe, nation, decision, sullivan

10	student, school, program, college, education, youth, university, graduate, award, skill, collection, learning, career, secondary, science, degree, course, grade, offer, prize, study, mother, academic, dawson, contest, class, robot, adult, training, mcconnell
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3.5 Creating story scenarios from the LDA topics

While the creation of each of the ten stories was inherently unique, we nonetheless detail the process for one of the stories (Topic #5, “Concession 60”) to illustrate what the structured futuring process looks like in practice (Fig 3). The full creative processes for all the stories are documented in the Supplement. While the LDA objectively revealed the keywords for this approach, every other step was a structured, imaginative endeavor. As such, a very large number of stories could conceivably emerge from the starting point of the topic model. However, a key goal of this method is to maintain fidelity in the eventual story concepts and ideas to the original LDA topic context and keywords (Steps 1 and 2).

While each step is described in the Methods section of this text, we examine here the step-by-step approach displayed in Fig 3, corresponding to the steps for constructing the story for Topic #5, entitled ‘Concession 60’:

1. For Topic #5, the two-quadrant context was *expected climate change* and *low cooperation*.
2. The keywords for Topic #5 were clustered around the concepts of ‘industrial development’, ‘finance’, ‘extraction’, and ‘agreements’.
3. Based on these keywords, the core topic was labeled ‘Extractive, industrial Arctic’.
4. Next, using Futures Wheels we brainstormed interconnections that might emerge in the future among these keywords in Topic #5, in the context of the labeled quadrants.
5. Then, we used the ideas from Step 4 in a Three Horizons exercise and explored the changing paradigms that would wax and wane over time, leading to a future characterized as an ‘Extractive, industrial Arctic.’
6. Next, we took our ideas and keywords from Steps 2-5, and reflected on the broader regional and global aspects of how the world in Topic #5 may interact with this idea of a future Arctic.
7. In ‘pushing toward ridiculousness’ and given the topic of extraction and industrialization in the Arctic, we considered what aspects of society, economy, and technology could be dramatically different from the present. In this way, we explored ideas of labor, drone monitoring, and nano-mining that are, at present, not socially, economically, or technologically in existence.

8. Equipped with a mature setting in which a story might unfold, we develop a character named *Misha Park*, a climate migrant from the United States who had migrated north, to an undisclosed Arctic location.
9. Based on the extractive, industrial Arctic and the climate migrant, Misha, we developed a plot that explored how a climate migrant might be entrapped in exploitative labor practices to satiate ongoing global demand for rare earth metals.
10. Using the story beats method, we identified the major turning points of the narrative for the character, focusing on a day in the life of an indentured laborer in future rare earth mining operations, who also suffers from the trauma that she experienced as a climate migrant.
11. Using all this preparatory work, the story was drafted around each story beat, ensuring that Misha had a satisfying character arc, and that the story adequately explored the future world of an extractive, industrial Arctic.
12. Qualitative review was employed to check whether the eventual story could reflect back to the original keywords from the LDA, with prominent themes in the story related to 'infrastructure', 'investment', 'mining', 'resource', and 'production'.

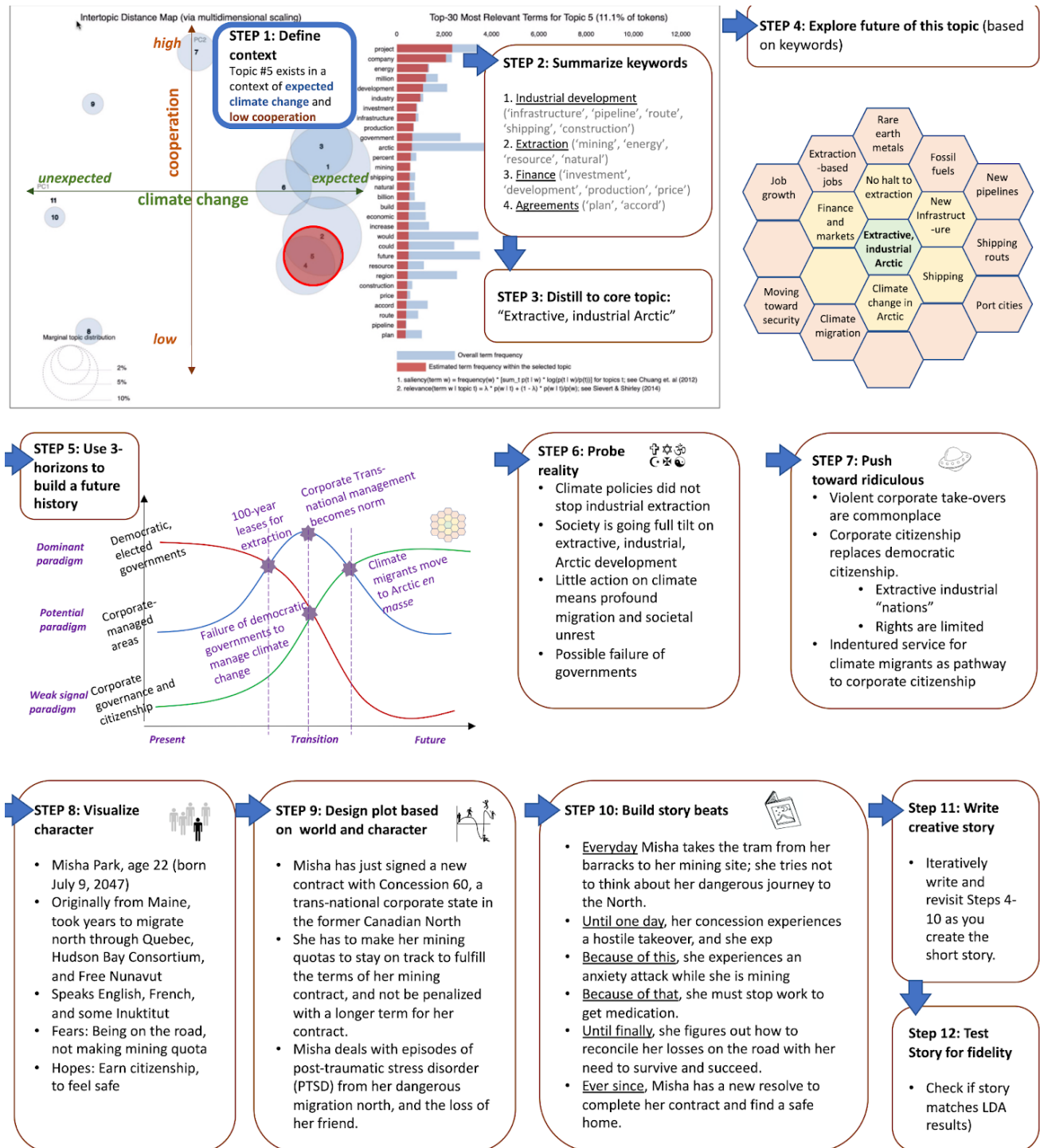


Fig 3. Summary of the story-based scenario creation procedure for Topic #5 'Concession 60'. Steps begin at the top left, and can be read left-to-right, and top-to-bottom.

3.6 Description of stories from LDA themes

We briefly share an overview of all ten stories in Table 2, and the full stories are included in the Supplement. The important result presented in this manuscript is not the collection of scenarios per se, but rather the method for feeding the LDA approach into a structured futuring process. Thus, while the ten scenarios are valid in their own right, we emphasize that the purpose of these scenarios is to illustrate the outcome of the blended LDA and structured futuring approach.

Table 2. Overview of stories, including theme, title, and brief description of the world and story.

Topic #: Title of Story	Synopsis of World and Story
1: Campus Utqiagvik	<p>World: Among Arctic communities, universities and colleges have merged with municipal governments. In this case, Iḷisaḡvik College has merged with the city of Utqiagvik, and is a key government entity in North Slope, Alaska.</p> <p>Story: The outgoing civic leader in Campus Utqiagvik is visiting the grocery store, and is experiencing nostalgia and a sense of time passing as she steps down from her civic responsibilities.</p>
2: Nanook Station	<p>World: Climate change has driven significant changes in polar bear ecology and salmon fisheries, and in which both are intensely studied and actively manipulated by academic scientists. Corporate espionage of genetic manipulation techniques takes place against a conflicted Canadian Arctic.</p> <p>Story: A corporate spy is secretly monitoring scientific advancements at a scientific outpost on Devon Island near Baffin Bay, in Nunavut, Canada.</p>
3: Security Detail	<p>World: The Arctic region has seen dramatic and positive changes in socio-economic progress, largely driven by China's continuous investment in infrastructure via its ever expanding 'Belt and Road Initiative'.</p> <p>Story: Else Larsen, the security detail for the Norwegian delegates to an Arctic Council meeting, compares the public and private comments regarding China's potential joining of the international diplomatic body.</p>
4: The Last Preserve	<p>World: The world has sought to conserve a handful of ecosystems in the Arctic, as a forward-thinking act of preservation for the future. While these preserves are hyper-secure, students are permitted to make annual visits to learn about the past.</p> <p>Story: A student group is on an ocean-going ship visiting a preserved island environment in the Yukon, Canada, where they learn about the decisions that led to this conservation effort.</p>
5: Concession 60	<p>World: A climate-changed world has seen Arctic governance collapse and subsumed by trans-national corporations, which each offer their own brand of corporate citizenship. Climate migrants are a source of indentured labor for dangerous, resource extraction work, e.g., mining of rare earth metals.</p> <p>Story: A person begins a work contract with a mining conglomerate, and experiences traumatic memories of her migration North.</p>

6: Putin's Gambit	<p>World: A world where the Russian government collapsed following a disastrous gamble on the prospect that fossil fuel extraction would continue during the 21st century, despite global progress reducing carbon emissions.</p> <p>Story: A future history in the style of a popular podcast, where a story unfolds of how Russian political leadership miscalculated in how to handle changing fossil fuel extraction.</p>
7: Voice from the Past	<p>World: First nations formerly in the Canadian North have separated from Canada, and unified in the Indigenous nation of Inuit Nunangat. This sovereign nation is a successful, trusted member of the global community</p> <p>Story: During a meeting among trade representatives from Inuit Nunangat and Canada, an off-hand prejudiced comment leads to a history lesson about Indigenous life before, during, and after Canadian control of Inuit Nunangat.</p>
8: Icebreaker	<p>World: A world that has been dramatically changed from the present climate, with regular periods of ice-free oceans in the Russian Arctic. International Conflict in the Arctic is common.</p> <p>Story: Two individuals on a permanent Russian icebreaking station near the Kara Sea must decide how to deal with a potential geopolitical incident.</p>
9: Assisted Migration	<p>World: Despite global coordination to deal with climate change, and a broadly cooperative Arctic region, widespread ecological change has led to the need for ecological stewardship to actively support wildlife migrations.</p> <p>Story: A group of biologists, tasked with monitoring and guiding the Porcupine Caribou herd northward encounters a technological and ecological challenge.</p>
10: School's Out Forever	<p>World: Following extreme climate change, and major disruption to global economic systems, including 20th century notions of education, communities are fragmented and focused internally on local, rather than global, lifestyles.</p> <p>Story: A family on a homestead in the Sakha region of the former Russian Federation shares stories about what the world used to be like and the way the world is now.</p>

4 Discussion

4.1 Scenarios connect back to the LDA analysis

Following the structured futuring approach, and the creation of the story-based scenarios, we examined whether the resultant stories bore a resemblance to the original LDA topics. Each of the narratives was iteratively reviewed to ensure both that (a) the story content reflected the corresponding topic clustering and the topic keywords, and (b) that each story did not too-closely resemble the content of another set of topic keywords. This review process helped to ensure that each scenario depicted relatively unique elements of the future. While outside the scope of the present analysis, future work could endeavor to explicitly determine whether the keywords

present in a resultant scenario are quantitatively distinct from other scenarios. However, this would be challenging due to the short word count of the story scenarios, which are each between 1,500 and 2,500 words.

4.2 Comparison with narrative scenarios across the global Arctic

We find notable thematic overlap among various other narrative scenario efforts, sampled from research conducted around the global Arctic. In Table 3, we highlight some of these other scenarios, with corresponding descriptions of thematic overlap. The narrative scenarios highlighted in Table 3 provide a sample of the existing literature on the topic of the future of the Arctic region. While it is interesting that some of the scenarios that we have produced are thematically well-represented in the Arctic scenario literature (e.g., “Concession 60”, “Assisted Migration”), there is one that notably has no apparent representation in the existing literature.

“Putin’s Gambit” describes a world that has made tremendous global progress on climate change action and emissions reductions, except for Russia, where its politics have fostered continued fossil fuel exploration. From a scenario perspective, this is in large part due to Russia’s continued and projected reliance on fossil fuels as a major part of its economy (Ilinova et al., 2020; Keil, 2014). Thus, a contradiction emerges where despite global progress being made on the topic of emissions reduction, there is a significant aberration in the Russian economy. The brief thematic review in Table 3 suggests that this combination of themes may be under-represented in the existing scenario literature.

Table 3. Comparison of a sample of existing Arctic scenario narratives with the ten scenarios produced in this analysis

Topic #: Title of Story	Scenario literature featuring similar ideas	Thematic overlap
1: Campus Utqiagvik	Lovecraft (2019), "Scenario #5"; Falardeau et al. (2019) "Havakatigiit"	Environmental progress; regional isolation with cooperation
2: Nanook Station	Lovecraft (2019), "Scenario #2"; Nilsson et al. (2017), "Inequality"	Changed arctic ecosystems; wide gaps in level of privilege
3: Security Detail	Lovecraft (2019), "Scenario #4"; Global Business Network (2008), "Arctic Saga"; Brigham (2007b), "Adaptive Frontier"; Falardeau et al. (2019) "Indigenuity Informs Science"	Cooperative Arctic; Global environmental progress; Indigenous communities ascendant
4: The Last Preserve	Global Business Network (2008), "Polar Preserve"	Stable governance; Emptying Arctic
5: Concession 60	Global Business Network (2008), "Arctic Race"; Brigham (2007b), "Globalized Frontier"; Nilsson et al. (2017), "Inequality"; Merrie et al. (2018), "FISH INC."	Unstable governance; High resource extraction; Environmental strain
6: Putin's Gambit	---	---
7: Voice from the Past	Lovecraft (2019), "Scenario #7"; Falardeau et al. (2019) "Kablonak"	Global cooperation; Adaptation to climate change; Indigenous leadership
8: Icebreaker	Lovecraft (2019), "Scenario #1"; Global Business Network (2008), "Arctic Race"; Brigham (2007b), "Fortress Frontier"; Nilsson et al. (2017), "Regional rivalry"; Spijkers et al. (2021), "Scramble for the Atlantic"	Insecure Arctic; High resource demand; Militarized coastal areas; Intensive consumption
9: Assisted Migration	Lovecraft (2019), "Scenario #3"; Global Business Network (2008), "Arctic Saga"; Brigham (2007b), "Equitable Frontier"; Nilsson et al. (2017), "Sustainability"	Lowered emissions; Regional social harmony; Stewardship of ecosystems
10: School's Out Forever	Lovecraft (2019), "Scenario #6"; Global Business Network (2008), "Polar Lows"	Reduced emissions; Local isolation and reliance on subsistence

4.3 Stories permit creative visions of the future

An advantage of combining a distant time-horizon (e.g., the end of the 21st century) with a creative approach to scenario generation (e.g. science fiction prototyping), is the ability to play with themes that are outlandish or perhaps ridiculous, at least compared to the present day (Dator, 1993; Johnson, 2011). In the context of the Arctic, there are a significant number of factors that will lead to diverse and wide-ranging outcomes, in particular the roles of Indigenous identities in the future (e.g., Latulippe & Klenk, 2020), pronounced ecological change (Post et al., 2009), and radical technological advances (Akiwenzie-Damm et al., 2019; Asinnajaq, 2017).

The process of developing a story-based future inherently requires creativity, which is neither easy to quantify nor easy to train. Moreover, narrative scenarios can prove to be tremendously engaging to readers of scenarios, by immersing a reader in a story rather than providing only a description (Burnam-Fink, 2015). With this demonstration of blending computational text analysis with storytelling, a next step could be to engage Arctic participants directly in both the curation of a novel corpus of literature on the future, and to participate in the imagining of new visions of the future. Stepping back, this work can be seen as examining how human creativity can productively collaborate with machine learning methods. Indeed, in an era where algorithms dominate discourse about what to expect from and of the future, there is an urgency for demonstrations of the critical role of humanistic perspectives.

Artwork is an additional mode of contending with the complex content and questions embedded in scenarios, and can include visual art, spoken word, musical interpretation, or theatrical production (Grimberg et al., 2019; Jacobs et al., 2017; Merrie et al., 2018). As such, art can be leveraged to meaningfully engage a much broader audience that otherwise would not have a clear way to participate in the process of envisioning Arctic futures. Art can tap into deep-seated human experience, and it can be leveraged to connect wide-ranging audiences with important, worthwhile topics, with which they might not otherwise engage (Akiwenzie-Damm et al., 2019; Ramachandran & Hirstein, 1999). While full discussion is beyond the scope of this article, visual concept art has been developed to accompany the ten visions of the Arctic

presented in this article. This artwork provides an engaging and immersive complement for the stories themselves. An example is shown in Fig 4.



Figure 4. Examples of visual art for two of the story-based scenarios. The top panel is an image inspired by ‘Concession 60’ (i.e., Topic #5), and the bottom panel is an image inspired by ‘Assisted Migration’ (i.e., Topic #9). Artwork is used with permission by Patrick W. Keys and Fabio Comin. All rights reserved by the creators.

4.4 Positionality and interpretation

The authors of this work emphasize that the analysis, particularly the subjective interpretation of the LDA results and the development of stories, reflects individual positionality (i.e., Western, non-Indigenous), perspective (i.e., external to the Arctic), and social privilege (i.e., scientists from a research university). Awareness of this is critical to appropriately situate and contextualize the scenarios themselves, both as readers and writers. A story-based scenario process is inevitably subjective, which is in fact part of the motivation, given that stories can be an accessible format for engaging broad audiences on complex topics. Nonetheless, we clarify our own positionality above to provide additional context for those engaging with these stories.

4.5 Future work

This work is intended to be a starting point for those interested in expanding the scope of Arctic scenarios, by blending computational methods with imaginative, story-based approaches. While the present analysis is limited to two authors who are not currently located in the Arctic, we hope that this pilot demonstration can serve as a launchpad for engaging new partners. Specifically, we hope that communities that are local and Indigenous to the Arctic will find the scenarios engaging and explore the story-based methodology to develop future scenarios tailored to their own communities.

A next step of this work could be to identify communities in the Arctic that might specifically be a good fit for this type of scenario process. Potential partners could include colleges and universities, particularly those with a focus on educating local populations, for example Iḷisaḡvik College located in Utqiagvik, Alaska. Such a partnership could include a combination of scenario-based learning, as well as collaborative research, both among students and faculty. Eventually, if such a scenario approach were successful in an Arctic academic context, a broader effort could be made to work with communities beyond academia, including tribal organizations and local governments. Many other examples of structured futuring exist in Arctic contexts including with Indigenous communities (e.g., Falardeau et al., 2019), though few explicitly link the methods we discuss in this article (specifically computational text analysis and story-based futures). All efforts in the Arctic, however, are characterized by a need for deep

engagement with local communities, which require time, communication, and honest partnership.

Some complexities exist for this work to be relevant for Arctic communities, not least the technical barriers that exist for collecting relevant texts, developing multi-lingual analytical capacity, the provision of computing hardware, as well as technical training for personnel. At the same time the entire method presented here does not need to be adopted in its entirety. It is conceivable that a user of this work could take our LDA analysis, and use it as a jumping off point, such that other scenarios could be created following our story-based approach yet based on the same LDA output. This would sidestep the barriers to computational text analysis and would permit new interpretation of the LDA results in a way that reflected the perspective of the new users.

There are numerous possibilities for future expansion of the computational text analysis. First, exploration of non-English corpuses is a frontier for this work, not least because of the linguistic diversity present in the Arctic. While it is well beyond the scope of this analysis, collaborative research teams, possibly leveraging circumpolar research networks, could leverage considerable local capacity. Groups such as the Inuit Circumpolar Council, International Arctic Science Committee and others could serve as valuable partners for such an effort. In a similar context, several types of corpuses could be collaboratively constructed, that explore differences among distinct aspects of Arctic identity. This could include Indigenous and non-Indigenous identities, as well as other cultural, national, and ethnic groupings. To that end, methods such as word or topic intrusion could be explicitly co-developed with stakeholders or partners to strengthen topic model analyses, with local, on-the-ground perspectives and knowledge. Finally, additional approaches could be employed to connect any resultant scenarios further back to the original corpus composition. First, information about the topic distribution across documents could help test whether the scenarios reflect the document composition more directly. Second, bi- and tri-gram frequency across the corpus could be used to examine whether and how the eventual scenarios relate to the raw, unanalyzed corpus.

As with the non-English analysis discussed above, such a comparative approach would require broad collaboration among diverse groups throughout the Arctic region. A central

concern of work that engages Indigenous and local people in the collection and interpretation of perspectives on the future, is that of appropriately situating this knowledge. Likewise, it would be necessary to carefully evaluate the biases of the research questions that are asked. Substantial effort would be required to detail the context of perspectives on the future, and likewise to understand the cultural dynamics from which these perspectives originate (D'ignazio and Klein, 2020).

This hybrid method of blending computational text analysis with story-based approaches is not intended to be stand-alone. Rather, it can serve as a complement to existing scenario development practices, including conventional geophysical and Earth system science projections of Arctic change. Moreover, this method provides a broad perspective on locally driven, place-based initiatives. In this way, the methods and results presented in this article can serve as a platform for interweaving regional and circumpolar themes into local scenario efforts.

5 Conclusions

The future Arctic will be profoundly different from that observed in the present. We contribute a new approach toward creating scenarios of the future Arctic, by blending computational text analysis with structured futuring. The topic modeling yielded a set of distinct thematic clusters of keywords, which were directly employed in the creation of story-based visions of the future Arctic. The stories that were created permit a visit to ten different, textured, and vital visions of the future. While the stories are interesting, the major contribution of this work is to demonstrate a method of how topic modeling can be used directly in an imaginative scenario process. In the future, we anticipate that computational text analysis could be incorporated as a component of general scenario methods, to simultaneously provide an unsupervised scan of existing literature, as well as to provide orthogonal insight that might not be present in the existing worldview of the scenario creators. Similarly, we anticipate that creative story-based methods will become

increasingly important for making sense of a world experiencing accelerating and surprising change.

Acknowledgments, Samples, and Data

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Figure 1. Conceptual overview of how the topic modeling analysis feeds into the structured futuring process, including worldbuilding and story creation

Figure 2. Results of the latent Dirichlet allocation, with thematic dominance and clustering visualized on the left, and the baseline frequency of keywords across the entire corpus depicted on the right. This was generated using the freely available pyLDAvis software in the GENSIM Python package.

Figure 3. Summary of the story-based scenario creation procedure for Topic #5 ‘Concession 60’. Steps begin at the top left, and can be read left-to-right, and top-to-bottom.

Figure 4. Examples of visual art for two of the story-based scenarios. The top panel is an image inspired by ‘Concession 60’ (i.e., Topic #5), and the bottom panel is an image inspired by ‘Assisted Migration’ (i.e., Topic #9). Artwork is used with permission by Patrick W. Keys and Fabio Comin. All rights reserved.

Table 1. Summary of topic clusters with corresponding top 30 keywords in that cluster with terms listed in descending order of relevance within the topic (i.e., the first term is the most salient to the topic).

Table 2. Overview of stories, including theme, title, and brief description of the world and story.

Table 3. Comparison of a sample of existing Arctic scenario narratives with the ten scenarios produced in this analysis

Table S1: Visions of the Arctic Future: Metadata for Arctic news corpus

Keys and Meyer (2021)

File Name	Author	Year	Date	Accessed	Source	Hyperlink
LERESCH_2020_05_14	Robert LeResch	14-May-20	8-Jan-21	The Arctic Sounder	http://www.thearcticsounder.com/article/2020planning_for_the_future_of_alaska_after_the	
KUNZE_2020_12_24_A	Jenna Kunze	24-Dec-20	8-Jan-21	The Arctic Sounder	http://www.thearcticsounder.com/article/2052arctic_report_card_graddads_arctic_isnt	
KUNZE_2020_12_24_B	Jenna Kunze	24-Dec-20	8-Jan-21	The Arctic Sounder	http://www.thearcticsounder.com/article/2052arctic_health_care_workers_among_first_to	
CHENEY_2020_08_20	Stephen A. Cheney	20-Aug-20	8-Jan-21	The Arctic Sounder	http://www.thearcticsounder.com/article/2034alaska_is_americas_frontline_against_climate	
DUNLEAVY_2020_12_24	Mike Dunleavy	24-Dec-20	8-Jan-21	The Arctic Sounder	http://www.thearcticsounder.com/article/2052a_path_forward_for_alaskas_economy	
RESTINO_2020_10_29	Carey Restino	29-Oct-20	8-Jan-21	The Arctic Sounder	http://www.thearcticsounder.com/article/2044forty_percent_of_you_probably_wont_bother_to	
EDWARDSON_2014_02_28	George Edwardson	28-Feb-14	8-Jan-21	The Arctic Sounder	http://www.thearcticsounder.com/article/1409eve_won_an_important_battle	
WALKER_2020_12_17	Bill Walker	17-Dec-20	8-Jan-21	The Arctic Sounder	http://www.thearcticsounder.com/article/2051the_anwr_lease_sale_whats_at_stake_for_alaska	
OLIVER_2018_10_06	Shady Grove Oliver	6-Oct-18	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1840first_supplies_arrive_in_kivalina_for_access	
KUNZE_2020_10_08	Jenna Kunze	8-Oct-20	8-Jan-21	The Arctic Sounder	http://www.thearcticsounder.com/article/2041nsf_awards_university_of_virginia_3_million	
KUNZE_2020_08_13_A	Jenna Kunze	13-Aug-20	8-Jan-21	The Arctic Sounder	http://www.thearcticsounder.com/article/2033wainwright_earns_1_million_grants_to_build	
ULMER_2020_12_31	Fran Ulmer	31-Dec-20	8-Jan-21	The Arctic Sounder	http://www.thearcticsounder.com/article/2053senate_bipartisan_action_on_energy_brings	
KUNZE_2020_10_06	Jenna Kunze	6-Oct-20	8-Jan-21	The Arctic Sounder	http://www.thearcticsounder.com/article/2041nsb_board_of_education_candidate_explain	
KUNZE_2020_11_19	Jenna Kunze	19-Nov-20	8-Jan-21	The Arctic Sounder	http://www.thearcticsounder.com/article/2047utqiagvik_orders_penalties_for_rule_breakers	
KOOKESH_2020_10_17	Albert Kookesh	17-Oct-20	8-Jan-21	The Arctic Sounder	http://www.thearcticsounder.com/article/2042alaska_natives_deserve_more_from_state	
KUNZE_2020_12_17	Jenna Kunze	17-Dec-20	8-Jan-21	The Arctic Sounder	http://www.thearcticsounder.com/article/2051dmv_closures_in_arctic_leave_some_without_ids	
DUGLOS_2020_08_13	Danielle DuClos	13-Aug-20	8-Jan-21	The Arctic Sounder	http://www.thearcticsounder.com/article/2033pacific_valrus_haulout_is_earliest_on_record	
EARLY_2019_10_07	Wesley Early	7-Oct-19	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1941troopers_brother_banished_from_kiana_for	
OLIVER_2020_04_03	Shady Grove Oliver	3-Apr-20	8-Jan-21	The Arctic Sounder	http://www.thearcticsounder.com/article/2014amidst_criticism_aidea_moves_35_million_to	
OLIVER_2016_10_28	Shady Grove Oliver	28-Oct-16	8-Jan-21	The Arctic Sounder	http://www.thearcticsounder.com/article/1643southwest_arctic_represented_in_afr	
KUNZE_2020_08_13_B	Jenna Kunze	13-Aug-20	8-Jan-21	The Arctic Sounder	http://www.thearcticsounder.com/article/2033barrows_own_kelsey_haake_heads_to_top_law	
RESTINO_2020_12_31	Carey Restino	31-Dec-20	8-Jan-21	The Arctic Sounder	http://www.thearcticsounder.com/article/20532020_tests_limits_of_arctic_adaptation	
DEMARBAN_2020_12_03	Alex DeMarban	3-Dec-20	8-Jan-21	The Arctic Sounder	http://www.thearcticsounder.com/article/2049trump_administration_denies_permit_for_pebble	
OLIVER_2020_06_12	Shady Grove Oliver	12-Jun-20	8-Jan-21	The Arctic Sounder	http://www.thearcticsounder.com/article/2024wilhelm_appointed_ilisagvik_president	
JAMES_2018_07_23	David A. James	23-Jul-18	8-Jan-21	The Arctic Sounder	http://www.thearcticsounder.com/article/1830archaeologist_links_prehistoric_china_alaska	
HART_2020_09_11	Lee Hart	11-Sep-20	8-Jan-21	The Arctic Sounder	http://www.thearcticsounder.com/article/2037to_put_alaskans_back_to_work_look_to_a	
PASKVAN_2020_06_04	Joe Paskvan	7-Jun-20	8-Jan-21	The Arctic Sounder	http://www.thearcticsounder.com/article/2023dont_blame_trans-alaska_oil_pipeline_decline	
SHIVELY_2020_09_03	John Shively	3-Sep-20	8-Jan-21	The Arctic Sounder	http://www.thearcticsounder.com/article/2036alaska_can_have_pebble_and_fish_1_not_one	
OLEMAUN_2014_09_05	Forrest Deano Olemaun	5-Sep-14	8-Jan-21	The Arctic Sounder	http://www.thearcticsounder.com/article/1436north_slope_must_maintain_forward_momentum	
RESTINO_2020_12_24	Carey Restino	24-Dec-20	8-Jan-21	The Arctic Sounder	http://www.thearcticsounder.com/article/2052holiday_memories_conjure_magic_celebration	
KUNZE_2020_09_17	Jenna Kunze	17-Sep-20	8-Jan-21	The Arctic Sounder	http://www.thearcticsounder.com/article/2038four_candidates_vie_for_mayors_seat_in	
STOOPS_2019_06_07	Nicole Stoops	7-Jun-19	8-Jan-21	The Arctic Sounder	http://www.thearcticsounder.com/article/1923update_from_the_village_of_kotzebue	
ADN_2020_11_19	ADN Editorial Board	19-Nov-20	8-Jan-21	The Arctic Sounder	http://www.thearcticsounder.com/article/2047why_is_alaska_taking_so_long_to_count_votes	
MARSIK_2020_12_24	Tom Marsik	24-Dec-20	8-Jan-21	The Arctic Sounder	http://www.thearcticsounder.com/article/2052in_your_words_-_in_memory_of_dr_todd	
EVANS_2014_08_08	Jason Evans	8-Aug-14	8-Jan-21	The Arctic Sounder	http://www.thearcticsounder.com/article/1432major_issues_face_alaska_voters	
KUNZE_2020_11_02	Jenna Kunze	2-Nov-20	8-Jan-21	The Arctic Sounder	http://www.thearcticsounder.com/article/2045kotzebue_utqiagvik_residents_vie_for_house	
HEIMBUCH_2012_10_26	Hannah Heimbuch	26-Oct-12	8-Jan-21	The Arctic Sounder	http://www.thearcticsounder.com/article/1243project_choiriot_shares_point_hopes_troubled	
ROETMAN_2012_12_07	Paul A. Roetman	7-Dec-12	8-Jan-21	The Arctic Sounder	http://www.thearcticsounder.com/article/1249have_you_thanked_a_juror_today	
OLIVER_2020_06_07	Shady Grove Oliver	7-Jun-20	8-Jan-21	The Arctic Sounder	http://www.thearcticsounder.com/article/2023alaska_natives_call_for_justice_in_solidarity	
PAULIN_2019_05_10	Jim Paulin	10-May-19	8-Jan-21	The Arctic Sounder	http://www.thearcticsounder.com/article/1919church_seeks_1_million_from_deadliest_catch	
RESTINO_2020_07_23	Carey Restino	23-Jul-20	8-Jan-21	The Arctic Sounder	http://www.thearcticsounder.com/article/2030american_seaboods_vessel_outbreak_shows_what	
OLIVER_2019_08_30	Shady Grove Oliver	30-Aug-19	8-Jan-21	The Arctic Sounder	http://www.thearcticsounder.com/article/1935art_community_take_center_stage_in_wainwright	
KELLIE_2020_06_19	Cordellia Kellie	19-Jun-20	8-Jan-21	The Arctic Sounder	http://www.thearcticsounder.com/article/2025student_graduates_high_school_with_associate	
OLIVER_2019_05_17	Shady Grove Oliver	17-May-19	8-Jan-21	The Arctic Sounder	http://www.thearcticsounder.com/article/1920uic_announces_new_contract_for_utqiagvik	
BREHMER_2020_08_28	Elwood Brehmer	28-Aug-20	8-Jan-21	The Arctic Sounder	http://www.thearcticsounder.com/article/2035ravn_alaska_hopes_to_resume_hub_service_in_1	
RIHA_2019_05_10	Danielle Riha	10-May-19	8-Jan-21	The Arctic Sounder	http://www.thearcticsounder.com/article/1919time_to_invest_in_culturally_responsive	
WELCH_2020_07_03	Laine Welch	3-Jul-20	8-Jan-21	The Arctic Sounder	http://www.thearcticsounder.com/article/2027bristol_bay_braces_for_pebble_mine_decision	
MAGDANZ_2019_11_02	Jim Magdanz	2-Nov-19	8-Jan-21	The Arctic Sounder	http://www.thearcticsounder.com/article/1944the_ambler_mining_district_is_not_red_dog	
OLIVER_2018_04_13	Shady Grove Oliver	13-Apr-18	8-Jan-21	The Arctic Sounder	http://www.thearcticsounder.com/article/1815kotzebue_has_more_connectivity_with_new_4g	
RESTINO_2018_04_13	Carey Restino	13-Apr-18	8-Jan-21	The Arctic Sounder	http://www.thearcticsounder.com/article/1815fifty_years_after_alaska_placed_its_first_911	
SEVUNTS_2020_08_12	Levon Sevunts	12-Aug-20	8-Jan-21	The Barents Observer	https://thebarentsobserver.com/en/arctic/2020/08/arctic-summer-sea-ice-could-be-gone-2035-new-study-forecasts	
STAALESEN_2017_06_16	Atle Staalesen	16-Jun-17	2-Mar-20	The Barents Observer	https://thebarentsobserver.com/en/arctic/2017/06/putin-our-future-lies-arctic	
STAALESEN_2020_09_25	Atle Staalesen	25-Sep-20	8-Jan-21	The Barents Observer	https://thebarentsobserver.com/en/climate-crisis/2020/09/climate-change-making-arctic-more-hospital-says-russian-nuclear-icebreaker	
SEVUNTS_2018_10_03	Levon Sevunts	3-Oct-18	2-Mar-20	The Barents Observer	https://thebarentsobserver.com/en/arctic/2018/10/nine-countries-and-eu-set-sign-historic-agreement-protect-central-arctic-ocean	
QUINN_2020_10_13	Ellis Quinn	13-Oct-20	8-Jan-21	The Barents Observer	https://thebarentsobserver.com/en/2020/10/year-long-international-arctic-science-expedition-comes-end	
SEVUNTS_2020_04_23	Levon Sevunts	23-Apr-20	8-Jan-21	The Barents Observer	https://thebarentsobserver.com/en/ecology/2020/04/ice-free-arctic-summers-likely-2050-even-climate-action-study	
REIGSTAD_2020_02_27	Marit Reigstad	27-Feb-20	2-Mar-20	The Barents Observer	https://thebarentsobserver.com/en/node/6493	
NILSEN_2020_01_14	Thomas Nilsen	14-Jan-20	8-Jan-21	The Barents Observer	https://thebarentsobserver.com/en/arctic/2020/01/avoiding-arctic-sea-routes-might-be-good-intention-isnt-solving-problem	
NILSEN_2019_09_22	Thomas Nilsen	22-Sep-19	2-Mar-20	The Barents Observer	https://thebarentsobserver.com/en/node/5425	
STAALESEN_2020_09_29	Atle Staalesen	29-Sep-20	8-Jan-21	The Barents Observer	https://thebarentsobserver.com/en/arctic/2020/09/chinas-new-icebreaker-completes-first-arctic-mission	
LEU_2020_10_02	Eva Leu	2-Oct-20	8-Jan-21	The Barents Observer	https://thebarentsobserver.com/en/node/7426	
QUINN_2019_09_19	Ellis Quinn	19-Sep-19	2-Mar-20	The Barents Observer	https://thebarentsobserver.com/en/arctic/2019/09/arctic-railway	
STAALESEN_2020_07_16	Atle Staalesen	16-Jul-20	8-Jan-21	The Barents Observer	https://thebarentsobserver.com/en/arctic/2020/07/new-chinese-icebreaker-sets-course-arctic	
NILSEN_2020_12_22	Thomas Nilsen	22-Dec-20	8-Jan-21	The Barents Observer	https://thebarentsobserver.com/en/climate-crisis/2020/12/supreme-court-rejects-climate-activists-appeal-over-norways-arctic-oil	
LEISER_2020_01_15	Mathiew Leiser	15-Jan-20	2-Mar-20	The Barents Observer	https://thebarentsobserver.com/en/ecology/2020/01/methane-emissions-arctic-ocean-have-long-been-overestimated-study-claims	
ROSEN_2016_05_25	Yereth Rosen	25-May-16	2-Mar-20	The Barents Observer	https://thebarentsobserver.com/en/arctic/2016/05/why-us-doesnt-need-wait-arctic-port-boost-maritime-safety	
NILSEN_2018_05_22	Thomas Nilsen	22-May-18	8-Jan-21	The Barents Observer	https://thebarentsobserver.com/en/travel/2018/05/arctic-cruise-ship-boom	
STAALESEN_2017_09_04	Atle Staalesen	4-Sep-17	2-Mar-20	The Barents Observer	https://thebarentsobserver.com/en/security/2017/09/you-are-future-elite-russian-navy	
SEVUNTS_2020_DEC_25	Levon Sevunts	25-Dec-20	8-Jan-21	The Barents Observer	https://thebarentsobserver.com/en/nuclear-safety/2020/12/rosatom-build-small-scale-land-based-arctic-nuclear-plant-2028	
STAALESEN_2020_08_11	Atle Staalesen	11-Aug-20	8-Jan-21	The Barents Observer	https://thebarentsobserver.com/en/industry-and-energy/2020/08/survey-ship-set-out-irkenes-mission-find-underwater-route-trans-arctic	
STAALESEN_2020_11_11	Atle Staalesen	11-Nov-20	8-Jan-21	The Barents Observer	https://thebarentsobserver.com/en/arctic/2020/11/developers-trans-arctic-cable-lake-step-towards-nordic-coast	
STAALESEN_2018_01_03	Atle Staalesen	3-Jan-18	8-Jan-21	The Barents Observer	https://thebarentsobserver.com/en/security/2018/01/defense-minister-shoigu-presents-year-arctic-buildup	
NILSEN_2017_10_03	Thomas Nilsen	3-Oct-17	4-Mar-20	The Barents Observer	https://thebarentsobserver.com/en/ecology/2017/10/barents-bishops-ask-arctic-council-promote-fossil-free-future	
NILSEN_2019_01_20	Thomas Nilsen	20-Jan-19	2-Mar-20	The Barents Observer	https://thebarentsobserver.com/en/arctic/2019/01/luxury-comes-northern-sea-route	

Table S1: Visions of the Arctic Future: Metadata for Arctic news corpus

Keys and Meyer (2021)

STAALSEN_2020_09_01	Atle Staalesen	1-Sep-20	8-Jan-21	The Barent Observer	https://thebarentsobserver.com/en/arctic/ing/2020/09/advance-russian-oil-could-mean-death-life-great-arctic-bay				
STAALSEN_2017_10_26	Atle Staalesen	26-Oct-17	8-Jan-21	The Barent Observer	https://thebarentsobserver.com/en/security/2017/10/learning-cook-arctic-battlefield				
NILSEN_2020_08_02	Thomas Nilsen	2-Aug-20	11-Jan-21	The Barent Observer	https://thebarentsobserver.com/en/life-and-public/2020/08/eu-seeks-input-new-arctic-strategy-asks-ngos-and-indigenous-peoples				
STAALSEN_2015_11_24	Atle Staalesen	24-Nov-15	11-Jan-21	The Barent Observer	https://thebarentsobserver.com/en/security/2015/11/rogozin-we-must-colonize-arctic				
SEVUNTS_2019_08_27	Levon Sevunts	27-Aug-19	11-Jan-21	The Barent Observer	https://thebarentsobserver.com/en/arctic/2019/08/uss-ratifies-moratorium-fishing-high-arctic-seas				
STAALSEN_2019_02_12	Atle Staalesen	12-Feb-19	11-Jan-21	The Barent Observer	https://thebarentsobserver.com/en/life-and-public/2019/02/beijing-finds-chinatown-norways-arctic-coast				
STAALSEN_2018_11_08	Atle Staalesen	8-Nov-18	2-Mar-20	The Barent Observer	https://thebarentsobserver.com/en/arctic/2018/11/nuclear-powered-container-ship-finds-future-fish				
STAALSEN_2019_03_05	Atle Staalesen	5-Mar-19	2-Mar-20	The Barent Observer	https://thebarentsobserver.com/en/arctic/industry-and-energy/2019/03/frenchmen-sign-landmark-deal-novatek-boosts-presence-russian				
STAALSEN_2020_06_10	Atle Staalesen	10-Jun-20	11-Jan-21	The Barent Observer	https://thebarentsobserver.com/en/ecology/2020/06/supreme-court-decide-landmark-climate-case-against-arctic-oil-november				
STAALSEN_2016_10_10	Atle Staalesen	10-Oct-16	11-Jan-21	The Barent Observer	https://thebarentsobserver.com/en/arctic/industry-and-energy/2016/10/cosco-sends-five-vessels-through-northern-sea-route				
NILSEN_2016_10_18	Thomas Nilsen	18-Oct-16	2-Mar-20	The Barent Observer	https://thebarentsobserver.com/en/ecology/2016/10/groundbreaking-lawsuit-field-against-norway-over-arctic-oil-drilling				
NILSEN_2020_11_17	Thomas Nilsen	17-Nov-20	11-Jan-21	The Barent Observer	https://thebarentsobserver.com/en/arctic/2020/11/russias-latest-and-most-powerful-nuclear-icebreaker-had-abort-maiden-arctic-voyage				
NILSEN_2020_07_28	Thomas Nilsen	28-Jul-20	11-Jan-21	The Barent Observer	https://thebarentsobserver.com/en/industry-and-energy/2020/07/deutsche-banks-wont-finance-any-new-arctic-oil-and-gas-projects				
NILSEN_2019_01_15	Thomas Nilsen	15-Jan-19	11-Jan-21	The Barent Observer	https://thebarentsobserver.com/en/arctic/2019/01/russia-designs-ice-breaking-nuclear-powered-submarine-arctic-shelf-operations				
PETTERSEN_2016_02_09	Trude Pettersen	9-Feb-16	11-Jan-21	The Barent Observer	https://thebarentsobserver.com/en/arctic/2016/02/china-wants-join-russia-arctic-expedition				
NILSEN_2019_12_19	Thomas Nilsen	19-Dec-19	14-Jan-21	The Barent Observer	https://thebarentsobserver.com/en/security/2019/12/russias-top-general-indirectly-confirms-arctic-deployment-unstoppable-missile				
STAALSEN_2020_10_14	Atle Staalesen	14-Oct-20	14-Jan-21	The Barent Observer	https://thebarentsobserver.com/en/security/2020/10/moscow-signals-it-will-make-security-situation-priority-arctic-council				
STAALSEN_2017_07_05	Atle Staalesen	5-Jul-17	14-Jan-21	The Barent Observer	https://thebarentsobserver.com/en/arctic/2017/07/russia-makes-new-big-cuts-arctic-spending				
STAALSEN_2017_02_14	Atle Staalesen	14-Feb-17	4-Mar-20	The Barent Observer	https://thebarentsobserver.com/en/travel/2017/02/khatanga-eyes-new-future-better-airport				
STAALSEN_2018_01_04	Atle Staalesen	4-Jan-18	14-Jan-21	The Barent Observer	https://thebarentsobserver.com/en/arctic/2018/01/building-new-state-governance-russian-arctic				
NILSEN_2020_09_29	Thomas Nilsen	29-Sep-20	14-Jan-21	The Barent Observer	https://thebarentsobserver.com/en/arctic/2020/09/trans-arctic-undersea-cable-attracts-norwegian-and-japanese-partners				
STAALSEN_2016_07_04	Atle Staalesen	4-Jul-16	14-Jan-21	The Barent Observer	https://thebarentsobserver.com/en/arctic/2016/07/future-icebreaker-fleet-governments-table				
SEVUNTS_2017_10_12	Levon Sevunts	12-Oct-17	2-Mar-20	The Barent Observer	https://thebarentsobserver.com/en/arctic/2017/10/scientists-urge-international-agreement-fisheries-central-arctic-ocean				
NILSEN_2020_04_23	Thomas Nilsen	23-Apr-20	14-Jan-21	The Barent Observer	https://thebarentsobserver.com/en/ecology/2020/04/supreme-court-hear-arctic-drilling-lawsuit				
STAALSEN_2017_09_14_A	Atle Staalesen	14-Sep-17	14-Jan-21	The Barent Observer	https://thebarentsobserver.com/en/arctic/2017/09/nansens-heritage-vital-future-barents-sea-says-researchers				
STAALSEN_2019_08_05	Atle Staalesen	5-Aug-19	14-Jan-21	The Barent Observer	https://thebarentsobserver.com/en/security/2019/08/weapons-arrive-russias-new-arctic-garrison				
NILSEN_2016_08_22	Thomas Nilsen	22-Aug-16	2-Mar-20	The Barent Observer	https://thebarentsobserver.com/en/2016/08/hurtigruten-ceo-encourages-limit-size-arctic-cruise-vessels				
NILSEN_2020_01_22	Thomas Nilsen	22-Jan-20	14-Jan-21	The Barent Observer	https://thebarentsobserver.com/en/2020/01/russias-high-profile-arctic-dialog-conference-big-arctic				
STAALSEN_2019_11_19	Atle Staalesen	19-Nov-19	14-Jan-21	The Barent Observer	https://thebarentsobserver.com/en/2019/11/arctic-palladium-invests-15-billion-new-project-will-make-russia-worlds-biggest-producer				
STAALSEN_2019_09_04	Atle Staalesen	4-Sep-19	14-Jan-21	The Barent Observer	https://thebarentsobserver.com/en/arctic/industry-and-energy/2019/09/india-looks-towards-russian-arctic				
NILSEN_2018_03_01	Thomas Nilsen	1-Mar-18	14-Jan-21	The Barent Observer	https://thebarentsobserver.com/en/arctic/2018/03/putin-vows-stronger-arctic-military-science-and-transport				
STAALSEN_2018_09_03	Atle Staalesen	3-Sep-18	14-Jan-21	The Barent Observer	https://thebarentsobserver.com/en/2018/09/russia-builds-another-military-base-east-arctic				
MARKUSSON_2020_04_22	Helge M Markusson	22-Apr-20	14-Jan-21	The Barent Observer	https://thebarentsobserver.com/en/node/6789				
NILSEN_2020_03_31	Thomas Nilsen	31-Mar-20	14-Jan-21	The Barent Observer	https://thebarentsobserver.com/en/travel/2020/03/arctic-wilderness-tourism-hit-especially-hard-coronavirus				
KROGSETH_2020_06_09	Ingjerd Krogseth	9-Jun-20	14-Jan-21	The Barent Observer	https://thebarentsobserver.com/en/node/6985				
STAALSEN_2020_09_21	Atle Staalesen	21-Sep-20	14-Jan-21	The Barent Observer	https://thebarentsobserver.com/en/arctic/ing/2020/09/amid-growing-concern-over-arctic-petroleum-big-international-lenders-express				
STAALSEN_2019_07_01	Atle Staalesen	1-Jul-19	14-Jan-21	The Barent Observer	https://thebarentsobserver.com/en/arctic/life-and-public/2019/07/climate-change-and-arctic-are-priorities-finlands-new-eu-presidency				
NILSEN_2017_01_19	Thomas Nilsen	19-Jan-17	2-Mar-20	The Barent Observer	https://thebarentsobserver.com/en/arctic/ecology/2017/01/climate-researchers-are-building-90-cm-higher-ground-prepare-worst				
SEVUNTS_2017_12_01	Levon Sevunts	1-Dec-17	14-Jan-21	The Barent Observer	https://thebarentsobserver.com/en/ecology/2017/12/arctic-nations-and-fishing-powers-sign-historic-agreement-fishery				
STAALSEN_2019_12_13	Atle Staalesen	13-Dec-19	14-Jan-21	The Barent Observer	https://thebarentsobserver.com/en/industry-and-energy/2019/12/grand-arctic-coal-project-gets-go-ahead-state-experts				
STAALSEN_2016_07_25	Atle Staalesen	25-Jul-16	2-Mar-20	The Barent Observer	https://thebarentsobserver.com/en/arctic/2016/07/yard-launches-construction-third-nuclear-powered-icebreaker				
STAALSEN_2016_03_17	Atle Staalesen	17-Mar-16	14-Jan-21	The Barent Observer	https://thebarentsobserver.com/en/arctic/2016/03/nobel-peace-prize-winners-call-halt-arctic-drilling				
NILSEN_2017_01_24	Thomas Nilsen	24-Jan-17	2-Mar-20	The Barent Observer	https://thebarentsobserver.com/en/arctic/2017/01/sami-ditched-arctic-frontiers-opening-speeches				
STAALSEN_2018_05_18	Atle Staalesen	18-May-18	2-Mar-20	The Barent Observer	https://thebarentsobserver.com/en/arctic/2018/05/bridge-over-river-ob-marks-start-new-grand-railway-project				
NILSEN_2019_02_02	Thomas Nilsen	2-Feb-19	2-Mar-20	The Barent Observer	https://thebarentsobserver.com/en/industry-and-energy/2019/02/support-rail-baltica-finland-takes-step-closer-arctic-link				
STAALSEN_2020_09_04	Atle Staalesen	4-Sep-20	14-Jan-21	The Barent Observer	https://thebarentsobserver.com/en/2020/09/new-giant-sinkhole-found-russian-arctic-lundra				
STAALSEN_2019_07_23	Atle Staalesen	23-Jul-19	14-Jan-21	The Barent Observer	https://thebarentsobserver.com/en/arctic/travel/2019/07/russian-arctic-town-explores-new-way-north-pole				
STAALSEN_2019_04_03	Atle Staalesen	3-Apr-19	14-Jan-21	The Barent Observer	https://thebarentsobserver.com/en/industry-and-energy/2019/04/putins-biggest-oil-company-promises-100-million-tons-arctic-route				
QUINN_2020_06_17	Ellis Quinn	17-Jun-20	14-Jan-21	The Barent Observer	https://thebarentsobserver.com/en/life-and-public/2020/06/sami-sweden-start-work-structure-truth-and-reconciliation-commission				
HANSSEN_2020_05_28	Christine Hanssen	28-May-20	14-Jan-21	The Barent Observer	https://thebarentsobserver.com/en/node/6934				
NILSEN_2018_08_19	Thomas Nilsen	19-Aug-18	14-Jan-21	The Barent Observer	https://thebarentsobserver.com/en/travel/2018/08/first-battery-powered-tourist-ship-arctic-ready-sail-next-summer				
STAALSEN_2020_06_15	Atle Staalesen	15-Jun-20	14-Jan-21	The Barent Observer	https://thebarentsobserver.com/en/travel/2020/06/moscow-aims-post-covid-200-boost-arctic-tourism				
NILSEN_2016_09_16	Thomas Nilsen	16-Sep-16	14-Jan-21	The Barent Observer	https://thebarentsobserver.com/en/arctic/2016/09/announces-tender-fantasy-giant-icebreakers				
NILSEN_2018_04_20	Thomas Nilsen	20-Apr-18	2-Mar-20	The Barent Observer	https://thebarentsobserver.com/en/travel/2018/04/hurtigruten-goes-hybrid-electric				
YLE_2019_02_25	YLE News	25-Feb-19	14-Jan-21	The Barent Observer	https://thebarentsobserver.com/en/industry-and-energy/2019/02/stricter-mining-regulations-and-oversight-needed-arctic-finnish-report				
STAALSEN_2016_12_19	Atle Staalesen	19-Dec-16	2-Mar-20	The Barent Observer	https://thebarentsobserver.com/en/arctic/2016/12/political-normalisation-opens-chinas-way-arctic-norway				
STAALSEN_2016_11_10	Atle Staalesen	10-Nov-16	14-Jan-21	The Barent Observer	https://thebarentsobserver.com/en/industry-and-energy/2016/11/port-developers-outline-bright-future-likes				
STAALSEN_2016_09_09_A	Atle Staalesen	9-Sep-16	2-Mar-20	The Barent Observer	https://thebarentsobserver.com/en/2016/09/future-hurtigruten-hybrid				
NILSEN_2020_11_09	Thomas Nilsen	9-Nov-20	14-Jan-21	The Barent Observer	https://thebarentsobserver.com/en/arctic/2020/11/important-climate-data-rescued-norwegian-coast-guard-north-alaska				
STAALSEN_2019_10_11	Atle Staalesen	11-Oct-19	14-Jan-21	The Barent Observer	https://thebarentsobserver.com/en/arctic/2019/10/crown-princess-calls-arctic-action-draws-line-her-19th-century-royal-ancestor				
ROSEN_2016_12_08	Yereth Rosen	8-Dec-16	2-Mar-20	The Barent Observer	https://thebarentsobserver.com/en/2016/12/fishing-ban-international-arctic-waters-remains-elusive				
NILSEN_2020_09_02_A	Thomas Nilsen	2-Sep-20	14-Jan-21	The Barent Observer	https://thebarentsobserver.com/en/travel/2020/09/preparing-post-covid-19-era-seabourn-launches-ultra-luxury-norway-winter-cruises				
NILSEN_2017_01_23	Thomas Nilsen	23-Jan-17	2-Mar-20	The Barent Observer	https://thebarentsobserver.com/en/arctic/2017/01/talking-arctic-moving-frontiers				
NILSEN_2020_08_25	Thomas Nilsen	25-Aug-20	14-Jan-21	The Barent Observer	https://thebarentsobserver.com/en/security/2020/08/norwegian-fighters-fly-alongside-six-b-52-bombers				
STAALSEN_2019_12_26	Atle Staalesen	26-Dec-19	2-Mar-20	The Barent Observer	https://thebarentsobserver.com/en/industry-and-energy/2019/12/nikel-has-serious-future				
STAALSEN_2017_11_17	Atle Staalesen	17-Nov-17	14-Jan-21	The Barent Observer	https://thebarentsobserver.com/en/industry-and-energy/2017/11/putin-nationalizes-arctic-petroleum-shippments				
STAALSEN_2020_01_23	Atle Staalesen	23-Jan-20	14-Jan-21	The Barent Observer	https://thebarentsobserver.com/en/travel/life-and-public/2020/01/worlds-biggest-nickel-miner-has-plan-its-crisis-ridden-town-border				
STAALSEN_2018_10_11	Atle Staalesen	11-Oct-18	2-Mar-20	The Barent Observer	https://thebarentsobserver.com/en/industry-and-energy/2018/10/novatek-makes-big-discovery-gulf-ob				
NILSEN_2019_02_11	Thomas Nilsen	11-Feb-19	11-Mar-20	Arctic Today	https://www.arctictoday.com/arctic-railway-not-commercially-viable-report-says/				
NILSEN_2020_10_13	Thomas Nilsen	13-Oct-20	14-Jan-21	The Barents Observer	https://thebarentsobserver.com/en/travel/2020/10/murmansk-rely-domestic-tourists-coronavirus-has-devastating-impact				
STAALSEN_2016_09_14	Atle Staalesen	14-Sep-16	14-Jan-21	The Barents Observer	https://thebarentsobserver.com/en/arctic/life-and-public/2016/09/finnish-lapland-future-health-care-comes-self-service-kiosk				
NILSEN_2019_10_14	Thomas Nilsen	14-Oct-19	2-Mar-20	The Barents Observer	https://thebarentsobserver.com/en/ecology/2019/10/john-kerry-declares-world-war-zero-response-climate-crisis				
NILSEN_2018_06_22_B	Thomas Nilsen	22-Jun-18	2-Mar-20	The Barents Observer	https://thebarentsobserver.com/en/ecology/2018/06/loil-arctic-electric-rally-hits-road				
STAALSEN_2019_03_14	Atle Staalesen	14-Mar-19	14-Jan-21	The Barents Observer	https://thebarentsobserver.com/en/civil-society-and-media/2019/03/russias-new-military-internet-be-supported-arctic-cable				

Table S1: Visions of the Arctic Future: Metadata for Arctic news corpus

Keys and Meyer (2021)

NILSEN_2017_03_30	Thomas Nilsen	30-Mar-17	4-Mar-20	The Barents Observer	https://thebarentsobserver.com/en/industry-and-energy/2017/03/scientists-design-civilian-nuclear-submarine-arctic-exploration				
MOSCOW_STAFF_2020_07_27	The Moscow Staff	27-Jul-20	14-Jan-21	The Barents Observer	https://thebarentsobserver.com/en/industry-and-energy/2020/07/melting-arctic-permafrost-threatens-russian-energy-firms-bottom-line				
STAALESEN_2017_04_06	Atle Staalesen	6-Apr-17	14-Jan-21	The Barents Observer	https://thebarentsobserver.com/en/industry-and-energy/2017/04/big-russian-oil-conquers-new-arctic-region				
STRONG_2019_11_26	Walter Strong	26-Nov-19	14-Jan-21	The Barents Observer	https://thebarentsobserver.com/en/arctic/2019/11/well-see-ice-free-arctic-century-says-latest-research				
NILSEN_2017_01_25	Thomas Nilsen	25-Jan-17	14-Jan-21	The Barents Observer	https://thebarentsobserver.com/en/arctic/2017/01/brende-law-sea-and-international-law-constitution-arctic				
STAALESEN_2020_08_25	Atle Staalesen	25-Aug-20	14-Jan-21	The Barents Observer	https://thebarentsobserver.com/en/industry-and-energy/2020/08/military-land-kola-coast-could-become-site-new-arctic-container-port				
SEVUNTS_2020_09_18	Levon Sevunts	18-Sep-20	14-Jan-21	The Barents Observer	https://thebarentsobserver.com/en/security/2020/09/natos-new-atlantic-command-keep-watch-over-european-arctic				
STAALESEN_2020_03_27	Atle Staalesen	27-Mar-19	14-Jan-21	The Barents Observer	https://thebarentsobserver.com/en/industry-and-energy/2019/03/nuclear-powered-container-ship-unloads-29000-tons-cargo-frozen-arctic				
NILSEN_2020_02_04	Thomas Nilsen	4-Feb-20	14-Jan-21	The Barents Observer	https://thebarentsobserver.com/en/travel/2020/02/electric-cruise-pioneers-sail-svalbard-catamaran-be-charged-sun				
STAALESEN_2018_04_04	Atle Staalesen	4-Apr-18	2-Mar-20	The Barents Observer	https://thebarentsobserver.com/en/node/3774				
STAALESEN_2018_01_23	Atle Staalesen	23-Jan-18	14-Jan-21	The Barents Observer	https://thebarentsobserver.com/en/industry-and-energy/2018/01/we-are-making-murmansk-world-leader-oil-and-gas-says-novatek-0				
STAALESEN_2019_08_23	Atle Staalesen	23-Aug-19	14-Jan-21	The Barents Observer	https://thebarentsobserver.com/en/2019/08/gloom-horizon-russia-announces-it-will-surge-digging-coal				
STAALESEN_2016_09_07_A	Atle Staalesen	7-Sep-16	14-Jan-21	The Barents Observer	https://thebarentsobserver.com/en/life-and-public/2016/09/church-arctic-mission				
QUINN_2017_05_12	Ellis Quinn	12-May-17	4-Mar-20	The Barents Observer	https://thebarentsobserver.com/en/arctic/2017/05/arctic-council-presents-united-front-finland-takes-over-us				
NILSEN_2017_02_12	Levon Sevunts	12-Feb-17	2-Mar-20	The Barents Observer	https://thebarentsobserver.com/en/industry-and-energy/2017/02/trudeau-arctic-offshore-drilling-too-dangerous				
NILSEN_2016_02_10	Thomas Nilsen	10-Feb-16	2-Mar-20	The Barents Observer	https://thebarentsobserver.com/en/industry/2016/02/petro-arctic-director-plans-quadrupled-oil-price				
STAALESEN_2019_10_15	Atle Staalesen	15-Oct-19	14-Jan-21	The Barents Observer	https://thebarentsobserver.com/en/arctic/2019/10/brussels-seeks-new-solid-ground-melting-arctic				
SEVUNTS_2017_10_03	Levon Sevunts	3-Oct-17	14-Jan-21	The Barents Observer	https://thebarentsobserver.com/en/arctic/2017/10/chinas-arctic-road-and-belt-gambit				
NILSEN_2019_01_21	Thomas Nilsen	21-Jan-19	2-Mar-20	The Barents Observer	https://thebarentsobserver.com/en/arctic/2019/01/foreign-minister-talks-cross-border-dialogue-undecided-about-visiting-russia				
STAALESEN_2018_01_10	Atle Staalesen	10-Jan-18	14-Jan-21	The Barents Observer	https://thebarentsobserver.com/en/industry-and-energy/2018/01/foreigners-take-lead-planning-russias-second-arctic-ice-project				
STAALESEN_2018_08_08	Atle Staalesen	8-Aug-18	14-Jan-21	The Barents Observer	https://thebarentsobserver.com/en/arctic/industry-and-energy/2018/08/seismic-vessels-push-arctic-limits				
STAALESEN_2020_02_13	Atle Staalesen	13-Feb-20	14-Jan-21	The Barents Observer	https://thebarentsobserver.com/en/arctic/2020/02/member-european-parliament-comes-barents-calls-stronger-eu-engagement-arctic				
STAALESEN_2017_09_27	Atle Staalesen	27-Sep-17	4-Mar-20	The Barents Observer	https://thebarentsobserver.com/en/arctic/2017/09/glonass-comes-russian-arctic-ports				
NILSEN_2018_02_05_A	Thomas Nilsen	5-Feb-18	14-Jan-21	The Barents Observer	https://thebarentsobserver.com/en/travel/2018/02/hurtigruten-ready-russian-arctic-waters				
NILSEN_2016_10_20	Thomas Nilsen	20-Oct-16	14-Jan-21	The Barents Observer	https://thebarentsobserver.com/en/industry-and-energy/2016/10/hurtigruten-dont-fear-overcapacity-arctic-cruises				
STAALESEN_2017_12_07_A	Atle Staalesen	7-Dec-17	14-Jan-21	The Barents Observer	https://thebarentsobserver.com/en/industry-and-energy/2017/12/new-license-round-reveals-declining-interest-norways-arctic-oil				
STAALESEN_2018_08_21	Atle Staalesen	21-Aug-18	14-Jan-21	The Barents Observer	https://thebarentsobserver.com/en/industry-and-energy/2018/08/next-door-murmansk-submarine-base-could-become-arctic-ice-terminal				
STAALESEN_2016_06_27	Atle Staalesen	27-Jun-16	14-Jan-21	The Barents Observer	https://thebarentsobserver.com/en/arctic/industry/2016/06/governor-outlines-master-plan-arctic-outpost-dikson				
NILSEN_2019_11_30	Thomas Nilsen	30-Nov-19	14-Jan-21	The Barents Observer	https://thebarentsobserver.com/en/industry-and-energy/2019/11/norway-greenlights-copper-mine-failings-dump-arctic-fjord				
YLE_2019_04_30	YLE News	30-Apr-19	2-Mar-20	The Barents Observer	https://thebarentsobserver.com/en/industry-and-energy/2019/04/lapland-authorities-plan-zones-controversial-rail-line				
STAALESEN_2020_05_19	Atle Staalesen	19-May-20	14-Jan-21	The Barents Observer	https://thebarentsobserver.com/en/arctic/2020/05/russian-arctic-shipping-could-follow-new-route				
AUN_2019_05_03	The Arctic University of Norway	3-May-19	2-Mar-20	The Barents Observer	https://thebarentsobserver.com/en/node/5365				
LEISER_2019_12_29	Mathew Leiser	29-Dec-19	14-Jan-21	The Barents Observer	https://thebarentsobserver.com/en/arctic/2019/12/earths-north-magnetic-pole-heading-russia				
NPI_2019_01_31	Norwegian Polar Institute	31-Jan-19	2-Mar-20	The Barents Observer	https://thebarentsobserver.com/en/node/4973				
STAALESEN_2019_01_24	Atle Staalesen	24-Jan-19	14-Jan-21	The Barents Observer	https://thebarentsobserver.com/en/industry-and-energy/2019/01/two-brand-new-icebreakers-now-escort-oil-tankers-through-gulf-ob				
STAALESEN_2020_05_15	Atle Staalesen	15-May-20	14-Jan-21	The Barents Observer	https://thebarentsobserver.com/en/industry-and-energy/2020/05/murmansk-gains-status-special-economic-zone				
STAALESEN_2019_10_08	Atle Staalesen	8-Oct-19	14-Jan-21	The Barents Observer	https://thebarentsobserver.com/en/industry-and-energy/2019/10/first-shipment-fertilizers-its-way-across-northern-sea-route				
NILSEN_2017_04_21	Thomas Nilsen	21-Apr-17	14-Jan-21	The Barents Observer	https://thebarentsobserver.com/en/arctic-security/2017/04/moscow-says-nato-meeting-svalbard-provocation				
STAALESEN_2020_10_29	Atle Staalesen	29-Oct-20	14-Jan-21	The Barents Observer	https://thebarentsobserver.com/en/node/7554				
QUINN_2017_11_06	Ellis Quinn	6-Nov-17	4-Mar-20	The Barents Observer	https://thebarentsobserver.com/en/industry-and-energy/2017/11/northerners-dreams-are-dying-says-premier-canadas-northwest-territories				
QUINN_2019_12_19	Ellis Quinn	19-Dec-19	1-Apr-20	Radio Canada Intern	https://www.rcinet.ca/eye-on-the-arctic/2019/12/19/multi-year-arctic-science-expedition-starts-second-phase-mosaic/				
NILSEN_2019_11_03	Thomas Nilsen	3-Nov-19	14-Jan-21	The Barents Observer	https://thebarentsobserver.com/en/arctic/2019/11/sharpest-population-growth-decade-worlds-northernmost-town				
ADN_2016_05_26	Alaska Dispatch News	26-May-16	14-Jan-21	The Barents Observer	https://thebarentsobserver.com/en/arctic/2016/05/us-congress-takes-big-step-toward-new-1-billion-arctic-icebreaker				
SEVUNTS_2016_06_11	Levon Sevunts	11-Jun-16	14-Jan-21	The Barents Observer	https://thebarentsobserver.com/en/security/2016/06/arctic-nations-deepen-coast-guard-cooperation				
NILSEN_2019_02_04	Thomas Nilsen	4-Feb-19	14-Jan-21	The Barents Observer	https://thebarentsobserver.com/en/arctic/2019/02/svalbard-could-become-10-degc-warmer				
RCI_2016_06_09	Radio Canada International	9-Jun-16	14-Jan-21	The Barents Observer	https://thebarentsobserver.com/en/arctic/ecology/2016/06/shells-release-offshore-leases-permits-huge-arctic-marine-park				
NILSEN_2020_04_01	Thomas Nilsen	1-Apr-20	14-Jan-21	The Barents Observer	https://thebarentsobserver.com/en/industry-and-energy/2020/04/after-futile-drillings-norway-excludes-barents-sea-proposal-new-oil				
STAALESEN_2018_05_09	Atle Staalesen	9-May-18	2-Mar-20	The Barents Observer	https://thebarentsobserver.com/en/security/2018/05/arctic-air-base-could-be-saved-last-minute-natos-growing-focus-north-atlantic				
STAALESEN_2016_11_17	Atle Staalesen	17-Nov-16	2-Mar-20	The Barents Observer	https://thebarentsobserver.com/en/arctic/2016/11/could-become-russias-alternative-longyearbyen				
NILSEN_2019_07_11	Thomas Nilsen	11-Jul-19	14-Jan-21	The Barents Observer	https://thebarentsobserver.com/en/travel/2019/07/russia-eyes-own-fleet-arctic-cruise-liners				
ROSEN_2017_04_26	Yereth Rosen	26-Apr-17	14-Jan-21	The Barents Observer	https://thebarentsobserver.com/en/arctic/2017/04/arctic-ocean-track-be-ice-free-summer-2040-say-scientists				
STAALESEN_2018_11_30	Atle Staalesen	30-Nov-18	14-Jan-21	The Barents Observer	https://thebarentsobserver.com/en/arctic/industry-and-energy/2018/11/worlds-first-floating-nuclear-power-plant-making-pevek-arctic				
NILSEN_2018_05_14	Thomas Nilsen	14-May-18	14-Jan-21	The Barents Observer	https://thebarentsobserver.com/en/ecology/2018/05/arctic-seabirds-build-nests-plastic-waste				
STAALESEN_2017_05_10	Atle Staalesen	10-May-17	14-Jan-21	The Barents Observer	https://thebarentsobserver.com/en/arctic/2017/05/dont-forget-people-says-arctic-governor				
NILSEN_2018_04_05	Thomas Nilsen	5-Apr-18	4-Mar-20	The Barents Observer	https://thebarentsobserver.com/en/arctic/2018/04/russia-develop-unmanned-ships-arctic				
NILSEN_2017_09_07	Thomas Nilsen	7-Sep-17	4-Mar-20	The Barents Observer	https://thebarentsobserver.com/en/node/2832				
NILSEN_2019_02_09	Thomas Nilsen	9-Feb-19	14-Jan-21	The Barents Observer	https://thebarentsobserver.com/en/arctic/2019/02/declares-emergency-polar-bears-invades-military-town				
QUINN_2019_05_09	Ellis Quinn	9-May-19	14-Jan-21	The Barents Observer	https://thebarentsobserver.com/en/arctic/2019/05/us-stonewalling-climate-language-scuttles-arctic-council-declaration-0				
STAALESEN_2016_09_09_B	Atle Staalesen	9-Sep-16	14-Jan-21	The Barents Observer	https://thebarentsobserver.com/en/arctic/2016/09/king-harald-talks-arctic-saui-ninisto				
STAALESEN_2017_03_13	Atle Staalesen	13-Mar-17	14-Jan-21	The Barents Observer	https://thebarentsobserver.com/en/industry-and-energy/2017/03/going-all-norway-opens-its-arctic-shelf-wide-open-oil-drilling				
NILSEN_2019_11_12	Thomas Nilsen	12-Nov-19	11-Mar-20	Arctic Today	https://www.arctictoday.com/sami-parliaments-ev-concerned-by-russia-shutting-down-indigenous-rights-group/				
NILSEN_2020_03_05	Thomas Nilsen	5-Mar-20	14-Jan-21	The Barents Observer	https://thebarentsobserver.com/en/life-and-public/2020/03/arctic-railway-dream-fades-away-sami-herders-announce-veto				
NILSEN_2017_03_22	Thomas Nilsen	22-Mar-17	2-Mar-20	The Barents Observer	https://thebarentsobserver.com/en/content/foreign-tourist-vessels-line-voyages-franz-josef-land				
STAALESEN_2017_08_11	Atle Staalesen	11-Aug-17	14-Jan-21	The Barents Observer	https://thebarentsobserver.com/en/arctic/2017/08/sky-rocketing-growth-remotest-russian-arctic-airport				
STAALESEN_2017_09_07	Atle Staalesen	7-Sep-17	14-Jan-21	The Barents Observer	https://thebarentsobserver.com/en/security/2017/09/navy-flotilla-embarks-novaya-zemlya				
PETTERSEN_2016_02_25	Trude Pettersen	25-Feb-16	14-Jan-21	The Barents Observer	https://thebarentsobserver.com/en/industry/2016/02/new-giant-shipyard-build-russias-arctic-tankers-and-rigs				
BARTLETT_2020_03_25	Jesamine Bartlett	25-Mar-20	14-Jan-21	The Barents Observer	https://thebarentsobserver.com/en/node/6653				

Table S1: Visions of the Arctic Future: Metadata for Arctic news corpus

Keys and Meyer (2021)

NILSEN_2016_08_23_A	Thomas Nilsen	23-Aug-16	2-Mar-20	The Barents Observ	https://thebarentsobserver.com/en/arctic/2016/08/svalbard-could-turn-dirty-coal-zero-emission-power-supply				
STAALESEN_2017_05_30	Atle Staalesen	30-May-17	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/arctic/2017/05/ice-locked-ships-start-moving-pevek-after-5-months-captivity				
NILSEN_2016_11_24	Thomas Nilsen	24-Nov-16	2-Mar-20	The Barents Observ	https://thebarentsobserver.com/en/industry-and-energy/2016/11/brighter-future-ahead-norwegian-companies-murmansk				
STAALESEN_2020_09_09	Atle Staalesen	9-Sep-20	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/climate-crisis/2020/09/economic-benefits-new-barents-oil-could-be-negative-says-government-agency				
STAALESEN_2019_03_06	Atle Staalesen	6-Mar-19	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/arctic-industry-and-energy/2019/03/nuclear-container-ship-sevmorput-sets-course-new-arctic-gas-field				
NILSEN_2019_09_09	Thomas Nilsen	9-Sep-19	2-Mar-20	The Barents Observ	https://thebarentsobserver.com/en/industry-and-energy/2019/09/here-comes-nuclear-powered-cargo-loaded-seafood				
NILSEN_2019_09_27	Thomas Nilsen	27-Sep-19	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/node/5902				
STAALESEN_2019_04_19	Atle Staalesen	19-Apr-19	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/2019/04/russia-building-new-arctic-private-money				
NILSEN_2019_06_30	Thomas Nilsen	30-Jun-19	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/node/5536				
NILSEN_2016_09_15	Thomas Nilsen	15-Sep-16	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/ecology/2016/09/svalbard-oil-spill-exercise-ahead-increased-shipping				
STAALESEN_2020_12_02	Atle Staalesen	2-Dec-20	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/industry-and-energy/2020/12/great-global-energy-shift-could-push-moscow-towards-plastics-production				
NILSEN_2018_08_14	Thomas Nilsen	14-Aug-18	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/arctic/2018/08/swedish-climate-study-icebreaker-reaches-north-pole				
NILSEN_2020_03_12	Thomas Nilsen	12-Mar-20	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/security/2020/03/russian-submarine-hunters-record-long-mission-north-atlantic				
NILSEN_2017_10_31_A	Thomas Nilsen	31-Oct-17	2-Mar-20	The Barents Observ	https://thebarentsobserver.com/en/security/2017/10/first-f-35-fighter-jets-land-norway-week				
NILSEN_2016_03_16	Thomas Nilsen	16-Mar-16	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/arctic/2016/03/worlds-first-polar-class-megayacht				
NILSEN_2018_02_05_B	Thomas Nilsen	5-Feb-18	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/security/2018/02/stoltenberg-new-start-treaty-fulfilled				
NILSEN_2017_11_21	Thomas Nilsen	21-Nov-17	2-Mar-20	The Barents Observ	https://thebarentsobserver.com/en/arctic/2017/11/rovanieni-ready-lead-electric-snowmobile-revolution				
SEVUNTS_2017_03_17	Levon Sevunts	17-Mar-17	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/arctic/2017/03/discusses-ban-unregulated-arctic-fishery				
QUINN_2020_03_15	Ellis Quinn	15-Mar-20	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/node/6581				
MONTGOMERY_2016_08_29	Marc Montgomery	29-Aug-16	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/2016/08/luxury-cruise-ship-heads-arctic-no-environmental-review				
NILSEN_2017_06_19	Thomas Nilsen	19-Jun-17	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/life-and-public/2017/06/sami-concerned-about-arctic-railway-plans				
STAALESEN_2017_02_07	Atle Staalesen	7-Feb-17	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/arctic/2017/02/100-sailors-trapped-ice-near-arctic-outpost				
STAALESEN_2016_12_16	Atle Staalesen	16-Dec-16	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/arctic-industry-and-energy/2016/12/government-says-new-monster-icebreaker-will-become-reality				
STAALESEN_2017_10_13	Atle Staalesen	13-Oct-17	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/industry-and-energy/2017/10/locomotives-worlds-northernmost-railway-will-run-ling				
NILSEN_2017_09_03	Thomas Nilsen	3-Sep-17	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/travel/2017/09/go-ahead-norbotniabanan				
NILSEN_2017_11_08	Thomas Nilsen	8-Nov-17	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/travel/2017/11/pioneer-arctic-cruise-explorer-signs-deal-new-expedition-vessel				
NILSEN_2019_12_17	Thomas Nilsen	17-Dec-19	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/industry-and-energy/2019/12/sunrise-nuclear-powered-ling-submarine-tanker				
NILSEN_2019_08_17	Thomas Nilsen	17-Aug-19	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/travel/2019/08/norwegian-cruise-ship-banned-entering-russian-arctic-waters				
STAALESEN_2016_06_12	Atle Staalesen	12-Jun-17	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/industry-and-energy/2017/06/next-russian-arctic-oil-field-wind-and-solar-power-station				
NILSEN_2016_12_04	Thomas Nilsen	4-Dec-16	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/industry-and-energy/2016/12/trans-arctic-fiber-cable-can-make-kirkenes-high-tech-hub				
STAALESEN_2016_06_23	Atle Staalesen	23-Jun-16	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/arctic-industry/2016/06/worlds-northernmost-railway-gets-extension-will-be-connected-grand-arctic				
STAALESEN_2017_05_04	Atle Staalesen	4-May-17	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/arctic/2017/05/norways-new-arctic-region				
STAALESEN_2016_04_05	Atle Staalesen	6-Apr-16	2-Mar-20	The Barents Observ	https://thebarentsobserver.com/en/industry/2016/04/omv-makes-northernmost-ever-discovery-barents-sea				
NILSEN_2017_08_17	Thomas Nilsen	17-Aug-17	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/arctic/2017/08/icebreaker-reached-north-pole-record-speed				
STAALESEN_2016_07_21	Atle Staalesen	21-Jul-16	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/arctic-borders-ecology/industry/2016/07/lake-peek-hurtigruten-s-new-polar-vessels				
STAALESEN_2017_01_30	Atle Staalesen	30-Jan-17	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/industry-and-energy/2017/01/5-billion-development-tiksi-infrastructure				
NILSEN_2020_11_23	Thomas Nilsen	23-Nov-20	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/climate-crisis/2020/11/ikab-invests-eu39-bn-massive-carbon-free-transformation				
NILSEN_2017_02_03	Thomas Nilsen	3-Feb-17	2-Mar-20	The Barents Observ	https://thebarentsobserver.com/en/security/2017/02/norway-teams-germany-new-submarines				
STAALESEN_2017_12_07_B	Atle Staalesen	7-Dec-17	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/arctic/2017/12/company-gets-responsibility-northern-sea-route				
STAALESEN_2019_04_24	Atle Staalesen	24-Apr-19	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/industry-and-energy/2019/04/shores-kola-bay-breakthrough-big-coal				
STAALESEN_2016_05_11	Atle Staalesen	11-May-16	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/industry/2016/05/svalbard-future-without-coal				
STAALESEN_2020_09_24	Atle Staalesen	24-Sep-20	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/security/2020/09/it-time-strengthen-nordic-security-say-ministers-they-sign-landmark-defense				
STAALESEN_2016_10_19	Atle Staalesen	19-Oct-16	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/arctic/2016/10/aimed-north-pole-ended-longyearbyen				
STAALESEN_2016_07_29	Atle Staalesen	29-Jul-16	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/society/2016/07/tourist-retreat-alakurtli-arctic-military-town				
STAALESEN_2017_04_25	Atle Staalesen	25-Apr-17	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/arctic/2017/04/floating-nuclear-power-plant-comes-need-better-airport-pevek-says-governor				
STAALESEN_2017_09_14_B	Atle Staalesen	14-Sep-17	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/security/2017/09/northernmost-tip-eurasian-mainland-showoff-northern-fleet-capacity				
NILSEN_2016_10_08	Thomas Nilsen	8-Oct-16	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/industry-and-energy/2016/10/be-prepared-mass-tourism-coming-lemmings				
STAALESEN_2017_03_21	Atle Staalesen	21-Mar-17	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/industry-and-energy/2017/03/russias-remotest-arctic-coast-wind-power-plant				
MARKUSSON_2019_11_29	Helge M Markussen	29-Nov-19	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/node/5147				
STAALESEN_2018_03_01	Atle Staalesen	1-Mar-18	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/arctic/2018/03/nuclear-powered-ship-will-break-through-two-meter-thick-arctic-ice-12-knots-speed				
NILSEN_2018_03_09	Thomas Nilsen	9-Mar-18	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/node/3670				
STAALESEN_2017_06_19	Atle Staalesen	19-Jun-17	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/industry-and-energy/2017/06/rosneft-finds-oil-russias-east-arctic-coast				
DEGEORGES_2020_11_05	Damien Degeorges	5-Nov-20	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/opinions/2020/11/eu-arctic-policy-20-call-responsible-investments-arctic				
STAALESEN_2019_06_20	Atle Staalesen	20-Jun-19	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/industry-and-energy/2019/06/here-comes-russias-most-modern-seaport				
NILSEN_2019_02_06	Thomas Nilsen	6-Feb-19	2-Mar-20	The Barents Observ	https://thebarentsobserver.com/en/industry-and-energy/2019/02/russia-launches-tender-floating-ling-power-plant				
NILSEN_2017_08_03	Thomas Nilsen	3-Aug-17	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/ecology/2017/08/how-400-norwegian-youth-prepare-meet-arctic-oil-drilling				
NILSEN_2018_04_27	Thomas Nilsen	27-Apr-18	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/node/3848				
STAALESEN_2017_12_11	Atle Staalesen	11-Dec-17	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/industry-and-energy/2017/12/icebreaking-tankers-have-course-russias-new-arctic-ling-plant-and-they				
NILSEN_2016_03_21	Thomas Nilsen	21-Mar-16	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/ecology/2016/03/barge-radioactive-cargo-soon-ready-barents-sea-shuttle-traffic				
STAALESEN_2016_11_18	Atle Staalesen	18-Nov-15	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/industry/2015/11/gates-closing-arctic-iron-miner				
STAALESEN_2020_02_06	Atle Staalesen	6-Feb-20	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/ecology/2020/02/russia-hotter-ever				
NILSEN_2018_06_22_A	Thomas Nilsen	22-Jun-18	2-Mar-20	The Barents Observ	https://thebarentsobserver.com/en/2018/06/ports-without-shore-power-will-be-losers-future-cruise-ship-market				
STAALESEN_2019_05_29	Atle Staalesen	29-May-19	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/ecology-industry-and-energy/2019/05/thousands-youth-march-against-oil-norways-government-issues-new				
STAALESEN_2017_02_16	Atle Staalesen	16-Feb-17	4-Mar-20	The Barents Observ	https://thebarentsobserver.com/en/2017/02/climate-trial-against-norway-start-november				
NILSEN_2016_06_17	Thomas Nilsen	17-Jun-16	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/security/2016/06/norway-creates-new-army-unit-border-russia				
QUINN_2019_08_21	Ellis Quinn	21-Aug-19	2-Mar-20	The Barents Observ	https://thebarentsobserver.com/en/ecology/2019/08/nordic-pms-sign-climate-declaration-iceland-meeting				
NILSEN_2015_11_07	Thomas Nilsen	7-Nov-15	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/security/2015/11/russias-mini-nuclear-reactors-plan-causes-concern				

Table S1: Visions of the Arctic Future: Metadata for Arctic news corpus

Keys and Meyer (2021)

STAALESEN_2020_11_19	Atle Staalesen	19-Nov-20	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/climate-crisis/2020/11/oslo-fends-climate-activists-offers-oil-companies-136-new-oil-block-northern				
SEVUNTS_2017_10_09	Levon Sevunts	9-Oct-17	2-Mar-20	The Barents Observ	https://thebarentsobserver.com/en/ecology/2017/10/fears-toxic-splash-barents-sea-and-baffin-bay-russian-rocket				
STAALESEN_2016_09_30	Atle Staalesen	30-Sep-16	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/arctic-industry-and-energy/2016/09/rosatom-takes-new-role-gulf-ob				
NILSEN_2020_09_02_B	Thomas Nilsen	2-Sep-20	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/arctic-mining/2020/09/sami-campaigners-delivers-37200-signatures-against-mining-reindeer-herding				
STAALESEN_2016_11_01_A	Atle Staalesen	1-Nov-16	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/industry-and-energy/2016/11/ships-head-sabotage-also-winter-time				
STAALESEN_2020_03_29	Atle Staalesen	29-Mar-20	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/industry-and-energy/2020/03/yamal-lng-its-way-back-norway				
NILSEN_2019_10_08	Thomas Nilsen	8-Oct-19	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/travel/2019/10/poseidon-expeditions-owner-refutes-involvement-russias-denial-hurtigruten-sail-franz				
NILSEN_2017_03_24	Thomas Nilsen	24-Mar-17	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/industry-and-energy/2017/03/government-initiates-tromso-railway-study				
NILSEN_2017_08_15	Thomas Nilsen	15-Aug-17	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/industry-and-energy/2017/08/statoil-spuds-controversial-prospect-northern-barents-sea				
STAALESEN_2017_06_22	Atle Staalesen	22-Jun-17	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/industry-and-energy/2017/06/putins-table-drill-sample-laptev-sea				
MOSCOW_STAFF_2019_12_13	The Moscow Staff	13-Dec-19	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/civil-society-and-media/2019/12/russia-backs-penalties-attending-undesirable-courses-abroad				
NILSEN_2017_07_21	Thomas Nilsen	21-Jul-2017	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/ecology/2017/07/greenpeace-protests-statoils-barents-sea-drilling				
BLUDD_2020_05_12	Elien Bludd	12-May-20	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/node/6873				
NILSEN_2019_08_22	Thomas Nilsen	22-Aug-19	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/arctic/2019/08/low-ice-class-reason-why-hurtigruten-was-banned-entering-russian-arctic-waters-says				
NILSEN_2020_11_20	Thomas Nilsen	20-Nov-20	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/new-energy/2020/11/tesla-opens-worlds-northernmost-supercharger-station				
YLE_2019_11_28	YLE News	28-Nov-19	2-Mar-20	The Barents Observ	https://thebarentsobserver.com/en/life-and-public/2019/11/commercial-herding-cap-reindeer-numbers-shouldnt-change-finnish-gov-experts				
NPI_2019_09_30	Norwegian Polar Institute	30-Sep-19	2-Mar-20	The Barents Observ	https://thebarentsobserver.com/en/node/5911				
STAALESEN_2018_05_28	Atle Staalesen	28-May-18	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/industry-and-energy/2018/05/gazprom-orders-24-lng-locomotives-yamal-railway				
NILSEN_2017_04_07	Thomas Nilsen	7-Apr-17	2-Mar-20	The Barents Observ	https://thebarentsobserver.com/en/security/2017/04/breaking-ice-loads-nuclear-waste				
STAALESEN_2018_07_12	Atle Staalesen	12-Jul-2018	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/node/4172				
NILSEN_2018_06_15	Thomas Nilsen	15-Jun-18	2-Mar-20	The Barents Observ	https://thebarentsobserver.com/en/ecology/2018/06/scientists-advise-slashing-barents-sea-cod-quotas				
NILSEN_2020_03_11	Thomas Nilsen	11-Mar-20	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/security/2020/03/british-navy-tested-unmanned-boat-and-other-autonomy-equipment-northern-norway				
STAALESEN_2016_11_01_B	Atle Staalesen	1-Nov-16	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/arctic/2016/11/russian-tourism-svalbard-500				
SAPMI_2018_08_06	Yle Sapmi	6-Aug-18	2-Mar-20	The Barents Observ	https://thebarentsobserver.com/en/life-and-public/2018/08/sami-art-markomeannu-festival-imagining-worst-possible-future				
JEPSEN_2019_01_15	Jane Uhd Jepsen	15-Jan-19	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/node/4887				
STAALESEN_2018_02_08	Atle Staalesen	8-Feb-18	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/industry-and-energy/2018/02/rosneft-aims-expansion-along-laptev-coast				
STAALESEN_2017_08_18	Atle Staalesen	18-Aug-17	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/ecology-kirkenes/2017/08/member-european-parliament-bikes-norways-arctic-coast-makes-statement-about				
STAALESEN_2020_02_26	Atle Staalesen	26-Feb-20	2-Mar-20	The Barents Observ	https://thebarentsobserver.com/en/ecology/2020/02/silent-climate-protest-arkhangelsk				
NILSEN_2016_07_12	Thomas Nilsen	12-Jul-16	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/security/2016/07/russias-new-unique-underwater-drone-arctic-waters				
RENNER_2019_09_12	Angelika HH Renner	12-Sep-19	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/node/5841				
STAALESEN_2019_02_14	Atle Staalesen	14-Feb-19	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/industry-and-energy/2019/02/18-million-tons-coal-seek-way-out-murmansk				
CARROLL_2019_04_23	JoLynn Carroll	23-Apr-19	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/node/5327				
STAALESEN_2018_08_29	Atle Staalesen	29-Aug-18	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/arctic/2018/08/russians-and-americans-set-out-expedition-land-great-change				
STAALESEN_2017_03_01	Atle Staalesen	1-Mar-17	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/arctic/2017/03/troubled-waters-russias-nuclear-icebreaker-program				
AARS_2019_01_08	Jon Aars	8-Jan-19	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/node/4850				
NILSEN_2017_10_31_B	Thomas Nilsen	31-Oct-17	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/security/2017/10/russian-navy-triples-deployment-five-years				
TRUC_2020_04_09	Oliver Truc	9-Apr-20	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/node/6721				
NILSEN_2016_08_23_B	Thomas Nilsen	23-Aug-16	2-Mar-20	The Barents Observ	https://thebarentsobserver.com/en/industry/2016/08/olen-betong-expands-murmansk-plant-times-trouble				
PETTERSEN_2016_03_15	Trude Pettersen	15-Mar-16	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/arctic/2016/03/oil-spill-response-exercise-svalbard				
NILSEN_2016_05_18	Thomas Nilsen	18-May-16	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/ecology/2016/05/environmental-groups-barents-oil-violates-paris-climate-agreement				
NILSEN_2017_12_15	Thomas Nilsen	15-Dec-17	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/industry-and-energy/2017/12/power-button-floating-nuclear-plant-will-be-pushed-murmansk-next-autumn				
MORTILLARO_2019_11_26	Nicole Mortillaro	26-Nov-19	2-Mar-20	The Barents Observ	https://thebarentsobserver.com/en/ecology/2019/11/earth-set-warm-32-c-2100-unless-efforts-cut-emissions-are-tripled-un-report				
NILSEN_2017_12_11	Thomas Nilsen	11-Dec-17	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/node/3311				
STAALESEN_2016_09_07_B	Atle Staalesen	7-Sep-16	2-Mar-20	The Barents Observ	https://thebarentsobserver.com/en/industry-and-energy-kirkenes/2016/09/kirkenes-eyes-resumed-mining				
STAALESEN_2018_01_19	Atle Staalesen	19-Jan-18	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/industry-and-energy/2018/01/towing-floating-nuclear-power-plant-through-ice				
NILSEN_2019_10_20	Thomas Nilsen	20-Oct-19	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/life-and-public/2019/10/how-deputy-acting-governor-maria-derunova-plans-make-murmansk-great-again				
STAALESEN_2019_09_30	Atle Staalesen	30-Sep-19	2-Mar-20	The Barents Observ	https://thebarentsobserver.com/en/ecology/2019/09/one-climate-activist-murmansk-interrogated-fsb				
STAALESEN_2020_11_17	Atle Staalesen	17-Nov-20	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/industry-and-energy/2020/11/pressure-mounts-murmansk-governor-andrey-chibis-prospects-his-grand				
NILSEN_2018_05_16	Thomas Nilsen	16-May-18	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/industry-and-energy/2018/05/name-goes-scrap-heap-statoil-becomes-equinox				
NILSEN_2020_08_08	Thomas Nilsen	8-Aug-20	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/security/2020/08/russian-mfa-oslo-destabilize-situation-north				
NILSEN_2018_10_25	Thomas Nilsen	25-Oct-18	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/travel/2018/10/hurtigruten-orders-third-ice-strengthened-hybrid-battery-ship				
STAALESEN_2019_11_20	Atle Staalesen	20-Nov-19	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/2019/11/un-warning-norway-growing-oil-production-inconsistent-climate-efforts				
NILSEN_2016_02_01	Thomas Nilsen	1-Feb-16	2-Mar-20	The Barents Observ	https://thebarentsobserver.com/en/industry/2016/02/snow-more-important-oil				
NILSEN_2019_12_26	Thomas Nilsen	26-Dec-19	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/industry-and-energy/2019/12/nomickel-ceo-added-almost-8-billion-his-personal-fortune-2019				
STAALESEN_2019_09_02	Atle Staalesen	2-Sep-19	14-Jan-21	The Barents Observ	https://thebarentsobserver.com/en/2019/09/moscow-wants-know-more-about-oil-potential-svalbard-re-examines-drill-samples-1975				
STAALESEN_2020_01_14	Atle Staalesen	14-Jan-20	2-Mar-20	The Barents Observ	https://thebarentsobserver.com/en/ecology-industry-and-energy/2020/01/harsh-reactions-norways-new-oil-blocks-environmentalists-say				
STRUZIK_2018_01_08	Edward Struzik	8-Jan-18	16-Jan-21	Nunatsiaq News	https://nunatsiaq.com/stories/article/65674a_red_alert_for_the_future_arctic/				
GREGOIRE_2020_12_09	Jane George	9-Dec-20	16-Jan-21	Nunatsiaq News	https://nunatsiaq.com/stories/article/geopolitical-tension-in-arctic-a-hot-topic-at-conference/				
ROSEN_2020_07_29	Yereth Rosen	29-Jul-20	16-Jan-21	Nunatsiaq News	https://nunatsiaq.com/stories/article/the-arctic-ocean-is-becoming-more-like-the-atlantic-and-pacific-studies-say/				
GREGOIRE_2017_07_25	Lisa Gregoire	25-Jul-17	16-Jan-21	Nunatsiaq News	https://nunatsiaq.com/stories/article/65674arctic_food_window_to_the_past_key_to_the_future/				
BELL_2019_09_11	Jim Bell	11-Sep-19	9-Mar-20	Nunatsiaq News	https://www.arctictoday.com/with-little-fanfare-canada-quietly-launches-new-arctic-policy-document/				
TRANTER_2019_11_28	Emma Tranter	28-Nov-19	16-Jan-21	Nunatsiaq News	https://nunatsiaq.com/stories/article/nunavuts-neighbours-gather-to-discuss-the-future-of-renewable-energy-in-the-arctic/				
STRUZIK_2018_09_10	Edward Struzik	10-Sep-18	16-Jan-21	Nunatsiaq News	https://nunatsiaq.com/stories/article/65674canada_is_unprepared_for_the_dangers_of_increased_arctic_shipping/				
GEORGE_2020_09_24	Jane George	24-Sep-20	16-Jan-21	Nunatsiaq News	https://nunatsiaq.com/stories/article/risng-water-temperatures-poses-risks-to-arctic-char-new-research/				
ANSELM_2019_12_30	Elaine Anselmi	30-Dec-19	16-Jan-21	Nunatsiaq News	https://nunatsiaq.com/stories/article/in-depth-the-year-in-canadian-arctic-offshore-oil-and-gas/				
ROSEN_2020_08_24	Yereth Rosen	24-Aug-20	16-Jan-21	Nunatsiaq News	https://nunatsiaq.com/stories/article/arctic-ice-extent-is-unlikely-to-hit-a-record-low-minimum-but-lingering-ice-is-thin-and-porous/				
BELL_2020_02_04	Jim Bell	4-Feb-20	16-Jan-21	Nunatsiaq News	https://nunatsiaq.com/stories/article/hfo-ban-could-lead-to-big-arctic-price-increases-transport-canada-says/				
GREGOIRE_2017_02_21	Lisa Gregoire	21-Feb-17	16-Jan-21	Nunatsiaq News	https://nunatsiaq.com/stories/article/65674eastern_arctic_polar_bears_ok_but_low_sea_ice_makes_future_uncertain/				
BROWN_2018_04_10	Beth Brown	10-Apr-18	9-Mar-20	Nunatsiaq News	https://www.arctictoday.com/high-arctic-char-losing-battle-climate-change/				

Table S1: Visions of the Arctic Future: Metadata for Arctic news corpus

Keys and Meyer (2021)

NUNATSIAQ_STAFF_2011_12_01	Nunatsiq News	1-Dec-11	16-Jan-21	Nunatsiq News	https://munatsiaq.com/stories/article/85674arctic_now_a_greener_warmer_less_icy_region_2011_arctic_report_card/
GEORGE_2015_03_19	Jane George	19-Mar-15	16-Jan-21	Nunatsiq News	https://munatsiaq.com/stories/article/85674improve_arctic_marine_mammal_co-management_research_monitoring/
GREGOIRE_2014_02_27	Lisa Gregoire	27-Feb-14	16-Jan-21	Nunatsiq News	https://munatsiaq.com/stories/article/85674five_arctic_ocean_nations_stop_short_of_fishing_moratorium/
ROGERS_2013_09_18	Sarah Rogers	18-Sep-13	16-Jan-21	Nunatsiq News	https://munatsiaq.com/stories/article/85674nunavik_mulls_over_telecommunications_options/
GEORGE_2017_05_24	Jane George	24-May-17	9-Mar-20	Nunatsiq News	https://www.arctictoday.com/after-alaska-meeting-arctic-mayors-pledge-more-work-on-shared-goals/
NUNATSIAQ_STAFF_2012_05_22	Nunatsiq News	22-May-12	16-Jan-21	Nunatsiq News	https://munatsiaq.com/stories/article/85674arctic_rivers_add_toxic_mercury_to_the_arctic_ocean_new_research/
NUNATSIAQ_STAFF_2015_12_11	Nunatsiq News	11-Dec-15	16-Jan-21	Nunatsiq News	https://munatsiaq.com/stories/article/85674clouds_increase_warming_in_arctic_new_study/
GEORGE_2019_05_13	Jane George	13-May-19	16-Jan-21	Nunatsiq News	https://munatsiaq.com/stories/article/arctic-council-suicide-prevention-project-focuses-on-circumpolar-youth/
GEORGE_2018_02_05	Jane George	5-Feb-18	16-Jan-21	Nunatsiq News	https://munatsiaq.com/stories/article/85674inuit_want_to_guide_northwest_passages_future/
NUNATSIAQ_STAFF_2013_03_05	Nunatsiq News	5-Mar-13	16-Jan-21	Nunatsiq News	https://munatsiaq.com/stories/article/85674arctic_shipping_lanes_to_open_by_2050_new_research/
GREGOIRE_2013_06_28	Lisa Gregoire	28-Jun-13	16-Jan-21	Nunatsiq News	https://munatsiaq.com/stories/article/85674scientists_head_to_banks_island_in_search_of_arctics_warmer_past/
NUNATSIAQ_STAFF_2016_05_19	Nunatsiq News	19-May-16	16-Jan-21	Nunatsiq News	https://munatsiaq.com/stories/article/85674alaska_firm_picks_up_arctic_fibre/
PATAR_2020_08_05	Dustin Patar	5-Aug-20	16-Jan-21	Nunatsiq News	https://munatsiaq.com/stories/article/new-arctic-patrol-ship-delivered-to-royal-canadian-navy/
GEORGE_2015_06_12	Jane George	12-Jun-15	16-Jan-21	Nunatsiq News	https://munatsiaq.com/stories/article/85674circumpolar_health_conference_offers_new_ideas_for_future_research/
GREGOIRE_2013_11_28	Lisa Gregoire	28-Nov-13	16-Jan-21	Nunatsiq News	https://munatsiaq.com/stories/article/85674arctic_waters_increasingly_vulnerable_to_foreign_species/
MARSH_2020_01_27	Philip Marsh	27-Jan-20	16-Jan-21	Nunatsiq News	https://munatsiaq.com/stories/article/collapsing-permafrost-is-transforming-arctic-lakes-ponds-and-streams/
ANSELM_2019_11_21	Elaine Anselmi	21-Nov-19	16-Jan-21	Nunatsiq News	https://munatsiaq.com/stories/article/nunavut-miner-calls-for-arctic-strategy/
GEORGE_2015_10_22	Jane George	22-Oct-15	16-Jan-21	Nunatsiq News	https://munatsiaq.com/stories/article/85674building_for_the_future_klilmoot_heritage_society_looks_to_the_past_/
NUNATSIAQ_STAFF_2010_11_01_A	Nunatsiq News	1-Nov-10	16-Jan-21	Nunatsiq News	https://munatsiaq.com/stories/article/556011_the_arctic_is_a_long_way_from_canadas_search_and_rescue_techs/
BELL_2020_11_23	Jim Bell	23-Nov-20	16-Jan-21	Nunatsiq News	https://munatsiaq.com/stories/article/environmental-groups-blast-loopholes-in-arctic-heavy-fuel-oil-ban/
LINDSEY_2018_07_30	Kelsey Lindsey	30-Jul-18	16-Jan-21	Nunatsiq News	https://munatsiaq.com/stories/article/85674climate_change_means_bigger_arctic_spidersand_that_could_be_a_good_thin/
BELL_2020_02_26_A	Jim Bell	26-Feb-20	16-Jan-21	Nunatsiq News	https://munatsiaq.com/stories/article/lmo-proposal-on-hfo-ban-could-exempt-canadian-arctic-sealife-until-2029/
NUNATSIAQ_STAFF_2014_08_05	Nunatsiq News	5-Aug-14	16-Jan-21	Nunatsiq News	https://munatsiaq.com/stories/article/85674researchers_spot_methane_bubbling_up_from_arctic_ocean_floor/
WINDEYER_2010_03_30	Chris Windeyer	30-Mar-10	16-Jan-21	Nunatsiq News	https://munatsiaq.com/stories/article/300310_critics_pan_canadas_closed-door_arctic_confab/
BOSWELL_2010_03_30	Randy Boswell	30-Mar-10	16-Jan-21	Nunatsiq News	https://munatsiaq.com/stories/article/98789_hillary_clinton_blasts_canada_for_exclusive_arctic_talks/
GEORGE_2018_12_04	Jane George	4-Dec-18	16-Jan-21	Nunatsiq News	https://munatsiaq.com/stories/article/polar-bears-remain-of-special-concern-for-now-say-scientists/
SCHREIBER_2020_05_08	Melody Schreiber	8-May-20	16-Jan-21	Nunatsiq News	https://munatsiaq.com/stories/article/narwhals-and-belugas-may-be-at-high-risk-for-coronavirus-infection-researchers-fear/
NUNATSIAQ_NEWS_2016_05_19	Nunatsiq News	19-May-16	16-Jan-21	Nunatsiq News	http://munatsiaq.com/stories/article/65674alaska_firm_picks_up_arctic_fibre/
PATAR_2020_01_30	Dustin Patar	30-Jan-20	16-Jan-21	Nunatsiq News	https://munatsiaq.com/stories/article/bell-lets-talk-gives-20000-to-arctic-children-and-youth-foundation/
ROGERS_2012_01_24	Sarah Rogers	24-Jan-12	16-Jan-21	Nunatsiq News	https://munatsiaq.com/stories/article/85674is_fibre

Table S1: Visions of the Arctic Future: Metadata for Arctic news corpus

Keys and Meyer (2021)

GEORGE_2020_05_19	Jane George	19-May-20	16-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/canada-moves-to-bar-pleasure-craft-from-arctic-waters/				
GEORGE_2020_03_17	Jane George	17-Mar-20	16-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/canadian-north-air-inuit-reduce-arctic-air-services/				
ROGERS_2011_10_02	Sarah Rogers	2-Oct-11	16-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/65674photo_montreal_talks_about_the_arctic_in_transition/				
BELL_2019_09_26	Jim Bell	26-Sep-19	16-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/inuit-org-wants-immediate-and-drastic-cuts-to-greenhouse-gas-emissions/				
GEORGE_2018_03_13	Jane George	13-Mar-18	16-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/65674new_circumpolar_arctic_film_fund_launches_in_norway/				
BELL_2020_10_08	Jim Bell	8-Oct-20	16-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/patterk-netser-will-let-nunavut-mias-decide-his-political-future/				
GEORGE_2020_06_02	Jane George	2-Jun-20	16-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/arctic-warming-may-bring-more-killer-whale-predation-on-nunavut-narwhals/				
GLANVILLE_2020_07_24	Helen Glanville	24-Jul-20	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/a-20000-tonne-oil-spill-is-contaminating-the-arctic-it-could-take-decades-to-clean-up/				
BELL_2020_01_20	Jim Bell	20-Jan-20	9-Mar-20	Nunatsiq News	https://www.arctictoday.com/defense-expert-slams-ottawa-for-ignoring-north-warning-system-upgrade/				
BELL_2019_01_03_A	Jim Bell	3-Jan-19	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/for-inuit-arctic-research-left-a-troubled-legacy/				
PATTERSON_2020_08_13	Dennis Patterson	13-Aug-20	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/canadas-post-pandemic-spending-should-give-a-boost-to-northern-internet-connectivity/				
GEORGE_2011_07_25	Jane George	25-Jul-11	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/256637_nunavik_iron_mine_may_change_tiny_Aupaluk's_future/				
GEORGE_2011_05_11	Jane George	11-May-11	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/110588_icc_says_yes_to_oil_and_gas_with_conditions/				
NUNATSIAQ_STAFF_2018_04_26	Nunatsiq News	26-Apr-18	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/65674gn_warns_about_potential_rabies_in_sanikiluaq/				
ROGERS_2016_07_04	Sarah Rogers	4-Jul-16	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/65674arctic_coastal_nations_to_negotiate_fishing_rights_in_international_wa/				
NUNATSIAQ_STAFF_2012_01_20	Nunatsiq News	20-Jan-12	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/65674size_and_seed_dispersal_key_to_survival_of_arctic_plants_facing_climat/				
ROSEN_2019_09_23	Yereth Rosen	23-Sep-19	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/arctic-sea-ice-is-close-to-its-annual-minimum-extent-but-thats-just-part-of-the-picture/				
HARPER_2018_10_19	Kenn Harper	19-Oct-18	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/65674taissumani_oct_19/				
GREGOIRE_2011_01_21	Lisa Gregoire	21-Jan-11	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/98789_make_way_for_the_arctics_mighty_mammal/				
NUNATSIAQ_STAFF_2019_04_17	Nunatsiq News	17-Apr-19	9-Mar-20	Nunatsiq News	https://www.arctictoday.com/canadas-arcticnet-will-have-its-funding-renewed/				
TRANter_2020_07_08	Emma Tranter	8-Jul-20	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/new-inuit-benefit-agreement-crucial-for-future-of-mary-river-mine-says-baffinland/				
NUNATSIAQ_STAFF_2013_04_15	Nunatsiq News	15-Apr-13	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/65674to_protest_arctic_oil_drilling_greenpeace_plants_flag_under_the_pole/				
NUNATSIAQ_STAFF_2015_03_17	Nunatsiq News	17-Mar-15	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/65674winnipeg_art_gallery_displays_arctic-themed_exhibition/				
DEULING_2020_05_16	Meagan Deuling	16-May-20	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/creating-community-amidst-the-isolation-of-covid-19/				
THOMPSON_2017_12_01	John Thompson	1-Dec-17	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/65674deal_reached_to_protect_central_arctic_ocean_from_fishing/				
ROGERS_2013_11_08	Sarah Rogers	8-Nov-13	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/65674new_research_shows_arctic_whale_habitat_losing_ground_to_industrial_de/				
NUNATSIAQ_STAFF_2013_02_28	Nunatsiq News	28-Feb-13	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/65674ottawa_puts_out_feelers_for_nunavut_oil_and_gas_exploration/				
ROGERS_2019_08_01	Sarah Rogers	1-Aug-19	9-Mar-20	Nunatsiq News	https://www.arctictoday.com/in-visit-to-nunavut-trudeau-announces-protections-for-canadas-last-ice-area/				
GEORGE_2020_09_18	Jane George	18-Sep-20	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/nunavut-government-picks-cambridge-bay-for-new-regional-continuing-care-centre/				
NUNATSIAQ_STAFF_2020_03_16	Nunatsiq News	16-Mar-20	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/igluait-to-close-all-recreation-facilities-due-to-covid-19-prevention/				
NUNATSIAQ_STAFF_2012_04_03	Nunatsiq News	3-Apr-12	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/65674wwf_patterns_allegations_unfounded_and_misleading/				
NUNATSIAQ_STAFF_2013_02_13	Nunatsiq News	13-Feb-13	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/65674do_feed_the_bears_polar_researchers_suggest/				
NUNATSIAQ_STAFF_2011_11_21	Nunatsiq News	21-Nov-11	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/65674photo_scholarships_for_future_nunavut_nurses/				
NUNATSIAQ_STAFF_2014_12_01	Nunatsiq News	1-Dec-14	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/65674photo_little_ghost_arctic_fox_forages_for_food_in_nanisivik/				
GEORGE_2013_06_13	Jane George	13-Jun-13	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/65674architects_unveil_model_of_nunavut-based_arctic_research_station/				
BELL_2019_03_18	Jim Bell	18-Mar-19	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/nunavuts-not-ready-for-oil-and-gas-development/				
DEAN_2020_04_15	Joshua Dean	15-Apr-20	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/arctic-climate-change-its-recent-carbon-emissions-we-should-fear-not-ancient-methane-time-bomb/				
NUNATSIAQ_STAFF_2015_01_30	Nunatsiq News	30-Jan-15	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/65674the_future_of_baffin_caribou_to_be_hashed_out_at_igluait_meeting/				
DUCHARME_2016_04_13	Steve Ducharme	13-Apr-16	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/65674circumpolar_inuit_commission_to_consult_this_month_on_north_water_poly/				
ROGERS_2016_10_12	Sarah Rogers	12-Oct-16	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/65674womens_collective_documents_seal_skin_preparation_for_future_generatio/				
NUNATSIAQ_STAFF_2010_11_01_B	Nunatsiq News	1-Nov-10	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/011199_topEssay_winner_worries_about_her_future/				
BROWN_2017_06_21	Beth Brown	21-Jun-17	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/65674construction_company_nunavut_iron_mine_settle_fight_out_of_court/				
BELL_2019_04_04	Jim Bell	4-Apr-19	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/look-out-canada-the-countrys-warming-fast/				
GEORGE_2019_05_09	Jane George	9-May-19	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/narwhals-display-little-genetic-diversity-researchers-say/				
NUNATSIAQ_STAFF_2020_05_04	Nunatsiq News	4-May-20	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/meet-nanug-future-rcmp-police-dog/				
BELL_2018_02_05	Jim Bell	5-Feb-18	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/65674expansion_would_guarantee_mary_rivers_future_baffinland_boss_says/				
NUNATSIAQ_STAFF_2013_06_10	Nunatsiq News	10-Jun-13	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/65674indigenous_peoples_meet_in_arctic_norway_to_prepare_un_conference/				
DEULING_2020_09_28	Meagan Deuling	28-Sep-20	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/parks-canada-plans-to-record-underwater-sounds-at-tallurutiup-imanga/				
THOMPSON_2019_08_21	John Thompson	21-Aug-19	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/nasa-airborne-study-takes-aim-at-nunavuts-changing-tundra/				
ROGERS_2018_02_28	Sarah Rogers	28-Feb-18	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/65674nunaviks_undersea_survey_set_to_begin_this_summer/				
BELL_2017_04_25	Jim Bell	25-Apr-17	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/65674for_greenland_east_nunavut_warmer_wetter_climates_on_the_way/				
GREGOIRE_2016_04_05	Lisa Gregoire	5-Apr-16	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/65674scientists_use_gravity_to_measure_arctic_glacier_loss/				
GREGOIRE_2017_05_24	Lisa Gregoire	24-May-17	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/65674nunavut_residents_join_with_arctic_friends_to_influence_research/				
DEULING_2020_03_12	Meagan Deuling	12-Mar-20	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/team-nunavut-still-absorbing-news-of-arctic-winter-games-cancellation/				
NUNATSIAQ_STAFF_2017_06_19	Nunatsiq News	19-Jun-17	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/65674nunavuts_baffin_fisheries_signs_deal_for_new_shrimp_turbot_trawler/				
LANDRIALT_2020_03_18	Mathieu Landriault	18-Mar-20	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/will-budget-2020-take-the-canadian-north-seriously/				
BELL_2019_11_18	Jim Bell	18-Nov-19	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/nunavut-utility-pitches-new-32-4m-power-plant-for-arctic-bay/				
BELL_2018_12_05	Jim Bell	5-Dec-18	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/raytheon-wins-two-canadian-arctic-radar-contracts-worth-30m/				
GEORGE_2010_07_12	Jane George	12-Jul-10	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/110710_Parks_Canada_plans_virtual_model_of_remote_Fort_Conger/				
TRANter_2020_08_12	Emma Tranter	12-Aug-20	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/nunavut-arctic-college-cancels-first-year-of-teaching-program/				
GEORGE_2011_12_15	Jane George	15-Dec-11	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/65674put_safety_first_in_arctic_offshore_drilling_national_energy_board_rev/				
BELL_2020_08_19	Jim Bell	19-Aug-20	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/arctic-wide-inuit-group-wants-to-recapture-north-warning-contract/				
NUNATSIAQ_STAFF_2012_08_02	Nunatsiq News	2-Aug-12	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/65674wwf_set_to_open_new_office_in_igluait/				
THOMPSON_2019_04_04_A	John Thompson	4-Apr-19	9-Mar-20	Nunatsiq News	https://www.arctictoday.com/nunavuts-future-looks-bright-says-territorial-government-economist/				
NUNATSIAQ_STAFF_2018_02_09	Nunatsiq News	9-Feb-18	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/65674photo_wag_introduces_new_inuit_curators_for_future_inuit_art_centre/				
FILBEE_2019_05_17	Karen Filbee	17-May-19	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/kelp-is-on-the-way-rapid-warming-expands-underwater-arctic-forests/				
GEORGE_2020_05_13	Jane George	13-May-20	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/chinas-interest-in-western-nunavut-gold-mine-is-commercial-legal-expert/				

Table S1: Visions of the Arctic Future: Metadata for Arctic news corpus

Keys and Meyer (2021)

MURPHY_2012_08_08_A	David Murphy	8-Aug-12	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/65674ice_islands_a_risk_for_offshore_rigs_in_the_arctic_researcher/					
GEORGE_2010_08_18	Jane George	18-Aug-10	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/1808101_canada_says_its_sorry_to_the_high_arctic_exiles/					
GEORGE_2010_06_15	Jane George	15-Jun-10	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/1506103salluits_future_to_be_built_on_bedrock_foundation/					
DAWSON_2013_04_04	Samantha Dawson	4-Apr-13	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/65674ottawa_inuit_childrens_centre_gets_a_new_building_for_its_future/					
BELL_2010_04_05	Jim Bell	5-Apr-10	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/8789_Makivik_trustees_want_access_to_3_million_of_principal/					
GEORGE_2016_09_13	Jane George	13-Sep-16	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/65674less_ice_more_shipping_traffic_prompt_arctic_marine_review/					
ROGERS_2015_03_31	Sarah Rogers	31-Mar-15	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/65674western_arctic_polar_bears_in_good_shape_inuvialuit_hunters/					
EDGAR_2018_11_14	Courtney Edgar	14-Nov-18	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/65674igluat_prepares_water_filtration_system_for_future_water_shortages/					
DUCHARME_2017_12_19	Steve Ducharme	19-Dec-17	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/65674for_these_nunavut_inmates_the_future_is_carved_in_stone/					
NUNATSIAQ_STAFF_2013_07_04	Nunatsiq News	4-Jul-13	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/65674nunavut_picks_group_for_30-year_300-million_igluat_airport_scheme/					
MURPHY_2014_04_11	David Murphy	11-Apr-14	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/65674agnico_eagle_donates_5_million_to_jump-start_nunavut_university/					
GEORGE_2011_10_04	Jane George	4-Oct-11	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/65674adair_faces_an_uncertain_future_with_a_brave_front/					
NUNATSIAQ_STAFF_2016_01_28	Nunatsiq News	28-Jan-16	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/65674melting_permafrost_damages_buildings_in_inukjuak/					
GEORGE_2018_09_28	Jane George	28-Sep-18	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/65674humpback_whale_makes_surprise_waves_outside_nunavut_community/					
BOSWELL_2011_11_25	Randy Boswell	25-Nov-11	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/65674canadian_ice_cores_vital_in_new_arctic_study/					
BOSWELL_2011_09_14	Randy Boswell	14-Sep-11	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/65674painting_of_lost_arctic_vessel_sold_for_60000_at_auction/					
NUNATSIAQ_STAFF_2017_01_17	Nunatsiq News	17-Jan-17	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/65674nunavut_arctic_college_apologizes_for_last-minute_cancellation/					
PATAR_2020_08_14	Dustin Patar	14-Aug-20	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/canadian-navys-final-arctic-patrol-ship-to-be-named-after-wwii-naval-hero/					
MURPHY_2013_12_04	David Murphy	4-Dec-13	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/65674nunavut_residents_consider_future_of_oil_and_wildlife_in_lancaster_sou/					
ROGERS_2014_06_19	Sarah Rogers	19-Jun-14	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/65674trades_centre_looks_to_build_nunavuts_future_workforce/					
GEORGE_2011_05_25	Jane George	25-May-11	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/25667_nunavik_caribou_numbers_in_rapid_free-fall/					
ROGERS_2010_09_29	Sarah Rogers	29-Sep-10	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/2809108_makivik_sees_ports_roads_or_rails_in_nunaviks_future/					
GEORGE_2015_10_29	Jane George	29-Oct-15	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/65674science_technology_development_guide_CHARS/					
BROWN_2017_11_10	Beth Brown	10-Nov-17	9-Mar-20	Nunatsiq News	https://www.arctictoday.com/ottawa-coughs-up-short-term-money-for-high-arctic-research-station/					
MAYEDA_2011_01_14	Andrew Mayeda	14-Jan-11	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/98789_exclusive_inuit_consultations_delay_tender_on_big_arctic_radar_chain/					
DUCHARME_2015_12_04	Steve Ducharme	4-Dec-15	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/65674inuit_broadcast_centre_reclaims_the_past_steps_into_the_future/					
DUCHARME_2015_12_15	Steve Ducharme	15-Dec-15	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/65674online_interactive_atlas_of_rasmussens_arctic_trek_coming_soon/					
GEORGE_2020_08_18_B	Jane George	18-Aug-20	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/ancient-beaver-habits-and-habitat-highlight-nunavuts-warmer-past/					
GEORGE_2020_06_09	Jane George	9-Jun-20	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/high-arctic-communitys-piped-system-undergoes-additional-overhaul/					
MCGWIN_2020_09_01	Kevin McGwin	1-Sep-20	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/greenland-is-taking-a-long-term-approach-to-battling-covid-19/					
LIGHTFOOT_2020_05_08	Patricia Lightfoot	8-May-20	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/nunatsiq-news-qcna-award-nominees-include-student-writer/					
HARPER_2018_03_10	Kenn Harper	10-Mar-18	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/65674taissumani_march_10/					
THOMPSON_2019_04_04_B	John Thompson	4-Apr-19	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/de-beers-dreams-of-building-the-diamond-mine-of-the-future-in-nunavut/					
MIRON_2019_08_06	Kahlian Miron	6-Aug-19	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/students-on-ice-sets-sail/					
NUNATSIAQ_STAFF_2019_09_28	Nunatsiq News	28-Sep-19	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/hairy-encounter/					
DUCHARME_2017_07_10	Steve Ducharme	10-Jul-17	9-Mar-20	Nunatsiq News	https://www.arctictoday.com/igloo-art-certification-now-in-inuit-hands/					
GEORGE_2017_10_11	Jane George	11-Oct-17	9-Mar-20	Nunatsiq News	https://www.arctictoday.com/shipping-firms-say-a-heavy-fuel-oil-ban-would-raise-costs-for-nunavut/					
VARGA_2013_07_17	Peter Varga	17-Jul-13	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/65674kivalliq_arctic_foods_puts_igloolik_char_nunavut_store_shelves/					
GEORGE_2017_09_05	Jane George	5-Sep-17	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/65674arctic_august_temps_dryness_may_have_fed_hurricane_harvey/					
GEORGE_2012_11_14	Jane George	14-Nov-12	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/65674the_martin_bergmann_vessel_set_to_overwinter_again_in_cambay/					
BELL_2017_11_14	Jim Bell	14-Nov-17	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/65674icic_hopes_inuit_day_observance_will_grow/					
GEORGE_2020_08_24	Jane George	24-Aug-20	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/nunavut-spotter-sees-new-zealand-yacht-heading-east-into-the-nw-passage/					
ANSELM_2020_04_23	Elaine Anselmi	23-Apr-20	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/four-new-species-of-spider-and-eight-new-to-canada-found-in-nunavut/					
DAWSON_2012_08_09	Samantha Dawson	9-Aug-12	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/65674igluat_looks_to_making_city_buildings_more_accessible/					
DUCHARME_2017_11_23	Steve Ducharme	23-Nov-17	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/65674inuit_management_proposed_for_north_water_polynya/					
SEGAL_2019_01_17	Katie Segal	17-Jan-19	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/how-sewage-could-become-an-energy-resource-for-arctic-communities/					
ROGERS_2018_04_09	Sarah Rogers	9-Apr-18	17-Jan-21	Nunatsiq News	http://nunatsiq.com/stories/article/65674nunavik_inuit_debate_future_of_development_corporation/					
MIRON_2019_05_15	Kahlian Miron	15-May-19	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/library-and-archives-canada-offers-funds-for-indigenous-digitalization-projects/					
GEORGE_2011_04_25	Jane George	25-Apr-11	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/2504778_arvialit_hungers_for_nunavut_mining_jobs/					
NUNATSIAQ_STAFF_2012_11_27	Nunatsiq News	27-Nov-12	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/65674world_must_pay_more_attention_to_thawing_permafrost_un_report/					
MIRON_2019_12_04	Kahlian Miron	4-Dec-19	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/arctic-youth-camp-leads-inuit-youth-lead-the-way/					
MURPHY_2013_11_28	David Murphy	28-Nov-13	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/65674less_snow_more_evaporation_may_be_drying_up_northern_lakes/					
PATAR_2019_11_07	Dustin Patar	7-Nov-19	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/team-nunavut-gets-additional-travel-funding/					
GREGOIRE_2012_06_29	Lisa Gregoire	29-Jun-12	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/65674collecting_plants_in_the_lush_soper_river_valley/					
GEORGE_2010_05_07	Jane George	7-May-2010	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/98789_arctic_shipping_fraught_with_danger_operators_say/					
MARSHALL_2020_10_23	Brendan Marshall	23-Oct-20	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/the-case-for-greater-federal-investments-in-northern-mining-infrastructure/					
NUNATSIAQ_STAFF_2016_03_16	Nunatsiq News	16-Mar-16	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/65674photo_inspiring_words_from_a_future_inuk_heart_surgeon/					
GEORGE_2012_02_22	Jane George	22-Feb-12	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/65674photo_cambay_pharmacy_faces_uncertain_future/					
BELL_2019_07_22	Jim Bell	22-Jul-19	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/at-national-gathering-arctic-anglicans-say-no-to-same-sex-marriage/					
NUNATSIAQ_STAFF_2017_08_22	Nunatsiq News	22-Aug-17	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/65674feds_announce_maintenance_contract_for_new_naval_vessels/					
PATAR_2020_10_13	Dustin Patar	13-Oct-20	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/igluat-deepsea-port-project-remains-on-schedule-for-2021-completion/					
ROGERS_2014_12_10	Sarah Rogers	10-Dec-14	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/65674studying_the_arctic_take_the_time_to_invest_in_inuit_communities_conf/					
ROGERS_2011_03_10	Sarah Rogers	10-Mar-11	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/101103_road_planned_into_future_nunavik_park/					
BELL_2019_01_03_B	Jim Bell	3-Jan-19	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/extend-arctic-oil-gas-ban-for-five-more-years-clyde-river-says/					
ZARATE_2010_07_13	Gabriel Zarate	13-Jul-10	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/98789_igluats_future_planning_blueprint_nearly_done/					
TRANTER_2020_02_03	Emma Tranter	3-Feb-20	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/wind-and-solar-powered-greenhouse-takes-off-in-gjoa-haven/					
PATAR_2020_06_02	Dustin Patar	2-Jun-20	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/some-arctic-research-to-continue-thanks-to-local-partnerships/					

Table S1: Visions of the Arctic Future: Metadata for Arctic news corpus

Keys and Meyer (2021)

RITCHOT_2020_12_09	Melanie Ritchot	9-Dec-20	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/inuit-artists-reinvent-holiday-season-as-craft-fairs-close/				
GEORGE_2012_05_15	Jane George	15-May-12	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/65674newmont_visits_western_nunavut_to_discuss_hope_bays_future/				
NUNATSIAQ_STAFF_2016_05_04	Nunatsiq News	4-May-16	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/65674inuit-owned_shipping_firm_turns_to_the_courts_to_stave_off_imminent_coi/				
HARPER_2018_11_30	Kenn Harper	30-Nov-18	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/taissumani-nov-30/				
ROGERS_2017_01_27	Sarah Rogers	27-Jan-17	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/65674coalition_of_nunavut_deas_unclear_of_its_future_under_proposed_council/				
ROGERS_2012_02_02	Sarah Rogers	2-Feb-12	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/65674telesat_to_spend_40_to_upgrade_northern_broadband_services/				
NUNATSIAQ_STAFF_2019_12_02	Nunatsiq News	2-Dec-19	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/inuit-delegates-get-ready-for-25th-un-climate-change-conference/				
GEORGE_2019_05_09	Jane George	9-May-19	9-Mar-20	Nunatsiq News	https://www.arctictoday.com/canadian-inuit-challenge-u-s-stance-on-northwest-passage/				
ANSELM_2019_12_05	Elaine Anselmi	5-Dec-19	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/arcticnet-to-launch-northern-research-program-for-northerners/				
GREGOIRE_2013_08_01	Lisa Gregoire	1-Aug-13	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/65674nunavut_students_enjoy_expedition_to_somerset_island/				
DUBOIS_2014_11_14	Marc-Andre Dubois	14-Nov-14	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/65674the_arctic_council_needs_a_better_way_to_implement_recommendations/				
GEORGE_2013_04_15	Jane George	15-Apr-13	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/65674one_in_three_in_greenland_supports_see_canada_as_their_future_ally_sur/				
DUCHARME_2016_06_08	Steve Ducharme	8-Jun-16	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/65674inuit_supporting_nunavut_marine_park_applaud_shells_oil-lease_donation/				
NUNATSIAQ_STAFF_2020_09_04	Nunatsiq News	4-Sep-20	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/two-key-nunavut-agencies-get-new-bosses/				
GEORGE_2019_12_13	Jane George	13-Dec-19	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/nunavut-chef-fine-tunes-country-food-cuisine-in-greenland/				
ROHNER_2016_06_29	Thomas Rohner	29-Jun-16	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/65674future_justice_in_nunavut_is_written_in_inuktitut_says_former_judge/				
GREGOIRE_2012_08_24	Lisa Gregoire	24-Aug-12	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/65674plant_collecting_trip_down_nunavuts_soper_river_a_huge_success/				
NUNATSIAQ_STAFF_2017_05_17	Nunatsiq News	17-May-17	9-Mar-20	Nunatsiq News	https://www.arctictoday.com/canadas-auditor-general-slams-transport-agency-for-neglecting-arctic-airports/				
PATAR_2020_09_08	Dustin Patar	8-Sep-20	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/ido-working-to-keep-u-s-markets-open-to-northern-fisheries/				
NUNATSIAQ_STAFF_2017_09_07	Nunatsiq News	7-Sep-17	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/65674needs_art_links_nunavut_schools_face_a_dark_future/				
GEORGE_2010_02_25	Jane George	25-Feb-10	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/89756_nunavik_counselors_we_need_to_act_like_adults/				
THOMPSON_2018_03_12	John Thompson	12-Mar-18	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/65674shipping_traffic_swells_in_canadian_arctic_as_sea_ice_shrinks/				
DUCHARME_2017_10_24	Steve Ducharme	24-Oct-17	9-Mar-20	Nunatsiq News	https://www.arctictoday.com/u-k-to-transfer-franklin-shipwrecks-to-canada-as-a-gift/				
GEORGE_2017_10_30	Jane George	30-Oct-17	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/65674chase_steamrolls_into_nunavuts_cambridge_bay/				
NUNATSIAQ_STAFF_2012_09_11	Nunatsiq News	11-Sep-12	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/65674penguin_canada_set_to_publish_book_by_sheila_watt-cloutier/				
BELL_2013_10_25	Jim Bell	25-Oct-13	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/65674nanisiviks_116-million_naval_station_gets_its_sailing_orders_from_nuna/				
DICKIE_2019_04_05	Gloria Dickie	5-Apr-19	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/nunavuts-protected-areas-offer-protection-to-wilderness-and-wildlife/				
BELL_2020_01_03	Jim Bell	3-Jan-20	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/nunavuts-top-five-news-stories-of-2019/				
PATAR_2020_09_30	Dustin Patar	30-Sep-20	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/nunavut-mias-ask-for-changes-requiring-future-mia-candidates-to-disclose-criminal-records/				
DEULING_2020_10_30	Meagan Deuling	30-Oct-20	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/nunavummiut-at-risk-of-losing-access-to-internet-connectivity/				
GEORGE_2018_12_13	Jane George	13-Dec-18	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/task-force-works-on-5-year-timeline-for-new-inuit-nunangat-university/				
ZARATE_2010_09_09	Gabriel Zarate	9-Sep-10	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/090910_after_decades_of_anguish_high_arctic_exiles_monument_unveiled/				
MURPHY_2012_08_08_B	David Murphy	8-Aug-12	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/65674cargo_starts_moving_onto_igloolik_sealift_beach/				
NUNATSIAQ_STAFF_2016_04_27	Nunatsiq News	27-Apr-16	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/65674photo_look_at_me_im_in_the_stanley_cup/				
GEORGE_2019_10_09	Jane George	9-Oct-19	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/western-nunavut-mine-delegation-tours-region-to-peek-out-future-employees/				
GEORGE_2011_08_24	Jane George	24-Aug-11	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/65674ottawa_plans_for_silent_military_surveillance_in_the_arctic/				
DUCHARME_2017_09_01	Steve Ducharme	1-Sep-17	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/65674consultation_absent_on_new_oil_gas_exploration_rules_wvf_inuit_orgs/				
PATAR_2020_01_28	Dustin Patar	28-Jan-20	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/nunavut-monitoring-coronavirus-outbreak-says-chief-health-officer/				
GEORGE_2019_05_21	Jane George	21-May-19	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/researchers-worry-arctic-climate-change-is-taking-a-toll-on-snow-buntings/				
BELL_2020_08_27	Jim Bell	27-Aug-20	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/ssi-teams-up-with-qikigaalik-corp-to-look-for-better-nunavut-internet/				
NUNATSIAQ_STAFF_2019_09_04	Nunatsiq News	4-Sep-19	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/sanikiluaq-conservation-efforts-get-big-boost-from-5-5m-grant/				
THOMPSON_2018_09_04	John Thompson	4-Sep-18	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/65674fairly_puke_and_wilchs_hair_found_in_sylvia_grinnell_park/				
GEORGE_2012_08_22	Jane George	22-Aug-12	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/65674quebec_solidaire_nunavik_must_determine_its_future/				
PATAR_2020_09_02	Dustin Patar	2-Sep-20	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/igloolik-speed-skating-club-wins-10000/				
BELL_2017_11_24	Jim Bell	24-Nov-17	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/65674for_nunavut_national_housing_plan_offers_only_vague_uncertainties/				
GREGOIRE_2015_03_03	Lisa Gregoire	3-Mar-15	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/65674arctic_voices_offers_novel_northern_perspectives_at_ottawa_museum/				
NUNATSIAQ_STAFF_2013_02_11	Nunatsiq News	11-Feb-13	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/65674wvf_gives_nunavut_money_for_polar_bear_research/				
TRANter_2019_06_05	Emma Tranter	5-Jun-19	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/nunavut-government-doesnt-prepare-students-for-jobs-or-post-secondary-education-ag-says/				
GEORGE_2010_08_13	Jane George	13-Jun-10	17-Jan-21	Nunatsiq News	https://nunatsiq.com/stories/article/8980_indigenous_people_should_respect_science_saami_leader/				
ROSEN_2020_02_03	Yereth Rosen	3-Feb-20	9-Mar-20	Arctic Today	https://www.arctictoday.com/the-arctics-future-population-will-likely-be-more-urban-more-aged-and-only-slightly-bigger/				
MCGWIN_2020_05_12	Kevin McGwin	12-May-20	18-Jan-21	Arctic Today	https://www.arctictoday.com/a-new-innovation-competition-seeks-engage-youth-in-transforming-the-arctic-economy/				
STRUZIK_2018_01_10	Edward Struzik	10-Jan-18	18-Jan-21	Arctic Today	https://www.arctictoday.com/a-red-alert-for-the-future-arctic/				
NUNATSIAQ_STAFF_2017_02_28	Nunatsiq News	28-Feb-17	9-Mar-20	Arctic Today	https://www.arctictoday.com/is-this-massive-all-terrain-vehicle-the-future-of-arctic-cruising-and-research-expeditions/				
SCHREIBER_2020_04_27	Melody Schreiber	27-Apr-20	18-Jan-21	Arctic Today	https://www.arctictoday.com/new-sea-ice-models-predict-ice-free-arctic-summer-by-2050/				
ROSEN_2019_12_20	Yereth Rosen	20-Dec-19	9-Mar-20	Arctic Today	https://www.arctictoday.com/apparently-stable-for-now-alaskas-biggest-caribou-faces-a-tough-future-of-industrial-development-and-climate-warming/				
BREUM_2019_12_13	Martin Breum	13-Dec-19	9-Mar-20	Arctic Today	https://www.arctictoday.com/the-deep-roots-of-russias-arctic-ambitions-and-what-they-mean-for-future-stability-in-the-region/				
DEGEORGE_2018_12_20	Krestia DeGeorge	20-Dec-18	9-Mar-20	Arctic Today	https://www.arctictoday.com/asia-europe-positioned-define-future-arctic/				
MCGWIN_2018_04_03	Kevin McGwin	3-Apr-18	9-Mar-20	Arctic Today	https://www.arctictoday.com/two-decades-arctic-council-considers-direction-future-will-take/				
DITTMANN_2019_03_29	Kai Dittmann	29-Mar-19	9-Mar-20	Arctic Today	https://www.arctictoday.com/greenlands-economic-future-depends-more-on-good-governance-than-on-its-mineral-resources/				
REUTERS_2020_07_27	Reuters	27-Jul-20	18-Jan-21	Arctic Today	https://www.arctictoday.com/deutsche-bank-calls-an-immediate-halt-to-future-arctic-oil-and-gas-investments/				
CONYERS_2020_08_13	Abby Conyers	13-Aug-20	18-Jan-21	Arctic Today	https://www.arctictoday.com/how-online-learning-is-an-opportunity-for-the-arctic/				
ITCHOAK_2020_12_22	Karlin Itchoak	22-Dec-20	18-Jan-21	Arctic Today	https://www.arctictoday.com/a-biden-administration-should-take-immediate-steps-to-halt-oil-and-gas-drilling-in-the-arctic-national-wildlife-refuge/				
VILLEGAS_2019_03_01	Luis Villegas	1-Mar-19	11-Mar-20	Arctic Today	https://www.arctictoday.com/how-a-citizen-journalist-network-could-transform-the-arctics-indigenous-communities/				
ROSEN_2020_12_24	Yereth Rosen	24-Dec-20	18-Jan-21	Arctic Today	https://www.arctictoday.com/alaska-agency-devotes-20-million-to-bid-in-controversial-arctic-refuge-lease-sale/				
SCRUGGS_2019_05_14	Gregory Scruggs	14-May-19	9-Mar-20	Arctic Today	https://www.arctictoday.com/homes-like-parkas-why-arctic-housing-may-need-to-go-back-to-the-future/				
COLE_2018_07_06	Dermot Cole	6-Jul-18	18-Jan-21	Arctic Today	https://www.arctictoday.com/latest-us-defense-budget-finally-pays-attention-arctic-cost-deficit-spending/				
GEORGE_2018_10_03	Jane George	3-Oct-18	9-Mar-20	Nunatsiq News	https://www.arctictoday.com/new-international-deal-protects-central-arctic-oceans-fish-stocks/				

Table S1: Visions of the Arctic Future: Metadata for Arctic news corpus

Keys and Meyer (2021)

ANTONOV_2019_12_04	Anatoly Antonov	4-Dec-19	11-Mar-20	Arctic Today	https://www.arctictoday.com/russia-stands-ready-to-work-together-in-the-arctic/					
MCGWIN_2017_03_06	Kevin McGwin	6-Mar-17	9-Mar-20	Arctic Today	https://www.arctictoday.com/recent-developments-send-mixed-signals-about-the-future-of-arctic-shipping/					
HUMPERT_2019_06_07	Malte Humpert	7-Jun-19	11-Mar-20	Arctic Today	https://www.arctictoday.com/a-new-u-s-defense-department-arctic-strategy-sees-growing-uncertainty-and-tension-in-the-region/					
VINCENT_2020_08_27	Elizabeth Vincent	27-Aug-20	18-Jan-21	Arctic Today	https://www.arctictoday.com/why-greenland-needs-to-plan-for-future-climate-driven-immigration-now/					
HUMPERT_2019_03_26	Malte Humpert	26-Mar-19	9-Mar-20	Arctic Today	https://www.arctictoday.com/chinas-first-nuclear-icebreaker-could-serve-as-test-platform-for-future-nuclear-aircraft-carriers/					
BREUM_2020_10_29	Martin Breum	29-Oct-20	18-Jan-21	Arctic Today	https://www.arctictoday.com/us-greenland-reach-agreement-on-thule-air-base-contract-long-a-source-of-dispute/					
ROSEN_2019_01_11	Yereth Rosen	11-Jan-19	9-Mar-20	Arctic Today	https://www.arctictoday.com/the-future-of-alaskas-arctic-gas-pipeline-project-is-unclear-after-a-management-shakeup/					
COLE_2018_10_15	Dermot Cole	15-Oct-18	18-Jan-21	Arctic Today	https://www.arctictoday.com/new-ippc-climate-report-means-arctic/					
POPE_2020_08_28	Allen Pope	28-Aug-20	18-Jan-21	Arctic Today	https://www.arctictoday.com/why-arctic-business-development-needs-science-and-vice-versa/					
HUMPERT_2018_05_23	Malte Humpert	23-May-18	9-Mar-20	Arctic Today	https://www.arctictoday.com/arctic-ing-projects-growing-ahead-schedule-novatek-looks-future/					
SHEPHERD_2020_09_24	Hal Shephard	24-Sep-20	18-Jan-21	Arctic Today	https://www.arctictoday.com/there-are-alternatives-to-sacrificing-the-arctic-national-wildlife-refuges-coastal-plain/					
BENNETT_2019_05_11	Mia Bennett	11-May-19	11-Mar-20	Arctic Today	https://www.arctictoday.com/china-reveals-arctic-geopolitics-to-be-above-pompeos-pay-grade/					
FILIMONOVA_2019_10_16	Nadezhda Filimonova	16-Oct-19	11-Mar-20	Arctic Today	https://www.arctictoday.com/why-cross-border-cooperation-is-a-key-to-the-sustainable-development-of-arctic-cities-and-towns/					
BREUM_2018_11_15	Martin Breum	15-Nov-18	11-Mar-20	Arctic Today	https://www.arctictoday.com/people-matter-talk-climate-change/					
BELL_2016_10_07	Tom Bell	7-Oct-16	18-Jan-21	Arctic Today	https://www.arctictoday.com/how-maine-is-turning-itself-into-an-arctic-player/					
ROSEN_2020_05_11	Yereth Rosen	11-May-20	18-Jan-21	Arctic Today	https://www.arctictoday.com/as-arctic-ice-thins-and-melts-more-of-it-will-travel-between-nations-possibly-spreading-pollution-with-it/					
APPRILL_2019_12_27	Amy Apprill	27-Dec-19	9-Mar-20	Arctic Today	https://www.arctictoday.com/why-microbes-could-prove-critical-to-understanding-whales-future-as-arctic-sea-ice-recedes/					
NILSEN_2020_04_20	Thomas Nilsen	20-Apr-20	18-Jan-21	Arctic Today	https://www.arctictoday.com/need-a-major-engine-repair-russias-massive-new-icebreaker-faces-an-uncertain-future/					
TUTTLE_2017_02_10	Robert Tuttle	10-Feb-17	9-Mar-20	Arctic Today	https://www.arctictoday.com/arctic-oil-town-fears-future-as-imperials-wells-shut/					
MCGWIN_2020_09_14	Kevin McGwin	14-Sep-20	18-Jan-21	Arctic Today	https://www.arctictoday.com/for-the-eus-new-arctic-envoy-low-tension-is-job-no-1/					
MCGWIN_2017_06_02	Kevin McGwin	2-Jun-17	9-Mar-20	Arctic Today	https://www.arctictoday.com/remote-settlements-in-greenland-have-a-future-but-they-cannot-make-it-alone/					
ROSEN_2020_07_23	Yereth Rosen	23-Jul-20	18-Jan-21	Arctic Today	https://www.arctictoday.com/the-arctic-ocean-is-becoming-more-like-the-atlantic-and-pacific-studies-say/					
NILSEN_2020_01_31	Thomas Nilsen	31-Jan-20	18-Jan-21	Arctic Today	https://www.arctictoday.com/fear-about-coronavirus-could-hurt-arctic-tourism/					
SCHREIBER_2019_04_29	Melody Schreiber	29-Apr-19	11-Mar-20	Arctic Today	https://www.arctictoday.com/the-us-navys-new-arctic-strategy-is-limited-in-scope-details-say-critics/					
ROSEN_2019_09_26	Yereth Rosen	26-Sep-19	18-Jan-21	Arctic Today	https://www.arctictoday.com/a-new-ippc-report-details-sweeping-changes-to-oceans-ice-and-the-global-impacts-of-arctic-melt/					
TOMMERBAKKE_2019_09_06	Siri Guliksen Tommerbakke	6-Sep-19	11-Mar-20	Arctic Today	https://www.arctictoday.com/germanys-arctic-policy-calls-for-more-restrictions/					
COLE_2019_11_25	Dermot Cole	25-Nov-19	11-Mar-20	Arctic Today	https://www.arctictoday.com/a-controversial-road-project-in-alaska-could-become-the-next-big-arctic-battleground-between-preservation-and-development/					
NILSEN_2020_11_25	Thomas Nilsen	25-Nov-20	18-Jan-21	Arctic Today	https://www.arctictoday.com/swedish-miner-invests-up-to-639bn-in-massive-transformation-for-carbon-free-future/					
MCGWIN_2018_11_06	Kevin McGwin	6-Nov-18	9-Mar-20	Arctic Today	https://www.arctictoday.com/finland-meeting-discussion-iceland-fire-arctic-councils-future/					
MCGWIN_2019_11_08	Kevin McGwin	8-Nov-19	9-Mar-20	Arctic Today	https://www.arctictoday.com/on-norways-internet-frontier-the-future-is-here-again/					
NARLOCK_2018_12_24	Colleen Narlock	24-Dec-18	11-Mar-20	Arctic Today	https://www.arctictoday.com/need-build-polar-ark/					
ROSEN_2020_03_11	Yereth Rosen	11-Mar-20	18-Jan-21	Arctic Today	https://www.arctictoday.com/coronavirus-concerns-are-shutting-down-arctic-events-including-a-major-health-conference-and-arctic-council-meetings/					
ROSEN_2019_03_06	Yereth Rosen	6-Mar-19	11-Mar-20	Arctic Today	https://www.arctictoday.com/dangerous-disruptive-rain-on-snow-events-are-expected-to-increase-in-northern-alaska/					
SCHREIBER_2019_04_23	Melody Schreiber	23-Apr-19	11-Mar-20	Arctic Today	https://www.arctictoday.com/the-us-coast-guards-new-arctic-strategy-highlights-geopolitics-and-security/					
STAALSEN_2016_10_04	Atle Staalesen	4-Oct-16	9-Mar-20	Arctic Today	https://www.arctictoday.com/russias-northernmost-town-prepares-for-nuclear-future/					
TRANTER_2019_11_21	Emma Tranter	21-Nov-19	18-Jan-21	Arctic Today	https://www.arctictoday.com/nunavut-arctic-college-seeks-public-help-to-shape-its-future/					
CHATER_2017_02_05	Andrew Chater	5-Feb-17	18-Jan-21	Arctic Today	https://www.arctictoday.com/why-2016s-us-canada-joint-arctic-statement-still-matters-in-the-trump-era/					
HUMPERT_2019_10_21	Malte Humpert	21-Oct-19	11-Mar-20	Arctic Today	https://www.arctictoday.com/two-more-shipping-companies-say-they-wont-use-arctic-routes/					
MCGWIN_2018_01_12	Kevin McGwin	12-Jan-18	9-Mar-20	Arctic Today	https://www.arctictoday.com/future-norways-oil-industry-lies-barents-sea-far-certain/					
BENNETT_2018_01_30	Mia Bennett	30-Jan-18	1-Apr-20	Radio Canada Intern	https://www.rcinet.ca/eye-on-the-arctic/2018/01/30/blog-its-official-china-releases-its-first-arctic-policy/					
COLE_2020_01_13	Dermot Cole	13-Jan-20	9-Mar-20	Arctic Today	https://www.arctictoday.com/the-us-writes-but-does-not-implement-arctic-strategies/					
COLE_2019_12_30	Dermot Cole	30-Dec-19	9-Mar-20	Arctic Today	https://www.arctictoday.com/could-sand-spread-on-sea-ice-help-keep-the-arctic-cool/					
MCGWIN_2020_11_06	Kevin McGwin	6-Nov-20	18-Jan-21	Arctic Today	https://www.arctictoday.com/a-new-database-reveals-previously-unsuspected-patterns-of-arctic-animal-movement/					
SCHREIBER_2020_12_01	Melody Schreiber	1-Dec-20	18-Jan-21	Arctic Today	https://www.arctictoday.com/a-us-heavy-icebreaker-is-sailing-for-its-first-winter-arctic-mission-in-decades/					
BAIN_2020_07_28	Kevin Bain	28-Jul-20	18-Jan-21	Arctic Today	https://www.arctictoday.com/why-arctic-nations-should-invest-in-a-network-of-green-ports/					
LINDSEY_2018_03_16	Kelsey Lindsey	16-Mar-18	18-Jan-21	Arctic Today	https://www.arctictoday.com/shrubification-mean-arctic/					
STARK_2020_08_06	Jenna Stark	6-Aug-20	18-Jan-21	Arctic Today	https://www.arctictoday.com/the-arctic-needs-better-cross-sector-crisis-related-collaboration/					
COLE_2019_09_16	Dermot Cole	16-Sep-19	11-Mar-20	Arctic Today	https://www.arctictoday.com/why-talking-about-climate-change-could-be-the-most-important-thing-you-can-do/					
BICKNELL_2019_07_19	Daniel Bicknell	19-Jul-19	11-Mar-20	Arctic Today	https://www.arctictoday.com/how-a-market-based-fund-could-help-prevent-the-tragedy-of-the-commons-in-the-arctics-international-waters/					
EISENBERG_2018_12_07	Ross Eisenberg	7-Dec-18	11-Mar-20	Arctic Today	https://www.arctictoday.com/permafrost-insurance-revolutionize-arctic-development/					
SCHOBBER_2019_08_29	Kelsey Schober	29-Aug-19	11-Mar-20	Arctic Today	https://www.arctictoday.com/how-a-highway-to-the-arctic-ocean-is-changing-a-corner-of-canadas-arctic/					
PATAR_2020_08_06	Dustin Patar	6-Aug-20	18-Jan-21	Arctic Today	https://www.arctictoday.com/the-first-of-a-series-of-new-arctic-patrol-ships-has-been-delivered-to-the-royal-canadian-navy/					
ROSEN_2020_12_21	Yereth Rosen	21-Dec-20	18-Jan-21	Arctic Today	https://www.arctictoday.com/a-last-minute-decision-will-shrink-the-area-open-to-oil-leases-in-alaskas-arctic-refuge-by-about-30-percent/					
COLE_2019_11_18	Dermot Cole	18-Nov-19	11-Mar-20	Arctic Today	https://www.arctictoday.com/arctic-permafrost-thaw-could-set-off-sudden-environmental-changes/					
FOUCHE_2017_09_01	Gwladys Fouche	1-Sep-17	9-Mar-20	Arctic Today	https://www.arctictoday.com/future-of-oil-takes-center-stage-in-norwegian-election/					
STRUZIK_2018_09_06	Edward Struzik	6-Sep-18	18-Jan-21	Arctic Today	https://www.arctictoday.com/ice-recedes-arctic-isnt-prepared-shipping-traffic/					
ROSEN_2020_12_15	Yereth Rosen	15-Dec-20	18-Jan-21	Arctic Today	https://www.arctictoday.com/alaska-governor-wants-the-state-to-cut-ties-with-banks-who-shun-arctic-oil-drilling/					
STAALSEN_2016_11_14	Atle Staalesen	14-Nov-16	9-Mar-20	Arctic Today	https://www.arctictoday.com/port-of-tiksi-linking-lena-river-to-northern-sea-route-sees-a-bright-future/					
NILSEN_2018_01_05	Thomas Nilsen	5-Jan-18	18-Jan-21	Arctic Today	https://www.arctictoday.com/climate-activists-lose-landmark-lawsuit-challenging-arctic-oil-drilling-in-norway/					
COLE_2019_06_24	Dermot Cole	24-Jun-19	9-Mar-20	Arctic Today	https://www.arctictoday.com/while-norway-invests-its-oil-money-for-the-future-alaska-wrestles-over-how-much-to-spend-now/					
STAALSEN_2017_02_24	Atle Staalesen	24-Feb-17	9-Mar-20	Arctic Today	https://www.arctictoday.com/a-declining-kara-sea-town-sees-a-future-in-coal/					
JESSOP_2020_03_06	Simon Jessop	6-Mar-20	9-Mar-20	Arctic Today	https://www.arctictoday.com/ubs-adds-arctic-lending-restrictions-as-sustainable-investments-rise/					
SCHREIBER_2019_03_08	Melody Schreiber	8-Mar-19	11-Mar-20	Arctic Today	https://www.arctictoday.com/women-of-the-arctic-is-now-a-nonprofit-focused-on-gender-issues/					
SAUL_2020_08_31	Jonathan Saul	31-Aug-20	18-Jan-21	Arctic Today	https://www.arctictoday.com/as-arctic-ice-melts-polluting-ships-stream-into-polar-waters/					
ULJUA_2020_05_18	Ryan Uljua	18-May-20	18-Jan-21	Arctic Today	https://www.arctictoday.com/a-pre-pandemic-survey-found-uneven-mining-prospects-across-the-arctic/					
BREUM_2020_04_29	Martin Breum	29-Apr-20	18-Jan-21	Arctic Today	https://www.arctictoday.com/the-us-aid-package-to-greenland-is-a-new-chapter-in-a-long-complex-relationship/					
THOMAS_2020_09_14	Natalie Thomas	14-Sep-20	18-Jan-21	Arctic Today	https://www.arctictoday.com/arctic-sea-ice-melt-marks-a-new-polar-climate-regime/					

Table S1: Visions of the Arctic Future: Metadata for Arctic news corpus

Keys and Meyer (2021)

RAMBERT_2018_12_05	Reine Rambert	5-Dec-18	11-Mar-20	Arctic Today	https://www.arctictoday.com/renaissance-arctic-film-television/				
MELLOY_2018_12_14	Brittney Melloy	14-Dec-18	11-Mar-20	Arctic Today	https://www.arctictoday.com/threatened-thriving-using-technology-preserve-arctic-indigenous-languages/				
HUMPERT_2018_09_12	Malte Humpert	12-Sep-18	18-Jan-21	Arctic Today	https://www.arctictoday.com/china-launches-first-domestically-built-icebreaker/				
STAALSEN_2020_08_12	Atle Staalesen	12-Aug-20	18-Jan-21	Arctic Today	https://www.arctictoday.com/a-survey-ship-has-sailed-from-norway-on-a-mission-to-find-a-trans-arctic-fiber-cable-route/				
LINDSEY_2017_09_18	Kelsey Lindsey	18-Sep-17	18-Jan-21	Arctic Today	https://www.arctictoday.com/12500-years-ago-the-central-arctic-was-covered-by-summer-sea-ice-even-though-temperatures-were-higher/				
SCHOBBER_2019_04_10	Kelsey Schobber	10-Apr-19	11-Mar-20	Arctic Today	https://www.arctictoday.com/oil-drilling-in-part-of-norways-arctic-just-became-a-lot-less-likely/				
SCHREIBER_2020_09_17	Melody Schreiber	17-Sep-20	18-Jan-21	Arctic Today	https://www.arctictoday.com/us-energy-department-reopens-arctic-office-with-focus-on-methane-hydrates-microgrids-and-nuclear/				
SCHREIBER_2018_05_09	Melody Schreiber	9-May-18	18-Jan-21	Arctic Today	https://www.arctictoday.com/outgoing-commandant-says-arctic-become-top-priority-us-coast-guard/				
SCHREIBER_2019_05_17	Melody Schreiber	17-May-19	11-Mar-20	Arctic Today	https://www.arctictoday.com/will-the-arctic-council-begin-addressing-national-security/				
ROSEN_2020_10_28	Yereth Rosen	28-Oct-20	18-Jan-21	Arctic Today	https://www.arctictoday.com/trump-administration-issues-go-ahead-for-another-major-arctic-alaska-oil-project/				
HUMPERT_2019_03_12	Malte Humpert	12-Mar-19	11-Mar-20	Arctic Today	https://www.arctictoday.com/us-navy-plans-to-send-surface-vessels-through-the-arctic/				
MCGWIN_2020_03_04	Kevin McGwin	4-Mar-20	9-Mar-20	Arctic Today	https://www.arctictoday.com/greenlands-biggest-bank-urges-restraint-amid-a-surge-in-infrastructure-investment/				
NUNATSIAQ_STAFF_2019_11_19	Nunatsiaq News	19-Nov-19	9-Mar-20	Nunatsiaq News	https://www.arctictoday.com/arctic-indigenous-leaders-call-for-more-action-on-climate-change/				
ROSEN_2019_08_08	Yereth Rosen	8-Aug-19	18-Jan-21	Arctic Today	https://www.arctictoday.com/as-sea-ice-melts-momentum-grows-for-nomes-arctic-port-plan/				
SCHREIBER_2020_12_02	Melody Schreiber	2-Dec-20	18-Jan-21	Arctic Today	https://www.arctictoday.com/a-new-inventory-of-arctic-infrastructure-aims-to-spur-sustainable-development/				
NILSEN_2019_12_18	Thomas Nilsen	18-Dec-19	9-Mar-20	Arctic Today	https://www.arctictoday.com/the-latest-plan-to-ship-russian-arctic-gas-to-market-a-nuclear-powered-submarine-tanker/				
COLE_2019_10_13	Dermot Cole	13-Oct-19	11-Mar-20	Arctic Today	https://www.arctictoday.com/an-arctic-ecologist-wins-an-international-honor-for-his-idea-of-earth-stewardship/				
BELL_2020_02_10	Jim Bell	10-Feb-20	9-Mar-20	Nunatsiaq News	https://www.arctictoday.com/hfo-ban-could-lead-to-big-arctic-price-increases-transport-canada-says/				
COLE_2019_05_13	Dermot Cole	13-May-19	11-Mar-20	Arctic Today	https://www.arctictoday.com/pompeos-bombastic-arctic-council-performance-could-prove-an-aberration-or-a-new-normal/				
MCGWIN_2020_02_03	Kevin McGwin	3-Feb-20	18-Jan-21	Arctic Today	https://www.arctictoday.com/how-a-collaboration-with-disney-shaped-the-way-sami-cultural-details-were-portrayed-in-frozen-2/				
PATAR_2019_11_27	Dustin Patar	27-Nov-19	9-Mar-20	Nunatsiaq News	https://www.arctictoday.com/canadas-new-arctic-patrol-ship-begins-sea-trials/				
SCHREIBER_2020_02_13	Melody Schreiber	13-Feb-20	9-Mar-20	Arctic Today	https://www.arctictoday.com/arctic-fisheries-brace-for-significant-effects-from-chinas-coronavirus-lockdown/				
ZHANG_2020_07_30	Helen Zhang	30-Jul-20	18-Jan-21	Arctic Today	https://www.arctictoday.com/why-a-warming-arctic-needs-an-investment-review-mechanism/				
DUCHARME_2016_12_12	Steve Ducharme	12-Dec-16	9-Mar-20	Nunatsiaq News	https://www.arctictoday.com/franklin-wreck-artifacts-heading-to-london-ottawa-for-future-exhibit/				
HUMPERT_2020_10_06	Malte Humpert	6-Oct-20	18-Jan-21	Arctic Today	https://www.arctictoday.com/russias-new-super-icebreaker-reaches-the-north-pole-during-ice-trials/				
SCHREIBER_2019_10_12	Melody Schreiber	12-Oct-19	11-Mar-20	Arctic Today	https://www.arctictoday.com/u-s-energy-secretary-perry-calls-for-more-arctic-oil-and-gas-development-while-emphasizing-energy-geopolitics/				
BREUM_2019_01_22	Martin Breum	22-Jan-19	11-Mar-20	Arctic Today	https://www.arctictoday.com/a-rare-poll-hints-at-real-differences-between-danish-and-greenlandic-thinking-on-greenland-independence/				
ROSEN_2019_11_28	Yereth Rosen	28-Nov-19	11-Mar-20	Arctic Today	https://www.arctictoday.com/a-new-trump-directive-calls-for-more-arctic-ocean-mapping-to-spur-resource-development/				
HUMPERT_2019_09_05	Malte Humpert	5-Sep-19	11-Mar-20	Arctic Today	https://www.arctictoday.com/as-china-seeks-to-expand-arctic-satellite-coverage-some-experts-warn-of-military-capabilities/				
LINDSEY_2018_05_11	Kelsey Lindsey	11-May-18	18-Jan-21	Arctic Today	https://www.arctictoday.com/scientists-use-arctic-trees-map-climate-change/				
SIMONSSON_2020_12_07	Lennart Simonsson	7-Dec-20	18-Jan-21	Arctic Today	https://www.arctictoday.com/the-arctic-takes-center-stage-as-greta-thunberg-guest-edits-biggest-swedish-daily/				
NILSEN_2020_09_30	Thomas Nilsen	30-Sep-20	18-Jan-21	Arctic Today	https://www.arctictoday.com/a-trans-arctic-undersea-cable-attracts-norwegian-and-japanese-partners/				
BRIGHAM_2017_01_08	Lawson Brigham	8-Jan-17	18-Jan-21	Arctic Today	https://www.arctictoday.com/the-polar-code-heralds-a-new-era-of-safer-navigation-in-arctic-waters/				
BRIGHAM_2018_12_27	Lawson Brigham	27-Dec-18	11-Mar-20	Arctic Today	https://www.arctictoday.com/us-needs-polar-security-cutters-21st-century/				
SCHREIBER_2020_03_10	Melody Schreiber	10-Mar-20	18-Jan-21	Arctic Today	https://www.arctictoday.com/u-s-navy-submarines-surface-near-the-north-pole-as-ice-x-2020-gets-underway/				
HUMPERT_2019_10_01	Malte Humpert	1-Oct-19	11-Mar-20	Arctic Today	https://www.arctictoday.com/the-u-s-navy-steps-up-its-arctic-engagement-sending-ships-to-iceland/				
BAMBER_2020_11_17	Jonathan Bamber	17-Nov-20	18-Jan-21	Arctic Today	https://www.arctictoday.com/why-we-should-worry-about-greenlands-melting-ice-sheets/				
HOAG_2018_11_05	Hannah Hoag	5-Nov-18	11-Mar-20	Arctic Today	https://www.arctictoday.com/even-small-reductions-warming-matter-arctic-one-icelandic-company-hopes-help/				
STAALSEN_2016_09_23	Atle Staalesen	23-Sep-16	18-Jan-21	Arctic Today	https://www.arctictoday.com/shipping-companies-snob-russian-arctic-route/				
COLE_2019_04_08	Dermot Cole	8-Apr-19	11-Mar-20	Arctic Today	https://www.arctictoday.com/new-information-about-alaskas-arctic-mystery-well-might-not-have-a-big-impact-in-the-anwr-drilling-debate/				
SCHREIBER_2019_10_17	Melody Schreiber	17-Oct-19	11-Mar-20	Arctic Today	https://www.arctictoday.com/u-s-coast-guard-will-broaden-arctic-focus-to-include-european-arctic-commandant-says/				
EILERTSEN_2018_08_29	Hege Eilertsen	29-Aug-18	18-Jan-21	Arctic Today	https://www.arctictoday.com/will-europes-arctic-railway-built-depend-cargo-volumes/				
ROSEN_2020_12_14	Yereth Rosen	14-Dec-20	18-Jan-21	Arctic Today	https://www.arctictoday.com/how-tall-tundra-shrubs-reveal-the-hidden-presence-of-permanently-thawed-tundra-soil-just-below-ground/				
NUNATSIAQ_STAFF_2019_05_21	Nunatsiaq News	21-May-19	9-Mar-20	Nunatsiaq News	https://www.arctictoday.com/arctic-freshwaters-face-big-changes-possible-species-loss-says-report/				
COLE_2018_03_03	Dermot Cole	3-Mar-18	18-Jan-21	Arctic Today	https://www.arctictoday.com/chinas-involvement-means-alaskas-latest-arctic-gas-line-plan/				
SCHREIBER_2019_09_10	Melody Schreiber	10-Sep-19	11-Mar-20	Arctic Today	https://www.arctictoday.com/when-the-u-s-navy-ended-its-climate-task-force-arctic-issues-were-sidelined-too-experts-say/				
MCGWIN_2020_03_06	Kevin McGwin	6-Mar-20	9-Mar-20	Arctic Today	https://www.arctictoday.com/finland-will-put-climate-first-in-its-next-arctic-policy/				
ROSEN_2020_04_21	Yereth Rosen	21-Apr-20	18-Jan-21	Arctic Today	https://www.arctictoday.com/citigroup-joins-a-growing-list-of-financial-institutions-shunning-arctic-oil-development/				
ROSEN_2020_08_18	Yereth Rosen	18-Aug-20	18-Jan-21	Arctic Today	https://www.arctictoday.com/with-arctic-refuge-drilling-approved-focus-shifts-to-legal-battles-and-market-forces/				
REUTERS_2020_03_19	Reuters	19-Mar-20	18-Jan-21	Arctic Today	https://www.arctictoday.com/arctic-tourism-businesses-fear-they-wont-survive-coronavirus-crisis/				
ROGERS_2016_12_23	Sarah Rogers	23-Dec-16	9-Mar-20	Nunatsiaq News	https://www.arctictoday.com/nunavut-disappointed-in-trudeaus-spur-of-the-moment-plans-for-arctic/				
SCHREIBER_2019_06_13	Melody Schreiber	13-Jun-19	11-Mar-20	Arctic Today	https://www.arctictoday.com/iceland-prioritizes-continuity-and-a-smooth-transition-to-russia-in-its-chairmanship-of-the-arctic-council/				
THOMPSON_2018_05_02	John Thompson	2-May-18	9-Mar-20	Nunatsiaq News	https://www.arctictoday.com/changing-climate-altering-arctic-insect-populations/				
WENWEN_2019_06_17	Xie Wenwen	17-Jun-19	11-Mar-20	Arctic Today	https://www.arctictoday.com/for-chinese-companies-investment-in-arctic-infrastructure-offers-both-opportunities-and-challenges/				
STAALSEN_2020_09_08	Atle Staalesen	8-Sep-20	18-Jan-21	Arctic Today	https://www.arctictoday.com/a-new-giant-crater-has-been-found-on-the-russian-arctic-tundra/				
GOCU_2020_11_03	Alexandru Gocu	3-Nov-20	18-Jan-21	Arctic Today	https://www.arctictoday.com/norways-supreme-court-is-set-to-rule-on-whether-the-country-can-keep-searching-for-new-arctic-oil/				
MCGWIN_2018_08_15	Kevin McGwin	15-Aug-18	18-Jan-21	Arctic Today	https://www.arctictoday.com/better-living-conditions-arctic-arent-entirely-good-news-mosquitoes/				
ROSEN_2020_08_21	Yereth Rosen	21-Aug-20	18-Jan-21	Arctic Today	https://www.arctictoday.com/arctic-ice-extent-is-unlikely-to-hit-a-record-low-minimum-but-lingering-ice-is-thin-and-porous/				
COLE_2019_12_16	Dermot Cole	16-Dec-19	18-Jan-21	Arctic Today	https://www.arctictoday.com/thinner-than-expected-arctic-sea-ice-has-been-a-challenge-for-mosaic-researchers/				
REUTERS_STAFF_2019_11_05	Reuters Staff	5-Nov-19	11-Mar-20	Arctic Today	https://www.arctictoday.com/environmental-groups-are-back-in-court-to-fight-norways-arctic-oil-drilling/				
HUMPERT_2019_04_17	Malte Humpert	17-Apr-19	11-Mar-20	Arctic Today	https://www.arctictoday.com/iceland-invests-in-arctic-shipping-with-development-of-finnafjord-deepwater-port/				
KOIVUROVA_2019_05_14	Timo Koivurova	14-May-19	11-Mar-20	Arctic Today	https://www.arctictoday.com/did-finland-fail-as-arctic-council-chair/				
SCHREIBER_2018_07_13	Melody Schreiber	13-Jul-18	18-Jan-21	Arctic Today	https://www.arctictoday.com/solar-powered-boats-practical-arctic-one-explorer-wants-find/				
HUMPERT_2019_04_30	Malte Humpert	30-Apr-19	18-Jan-21	Arctic Today	https://www.arctictoday.com/china-acquires-20-percent-stake-in-novateks-arctic-ling-2-project/				
HUMPERT_2020_04_09	Malte Humpert	9-Apr-20	18-Jan-21	Arctic Today	https://www.arctictoday.com/russia-activates-a-new-s-300-air-defense-unit-in-the-arctic/				
NILSEN_2018_08_20	Thomas Nilsen	20-Aug-18	18-Jan-21	Arctic Today	https://www.arctictoday.com/arctics-first-hybrid-electric-cruise-vessel-set-sail-next-year/				
HUMPERT_2020_09_16	Malte Humpert	16-Sep-20	18-Jan-21	Arctic Today	https://www.arctictoday.com/novatek-orders-10-arctic-carriers-from-russias-zvezda-shipyard-for-arctic-ling-2/				

Table S1: Visions of the Arctic Future: Metadata for Arctic news corpus

Keys and Meyer (2021)

MANN_2018_05_23	Paul Mann	23-May-18	18-Jan-21	Arctic Today	https://www.arctictoday.com/resurrecting-mammoths-help-stop-arctic-emissions/				
ROSEN_2018_12_14	Yereth Rosen	14-Dec-18	11-Mar-20	Arctic Today	https://www.arctictoday.com/permafrost-thaw-threatens-millions-arctic-residents-infrastructure/				
TREHARNE_2018_11_27	Rachael Treharne	27-Nov-18	11-Mar-20	Arctic Today	https://www.arctictoday.com/arctic-turning-brown-weird-weather-accelerate-climate-change/				
COLE_2019_11_11	Dermot Cole	11-Nov-19	11-Mar-20	Arctic Today	https://www.arctictoday.com/when-boeing-proposed-the-worlds-largest-plane-for-arctic-shipping/				
STAALSEN_2020_08_06	Atle Staalesen	6-Aug-20	18-Jan-21	Arctic Today	https://www.arctictoday.com/the-us-will-stop-permanently-basing-marines-in-norway-this-fall/				
ROSEN_2019_08_28	Yereth Rosen	28-Aug-19	11-Mar-20	Arctic Today	https://www.arctictoday.com/after-60-years-in-alaska-bp-announces-sell-off-and-exit-from-state/				
ROSEN_2018_08_17	Yereth Rosen	17-Aug-18	18-Jan-21	Arctic Today	https://www.arctictoday.com/erosion-threatening-shoreline-utqiaqvika-residents-stepping-citizen-scientists/				
ROSEN_2020_11_24	Yereth Rosen	24-Nov-20	18-Jan-21	Arctic Today	https://www.arctictoday.com/trump-administration-seeks-last-minute-rule-blocking-banks-policies-against-arctic-oil-financing/				
MCGWIN_2018_04_06	Kevin McGwin	6-Apr-18	18-Jan-21	Arctic Today	https://www.arctictoday.com/potential-arctic-ban-heavy-fuel-oil-gains-momentum/				
MCGWIN_2020_09_23	Kevin McGwin	23-Sep-20	18-Jan-21	Arctic Today	https://www.arctictoday.com/wind-energy-conflicts-show-how-arctic-renewable-energy-projects-can-founder/				
ROSEN_2020_06_26	Yereth Rosen	26-Jun-20	18-Jan-21	Arctic Today	https://www.arctictoday.com/an-aggressive-new-trump-administration-plan-opens-more-of-arctic-alaska-to-oil-development/				
ROSEN_2017_10_13	Yereth Rosen	13-Oct-17	18-Jan-21	Arctic Today	https://www.arctictoday.com/as-federal-plans-falter-alaska-ports-step-up-their-own-efforts-to-serve-the-arctic/				
MCGWIN_2019_02_08	Kevin McGwin	8-Feb-19	18-Jan-21	Arctic Today	https://www.arctictoday.com/a-new-arctic-council-database-to-offer-clues-about-shipping-yet-to-be/				
ROSEN_2020_07_01	Yereth Rosen	1-Jul-20	18-Jan-21	Arctic Today	https://www.arctictoday.com/upstart-hilcorp-officially-takes-over-bps-north-slope-leases-and-operator-position-at-prudhoe-bay/				
CLEMENT_2019_06_20	Joel Clement	20-Jun-19	11-Mar-20	Arctic Today	https://www.arctictoday.com/from-crisis-to-resilience-in-the-arctic/				
SCHREIBER_2019_12_19	Melody Schreiber	19-Dec-19	9-Mar-20	Arctic Today	https://www.arctictoday.com/the-latest-u-s-national-defense-bill-expands-focus-on-russia-and-china-in-the-arctic/				
MCGWIN_2018_05_06	Kevin McGwin	6-May-18	18-Jan-21	Arctic Today	https://www.arctictoday.com/week-ahead-observer-observer/				
EILERTSEN_2018_04_05	Hege Eilertsen	5-Apr-18	18-Jan-21	Arctic Today	https://www.arctictoday.com/norways-military-calls-widespread-arctic-surveillance/				
STAALSEN_2018_12_20	Atle Staalesen	20-Dec-18	18-Jan-21	Arctic Today	https://www.arctictoday.com/large-scale-russian-military-exercise-coming-arctic/				
PEEKEN_2019_01_24	Ilka Peeken	24-Jan-19	11-Mar-20	Arctic Today	https://www.arctictoday.com/microplastics-in-arctic-sea-ice-should-concern-everybody/				
MCGWIN_2020_08_27	Kevin McGwin	27-Aug-20	18-Jan-21	Arctic Today	https://www.arctictoday.com/greenland-taking-long-term-approach-to-covid-19/				
GEORGE_2019_02_27	Jane George	27-Feb-19	9-Mar-20	Nunatsiag News	https://www.arctictoday.com/the-push-to-phase-out-heavy-fuel-oil-in-the-arctic-continues/				
ENGLISH_2020_06_18	Robert English	18-Jun-20	18-Jan-21	Arctic Today	https://www.arctictoday.com/why-an-arctic-arms-race-would-be-a-mistake/				
NILSEN_2020_03_05	Thomas Nilsen	5-Mar-20	18-Jan-21	Arctic Today	https://www.arctictoday.com/the-dream-of-an-arctic-railway-fades-as-sami-herders-signal-veto/				
ROSEN_2020_02_26	Yereth Rosen	26-Feb-20	18-Jan-21	Arctic Today	https://www.arctictoday.com/jpmorgan-chase-becomes-the-second-major-us-bank-to-drop-arctic-oil-financing/				
BALTON_2020_12_16	David Balton	16-Dec-20	18-Jan-21	Arctic Today	https://www.arctictoday.com/president-elect-biden-should-take-two-key-steps-to-strengthen-international-cooperation-in-the-arctic/				
CHRISTIE_2019_05_17	Gillian Christie	17-May-19	11-Mar-20	Arctic Today	https://www.arctictoday.com/why-we-need-a-polar-code-for-arctic-community-resettlement/				
NILSEN_2018_07_30	Thomas Nilsen	30-Jul-18	2-Mar-20	The Barents Observer	https://thebarentsobserver.com/en/security/2018/07/chinese-navy-commander-talks-cooperation-severomorsk				
GEORGE_2019_05_10	Jane George	10-May-19	9-Mar-20	Nunatsiag News	https://www.arctictoday.com/inuit-leaders-condemn-arctic-councils-lack-of-consensus-on-climate-change/				
LINDSEY_2018_07_10	Kelsey Lindsey	10-Jul-18	18-Jan-21	Arctic Today	https://www.arctictoday.com/heres-arctic-shipping-affect-regions-marine-mammals/				
BELL_2018_08_22	Jim Bell	22-Aug-18	9-Mar-20	Nunatsiag News	https://www.arctictoday.com/plans-build-canadas-first-arctic-railway-take-big-step-forward/				
BREUM_2018_05_27	Martin Breum	27-May-18	18-Jan-21	Arctic Today	https://www.arctictoday.com/lingering-dispute-denmark-canada-high-arctic-island-important/				
BENNETT_2020_03_23	Mia Bennett	23-Mar-20	18-Jan-21	Arctic Today	https://www.arctictoday.com/what-the-arctic-reveals-about-coronavirus/				
SCHREIBER_2018_11_09	Melody Schreiber	9-Nov-18	11-Mar-20	Arctic Today	https://www.arctictoday.com/arctics-indigenous-peoples-bear-disproportionate-burden-worlds-response-climate-change-leaders-say/				
LAUSEN_2020_12_15	Elstun Lausen	15-Dec-20	18-Jan-21	Arctic Today	https://www.arctictoday.com/the-big-banks-are-right-to-be-cautious-of-arctic-drilling/				
STAALSEN_2019_09_18	Atle Staalesen	18-Sep-19	11-Mar-20	Arctic Today	https://www.arctictoday.com/russias-rosneft-seeks-government-backing-for-massive-arctic-oil-pipeline/				
SCHREIBER_2018_10_31	Melody Schreiber	31-Oct-18	11-Mar-20	Arctic Today	https://www.arctictoday.com/new-china-iceland-arctic-science-observatory-already-expanding-focus/				
MCGWIN_2020_07_07	Kevin McGwin	7-Jul-20	18-Jan-21	Arctic Today	https://www.arctictoday.com/how-brazil-could-help-keep-a-high-speed-arctic-internet-plan-alive/				
BAMBER_2020_10_27	Jonathan Bamber	27-Oct-20	18-Jan-21	Arctic Today	https://www.arctictoday.com/why-winter-sea-ice-re-growth-in-the-arctic-has-stalled-and-what-it-means-for-the-rest-of-the-world/				
ROSEN_2017_01_31	Yereth Rosen	31-Jan-17	18-Jan-21	Arctic Today	https://www.arctictoday.com/warming-ocean-waters-off-alaska-bring-widespread-ecological-changes-with-more-expected/				
KLEIN_2016_11_10	Joanna Klein	10-Nov-16	18-Jan-21	Arctic Today	https://www.arctictoday.com/narwhals-tasked-whales-of-the-arctic-see-with-sound-really-well/				
NILSEN_2018_04_24	Thomas Nilsen	24-Apr-18	18-Jan-21	Arctic Today	https://www.arctictoday.com/russia-plans-lay-trans-arctic-fiber-cable-linking-military-installations/				
SCHREIBER_2020_12_14	Melody Schreiber	14-Dec-20	18-Jan-21	Arctic Today	https://www.arctictoday.com/u-s-lawmakers-authorize-six-new-icebreakers-in-defense-bill/				
ROSEN_2019_12_17	Yereth Rosen	17-Dec-19	11-Mar-20	Arctic Today	https://www.arctictoday.com/oil-rich-inupiat-corporation-to-quit-alaska-federation-of-natives/				
ROSEN_2017_03_08	Yereth Rosen	8-Mar-17	18-Jan-21	Arctic Today	https://www.arctictoday.com/despite-warmer-arctic-conditions-and-earlier-plant-growth-alaska-caribou-avoiding-food-mismatch-problems/				
MOONEY_2016_12_13	Chris Mooney	13-Dec-16	18-Jan-21	Arctic Today	https://www.arctictoday.com/arctic-just-had-its-warmest-year-on-record-by-far-scientists-report/				
MCGWIN_2018_07_31	Kevin McGwin	31-Jul-18	18-Jan-21	Arctic Today	https://www.arctictoday.com/whats-good-arctic-may-bad-north-atlantic-insurer-warns/				
RUSSELL_2020_05_25	Christine Russell	25-May-20	18-Jan-21	Arctic Today	https://www.arctictoday.com/the-covid-19-pandemic-has-halted-most-us-arctic-field-research-for-2020/				
ONEAL_2017_02_22	Michael Oneal	22-Feb-17	18-Jan-21	Arctic Today	https://www.arctictoday.com/greenland-needs-money-is-a-uranium-mine-the-answer/				
ROSEN_2019_01_25	Yereth Rosen	25-Jan-19	11-Mar-20	Arctic Today	https://www.arctictoday.com/coast-guard-launches-study-aimed-at-improving-shipping-safety-in-chukchi-and-beaufort-seas/				
NILSEN_2020_11_18	Thomas Nilsen	18-Nov-20	18-Jan-21	Arctic Today	https://www.arctictoday.com/russias-new-nuclear-icebreaker-abruptly-ends-its-first-working-arctic-voyage/				
REUTERS_2016_11_07	Reuters	7-Nov-16	18-Jan-21	Arctic Today	https://www.arctictoday.com/investors-call-for-moratorium-on-arctic-high-seas-oil-and-gas-activity/				
SCHREIBER_2018_12_10	Melody Schreiber	10-Dec-18	11-Mar-20	Arctic Today	https://www.arctictoday.com/u-s-coast-guard-launches-first-satellites-eye-arctic-security/				
STAALSEN_2019_05_13	Atle Staalesen	13-May-19	18-Jan-21	Arctic Today	https://www.arctictoday.com/as-arctic-talks-move-to-china-leaders-downplay-divides/				
LINDSEY_2018_05_17	Kelsey Lindsey	17-May-18	18-Jan-21	Arctic Today	https://www.arctictoday.com/arctic-ice-cores-helped-track-ups-downs-roman-empire/				
LINDSEY_2018_02_07	Kelsey Lindsey	7-Feb-18	18-Jan-21	Arctic Today	https://www.arctictoday.com/new-study-rekindles-hope-norve-port-expansion/				
MARSH_2020_01_24	Philip Marsh	24-Jan-20	9-Mar-20	Arctic Today	https://www.arctictoday.com/how-collapsing-permafrost-is-transforming-arctic-lakes-ponds-and-streams/				
COLE_2018_03_10	Dermot Cole	10-Mar-18	18-Jan-21	Arctic Today	https://www.arctictoday.com/norway-alaska-took-different-paths-came-investing-windfalls-oil-development/				
COLE_2019_05_06	Dermot Cole	6-May-19	11-Mar-20	Arctic Today	https://www.arctictoday.com/why-a-us-driven-dispute-over-arctic-council-climate-language-is-different-this-time-around/				
MCGWIN_2020_05_19	Kevin McGwin	19-May-20	18-Jan-21	Arctic Today	https://www.arctictoday.com/work-resumes-on-a-constitution-for-greenland-with-a-request-for-a-new-deadline/				
BREUM_2019_02_20	Martin Breum	20-Feb-19	11-Mar-20	Arctic Today	https://www.arctictoday.com/spurred-by-chinese-and-russian-activity-eu-president-junker-is-making-the-arctic-more-central-to-eu-policy/				
ROSEN_2020_03_20	Yereth Rosen	20-Mar-20	18-Jan-21	Arctic Today	https://www.arctictoday.com/suddenly-the-odds-of-investment-in-arctic-alaska-look-very-remote/				
NUNATSIAQ_STAFF_2018_10_11	Nunatsiag News	11-Oct-18	9-Mar-20	Nunatsiag News	https://www.arctictoday.com/arctic-wildlife-remains-risk-contaminants-says-arctic-council-report/				
ROSEN_2019_12_05	Yereth Rosen	5-Dec-19	11-Mar-20	Arctic Today	https://www.arctictoday.com/yukons-new-climate-action-strategy-calls-for-electric-cars-energy-efficient-mines-and-wildfire-preparation/				
LOGADOTTIR_2020_07_23	Halla Hrund Logadottir	23-Jul-20	18-Jan-21	Arctic Today	https://www.arctictoday.com/how-our-new-virtual-world-can-empower-arctic/				
HUMPERT_2020_01_22	Malte Humpert	22-Jan-20	9-Mar-20	Arctic Today	https://www.arctictoday.com/china-looks-to-further-its-arctic-role-by-constructing-arc-ling-carriers/				
ROSEN_2020_07_24	Yereth Rosen	24-Jul-20	18-Jan-21	Arctic Today	https://www.arctictoday.com/trump-administration-grants-approval-for-ambler-mining-road/				

Table S1: Visions of the Arctic Future: Metadata for Arctic news corpus

Keys and Meyer (2021)

MCGWIN_2020_03_12	Kevin McGwin	12-Mar-20	18-Jan-21	Arctic Today	https://www.arctictoday.com/a-new-research-institute-will-help-the-danish-military-adapt-to-the-new-arctic-security-situation/				
ROSEN_2020_06_15	Yereth Rosen	15-Jun-20	18-Jan-21	Arctic Today	https://www.arctictoday.com/seismic-surveys-on-refuge-coastal-plan-would-cause-long-lasting-damage-study-says/				
COLE_2018_05_21	Dermot Cole	21-May-18	18-Jan-21	Arctic Today	https://www.arctictoday.com/busting-2000-acre-myth-drilling-alaskas-arctic-refuge/				
HUMPERT_2020_11_23	Malte Humpert	23-Nov-20	18-Jan-21	Arctic Today	https://www.arctictoday.com/lmo-arctic-states-face-criticism-over-a-weak-hfo-ban/				
NGUYEN_2019_02_07	Linh Nguyen	7-Feb-19	11-Mar-20	Arctic Today	https://www.arctictoday.com/why-we-need-cleanup-fund-to-tackle-plastic-pollution-in-the-arctic/				
GRETTE_2020_10_05	Julie Brigham-Grette	5-Oct-20	18-Jan-21	Arctic Today	https://www.arctictoday.com/the-arctic-hasnt-been-this-warm-for-3-million-years-and-that-foreshadows-big-changes-for-the-rest-of-the-planet/				
ROSEN_2019_04_04	Yereth Rosen	4-Apr-19	11-Mar-20	Arctic Today	https://www.arctictoday.com/court-ruling-on-offshore-arctic-leasing-creates-new-obstacle-for-planned-beaufort-sale/				
GEORGE_2018_12_19	Jane George	19-Dec-18	9-Mar-20	Nunatsiag News	https://www.arctictoday.com/new-fish-species-moving-canadian-arctic-waters-warm/				
ROSEN_2019_05_31	Yereth Rosen	31-May-19	11-Mar-20	Arctic Today	https://www.arctictoday.com/trump-administration-will-hold-arctic-refuge-oil-lease-sales-this-year-official-says/				
DEGEORGE_2019_05_09	Krestia DeGeorge	9-May-19	11-Mar-20	Arctic Today	https://www.arctictoday.com/us-state-department-announces-plans-for-a-diplomatic-presence-in-greenland/				
GANT_2020_08_11	Samuel Gant	11-Aug-20	18-Jan-21	Arctic Today	https://www.arctictoday.com/two-key-steps-greenland-should-take-to-make-sure-mining-benefits-all-its-citizens/				
DICKIE_2018_11_16	Gloria Dickie	16-Nov-18	11-Mar-20	Arctic Today	https://www.arctictoday.com/first-ever-scientific-population-estimate-finds-chukchi-sea-polar-bears-thrived-recent-years/				
ROSEN_2020_02_28	Yereth Rosen	28-Feb-20	9-Mar-20	Arctic Today	https://www.arctictoday.com/denning-polar-bears-need-better-protection-from-alaska-oil-development-scientists-say/				
LIU_2017_04_11	Nengye Liu	11-Apr-17	18-Jan-21	Arctic Today	https://www.arctictoday.com/how-arctic-governance-could-become-a-testing-ground-for-sino-us-relations/				
BREUM_2019_10_22	Martin Breum	22-Oct-19	11-Mar-20	Arctic Today	https://www.arctictoday.com/what-a-recent-eu-arctic-forum-shows-about-the-blocs-efforts-to-handle-the-complexities-of-arctic-politics/				
NILSEN_2017_06_20	Thomas Nilsen	20-Jun-17	18-Jan-21	Arctic Today	https://www.arctictoday.com/sami-concerned-about-arctic-railway-plans/				
ANSELM_2019_11_22	Elaine Anselmi	22-Nov-19	9-Mar-20	Nunatsiag News	https://www.arctictoday.com/nunavut-mining-company-calls-for-a-canadian-arctic-strategy/				
COLE_2019_02_18	Dermot Cole	18-Feb-19	11-Mar-20	Arctic Today	https://www.arctictoday.com/alaskas-latest-arctic-gas-pipeline-dreams-are-on-hold-again/				
SCHREIBER_2020_05_07	Melody Schreiber	7-May-20	18-Jan-21	Arctic Today	https://www.arctictoday.com/narwhals-and-belugas-may-be-at-high-risk-for-the-coronavirus-researchers-fear/				
ROSEN_2020_06_25	Yereth Rosen	25-Jun-20	18-Jan-21	Arctic Today	https://www.arctictoday.com/russia-is-poised-to-open-the-first-ever-commercial-pollock-fishery-in-chukchi-sea/				
COLE_2018_11_19	Dermot Cole	19-Nov-18	11-Mar-20	Arctic Today	https://www.arctictoday.com/need-fill-gaps-arctic-research-crisis-strikes/				
MCGWIN_2020_03_24	Kevin McGwin	24-Mar-20	18-Jan-21	Arctic Today	https://www.arctictoday.com/iceland-adds-travel-restrictions-and-sees-airline-job-cuts-as-covid-19-threat-continues/				
ROSEN_2020_09_21	Yereth Rosen	21-Sep-20	18-Jan-21	Arctic Today	https://www.arctictoday.com/warming-conditions-are-making-northern-bering-sea-more-friendly-for-pink-salmon/				
DEULING_2020_07_27	Meagan Deuling	27-Jul-20	18-Jan-21	Arctic Today	https://www.arctictoday.com/canada-allows-greenland-to-weigh-in-on-nunavut-mine-expansion-under-un-convention/				
NUNATSIAG_STAFF_2019_09_19	Nunatsiag News	19-Sep-19	11-Mar-20	Arctic Today	https://www.arctictoday.com/nunavuts-population-could-reach-54000-by-2043-statcan-says/				
BENNETT_2017_06_28	Mia Bennett	28-Jun-17	18-Jan-21	Arctic Today	https://www.arctictoday.com/chinas-belt-and-road-initiative-moves-into-the-arctic/				
OMRUYE_2017_03_29	Ivan Omruyev	29-Mar-17	9-Mar-20	Arctic Today	https://www.arctictoday.com/at-chukotka-first-congress-of-reindeer-herders-in-15-years-an-optimistic-view-of-the-future/				
NILSEN_2018_09_05	Thomas Nilsen	5-Sep-18	18-Jan-21	Arctic Today	https://www.arctictoday.com/barentsburg-aims-transform-coal-town-gateway-russias-arctic-tourism/				
COLE_2018_06_30	Dermot Cole	30-Jun-18	18-Jan-21	Arctic Today	https://www.arctictoday.com/chinas-arctic-plans-represent-new-way-looking-world/				
GEORGE_2020_08_19	Jane George	19-Aug-20	18-Jan-21	Arctic Today	https://www.arctictoday.com/canadian-space-agency-taps-nunavut-town-as-test-site-to-grow-space-food/				
COLE_2018_12_31	Dermot Cole	31-Dec-18	11-Mar-20	Arctic Today	https://www.arctictoday.com/trump-administration-continues-downplay-much-land-arctic-refuge-drilling-will-disturb/				
ROSEN_2019_11_20	Yereth Rosen	20-Nov-19	18-Jan-21	Arctic Today	https://www.arctictoday.com/the-effects-of-arctic-sea-ice-retreat-are-showing-up-in-polar-bear-poop-now/				
SCHREIBER_2019_07_24	Melody Schreiber	24-Jul-19	11-Mar-20	Arctic Today	https://www.arctictoday.com/how-geopolitics-make-u-s-navy-plans-for-major-arctic-operations-so-complicated/				
ROSEN_2019_02_07	Yereth Rosen	7-Feb-19	11-Mar-20	Arctic Today	https://www.arctictoday.com/warming-temperatures-and-less-ice-are-transforming-the-bering-sea-ecosystem-scientists-say/				
SUN_2018_07_20	Hsin Hsuan Sun	20-Jul-18	18-Jan-21	Arctic Today	https://www.arctictoday.com/china-just-received-first-long-shipment-arrive-directly-russian-arctic-ship/				
REUTERS_2020_08_17	Reuters	17-Aug-20	18-Jan-21	Arctic Today	https://www.arctictoday.com/trump-administration-approves-oil-leasing-in-alaska-wildlife-refuge/				
COLE_2019_10_28	Dermot Cole	28-Oct-19	11-Mar-20	Arctic Today	https://www.arctictoday.com/at-alaska-federation-of-natives-a-generational-divide-marks-the-arctic-climate-change-debate/				
ROSEN_2020_07_31	Yereth Rosen	31-Jul-20	18-Jan-21	Arctic Today	https://www.arctictoday.com/legislation-seeks-to-protect-polar-bear-denning-habitat-in-arctic-refuge/				
STAALSEN_2020_10_15	Atle Staalesen	15-Oct-20	18-Jan-21	Arctic Today	https://www.arctictoday.com/moscow-signals-it-will-make-national-security-a-priority-as-russia-prepares-to-chair-the-arctic-council/				
VORONOVA_2020_05_28	Tatiana Voronova	28-May-20	18-Jan-21	Arctic Today	https://www.arctictoday.com/a-russian-village-building-an-arctic-ling-supply-plant-will-get-new-hospital-after-being-hit-hard-by-covid-19/				
NILSEN_2018_10_09	Thomas Nilsen	9-Oct-18	2-Mar-20	The Barents Observer	https://thebarentsobserver.com/en/ecology/2018/10/melting-glaciers-novaya-zemlya-contain-radiation-nuclear-bomb-tests				
SCHREIBER_2018_11_21	Melody Schreiber	21-Nov-18	11-Mar-20	Arctic Today	https://www.arctictoday.com/new-u-s-legislation-speeds-possibility-nome-port/				
ROSEN_2020_05_12	Yereth Rosen	12-May-20	18-Jan-21	Arctic Today	https://www.arctictoday.com/richard-beneville-nomes-colorful-mayor-and-a-promoter-of-arctic-port-and-infrastructure-development-has-died/				
KALNINS_2019_09_20	Ints Kalnins	20-Sep-19	11-Mar-20	Arctic Today	https://www.arctictoday.com/an-arctic-expedition-plans-to-spend-a-year-in-ice-to-investigate-epicenter-of-climate-change/				
QUINN_2014_05_02	Ellis Quinn	2-May-14	1-Apr-20	Radio Canada Intern	https://www.rcinet.ca/eye-on-the-arctic/2014/05/02/feature-interview-what-questions-should-we-be-asking-about-the-arctics-future/				
SEVUNTS_2020_08_11	Levon Sevunts	11-Aug-20	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2020/08/11/arctic-summer-sea-ice-could-be-gone-by-2035-new-study-forecasts/				
MONTGOMERY_2020_11_06	Marc Montgomery	6-Nov-20	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2020/11/06/climate-is-changing-arctic-wildlife-habits-unique-international-study/				
QUINN_2020_01_11	Ellis Quinn	11-Jan-20	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2020/01/11/trump-the-arctic-council-arctic-policy-in-canada-2020-stories-to-watch-for/				
LEISER_2020_01_17	Mathiew Leiser	17-Jan-20	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2020/01/17/methane-emissions-in-arctic-ocean-have-long-been-overestimated-study-claims/				
SEVUNTS_2020_04_22	Levon Sevunts	22-Apr-20	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2020/04/22/ice-free-arctic-summers-likely-by-2050-even-with-climate-action-study/				
SEVUNTS_2018_01_05	Levon Sevunts	5-Jan-18	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2018/01/05/arctic-ocean-composition-is-undergoing-rapid-change-study/				
SEVUNTS_2017_02_10	Levon Sevunts	10-Feb-17	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2017/02/10/u-s-arctic-strategy-puts-canada-and-russia-on-notice/				
SEVUNTS_2019_05_11	Levon Sevunts	11-May-19	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2019/05/11/aops-canadian-coast-guard/				
SEVUNTS_2019_05_07	Levon Sevunts	7-May-19	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2019/05/07/u-s-navy-arctic-freedom-of-navigation-operation-northwest-passage/				
HAIG_2019_07_01_A	Terry Haig	1-Jul-19	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2019/07/01/great-majority-of-canadians-anxious-about-future-poll/				
MONTGOMERY_2013_10_16	Marc Montgomery	16-Oct-13	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2013/10/16/canadian-researcher-leaves-arctic-circle-conference-shocked-and-scared/				
SEVUNTS_2019_08_27	Levon Sevunts	27-Aug-19	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2019/08/27/u-s-rattifies-moratorium-on-fishing-in-high-arctic-seas/				
MONTGOMERY_2020_12_11_A	Marc Montgomery	11-Dec-20	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2020/12/11/the-future-of-downtown-offices/				
SEVUNTS_2019_06_10	Levon Sevunts	10-Jun-19	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2019/06/10/davies-shipyard-canada-polar-icebreaker/				
QUINN_2019_10_31	Ellis Quinn	31-Oct-19	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2019/10/31/northern-canadian-writers-tackle-the-rolling-world-of-arctic-horror/				
SEVUNTS_2018_09_17	Levon Sevunts	17-Sep-18	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2018/09/17/conservation-groups-hope-to-educate-canadians-with-new-arctic-marine-atlas/				
MONTGOMERY_2014_07_16	Marc Montgomery	16-Jul-14	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2014/07/16/sharks-in-the-arctic-surviving-climate-change/				
SEVUNTS_2018_10_05	Levon Sevunts	5-Oct-18	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2018/10/05/royal-canadian-navy-celebrates-official-naming-of-its-future-arctic-patrol-ship/				
MONTGOMERY_2020_11_02_A	Marc Montgomery	2-Nov-20	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2020/11/02/will-seismic-oil-and-gas-testing-go-ahead-in-arctic-refuge/				
QUINN_2020_05_27	Ellis Quinn	27-May-20	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2020/05/27/climate-change-masters-degree-being-planned-for-ilulissat-greenland/				
SEVUNTS_2020_07_31	Levon Sevunts	31-Jul-20	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2020/07/31/canadian-navy-receives-its-first-new-arctic-and-offshore-patrol-ship/				
MONTGOMERY_2014_05_02	Marc Montgomery	2-May-14	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2014/05/02/toronto-march-for-marijuana/				

Table S1: Visions of the Arctic Future: Metadata for Arctic news corpus

Keys and Meyer (2021)

SEVUNTS_2015_12_01	Levon Sevunts	1-Dec-15	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2015/12/01/peary-caribou-herds-rebound-but-future-remains-uncertain/				
SEVUNTS_2019_09_20	Levon Sevunts	20-Sep-19	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2019/09/20/national-inuit-organization-outlines-priorities-for-2019-election/				
MONTGOMERY_2015_05_13_A	Marc Montgomery	13-May-15	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2015/05/13/marine-extinctions-past-and-in-the-future/				
SEVUNTS_2017_11_23	Levon Sevunts	23-Nov-17	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2017/11/23/inuit-of-canada-and-greenland-seek-co-management-of-crucial-arctic-habitat/				
QUINN_2020_02_21	Ellis Quinn	21-Feb-20	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2020/02/21/waivers-to-possible-arctic-hfo-ban-denounced-by-indigenous-environmental-orgs/				
MONTGOMERY_2018_10_18	Marc Montgomery	18-Oct-18	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2018/10/18/future-not-bright-for-cable-satellite-tv-landline-telephones/				
SEVUNTS_2018_09_18_A	Levon Sevunts	18-Sep-18	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2018/09/18/greenland-joins-push-to-ban-heavy-fuel-oil-in-the-arctic/				
MONTGOMERY_2014_05_05	Marc Montgomery	5-May-14	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2014/05/05/a-sleep-disorder-sign-of-future-brain-disease/				
SHEN_2020_12_05	Er Shen	5-Dec-20	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2020/12/05/the-washington-post-launches-data-journalism-department/				
MONTGOMERY_2017_06_27	Marc Montgomery	27-Jun-17	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2017/06/27/plenty-of-water-maybe-not-so-much-as-arctic-communities-run-out/				
MONTGOMERY_2019_10_11	Marc Montgomery	11-Oct-19	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2019/10/11/olympic-sliding-track-in-calgary-future-in-grave-doubt/				
QUINN_2019_06_15	Ellis Quinn	15-Jun-19	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2019/06/15/indigenous-participation-key-to-arctic-development-inuit-activist-tells-economic-forum-of-the-americas/				
MONTGOMERY_2019_07_02	Marc Montgomery	2-Jul-19	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2019/07/02/arctic-airport-upgrades-to-deal-with-climate-change/				
MONTGOMERY_2018_09_04	Marc Montgomery	4-Sep-18	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2018/09/04/some-hope-at-last-for-arctic-churchill/				
MONTGOMERY_2019_05_23	Marc Montgomery	23-May-19	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2019/05/23/warning-from-the-u-n-the-future-of-bees-is-the-future-of-food/				
KILKENNY_2018_05_07	Carmel Kilkenny	7-May-18	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2018/05/07/churchill-railway-competing-negotiations-for-its-future/				
MONTGOMERY_2016_01_29	Marc Montgomery	29-Jan-16	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2016/01/29/54012/				
MONTGOMERY_2020_05_08_A	Marc Montgomery	8-May-20	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2020/05/08/smart-city-project-for-toronto-is-abandoned/				
HAIG_2017_03_28	Terry Haig	28-Mar-17	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2017/03/28/future-looking-bleak-for-famed-jellybean-houses-in-new-brunswick-city-of-st-john/				
SEVUNTS_2016_10_28	Levon Sevunts	28-Oct-16	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2016/10/28/un-maritime-body-listens-to-arctic-indigenous-voices/				
KILKENNY_2013_10_16	Carmel Kilkenny	16-Oct-13	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2013/10/16/crickets-one-of-the-insects-in-canadas-food-future/				
MONTGOMERY_2019_05_07	Marc Montgomery	7-May-19	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2019/05/07/u-n-report-dire-warnings-on-biodiversity-and-future-of-humanity-interview/				
MONTGOMERY_2014_02_10	Marc Montgomery	10-Feb-14	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2014/02/10/future-of-native-prairie-grasslands-in-doubt/				
SEVUNTS_2018_01_03	Levon Sevunts	3-Jan-18	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2018/01/03/arctic-rocks-yield-answers-to-billion-year-old-mystery/				
SEVUNTS_2019_07_26	Levon Sevunts	26-Jul-19	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2019/07/26/scientists-explore-canadas-largest-underwater-volcano-and-future-marine-protected-area/				
MONTGOMERY_2019_04_15	Marc Montgomery	15-Apr-19	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2019/04/15/jobs-threatened-jobs-created-the-future-of-employment-in-2030/				
QUINN_2018_10_06	Ellis Quinn	6-Oct-18	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2018/10/06/indigenous-cultural-tourism-how-the-north-is-learning-from-community-success-in-southern-canada/				
HAIG_2019_11_18	Terry Haig	18-Nov-19	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2019/11/18/alberta-wexit-leader-announces-future-elections-strategy/				
SEVUNTS_2016_09_21	Levon Sevunts	21-Sep-16	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2016/09/21/time-to-invest-in-renewable-energy-in-arctic-communities-wvf-canada/				
HAIG_2017_02_10	Terry Haig	10-Feb-17	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2017/02/10/air-canada-announces-black-to-the-future-colour-scheme/				
MONTGOMERY_2017_05_17	Marc Montgomery	17-May-17	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2017/05/17/ancient-ice-drill-cores-tell-of-arctic-climate-thousands-of-years-ago/				
MONTGOMERY_2013_05_30	Marc Montgomery	30-May-13	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2013/05/30/international-academics-gather-in-canada-to-discuss-the-future-of-cities/				
MONTGOMERY_2017_01_24	Marc Montgomery	24-Jan-17	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2017/01/24/canada-history-jan-24-1978-soviet-radiation-across-the-arctic/				
MONTGOMERY_2014_11_24	Marc Montgomery	24-Nov-14	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2014/11/24/polar-sea-adventure-science-art-social-issues-documentary-series/				
SEVUNTS_2017_11_27	Levon Sevunts	27-Nov-17	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2017/11/27/ottawa-ready-to-discuss-inuit-co-management-of-crucial-arctic-habitat-minister/				
QUINN_2019_05_25	Ellis Quinn	25-May-19	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2019/05/25/canada-files-submission-to-establish-continental-shelfs-outer-limits-in-arctic-ocean/				
QUINN_2020_01_31	Ellis Quinn	31-Jan-20	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2020/01/31/inuit-government-calls-to-respect-ban-on-caribou-harvest-in-atlantic-canada/				
SEVUNTS_2019_07_30	Levon Sevunts	30-Jul-19	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2019/07/30/research-project-seeks-to-understand-climate-change-impacts-in-western-arctic/				
MONTGOMERY_2016_07_18	Marc Montgomery	18-Jul-16	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2016/07/18/control-or-ban-international-discussion-on-commercial-fishery-in-the-arctic-sea/				
MONTGOMERY_2015_11_24	Marc Montgomery	24-Nov-15	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2015/11/24/warming-climate-again-listed-as-threat-to-polar-bears/				
MONTGOMERY_2015_07_16	Marc Montgomery	16-Jul-15	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2015/07/16/update-on-arctic-iron-ore-mine/				
SHEN_2020_11_14	Er Shen	14-Nov-20	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2020/11/14/spotify-acquires-megaphone-a-leading-podcast-advertising-platform/				
SEVUNTS_2020_11_27	Levon Sevunts	27-Nov-20	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2020/11/27/the-nagorno-karabakh-knot-episode-4-arzu-geybulayeva/				
MONTGOMERY_2014_10_08	Marc Montgomery	8-Oct-14	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2014/10/08/the-future-is-coming-quantum-computing-cybersecurity-conference/				
SEVUNTS_2019_08_01	Levon Sevunts	1-Aug-19	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2019/08/01/inuit-canada-new-high-arctic-marine-conservation-area/				
MONTGOMERY_2015_08_27	Marc Montgomery	27-Aug-15	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2015/08/27/the-last-ice-area-in-the-arctic/				
MONTGOMERY_2020_02_05	Marc Montgomery	5-Feb-20	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2020/02/05/coffee-morning-cup-threatened-disease-south-central-america/				
HAIG_2020_01_15	Terry Haig	15-Jan-20	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2020/01/15/poll-finds-most-canadians-looking-on-the-bright-side-except-on-prairies/				
SEVUNTS_2019_08_22	Levon Sevunts	22-Aug-19	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2019/08/22/canada-inaugurates-new-arctic-science-research-station/				
QUINN_2020_02_14	Ellis Quinn	14-Feb-20	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2020/02/14/inuit-in-canada-alaska-and-greenland-found-international-business-association/				
MONTGOMERY_2014_02_20	Marc Montgomery	20-Feb-14	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2014/02/20/black-friday-1959-ayro-arrow-the-death-of-a-future-legend/				
MONTGOMERY_2018_04_24	Marc Montgomery	24-Apr-18	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2018/04/24/a-new-way-to-pave-the-road-to-the-future/				
HAIG_2017_12_28	Terry Haig	28-Dec-17	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2017/12/28/canadian-animal-activists-optimistic-about-the-future-of-their-cause/				
MONTGOMERY_2020_02_24_A	Marc Montgomery	24-Feb-20	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2020/02/24/huge-oilsands-project-cancelled-in-light-of-protests-over-resource-development/				
KILKENNY_2018_09_03	Carmel Kilkenny	3-Sep-18	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2018/09/03/fan-expo-in-toronto-brings-back-to-the-future-reunion/				
QUINN_2018_05_12	Ellis Quinn	12-May-18	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2018/05/12/canada-invests-1-2-million-to-help-solve-mystery-of-dwindling-char-numbers-in-arctic/				
MONTGOMERY_2020_08_28	Marc Montgomery	28-Aug-20	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2020/08/28/crisis-facing-broadcasting-in-canada-study/				
GWIAZDA_2015_05_04	Wojtek Gwiazda	4-May-15	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2015/05/04/rebroadcast-masala-canada-with-wojtek-gwiazda/				
DESJARDINS_2018_11_08	Lynn Desjardins	8-Nov-18	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2018/11/08/blaze-nunavut-canada-arctic-food-goods/				
MORELLO_2020_07_13	Vincenzo Morello	13-Jul-20	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2020/07/13/alberta-seeking-third-party-review-of-covid-19-pandemic-response/				
MONTGOMERY_2020_01_08	Marc Montgomery	8-Jan-20	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2020/01/08/amazing-arrow-artefacts-re-surface-61-years-after-black-friday/				
DESJARDINS_2017_01_09	Lynn Desjardins	9-Jan-17	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2017/01/09/canada-gives-ocean-observatories-a-multi-million-dollar-grant/				
SEVUNTS_2015_12_31	Levon Sevunts	31-Dec-15	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2015/12/31/rarely-used-arctic-shipping-route-offers-path-to-canada-russia-reconciliation/				
RCI_2020_09_09	Radio Canada International Staff	9-Sep-20	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2020/09/09/protesters-try-to-prevent-police-from-detaining-a-demonstrator-in-belarus/				
HAIG_2020_08_17	Terry Haig	17-Aug-20	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2020/08/17/canadian-football-league-season-appears-in-dire-jeopardy/				
SEVUNTS_2020_12_28	Levon Sevunts	28-Dec-20	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2020/12/28/report-urges-better-math-and-science-education-for-indigenous-students/				
MONTGOMERY_2018_04_20	Marc Montgomery	20-Apr-18	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2018/04/20/financial-institutions-backing-out-of-lar-sands-fossil-fuels/				

Table S1: Visions of the Arctic Future: Metadata for Arctic news corpus

Keys and Meyer (2021)

MONTGOMERY_2020_01_16	Marc Montgomery	16-Jan-20	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2020/01/16/new-survey-shows-continued-division-in-canada/				
SEVUNTS_2020_10_26_A	Levon Sevunts	26-Oct-20	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2020/10/26/canada-and-botswana-to-co-host-2nd-media-freedom-global-conference/				
HAIG_2020_09_29	Terry Haig	29-Sep-20	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2020/09/29/poll-suggests-over-half-of-canadians-confident-in-liberals-recovery-plan/				
MONTGOMERY_2020_01_31	Marc Montgomery	31-Jan-20	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2020/01/31/a-slight-setback-for-beyond-meat-the-meat-alternative/				
MORELLO_2020_06_04	Vincenzo Morello	4-Jun-20	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2020/06/04/survey-young-canadians-feeling-impact-from-covid-19-lockdown/				
HAIG_2020_09_28	Terry Haig	28-Sep-20	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2020/09/28/montrealeers-turn-out-for-thunberg-inspired-climate-rally/				
SEVUNTS_2018_10_03	Levon Sevunts	3-Oct-18	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2018/10/03/canada-eu-8-countries-sign-historic-arctic-fisheries-moratorium-agreement/				
QUINN_2019_08_03	Ellie Quinn	3-Aug-19	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2019/08/03/researchers-to-hold-memorial-to-glacier-loss-in-iceland/				
MONTGOMERY_2014_11_20	Marc Montgomery	20-Nov-14	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2014/11/20/mid-life-crisis-now-quarter-life-crisis/				
SEVUNTS_2020_10_16	Levon Sevunts	16-Oct-20	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2020/10/16/champagne-meets-belarus-exiled-opposition-leader-in-lithuania/				
DESJARDINS_2016_12_08	Lynn Desjardins	8-Dec-16	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2016/12/08/movel-predicts-sex-with-robots-insects-as-food-and-chaos/				
MONTGOMERY_2018_03_27	Marc Montgomery	27-Mar-18	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2018/03/27/vast-boreal-forest-in-alberta-threatened-by-climate-change/				
SEVUNTS_2020_07_14	Levon Sevunts	14-Jul-20	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2020/07/14/canada-u-s-border-closure-to-be-extended-for-another-30-days-cbc-reports/				
MONTGOMERY_2019_09_18	Marc Montgomery	18-Sep-19	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2019/09/18/promises-election-canada-cost-of-living/				
MONTGOMERY_2020_07_23	Marc Montgomery	23-Jul-20	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2020/07/23/new-comprehensive-global-warming-study-worst-case-unlikely-but-best-case-gone/				
DESJARDINS_2020_12_21	Lynn Desjardins	21-Dec-20	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2020/12/21/government-seeks-stronger-rules-on-airline-refunds/				
HAIG_2020_09_11	Terry Haig	11-Sep-20	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2020/09/11/central-bank-governor-says-uneven-recovery-a-challenge-for-everyone/				
MONTGOMERY_2016_12_07	Marc Montgomery	7-Dec-16	18-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2016/12/07/climate-change-are-polar-bears-doomed/				
DESJARDINS_2020_10_07	Lynn Desjardins	7-Oct-20	20-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2020/10/07/banks-must-do-more-to-help-say-citizens/				
MONTGOMERY_2019_12_09_A	Marc Montgomery	9-Dec-19	20-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2019/12/09/beluga-whale-sanctuary-for-canada-likely/				
SEVUNTS_2020_08_12	Levon Sevunts	12-Aug-20	20-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2020/08/12/kamala-harris-selection-as-joe-bidens-vp-cheered-in-her-montreal-high-school/				
MONTGOMERY_2020_05_14	Marc Montgomery	14-May-20	20-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2020/05/14/covid-taxes-credit-recovery/				
SEVUNTS_2019_12_13_A	Levon Sevunts	13-Dec-19	20-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2019/12/13/mcgill-university-offers-free-online-financial-literacy-course-for-everybody/				
MONTGOMERY_2018_11_27	Marc Montgomery	27-Nov-18	20-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2018/11/27/survey-shows-women-fear-ai-automation-job-loss/				
SEVUNTS_2019_12_19	Levon Sevunts	19-Dec-19	20-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2019/12/19/canada-u-s-rare-earth-elements-minerals-memorandum/				
MONTGOMERY_2015_04_20	Marc Montgomery	20-Apr-15	20-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2015/04/20/history-canadas-satellite-lead-april-20-1973/				
MONTGOMERY_2019_12_09_B	Marc Montgomery	9-Dec-19	20-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2019/12/09/drug-needles-for-prisons-legal-challenge/				
MONTGOMERY_2016_10_05	Marc Montgomery	5-Oct-16	20-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2016/10/05/can-trees-adapt-to-climate-change-perhaps-not-easily/				
MONTGOMERY_2020_10_05	Marc Montgomery	5-Oct-20	20-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2020/10/05/huge-ironic-remnant-of-retail-in-canada-closing/				
MONTGOMERY_2020_04_22	Marc Montgomery	22-Apr-20	20-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2020/04/22/earth-day-50-like-no-other/				
MONTGOMERY_2020_07_16	Marc Montgomery	16-Jul-20	20-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2020/07/16/the-controversy-of-sports-team-names-edmonton-eskimos/				
SEVUNTS_2016_07_15	Levon Sevunts	15-Jul-16	20-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2016/07/15/arctic-science-cooperation-agreement-good-for-canada-polar/				
MONTGOMERY_2016_10_12	Marc Montgomery	12-Oct-16	20-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2016/10/12/wwf-dire-predictions-for-caribou/				
MONTGOMERY_2014_04_02	Marc Montgomery	2-Apr-14	20-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2014/04/02/arctic-mining-unexpected-social-negatives-for-inuit-women/				
DESJARDINS_2020_12_19	Lynn Desjardins	19-Dec-20	20-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2020/12/19/canadian-railway-to-develop-hydrogen-powered-train/				
SEVUNTS_2020_11_05	Levon Sevunts	5-Nov-20	20-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2020/11/05/vancouver-council-votes-to-postpone-discussion-of-2030-winter-olympics-bid/				
HAIG_2020_01_16	Terry Haig	16-Jan-20	20-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2020/01/16/ruling-on-recreational-league-hit-has-the-hockey-world-talking/				
SEVUNTS_2020_10_26_B	Levon Sevunts	26-Oct-20	20-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2020/10/26/opposition-succeeds-in-forcing-review-of-liberals-pandemic-response/				
SEVUNTS_2017_08_14	Levon Sevunts	14-Aug-17	20-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2017/08/14/ottawa-and-inuit-agree-on-boundaries-for-arctic-marine-conservation-area/				
SEVUNTS_2020_07_22	Levon Sevunts	22-Jul-20	20-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2020/07/22/governor-generals-office-denies-claims-of-workplace-abuse/				
MONTGOMERY_2016_04_19	Marc Montgomery	19-Apr-16	20-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2016/04/19/major-scientific-study-of-canadas-coasts-and-climate-change/				
SEVUNTS_2019_06_25	Levon Sevunts	25-Jun-19	20-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2019/06/25/bombardier-sells-regional-jet-business-to-mitsubishi/				
SEVUNTS_2017_04_13	Levon Sevunts	13-Apr-17	20-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2017/04/13/permafrost-thawing-faster-than-previously-thought-study/				
DESJARDINS_2020_11_19	Lynn Desjardins	19-Nov-20	20-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2020/11/19/literary-awards-worth-150000-bestowed-on-authors/				
MONTGOMERY_2020_12_11_B	Marc Montgomery	11-Dec-20	20-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2020/12/11/government-owned-pipeline-versus-its-climate-plans-could-turn-profit-to-loss/				
QUINN_2019_08_31	Ellie Quinn	31-Aug-19	20-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2019/08/31/scientific-expedition-winds-up-in-inuit-region-of-atlantic-canada/				
MORELLO_2020_03_03_A	Vincenzo Morello	3-Mar-20	20-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2020/03/03/canada-invests-in-power-line-to-deliver-hydroelectric-power-to-saskatchewan/				
MONTGOMERY_2015_09_16	Marc Montgomery	16-Sep-15	20-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2015/09/16/hunting-polar-bears-not-detrimental-to-species/				
MONTGOMERY_2017_02_14	Marc Montgomery	14-Feb-17	20-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2017/02/14/valentines-day-romance-and-finance-can-go-together/				
MONTGOMERY_2019_09_04	Marc Montgomery	4-Sep-19	20-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2019/09/04/unicef-report-canadian-children-not-doing-so-well/				
HAIG_2020_03_23	Terry Haig	23-Mar-20	20-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2020/03/23/trudeau-reaches-out-to-canadas-children/				
SEVUNTS_2020_06_11	Levon Sevunts	11-Jun-20	20-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2020/06/11/canada-to-host-virtual-meeting-on-who-reform-and-covid-19/				
MONTGOMERY_2020_12_01_A	Marc Montgomery	1-Dec-20	20-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2020/12/01/driverless-platooned-busses-considered-for-toronto/				
SEVUNTS_2019_09_18	Levon Sevunts	18-Sep-19	20-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2019/09/18/beware-of-bot-amplified-social-media-trends-warns-canadian-expert/				
MONTGOMERY_2016_01_05	Marc Montgomery	5-Jan-16	20-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2016/01/05/climate-greenland-ice-sheet-new-study-shows-potential-greater-sea-level-rise/				
MORELLO_2020_06_23	Vincenzo Morello	23-Jun-20	20-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2020/06/23/survey-income-and-employment-status-affecting-mental-health-of-canadians/				
SEVUNTS_2020_10_07	Levon Sevunts	7-Oct-20	20-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2020/10/07/canadian-businesses-embrace-telework-to-cope-with-covid-19-study/				
DESJARDINS_2014_10_01	Lynn Desjardins	1-Oct-14	20-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2014/10/01/childrens-pain-undertreated-say-experts/				
HAIG_2020_01_21_A	Terry Haig	21-Jan-20	20-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2020/01/21/study-suggests-lots-of-canadians-living-on-the-financial-brink/				
KILKENNY_2013_03_25	Carmel Kilkenney	25-Mar-13	20-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2013/03/25/canadian-aerospace-industry-needs-sales-expertise/				
MORELLO_2020_06_25	Vincenzo Morello	25-Jun-20	20-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2020/06/25/mcdonalds-ends-beyond-meat-trial-run/				
MORELLO_2020_07_10	Vincenzo Morello	10-Jul-20	20-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2020/07/10/who-atlantic-canada-sites-recognized-as-unesco-global-geoparks/				
MONTGOMERY_2016_10_26	Marc Montgomery	26-Oct-16	20-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2016/10/26/is-the-canadian-5-cent-coin-on-life-support/				
DESJARDINS_2018_12_20	Lynn Desjardins	20-Dec-18	20-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2018/12/20/anaphylaxis-inconsistent-treatment-avoid-mcgill/				
MORELLO_2020_03_03_B	Vincenzo Morello	3-Mar-20	20-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2020/03/03/canada-intends-to-expand-zero-emission-vehicle-incentives/				
SEVUNTS_2018_06_22	Levon Sevunts	22-Jun-18	20-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2018/06/22/u-s-coast-guard-turns-to-canada-for-help-with-designing-its-new-heavy-icebreaker/				
SEVUNTS_2018_09_18_B	Levon Sevunts	18-Sep-18	20-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2018/09/18/genocide-expert-calls-on-canada-to-prosecute-returning-isis-fighters/				

Table S1: Visions of the Arctic Future: Metadata for Arctic news corpus

Keys and Meyer (2021)

SEVUNTS_2020_10_28	Levon Sevunts	28-Oct-20	20-Jan-2021	Radio Canada Intern	https://www.rcinet.ca/en/2020/10/28/canadas-top-doctor-calls-for-structural-change-to-defeat-pandemic/					
MONTGOMERY_2020_12_01_B	Marc Montgomery	1-Dec-20	20-Jan-2021	Radio Canada Intern	https://www.rcinet.ca/en/2020/12/01/will-covid-19-change-travel-plans-for-the-holidays/					
HAIG_2020_01_21_B	Terry Haig	21-Jan-20	20-Jan-2021	Radio Canada Intern	https://www.rcinet.ca/en/2020/01/21/liberals-will-table-usma-legislation-next-week/					
MONTGOMERY_2020_02_24_B	Marc Montgomery	24-Feb-20	20-Jan-2021	Radio Canada Intern	https://www.rcinet.ca/en/2020/02/24/canadian-scientist-chosen-to-work-on-mars-geological-mission/					
MONTGOMERY_2020_11_02_B	Marc Montgomery	2-Nov-20	20-Jan-2021	Radio Canada Intern	https://www.rcinet.ca/en/2020/11/02/covid-19-canada-extends-ban-on-cruise-ships/					
MONTGOMERY_2020_09_15	Marc Montgomery	15-Sep-20	20-Jan-2021	Radio Canada Intern	https://www.rcinet.ca/en/2020/09/15/the-end-of-peak-oil-demand/					
QUINN_2017_07_14	Ellis Quinn	14-Jul-17	20-Jan-2021	Radio Canada Intern	https://www.rcinet.ca/en/2017/07/14/inuit-art-foundation-takes-over-art-certification-from-canadian-government/					
KILKENNY_2017_02_09	Carmel Kilkenny	9-Feb-17	20-Jan-2021	Radio Canada Intern	https://www.rcinet.ca/en/2017/02/09/the-weekends-donation-for-ethiopian-studies-at-work-in-toronto/					
MONTGOMERY_2020_02_20	Marc Montgomery	20-Feb-20	20-Jan-2021	Radio Canada Intern	https://www.rcinet.ca/en/2020/02/20/book-from-dirt-to-dinner-teaching-children-about-where-food-comes-from/					
SEVUNTS_2018_12_18	Levon Sevunts	18-Dec-18	20-Jan-2021	Radio Canada Intern	https://www.rcinet.ca/en/2018/12/18/cruise-missiles-drones-and-hypersonic-weapons-norad-gets-ready-for-new-threats/					
MONTGOMERY_2020_04_01	Marc Montgomery	1-Apr-20	20-Jan-2021	Radio Canada Intern	https://www.rcinet.ca/en/2020/04/01/canada-history-apr-1-1999-canadas-map-redrawn-with-a-new-territory/					
HAIG_2019_07_09	Terry Haig	9-Jul-19	20-Jan-2021	Radio Canada Intern	https://www.rcinet.ca/en/2019/07/09/debate-over-hunting-with-drones-continues-in-northwest-territories/					
DESJARDINS_2017_08_30	Lynn Desjardins	30-Aug-17	20-Jan-2021	Radio Canada Intern	https://www.rcinet.ca/en/2017/08/30/canadian-schools-doing-a-good-job/					
SEVUNTS_2019_09_12	Levon Sevunts	12-Sep-19	20-Jan-2021	Radio Canada Intern	https://www.rcinet.ca/en/2019/09/12/kremlin-disinformation-campaigns-could-target-canadas-federal-election-expert/					
DESJARDINS_2018_01_04	Lynn Desjardins	4-Jan-18	20-Jan-2021	Radio Canada Intern	https://www.rcinet.ca/en/2018/01/04/quebec-1998-electrical-failure-wood-burning/					
SEVUNTS_2020_10_21	Levon Sevunts	21-Oct-20	20-Jan-2021	Radio Canada Intern	https://www.rcinet.ca/en/2020/10/21/canadas-annual-inflation-ticks-up-to-0-5-in-september-statistics-canada/					
MONTGOMERY_2014_12_02	Marc Montgomery	2-Dec-14	20-Jan-2021	Radio Canada Intern	https://www.rcinet.ca/en/2014/12/02/the-pheromone-feet-of-polar-bears/					
MORELLO_2020_03_30	Vincenzo Morello	30-Mar-20	20-Jan-2021	Radio Canada Intern	https://www.rcinet.ca/en/2020/03/30/canadian-football-league-postpones-2020-training-camps/					
HAIG_2020_03_20	Terry Haig	20-Mar-20	20-Jan-2021	Radio Canada Intern	https://www.rcinet.ca/en/2020/03/20/cirque-du-soleil-folds-its-tent-at-least-for-now/					
SEVUNTS_2020_05_28	Levon Sevunts	28-May-20	20-Jan-2021	Radio Canada Intern	https://www.rcinet.ca/en/2020/05/28/pandemic-will-drive-canada-into-historic-recession-in-2020-cmh-c-says/					
SEVUNTS_2020_03_31	Levon Sevunts	31-Mar-20	20-Jan-2021	Radio Canada Intern	https://www.rcinet.ca/en/2020/03/31/nc-energy-to-start-work-on-keystone-xl-pipeline/					
SEVUNTS_2019_12_13_B	Levon Sevunts	13-Dec-19	20-Jan-2021	Radio Canada Intern	https://www.rcinet.ca/en/2019/12/13/trudeau-congratulates-boris-johnson-on-his-victory/					
MONTGOMERY_2017_11_15	Marc Montgomery	15-Nov-17	20-Jan-2021	Radio Canada Intern	https://www.rcinet.ca/en/2017/11/15/canada-now-officially-connected-by-road-coast-to-coast-to-coast/					
MONTGOMERY_2018_03_14	Marc Montgomery	14-Mar-18	20-Jan-2021	Radio Canada Intern	https://www.rcinet.ca/en/2018/03/14/day-zero-for-cape-town-water-what-about-canada-and-elsewhere/					
SALOMONE_2014_03_13	Gilda Salomone	13-Mar-14	20-Jan-2021	Radio Canada Intern	https://www.rcinet.ca/en/2014/03/13/school-built-in-halt-to-honour-new-brunswick-mountie-a-true-canadian-story/					
MORELLO_2020_07_08	Vincenzo Morello	8-Jul-20	20-Jan-2021	Radio Canada Intern	https://www.rcinet.ca/en/2020/07/08/edmonton-eskimos-football-team-to-accelerate-review-process-of-team-name/					
MONTGOMERY_2019_04_11	Marc Montgomery	11-Apr-19	20-Jan-2021	Radio Canada Intern	https://www.rcinet.ca/en/2019/04/11/disappearing-cashiers-self-check-out-replacing-people/					
MONTGOMERY_2013_11_13	Marc Montgomery	13-Nov-13	20-Jan-2021	Radio Canada Intern	https://www.rcinet.ca/en/2013/11/13/the-high-arctic-story-of-finding-the-hma-investigator-158-years-later/					
DESJARDINS_2020_12_18	Lynn Desjardins	18-Dec-20	20-Jan-2021	Radio Canada Intern	https://www.rcinet.ca/en/2020/12/18/19-fish-farms-to-be-phased-out-to-help-wild-salmon/					
MONTGOMERY_2020_11_10	Marc Montgomery	10-Nov-20	20-Jan-2021	Radio Canada Intern	https://www.rcinet.ca/en/2020/11/10/new-canadian-banknote-but-who-will-be-featured/					
MONTGOMERY_2020_02_28	Marc Montgomery	28-Feb-20	20-Jan-2021	Radio Canada Intern	https://www.rcinet.ca/en/2020/02/28/more-admission-of-police-use-of-controversial-facial-recognition-technology/					
SEVUNTS_2017_05_10	Levon Sevunts	10-May-17	20-Jan-2021	Radio Canada Intern	https://www.rcinet.ca/en/2017/05/10/will-your-doctor-be-replaced-by-a-robot/					
DESJARDINS_2020_10_21_A	Lynn Desjardins	21-Oct-20	20-Jan-2021	Radio Canada Intern	https://www.rcinet.ca/en/2020/10/21/traditional-inuit-storytelling-heard-on-new-podcast/					
MORELLO_2020_07_17	Vincenzo Morello	17-Jul-20	20-Jan-2021	Radio Canada Intern	https://www.rcinet.ca/en/2020/07/17/netflix-calls-on-canadian-creators-to-pitch-ideas/					
DESJARDINS_2016_06_01	Lynn Desjardins	1-Jun-16	20-Jan-2021	Radio Canada Intern	https://www.rcinet.ca/en/2016/06/01/infrastructure-climate-extreme-weather-audit-gelfand/					
MONTGOMERY_2019_12_10	Marc Montgomery	10-Dec-19	20-Jan-2021	Radio Canada Intern	https://www.rcinet.ca/en/2019/12/10/worlds-first-all-electric-seaplane-test-today/					
DESJARDINS_2018_10_18	Lynn Desjardins	18-Oct-18	20-Jan-2021	Radio Canada Intern	https://www.rcinet.ca/en/2018/10/18/canada-pregnancy-healthy-activity-guidelines/					
MORELLO_2020_07_31	Vincenzo Morello	31-Jul-20	20-Jan-2021	Radio Canada Intern	https://www.rcinet.ca/en/2020/07/31/canadian-government-launches-national-covid-tracking-app/					
MONTGOMERY_2020_03_26	Marc Montgomery	26-Mar-20	20-Jan-2021	Radio Canada Intern	https://www.rcinet.ca/en/2020/03/26/canadian-forces-reacting-to-covid-19/					
MORELLO_2020_02_20	Vincenzo Morello	20-Feb-20	20-Jan-2021	Radio Canada Intern	https://www.rcinet.ca/en/2020/02/20/hm-horizons-going-green-for-roll-up-the-rim/					
SEVUNTS_2020_06_17	Levon Sevunts	17-Jun-20	20-Jan-2021	Radio Canada Intern	https://www.rcinet.ca/en/2020/06/17/canada-loses-bid-for-un-security-council-seat/					
MONTGOMERY_2016_05_19	Marc Montgomery	19-May-16	20-Jan-2021	Radio Canada Intern	https://www.rcinet.ca/en/2016/05/19/worlds-first-qm-animal-approved-for-consumers/					
MORELLO_2020_09_24	Vincenzo Morello	24-Sep-20	20-Jan-2021	Radio Canada Intern	https://www.rcinet.ca/en/2020/09/24/edmonton-international-airport-to-host-clinical-trial-of-rapid-covid-19-test/					
HAIG_2019_07_16	Terry Haig	16-Jul-19	20-Jan-2021	Radio Canada Intern	https://www.rcinet.ca/en/2019/07/16/calgary-stampedes-chuckwagon-races-claim-lives-of-six-horses/					
MONTGOMERY_2020_06_19	Marc Montgomery	19-Jun-20	20-Jan-2021	Radio Canada Intern	https://www.rcinet.ca/en/2020/06/19/june-21-is-national-indigenous-peoples-day/					
HAIG_2019_09_25_A	Terry Haig	25-Sep-19	20-Jan-2021	Radio Canada Intern	https://www.rcinet.ca/en/2019/09/25/rare-torrential-rains-battering-canada-a-sign-of-more-to-come/					
HAIG_2019_07_05	Terry Haig	5-Jul-19	20-Jan-2021	Radio Canada Intern	https://www.rcinet.ca/en/2019/07/05/unesco-sets-deadline-for-wood-buffalo-national-park-fix/					
MONTGOMERY_2015_09_21	Marc Montgomery	21-Sep-15	20-Jan-2021	Radio Canada Intern	https://www.rcinet.ca/en/2015/09/21/marine-life-in-crisis-world-ocean-disaster-looming/					
MONTGOMERY_2019_11_14	Marc Montgomery	14-Nov-19	20-Jan-2021	Radio Canada Intern	https://www.rcinet.ca/en/2019/11/14/chinese-facial-recognition-coming-to-a-few-canadian-stores/					
SEVUNTS_2020_07_06	Levon Sevunts	6-Jul-20	20-Jan-2021	Radio Canada Intern	https://www.rcinet.ca/en/2020/07/06/bob-rae-named-canadas-new-united-nations-ambassador/					
MONTGOMERY_2014_02_06	Marc Montgomery	6-Feb-14	20-Jan-2021	Radio Canada Intern	https://www.rcinet.ca/en/2014/02/06/nitrogen-farming-and-climate-change/					
DESJARDINS_2016_04_20	Lynn Desjardins	20-Apr-16	20-Jan-2021	Radio Canada Intern	https://www.rcinet.ca/en/2016/04/20/clock-counts-down-time-for-critical-climate-change/					
GWIAZDA_2013_06_13	Wojtek Gwiazda	13-Jun-13	20-Jan-2021	Radio Canada Intern	https://www.rcinet.ca/en/2013/06/13/inside-the-battle-for-cyberspace-with-ronald-deibert/					
DESJARDINS_2020_12_02	Lynn Desjardins	2-Dec-20	20-Jan-2021	Radio Canada Intern	https://www.rcinet.ca/en/2020/12/02/canadian-writers-honoured-for-career-achievements/					
HAIG_2019_09_26	Terry Haig	26-Sep-19	20-Jan-2021	Radio Canada Intern	https://www.rcinet.ca/en/2019/09/26/first-nations-clean-water-teen-activist-will-address-un-on-saturday/					
MONTGOMERY_2019_07_19	Marc Montgomery	19-Jul-19	20-Jan-2021	Radio Canada Intern	https://www.rcinet.ca/en/2019/07/19/c1-million-purchase-of-sneaker-collection/					
MONTGOMERY_2020_06_15	Marc Montgomery	15-Jun-20	20-Jan-2021	Radio Canada Intern	https://www.rcinet.ca/en/2020/06/15/canadian-military-begins-slow-resumption-of-overseas-missions/					
KILKENNY_2017_03_24	Carmel Kilkenny	24-Mar-17	20-Jan-2021	Radio Canada Intern	https://www.rcinet.ca/en/2017/03/24/american-indian-movement-patrolling-winnipeg-neighbourhood/					
HAIG_2020_05_13	Terry Haig	13-May-20	20-Jan-2021	Radio Canada Intern	https://www.rcinet.ca/en/2020/05/13/canada-takes-a-big-step-forward-in-the-race-to-find-a-covid-19-vaccine/					
MONTGOMERY_2020_05_05	Marc Montgomery	5-May-20	20-Jan-2021	Radio Canada Intern	https://www.rcinet.ca/en/2020/05/05/covid-19-the-2020-summer-of-fun-events-that-werent/					
DESJARDINS_2018_07_03	Lynn Desjardins	3-Jul-18	20-Jan-2021	Radio Canada Intern	https://www.rcinet.ca/en/2018/07/03/see-hudsons-bay-campaign-mental/					
DESJARDINS_2017_05_10	Lynn Desjardins	10-May-17	20-Jan-2021	Radio Canada Intern	https://www.rcinet.ca/en/2017/05/10/1933-soccer-team-honoured-in-asian-heritage-month/					
GWIAZDA_2014_01_29	Wojtek Gwiazda	29-Jan-14	20-Jan-2021	Radio Canada Intern	https://www.rcinet.ca/en/2014/01/29/canadas-largest-bank-royal-bank-to-sell-jamaican-operations/					
DESJARDINS_2020_10_20	Lynn Desjardins	20-Oct-20	20-Jan-2021	Radio Canada Intern	https://www.rcinet.ca/en/2020/10/20/indigenous-festival-launches-online-concerts/					
MONTGOMERY_2015_05_13_B	Marc Montgomery	13-May-15	20-Jan-2021	Radio Canada Intern	https://www.rcinet.ca/en/2015/05/13/research-into-climate-and-human-effects-on-hudson-bay/					
MONTGOMERY_2020_08_12	Marc Montgomery	12-Aug-20	20-Jan-2021	Radio Canada Intern	https://www.rcinet.ca/en/2020/08/12/covid-19-hospitality-industry-in-financial-trouble-pleads-for-federal-aid/					
HAIG_2018_08_14	Terry Haig	14-Aug-18	20-Jan-2021	Radio Canada Intern	https://www.rcinet.ca/en/2018/08/14/rope-skipping-tries-to-make-the-leap-from-its-playful-past-to-the-olympics/					

Table S1: Visions of the Arctic Future: Metadata for Arctic news corpus

Keys and Meyer (2021)

SEVUNTS_2020_12_26	Levon Sevunts	26-Dec-20	20-Jan-2021	Radio Canada Intern	https://www.rcinet.ca/en/2020/12/26/toronto-international-film-festival-releases-top-10-lists-for-2020/					
LEISER_2019_05_06	Mathew Leiser	6-May-19	20-Jan-2021	Radio Canada Intern	https://www.rcinet.ca/en/2019/05/06/pupils-song-inspires-quebec-premier-to-rebuild-flooded-school/					
SEVUNTS_2018_09_28	Levon Sevunts	28-Sep-18	20-Jan-2021	Radio Canada Intern	https://www.rcinet.ca/en/2018/09/28/franklin-expedition-artifacts-canada-inuit-nunavut/					
DESJARDINS_2020_11_24	Lynn Desjardins	24-Nov-20	20-Jan-2021	Radio Canada Intern	https://www.rcinet.ca/en/2020/11/24/mask-uses-salt-coating-to-kill-pathogens-gamers-award/					
SEVUNTS_2020_01_29	Levon Sevunts	29-Jan-20	20-Jan-2021	Radio Canada Intern	https://www.rcinet.ca/en/2020/01/29/canada-lukewarm-to-trumps-middle-east-peace-plan/					
MONTGOMERY_2017_03_28	Marc Montgomery	28-Mar-17	20-Jan-2021	Radio Canada Intern	https://www.rcinet.ca/en/2017/03/28/international-world-skills-championship-coming-up/					
MONTGOMERY_2019_06_01	Marc Montgomery	1-Jun-19	20-Jan-2021	Radio Canada Intern	https://www.rcinet.ca/en/2019/06/01/canadian-farmers-income-drops-almost-by-half/					
MONTGOMERY_2016_09_28	Marc Montgomery	28-Sep-16	20-Jan-2021	Radio Canada Intern	https://www.rcinet.ca/en/2016/09/28/canada-and-the-worlds-water-crisis-pt-3/					
DESJARDINS_2017_05_12	Lynn Desjardins	12-May-17	20-Jan-2021	Radio Canada Intern	https://www.rcinet.ca/en/2017/05/12/rare-glass-sponge-reefs-to-be-live-streamed/					
MONTGOMERY_2020_10_30	Marc Montgomery	30-Oct-20	21-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2020/10/30/canada-history-oct-30-1995-when-canada-almost-ceased-to-be-25-years-ago/					
MORELLO_2020_07_20	Vincenzo Morello	20-Jul-20	21-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2020/07/20/canada-denies-plan-to-let-blue-jays-play-in-toronto-for-mlb-season/					
DESJARDINS_2019_02_18	Lynn Desjardins	18-Feb-19	21-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2019/02/18/parent-stress-book-canada/					
SEVUNTS_2019_12_10	Levon Sevunts	10-Dec-19	21-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2019/12/10/new-north-american-free-trade-usmca-signed/					
MONTGOMERY_2020_12_17	Marc Montgomery	17-Dec-20	21-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2020/12/17/canada-is-going-to-the-moon/					
GWIAZDA_2014_11_19	Wojtek Gwiazda	19-Nov-14	21-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2014/11/19/in-conversation-with-jazz-musician-and-composer-alex-goodman/					
MORELLO_2020_09_09	Vincenzo Morello	9-Sep-20	21-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2020/09/09/amazon-to-open-up-two-new-fulfillment-centres-in-canada-next-year/					
MONTGOMERY_2015_05_28	Marc Montgomery	28-May-15	21-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2015/05/28/no-red-eye-in-photos-could-be-disease/					
MONTGOMERY_2015_05_13_C	Marc Montgomery	12-May-15	21-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2015/05/12/how-human-nature-inflates-ceo-salaries/					
SEVUNTS_2019_04_26	Levon Sevunts	26-Apr-19	21-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2019/04/26/b-c-indigenous-groups-get-a-say-in-columbia-river-treaty-renegotiation/					
SEVUNTS_2020_08_14	Levon Sevunts	14-Aug-20	21-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2020/08/14/ottawa-offers-pathway-to-permanent-residency-to-some-asylum-seekers/					
KILKENNY_2015_12_16	Carmel Kilkenny	16-Dec-15	21-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2015/12/16/tech-girls-canada-increasing-diversity-in-stem-workplaces/					
DESJARDINS_2019_06_03	Lynn Desjardins	3-Jun-19	21-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2019/06/03/canada-biosphere-montreal-global-warming/					
QUINN_2015_11_27	Ellis Quinn	27-Nov-15	21-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2015/11/27/cop21-view-from-nunavut/					
KILKENNY_2017_02_18	Carmel Kilkenny	18-Feb-17	21-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2017/02/18/is-black-history-month-necessary/					
KILKENNY_2018_02_07	Carmel Kilkenny	7-Feb-18	21-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2018/02/07/customs-pre-clearance-to-be-expanded-in-u-s/					
SEVUNTS_2020_04_28	Levon Sevunts	28-Apr-20	21-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2020/04/28/ottawa-and-premiers-release-guidelines-to-reopening-economy/					
MONTGOMERY_2020_12_03	Marc Montgomery	3-Dec-20	21-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2020/12/03/covid-retailers-suffer-mental-health-issues-formal-request-to-stay-open/					
MONTGOMERY_2013_09_05	Marc Montgomery	5-Sep-13	21-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2013/09/05/why-young-people-cant-find-work/					
HAIG_2020_03_02	Terry Haig	2-Mar-20	21-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2020/03/02/proposed-arrangement-but-no-pipeline-agreement-in-wetsuweten-talks/					
MORELLO_2020_07_16	Vincenzo Morello	16-Jul-20	21-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2020/07/16/new-brunswick-initiative-encourages-residents-to-vacation-within-province/					
DESJARDINS_2020_10_21_B	Lynn Desjardins	21-Oct-20	21-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2020/10/21/canada-rebukes-on-climate-action-help-for-indigenous-people/					
DESJARDINS_2016_05_19	Lynn Desjardins	19-May-16	21-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2016/05/19/fear-needles-vaccination-parent-behaviour-study/					
HAIG_2017_03_27	Terry Haig	27-Mar-17	21-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2017/03/27/cancerdogs-cancer-screening-mans-best-friend-takes-on-a-whole-new-meaning/					
HAIG_2019_07_01_B	Terry Haig	1-Jul-19	21-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2019/07/01/raptors-victory-makes-for-a-whole-new-ballgame-for-toronto-sports-fans/					
SEVUNTS_2017_07_25	Levon Sevunts	25-Jul-17	21-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2017/07/25/canadas-indigenous-leaders-kick-off-annual-meeting-in-saskatchewan/					
HAIG_2019_09_25_B	Terry Haig	25-Sep-19	21-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2019/09/25/twitter-dispute-between-activists-and-environment-canada-lands-gently/					
HAIG_2019_12_06	Terry Haig	6-Dec-19	21-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2019/12/06/signed-and-sealed-but-still-to-be-delivered-a-new-calgary-nhl-arena/					
HAIG_2019_07_26	Terry Haig	26-Jul-19	21-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2019/07/26/canadian-sets-all-time-record-for-sneaker-purchase/					
SEVUNTS_2018_07_19	Levon Sevunts	19-Jul-18	21-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2018/07/19/nuclear-waste-management-organization-reconciliation-indigenous-canadians/					
MONTGOMERY_2014_12_03	Marc Montgomery	3-Dec-14	21-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2014/12/03/elusive-wolverines-a-species-of-concern/					
DESJARDINS_2018_06_21	Lynn Desjardins	21-Jun-18	21-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2018/06/21/alcoholic-brewery-canada-regulation-change/					
MONTGOMERY_2019_02_25	Marc Montgomery	25-Feb-19	21-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2019/02/25/international-cooperation-on-rare-genetic-paediatric-brain-disorder/					
DESJARDINS_2019_05_13	Lynn Desjardins	13-May-19	21-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2019/05/13/toronto-photography-festival-children-believe/					
MONTGOMERY_2015_05_29	Marc Montgomery	29-May-15	21-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2015/05/29/future-of-canadas-lighthouses-to-be-revealed-soon/					
MONTGOMERY_2020_10_08	Marc Montgomery	8-Oct-20	21-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2020/10/08/ontario-proposing-an-end-to-generally-disliked-seasonal-time-changes/					
DESJARDINS_2019_04_26	Lynn Desjardins	26-Apr-19	21-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2019/04/26/government-land-conservation-program-nature-conservancy/					
SEVUNTS_2019_09_26	Levon Sevunts	26-Sep-19	21-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2019/09/26/trudeau-promises-to-protect-25-of-canadas-land-and-waters-by-2025/					
HAIG_2020_09_04	Terry Haig	4-Sep-20	21-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2020/09/04/reports-paint-a-stark-picture-of-life-for-many-children-in-canada/					
MORELLO_2020_03_06	Vincenzo Morello	6-Mar-20	21-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2020/03/06/philanthropic-grant-funds-research-for-innovative-way-to-treat-brain-disorders/					
KILKENNY_2018_12_24	Carmel Kilkenny	24-Dec-18	21-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2018/12/24/living-hyphen-the-new-magazine-launched-this-year/					
SEVUNTS_2020_03_24	Levon Sevunts	24-Mar-20	21-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2020/03/24/canadian-olympians-welcome-decision-to-postpone-tokyo-olympics/					
MONTGOMERY_2020_05_04	Marc Montgomery	4-May-20	21-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2020/05/04/china-un-human-rights-council-concern/					
HAIG_2018_03_06	Terry Haig	6-Mar-18	21-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2018/03/06/brian-jean-is-stepping-away-from-politics/					
MORELLO_2020_01_27	Vincenzo Morello	27-Jan-20	21-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2020/01/27/canadian-forces-sending-aid-to-australia/					
MONTGOMERY_2020_12_09	Marc Montgomery	9-Dec-20	21-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2020/12/09/havana-syndrome-diplomats-in-cuba-likely-victims-of-pulsed-microwaves/					
HAIG_2015_03_27	Terry Haig	27-Mar-15	21-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2015/03/27/baseball-fans-prepare-for-another-big-weekend-in-montreal/					
MONTGOMERY_2020_05_08_B	Marc Montgomery	8-May-20	21-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2020/05/08/covid-19-tracking-individuals-vs-privacy-delicate-balance/					
SEVUNTS_2020_10_08	Levon Sevunts	8-Oct-20	21-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2020/10/08/federal-and-ontario-governments-unveil-590m-investment-in-electric-cars/					
SHEN_2020_12_12	Er Shen	12-Dec-20	21-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2020/12/12/want-to-make-google-web-stories-instruction-videos-on-youtube-can-help/					
SEVUNTS_2017_05_13	Levon Sevunts	13-May-17	21-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2017/05/13/canadian-photographer-sounds-alarm-on-crisis-in-south-sudan/					
SEVUNTS_2018_02_09	Levon Sevunts	9-Feb-18	21-Jan-21	Radio Canada Intern	https://www.rcinet.ca/en/2018/02/09/canada-arms-export-rules-saudi-arms-deal-freeland/					
STRONG_2019_04_08	Walter Strong	8-Apr-19	2-Apr-20	CBC North News	https://www.cbc.ca/news/canada/north/arctic-changing-face-report-1.5088244					
STRONG_2019_11_25	Walter Strong	25-Nov-19	2-Apr-20	CBC North News	https://www.cbc.ca/news/canada/north/ice-free-arctic-this-century-1.5370504					
KYLE_2019_12_18	Kate Kyle	18-Dec-19	2-Apr-20	CBC North News	https://www.cbc.ca/news/canada/north/beaufort-sea-moratorium-deposits-nwt-1.5399157					
ASSOCIATED_2020_03_03	The Associated Press	3-Mar-20	2-Apr-20	CBC North News	https://www.cbc.ca/news/canada/north/wells-fargo-arctic-oil-1.5483641					
BROCKMAN_2019_04_12	Alex Brockman	12-Apr-19	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/arctic-warmest-in-10000-years-1.5094392					
TUCKER_2020_07_31	Amy Tucker	31-Jul-20	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/arctic-ocean-seabed-map-published-1.5669378					

Table S1: Visions of the Arctic Future: Metadata for Arctic news corpus

Keys and Meyer (2021)

OAKES_2020_08_30	Bradlyn Oakes	30-Aug-20	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/arctic-climate-change-expedition-pole-1.5704190				
LAST_2020_02_15	John Last	15-Feb-20	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/russian-arctic-oil-and-gas-explained-1.5462754				
ASSOCIATED_2020_11_25	The Associated Press	25-Nov-20	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/anwr-alaska-drilling-rights-interest-1.5815957				
OAKES_2020_06_27	Bradlyn Oakes	27-Jun-20	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/bradylins-blog-record-arctic-heat-1.5628867				
MCKAY_2018_12_21	Jackie McKay	21-Dec-18	2-Apr-20	CBC North News	https://www.cbc.ca/news/canada/north/porcupine-caribou-anwr-1.4956779				
CBC_2019_02_13	CBC News	13-Feb-19	2-Apr-20	CBC North News	https://www.cbc.ca/news/canada/north/aip-winners-dawson-farm-piruvik-1.5017754				
WEBER_2016_05_02	Bob Weber	2-May-16	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/arctic-comics-north-inuit-1.3562336				
ASSOCIATED_2020_11_24	The Associated Press	24-Nov-20	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/u-s-government-makes-proposal-that-could-limit-bank-pullback-of-arctic-oil-gas-funds-1.5814039				
ASSOCIATED_2020_05_14	The Associated Press	14-May-20	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/coronavirus-delay-early-ice-melt-arctic-science-mission-1.569489				
BROCKMAN_2019_09_11	Alex Brockman	11-Sep-19	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/arctic-policy-framework-short-on-details-1.5278433				
MURRAY_2019_06_12	Nick Murray	12-Jun-19	2-Apr-20	CBC North News	https://www.cbc.ca/news/canada/north/nunavut-minister-berates-southern-bureaucrats-1.5172375				
ASSOCIATED_2019_09_23	The Associated Press	23-Sep-19	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/arctic-centre-scientist-expedition-german-icebreaker-rv-polarstern-1.5293837				
ZINGEL_2019_03_22	Avery Zingel	22-Mar-19	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/anwr-alaska-wildlife-refuge-indigenous-1.5067812				
ASSOCIATED_2020_04_23	The Associated Press	23-Apr-20	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/cilgroup-bank-end-arctic-oil-investment-1.5542535				
OAKES_2020_09_28	Bradlyn Oakes	28-Sep-20	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/mosaic-dress-code-sexism-arctic-research-1.5739547				
ASSOCIATED_2020_08_17	The Associated Press	17-Aug-20	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/oil-gas-alaska-wildlife-refuge-beaufort-sea-1.5689398				
SKURA_2016_09_30	Elyse Skura	30-Sep-16	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/arctic-council-20-anniversary-lyod-axworthy-1.3784144				
THOMSON_2018_01_27	Jimmy Thomson	27-Jan-18	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/what-does-china-s-new-arctic-policy-mean-for-canada-1.4506754				
TOTH_2019_07_10	Katie Toth	10-Jul-19	2-Apr-20	CBC North News	https://www.cbc.ca/news/canada/north/russia-floating-nuclear-plant-1.5206448				
ZEREHI_2016_04_19	Sima Sahar Zerehi	18-Apr-16	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/report-impact-climate-change-arctic-coastline-1.3540707				
ZEREHI_2015_11_25	Sima Sahar Zerehi	25-Nov-15	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/beluga-whale-arctic-drone-1.3335730				
CANADIAN_2019_05_27	The Canadian Press	27-May-19	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/north-pole-canada-russia-denmark-1.5151432				
CANADIAN_2013_02_16	The Canadian Press	16-Feb-13	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/sea-ice-loss-in-arctic-causing-ecosystem-changes-study-1.1332695				
KYLE_2019_07_30	Kate Kyle	30-Jul-19	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/arctic-wildfires-1.5228945				
CBC_2015_03_24	CBC News	24-Mar-15	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/china-seeks-to-establish-northern-canadian-research-outpost-1.3006806				
WINDEYER_2020_11_10	Chris Windeyer	10-Nov-20	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/yukon-govt-opposes-oil-exploration-anwr-1.5797701				
QUINN_2019_05_08	Ellis Quinn	8-May-19	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/inuit-arctic-council-1.5127627				
ASSOCIATED_2017_10_19	The Associated Press	19-Oct-17	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/oik-company-arctic-drilling-artificial-island-1.4361918				
ZEREHI_2015_08_25	Sima Sahar Zerehi	25-Aug-15	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/inuit-tapirit-kanatami-candidates-on-future-of-the-national-inuit-organization-1.3202973				
CBC_2019_05_02	CBC News	2-May-19	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/anwr-protection-bill-congress-washington-1.6119358				
ZEREHI_2016_07_16	Sima Sahar Zerehi	16-Jul-16	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/book-inuit-elders-on-climate-change-arctic-1.3681168				
THURTON_2020_02_05	David Thurton	5-Feb-20	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/arctic-inspiration-prize-2020-1.5453157				
CBC_2017_12_04	CBC News	4-Dec-17	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/traditional-inuit-knowledge-and-arctic-fishing-ban-1.4429897				
ZEREHI_2016_08_24	Sima Sahar Zerehi	24-Aug-16	2-Apr-20	CBC North News	https://www.cbc.ca/news/canada/north/arctic-adaptations-nunavut-at-15-in-igluait-1.3732834				
STRONG_2020_02_12	Walter Strong	12-Feb-20	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/sea-ice-fissure-near-cambridge-bay-nunavut-1.5460259				
AVERY_2019_04_11	Heather Avery	11-Apr-19	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/old-crow-climate-emergency-1.5093166				
CBC_2011_08_30	CBC News	30-Nov-11	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/inuit-sleds-being-built-for-arctic-sovereignty-patrols-1.1073495				
DESMARAIS_2020_01_23	Anna Desmarais	23-Jan-20	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/awg-archery-trials-nwt-1.5437084				
REUTERS_2020_12_22	Thomson Reuters	22-Dec-20	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/norway-arctic-drilling-supreme-court-verdict-1.5851636				
CBC_2014_08_28	CBC News	28-Aug-14	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/inuit-were-not-the-first-people-to-settle-in-the-arctic-1.2749691				
REUTERS_2020_01_23	Thomson Reuters	23-Jan-20	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/greenpeace-loses-oil-appeal-norway-1.5437657				
JEFFERD_2018_06_11	Kaila Jefferd-Moore	11-Jun-18	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/canadian-submarines-not-part-of-international-arctic-under-ice-exercise-1.4699208				
AKEAGOK_2019_10_17	P.J. Akeegok	17-Oct-19	2-Apr-20	CBC North News	https://www.cbc.ca/news/canada/north/qia-inuit-federal-election-1.5321980				
THOMSON_2017_07_12	Jimmy Thomson	12-Jul-17	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/arctic-warming-events-more-and-longer-1.4200544				
REUTERS_2019_11_05	Thomson Reuters	5-Nov-19	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/arctic-drilling-appeal-norway-1.5349086				
STRONG_2020_12_22	Walter Strong	22-Dec-20	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/canada-china-lmac-1.5851305				
THOMSON_2016_06_11	Jimmy Thomson	11-Jun-16	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/lancaster-sound-shell-leases-relinquish-1.3629950				
ASSOCIATED_2020_09_08	The Associated Press	8-Sep-20	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/pink-salmon-arctic-warming-research-1.5716557				
CANADIAN_2013_08_18	The Canadian Press	18-Aug-13	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/ottawa-testing-620k-stealth-snowmobile-for-arctic-1.1377270				
BIRD_2020_11_26	Hilary Bird	26-Nov-20	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/urgent-action-needed-on-arctic-ice-shelf-thaw-1.5817183				
CANADIAN_2017_11_23	The Canadian Press	23-Nov-17	2-Apr-20	CBC North News	https://www.cbc.ca/news/canada/north/nunavut-greenland-ice-bridge-1.4417042				
DUSEN_2016_12_22	John Van Dusen	22-Dec-16	2-Apr-20	CBC North News	https://www.cbc.ca/news/canada/north/nunavut-premier-slams-arctic-drilling-moratorium-1.3908037				
TUKKER_2019_11_14	Paul Tukker	14-Nov-19	2-Apr-20	CBC North News	https://www.cbc.ca/news/canada/north/alask-dog-mushers-awg-2020-1.5358750				
ZEREHI_2016_07_09	Sima Sahar Zerehi	9-Jul-16	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/canada-pushing-for-finding-agreement-on-arctic-fishing-1.3671168				
CBC_2018_03_12	CBC News	12-Mar-18	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/arctic-winter-games-theme-song-1.4570334				
DENTREMONT_2020_11_13	Danielle d'Entremont	13-Nov-20	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/hidden-presidency-arctic-wildlife-refuge-1.5799230				
CBC_2020_08_10	CBC News	10-Aug-20	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/yellowknife-city-arctic-energy-alliance-circulation-pump-1.5678853				
HINCHEY_2015_04_26	Garrett Hinchey	26-Apr-15	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/7-future-n-w-t-candidates-for-canada-s-sports-hall-of-fame-1.3048153				
ROSEN_2017_12_22	Kayla Rosen	22-Dec-17	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/nwt-climate-change-report-1.4461774				
THOMSON_2017_07_28	Jimmy Thomson	28-Jul-17	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/mars-nunavut-devon-island-1.4225311				
MCKAY_2020_08_12	Jackie McKay	12-Aug-20	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/arctic-college-ntep-bilingual-education-1.5682701				
BIRD_2016_05_26	Hilary Bird	26-May-16	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/grizzly-polar-bear-hybrid-impact-1.3600391				
BELTRANDI_2018_03_05	Gabriela Panza-Beltrandi	5-Mar-18	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/arctic-winter-games-2018-missed-tryouts-1.4561698				
CBC_2019_11_21	CBC News	21-Nov-19	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/arctic-inspiration-prize-2020-1.5368059				
BIRD_2017_11_13	Hilary Bird	13-Nov-17	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/inuvik-tuktoyaktuk-nwt-road-work-1.4395052				
CROFT_2020_08_19	Dave Croft	19-Aug-20	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/yukon-nwt-qwitch-in-vuntut-qwitchin-anwr-porcupine-caribou-oil-drilling-1.5692221				
BYERS_2019_04_15	Alexandra Byers	15-Apr-19	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/yukon-climate-change-warming-permafrost-1.5097458				

Table S1: Visions of the Arctic Future: Metadata for Arctic news corpus

Keys and Meyer (2021)

MINOGUE_2016_06_03	Sara Minogue	3-Jun-16	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/russian-rocket-debris-arctic-reaction-1.3613852				
SILVA_2020_09_29	Steve Silva	29-Sep-20	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/yukon-ultra-2021-cancelled-pandemic-travel-1.57431344				
CBC_2011_12_15	CBC News	15-Dec-11	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/astronomers-set-to-observe-stars-from-arctic-1.1039054				
WEBER_2016_09_18	Bob Weber	18-Sep-16	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/new-rules-for-arctic-cruises-1.3767846				
ODUSHOORN_2015_07_06	Kieran Odushoorn	6-Jul-15	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/ottawa-researchers-in-cape-dorset-to-document-arctic-plant-life-1.3139753				
CROFT_2016_05_16	Dave Croft	16-May-16	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/arctic-inspiration-prize-witzig-yukon-ambassadors-1.3584762				
CBC_2014_07_29	CBC News	29-Jul-14	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/nasa-testing-vehicles-in-high-arctic-to-use-on-mars-1.2721161				
CANADIAN_2019_01_13	The Canadian Press	13-Jan-19	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/canada-first-nations-concern-us-arctic-drilling-1.4976686				
CBC_2020_03_15	CBC News	15-Mar-20	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/awg-2022-wood-buffalo-whitehorse-1.5497350				
SILVA_2020_11_12	Steve Silva	12-Nov-20	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/yukon-gov-awg-2-6-million-spending-1.5795357				
JOLING_2016_02_17	Dan Joling	17-Feb-16	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/beluga-alaska-dive-depth-1.3452075				
ASSOCIATED_2014_07_03	The Associated Press	3-Jul-14	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/live-camera-shows-arctic-snowy-owl-chicks-in-nest-1.2695115				
CBC_2014_09_04	CBC News	4-Sep-14	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/arctic-research-ship-martin-bergmann-runs-aground-1.2756048				
HWANG_2019_04_03	Priscilla Hwang	3-Apr-19	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/alaska-north-slope-lambeosaur-fossil-1.5061491				
CBC_2017_09_07	CBC News	7-Sep-17	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/kuane-research-station-field-school-1.4278169				
MORIN_2018_03_27	Philippe Morin	27-Mar-18	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/dog-mushing-dropped-awg-review-1.4593417				
ASSOCIATED_2017_10_04	The Associated Press	4-Oct-17	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/pacific-walrus-not-threatened-species-1.4326953				
CBC_2012_08_29	CBC News	29-Aug-12	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/circumpolar-conference-looks-at-arctic-cities-1.1179841				
BIRD_2016_12_20	Hilary Bird	20-Dec-16	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/arctic-sunwest-crash-passengers-sue-1.3904499				
REUTERS_2015_11_19	Reuters	19-Nov-15	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/polar-bear-numbers-to-fall-as-arctic-ice-shrinks-study-1.3326579				
ASSOCIATED_2017_04_28	The Associated Press	28-Apr-17	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/trump-expands-drilling-arctic-atlantic-ocean-1.4090163				
TOTH_2018_08_28	Katie Toth	28-Aug-18	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/investigators-kugaaruk-nunavut-ship-run-around-1.4801273				
SCOTT_2020_05_11	Mackenzie Scott	11-May-20	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/southern-researchers-cant-go-north-summer-covid-19-1.5563748				
SCOTT_2018_10_04	Mackenzie Scott	4-Oct-18	2-Apr-20	CBC North News	https://www.cbc.ca/news/canada/north/inuvik-economic-development-symposium-1.4850497				
ZEREHI_2016_11_12	Sima Sahar Zerehi	12-Nov-16	2-Apr-20	CBC North News	https://www.cbc.ca/news/canada/north/trump-victory-bad-news-inuit-leader-arctic-1.3846220				
CBC_2017_08_27	CBC News	27-Aug-17	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/eva-holland-arctic-airship-book-1.4262951				
CBC_2019_12_15	CBC News	15-Dec-19	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/cold-awg-biathlon-trials-1.5395931				
BROWN_2020_08_11	Beth Brown	11-Aug-20	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/space-agency-teaches-gloa-haven-growing-food-in-harsh-climate-1.5681294				
MCKAY_2020_01_08	Jackie McKay	8-Jan-20	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/victoria-s-arctic-fashion-new-york-1.5419254				
ZELNIKER_2016_12_07	Rachel Zelniker	7-Dec-16	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/polar-bear-global-study-decline-1.3885974				
MURRAY_2017_11_06	Nick Murray	6-Nov-17	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/rocket-launch-follow-1.4387448				
CBC_2014_08_04	CBC News	4-Aug-14	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/porcupine-caribou-herd-winter-habitat-could-shrink-in-100-years-study-1.2727073				
CANADIAN_2019_12_06	The Canadian Press	6-Dec-19	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/arctic-species-belugas-science-1.5386238				
CBC_2016_04_03	CBC News	3-Apr-16	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/cruise-ships-safety-northwest-passage-1.3518712				
CBC_2020_11_17	CBC News	17-Nov-20	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/yukon-gov-t-and-gwich-in-tribal-council-denounce-u-s-steps-lease-sale-arctic-refuge-1.5805041				
CBC_2014_12_11	CBC News	11-Dec-14	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/yellowknife-s-foxy-takes-1m-arctic-inspiration-prize-1.2869394				
HINCHEY_2018_03_18_A	Garrett Hinchey	18-Mar-18	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/team-nunavut-profile-2018-awg-1.4580674				
DENTREMENT_2020_02_28	Danielle d'Entremont	28-Feb-20	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/arctic-winter-games-julienne-chipeisa-snowshoe-athlete-1.5475815				
MCKAY_2018_05_25	Jackie McKay	25-May-18	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/yukon-arctic-ultra-changes-1.4677313				
THOMSON_2016_09_14	Jimmy Thomson	14-Sep-16	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/polar-bears-sea-ice-hunting-1.3760554				
ZEREHI_2016_04_05	Sima Sahar Zerehi	5-Apr-16	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/greenland-ice-sheet-exceptional-melts-1.3520547				
TAYLOR_2020_11_07	Juanita Taylor	7-Nov-20	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/ryan-reynolds-canada-geese-donate-parkas-arctic-bay-nunavut-1.5793649				
ORMISTON_2019_06_19	Susan Ormiston	19-Jun-19	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/the-national-permafrost-thaw-inuvik-tuktoyaktuk-1.5179842				
ASSOCIATED_2019_09_12	The Associated Press	12-Sep-19	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/us-house-vote-awg-drilling-1.5281163				
CBC_2018_02_16	CBC News	16-Feb-18	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/health-camp-nunavut-qikiqtani-hospital-1.4537896				
CBC_2018_05_24	CBC News	24-May-18	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/aurora-college-coastal-research-funding-1.4676436				
CANADIAN_2019_01_17	The Canadian Press	17-Jan-19	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/climate-change-infrastructure-study-1.4982063				
STRONG_2017_11_14	Walter Strong	14-Nov-17	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/arctic-highway-challenges-1.4398726				
CBC_2013_01_15	CBC News	15-Jan-13	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/arctic-fishery-alliance-says-too-many-small-turbot-caught-1.1379217				
BELTRANDI_2017_12_28	Gabriela Panza-Beltrandi	28-Dec-17	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/arctic-winter-games-awg-volunteers-1.4466235				
TUCKER_2020_09_09	Amy Tucker	9-Sep-20	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/rise-in-sea-level-caused-by-melting-ice-sheets-study-leads-1.5716021				
CBC_2012_04_08	CBC News	8-Apr-12	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/national-geographic-adventurer-recalls-walrus-attack-1.1142804				
HINCHEY_2018_03_18_B	Garrett Hinchey	18-Mar-18	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/arctic-winter-games-2018-begin-1.4581371				
CBC_2014_05_30	CBC News	30-May-14	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/arctic-scientific-collaboration-a-success-in-gloa-haven-nunavut-1.2659946				
CBC_2011_01_20	CBC News	20-Jan-11	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/avian-cholera-may-spread-in-arctic-scientists-1.1118928				
ZEREHI_2016_01_05	Sima Sahar Zerehi	5-Jan-16	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/protecting-nunavut-oceans-1.3389248				
LAST_2020_07_02	John Last	2-Jul-20	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/sami-truth-commissions-1.5633569				
CBC_2017_11_03	CBC News	3-Nov-17	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/yukon-premier-silver-nwt-mcleod-red-alert-1.4386472				
CANADIAN_2020_03_09	The Canadian Press	9-Mar-20	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/inuit-organization-covid19-coronavirus-concern-north-1.5490979				
ZEREHI_2016_07_10	Sima Sahar Zerehi	10-Jul-16	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/50-year-old-inuit-drawings-offer-snapshot-of-life-in-arctic-1.3671360				
CBC_2013_06_26	CBC News	26-Jun-13	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/tourists-hunters-near-arctic-bay-get-chopper-rescue-1.1385228				
CBC_2020_10_05	CBC News	5-Oct-20	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/newfoundlander-wedding-arctic-ocean-1.5749185				
CBC_2014_07_21	CBC News	21-Jul-14	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/inuit-circumpolar-council-meets-this-week-in-inuvik-n-w-t-1.2711488				
TOTH_2019_02_11	Katie Toth	11-Feb-19	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/search-and-rescue-roundtables-not-happening-1.5012704				
CBC_2020_09_12	CBC News	12-Sep-20	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/yukon-arctic-ultra-2021-pandemic-1.5719879				
ZELNIKER_2016_08_25	Rachel Zelniker	25-Aug-16	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/crystal-serenity-nunavut-impact-review-board-1.3734680				
PIGOTT_2017_01_17	Catherine Pigott	17-Jan-17	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/nunavut-arctic-college-inuit-studies-education-1.3940215				

Table S1: Visions of the Arctic Future: Metadata for Arctic news corpus

Keys and Meyer (2021)

CBC_2018_10_01	CBC News	1-Oct-18	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/executive-summary-arctic-games-1.4845765					
LEDERMAN_2015_09_02	Josh Lederman	2-Sep-15	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/obama-heads-north-of-arctic-circle-as-alaska-climate-tour-continues-1.3212488					
TOTH_2020_01_05	Katie Toth	5-Jan-20	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/beef-up-sar-to-keep-the-north-secure-experts-argue-1.5415253					
SARKADI_2019_05_03	Laurie Sarkadi	3-May-19	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/mackenzie-river-low-water-1.5121043					
WEBER_2017_07_12	Bob Weber	12-Jul-17	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/polar-bear-attack-study-1.4202280					
ASSOCIATED_2014_12_03	The Associated Press	3-Dec-14	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/alaskan-agency-proposes-critical-habitat-for-ringed-seals-1.2858797					
MURRAY_2017_09_23	Nick Murray	23-Sep-17	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/polar-research-lab-eureka-funding-shortfall-1.4303979					
CANADIAN_2020_01_31	The Canadian Press	31-Jan-20	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/norad-needs-upgrades-1.5447902					
CBC_2012_03_14	CBC News	14-Mar-12	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/the-new-north-arctic-multiculturalism-1.1179725					
CBC_2014_10_28	CBC News	28-Oct-14	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/mike-shouldice-retires-from-nunavut-arctic-college-1.2815077					
TOTH_2020_07_10	Katie Toth	10-Jul-20	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/north-eyes-conservatives-1.5644564					
CBC_2014_07_24	CBC News	24-Jul-14	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/inuit-brace-for-full-bore-arctic-development-at-international-summit-1.2716598					
BROWN_2020_12_22	Beth Brown	22-Dec-20	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/homemade-tree-brings-nunavut-mother-and-sons-together-after-heartbreak-1.5846195					
SCOTT_2020_09_14	Mackenzie Scott	14-Sep-20	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/fort-mcpherson-backpack-giveaway-1.5722001					
CBC_2020_02_01	CBC News	1-Feb-20	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/world-family-knuckle-hop-competition-1.5448296					
HINCHEY_2016_03_02	Garrett Hinchey	2-Mar-16	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/awg-team-yukon-preview-1.3473206					
BELL_2018_12_14	Susan Bell	14-Dec-18	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/chisasibi-potatoes-farm-project-1.4945336					
WRIGHT_2011_11_18	Laura Wright	18-Nov-11	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/hawing-permafrost-sinks-buildings-hikes-costs-in-north-1.1108686					
KYLE_2019_06_06	Kate Kyle	6-Jun-19	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/inuit-climate-change-strategy-1.5165827					
CBC_2014_07_03	CBC News	3-Jul-14	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/greenpeace-takes-on-lego-over-shell-partnership-1.2695167					
CBC_2017_10_23	CBC News	23-Oct-17	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/franklin-expedition-ships-canada-owner-1.4367419					
MURRAY_2016_06_08	Nick Murray	8-Jun-16	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/shell-lancaster-sound-permits-1.3620681					
TOTH_2019_11_18	Katie Toth	18-Nov-19	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/environmentalists-hope-self-imposed-ban-on-heavy-fuel-oil-will-get-regulators-talking-1.5362827					
CBC_2019_12_08	CBC News	8-Dec-19	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/norman-wells-biathlon-club-formation-1.5387194					
DENTREMONT_2020_03_09	Danielle d'Entremont	9-Mar-20	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/archery-nwt-arctic-winter-games-cancelled-1.5490668					
KYLE_2019_09_20	Kate Kyle	20-Sep-19	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/amundsen-arctic-hybrid-cruise-1.5290158					
FRIZZELL_2018_12_07	Sara Frizzell	7-Dec-18	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/polar-bear-contaminants-study-1.4935613					
ZEREHI_2016_03_07	Sima Sahar Zerehi	7-Mar-16	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/arctic-search-and-rescue-needs-1.3477252					
SCOTT_2020_01_28	Mackenzie Scott	28-Jan-20	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/fort-simpson-knuckle-hop-record-1.5441684					
CBC_2016_04_10	CBC News	10-Apr-16	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/inuit-circumpolar-council-president-karetak-lindell-1.3529220					
ZEREHI_2016_09_28	Sima Sahar Zerehi	28-Sep-16	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/maud-rises-norwegian-ship-cambridge-bay-1.3782510					
CBC_2013_08_28	CBC News	29-Aug-13	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/after-9-years-cleanup-complete-on-baffin-island-1.1394987					
DUSEN_2016_04_20	John Van Dusen	20-Apr-16	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/cambridge-bay-power-plant-chars-1.3544805					
CBC_2017_12_19_A	CBC News	19-Dec-17	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/anwr-protestors-fort-mcpherson-1.4456833					
LATIMER_2018_01_22	Kendall Latimer	22-Jan-18	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/warming-temperatures-freezing-rain-harmful-muskox-1.4493506					
ZINGEL_2019_04_12	Avery Zingel	12-Apr-19	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/coastal-erosion-tuktoyaktuk-needs-more-money-1.5095115					
BLAKE_2019_08_20	Emily Blake	20-Aug-19	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/sea-ice-loss-cold-winters-1.5247381					
CBC_2019_02_12	CBC News	12-Feb-19	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/arctic-inspiration-prize-2019-1.5016899					
AVERY_2019_05_21	Heather Avery	21-May-19	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/old-crow-climate-change-emergency-1.5144010					
CBC_2010_07_29	CBC News	29-Jul-10	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/arctic-ship-graves-a-rewarding-find-1.880117					
FRIZZELL_2017_07_10	Sara Frizzell	10-Jul-17	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/nanisivik-arctic-bay-naval-refueling-2018-1.4195662					
STRONG_2019_04_02	Walter Strong	2-Apr-19	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/devon-island-nunavut-mars-training-1.5080464					
CBC_2020_11_07	CBC News	7-Nov-20	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/climate-change-inuit-communities-national-geographic-documentary-1.5788148					
CBC_2015_04_13	CBC News	13-Apr-15	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/permafrost-thaw-threatens-arctic-archeological-sites-says-professor-1.3030303					
DUSEN_2016_08_16	John Van Dusen	16-Aug-16	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/nunavut-flag-olympics-rio-de-janeiro-1.3723003					
STEWART_2017_10_23	Briar Stewart	23-Oct-17	22-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/new-arctic-coast-highway-opens-up-remote-tuktoyaktuk-1.4363029					
TAYLOR_2015_10_27	Susan Taylor	27-Oct-15	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/canada-s-once-booming-arctic-diamond-sector-loses-lustre-1.3290437					
CBC_2014_03_12	CBC News	12-Mar-14	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/igaluit-figure-skaters-add-style-to-team-nunavut-1.2568542					
BLAKE_2018_05_01	Emily Blake	1-May-18	2-Apr-20	CBC North News	https://www.cbc.ca/news/canada/north/nwt-economic-forecast-2018-1.4643792					
DUSEN_2016_10_04	John Van Dusen	4-Oct-16	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/hms-terror-find-under-review-by-feds-1.3791664					
CBC_2018_11_30	CBC News	30-Nov-18	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/cape-dorset-sanikiluaq-fisheries-1.4926449					
SKURA_2016_11_07	Elyse Skura	7-Nov-16	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/nunavut-law-program-applications-open-1.3827428					
SKURA_2015_07_27	Elyse Skura	27-Jul-15	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/susan-aglukark-leads-arcticosewary-suicide-prevention-campaign-1.3169119					
CANADIAN_2012_12_14	The Canadian Press	14-Dec-12	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/scientists-figure-out-beluga-s-beaufort-sea-menu-1.1172877					
CBC_2018_12_05	CBC News	5-Dec-18	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/tallurutiup-imanga-lancaster-sound-aip-1.4933534					
ASSOCIATED_2010_11_24	The Associated Press	24-Nov-10	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/lu-s-creates-critical-habitat-for-polar-bear-1.8886207refsrss					
BOHRER_2016_11_29	Becky Bohrer	29-Nov-16	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/alaska-caribou-central-arctic-herd-decline-1.3872786					
CBC_2010_04_15	CBC News	15-Apr-10	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/protect-us-not-polar-bears-inuit-officials-1.957617					
CROFT_2016_12_01	Dave Croft	1-Dec-16	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/porcupine-caribou-herd-yukon-patagonia-anwr-1.3875295					
MINOGUE_2019_05_05	Sara Minogue	5-May-19	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/sara-minogue-inuit-dog-slaughter-1.5116972					
HINCHEY_2018_03_17	Garrett Hinchey	17-Mar-18	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/hay-river-pine-point-1978-awg-look-back-1.4580398					
THURTON_2015_12_19	David Thurton	19-Dec-15	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/alaska-artificial-island-drilling-1.3372578					
MORIN_2017_03_06	Philippe Morin	6-Mar-17	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/yukon-geothermal-energy-1.4009917					
BUSCH_2019_12_01	Laura Busch	1-Dec-19	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/arctic-indigenous-wellness-foundation-new-director-1.5379525					
CBC_2012_06_13	CBC News	13-Jun-12	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/igaluit-coast-guard-centre-open-for-season-1.1235313					
SCOTT_2019_12_21	Mackenzie Scott	21-Dec-19	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/cop25-tuk-by-teens-doc-1.5403742					
CBC_2017_12_03	CBC News	3-Dec-17	2-Apr-20	CBC North News	https://www.cbc.ca/news/canada/north/kuujuaq-solar-panel-pilot-project-1.4428287					

Table S1: Visions of the Arctic Future: Metadata for Arctic news corpus

Keys and Meyer (2021)

BLAKE_2019_01_28	Emily Blake	28-Jan-19	2-Apr-20	CBC North News	https://www.cbc.ca/news/canada/north/inuvik-infrastructure-study-1.4995948					
WEBER_2015_11_12	Bob Weber	12-Nov-15	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/canada-denmark-should-turn-hans-island-into-a-condominium-academics-1.3315640					
CBC_2018_07_21	CBC News	21-Jul-18	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/project-bright-quebec-nunavik-1.4727585					
CBC_2014_11_19	CBC News	19-Nov-14	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/as-glacier-melts-grise-fjord-residents-fear-for-water-supply-1.2840562					
CBC_2018_07_06	CBC News	6-Jul-18	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/first-air-canadian-north-1.4737478					
CANADIAN_2016_09_09	The Canadian Press	9-Sep-16	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/imperial-oil-selling-norman-wells-oil-assets-1.3755968					
CBC_2020_09_20	CBC News	20-Sep-20	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/nwt-youth-expedition-1.5730734					
GLEESON_2020_09_09	Richard Gleeson	9-Sep-20	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/energy-leaders-say-better-options-than-billion-dollar-ltation-expansion-1.5716653					
CBC_2015_06_03	CBC News	3-Jun-15	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/polar-knowledge-canada-merges-polar-commission-with-chars-1.3097030					
HWANG_2019_09_18	Priscilla Hwang	18-Sep-19	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/shark-rare-catch-kugluktuk-nunavut-1.5287264					
THIESSEN_2016_03_03	Mark Thiesen	3-Mar-16	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/first-oil-flows-from-alaska-reserve-set-aside-in-23-1.3474750					
KYLE_2017_11_27	Kate Kyle	27-Nov-17	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/cambridge-bay-treatment-women-arctic-1.4414740					
BUSCH_2019_09_01	Laura Busch	1-Sep-19	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/porcupine-caribou-native-user-agreement-celebrated-1.5266654					
REUTERS_2019_12_19	Thomson Reuters	19-Dec-19	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/greenland-ericsen-huawei-5g-1.5402788					
ASSOCIATED_2018_11_26	The Associated Press	26-Nov-18	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/hasa-beaufort-sea-drilling-1.4920735					
MORIN_2016_06_24	Philippe Morin	24-Jun-16	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/junior-rangers-whilehorse-1.3650336					
ASSOCIATED_2018_10_14	The Associated Press	14-Oct-18	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/alaska-inupiat-hunters-dead-whale-1.4862501					
CBC_2013_12_16	CBC News	16-Dec-13	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/1959-message-in-a-bottle-a-clue-to-glacier-melt-1.2465597					
SCOTT_2017_03_17	Mackenzie Scott	17-Mar-17	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/inuvik-arctic-esso-gas-northwind-industries-1.4030135					
MURRAY_2020_06_09	Nick Murray	9-Jun-20	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/northern-hotels-financial-help-covid-19-1.5603371					
HINCHEY_2019_02_23	Garrett Hinchey	23-Feb-19	2-Apr-20	CBC North News	https://www.cbc.ca/news/canada/north/table-tennis-canada-winter-games-1.5031216					
CBC_2012_06_26	CBC News	26-Jun-12	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/big-turnout-in-igluait-for-country-food-store-sale-1.1256448					
BROWN_2020_09_17	Beth Brown	17-Sep-20	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/hunters-inuit-knowledge-ignored-nunavut-mine-environmental-study-1.5726454					
CBC_2018_02_21	CBC News	21-Feb-18	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/olympics-erasmus-indigenous-team-1.4545795					
CBC_2016_03_19	CBC News	19-Mar-16	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/proposed-beaufort-licences-infringe-arctic-sovereignty-1.3498469					
MCCOLL_2019_01_07	Karen McColl	7-Jan-19	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/hares-eat-meat-1.4949438					
CBC_2014_05_12	CBC News	12-May-14	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/beaufort-sea-more-earthquake-prone-than-thought-1.2640067					
FRIZZELL_2017_12_23	Sara Frizzell	23-Dec-17	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/territorial-tree-nunavut-1.4463230					
CBC_2019_07_14	CBC News	14-Jul-19	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/hunters-market-igluait-new-takeout-convenience-store-1.5211484					
LAST_2019_11_04	John Last	4-Nov-19	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/nwt-students-research-expedition-1.5346303					
STRONG_2019_06_01	Walter Strong	1-Jun-19	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/antoine-mountain-dene-memoir-1.5158216					
CANADIAN_2016_06_20	The Canadian Press	20-Jun-16	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/caribou-facebook-nunavut-1.3643441					
CBC_2017_12_19_B	CBC News	19-Dec-17	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/baffinland-on-track-to-exceed-permit-limit-1.4455567					
ASSOCIATED_2020_03_10	The Associated Press	10-Mar-20	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/dollar-2020-begins-waerner-lead-1.5492520					
JONES_2019_07_02	Ryan Patrick Jones	2-Jul-19	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/inuit-guardian-federal-funding-1.5194899					
SKURA_2016_07_25	Elyse Skura	25-Jul-16	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/nunavut-research-search-and-rescue-risks-1.3693006					
FRIZZELL_2018_02_24	Sara Frizzell	24-Feb-18	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/amc-the-terror-nive-nielsen-1.4501950					
CBC_2012_10_09	CBC News	9-Oct-12	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/decades-old-nunavut-fishing-boat-gets-makeover-1.1228395					
CBC_2010_06_04	CBC News	4-Jun-10	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/nfb-doc-on-inuit-dog-slaughter-debuts-in-nunavut-1.926118					
CBC_2015_06_26	CBC News	26-Jun-15	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/imperial-oil-bp-delay-beaufort-sea-drilling-plans-indefinitely-1.3129505					
CBC_2011_04_20	CBC News	20-Apr-11	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/igluait-to-host-polar-bear-conservation-meeting-1.988267					
STRONG_2017_08_15	Walter Strong	15-Aug-17	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/inuit-guardian-program-launched-1.4248312					
LAST_2020_02_24	John Last	24-Feb-20	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/redefining-conservation-in-the-north-1.5467599					
BARTON_2016_09_15	Katherine Barton	15-Sep-16	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/sammy-kogvik-hms-terror-franklin-1.3763653					
BROCKMAN_2019_11_14	Alex Brockman	14-Nov-19	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/polar-bears-hoarding-behaviour-1.5358713					
CBC_2020_03_03	CBC News	3-Mar-20	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/cold-february-2020-igluait-1.5483907					
CBC_2017_03_09	CBC News	9-Mar-17	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/vuntut-gwitchin-old-crow-anwr-porcupine-caribou-1.4018019					
CANADIAN_2020_06_19	The Canadian Press	19-Jun-20	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/nunavut-court-teacher-abuse-class-action-1.5620156					
SKURA_2016_06_14	Elyse Skura	14-Jun-16	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/naujaat-nunavut-growing-north-project-1.3633295					
REUTERS_2019_12_27	Thomson Reuters	27-Dec-19	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/alaska-2019-record-warm-year-1.5409641					
DUPUIS_2015_07_29	Natasha MacDonald-Dupuis	29-Jul-15	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/nunavut-parks-group-aims-to-expand-day-camp-program-1.3172208					
CBC_2011_08_19	CBC News	19-Aug-11	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/polar-bear-diamonds-face-extinction-in-n-w-t-1.1069521					
BROCKMAN_2017_03_01	Alex Brockman	1-Mar-17	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/indigenous-wellness-centre-yellowknife-1.4003777					
CBC_2014_06_08	CBC News	8-Jun-14	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/after-33-years-yellowknife-s-newspaper-family-calls-it-quits-1.2667780					
SKURA_2014_12_16	Elyse Skura	16-Dec-14	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/nunatsiavut-s-joye-angnatok-wins-inuit-recognition-award-1.2874590					
FRIZZELL_2017_08_15	Sara Frizzell	15-Aug-17	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/lancaster-sound-marine-conservation-area-1.4246763					
LAST_2020_06_06	John Last	6-Jun-20	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/experts-tourism-advice-north-1.5600575					
CBC_2020_12_17	CBC News	17-Dec-20	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/nunavut-food-centre-prepares-for-possibility-of-meagre-years-ahead-1.5844403					
BLAKE_2018_08_17	Emily Blake	17-Aug-18	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/emaciated-polar-bear-response-1.4788259					
MCKAY_2020_01_29	Jackie McKay	29-Jan-20	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/french-school-igluait-expansion-1.5444334					
SCOTT_2018_03_27	Mackenzie Scott	27-Mar-18	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/muskkrat-jamboree-dog-sled-racing-returns-1.4595606					
WEBER_2015_12_07	Bob Weber	7-Dec-15	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/china-polar-bear-market-1.3353774					
CBC_2015_09_09	CBC News	9-Sep-15	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/akavik-shingle-point-garbage-removal-1.3221632					
CBC_2014_10_17	CBC News	17-Oct-14	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/federal-government-restricts-possible-beaufort-sea-fisherries-1.2803678					
CBC_2015_03_03	CBC News	3-Mar-15	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/nunavut-to-lose-4-jobs-due-to-cars-stations-takeover-1.2979210					
TOTH_2019_04_09	Katie Toth	9-Apr-19	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/plastics-in-polar-bear-stomachs-1.5089882					
DUSEN_2016_05_27	John Van Dusen	27-May-16	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/feds-were-concerned-qec-could-not-power-chars-1.3601905					

Table S1: Visions of the Arctic Future: Metadata for Arctic news corpus

Keys and Meyer (2021)

THURTON_2015_06_18	David Thurton	18-Jun-15	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/beaufort-sea-s-fish-population-at-risk-due-to-acidification-study-1.3118246				
ZEREHI_2016_07_29	Sima Sahar Zerehi	29-Jul-16	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/northwest-passage-snorkel-relay-inuit-advisors-1.3699212				
BROWN_2019_10_25	Beth Brown	25-Oct-19	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/nunavut-fibre-link-cost-1.5334784				
ZEREHI_2016_08_30	Sima Sahar Zerehi	30-Aug-16	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/nunavut-port-chinese-investors-qlikiotariaq-1.3740470				
PUCCI_2018_07_27	Michelle Pucci	27-Jul-18	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/water-supply-igaluit-concerns-1.4763501				
DESMARAIS_2020_01_14	Anna Desmarais	14-Jan-20	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/fort-smith-school-aviation-2-year-program-1.5422590				
THURTON_2016_02_22	David Thurton	22-Feb-16	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/inuvik-beluga-summit-1.3457713				
CBC_2017_06_22	CBC News	22-Jun-17	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/emergency-preparedness-landslide-greenland-baffin-island-1.4171867				
SCOTT_2017_11_05	Mackenzie Scott	5-Nov-17	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/huktoyaktuk-restaurant-end-of-the-road-1.4387975				
JOLING_2016_12_29	Dan Joling	29-Dec-16	23-Jan-21	CBC North News	https://www.cbc.ca/news/canada/north/alaska-izembek-refuge-road-renew-push-1.3915795				
BUCHANAN_2019_05_15	Elizabeth Buchanan	15-May-19	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2019/05/15/the-us-not-russia-is-the-new-spoiler-in-the-arctic-a65591				
REUTERS_STAFF_2019_05_25	Reuters Staff	25-May-19	2-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2019/05/25/russia-launches-nuclear-icebreaker-as-it-eyes-arctic-future-a65747				
BERSHIDSKY_2019_05_28	Leonid Bershidsky	28-May-19	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2019/05/28/putins-arctic-plans-are-a-climate-change-bet-a65780				
BARENTS_2020_01_31	The Barents Observer	31-Jan-20	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2020/01/31/station-arctic-without-oil-a69105				
BUCHANAN_2020_10_28	Elizabeth Buchanan	28-Oct-20	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2020/10/28/russias-grand-arctic-plan-will-face-tough-hurdles-a71871				
BELOV_2020_11_16	Elena Agarkova Belov	16-Nov-20	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2020/11/16/russia-should-get-behind-arctic-ban-on-dirty-fuel-a72054				
BERSHIDSKY_2019_03_07	Leonid Bershidsky	7-Mar-19	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2019/03/07/putin-turns-swathes-of-russia-into-flyover-country-a64737				
BARENTS_2019_07_12	The Barents Observer	12-Jul-19	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2019/07/12/russia-eyes-own-arctic-cruise-liners-a66391				
LATYOVA_2020_12_11	Leyla Latypova	11-Dec-20	23-Jan-21	The Moscow Times	https://www.themoscowtimes.com/2020/12/11/new-alliance-hopes-to-raise-awareness-of-arctic-environmental-crisis-a72276				
BARENTS_STAFF_2019_11_05	The Barents Observer	5-Nov-19	23-Jan-21	The Moscow Times	https://www.themoscowtimes.com/2019/11/05/russian-arctic-island-temperatures-hit-record-highs-a68033				
MOSCOW_STAFF_2019_09_23	The Moscow Staff	23-Sep-19	23-Jan-21	The Moscow Times	https://www.themoscowtimes.com/2019/09/23/russia-sits-on-the-sidelines-as-the-world-strikes-for-the-climate-a67395				
MOSCOW_STAFF_2019_11_20	The Moscow Staff	20-Nov-19	23-Jan-21	The Moscow Times	https://www.themoscowtimes.com/2019/11/20/climate-change-multi-billion-dollar-damage-russian-economy-a68248				
BERSHIDSKY_2019_12_26	Leonid Bershidsky	26-Dec-19	23-Jan-21	The Moscow Times	https://www.themoscowtimes.com/2019/12/26/putins-grand-gas-project-makes-sense-now-a68749				
GALAYDOV_2020_12_30	Daniil Galaydov	30-Dec-20	23-Jan-21	The Moscow Times	https://www.themoscowtimes.com/2020/12/23/russias-biggest-stories-of-2020-pandemic-putin-and-poisoning-a72456				
KLISHIN_2019_10_14	Ilya Klishin	14-Oct-19	23-Jan-21	The Moscow Times	https://www.themoscowtimes.com/2019/10/14/putin-has-achieved-everything-he-wanted-but-it-will-never-be-enough-for-young-russians-a67718				
GALEOTTI_2019_02_12	Mark Galeotti	12-Feb-19	23-Jan-21	The Moscow Times	https://www.themoscowtimes.com/2019/02/12/surkov-hints-putin-himself-no-longer-essential-for-the-system-to-persevere-a64471				
MOSCOW_STAFF_2019_10_08	The Moscow Staff	8-Oct-19	23-Jan-21	The Moscow Times	https://www.themoscowtimes.com/2019/10/08/putin-gives-top-state-honor-to-us-astronaut-who-survived-russian-rocket-emergency-a67637				
MOSCOW_STAFF_2019_07_22	The Moscow Staff	22-Jul-19	23-Jan-21	The Moscow Times	https://www.themoscowtimes.com/2019/07/22/gazprom-moves-to-complete-pochinki-anapa-pipeline-a66505				
MOSCOW_STAFF_2019_04_04	The Moscow Staff	4-Apr-19	23-Jan-21	The Moscow Times	https://www.themoscowtimes.com/2019/04/04/russia-tricks-gps-signals-to-hide-putins-location-report-says-a65087				
MOSCOW_STAFF_2019_04_12	The Moscow Staff	12-Apr-19	23-Jan-21	The Moscow Times	https://www.themoscowtimes.com/2019/04/12/putins-salary-halved-in-2018-kremlin-says-a65227				
MARTYNOV_2019_09_27	Kiril Martynov	27-Sep-19	23-Jan-21	The Moscow Times	https://www.themoscowtimes.com/2019/09/27/russia-will-warm-up-to-greta-thunberg-eventually-a67472				
BERSHIDSKY_2019_09_24	Leonid Bershidsky	24-Sep-19	23-Jan-21	The Moscow Times	https://www.themoscowtimes.com/2019/09/24/even-putin-is-now-worried-about-climate-change-a67404				
MOSCOW_STAFF_2019_06_28	The Moscow Staff	28-Jun-19	23-Jan-21	The Moscow Times	https://www.themoscowtimes.com/2019/06/28/the-highlights-of-putins-liberalism-is-obsolete-interview-with-ft-a66207				
MISIR_2013_11_24	Timothy Misir	24-Nov-13	23-Jan-21	The Moscow Times	https://www.themoscowtimes.com/2013/11/24/another-russia-shown-in-images-a29853				
GREENE_2019_04_13	Sam Greene	13-Apr-19	23-Jan-21	The Moscow Times	https://www.themoscowtimes.com/2019/04/13/putins-melody-is-no-longer-music-to-russians-ears-a65221				
REUTERS_2019_08_09	Reuters Staff	9-Aug-19	23-Jan-21	The Moscow Times	https://www.themoscowtimes.com/2019/08/09/a-timeline-of-putins-2-decades-in-power-a66787				
MOSCOW_STAFF_2019_07_25	The Moscow Staff	25-Jul-19	23-Jan-21	The Moscow Times	https://www.themoscowtimes.com/2019/07/25/2-detained-over-fake-bomb-planted-near-putins-motorcade-a66571				
BLOOMBERG_2019_01_17	Bloomberg	17-Jan-19	23-Jan-21	The Moscow Times	https://www.themoscowtimes.com/2019/01/17/putin-arrives-to-heros-welcome-as-serbia-seeks-kosovo-leverage-a64169				
GOLTS_2015_08_17	Alexander Golts	17-Aug-15	23-Jan-21	The Moscow Times	https://www.themoscowtimes.com/2015/08/17/ff-kursk-sank-today-it-could-set-off-war-op-ed-a49001				
MOSCOW_STAFF_2014_04_09	The Moscow Staff	9-Apr-14	23-Jan-21	The Moscow Times	https://www.themoscowtimes.com/2014/04/09/what-the-papers-say-april-9-2014-a33778				
OLIPHANT_2011_10_05	Roland Oliphant	5-Oct-11	23-Jan-21	The Moscow Times	https://www.themoscowtimes.com/2011/10/05/counting-the-cost-of-russias-melting-permafrost-a9961				
MOSCOW_STAFF_2014_09_17	The Moscow Staff	17-Sep-14	23-Jan-21	The Moscow Times	https://www.themoscowtimes.com/2014/09/17/11-reasons-why-scotland-should-vote-for-russia-in-the-referendum-a39505				
MOSCOW_STAFF_2010_11_09	The Moscow Staff	9-Nov-10	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2010/11/09/oil-and-ice-worse-than-gulf-spill-a2789				
MAX_2011_01_11	Arthur Max	11-Jan-11	8-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2011/01/11/no-roads-to-rubbish-dump-of-life-a4116				
MOSCOW_STAFF_2011_05_10_B	The Moscow Staff	10-May-11	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2011/05/10/rosneft-to-speak-soon-on-bp-a6867				
KRAINOVA_2011_10_03	Natalya Krainova	3-Oct-11	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2011/10/03/foreign-scientists-drawn-by-lucrative-state-mega-grants-a9908				
EARLE_2012_07_24	Jonathan Earle	24-Jul-12	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2012/07/24/think-tank-wants-arctic-ocean-to-become-russian-ocean-a16510				
MEDETSKY_2012_08_02	Anatoly Medetsky	2-Aug-12	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2012/08/02/dvorkovich-tasked-with-creating-incentives-for-arctic-extraction-a16753				
OLIPHANT_2012_08_07	Roland Oliphant	7-Aug-12	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2012/08/07/murmansk-poised-for-risky-renaissance-a16842				
OLIPHANT_2012_08_26	Roland Oliphant	26-Aug-12	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2012/08/26/gazprom-says-no-disruption-after-greenpeace-raid-a17285				
RYZHKOV_2012_12_24	Vladimir Ryzhov	24-Dec-12	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2012/12/24/gazprom-is-an-environmental-hazard-a20419				
BRATERSKY_2013_03_06	Alexander Bratersky	6-Mar-13	8-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2013/03/06/putin-reaches-out-after-death-of-close-friend-chavez-a22142				
KRAINOVA_2013_05_30	Natalya Krainova	30-May-13	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2013/05/30/mammoth-corpse-and-blood-found-on-arctic-island-photo-a24508				
ASLUND_2013_06_20	Anders Aslund	20-Jun-13	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2013/06/20/how-rosneft-is-turning-into-another-gazprom-a25137				
KRAVTSOVA_2013_10_23	Yekaterina Kravtsova	23-Oct-13	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2013/10/23/gazproms-bric-a-brac-rieg-called-a-risk-to-the-arctic-a28880				
MEDETSKY_2013_10_24_A	Anatoly Medetsky	24-Oct-13	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2013/10/24/qa-billionaire-fetisov-believes-russias-future-is-green-a28902				
MEDETSKY_2013_12_19	Anatoly Medetsky	19-Dec-13	8-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2013/12/19/putin-to-end-khodorkovskys-infinite-imprisonment-a30673				
LOURIE_2014_02_09	Richard Lourie	9-Feb-14	8-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2014/02/09/10-good-things-about-putins-russia-a31886				
EREMENKO_2014_05_21	Alexey Eremenko	21-May-14	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2014/05/21/factbox-russian-mega-projects-12-of-the-best-a35656				
LAMMEY_2014_06_10	Mark Lammey	10-Jun-14	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2014/06/10/putin-design-oversight-leaves-580-million-hole-in-russian-yamal-ing-port-project-a36343				
BODNER_2014_07_31	Matthew Bodner	31-Jul-14	8-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2014/07/31/eu-arms-embargo-a-shot-across-the-bow-of-russias-defense-industry-a37895				
CROWTHER_2014_09_22	Sarah Crowther	22-Sep-14	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2014/09/22/crate-barrel-opens-first-store-in-russia-a39654				
HARTOG_2014_09_29	Eva Hartog	29-Sep-14	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2014/09/29/soviet-era-arktika-hotel-reflects-murmansk-turbulent-history-a39883				
DEMPSEY_2014_10_13	Judy Dempsey	13-Oct-14	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2014/10/13/no-quick-fix-for-nato-and-russia-a40344				
MOSCOW_STAFF_2015_02_03	The Moscow Staff	3-Feb-15	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2015/02/03/russian-oil-production-hit-post-soviet-high-last-year-a43514				
ROBERTS_2015_02_08	Brittany Roberts	8-Feb-15	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2015/02/08/capturing-the-last-generation-before-the-war-a43676				
AMOS_2015_03_10	Howard Amos	10-Mar-15	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2015/03/10/russian-tycoon-fridman-should-make-uk-feel-nervous-a44604				

Table S1: Visions of the Arctic Future: Metadata for Arctic news corpus

Keys and Meyer (2021)

MCCOY_2015_06_10	Lara McCoy	10-Jun-15	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2015/06/10/avkalavka-takes-russian-cuisine-back-to-the-future-a47297				
CICHOWLAS_2016_11_28	Ola Cichowlas	28-Nov-16	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2016/11/28/crime-punishment-and-more-punishment-a56325				
MOSCOW_STAFF_2017_01_03	The Moscow Staff	3-Jan-17	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2017/01/03/soviet-lost-future-filmstrip-a56724				
DAVIES_2017_02_21	Katie Davies	21-Feb-17	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2017/02/21/russias-khrushchevki-a57229				
TRUDOLYUBOV_2017_04_03	Maxim Trudolyubov	3-Apr-17	8-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2017/04/03/russia-is-a-political-hazard-zone-a57609				
MOSCOW_STAFF_2017_09_14	The Moscow Staff	14-Sep-17	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2017/09/14/russia-says-zapad-exercises-do-not-pose-threat-to-europe-a58943				
GERSHKOVICH_2018_04_27	Evan Gershkovich	27-Apr-18	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2018/04/27/russia-crackdown-jehovah-witnesses-begins-with-a-foreigner-a61288				
BUCHANAN_2018_05_15	Elizabeth Buchanan	15-May-18	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2018/05/15/the-collapsing-iran-deal-could-make-russia-rich-opinion-a61452				
MOSCOW_STAFF_2018_09_06	The Moscow Staff	6-Sep-18	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2018/09/06/russian-ministry-warns-coming-environmental-apocalypse-fueled-climate-change-a62804				
REUTERS_STAFF_2018_12_20	Reuters Staff	20-Dec-18	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2018/12/20/russias-putin-accuses-us-of-raising-risk-of-nuclear-war-a63919				
MOSCOW_STAFF_2019_02_05	The Moscow Staff	5-Feb-19	8-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2019/02/05/earths-magnetic-pole-quickly-moving-toward-russia-models-say-a64404				
MARIUS_2019_02_20	Ellie Martus	20-Feb-19	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2019/02/20/its-time-for-russia-to-get-serious-about-climate-change-a64552				
REUTERS_STAFF_2019_02_21	Reuters Staff	21-Feb-19	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2019/02/21/despite-putins-swagger-russia-struggles-to-modernise-its-navy-a64582				
REUTERS_STAFF_2019_03_07	Reuters Staff	7-Mar-19	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2019/03/07/female-naval-cadets-say-russia-not-ready-for-women-in-combat-roles-a64734				
MOSCOW_STAFF_2019_04_03	The Moscow Staff	3-Apr-19	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2019/04/03/russias-infrastructure-overhaul-explained-a64839				
BLOOMBERG_2019_04_09	Bloomberg	8-Apr-19	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2019/04/08/russia-eyes-greater-energy-dominance-with-arctic-lng-push-a65140				
GERSHKOVICH_2019_04_09	Evan Gershkovich	9-Apr-19	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2019/04/09/siberia-s-historic-capital-and-russia-look-to-new-plastics-plant-for-economic-future-a65152				
MOSCOW_STAFF_2019_04_10	The Moscow Staff	10-Apr-19	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2019/04/10/putin-says-no-imminent-decision-on-oil-output-cuts-a65171				
MOSCOW_STAFF_2019_04_11	The Moscow Staff	11-Apr-19	8-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2019/04/11/where-there-are-black-holes-the-universe-is-a-meme-a65191				
GERSHKOVICH_2019_04_17	Evan Gershkovich	17-Apr-19	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2019/04/17/russias-fast-growing-youth-army-aimst-to-breed-loyalty-to-the-fatherland-a65256				
BARENTS_2019_05_02	The Barents Observer	2-May-19	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2019/05/02/russian-arctic-rescuers-evacuate-as-polar-ice-cracks-a65474				
MOSCOW_STAFF_2019_05_15	The Moscow Staff	15-May-19	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2019/05/15/putins-new-energy-security-doctrine-preaches-self-reliance-a65573				
BLOOMBERG_2019_05_15	Bloomberg	15-May-19	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2019/05/15/russia-dirty-oil-crisis-drag-on-as-port-loads-tainted-cargo-1-a65600				
VOLKOV_2019_05_17	Denis Volkov	17-May-19	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2019/05/17/who-russians-think-will-succeed-putin-in-2024-a65621				
LEE_2019_06_03	Julian Lee	3-Jun-19	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2019/06/03/face-it-opek-russia-is-no-longer-your-friend-a65847				
ARIS_2019_06_03	Ben Aris	3-Jun-19	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2019/06/03/shares-in-russias-gazprom-soar-a65842				
BERSHIDSKY_2019_06_04	Leonid Bershidsky	4-Jun-19	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2019/06/04/what-russia-after-vladimir-putin-might-look-like-a65879				
KASHIN_2019_06_21	Oleg Kashin	21-Jun-19	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2019/06/21/the-russian-people-hold-the-key-to-putins-succession-a66099				
BARENTS_2019_06_27	The Barents Observer	27-Jun-19	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2019/06/27/small-northern-russian-town-lands-key-role-in-big-arctic-plan-a66190				
MACAES_2019_07_01	Bruno Macaes	1-Jul-19	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2019/07/01/why-putin-wants-to-believe-in-the-death-of-liberalism-a66229				
GERSHKOVICH_2019_08_02	Evan Gershkovich	2-Aug-19	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2019/08/02/as-anger-simmers-over-wildfires-protesters-demand-resignation-of-siberian-governor-a66678				
SAPRYKIN_2019_08_20	Yury Saprykin	20-Aug-19	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2019/08/20/20-years-of-vladimir-putin-how-russian-society-has-changed-a66930				
BARENTS_2019_08_26	The Barents Observer	26-Aug-19	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2019/08/26/russia-announces-plans-for-coal-digging-surge-a67011				
TRENIN_2019_08_27	Dmitry Trenin	27-Aug-19	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2019/08/27/20-years-of-vladimir-putin-how-russian-foreign-policy-has-changed-a67043				
BARENTS_2019_09_04	The Barents Observer	4-Sep-19	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2019/09/04/moscow-to-re-examine-soviet-era-arctic-drill-site-for-oil-and-gas-potential-a67130				
BARENTS_2019_09_05	The Barents Observer	5-Sep-19	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2019/09/05/india-looks-toward-russian-arctic-for-energy-development-a67155				
GERSHKOVICH_2019_09_07	Evan Gershkovich	7-Sep-19	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2019/09/07/signaling-readiness-for-thaw-russia-and-ukraine-swap-prisoners-a67090				
BARENTS_2019_09_10	The Barents Observer	10-Sep-19	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2019/09/10/russian-nuclear-powered-cargo-ship-loaded-with-seafood-approaches-norway-a67218				
TRUDOLYUBOV_2019_09_26	Maxim Trudolyubov	26-Sep-19	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2019/09/26/guns-butter-and-russias-enduring-power-a67461				
DAVYDOVA_2019_09_27	Angelina Davydova	27-Sep-19	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2019/09/27/in-the-shadow-of-strict-protest-laws-young-russians-build-a-climate-movement-a67481				
MOSCOW_STAFF_2019_09_27	The Moscow Staff	27-Sep-19	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2019/09/27/russian-authorities-question-young-activists-ahead-of-climate-strike-a67479				
MOSCOW_STAFF_2019_10_01	The Moscow Staff	1-Oct-19	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2019/10/01/russia-invites-climate-activist-greta-thunberg-to-speak-in-parliament-a67518				
PROKOPENKO_2019_10_01	Alexandra Prokopenko	1-Oct-19	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2019/10/01/the-race-to-grab-russias-reserves-a67534				
MOSCOW_STAFF_2019_10_02	The Moscow Staff	2-Oct-19	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2019/10/02/arctic-gas-industry-hit-by-anti-iran-sanctions-a67550				
MOSCOW_STAFF_2019_11_06	The Moscow Staff	6-Nov-19	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2019/11/06/putin-wants-to-replace-wikipedia-with-reliable-russian-version-4-takeaways-from-speech-a68046				
SAUER_2019_11_08	Pjotr Sauer	8-Nov-19	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2019/11/08/11000-scientists-untold-suffering-climate-change-only-4-russian-a68106				
ARIS_2019_11_14	Ben Aris	14-Nov-19	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2019/11/14/russia-climate-change-30-trillion-esg-investment-prize-a68148				
MOSCOW_STAFF_2019_11_14	The Moscow Staff	14-Nov-19	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2019/11/14/us-shale-overtake-russia-oil-gas-production-a68168				
GERASIMOV_2019_12_18	Valery Gerasimov	18-Dec-19	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2019/12/18/russian-army-gen-gerasimov-in-quotes-a68666				
MOSCOW_STAFF_2019_12_19	The Moscow Staff	19-Dec-19	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2019/12/19/putins-end-of-year-press-conference-in-quotes-a68686				
SAUER_2019_12_24	Pjotr Sauer	24-Dec-19	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2019/12/24/foreign-policy-experts-map-russias-plans-for-2020-a68636				
SAVAGE_2020_01_10	Rachel Savage	10-Jan-20	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2020/01/10/slow-climate-action-may-see-warming-do-russia-more-harm-than-good-a68861				
KOZIN_2020_03_09	Daniel Kozin	9-Mar-20	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2020/03/04/is-russia-finally-waking-up-to-climate-change-a69517				
KOZIN_2020_04_03	Daniel Kozin	3-Apr-20	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2020/04/03/russias-leading-climate-change-expert-gives-sober-prognosis-a69822				
BERDY_2020_04_29	Michele Berdy	29-Apr-20	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2020/04/29/pushkin-house-announces-2020-book-prize-short-list-a70135				
CORDELL_2020_05_20	Jake Cordell	20-May-20	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2020/05/18/profit-slumps-herald-more-trouble-ahead-for-russias-corporate-giants-a70304				
BARENTS_2020_06_11	The Barents Observer	11-Jun-20	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2020/06/11/foreign-adversaries-could-use-tundra-oil-spill-to-discredit-russia-security-chief-warns-a70554				
CORDELL_2020_06_23	Jake Cordell	23-Jun-20	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2020/06/22/russias-coronavirus-recovery-plan-has-no-space-for-renewables-a70658				
BARENTS_2020_06_26	The Barents Observer	26-Jun-20	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2020/06/26/investor-breathes-new-life-into-major-arctic-coal-project-a70711				
MOSCOW_STAFF_2020_07_07	The Moscow Staff	7-Jul-20	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2020/07/06/russia-demands-2bln-from-mining-giant-over-arctic-oil-spill-a70802				
CORDELL_2020_08_20	Jake Cordell	20-Aug-20	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2020/08/20/coronavirus-pandemic-rebalances-russias-corporate-landscape-a71210				
AFP_2020_09_22	AFP	22-Sep-20	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2020/09/22/russias-giant-nuclear-powered-icebreaker-makes-maiden-voyage-a71510				
VTIMES_2020_09_28	VTimes	28-Sep-20	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2020/09/28/how-nornikel-became-the-arctics-biggest-polluter-a71572				
EREMEEVA_2020_10_10	Jennifer Eremeeva	10-Oct-20	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2020/10/10/pushkin-house-shortlisted-books-tackle-authoritarianism-a71711				
ARIS_2020_10_30	Ben Aris	30-Oct-20	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2020/10/30/russias-megafon-joins-race-to-provide-mobile-internet-from-space-a71912				
MOSCOW_STAFF_2010_09_05	The Moscow Staff	5-Sep-10	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2010/09/05/luikoil-could-be-seeking-tax-break-for-caspian-oil-a1160				
MOSCOW_STAFF_2010_09_07	The Moscow Staff	7-Sep-10	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2010/09/07/nazarbayev-proposes-siberian-river-diversion-a1237				

Table S1: Visions of the Arctic Future: Metadata for Arctic news corpus

Keys and Meyer (2021)

MOSCOW_STAFF_2010_10_11	The Moscow Staff	11-Oct-10	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2010/10/11/investor-plans-new-port-for-coal-on-barents-sea-a2105					
MOSCOW_STAFF_2010_10_24	The Moscow Staff	24-Oct-10	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2010/10/24/rusal-rejects-9bln-offer-from-potinin-a2437					
KARASEK_2010_11_17	Tomas Karasek	17-Nov-10	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2010/11/17/czech-project-can-help-lift-nato-russia-ties-a3070					
MOSCOW_STAFF_2010_11_25	The Moscow Staff	25-Nov-10	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2010/11/25/shipbuilding-in-helsinki-a3272					
KRAINOVA_2010_12_01	Natalya Krainova	1-Dec-10	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2010/12/01/for-russia-global-warming-benefits-outweigh-negatives-a3407					
NARIZHNAYA_2011_01_12	Kristina Narizhnaya	12-Jan-11	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2011/01/12/us-sees-norway-as-uneasy-with-russia-a4164					
AMOS_2011_01_16	Howard Amos	16-Jan-11	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2011/01/16/bp-rosneft-in-landmark-swap-a4250					
AMOS_2011_01_17	Howard Amos	17-Jan-11	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2011/01/17/oil-and-gas-head-up-and-east-a4276					
MEDETSKY_2011_01_26	Anatoly Medetsky	26-Jan-11	8-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2011/01/26/medvedev-slams-terror-touts-internet-a4550					
OUPHANT_2011_01_27	Roland Oliphant	27-Jan-11	8-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2011/01/27/exxon-rosneft-sink-1bln-in-black-sea-a4572					
MOSCOW_STAFF_2011_04_20	The Moscow Staff	20-Apr-11	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2011/04/20/putin-attempts-to-reassure-worried-bp-a6485					
MOSCOW_STAFF_2011_04_21	The Moscow Staff	21-Apr-11	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2011/04/21/tnk-bp-abroad-not-daunted-by-local-woes-a6506					
MOSCOW_STAFF_2011_05_10_A	The Moscow Staff	10-May-11	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2011/05/10/lavrov-at-talks-on-last-frontier-a6847					
HULBERT_2011_05_18	Matthew Hulbert	18-May-11	8-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2011/05/18/bps-fickle-russian-bride-better-than-no-bride-a7049					
DAVIDOFF_2011_05_22	Victor Davidoff	22-May-11	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2011/05/22/medvedev-is-a-talk-show-host-and-diplomat-a7111					
IVORY_2011_06_14	Ian Ivory	17-Jun-11	8-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2011/06/14/english-law-in-russian-business-a7609					
MOSCOW_STAFF_2011_07_19	The Moscow Staff	19-Jul-11	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2011/07/19/the-kremlin-cuts-its-tail-to-please-the-truth-a8357					
MOSCOW_STAFF_2011_08_17	The Moscow Staff	17-Aug-11	8-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2011/08/17/sakha-head-wants-fund-like-alaskas-a8966					
GEVORGYAN_2011_09_05	Lilit Gevorgyan	5-Sep-11	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2011/09/05/a-double-edged-blessing-a9352					
MOSCOW_STAFF_2011_09_22	The Moscow Staff	22-Sep-11	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2011/09/22/9-icebreakers-added-to-keep-northern-route-open-a9710					
LOURIE_2011_09_25	Richard Lourie	25-Sep-11	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2011/09/25/the-cold-rush-a9742					
MOSCOW_STAFF_2011_09_29	The Moscow Staff	29-Sep-11	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2011/09/29/shipper-says-red-tape-offsets-routes-advantages-a9848					
AMOS_2011_10_04	Howard Amos	4-Oct-11	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2011/10/04/tnk-bp-rd-for-2011-at-320m-a9943					
RAHMSTORF_2011_10_27	Stefan Rahmstorf	27-Oct-11	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2011/10/27/the-vanishing-arctic-a10465					
MOSCOW_STAFF_2011_11_01	The Moscow Staff	1-Nov-11	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2011/11/01/ask-russians-not-expats-their-opinions-of-putin-a10557					
FORBORD_2011_11_02	Jarle Forbord	2-Nov-11	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2011/11/02/i-norwegian-russian-business-forum-sharing-knowledge-and-experience-a10578					
AMOS_2011_11_06	Howard Amos	6-Nov-11	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2011/11/06/statoil-presses-for-shokman-decision-a10615					
MOSCOW_STAFF_2012_01_30	The Moscow Staff	30-Jan-12	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2012/01/30/arctic-a-road-to-promise-for-russian-shipping-a12253					
MOSCOW_STAFF_2012_02_08	The Moscow Staff	8-Feb-12	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2012/02/08/tnk-bp-spending-12bln-to-develop-yamal-oil-fields-a12473					
MOSCOW_STAFF_2012_03_26	The Moscow Staff	26-Mar-12	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2012/03/26/last-enriched-uranium-rumbles-out-of-ukraine-a13555					
MOSCOW_STAFF_2012_04_08	The Moscow Staff	8-Apr-12	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2012/04/08/gazprom-eyes-shokman-ling-plant-a13884					
MOSCOW_STAFF_2012_04_12	The Moscow Staff	12-Apr-12	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2012/04/12/gazprom-dividend-might-be-doubled-a14046					
MOSCOW_STAFF_2012_04_16	The Moscow Staff	16-Apr-12	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2012/04/16/new-cold-war-for-resources-looms-in-arctic-a14102					
FILATOVA_2012_05_16	Irina Filatova	16-May-12	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2012/05/16/safety-cost-meet-head-on-in-arctic-oil-race-a14815					
RANKIN_2012_06_26	Jennifer Rankin	26-Jun-12	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2012/06/26/landfill-problem-in-russia-is-mountinous-a15825					
AMOS_2012_07_24	Howard Amos	24-Jul-12	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2012/07/24/rosteft-seeks-bps-half-of-tnk-bp-a16491					
MOSCOW_STAFF_2012_07_29	The Moscow Staff	29-Jul-12	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2012/07/29/danish-arctic-claim-clashes-with-russian-bid-a16610					
OUPHANT_2012_08_09	Roland Oliphant	9-Aug-12	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2012/08/09/despite-chilly-reception-greenpeace-vessel-nearing-arctic-oil-platform-a16920					
MOSCOW_STAFF_2012_08_29	The Moscow Staff	29-Aug-12	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2012/08/29/ports-operator-wants-more-breaks-a17373					
ASLUND_2012_09_26	Anders Aslund	26-Sep-12	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2012/09/26/big-setbacks-give-gazprom-impetus-for-change-a18097					
EARLE_2012_09_26	Jonathan Earle	26-Sep-12	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2012/09/26/education-gives-china-an-edge-over-russia-lse-says-a18090					
MOSCOW_STAFF_2012_10_01	The Moscow Staff	1-Oct-12	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2012/10/01/gazprom-welcomes-us-fracking-but-endgame-unclear-a18223					
OUPHANT_2012_10_22	Roland Oliphant	22-Oct-12	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2012/10/22/rosteft-deal-yields-individual-riches-and-fearsome-bears-a18798					
MOSCOW_STAFF_2012_09_06	The Moscow Staff	6-Dec-12	8-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2012/09/06/what-the-papers-say-sept-7-2012-a17613					
MOSCOW_STAFF_2013_02_18	The Moscow Staff	18-Feb-13	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2013/02/18/rosteft-china-in-tentative-deal-to-raise-oil-flows-a21678					
MOSCOW_STAFF_2013_02_21	The Moscow Staff	21-Feb-13	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2013/02/21/asia-eyes-russian-arctic-gas-as-australian-costs-climb-a21769					
ORESKOVIC_2013_03_03	Luca Oreskovic	3-Mar-13	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2013/03/03/shale-boom-forces-kremlin-to-focus-on-arctic-a22052					
MEDETSKY_2013_03_07	Anatoly Medetsky	7-Mar-13	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2013/03/07/rosteft-buys-into-exxons-us-offshore-assets-a22163					
MOSCOW_STAFF_2013_03_07	The Moscow Staff	7-Mar-13	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2013/03/07/what-the-papers-say-mar-7-2013-a22150					
LOURIE_2013_03_23	Richard Lourie	23-Mar-13	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2013/03/23/a-recipe-for-floating-arctic-chernobyls-a22632					
PURKISS_2013_03_26	Melissa Purkiss	26-Mar-13	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2013/03/26/russia-and-canada-build-friendships-on-icy-terrain-a22738					
MOSCOW_STAFF_2013_05_13	The Moscow Staff	13-May-13	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2013/05/14/what-the-papers-say-may-14-2013-a23952					
EARLE_2013_05_14	Jonathan Earle	14-May-13	8-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2013/05/14/russia-downplays-us-spy-scandal-a24042					
MOSCOW_STAFF_2013_05_16	The Moscow Staff	16-May-13	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2013/05/16/syria-peace-conference-tentatively-scheduled-for-mid-june-a24070					
MATSUMURA_2013_05_30	Masahiro Matsumura	30-May-13	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2013/05/30/might-does-not-make-right-with-kuril-islands-a24528					
MOSCOW_STAFF_2013_06_18	The Moscow Staff	18-Jun-13	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2013/06/18/gazprom-avoids-shokman-decision-a25064					
KAZNACHEEV_2013_06_23	Peter Kaznacheev	23-Jun-13	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2013/06/23/with-rosnefts-power-comes-responsibility-a25162					
MOSCOW_STAFF_2013_06_25	The Moscow Staff	25-Jun-13	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2013/06/25/luiko-sees-production-decline-looming-a25246					
MOSCOW_STAFF_2013_09_15	The Moscow Staff	15-Sep-13	8-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2013/09/16/what-the-papers-say-sept-16-2013-a27685					
MOSCOW_STAFF_2013_09_23	The Moscow Staff	23-Sep-13	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2013/09/23/russia-can-afford-to-keep-putins-social-promises-a27922					
MOSCOW_STAFF_2013_09_26	The Moscow Staff	26-Sep-13	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2013/09/26/what-the-papers-say-sept-26-2013-a28031					
MOSCOW_STAFF_2013_10_03	The Moscow Staff	3-Oct-13	8-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2013/10/04/what-the-papers-say-oct-4-2013-a28299					
MEDETSKY_2013_10_07	Anatoly Medetsky	7-Oct-13	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2013/10/07/law-to-open-floodgates-to-foreign-oil-companies-a28376					
BOVT_2013_10_08	Georgy Bvt	8-Oct-13	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2013/10/08/putins-war-on-greenpeace-a28410					
MOSCOW_STAFF_2013_10_17	The Moscow Staff	17-Oct-13	8-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2013/10/18/what-the-papers-say-oct-18-2013-a28730					
MOSCOW_STAFF_2013_10_20	The Moscow Staff	20-Oct-13	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2013/10/20/business-in-brief-28751-a28751					
MEDETSKY_2013_10_24_B	Anatoly Medetsky	24-Oct-13	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2013/10/24/gazprom-completes-first-solo-offshore-project-a28919					

Table S1: Visions of the Arctic Future: Metadata for Arctic news corpus

Keys and Meyer (2021)

MOSCOW_STAFF_2013_10_29	The Moscow Staff	29-Oct-13	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2013/10/29/rocket-hunter-commission-set-up-in-magadan-a29042				
MOSCOW_STAFF_2013_11_20	The Moscow Staff	20-Nov-13	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2013/11/20/greenpeace-captain-granted-bail-a29785				
MOSCOW_STAFF_2013_12_15	The Moscow Staff	16-Dec-13	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2013/12/16/what-the-papers-say-dec-16-2013-a30517				
MOSCOW_STAFF_2013_12_18	The Moscow Staff	18-Dec-13	8-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2013/12/18/what-the-papers-say-dec-18-2013-a30609				
MOSCOW_STAFF_2013_12_19	The Moscow Staff	19-Dec-13	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2013/12/19/mt-live-blog-putin-holds-annual-news-conference-a30644				
PFEIFER_2013_12_20	Ezekiel Pfeifer	20-Dec-13	8-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2013/12/20/khodorkovsky-travels-to-germany-says-didnt-admit-guilt-a30681				
KRAINOVA_2013_12_22	Natalya Krainova	22-Dec-13	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2013/12/22/khodorkovsky-says-no-plans-to-return-to-russia-a30711				
KRAVTSOVA_2013_12_26	Yekaterina Kravtsova	26-Dec-13	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2013/12/26/7-greenpeace-activists-allowed-to-leave-russia-a30804				
MOSCOW_STAFF_2014_01_10_A	The Moscow Staff	10-Jan-14	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2014/01/10/greenpeace-activists-leave-russia-after-months-in-jail-a30856				
MOSCOW_STAFF_2014_01_10_B	The Moscow Staff	10-Jan-14	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2014/01/10/what-the-papers-say-dec-30-2013-a30855				
MOSCOW_STAFF_2014_01_16	The Moscow Staff	16-Jan-14	8-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2014/01/16/what-the-papers-say-jan-16-2014-a31140				
MOSCOW_STAFF_2014_01_28	The Moscow Staff	28-Jan-14	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2014/01/28/novatek-chief-sees-russia-matching-qatar-in-ing-a31512				
PANIN_2014_02_02	Alexander Panin	2-Feb-14	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2014/02/02/changes-in-regulations-could-help-break-the-offshore-ice-a31650				
MOSCOW_STAFF_2014_02_18	The Moscow Staff	18-Feb-14	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2014/02/18/what-the-papers-say-feb-18-2014-a32208				
KRAINOVA_2014_02_20	Natalya Krainova	20-Feb-14	8-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2014/02/20/critics-fear-post-sochi-crackdown-video-a32328				
MOSCOW_STAFF_2014_03_06	The Moscow Staff	6-Mar-14	8-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2014/03/07/what-the-papers-say-march-7-2014-a32771				
MALGIN_2014_03_31	Andrei Malgin	31-Mar-14	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2014/03/31/putin-began-playing-by-own-rules-last-fall-a33488				
MOSCOW_STAFF_2014_04_07_A	The Moscow Staff	6-Apr-14	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2014/04/07/what-the-papers-say-april-7-2014-a33686				
MOSCOW_STAFF_2014_04_07_B	The Moscow Staff	7-Apr-14	8-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2014/04/07/crimea-sanctions-could-spur-gazprom-neft-to-look-eastward-ceo-says-a33688				
MOSCOW_2014_05_19	The Moscow Staff	19-May-14	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2014/05/19/putin-un-chief-to-discuss-ukraine-crisis-at-china-meeting-a35558				
SKALAMERA_2014_05_26	Morena Skalamera	26-May-14	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2014/05/26/russias-gas-pact-with-china-not-about-ukraine-a35832				
MOSCOW_STAFF_2014_05_29	The Moscow Staff	29-May-14	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2014/05/29/ex-morgan-stanley-chief-exits-rosneft-board-a35961				
YERMOLAEV_2014_07_13	Andrei Yermolaev	13-Jul-14	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2014/07/13/european-union-is-wrong-to-block-south-stream-pipeline-a37263				
MOSCOW_STAFF_2014_07_23	The Moscow Staff	23-Jul-14	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2014/07/23/russia-risks-losing-eu-aid-on-arctic-oil-projects-a37606				
MOSCOW_STAFF_2014_07_24	The Moscow Staff	24-Jul-14	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2014/07/24/draft-eu-sanctions-target-state-owned-russian-banks-a37642				
MOSCOW_STAFF_2014_07_2014	The Moscow Staff	30-Jul-14	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2014/07/30/total-stopped-buying-novatek-shares-after-ukraine-plane-crash-a37828				
MOSCOW_STAFF_2014_08_01	The Moscow Staff	1-Aug-14	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2014/08/01/sanctions-or-no-price-of-oil-spells-future-of-russias-economy-a37924				
PANIN_2014_08_03	Alexander Panin	3-Aug-14	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2014/08/03/sanctions-on-technology-imports-leave-russia-playing-catch-up-a37946				
MOSCOW_STAFF_2014_08_11	The Moscow Staff	11-Aug-14	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2014/08/11/russian-senator-chilingarov-gives-up-lawmaking-for-rosneft-a38234				
MOSCOW_STAFF_2014_08_18	The Moscow Staff	18-Aug-14	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2014/08/18/sanctions-hit-rosneft-seeking-oil-with-statoil-on-norwegian-shelf-a38446				
PANIN_2014_09_07	Alexander Panin	7-Sep-14	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2014/09/07/gazproms-grip-on-russian-gas-exports-weakens-as-novatek-gets-export-license-a39121				
MOSCOW_STAFF_2014_09_10	The Moscow Staff	10-Sep-14	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2014/09/11/russian-oil-exploration-could-be-next-on-westis-hit-list-a39281				
MOSCOW_STAFF_2014_09_15	The Moscow Staff	15-Sep-14	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2014/09/15/russias-first-arctic-oil-rig-will-keep-pumping-despite-sanctions-a39398				
MOSCOW_STAFF_2014_09_19_A	The Moscow Staff	19-Sep-14	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2014/09/19/exxon-halts-oil-drilling-in-russias-arctic-over-us-sanctions-a39599				
MOSCOW_STAFF_2014_09_19_B	The Moscow Staff	19-Sep-14	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2014/09/19/russian-energy-giants-rosneft-and-novatek-may-get-up-to-39-billion-in-state-aid-a39585				
MOSCOW_STAFF_2014_09_28	The Moscow Staff	28-Sep-14	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2014/09/28/exxon-and-russias-rosneft-find-oil-at-sanctions-struck-arctic-deposit-a39839				
MOSCOW_STAFF_2014_10_01	The Moscow Staff	1-Oct-14	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2014/10/01/russia-to-form-arctic-military-command-by-2017-a39975				
MOSCOW_STAFF_2014_10_07	The Moscow Staff	7-Oct-14	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2014/10/08/russias-ukoil-launches-siberian-oil-field-ahead-of-schedule-a40175				
AMOS_2014_10_08	Howard Amos	8-Oct-14	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2014/10/08/will-western-sanctions-stop-russias-arctic-oil-expansion-a40211				
MOSCOW_STAFF_2014_10_10	The Moscow Staff	10-Oct-14	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2014/10/10/samsung-heavy-industries-to-build-arctic-oil-tankers-for-sanctioned-russian-company-a40276				
PANIN_2014_10_28	Alexander Panin	28-Oct-14	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2014/10/28/how-slumping-oil-prices-hit-russias-sanctions-struck-oil-industry-a40861				
PANIN_2014_10_30	Alexander Panin	30-Oct-14	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2014/10/30/china-beating-russian-firms-in-drive-to-replace-sanctioned-western-technology-a40944				
MOSCOW_STAFF_2014_11_02	The Moscow Staff	2-Nov-14	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2014/11/03/russia-keeps-oil-production-stable-despite-sanctions-and-price-drop-a40985				
BUCHANAN_2014_11_05	Elizabeth Buchanan	5-Nov-14	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2014/11/05/sanctions-cant-freeze-russia-out-of-the-arctic-a41064				
MOSCOW_STAFF_2014_11_06	The Moscow Staff	6-Nov-14	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2014/11/06/sanctions-threaten-russian-arctic-oil-shipping-ventures-a41112				
PANIN_2014_11_16	Alexander Panin	16-Nov-14	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2014/11/16/russian-state-budget-and-oil-majors-eye-low-oil-prices-through-2015-a41396				
MERKULOVA_2014_12_08	Ekaterina Merkulova	8-Dec-14	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2014/12/08/b2b-russian-market-review-oil-and-gas-a42082				
MOSCOW_STAFF_2015_01_20	The Moscow Staff	20-Jan-15	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2015/01/20/schlumberger-to-buy-17-billion-stake-in-russian-oil-services-firm-a43036				
WRIGHT_2015_03_18	Will Wright	18-Mar-15	8-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2015/03/18/will-either-side-back-down-on-crimea-a44888				
BUCHANAN_2015_06_14	Elizabeth Buchanan	16-Jun-15	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2015/06/14/will-ukraine-scupper-russias-arctic-plans-a47368				
BODNER_2015_07_27	Matthew Bodner	27-Jul-15	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2015/07/27/new-russian-naval-doctrine-enshrines-confrontation-with-nato-a48547				
PAROGNI_2015_07_11	Iliaria Parogni	11-Aug-15	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2015/08/11/pamela-anderson-to-work-with-russian-officials-on-animal-rights-a48882				
COURTNEY_2015_08_12	William Courtney	12-Aug-15	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2015/08/12/eurasia-facing-tough-choices-for-the-future-a48927				
MOSCOW_STAFF_2015_08_12	The Moscow Staff	12-Aug-15	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2015/08/12/nato-russia-war-games-fuel-risk-of-war-think-tank-warns-a48909				
DEMPEY_2015_08_19	Judy Dempsey	19-Aug-15	8-Dec-20	The Moscow Times	https://www.themoscowtimes.com/archive/nato-is-unprepared-for-conflict-with-russia				
MOSCOW_STAFF_2015_09_17	The Moscow Staff	17-Sep-15	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2015/09/17/russia-owned-sanctioned-shipyard-hopes-for-icebreaker-zeal-in-arctic-a49644				
MOSCOW_STAFF_2015_10_01	The Moscow Staff	1-Oct-15	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2015/10/01/norway-must-increase-defense-spending-to-counter-russian-build-up-a49999				
BUCHANAN_2015_11_03	Elizabeth Buchanan	3-Nov-15	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2015/11/03/west-must-cooperate-with-russia-in-the-arctic-a50614				
KOZLOWSKA_2015_12_17	Joanna Kozłowska	17-Dec-15	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2015/12/17/austrias-activist-attache-brings-russian-art-to-the-masses-a51245				
DOLGOV_2016_02_10	Anna Dolgov	10-Feb-16	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2016/02/10/us-national-intelligence-director-says-russia-is-paranoid-aggressive-a51772				
GAAZE_2017_05_09	Konstantin Gaaze	9-May-17	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2017/05/09/where-does-putin-sleep-and-why-is-it-a-secret-op-ed-a57944				
KOFMAN_2017_06_04	Michael Kofman	4-Jun-17	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2017/06/04/russias-new-military-modernization-plan-a-glimpse-of-moscows-future-forces-a58149				
FISHMAN_2017_06_29	Mikhail Fishman	29-Jun-17	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2017/06/29/breaking-sistema-how-russian-tycoon-vladimir-yevtushenkov-is-set-to-lose-more-of-his-wealth-a58275				
MOSCOW_STAFF_2017_07_20	The Moscow Staff	20-Jul-17	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2017/07/20/weapons-a58455				
LUZIN_2017_08_18	Pavel Luzin	18-Aug-17	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2017/08/18/the-future-of-russias-armed-forces-after-putin-a58695				
KOFMAN_2018_05_10	Michael Kofman	10-May-18	8-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2018/05/10/after-victory-day-what-does-russia-military-have-to-celebrate-opinion-a61412				
WHITEHOUSE_2018_08_27	Mark Whitehouse	27-Aug-18	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2018/08/27/what-comes-after-putin-could-be-trouble-opinion-a62679				

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APPS_2018_08_30	Peter Apps	30-Aug-18	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2018/08/30/why-china-and-russia-are-obsessed-with-vast-new-war-games-op-ed-a62715				
MOSCOW_STAFF_2018_10_01	The Moscow Staff	1-Oct-18	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2018/10/01/russian-defense-firm-tests-electromagnetic-weapons-in-field-conditions-a63035				
BROWN_2018_12_20	Jonathan Brown	20-Dec-18	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2018/12/20/what-russia-wants-a63889				
REUTERS_STAFF_2018_12_27	Reuters Staff	27-Dec-18	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2018/12/27/russia-plays-down-idea-of-forming-joint-organisation-with-opec-given-us-sanctions-risk-a63985				
MOSCOW_STAFF_2019_01_08	The Moscow Staff	8-Jan-19	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2019/01/08/russian-patriarch-warns-antichrist-will-control-humans-through-gadgets-a64060				
GALEOTTI_2019_01_18	Mark Galeotti	18-Jan-19	8-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2019/01/18/gangster-geopolitics-the-kremlins-use-of-criminals-as-assets-abroad-a64204				
STANOVAYA_2019_02_06	Tatyana Stanovaya	6-Feb-19	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2019/02/06/the-kremlins-chef-lurks-in-the-shadows-op-ed-a64415				
MOSCOW_STAFF_2019_02_13	The Moscow Staff	13-Feb-19	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2019/02/13/triple-sunrise-dazzles-northern-russia-a64480				
MOSCOW_STAFF_2019_02_28	The Moscow Staff	28-Feb-19	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2019/02/28/drunken-russian-sailor-rips-gaping-hole-south-korean-bridge-a64664				
BUCHANAN_2019_03_25	Elizabeth Buchanan	25-Mar-19	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2019/03/25/not-all-is-quiet-on-the-arctic-front-a64904				
MOSCOW_STAFF_2019_03_28	The Moscow Staff	28-Mar-19	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2019/03/28/russia-invents-flying-shooting-kalashnikov-rifle-drone-a64990				
STEFANOVICH_2019_03_28	Dmitry Stefanovich	28-Mar-19	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2019/03/28/what-to-make-of-general-gerasimovs-latest-doctrine-a64927				
MOSCOW_STAFF_2019_04_03_B	The Moscow Staff	3-Apr-19	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2019/04/03/russian-post-office-worker-attacks-customer-with-straw-broom-video-shows-a65076				
BARENTS_2019_04_05	The Barents Observer	5-Apr-19	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2019/04/22/russia-is-building-a-new-arctic-with-private-money-a65337				
MOSCOW_STAFF_2019_04_08_A	The Moscow Staff	8-Apr-19	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2019/04/08/kiddie-train-conductor-blasts-industrial-metal-at-siberian-childrens-park-a65132				
MOSCOW_STAFF_2019_04_08_B	The Moscow Staff	8-Apr-19	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2019/04/08/northern-lights-come-to-russias-leningrad-region-a65139				
REUTERS_STAFF_2019_05_01	Reuters Staff	1-May-19	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2019/05/01/russia-says-a-local-firm-deliberately-contaminated-oil-pipeline-a65446				
REUTERS_STAFF_2019_05_17	Reuters Staff	17-May-19	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2019/05/17/ministers-agree-way-for-russia-to-rejoin-europes-human-rights-body-a65628				
STANOVAYA_2019_05_24	Tatyana Stanovaya	24-May-19	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2019/05/24/every-man-for-himself-the-russian-regime-turns-on-itself-a65736				
REUTERS_STAFF_2019_05_27	Reuters Staff	27-May-19	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2019/05/27/news-from-russia-what-you-missed-over-the-weekend-13-a65748				
MOSCOW_STAFF_2019_05_29	The Moscow Staff	29-May-19	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2019/05/29/russian-bridge-pulls-disappearing-act-a65786				
BLOOMBERG_2019_06_03	Bloomberg	3-Jun-19	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2019/06/03/putins-own-government-warns-his-campaign-promises-cant-be-met-a65841				
MOSCOW_STAFF_2019_06_07	The Moscow Staff	7-Jun-19	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2019/06/07/russian-military-seeks-upper-hand-with-genetic-passport-for-soldiers-top-scientist-says-a65927				
REUTERS_STAFF_2019_06_13	Reuters Staff	13-Jun-19	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2019/06/13/trump-considers-sanctions-european-firms-over-russias-nord-stream-2-natgas-pipeline-a65978				
BLOOMBERG_2019_06_13	Bloomberg	13-Jun-19	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2019/06/13/us-freedom-gas-aims-to-loosen-russias-grip-on-europes-market-a65987				
BERSHIDSKY_2019_06_28	Leonid Bershidsky	28-Jun-19	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2019/06/28/why-putin-sounds-alt-right-though-he-really-isnt-a66212				
STANOVAYA_2019_07_30	Tatyana Stanovaya	30-Jul-19	8-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2019/07/30/moscow-protests-are-good-news-for-the-opposition-and-the-hardliners-a66629				
ARIS_2019_08_15	Ben Aris	15-Aug-19	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2019/08/15/putin-is-a-victim-of-his-own-success-a66859				
BERSHIDSKY_2019_08_21	Leonid Bershidsky	21-Aug-19	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2019/08/21/democrats-should-care-more-about-russia-a66966				
BLOOMBERG_2019_09_05	Bloomberg	5-Sep-19	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2019/09/05/novatek-greenlights-21-billion-russian-arctic-1ng-2-plant-a67161				
GALEOTTI_2019_09_21	Mark Galeotti	21-Sep-19	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2019/09/21/future-without-putin-no-longer-taboo-issue-a67376				
REUTERS_STAFF_2019_10_07	Reuters Staff	7-Oct-19	8-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2019/10/07/energy-minister-calls-for-reform-of-oil-taxes-a67615				
MOSCOW_STAFF_2019_10_21	The Moscow Staff	21-Oct-19	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2019/10/21/russias-gold-reserves-will-cushion-oil-price-fall-says-finance-minister-a67823				
MOSCOW_STAFF_2019_11_12_A	The Moscow Staff	12-Nov-19	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2019/11/12/russian-oil-production-most-expensive-world-saudi-aramco-ipo-a68132				
MOSCOW_STAFF_2019_11_12_B	The Moscow Staff	12-Nov-19	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2019/11/12/russia-accused-meddling-new-zealand-bird-vote-a68137				
BARENTS_2019_11_20	The Barents Observer	20-Nov-19	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2019/11/20/russia-worlds-top-palladium-producer-15bln-arctic-investment-a68252				
MOSCOW_STAFF_2019_12_13	The Moscow Staff	13-Dec-19	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2019/12/13/rowdy-neigh-bor-charged-with-tormenting-locals-with-horse-sounds-a68620				
MOSCOW_STAFF_2019_12_23_A	The Moscow Staff	23-Dec-19	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2019/12/23/local-authorities-defend-penis-shaped-ice-rink-siberia-a68716				
MOSCOW_STAFF_2019_12_23_B	The Moscow Staff	23-Dec-19	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2019/12/23/russian-grows-fed-up-mercedes-drops-it-helicopter-a68717				
MOROZOV_2019_12_25	Alexander Morozov	25-Dec-19	4-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2019/12/25/if-putin-were-to-leave-us-tomorrow-a68742				
RYUMIN_2020_07_23	Alexander Ryumin	23-Jul-20	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2020/07/23/melting-arctic-permafrost-threatens-russian-energy-firms-bottom-line-morgan-stanley-a70960				
ANDERSON_2010_09_23	Derek Anderson	23-Sep-20	3-Dec-20	The Moscow Times	https://www.themoscowtimes.com/2010/09/23/putin-vows-bright-arctic-future-a1699				
BROCKMAN_2019_11_23	Alex Brockman	23-Nov-19	2-Apr-20	CBC North News	https://www.cbc.ca/news/canada/north/awg-dog-mushing-future-northwest-territories-1.5364048				
STRONG_2019_08_14	Walter Strong	14-Aug-19	2-Apr-20	CBC North News	https://www.cbc.ca/news/canada/north/hay-river-high-rise-1.5246695				
WINDEYER_2019_08_16	Chris Windeyer	16-Aug-19	2-Apr-20	CBC North News	https://www.cbc.ca/news/canada/north/vukon-ak-skagway-ore-dock-1.5249974				
LAST_2019_09_10	John Last	10-Sep-19	2-Apr-20	CBC North News	https://www.cbc.ca/news/canada/north/frame-lake-riding-profile-2019-1.5276916				
HWANG_2019_07_09	Priscilla Hwang	9-Jul-19	2-Apr-20	CBC North News	https://www.cbc.ca/news/canada/north/aboriginal-hockey-championships-team-north-future-1.5203851				
ZINGEL_2020_02_28	Avery Zingel	28-Feb-20	2-Apr-20	CBC North News	https://www.cbc.ca/news/canada/north/teck-transboundary-water-1.5478219				
JONES_2019_07_19	Ryan Patrick Jones	19-Jul-19	2-Apr-20	CBC North News	https://www.cbc.ca/news/canada/north/dene-nation-assembly-2019-midway-1.5216982				
KYLE_2019_07_07	Kate Kyle	7-Jul-19	2-Apr-20	CBC North News	https://www.cbc.ca/news/canada/north/japan-chars-arctic-cambridge-bay-1.5202335				
BROCKMAN_2019_02_14	Alex Brockman	14-Feb-19	2-Apr-20	CBC North News	https://www.cbc.ca/news/canada/north/aurora-college-new-adm-polytechnic-university-1.5018817				
SPONAGLE_2019_04_24	Jane Sponagle	24-Apr-19	2-Apr-20	CBC North News	https://www.cbc.ca/news/canada/north/ross-river-school-richard-mostyn-future-1.5108733				
BLAKE_2019_09_10	Emily Blake	10-Sep-19	2-Apr-20	CBC North News	https://www.cbc.ca/news/canada/north/fort-smith-candidates-forum-aurora-college-1.5278169				
TUKKER_2020_03_28	Paul Tukker	28-Mar-20	2-Apr-20	CBC North News	https://www.cbc.ca/news/canada/north/dawson-city-westminster-hotel-pit-1.5511143				
AVVA_2018_11_23	Salome Avva	23-Nov-18	2-Apr-20	CBC North News	https://www.cbc.ca/news/canada/north/special-edition-tausunni-nunavut-self-government-1.4918016				
CBC_2019_11_27	CBC News	27-Nov-19	2-Apr-20	CBC North News	https://www.cbc.ca/news/canada/north/mae-bachur-contemplates-future-1.5375514				
SARKADI_2019_05_01	Laurie Sarkadi	1-May-19	2-Apr-20	CBC North News	https://www.cbc.ca/news/canada/north/premier-mcleod-to-pitch-ottawa-1.5117709				
SILVA_2019_11_14	Steve Silva	14-Nov-19	2-Apr-20	CBC North News	https://www.cbc.ca/news/canada/north/vukon-government-climate-change-strategy-1.5360276				
KOIVUROVA_2019_12_17	Timo Koivurova	17-Dec-19	1-Apr-20	Radio Canada Intern	https://www.rcinet.ca/eye-on-the-arctic/2019/12/17/blog-is-this-the-end-of-the-arctic-council-and-the-arctic-governance-as-we-know-it-russia-usa-china-politics-blog-international-geopolitics-climate-change/				
QUINN_2019_09_18	Ellis Quinn	18-Sep-19	1-Apr-20	Radio Canada Intern	https://www.rcinet.ca/eye-on-the-arctic-special-reports/arctic-railway-saami-finland-indigenous/				
STAALSEN_2020_01_28	Atle Staalesen	28-Jan-20	1-Apr-20	Radio Canada Intern	https://www.rcinet.ca/eye-on-the-arctic/2020/01/28/russian-company-gazprom-finds-more-gas-than-expected-in-future-arctic-field/				
ELFSTROM_2019_11_15	Monica Elfstrom	15-Nov-19	1-Apr-20	Radio Canada Intern	https://www.rcinet.ca/eye-on-the-arctic/2019/11/15/sweden-wildfires-cooperation-municipalities/				
RUSSELL_2019_08_16	David Russell	16-Aug-19	1-Apr-20	Radio Canada Intern	https://www.rcinet.ca/eye-on-the-arctic/2019/08/16/sweden-battery-factory-northolt-workforce/				
LAST_2019_09_17	John Last	17-Sep-19	1-Apr-20	Radio Canada Intern	https://www.rcinet.ca/eye-on-the-arctic/2019/09/17/election-thebaca-nwt-fort-smith-yellowknife-northwest-territories-concerns-centralization-services-aurora-college-education-arctic/				
YLE_2018_11_09	Yle News	9-Nov-18	1-Apr-20	Radio Canada Intern	https://www.rcinet.ca/eye-on-the-arctic/2018/11/05/arctic-fox-species-endangered-finland-sweden-norway-nordic-nations-environment-wildlife/				
BROCKMAN_2019_10_23_A	Alex Brockman	23-Oct-19	1-Apr-20	Radio Canada Intern	https://www.rcinet.ca/eye-on-the-arctic/2019/10/23/moodys-dominion-credit-mines-dlaviak-ekati-nwt/				
YLE_2018_10_31	Yle News	31-Oct-18	1-Apr-20	Radio Canada Intern	https://www.rcinet.ca/eye-on-the-arctic/2018/10/31/climate-change-forest-industry-finland-snow-winter-environment-economy-europe-eu/				

Table S1: Visions of the Arctic Future: Metadata for Arctic news corpus

Keys and Meyer (2021)

KYLE_2019_07_12	Kate Kyle	12-Jul-19	1-Apr-20	Radio Canada Intern	https://www.rcinet.ca/eye-on-the-arctic/2019/07/08/japan-research-arctic-nunavut-climate-cambridge-bay/				
QUAILE_2017_05_11	Irene Quaille	11-May-17	1-Apr-20	Radio Canada Intern	https://www.rcinet.ca/eye-on-the-arctic/2017/05/11/ice-blog-deciding-arctic-future-in-fairbanks-and-bonn/				
SILVA_2019_11_18	Steve Silva	15-Nov-19	1-Apr-20	Radio Canada Intern	https://www.rcinet.ca/eye-on-the-arctic/2019/11/15/yukon-emissions-reduction-strategy-climate/				
BEERS_2018_11_09	Randi Beers	9-Nov-18	1-Apr-20	Radio Canada Intern	https://www.rcinet.ca/eye-on-the-arctic/2018/11/09/nwt-whati-road-village-tourism-business-mining-highway-north/				
ROSEN_2017_02_23	Yereth Rosen	23-Feb-17	1-Apr-20	Radio Canada Intern	https://www.rcinet.ca/eye-on-the-arctic/2017/02/23/could-a-giant-polar-bear-skull-from-alaska-belong-to-the-legendary-weasel-bear/				
YLE_2019_12_10	Yle News	10-Dec-19	1-Apr-20	Radio Canada Intern	https://www.rcinet.ca/eye-on-the-arctic/2019/12/10/finland-lapland-police-budget-time-response-drone-helicopter-robot-arctic-hour/				
ROSEN_2019_07_15	Yereth Rosen	15-Jul-19	9-Mar-20	Arctic Today	https://www.arctictoday.com/with-a-budget-veto-override-falling-short-the-university-of-alaska-and-its-arctic-programs-face-a-dire-future/				
COLE_2018_12_24	Dermot Cole	24-Dec-18	9-Mar-20	Arctic Today	https://www.arctictoday.com/future-alaskas-arctic-gas-line-uncertain-ever/				
COLE_2018_11_26	Dermot Cole	26-Nov-18	9-Mar-20	Arctic Today	https://www.arctictoday.com/student-run-model-arctic-council-transform-future-arctic-diplomacy/				
COLE_2018_10_01	Dermot Cole	1-Oct-18	9-Mar-20	Arctic Today	https://www.arctictoday.com/subsistence-whalers-celebrate-doubts-cloud-future-international-whaling-cooperation/				
STRUZIK_2018_01_10	Edward Struzik	10-Jan-18	9-Mar-20	Arctic Today	https://www.arctictoday.com/a-red-alert-for-the-future-arctic/				
HERRMANN_2017_04_03	Victoria Herrmann	3-Apr-17	9-Mar-20	Arctic Today	https://www.arctictoday.com/after-46-years-in-operation-an-uncertain-future-for-alaska-sea-grant/				
ROSEN_2017_01_26	Yereth Rosen	26-Jan-17	9-Mar-20	Arctic Today	https://www.arctictoday.com/does-the-blob-foretell-the-north-pacifics-future-a-scientist-says-yes/				
MCGWIN_2017_01_16	Kevin McGwin	16-Jan-17	9-Mar-20	Arctic Today	https://www.arctictoday.com/despise-backdrop-of-independence-greenlands-premier-keeps-focus-on-the-present-not-future/				
BENNETT_2017_01_12	Mia Bennett	12-Jan-17	9-Mar-20	Arctic Today	https://www.arctictoday.com/what-rex-tillersons-confirmation-hearing-might-be-able-to-tell-us-about-the-future-of-the-arctic-in-the-trump-era/				
STAAESEN_2016_12_13	Atle Staalesen	13-Dec-16	9-Mar-20	Arctic Today	https://www.arctictoday.com/lofoten-sees-better-future-without-oil/				
MCGWIN_2016_11_22	Kevin McGwin	22-Nov-16	9-Mar-20	Arctic Today	https://www.arctictoday.com/what-will-the-future-of-us-arctic-policy-look-like/				
DEGEORGE_2016_10_07	Krestia DeGeorge	7-Oct-16	9-Mar-20	Arctic Today	https://www.arctictoday.com/post-brexite-scotland-looks-toward-a-more-arctic-future/				
HUMPERT_2020_02_27	Malte Humpert	27-Feb-20	9-Mar-20	Arctic Today	https://www.arctictoday.com/u-s-military-to-cooperate-with-spacex-to-overcome-arctic-communication-blackout/				
ROSEN_2020_02_27	Yereth Rosen	27-Feb-20	9-Mar-20	Arctic Today	https://www.arctictoday.com/a-radical-transformation-of-the-pacific-arctic-seems-to-be-underway-a-new-study-finds/				
MCGWIN_2020_02_25	Kevin McGwin	25-Feb-20	9-Mar-20	Arctic Today	https://www.arctictoday.com/gold-miner-encouraged-after-2019-greenland-exploration-season/				
ROSEN_2020_02_07	Yereth Rosen	7-Feb-20	9-Mar-20	Arctic Today	https://www.arctictoday.com/environmentalists-look-endangered-species-act-listing-for-rare-alaska-freshwater-seals/				
ADOMAITIS_2020_02_06	Nerijus Adomaitis	6-Feb-20	9-Mar-20	Arctic Today	https://www.arctictoday.com/lequinox-broadens-scope-of-carbon-targets-to-match-rivals/				
HUMPERT_2020_01_31	Malte Humpert	31-Jan-20	9-Mar-20	Arctic Today	https://www.arctictoday.com/ing-may-not-be-a-solution-to-cleaning-up-international-shipping-emissions-after-all-a-new-study-finds/				
DEGEORGE_2020_01_30	Krestia DeGeorge	30-Jan-20	9-Mar-20	Arctic Today	https://www.arctictoday.com/after-winning-a-historic-court-victory-swedens-sami-face-attacks-include-death-threats/				
HUMPERT_2020_01_29	Malte Humpert	29-Jan-20	9-Mar-20	Arctic Today	https://www.arctictoday.com/ozone-depleting-cases-may-account-for-up-to-half-of-arctic-warming-in-the-last-50-years/				
ANSELM_2020_01_27	Elaine Anselmi	27-Jan-20	9-Mar-20	Arctic Today	https://www.arctictoday.com/do-ungava-bay-beluga-exist/				
STAAESEN_2020_01_27	Atle Staalesen	27-Jan-20	9-Mar-20	Arctic Today	https://www.arctictoday.com/could-the-russian-industry-town-nikel-reinvent-itself-as-a-tourism-hub/				
ROSEN_2020_01_23	Yereth Rosen	23-Jan-20	9-Mar-20	Arctic Today	https://www.arctictoday.com/even-after-decades-caribou-still-arent-fully-used-to-oil-development-scientists-say/				
MCGWIN_2020_01_22	Kevin McGwin	22-Jan-20	9-Mar-20	Arctic Today	https://www.arctictoday.com/as-greenland-seeks-to-diversify-its-economy-water-is-shaping-up-as-a-key-element/				
BREUM_2020_01_20	Martin Breum	20-Jan-20	9-Mar-20	Arctic Today	https://www.arctictoday.com/greenlands-premier-doesnt-foresee-a-us-takeover-and-remains-committed-to-the-quest-for-independence/				
KOIVUROVA_2020_01_17	Timo Koivurova	17-Jan-20	9-Mar-20	Arctic Today	https://www.arctictoday.com/how-us-policy-threatens-existing-arctic-governance/				
ROSEN_2020_01_14	Yereth Rosen	14-Jan-20	9-Mar-20	Arctic Today	https://www.arctictoday.com/the-effort-to-oust-alaskas-governor-gets-court-approval/				
MCGWIN_2020_01_13	Kevin McGwin	13-Jan-20	9-Mar-20	Arctic Today	https://www.arctictoday.com/permafrost-fate-may-be-more-closely-tied-to-sea-ice-than-temperature-scientists-find/				
BISHOP_2020_01_10	Thomas Bishop	10-Jan-20	9-Mar-20	Arctic Today	https://www.arctictoday.com/how-a-ground-breaking-biodome-being-planned-in-iceland-could-change-cities-around-the-world/				
SCHREIBER_2020_01_07	Melody Schreiber	7-Jan-20	9-Mar-20	Arctic Today	https://www.arctictoday.com/new-nome-port-expansion-plans-add-marine-animal-protections-but-dont-increase-depth/				
ANSELM_2020_01_07	Elaine Anselmi	7-Jan-20	9-Mar-20	Arctic Today	https://www.arctictoday.com/what-a-half-century-of-studying-arctic-seabirds-has-taught-scientists-about-contaminants-in-the-region/				
DEGEORGE_2019_12_31	Krestia DeGeorge	31-Dec-19	9-Mar-20	Arctic Today	https://www.arctictoday.com/climate-change-greenland-and-shifting-geopolitics-here-are-the-top-arctic-stories-of-2019/				
MCGWIN_2019_12_20	Kevin McGwin	20-Dec-19	9-Mar-20	Arctic Today	https://www.arctictoday.com/indigenous-leaders-look-forward-to-decade-of-language-revitalisation/				
PEDERSEN_2019_12_19	Jacob Gronholt-Pedersen	19-Dec-19	9-Mar-20	Arctic Today	https://www.arctictoday.com/greenland-chooses-ericsson-over-huawei-for-5g-rollout/				
ADOMAITIS_2019_12_18	Nerijus Adomaitis	18-Dec-19	9-Mar-20	Arctic Today	https://www.arctictoday.com/norway-picks-wind-power-skeptical-as-oil-minister-amid-arctic-drilling-debate/				
HUMPERT_2019_12_17	Malte Humpert	17-Dec-19	11-Mar-20	Arctic Today	https://www.arctictoday.com/china-reveals-details-of-a-newly-designed-heavy-icebreaker/				
ROSEN_2019_12_16	Yereth Rosen	16-Dec-19	11-Mar-20	Arctic Today	https://www.arctictoday.com/why-the-bering-sea-is-a-hotspot-of-climate-change-and-sentinel-for-rest-of-the-world/				
GEORGE_2018_02_07	Jane George	7-Feb-18	9-Mar-20	Nunatsiq News	https://www.arctictoday.com/canadas-inuit-look-for-larger-voice-future-northwest-passage/				
BROWN_2017_09_06	Beth Brown	6-Sep-17	9-Mar-20	Nunatsiq News	https://www.arctictoday.com/author-predicts-climate-change-will-bring-grim-future-to-the-arctic/				
GEORGE_2017_03_15	Jane George	15-Mar-17	9-Mar-20	Nunatsiq News	https://www.arctictoday.com/as-finland-prepares-to-take-over-arctic-council-trump-presidency-has-some-worried-about-its-future/				
BELL_2017_02_17	Jim Bell	17-Feb-17	9-Mar-20	Nunatsiq News	https://www.arctictoday.com/canada-grapples-with-future-of-nutrition-north-program/				
NUNATSIAQ_STAFF_2016_12_21	Nunatsiq News	21-Dec-16	9-Mar-20	Nunatsiq News	https://www.arctictoday.com/trudeau-bans-future-oil-gas-activity-in-canadian-arctic/				
BELL_2020_02_26_B	Jim Bell	26-Feb-20	9-Mar-20	Nunatsiq News	https://www.arctictoday.com/no-more-protected-areas-until-after-devolution-nunavut-premier-tells-ottawa/				
PATAR_2020_02_13	Dustin Patar	13-Feb-20	9-Mar-20	Nunatsiq News	https://www.arctictoday.com/european-commission-holds-meeting-to-discuss-inuit-exception-to-seal-product-ban/				
PATAR_2020_02_04	Dustin Patar	4-Feb-20	9-Mar-20	Nunatsiq News	https://www.arctictoday.com/for-the-first-time-inuit-built-ice-thickness-sensors-have-been-deployed-in-nunavut/				
TRANTER_2020_01_29	Emma Tranter	29-Jan-20	9-Mar-20	Nunatsiq News	https://www.arctictoday.com/why-extreme-cold-thresholds-are-different-across-canada/				
ANSELM_2019_12_17	Elaine Anselmi	17-Dec-19	9-Mar-20	Nunatsiq News	https://www.arctictoday.com/nunaviks-ice-wedges-show-how-warmth-is-changing-arctic-landscapes/				
ROHNER_2019_11_20	Thomas Rohner	20-Nov-19	9-Mar-20	Nunatsiq News	https://www.arctictoday.com/a-building-boom-is-underway-in-igaluit/				
ANSELM_2019_11_12	Elaine Anselmi	12-Nov-19	9-Mar-20	Nunatsiq News	https://www.arctictoday.com/some-inukjuak-residents-remain-concerned-about-hydro-project/				
ANSELM_2019_11_07	Elaine Anselmi	7-Nov-19	9-Mar-20	Nunatsiq News	https://www.arctictoday.com/inuit-organizations-raise-caribou-concerns-at-mine-expansion-hearing/				
ANSELM_2019_11_06	Elaine Anselmi	6-Nov-19	9-Mar-20	Nunatsiq News	https://www.arctictoday.com/nunavut-turbot-gets-sustainability-stamp/				
ANSELM_2019_11_01	Elaine Anselmi	1-Nov-19	9-Mar-20	Nunatsiq News	https://www.arctictoday.com/nunavik-gaining-ground-where-other-coastlines-erode/				
GEORGE_2019_10_23	Jane George	23-Oct-19	9-Mar-20	Nunatsiq News	https://www.arctictoday.com/acclaimed-american-choir-slammed-for-use-of-inuit-throat-singing/				
GEORGE_2019_10_18	Jane George	18-Oct-19	9-Mar-20	Nunatsiq News	https://www.arctictoday.com/western-nunavuts-hub-postpones-vote-on-changing-its-name/				
ROHNER_2019_10_04	Thomas Rohner	4-Oct-19	9-Mar-20	Nunatsiq News	https://www.arctictoday.com/igaluit-hunters-look-for-safety-in-technology-amidst-changing-ice-conditions/				
GEORGE_2019_10_03	Jane George	3-Oct-19	9-Mar-20	Nunatsiq News	https://www.arctictoday.com/inuit-take-the-lead-in-inuit-studies-conference/				
ANSELM_2019_09_27	Elaine Anselmi	27-Sep-19	9-Mar-20	Nunatsiq News	https://www.arctictoday.com/nunavut-mine-clarifies-its-northwest-passage-shipping-plans/				
GEORGE_2019_08_27	Jane George	27-Aug-19	9-Mar-20	Nunatsiq News	https://www.arctictoday.com/canadian-high-arctic-research-station-opens-its-doors-in-nunavut/				
BELL_2019_08_12	Jim Bell	12-Aug-19	9-Mar-20	Nunatsiq News	https://www.arctictoday.com/igaluit-seeks-a-new-emergency-fix-for-another-looming-water-shortage/				
NUNATSIAQ_STAFF_2019_08_09	Nunatsiq News	9-Aug-19	9-Mar-20	Nunatsiq News	https://www.arctictoday.com/on-aug-9-world-indigenous-day-attention-goes-to-indigenous-languages/				
BELL_2019_08_08	Jim Bell	8-Aug-19	9-Mar-20	Nunatsiq News	https://www.arctictoday.com/trudeau-uses-nunavut-to-sell-reconciliation-conservation-as-a-package-deal/				

Table S1: Visions of the Arctic Future: Metadata for Arctic news corpus

Keys and Meyer (2021)

ANSELM_I_2019_08_06	Elaine Anselmi	6-Aug-19	9-Mar-20	Nunatsiq News	https://www.arctictoday.com/extend-offshore-oil-and-gas-moratorium-says-nunavut-review-board/				
THOMPSON_2019_07_29	John Thompson	29-Jul-19	9-Mar-20	Nunatsiq News	https://www.arctictoday.com/an-indigenous-health-research-center-is-being-planned-for-nunavut/				
ROHNER_2019_07_26	Thomas Rohner	26-Jul-19	9-Mar-20	Nunatsiq News	https://www.arctictoday.com/how-a-circumpolar-video-project-aims-to-curb-suicides-and-encourage-resilience/				
THOMPSON_2019_07_11	John Thompson	11-Jul-19	9-Mar-20	Nunatsiq News	https://www.arctictoday.com/mining-will-drive-double-digit-economic-growth-in-nunavut-this-year-report-says/				
MIRON_2019_04_10	Kahlan Miron	10-Apr-19	9-Mar-20	Nunatsiq News	https://www.arctictoday.com/nunavut-reaches-for-the-stars-with-the-territorys-first-satellite/				
GEORGE_2019_03_15	Jane George	15-Mar-19	9-Mar-20	Nunatsiq News	https://www.arctictoday.com/nunavut-regulators-to-focus-on-oil-and-gas-development-next-week-in-igaluit/				
GEORGE_2019_03_11	Jane George	11-Mar-19	9-Mar-20	Nunatsiq News	https://www.arctictoday.com/canadas-prime-minister-trudeau-apologizes-for-historic-mistreatment-of-inuit-tb-patients/				
SEGAL_2019_01_15	Katie Segal	15-Jan-19	9-Mar-20	Nunatsiq News	https://www.arctictoday.com/how-sewage-could-become-an-energy-resource-for-arctic-communities/				
BROWN_2018_11_15	Beth Brown	15-Nov-18	9-Mar-20	Nunatsiq News	https://www.arctictoday.com/reflecting-local-fears-increased-attacks-nunavuts-new-draft-polar-bear-plan-boosts-quotas/				
DUNLEAVY_2020_02_14	Michael J. Dunleavy	14-Feb-20	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/2007its_time_for_alaska_to_look_to_its_future				
SINNOK_2019_10_21	Esau Sinnok	21-Oct-19	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1943alaskas_government_has_a_duty_to_protect				
KELLY_2019_10_07	Deborah Kelly	7-Oct-19	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1941apprenticeship_programs_set_alaska_up_for				
CHYTHLOOK_2019_12_06	Joe Chythlook	6-Dec-19	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1949the_future_of_bristol_bay_should_be_decided				
WHITBECK_2019_09_30	Rick Whitbeck	30-Sep-19	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1940environmentalists_are_wasting_time_with				
MITCHELL_2019_06_14	Donald Craig Mitchell	14-Jun-19	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1924its_time_to_talk_about_the_future_of_rural				
SHORT_2019_09_20	Hugh S. Short	20-Sep-19	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1938planning_for_the_future_of_the_arctic				
LEDBETTER_2019_08_30	Tamika L. Ledbetter	30-Aug-19	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1935alaskas_economic_employment_future_is_bright				
OLIVER_2020_03_02	Shady Grove Oliver	2-Mar-20	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/2010counts_for_2020_census_begin_on_north_slope				
RESTINO_2019_12_20	Carey Restino	20-Dec-19	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1951alaska_is_changing_can_we_keep_up				
OLIVER_2018_07_21	Shady Grove Oliver	21-Jul-18	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1829leaders_consider_future_of_inuit_nunaa				
LYON_2019_04_19	Rylie Lyon	19-Apr-19	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1916bristol_bays_future_is_in_our_fish_and				
GROH_2019_10_11	Cliff Groh	11-Oct-19	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1941the_biggest_misconceptions_about_the_pfd				
THOMPSON_2019_05_24	Tyler Thompson	24-May-19	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1921after_commencement_dillingham_graduates_look				
RESTINO_2019_09_30	Carey Restino	30-Sep-19	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1940around_the_world_youth_are_leading_the_effort				
OLIVER_2019_09_30	Shady Grove Oliver	30-Sep-19	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1940icr_outlines_plan_for_2018_utqiaqvik				
ZAK_2017_08_18	Annie Zak	18-Aug-17	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1733new_adn_publishers_reassure_staff_on_future				
KELLIE_2019_12_06	Cordelia Qignaaq Kellie	6-Dec-19	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1949preparing_the_arctic_workforce_for_now_and				
OLIVER_2019_09_12	Shady Grove Oliver	12-Sep-19	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1937conference_addresses_human_impacts_of_climate				
ROCK_2018_10_26	Rex Allen Rock Sr	26-Oct-18	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1843protecting_alaskas_future				
VAUGHAN_2019_11_15	Chris Vaughan	15-Nov-19	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1946dunleavy_turned_his_back_on_our_pioneers				
RESTINO_2019_10_25	Carey Restino	25-Oct-19	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1943playing_the_save_subsistence_card_underhanded				
BRNA_2018_09_28	Phil Brna	28-Sep-18	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1839our_salmon_future_starts_in_our_streams				
RESTINO_2012_06_15	Carey Restino	15-Jun-12	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1224arctic_scientists_plan_for_changing_future				
WELLS_2020_01_12	Tommy Wells	12-Jan-20	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/2002barrow_kotzebue_girls_shine_at_tournament				
RESTINO_2019_11_09	Carey Restino	9-Nov-19	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1945air_travel_struggles_in_unalaska_highlight				
OLIVER_2019_04_05	Shady Grove Oliver	5-Apr-19	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1914judge_supports_obama-era_ban_on_leasing_in				
DEMARBAN_2020_01_12	Alex DeMarban	12-Jan-20	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/2002tribal_groups_condemn_federal_plan_to_open_up				
BERKOWITZ_2019_07_19	Ethan Berkowitz	19-Jul-19	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1929history_is_watching_alaska_lets_look_out_for				
OLIVER_2019_11_22	Shady Grove Oliver	22-Nov-19	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1947arctic_youth_call_for_change				
FRANKLIN_2017_03_04	Roger Franklin	4-Mar-17	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1709shungnak_students_search_for_future_careers				
OLIVER_2016_12_30	Shady Grove Oliver	30-Dec-16	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/16522016_looking_to_the_past_to_guide_the_future				
TILLION_2019_09_20	Clem Tillion	20-Sep-19	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1938alaska_needs_to_fix_the_permanent_fund				
WIGHT_2019_11_15	Philip Wight	15-Nov-19	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1946alaska_needs_a_public_charter_with_hilcorp				
STURGULEWSKI_2019_09_12	Arliss Sturgulewski	12-Sep-19	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1937alaskans_take_bipartisan_action_to_protect				
OLIVER_2016_11_26	Shady Grove Oliver	26-Nov-16	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1647future_engineers_test_their_skills_at_ansep				
OLIVER_2019_11_09	Shady Grove Oliver	9-Nov-19	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1945old_tapes_hold_a_snapshot_of_regions_history				
BEGICH_2019_07_19	Mark Begich	19-Jul-19	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1929dont_let_alaskas_dividend_divide_us				
CANFIELD_2019_09_20	Gabe Canfield	20-Sep-19	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1940preserving_culture_is_preserving_the_land				
MARTIN_2019_05_24	Mary Catharine Martin	24-May-19	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1921author_shares_alaskas_salmon_stories_and_ways				
STAFF_ARCTIC_SOUNDER_2019_0	Staff Report	8-Aug-19	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1932annual_group_photo_calls_for_salmon_advocacy				
GLENN_2014_02_14	Richard K. Glenn	14-Feb-14	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1407have_we_given_the_tribal_leadership_the				
ADNEB_2020_01_03	Anchorage Daily News Editorial B	3-Jan-20	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/2001comparing_alaskas_2019_successes_and_failures				
STAFF_ARCTIC_SOUNDER_2019_0	Staff Report	15-Mar-19	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1911briefs				
TANGEMAN_2019_11_22	Bruce Tangeman	22-Nov-19	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1947alaskas_budget-balancing_work_should_continue				
KNIGHT_2016_05_27	JoAnne Knight	27-May-16	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1621manokotak_youth_building_a_successful_future				
RESTINO_2019_06_29	Carey Restino	29-Jun-19	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1926gavel_to_gavel_key_to_providing_legislative				
RESTINO_2019_11_15	Carey Restino	15-Nov-19	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1946alaska_students_victims_of_slow_politics				
NELSON_2019_02_22	Lucy Nelson	22-Feb-19	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1908northwest_arctic_borough_mayor_responds_to				
PUNGOWIWI_2019_10_07	Delbert Pungowiwi	7-Oct-19	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1941climate_crisis_we_are_running_out_of_time				
RESTINO_2019_12_06	Carey Restino	6-Dec-19	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1949this_christmas_give_a_gift_that_last_a				
WELCH_2019_12_06	Laine Welch	6-Dec-19	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1949halibut_commission_forecasts_lower_catches				
ADNEB_2019_07_27	Anchorage Daily News Editorial B	27-Jul-19	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1930at_a_crossroads_which_alaska_do_we_want				
SHAVELSON_2020_01_12	Bob Shavelson	12-Jan-20	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/2002gov_mike_dunleavy_is_failing_alaska				
AHMAOGAK_2011_08_02	George Ahmaogak	2-Aug-11	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1131working_with_oil_and_gas_industry_vital_to				
DEMARBAN_2011_03_29	Alex DeMarban	29-Mar-11	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1113nana_continues_blistering_growth_with_eye_on				
WELCH_2019_10_07	Laine Welch	7-Oct-19	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1941fishermen_seek_federal_backing_to_boost				
FISCHER_2019_04_26	Vic Fischer	26-Apr-19	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1917the_alaska_i_helped_build_is_under_attack				

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Keys and Meyer (2021)

WELCH_2015_08_07	Laine Welch	7-Aug-15	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1532electric_boats_the_wave_of_the_future					
OLIVER_2019_08_17	Shady Grove Oliver	17-Aug-19	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1933local_volunteers_lead_dunleavy_recall_effort					
OLIVER_2019_10_25	Shady Grove Oliver	25-Oct-19	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1943ambler_road_project_may_significantly_impact					
OLIVER_2018_07_27_A	Shady Grove Oliver	27-Jul-18	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1830inuit_council_adopts_utqiagvik_declaration					
DEMARBAN_2019_10_11	Alex DeMarban	11-Oct-19	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1941native_leader_peratrovich_commemorated_on_1					
HERZ_2018_06_22	Nathaniel Herz	22-Jun-18	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1825three_oil_companies_sue_the_state_over_tax					
DISCHNER_2016_12_02	Molly Dischner	2-Dec-16	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1648bristol_bay_youth_gather_for_leadership					
BIA_2018_04_21	Joe Bia	21-Apr-18	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1816talking_to_children_today_builds_their					
WELCH_2020_02_22	Laine Welch	22-Feb-20	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/2008trade_imbalance_with_russia_is_costly_for_us					
CRUM_2019_09_06	Adam Crum	6-Sep-19	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1936alaska_pioneer_homes_continue_to_provide_a					
PATKOTAK_2012_07_23	Elise Patkotak	23-Jul-12	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1230ilisagvik_focused_on_developing_local_north					
MURRAY_2015_03_06	Mollie Murray	6-Mar-15	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1510lifelong_musher_woods_credits_team_community					
SULLIVAN_2019_11_22	Dan Sullivan	22-Nov-19	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1947peace_through_strength_in_the_arctic					
KANTNER_2014_09_12	Seth Kantner	12-Sep-14	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1437salmon_fishing_in_kotzebue_aligns_perfectly					
DEMARBAN_2011_02_21_A	Alex DeMarban	21-Feb-11	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1108efforts_to_meld_science_tribal_knowledge					
OLIVER_2016_10_21	Shady Grove Oliver	21-Oct-16	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1642elders_amp_youth_conference_looks_to_past_to					
DEMARBAN_2011_02_21_B	Alex DeMarban	21-Feb-11	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1108beaufort_sea_fish_survey_released_to_help					
RESTINO_2019_03_07	Carey Restino	7-Mar-19	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1910governors_budget_serves_as_wake-up_call_for					
OLIVER_2019_08_23	Shady Grove Oliver	23-Aug-19	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1934in_final_budget_vpso_cuts_stand					
ROCK_2014_10_03	Rex Allen Rock Sr.	3-Oct-14	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1440official_offers_insight_into_shells_aio_plan					
REIMERS_2019_10_11	Lisa Reimers	11-Oct-19	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1941we_ask_murkowski_to_let_the_pebble_process					
PATKOTAK_2012_06_15	Elise Patkotak	15-Jun-12	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1224ged_starts_students_on_road_to_future_success					
BORDEN_2018_07_23	Mitch Borden	23-Jul-18	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1830scales_tell_tale_of_salmon_returning_to					
KELLIE_2019_02_08	Cordelia Qignaaq Kellie	8-Feb-19	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1906envisioning_our_new_ilisagvik_college_campus					
OLIVER_2018_05_12	Shady Grove Oliver	12-May-18	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1819kiana_youth_conference_highlights Voices					
OLIVER_2018_09_15	Shady Grove Oliver	15-Sep-18	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1837whaling_reps_support_strike_quota_changes					
ANS_2011_05_10	Alaska Newspapers Staff	10-May-11	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1119senator_joins_secretary_clinton_at_arctic					
BLASZAK_2019_07_09	Marcia Blaszak	9-Jul-19	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1928alaskas_parks_and_public_land_deserve					
STAFF_ARCTIC_SOUNDER_2018_1	Staff Report	20-Oct-18	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1842groups_chart_maritime_career_paths_for_youth					
OLIVER_2018_03_09	Shady Grove Oliver	9-Mar-18	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1810house_wants_to_protect_whaling_areas					
WELLS_2012_10_12	Tommy Wells	12-Oct-12	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1241young_runners_could_make_region_i_north_a					
DEMARBAN_2011_07_18	Alex DeMarban	18-Jul-11	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1129ansep_program_turns_toward_middle_schools_to					
RESTINO_2015_10_02	Carey Restino	2-Oct-15	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1540reggie_joule_drops_from_mayors_race					
OLIVER_2019_08_13	Shady Grove Oliver	13-Aug-19	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1933icc-alaska_launches_mentorship_initiative					
PAULIN_2017_12_15	Jim Paulin	15-Dec-17	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1750council_to_address_cod_conflict					
STAFF_ARCTIC_SOUNDER_2015_1	Staff Report	2-Oct-15	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1540siikauraq_martha_whiting_launches_write-in					
DUNLEAVY_2020_01_12	Michael J. Dunleavy	12-Jan-20	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/2002time_for_a_conversation_about_the_alaska_we					
SCHAEFFER_2018_02_16	Jackie Qatalina Schaeffer	16-Feb-18	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1807inupiat_iltqusiut_and_a_changing_world					
WOHLFORTH_2019_10_21	Charles Wohlforth	21-Oct-19	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1943alaskas_endless_fiscal_crisis_howd_we_get					
ROZELL_2019_09_20	Ned Rozell	20-Sep-19	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1940alaskas_changes_are_many_and_so_fast					
OLIVER_2018_07_27_B	Shady Grove Oliver	27-Jul-18	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1830alaska_assumes_chairmanship_of_icc					
FALSEY_2016_08_26	Jeannette Lee Falsey	26-Aug-16	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1634as_extravagant_cruise_ship_arrives_nome					
STAFF_ARCTIC_SOUNDER_2015_0	Staff Report	17-Apr-15	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1516students_form_gikiqtaruk_inupiaq_youth					
ROGERS_2015_07_03	Jillian Rogers	3-Jul-15	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1527youth_leaders_bring_strong_voices_to_dc					
STAFF_ARCTIC_SOUNDER_2018_0	Staff Report	11-Aug-18	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1832letters_to_the_editor					
MARTIN_2018_12_30	Mary Catharine Martin	30-Dec-18	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1852this_alaskan_art_is_wild_by_nature_1					
BENDINGER_2014_04_06	Dave Bendinger	6-Apr-14	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1414aleknagik_starts_work_on_long-awaited_bridge					
STAFF_ARCTIC_SOUNDER_2015_0	Staff Report	26-Jun-15	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1526kiana_holds_education_assembly_and_spring					
OLIVER_2018_06_22_A	Shady Grove Oliver	22-Jun-18	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1825in_brief					
ROGERS_2015_05_22	Jillian Rogers	22-May-15	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1521kotzebue_grille_finds_home_at_fec					
CREED_2013_05_17	John Creed	17-May-13	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1320baker_recognized_for_achievement_smith					
OLIVER_2019_03_22	Shady Grove Oliver	22-Mar-19	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1912nuisgut_resident_leads_anwr_campaign_for					
WELLS_2017_02_24	Tommy Wells	24-Feb-17	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1708lady_bears_streak_to_kwa_middle_school					
MURKOWSKI_2017_12_29	Lisa Murkowski	29-Dec-17	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1752tax_bill_anwr_opening_gives_alaskans_cause					
DISCHNER_2016_07_01	Molly Dischner	1-Jul-16	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1626fisheries_internship_program_puts_teens_to					
SWEENEY_2018_07_06	Brittany Sweeney	6-Jul-18	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1827selawik_youth_receive_hands-on_work					
OLIVER_2016_06_17	Shady Grove Oliver	17-Jun-16	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1624kids_learn_business_savvy_through_lemonade					
GLENN_2018_05_29	Richard Glenn	29-May-18	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1822lincoln_is_up_to_the_challenges_facing_state					
BENNETT_2016_11_05	Lindsey Bennett	5-Nov-16	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1644in_your_words_health_program_aims_to_make					
MOSS_2014_12_19	Dale Moss	19-Dec-14	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1451thank_you_from_the_harlem_ambassadors					
PRUM_2019_02_15	David Prum	15-Feb-19	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1907a_road_to_somewhere_why_ambler_road_makes					
ALEUT_2012_11_20	Aleut Corporation	20-Nov-12	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1248aleut_corp_honors_student_with_bright_future					
DEMARBAN_2019_10_21	Alex DeMarban	21-Oct-19	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1943afn_declares_state_of_emergency_for_climate					
WELLS_2012_10_05	Tommy Wells	5-Oct-12	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1240area_runners_shine_at_state_meet					
TUZROVLUK_2018_01_26	Sayers Tuzrovlyuk Sr.	26-Jan-18	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1804congress_opens_anwr_now_what					
WELLS_2013_12_20	Tommy Wells	20-Dec-13	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1351kotzebue_huskies_drop_season-openers_to					
OLIVER_2018_02_09	Shady Grove Oliver	9-Feb-18	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1806arctic_rife_with_housing_problems					

Table S1: Visions of the Arctic Future: Metadata for Arctic news corpus

Keys and Meyer (2021)

OLIVER_2015_12_18	Shady Grove Oliver	18-Dec-15	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1551inuit-led_study_looks_into_arctic_food				
OLIVER_2019_09_20_A	Shady Grove Oliver	20-Sep-19	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1940scientists_embark_on_largest_polar_expedition				
HERRON_2014_08_08	Bob Herron	8-Aug-14	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1432what_is_the_alaska_arctic_policy_commission				
PAULIN_2019_07_19	Jim Paulin	19-Jul-19	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1929tbi_looks_into_financial_fraud_inalaska				
OLIVER_2018_10_06	Shady Grove Oliver	6-Oct-18	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1840first_supplies_arrive_in_kivalina_for_access				
PAULIN_2019_02_22	Jim Paulin	22-Feb-19	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1908unalaska_donates_10000_to_local_coast_guard				
OLIVER_2019_09_20_B	Shady Grove Oliver	20-Sep-19	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1938nome_hosts_inuit_food_summit				
SOLOMON_2019_03_07	Catherine Solomon	7-Mar-19	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1910letter_to_the_editor				
PAULIN_2014_10_03	Jim Paulin	3-Oct-14	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1440tillion_bundrants_book_gets_a_few_things				
PAULIN_2019_03_29	Jim Paulin	29-Mar-19	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1913unalaska_expects_record_number_of_cruise				
ROSS_2018_07_06	Isabelle Ross	6-Jul-18	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1827choggiung_ltd_acquires_bristol_alliance_of				
OLIVER_2018_06_16	Shady Grove Oliver	16-Jun-18	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/18244_million_sent_for_anwr_prep_work				
OLIVER_2018_11_23	Shady Grove Oliver	23-Nov-18	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1847rahi_director_retiring_after_three_decades				
OLIVER_2018_06_22_B	Shady Grove Oliver	22-Jun-18	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1825students_get_gutsy_at_health_science_program				
STAFF_ARCTIC_SOUNDER_2015_0	Staff Report	22-May-15	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1521in_brief_1				
STAFF_ARCTIC_SOUNDER_2018_1	Staff Report	14-Dec-18	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1850obituary_-_timothy_r_mase				
ROGERS_2019_05_15	Jillian Rogers	15-May-19	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1520kotzebue_youth_center_opens_to_much_fanfare				
MANILAQ_2012_03_30	Manilaaq Staff	30-Mar-12	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1213manilaaq_health_center_unveils_new_tech				
STAFF_ARCTIC_SOUNDER_2016_0	Staff Report	18-Mar-16	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1611point_lay_and_point_barrow_restoration				
DEMARBAN_2011_06_23	Alex DeMarban	23-Jun-11	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1125usgs_report_more_native_dialogue_needed_to				
RESTINO_2018_02_23	Carey Restino	23-Feb-18	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1808federal_budget-makers_think_alaskas_too_rich				
AHMAOGAK_2014_08_22	George Ahmaogak	22-Aug-14	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1434take_back_the_north_slope_borough				
STAFF_ARCTIC_SOUNDER_2015_0	Staff Report	22-May-15	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1521in_brief				
OLIVER_2018_08_11	Shady Grove Oliver	11-Aug-18	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1832arctic_may_see_a_population_spike_by_2045				
OLIVER_2017_05_04	Shady Grove Oliver	4-May-17	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1718bering_sea_elders_condemn_executive_order				
WELLS_2018_11_16	Tommy Wells	16-Nov-18	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1846council_approves_rehire_of_koester				
OLIVER_2018_05_19	Shady Grove Oliver	19-May-18	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1820park_service_holds_trial_tribal_consultation				
SMITH_2013_03_01	Jack M. Smith, Jr.	1-Mar-13	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1309letter_to_the_editor_basketball_players				
OLIVER_2018_05_04	Shady Grove Oliver	4-May-18	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1818utqagvik_votes_for_marijuana_sales_tax				
STAFF_ARCTIC_SOUNDER_2015_1	Staff Report	30-Oct-15	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1544richards_schaeffer_vie_for_mayors_seat				
WELLS_2013_09_14	Tommy Wells	14-Sep-13	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1337lee_baldwin_race_to_wins				
STAFF_ARCTIC_SOUNDER_2019_0	Staff Report	30-Sep-19	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1940letters_to_the_editor				
MURKOWSKI_2019_09_12	Lisa Murkowski	12-Sep-19	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1937local_agriculture_helps_alaskas_economy_food				
HAGAR_2019_06_14	Alex Hagar	14-Jun-19	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1924adfamg_biologists_continue_to_grapple_with				
ROGERS_2015_06_12	Jillian Rogers	12-Jun-15	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1524geoforce_flick_wins_big_at_regional_ernmy				
ANDERSON_2019_08_30	Julie Anderson	30-Aug-19	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1935supporting_tourism_and_entrepreneurial_spirit				
OLIVER_2016_07_01	Shady Grove Oliver	1-Jul-16	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1626first_full-time_optometrist_sets_up_shop_in				
WOHLFORTH_2018_08_31	Charles Wohlforth	31-Aug-18	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1835we_did_solve_problems_before_oil_maybe_better				
OLIVER_2017_10_20	Shady Grove Oliver	20-Oct-17	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1742barrow_student_confronts_climate_change_in				
STAFF_ARCTIC_SOUNDER_2014_1	Staff Report	7-Nov-14	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1445in_brief				
RESTINO_2018_06_09	Carey Restino	9-Jun-18	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1823a_disturbing_picture_of_alaska_politics				
WELCH_2019_10_22	Laine Welch	22-Oct-19	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1943board_of_fish_directs_focus_toward_ocean				
HOFSTADTER_2019_02_22	Emily Hofstaedter	22-Feb-19	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1908last_mass_celebrated_at_historic_st_francis				
KANTNER_2016_09_09	Seth Kantner	9-Sep-16	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1636caught_fish_are_not_the_only_measure_a_day_or				
OLIVER_2019_11_06	Shady Grove Oliver	6-Sep-19	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1936ilisagvik_president_reflects_on_decade-plus				
OLIVER_2019_02_28	Shady Grove Oliver	28-Feb-19	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1909group_hopes_to_use_social_media_to_engage				
WELLS_2017_11_02	Tommy Wells	2-Nov-17	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1744pilot_usfs_allocation_of_heli-skiing_permits				
RESTINO_2016_04_22	Carey Restino	22-Apr-16	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1616lifemed_ends_first_season_in_unalaska				
MILLER_2013_08_16	Joseph Miller	16-Aug-13	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1333author_remembers_unique_childhood_on_sanak				
NAGAOKA_2019_03_07	Kengo Nagaoka	7-Mar-19	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1910dunleavy_budget_is_a_shock_tactic_to_open				
ANS_2011_07_25	Alaska Newspapers Staff	25-Jul-11	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1130nana_development_buys_support_company_for				
GRASSER_2014_08_01	Eddie Grasser	1-Aug-14	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1431sb_21_gives_alaska_a_fighting_chance_to_build				
BALDWIN_2014_03_14	Teressa K. Unallin Baldwin	14-Mar-14	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1411inupiat_people_have_a_responsibility_to_our				
ADNEB_2019_07_09	Anchorage Daily News Editorial B	9-Jul-19	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1928dunleavy_vs_legislature_who_will_step_back				
OLIVER_2016_01_22	Shady Grove Oliver	22-Jan-16	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1603arctic_encounter_symposium_centers_on				
DISCHNER_2016_06_24	Molly Dischner	25-Jun-16	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1625new_book_rough_waters_explores_alaska_fishing				
OLIVER_2016_12_16	Shady Grove Oliver	16-Dec-16	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1650ilisagvik_on_track_to_have_4-year_degree				
PATKOTAK_2018_05_19	Elise Patkotak	19-May-18	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1820college_honors_graduates_looks_to_future				
ADAMS_2014_03_21	Jacob Adams. Sr.	21-Mar-14	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1412aligning_on_arctic_development				
MANN_2018_12_30	Terry Mann	30-Dec-18	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1852pebble_deal_doesnt_reflect_views_of				
OLIVER_2018_09_29	Shady Grove Oliver	29-Sep-18	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1839election_coverage_2018_north_slope_school				
OLIVER_2018_12_22	Shady Grove Oliver	22-Dec-18	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1851kotzebue_woman_breaks_silence_on_sexual_abuse				
WELLS_2018_05_18	Tommy Wells	18-May-18	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1820weisser_anderson_fisk_lead_girls_to_2nd_at				
ROGERS_2015_07_18	Jillian Rogers	18-Jul-15	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1529ansp_students_take_on_paid_internships				
STAFF_ARCTIC_SOUNDER_2014_1	Staff Report	10-Oct-14	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/144115_years_ago_in_the_arctic_sounder				
NORDLUND_2018_11_02	Jim Nordlund	2-Nov-18	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1844begichs_record_in_washington_proves_he_is_the				
OLIVER_2018_04_27	Shady Grove Oliver	27-Apr-18	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1817cost_comes_into_focus_amid_astar_testimony				

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Keys and Meyer (2021)

STAFF_ARCTIC_SOUNDER_2018_0	Staff Report	22-Jun-18	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1825coastal_villages_kicks_off_youth_employment					
RESTINO_2017_01_28	Carey Restino	28-Jan-17	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1704marches_build_much-needed_solidarity_2					
PATKOTAK_2017_09_02	Elise Patkotak	2-Sep-17	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1735ilisagvik_college_holds_summer_camps_for_kids					
PATKOTAK_2014_12_12	Elise Patkotak	12-Dec-14	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1450spring_registration_opens_at					
OLIVER_2018_10_15	Shady Grove Oliver	15-Oct-18	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1842afn_kicks_off_next_week_in_anchorage					
KASAYULIE_2011_01_13	Willie Kasayulie	13-Jan-11	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1102providing_ancsa_benefits_to_younger					
TALLEKPALEK_2018_10_26	Alexander Tallekpalek	26-Oct-18	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1843common-sense_protections_for_bristol_bay					
DISCHNER_2016_11_11	Molly Dischner	11-Nov-16	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1645dillingham_students_ask_next_us_president_to					
ROGERS_2015_04_03	Jillian Rogers	3-Apr-15	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1514after_long_career_cowan_retires					
PATKOTAK_2017_03_25	Elise Patkotak	25-Mar-17	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1712ilisagvik_students_travel_to_dc_for_education					
PATKOTAK_2013_05_17	Elise Patkotak	17-May-13	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1320technology_improves_inupiaq_language					
OLIVER_2016_03_18	Shady Grove Oliver	18-Mar-16	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1611finding_a_holistic_approach_to_arctic_housing					
LUKIN_2013_06_07	Maija Katak Lukin	7-Jun-13	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1323kotzebue_firefighting_volunteers_hone_skills					
MARTIN_2019_10_07	Mary Catharine Martin	7-Oct-19	4-Mar-20	The Arctic Sounder	http://www.thebristolbaylimes.com/article/1941bristol_bay_fishermen_catch_2_billionth					
STAFF_ARCTIC_2019_03_15	The Arctic Staff	15-Mar-19	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1911briefs					
STAFF_ARCTIC_2019_06_08	The Arctic Staff	8-Aug-19	4-Mar-20	The Arctic Sounder	http://www.thearcticsounder.com/article/1932annual_group_photo_calls_for_salmon_advocacy					
PULKKINEN_2017_02_06	Jonna Pulkkinen	6-Feb-17	2-Mar-20	The Barents Observer	https://thebarentsobserver.com/en/life-and-public/2017/02/creative-industries-and-bioeconomy-key-future-arctic-job-market					
SAPMI_2018_11_29	Yle Sapmi	29-Nov-18	2-Mar-20	The Barents Observer	https://thebarentsobserver.com/en/life-and-public/2018/11/no-one-assumes-responsibility-sami-language-planning-minister-throws-ball					
NCA_2019_03_25	Norwegian Coastal Administratio	25-Mar-19	2-Mar-20	The Barents Observer	https://thebarentsobserver.com/en/node/5211					
QUINN_2017_06_02_A	Ellis Quinn	2-Jun-17	2-Mar-20	The Barents Observer	https://thebarentsobserver.com/en/2017/06/arctic-countries-blast-trump-decision-withdraw-paris-climate-deal					
PETERSEN_2016_05_04	Trude Pettersen	4-May-16	2-Mar-20	The Barents Observer	https://thebarentsobserver.com/en/society/2016/05/future-novatek-location-changes-status					
QUINN_2019_11_27	Ellis Quinn	27-Nov-19	2-Mar-20	The Barents Observer	https://thebarentsobserver.com/en/ecology/2019/11/2018-greenhouse-gas-concentrations-broke-records-warns-wmo-report					
ADN_2016_05_16	Alaska Dispatch News	11-May-16	2-Mar-20	The Barents Observer	https://thebarentsobserver.com/en/industry/2016/05/shell-gives-all-one-chukchi-sea-lease					
SAPMI_2019_03_05	Yle Sapmi	5-Mar-19	2-Mar-20	The Barents Observer	https://thebarentsobserver.com/en/life-and-public/2019/03/women-dominate-sami-film-industry					
NILSEN_2017_11_14	Thomas Nilsen	14-Nov-17	2-Mar-20	The Barents Observer	https://thebarentsobserver.com/en/ecology/2017/11/historic-climate-lawsuit-starts-oslo					
HOFMAN_2018_07_19	Marianne Hofman	19-Jul-18	2-Mar-20	The Barents Observer	https://thebarentsobserver.com/en/ecology-life-and-public/2018/07/fighting-nasajall					
NILSEN_2017_03_14	Thomas Nilsen	14-Mar-17	2-Mar-20	The Barents Observer	https://thebarentsobserver.com/en/industry-and-energy/2017/03/norway-makes-big-money-sanctioned-russian-bank					
STAALESEN_2019_11_08	Atle Staalesen	8-Nov-19	2-Mar-20	The Barents Observer	https://thebarentsobserver.com/en/node/6060					

Visions of the Arctic Future: Blending Computational Text Analysis and Structured Futuring to Create Story-based Scenarios

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- Figures S1- S10 documenting the story-based structured futuring methods for each scenario. (Supplement pages 42 – 53)
- Additional information for corpus distribution by year of publication date (page 54)
- Additional information for Coherence score analysis (page 55)

Additional Supporting Information (Files uploaded separately)

- "Table S1: Visions of the Arctic Future: Metadata for Arctic news corpus" containing the metadata for the corpus of text (uploaded as a PDF)

Ten Story-based scenarios.

The ten stories are attached in full below:

1. Campus Utqiaġvik (Page 3 to 5)
2. Nanook Station (Page 6 to 7)
3. Security Detail (Page 8 to 12)
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6. Putin's Gambit (Page 22 to 25)
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9. Assisted Migration (Page 34 to 37)
10. School's Out Forever (Page 38 to 41)

1. Campus Utqiaġvik

“And to wrap up — I thank the entire Campus Utqiaġvik for supporting me the past 20 years. The Circumpolar Campus Alliance is our path forward. Together, with our partners, we can lead the world toward a more hopeful, peaceful, and just future.”

Edna paused outside the grocery store, as she smiled at the recording taken a few hours earlier, and then mouthed along silently with her own words, “The project of democracy and education are the same project.” She smiled. This was a *good* speech. She focused back to the present, and swiftly stepped aside as a group of laughing kids ran past, followed closely by a nanny drone.

The doors to the grocery slid open and Edna felt relief as the humidity disappeared in a cool blast.

She stepped into the store, and then out of the way, to continue watching the last moments of her departure speech “I am confident that your new Chancellor, Dr. Evelyn Wilhelm, will lead Campus Utqiaġvik deftly into the 22nd century.” Edna rolled her eyes, at her own politicking. “Moreover, I am grateful to be leaving my post under such a steady hand.” Grudgingly, Edna admitted that Evelyn was a fantastic choice, and that Campus Utqiaġvik could not do much better. But still.

As the applause lifted in the recording, she tapped out of her feed, and noticed a man’s trolley was getting away from him, and was about to tip to the side. She quickly lifted up the sagging corner, and smacked the top with her palm. The repulsors coughed in monotone static as they kicked back in, and the hover trolley righted itself. “Thank you!” said the man who was coaxing a sleeping infant back to sleep. “Oh! Chancellor!” said the man, surprised.

“*Former* Chancellor.” Edna smiled. “Just ‘Edna’ these days.” The man chuckled nervously.

“Unless you’re one of my students!” She squinted an eye, and pointed at the man. “Then it’s Dr. Edna” she laughed. This time, the man laughed too.

“Have a goodnight, Chanc— Edna.” The man passed outside into the late afternoon heat. Edna tapped a new trolley, and it hummed slowly up, alongside her.

Walking down the produce aisle, Edna saw that peaches were finally in season, and went to reach for one.

“Chancellor?” Edna turned around to see Press Secretary Earl Fechhelm. “It’s good to see you,” said Earl.

“Secretary Fechhelm, it’s great to see you too. And remember — just Edna now” she smiled warmly. “I’m surprised you’re here, I thought you’d still be at the gala?”

“No, my mother is ill,” said Earl, “so I’m bringing her some soup on my way home. Well it was —”

They both started as their Feed's chime with an emergency alert, nobody else appeared to notice, but Edna and Earl both glazed as they accessed their feeds. The Secretary of Labor had sent a briefing on the ongoing worker strike at the protein synthesis plant. The negotiation between the union and the government had reached a critical point, and the government administration was being notified in case there were any disruptions.

Earl is surprised to see that Edna was included in the update. Edna noticed — and thinks to herself "Damn right you still need this woman."

The briefing continued "...Finally, given the transition in Chancellor leadership, we have included both the incoming and outgoing administrations. We will keep you updated. Roberts out." Edna blinked, and looked at Earl.

"You might be a bit busier tonight than you expected," said Edna. Earl let out a long sigh.

"That's interesting", thinks Edna. "I wonder whether he has what it takes to do this job day in and day out." Her mind wanders to thinking of how tumultuous the past 50 years have been for Campus Utqiaġvik. The failure of the Federal government, then the collapse of state authority... In Alaska, at least, only the Native Corporations had the infrastructure — both human and physical — to persist. Then, the rise of the polar university city-states, and ... ah. Edna realized she had mentally wandered off a bit.

Edna waved as Earl said a goodbye, and quickly began speaking to his new Team. Edna moved on to get those newly delivered peaches. Edna heard a buzz in her Feed, and saw an alert that the Secretary of Food Security had sent a new message to the list... She realized that she might need to remind the powers-that-be that she should be kept *out* of the loop now. Strange that. Had Edna sought a third term, it would have been possible, but... No. While she was distracted, apparently on reflex, Edna had already punched in a brief message about the ongoing negotiations to her counterparts in Inuit Nunangat, in case there were unforeseen challenges in food distribution in the coming weeks. She caught herself, and laughed. As she deleted the message, she saw Earl walking back toward her.

"Hi Chancel— sorry, Edna — While you're here, do you have any comments that you would like to add to the press release?" Edna smiled, and considered how quickly the correct words swirled into her mind. "We must protect the community we have built, and the entire Alaskan family. This includes protecting workers rights and fair wages, across Campus Utqiaġvik. Indeed the nature of our unique civic and educational project is people, not profit." Blah blah blah. She smiled, and the words in her mind disappeared. "Thanks Earl, you can say "The Former Chancellor is fully confident in the new administration." Edna smiled wide, and Earl looked pleased. He thanked Edna as he carefully carried a large bulb of chicken soup to the exit.

That, Edna thought, was actually the truth. She looked down at her empty cart and realized that all she really wanted anyway was a frozen pizza, a large bulb of wine, and to watch a good movie tonight. So she kept the two peaches she already grabbed, and walked to the frozen food aisle. She fished out her favorite brand of inexpensive frozen veggie pizza, and a bulb of her favorite, though very expensive, Athabaskan wine. When she reached the exit, she heard a chirp in her Feed and the flash of her receipt.

As the sun disappeared, the humidity had dissipated and the outside air was cool on her face. The rotating sigil of Campus Utqiaġvik appeared in her Feed. Apparently the press release had been sent out already. Her instinct was to read it, but instead, she archived it, looked out at the city around her, and sighed contentedly. The markers of the past half century were clear. The husks of the abandoned oil refineries and processing plants had been turned into public art exhibitions — and even a kids playpark — though she'll never understand how people can actually *play* on those repulsor fields. The strange floodable buildings with adaptive foundations, the permafrost melt canals, and the too-warm air. The future of Campus Utqiaġvik was in good hands, and thankfully they weren't hers' any longer.

Edna smiled as she walked home.

2. Nanook Station

Dispatch #42.

The Nanook Station scientists might suspect something. I will be as detailed as I can in this briefing, since I may have to be quiet for some time.

As of July 1, the new station lead from Aarhus University, referred to as KL, has shaken up the researchers' rotations, changed the monitoring protocols for the polar bear neural lace program, and brought an external Assessor, to, as they told the crew, determine why the station budget has gone up so much in the last two years. However, the real purpose of the Assessor's visit will be made clear below.

A brief background. The position of the station on the western side of Devon Island is such that it provides maximum opportunity for the polar bears to access thickening sea ice throughout the Queen Elizabeth Islands, while staying close to the engineered salmon fishery and the nearby monitoring stations. The salmon fishery is a subject of continual discussion at the station, as wild spawning has only been successful for the past 5 years. Several of the scientists are skeptical that it will actually become permanent given the ongoing, highly variable fluctuations of the seasonal climate. Yet, KL is behaving as though it is guaranteed. The combined genetic manipulation and neural manipulation of the polar bears also appears successful. The modification of the polar bear genome to mimic certain brown bear traits, as well as the manipulation of neurotransmitter activities via the neural lace program, have been confirmed by polar bears hunting in rivers unlike any behavior observed in the past. I have also independently confirmed this via drone clouds. <<Personal comment: seeing polar bears hunting in rivers is among the more disturbing and uncanny things I have seen. >>

Since the station itself is a research partnership between the two public organizations, International Polar Bear Alliance and the Arctic Institute of North America, it lacks robust security and has no deterrence capabilities. The surface portion of the base is heavily camouflaged to appear as part of the landscape, and the underwater portion is designed for thermal and physical resilience to the enormous physical changes that occur seasonally. KL is notably trying to improve some of these aspects of security, but I can confidently say this will go nowhere given the scientist's reticence to add any complication to their routines. Entry and exit is possible above and below the water surface, and the updated access codes are appended to this message.

The purpose of my mission is to monitor the ongoing success of the scientists' efforts to insert a neural lace into a large mammal. The progress of the last two years continues, despite no mention of this work to any public agency or scientific organization. Last week, I observed a message sent from lead engineer TD, to KL. This message contained standard updates about uplink efficiencies, and neurotransmitter manipulations.

However, it also contained an update for the Assessor about the open channels to unknown off-station recipients.

This is where I learned that the Assessor is not actually an accountant from the University of Calgary. The Assessor, is a forensic computer scientist tracing access and flow of data around the polar bear neural lace program. Apparently, KL was put on this project to identify the source of the leak of the polar bear neural lace information. While we have accessed the neural lace program via different methods, I am concerned that the station leadership will become more aggressive in their search methods. I am certain that no one has found my backdoors to the neural lace program. Yet, if they search hard enough, they will.

I will not remove the access points that I have established, despite the risk it poses. If I am discovered, I will burn my trail and depart, one way or another.

However, given that you may not hear from me again for sometime, I recommend three things to consider as your next course of action.

First, the acceleration of our own research is at a critical point. Given that there is no public knowledge of the Nanook Station neural lace program, we can still be the first mover on this.

Second, KL does not know who the recipient of the station leak is. I have begun my own investigation and increased the number of network monitors in position, but I must tread lightly. Especially now that the Assessor is here. I recommend that we use the bulk download of communications traffic data (attached) to triangulate the destination of the neural lace data, and shut them down. We can not afford for another company to gain an advantage in R&D for their own neural lace programs.

Third, Nanook Station may come under aggressive oversight, if not full takeover, sooner rather than later — and not from our hidden competitors. The refugee crisis that is overwhelming some parts of Nunavut continues to expand northward into the Arctic Archipelago, and may soon consume Devon Island as well. The existence, and success, of a salmon fishery is soon to bring many unwanted fishermen. This will either be preceded or followed by Royal Canadian Naval forces. Until now, Canada has given Nanook Station special treatment, but if the salmon become a flashpoint for conflict, then armed forces will either be stationed onsite or take over operations for the safety of the scientific mission. If this happens, enhanced security review may find me out, and steps may have to be taken.

X.

3. Security Detail

"Good morning and welcome back for day number six of the 2078 Arctic Council Committee Members Meeting." A Danish man looked around the large auditorium with a sparkle of excitement in his eyes as he addressed the crowd. "May the record please state that the local time here in Nuuk, Greenland is 8:03 in the morning on July 27th, 2078. Arctic countries and observers, today's date may very well be remembered in history." The room lightly applauded at the introduction.

"Please," Kjell, a Norwegian Arctic Council representative, barely whispered to Britt, his associate. "I thought that's what they were saying about the last five days."

Else Larsen suppressed a laugh from where she stood at attention behind the Norwegian politicians. As their security agent, she had gotten to know Kjell and Britt quite well in the last week or so and enjoyed Kjell's sense of sarcasm. He'd crack jokes just loud enough for her to hear; however, she had taken an oath before getting assigned her position, swearing to remain professional, and most important, silent, when the Council was in session.

The Danish spokesman continued. "Thank you all for joining us again for another day as we work towards the monumental decision concerning the non-Arctic observer country of China and their request to join the Arctic Council as a Member State. This decision ultimately lies with the eight current Member states. This morning, we will once again invite each Arctic country to please summarize their supportive and opposing arguments, as well as their decision."

The past three days had all started the exact same: Member States expressed their opinion and got the opportunity to state whether they support, oppose, or are currently undecided about China becoming a Member State.

Not a single country had chosen a side yet.

However, Arctic Council meetings had historically lasted between one to two days, depending on the year. Now that they were starting Day 6, there was an air of impatience creeping into the room as everyone waited for the current Member states to finally take a stance on China's status.

Else didn't mind though. Her bosses had informed her of the importance of this decision and that, at the worst, she should prepare to be on assignment for weeks. She was hoping that her diligence and dedication to the security of Kjell and the other Norwegian representatives would not go unnoticed.

"I would like to remind you that the Arctic Council makes decisions through a consensus between all Member States. This does not mean that all eight of your countries need to

end at the same vote, but a decision will ultimately need to be made that can be agreed upon by all of you.

"May a representative from the United States please start us off." The spokesman stepped away from the microphone and sat down at a table in the front row of the auditorium.

She had never been to the U.S., but Else thought it might be a nice place to visit eventually, with all of their historic, creaky skyscrapers and such. When she was studying in college, she would watch movies with the President's Secret Service staff to keep her inspiration high, dreaming that one day she could serve and protect people as prestigious as a national president.

The American representative addressed the crowd in what Else assumed to be English. Else couldn't help but stare as his mouth formed shapes and words in a language that was completely unfamiliar to her. Nobody else in the room seemed phased. As she continued to watch, though, a clear, automated voice began in her ear, translating the representative in real time in proper Norwegian. The words "Active Automatic Interpretation" flicked on in red both above the American's head and on the bottom corner of her glasses, indicating that her earpiece was also working. *Look at the technology invested in this event*, she thought to herself.

After talking of world superpowers and Chinese prosperity, he came to the end of his speech. "On behalf of the United States of America, Member of the Arctic Council through the ownership of Arctic land in Alaska, and with the support of Indigenous Alaskans, we give our support to China as a Member State of the Arctic Council."

The room hummed with the sounds of muffled whispers and shuffling papers. Else became very alert, scanning the room for any potential threats.

"Finally!" sighed the Finnish representative seated a table over, physically reclining in his chair. "The stalemate is over."

Else continued to look around. Seeing that other representatives also seemed relieved told her that there wasn't any threat of danger, yet the room was full of hurried, frantic body mannerisms that said otherwise. Her lack of political experience felt obvious. She looked to her Norwegian representatives for guidance.

"Sir, why would the United States support China?", asked the newest and youngest Norwegian representatives to Kjell. "I thought the Americans were afraid of China gaining more power. They've already lost the title of World Superpower to China — so, why would the Americans want to support them now?"

"Anders, will you pass me the envelope with the declaration in it, please?" Britt whispered, leaning around Kjell to ask the aid on the other side of him without interrupting. Anders bent down from his chair to shuffle through some unorganized papers in his briefcase for a moment before pulling out the envelope. Without looking back up, he passed the envelope to Britt - passing right through Kjell's midsection. When Britt didn't grab the envelope, Anders sat up to find Kjell glaring at him.

"Oh my goodness, sir, I am so sorry!" He pulled his hand back. "I didn't realize where my hand was, I mean no disrespect sir. Please forgive me?" A look of horror was evident on Britt's face as she reached around Kjell's projection to grab the envelope, avoiding eye contact with the aid.

Kjell rolled his eyes in annoyance at the aid's faux faux. "Sanctions," he replied to the young representative's earlier question. "Even at an event like this, there is always the fear of sanctions. The U.S. is already in hot water with China. They do not want to be rocking the boat any more than they have to."

"Doesn't that break some sort of Arctic Council code, though? Holding another country's vote against them like that?"

"I don't know that they'd actually do it. But the fear was probably enough for the Americans. Honestly? I'm just thankful that someone had the nerve to finally voice an opinion on this thing."

Following the lead of the United States, Russian representatives declared their support of China as a Member State, pointing to China as the reason for their massive economic boom with deep appreciation.

"Thanks to the fully Chinese-funded Arctic spaceports back in the '40s, we have seen the largest financial and technological acceleration in Russian history. This historical work from more than three decades ago allowed the Arctic to help the lunar colony to establish itself completely and begin trade with Earth. China brought ports and trade to the Russian Arctic, even employing our local people to build them. We feel that, because of the prosperity they've brought to our land, it is only right that they get to help make Arctic decisions as well."

Neither Else nor the new Norwegian representative needed that decision explained. As the Russian representative took their seat, an Icelandic representative stood. Else recognized the man. A few days back, there had been a midday break in the meeting and Else found herself with twenty minutes and no responsibilities. She went outside to get some air when a group of representatives had walked past her on the sidewalk.

"I mean just look at that! Your parents ever tell ya about how they used to have to use big claw machines to move materials around when constructing a building?" Else overheard one of them say as they approached.

"You mean the ones where there had to be a person driving the machine too?", laughed the second.

"Yeah exactly. I mean, I get it, we can't really know what China would do as a Council Member. But look at all the shiny new stuff we've gotten from them before they're even a Member! Imagine what we'll get...." The group passed Else and were soon out of earshot.

"The Arctic state of Iceland is still weighing the implications of China becoming a member state. If the majority can reach an agreement, then Iceland will vote with the majority." When the representative from Iceland stated that his country was still undecided, Else was shocked. She had *heard him* talking as if China's member status was already declared. She couldn't understand why they wouldn't just state their support now, like everyone else.

The representatives from both Canada and Denmark, on behalf of Greenland, expressed deep concern about China being the only Member State without any land at risk.

"Decisions about the Arctic are inherently important to Arctic states because they have land in the game. What stakes does China have if their land *and* their population aren't at risk with every vote cast?"

The indigenous Inuit representative from Greenland also spoke, questioning China's concern for the environmental degradation that had already occurred when they'd expanded their trading capacity into the Arctic. Remote, pristine coastlines had been destroyed for shipping ports; pollutants from the ports seeped into local ecosystems, causing mutations in the native wildlife; and when the sea ice in the lower parts of the Arctic Circle completely stopped freezing over in wintertime, China used it as an opportunity to move more ships rather than ring any climate alarms. She questioned if China would be willing to consider past, present, and future environmental harm that they are directly causing in the Arctic if they are to become a Member State.

Even with all of these concerns, all countries had made it clear over the past few days that they couldn't just ignore the incredible opportunities that China had brought them. Shipping ports had been built in all Arctic states, connecting them to global trade networks like never before. This brought goods, jobs, a booming economy, and lifted many workers from poverty around the world. With countries becoming so interconnected and dependent on one another, they began to hold the other to higher standards. Nicer products meant careful labor, bringing both a pay increase and better work conditions to laborers around the world.

No one could really complain about that.

Britt stood up, turning and glancing at Else. It was time. Else followed Britt up the stairs, and as they neared the podium, Else took position a few feet behind her. Kjell was instantly projected in front of the podium standing next to Britt.

"My Arctic colleagues," Kjell started into the microphone. "As the past days have shown us, there are far more questions than answers at this point in time. Just a few representatives are expected to make a decision that may ultimately change the course of the Arctic, and the world, forever. Many of us are probably wondering: what happens if we make the wrong decision?... *Is there a wrong decision?*" Kjell looked around the room at each representative.

"With a 'yes' vote, this would make the world's largest superpower the first non-Arctic country to join the Arctic Council. What *else* will we allow them to be the first to do? These may be good firsts or bad firsts, but either way, the weight of this decision is immense." Britt flipped to the next sheet of paper on the podium for him.

"On behalf of Norway, in collaboration with the other Scandonavian states and with the support of the entire Nordic region, we have decided to take the leap and support China in whatever their next 'first' will be." The room erupted into noise once again; Else at least knew enough to expect it this time. When the Finnish and Swedish representatives took the stage and backed Kjell's statement, the room broke into applause.

The Danish spokesman took the stage again. "For those of you not keeping track, that means five out of eight member states have announced a positive supporting vote! We will take a break to process all that has happened today, and then I will leave it up to Iceland, Canada, and Denmark to make their closing statements. Remember: we do not need all eight countries to vote 'yes', but we do need an outcome to be discussed and agreed upon by all members. We will see you all back in here at 30 minutes past noon." As the room slowly emptied, Else began to make her way out.

"With Iceland, that's six votes."

Else looked around, unsure where the words came from; she couldn't help but notice the Chinese representatives hunched together and whispering. There was no "Active Automatic Interpretation" light on their table. *I shouldn't be able to understand them*, Else thought to herself, dismissing the idea. However, the dialogue continued.

"And you know that Denmark will vote with the rest of the Nordic countries now. That just leaves Canada," to which many voices laughed in time with the shaking shoulders of the Chinese representatives. It was then that Else noticed the red interpretation light was still on in the corner of her glasses.

"...so what's our next step?" One asked in Mandarin, though Else heard perfectly-timed Norwegian in her ear.

"We've already been over this," another representative began. "We know we have full Arctic support at this point. Why agree to a binding membership? We know that protecting the environment is their main concern, now that we've secured all of them economically. So as long as we set environmental regulations but keep up the good work, they'll want to collaborate with us into the future. It's really a win-win."

As Else walked out of the room, she couldn't help but think about what this could mean. *Others should definitely know about this*, she thought to herself. If she were an Arctic Council representative, she would want full information before making a big decision like this.

4. The Last Preserve

It was *cold*. That's how they knew they were getting close. It wasn't the same cold of a long, arctic winter night, but rather that chill you get when you walk into an underground cellar. It was an empty, almost eerie type of cold. The low-hanging, dreary clouds weren't helping.

School kids of all ages were in the process of bundling themselves in thick puffy down jumpsuits with the words "Canadian Archipelago Tours" embroidered across the chest. Everyone had been handed a suit as they loaded onto the high speed glider ship. Elementary teachers helped pull zippers and fasten boot laces for the youngest of the children, their eyes glowing in anticipation.

"Maybe this year I'll get to see a real whale! Not just a picture, but like a real, big whale!"

"Yeah, right!" One child scoffed. "My mom told me she only ever saw a whale once, and it wasn't even a whole whale. It was just the top part spraying water all over the place."

An automated female voice cut through everyone's thoughts. "It is time to finish the last of your preparations, we are almost at our destination. Please take your assigned seats along the deck of the ship." The youngest children mindlessly scratched at their ears. The speaker implants were governmentally approved to be inserted before the first day of primary school. It took some students longer than others to adjust to the permanent earphone.

The ship was cutting so fast through the water that it felt as if everyone was still standing on the Yukon coastline. As it began to slow, the oldest students, that of middle and high school age, found their seats while teachers herded the youngest to their chairs. The force of the waves swayed the ship side to side as they decelerated. All of the chairs began facing the bow of the ship.

Like a permanent fence arising out of the cold arctic water, reinforced steel beams with flashing orbs on top stretched out horizontally in front of them. The captain steered the ship through an opening in the fence. The nearest fence post to the gate had a steel platform with a small metal shelter sitting above the waves. Guards were permanently stationed here. One stood at a window in full military gear and nodded as the boat passed by. Onboard, the captain cut the ship's engine.

"Hello and welcome!", the voice began again in everyone's ear implant. "We are excited to have you onboard with us this morning. We ask that you listen to our directions very carefully to ensure a pleasant and memorable experience of the Arctic Archipelago Bubble Experiment, or the AABE." In a more serious tone, the voice said, "please remain in your seats the entire duration of the tour. Once we are back outside of the gates, you may move about the ship as you please. The ship may rock suddenly, so keep your lap

belt on as well." Some of the children laughed, knowing that the waves hitting the ship was one of the best parts of the entire trip.

The ship drifted forward through the water. Through the spraying mist of the ocean waves, a glow was visible in the distance. In a lighter tone, the voice continued, "feel free to ask any questions that come to mind. Whether this is your first trip or your thirteenth, there is always something new to learn about the AABE! Sit back, relax, and let the sights amaze you." The high school students had been on the AABE field trip so many times, they could practically recite the opening announcements themselves.

Schools were the only groups that received annual governmental funding to go see the Arctic Archipelago Bubble Experiment. Everyone else either had to have an enormous amount of money to pay for the private cruise, or just couldn't go after they graduated from high school. The Canadian government claimed something about always having the money for children to see the power of humanity.

As the glow up ahead grew closer, it became clear that the source was high in the sky and reflecting down. The voice started in everyone's ear again. "First, we'll begin today with a brief history lesson. The year was 2026. Global carbon emissions were high, places around the world were beginning to experience greater temperature changes and massive storms, but people still disagreed about the reality of climate change. Scientists had been ringing the warning bell for years, but it did not matter: people were too comfortable to change. If only they knew what was to come."

The voice paused, letting that sink in.

"At the time, a group of excited, young scientists had an idea: if people needed the motivation to change, maybe they needed to be shown the potential consequences of their actions."

"We needed to do something, anything," a recording of an interview with an elderly man began in their ears. "As scientists, we knew we needed a relic, something to show people around the world that climate change was worth fighting for. Numbers and graphs just weren't doing it."

"It started embarrassingly small. We used glass containers and filled them with plants, soil, microbes, and water. We'd seal the jar, put it in a sunny window, and then the jar would be able to survive all on its own with no outside inputs. We manipulated jars with increased temperatures to represent the real world as it was in the 2020's and you'd see the plants eventually die due to heat exposure. This was huge!"

But the old man laughed. "Of course, people didn't care! It's just a jar with some plants. It didn't matter that the plants, which convert the sun's energy to sugar, were the things we were relying on to fix climate change. It didn't matter that they were dying because it

was too hot for them to handle. The research didn't even make it to mainstream news. No one cared."

An elderly woman began to speak. "We knew we had to make things real. Our research had to be personal and actually matter to people. So we took our jar idea to a whole new scale.

"What if we put a *place* in a jar', one of our colleagues had asked us. We laughed at the ridiculousness of the idea at the time, but it was kind of our only hope. So we pondered the idea and, almost jokingly, began listing places to trap in a jar."

"Well I love my hometown, we could preserve that," one voice said.

"New York City, in a bubble!" said another.

"The Bahamas, so we could vacation whenever we wanted."

The old woman began again. "The jokes turned more serious though, as we began to think about a place like the tropics. Sea level rise and rising temperatures would surely affect these places, likely in our lifetime. Maybe trying to preserve a place like that wouldn't be so bad. Maybe a rescue mission was what we needed."

A clear wall appeared in front of the ship. It was nearly invisible, except for the waves crashing hard from the outside, and subtle, smooth lapping waves moving on the inside. The wall looked to be made of glass, though it was much stronger than that. Analogous to chain link fencing, nano-mesh was an extremely thin reinforced sheet of steel with microscopic threads, making it invisible to the human eye. This, blended into military-strength plastic, acted as the shell of the bubble and kept the outside world completely separate from the AABE.

The ship turned hard to the left and moved along the transparent wall. All chairs on the ship automatically turned to face the wall. Inside, the bright orb up above was shining right up to the wall, but its light didn't pass to the outside, creating a sharp contrast with the dreary weather that the boat passengers were experiencing.

Past the waves, a rugged coastline could be seen. Almost immediately beyond the coast, white-topped mountains stood tall and jagged. Every year, the school students took in the sight of the archipelagos, having never seen anything like it before. Their hometown in the Canadian Yukon, a remote and quiet place in previous generations, was now bustling with people and cityscapes. These boat trips were the most wild places that any of the students knew of.

The female scientist continued. "We decided that we wanted to rescue a place that was one of a kind and at severe risk of global climate change. But logistics kept popping up for every place we'd think of."

The voice of an interviewer asked, "how about a tropical island like the Bahamas?"

"Too many people, both locals and vacationers," the scientist responded.

"Okay, how about Antarctica. There are no people there."

"We'd interrupt too many scientific experiments that had been going on for decades. Who were we to say that our experiment was more important than all of those?"

"Well what about the Amazon Rainforest? Northern Alaska?"

"There's too much politics in the Amazon. We'd 'prevent too much economic growth'. Alaska was similar, although that idea did get us thinking."

The voice of the elderly male scientist started speaking again. "So here we were, with a brilliant idea and nowhere to put it, when one of our colleagues went on a Northern Canadian cruise. He called us up immediately. 'There's no one living on the north-westernmost islands above Canada, there's really little going on up there at all. Some of the Queen Elizabeth Islands, like King Christian, Borden, and Brock, are totally uninhabited! Just mountains, fragile arctic ecosystems, ice, and at-risk species. This could be it.' Man, when we heard that, we jumped on it."

"It took a lot of work and far more logistics than I care to go into. But construction started four years later, thanks to support from First Nations communities. Without them and their passion for these lands, we probably wouldn't have gotten anywhere."

"We had a plan: build in 360 degrees around the archipelago, and make sure that it is self-sustaining. This means everything needed to be inside the bubble, from the seafloor to a renewable source of sunlight. We couldn't risk anything. Opposition was high, but we had a point to prove."

As the boat toured along the outside of the clear wall, sea birds could be seen flying inside high in the sky. One soared across the ocean surface, swooping to grab a giant cod.

The original female narrator's voice spoke up. "And prove a point they did. Now, after nearly 50 years of confinement, the Arctic Archipelago Bubble Experiment remains the most diverse and ecologically-intact place on this Earth. What were once ecosystems at risk of sea level rise and ice melt continue to flourish today, the glaciers have been preserved, and the one-of-a-kind landscape has been protected from the human hand."

One child turned to their friend. "So I guess I still just don't quite get it... If someone figured out how to save this area, why didn't they know how to save the rest of the world?"

The sights of the Canadian Archipelago moved past the ship. The stark contrast between the empty, quiet of this place and the bustle of their home city were startling. A mass migration northward had occurred a decade or two after the AABE was built. As the threat of rising sea levels and warming temperatures began to sink in, people moved away from the tropics and towards cooler climates. They expected the once harsh, cold conditions to eventually turn temperate. And they were right. Many of the students' grandparents had moved from the United States up into Canada, toughing out the cold winters in order to experience more mild summers.

Meanwhile, tropical storms, high temperatures, and high humidity near the equator were creating a sort of cycling pattern. They were causing mass destruction and the worst storms ever recorded in human history, one after another.

Those fortunate enough to be able to ignore it all lived business-as-usual, so as temperatures rose and harsh storms increased around the world, they just kept moving north. Cities began popping up across much of northern Canada. Though winters in the Yukon were not extremely pleasant, they were much more comfortable than they had been throughout much of the earlier parts of the century.

"Will we ever get to go inside?", a younger student asked.

A ship assistant wearing the same puffy jumpsuit as the students spoke up. "The Bubble Experiment is completely sealed off. It reaches high enough in the sky to mimic a multilayered atmosphere, as well as low enough into the Earth to permit natural geological processes below. The Bubble is like the jars from the original experiment: completely sealed with nothing coming in or out. No person, animal, or molecule will ever pass through the walls."

The boat turned away from the glass and headed south towards the gate to exit the massive fence and head back to the Yukon coast. All of the chairs rotated around to face the bow of the ship again. The female narrator spoke again. "Canadian Archipelago Tours would like to thank you for joining us today on this journey to the past. May this site of both scientific and historic significance be a reminder of what we once had, what we still have, and what is left to fight for."

As the ship exited the fence, it gained speed and the rocking of the waves was no longer noticeable. "The Arctic Archipelago Bubble Experiment may be the greatest legacy that humans have ever left. May we never forget it," the older students mumbled along with the female narrator as she wrapped up.

5. Concession 60

"I think we're almost there." said Esther "Maybe just another day or two." Misha smiled. This was their daily game. Walk 15 miles through the wilderness of northern Canada, and speculate about their unknown destination.

"Dangerous area to walk through" said a man's voice behind Misha, and a twig cracked underneath her foot as she turned.

NOW ARRIVING, CONCESSION 60, BLOCK 4.

Misha snapped awake. Carefully watching her pockets, as she exited the packed Loop, and followed the crowd of gray clad workers down the platform. Nobody rushing to get to work, the slow, measured steps shuffling the same, well-trod path toward the Pits. A few drones floated together overhead, almost as though they were on a smoke break, seeking idle conversation.

A push from her side shook Misha to her senses, as she realized she had stopped to look at the drones. Almost all at once a flash of light shone from the badges of the uniforms, and the red and white of C60 flashed to the blue and yellow of Concession 31.

"Another hostile takeover..." muttered someone from behind her, a tall black woman. "None of these Kleptos can hold onto anything..."

Misha panicked a little. What would this mean for her contact? — now that C31 was in charge of this Pit... She had heard about these takeovers, when one mining or oil company seized the assets of another, but she'd never actually seen it happen.

"Sorry — what does this mean?" Misha, concern noticeable in her voice, asked the woman behind her.

The woman gave Misha a long look, then sighed. "A whole heap of nothing." the woman said. "You must be new?" the woman gave an appraising look.

"Yes. Signed my Contract two weeks ago," said Misha.

"Well", continued the woman. "This happens often enough. Things flash to a different Klepto, and nothing happens. We were C42 for a whole week once, I liked the silver and gold that time." the woman smiles, but then "We were back to C60 before anything actually changed. Don't let it bother you." The woman patted her shoulder once, and brushed past Misha to catch up with someone else.

The crowd neared the entrance to the Pits, and groups started branching toward different arched corridors. Misha headed toward Pit 32, with the four other members of today's crew, and they each looked up at the entry arch. The arch scanned their eyes, keeping track of every single entry to the Pit. It chirped a digital "Have A Safe Day!" to everyone who walked underneath the arch.

Misha reached her arms into the next available set of sleeves, kept unbelievably clean given the permanent grime covering everything else. The sleeves purred mechanically, then the interlocking sections pressed comfortably around her arms, and the holo projector in her eye registered the connection to her medial nerve. She realized today was the first time she didn't notice the sleeves going slave.

A voice shouted from the up ahead, "Hey OREO! Let's go". Misha hustled to join the elevator with the rest of her crew, descending to her mine.

Nobody really spoke in the lift. Just like there was no rush to get to the arches, everyone was clearing their minds for the day's work ahead. Misha, closed her eyes, breathed slowly and cleared her head, just like she was instructed to do.

With a blast of stale, cool air, the elevator opened. Misha looked into the irregular cavern ahead, and saw the five seats, improbably small in the dim cavern. Yesterday was so claustrophobic, she nearly had a panic attack. She wasn't looking forward to the leg cramps though. After walking all day, every day, for nearly 2 years, her legs preferred to move.

They each took a seat, facing away from one another, and carefully placed their arms in the armrests. Misha began the activation sequence, and she could feel a part of her mind go elsewhere. She closed her own eyes, and heard the gentle, metallic snik as the swarms enclosed in her sleeves woke up and began seeking promising signatures in the rock. She remembered the explanation from her trainer that the swarm intelligence wasn't actually inside her head, it was just leveraging the raw power of the human brain to perform complex computations. But it still felt like the swarm was in her mind.

As she lay back, and let the swarm do its work, her mind wandered. OREO. What a funny name. She used to love oreos growing up. Concession 60 specialized in rare earth elements, as did most mining companies in The North. Searching deep in the crust for exploitable ores, she sat here, an operator looking for rare earth ore. OREO.

Screw those trainers — she just felt the swarm in her mind, something like excitement.. Sure enough, two seconds later her disp showed a seam of lithium ahead. She relaxed as the swarm went to work, and her mind wandered elsewhere.

Another twig cracked, then thwack... she felt the pain in the back of her head as she hit the ground. Then the sting of the slap to her face. Before she could do anything, before

the guy could do anything there was a blast. The guy crumpled forward, and Misha heard two more shots as Esther took care of the other one.

"You good?" Esther asked. "Misha, are you good?"

Misha shook her head - mechanically agreeing but then she started shaking.

"What the hell is wrong with her?" A voice to Misha's side woke her up. She was in her chair, a mile below the surface. "Med alert. We may have another scramble."

"I'm fine." Misha said. "Just a nightmare"

"Nice try." said the woman who had called the med alert, apparently the crew leader. "But your swarm responds to your mind. Stress for you - stress for them. Come back when you're unscrambled and you've been cleared."

Misha started to protest, but she knew they were right. She called back her swarm, and walked toward the lift. The smudged 'up' button didn't respond until she looked at the arch, which chirped and the door slid open.

As she ascended, she closed her eyes, and her mind wandered back to her dream.

"I want to go back!" yelled Misha as Esther held her. "I can't do this anymore." Misha sobbed into her palms. Esther took Misha's head in her hands, and looked into her eyes. "You can go on. You will. " said Esther softly. "We do what we have to do to survive."

Misha came back to herself, as the lift doors opened.

Up top, she left the sleeves to be cycled, and her disp connected to the net and directed her to a nearby private booth. As she sat there, the C31 colors flashed proudly, and were replaced by a concerned, female face. "Good morning, Misha Park. You appear to have experienced an elevated heart rate during your most recent session. What happened, may I ask?"

Misha knew the drill. Lying wouldn't work with these sensors. "Fell asleep, had memories of the road. Bad ones."

"I understand. I'm sorry to hear that." The female voice *sounded* concerned. "As a Contracted Migrant Laborer of C31, we care about your health. But we need you operating at peak capacity. You are lucky - not everyone's mind is suited to the mental load of navigating a mining swarm." the therapist's voice switched to a more commanding tone. "Please find your prescribed medication in the tray below." Misha saw a packet of pills drop down. "As a courtesy, we added the cost directly to your account."

Please medicate promptly, as your team has missed your contribution." The head winked out, and Misha stared down at her palm.

Misha dry swallowed the pills, and went back to her arch. She resleeved, took the lift down, and was back in her chair. The whole thing took less than 60 minutes. Settling back down she let her mind go blank, and let the swarm go once more. This time, the medicine helped her stay clear headed. And - apparently many hours later - she found she had exceeded her quota when the shift chime signaled the end of the day.

"Nice work MP." One of the crew mates gave her a smile, apparently referencing the two letters on her lapel. Misha nodded back, but didn't smile. No time for friends. Not yet.

They made their way back up. This time, though, the people were relaxed, smiling, chatting a little - knowing that their brains could rest for the next few hours.

On the Loop back to their barracks, Misha looked up and saw a faded poster. "The Top Minds Guarantee Mining Superiority", then a line of Migrant contract workers standing in a row, sleeves on. But no one navigated standing up. Dumb.

Misha saw another poster, of a shining city by the water. "Complete your contract and join us in Sea City!" A happy crowd ate at a restaurant, in the free, clean air. Somewhere sunny. But, more than anything, the image looked to Misha like something she hadn't felt in years. Safe.

She closed her eyes.

Misha felt the cool earth beneath her. Esther's voice spoke to Misha, but again, Misha couldn't reply. "Don't look back. Get to the coast. Sign a contract. Start over. You have to keep going. For both of us."

NEXT STOP. BARRACKS #6.

Misha looked around. She wasn't the only one that had dozed off. As she stood to exit, her tags flashed, and changed back to C60.

6. Putin's Gambit

The name Yermak Timofeyevich means little to Western ears, but he is a legendary Russian figure, found in countless poems, novels, movies, and plays. Yermak, a Cossack, was a brigand and river pirate for much of his life, robbing and murdering Russian citizens up and down the Volga river for decades. However, none of his villainous past mattered when, in 1582, he wrote his name onto the fabric of Russia.

Thirty-five years after Ivan the Terrible founded the Tsardom of Russia, Yermak was hired by an affluent merchant family to invade Asia on behalf of the tsar. After less than a year at the front of a preposterously small army of 840 men, he succeeded in defeating Kuchum, the fearsome Khan of Sibir, in battle and took the capital city of Qashliq. Although it eventually cost him his life, Yermak is credited in folklore with winning the "conquest of Siberia," and as such, is beloved by the Russian people. Why? Because this pragmatic strongman, by acting boldly, violently, and with a political savvy not dissimilar to the *realpolitik* of the modern era, grew the lands of the Rus by more than a third. He gambled and won, and for it, Yermak was all but canonized in the Russian mythos.

This story, however, is not about a Russian hero of old. It is not about a great Russian victory known to every schoolchild in Russia. This story takes place over 450 years later. Long after those same Siberian lands conquered by Yermak were found to contain the most bountiful oilfields in all of Russia. This story is about the fate of that oil.

This is History Hiccups with Vas Melnyck!

So, how did the world's largest exporter of natural gas and the second largest exporter of oil collapse, almost overnight? This is the story of The January Collapse. Today you will learn about the secret dealings that conspired to bring about the collapse of the last vestiges of Soviet-era Russia.

We all remember from KhanU history class that the end of fossil fuels in the 2030s, shook things up around the world. Right? We all know this. We also all know that some of the biggest losers from this change were the fossil fuel bigwigs, Saudi Arabia, Australia, and even the United States. But of course, one of the biggest, Russia, had in some ways the farthest to fall.

But why? Here we unpack how a handful of very consequential decisions by Russia's president during the first half of the 21st century, Vladimir Putin, failed to anticipate where the rest of the world was headed.

First, you probably remember the Russian attacks on Ukraine in the 2010s and 2020s. Now, even though a bunch of countries around the world said Russia should stop, and even deployed economic sanctions, Russia didn't stop. Right? Why would it? It wanted Crimea, so it took Crimea. It wanted access to the land that would allow it to transport

natural gas through Ukraine without any problems, so it took the land. This is no surprise. Nor is it disputed.

And most of these decisions can be traced to the Kremlin in Moscow, and specifically to Vladimir Putin's inner circle.

What this inner circle did not anticipate was how in a matter of a decade starting in 2021, the entire fossil fuel based economy would begin its inevitable death spiral. Now of course hindsight is 20/10, but the signing into law of the Glasgow Global Climate Treaty among the biggest economies in the world at the time, that is the United States and China, sent metaphorical earthquakes and aftershocks throughout the global economy. Namely, it signaled to fossil fuels that their time was over and that the plug was about to be pulled on the highly profitable subsidies and legal allowances the industry had received pretty much forever.

Despite this, Putin and his crew were looking the other way, perhaps backwards, hoping that this was just a blip, and the world would come crawling back to fossil fuels.

History doesn't always have a specific definitive event that separates the past very cleanly from the future. In this case however history is amenable, and the Prirazlomnoye Incident is this punctuation mark that ends one era. What was the Prirazlomnoye Incident? Find out after this message from our sponsors...

TRYING TO FINISH THAT REMOTE CONSTRUCTION JOB, AND YOU NEED ONE MORE WEEK TO WRAP IT UP? STUDYING FOR YOUR NEXT BIG KHANU EXAM, AND NEED A FEW DAYS OF FOCUSED ATTENTION? SOUNDS LIKE YOU NEED SNOWSTIMS. THE TRUSTED NAME WHEN YOU NEED TO GET THINGS DONE.

Welcome back. So, Prirazlomnoye. A name that ought to live in infamy, but really doesn't, right? How many of you actually know this name? Like that ancient shot heard around the world, Prirazlomnoye ought to inspire a sense of dread in all those who seek to cling to false hopes. In July, 2051, long after the Glasgow treaty was well into effect in America and China, let alone the rest of the world, Russia was still clinging to fossil fuel extraction. Decades of economic losses, abetted by corruption throughout the government, came to a figurative and literal head in the Arctic oil field, Prirazlomnoye. Originally hailed as Russia's first Arctic oil platform, but not the last, this field was remarkably productive during its lifetime. But, most of the fuel that it extracted languished in extensive remote storage sites throughout Siberia. This was only revealed, after decades of false sales and manipulation of trade information that had buoyed Russia's economy while all the other oil exporters collapsed.

Surprisingly, much of the military establishment had been tricked into thinking that Russia's economy persisted despite all other signals globally that oil was dead. As such, in July of 2051, as China's attempts to purchase the Arctic oil and gas fields from Russia

— for its own accelerated space program — the Russian military amassed one of the largest concentrations of destructive capacity at that time. And where was it amassed? None other than Prirazlomnoye.

Why, in the world, would Russia cling to something when China was willing to pay for it? Again, this is a surprising subject of vociferous historical debate. In retrospect, it seems clear that people who had been in power for an entire generation, were simply incredibly deluded. These were people, who liked being in power, who had extended their lives with their wealth, and who were not used to being told that their worldview, indeed their entire way of life, was dead in the water.

Here at History Hiccups we look for the weak signals in history, the evidence of nuance and surprise. And this is why we call this episode Putin's Gambit. We, here at History Hiccups, think that Putin really *did* know what was happening, and had to put on a show. Why? Well everyone around him depended on Russia, that is to say the fossil fuel world, the old world, the world of the 20th century, to make a game-winning play in the last 5 seconds. So even Putin, maybe, was hopeful that the game was still in play.

You know, and I know that the game had ended two decades prior.

So, we have warships and missiles armed and ready to go to defend Russia's interest in the Prirazlomnoye field. Who were they aiming this enormous concentration of military might at? That is the billion yuan question. Now, I am not an expert. I'm not a professor at KhanU, and I have never written a history book. But my guess is that Putin and his group of Kremlin cronies realized that a show of military force could rally his nation around this idea of oil, gas, and the whole fossil fuel world. That a show of might and aggression would somehow produce a reaction in the rest of the world like it used to. This was Putin's Grand Stand.

So what happened? Why *doesn't* Prirazlomnoye ring out in everyone's mind as a turning point in our global future?

Stay tuned after a message from our sponsors...

TIRED OF NOT BEING IN CHARGE OF YOUR OWN LOVE LIFE? DO YOU WANT TO MAKE DECISIONS NOW? NUSEX PROVIDES THE FLUIDITY YOU WANT FOR YOUR LOVE LIFE ON A TIME FRAME THAT IS YOUR'S. GET YOUR IMPLANT AT YOUR NEAREST PARTICIPATING AUTODOC.

So. Here we are at a dramatic climax of this story - or is it actually an anti-climax? As global news outlets reported on the amassing of Russian firepower around the Prirazlomnoye Field, three significant things happened.

First, two anonymous leaks, one each from Gazprom and Rosneft, showed the companies were both not only bankrupt, but had been hemorrhaging their wealth for more than a decade. Only in a country governed by denial would an economic phenomenon like this be possible. Regardless, the global perception of these two anomalous companies somehow clinging to wealth, immediately evaporated.

Second, after these two anonymous leaks, the military establishment in charge of operations, not the oligarchic leadership far away in Moscow, realized they were helming a collection of worthless paper tigers. Immediately, the will to fight evaporated. Apparently there was a limit for too many lies, and Putin's Gambit flew past it.

Third, the subsidiary companies in charge of the Arctic fossil fuel extraction platforms, made a snap decision to sell to the Chinese government buyers. Given the geopolitical, economic, and social clout the Chinese already enjoyed in the 2050s, there was no way the Russian government could backtrack or overrule the final sales.

Thus, three strikes to the core of the Russian state. Economic, military, and reputational.

It is interesting in retrospect, that no one still knows what happened to Putin. That is, an entirely different story, that we sadly do not have time for.

As an aside, here at History Hiccups, it is always shocking how fleeting our memory is of the past. This event, a short 25 years ago, has led to an utter reshaping of the Arctic. Chinese hegemony of the Arctic space economy. A fractured former Russian Federation, with the wildly successful new Eastern states including the Sakha Republic. All stemming from the collapse that occurred during the Prirazlomnoye Incident.

That's it for this week, join us next week for Part 6 of our series, Rise of the Zeks! In this installment we will detail the 2061 student strikes in Murmansk and Saint Petersburg! What happened? Join us to find out!

7. Voice from the Past

"Thank you ministers and representatives for your time this morning," said Minister Kusugak. "I think we are making some progress toward understanding the perspectives of all present."

Perspectives, ha, thought Oolanie to herself. As she looked around the room she saw the familiar equanimous faces of her colleagues in the Inuit Nunangat government. She also saw the faces from the Native Alaskan delegation, and she knew, privately, they were onboard with everything that she had already said that day. And then, Oolanie looked over to the delegation from the Canadian government. Most of them seemed appropriately amenable, though she did note that one younger looking Canadian seemed visibly frustrated. Someone to keep an eye on.

She continued, "We have reached a critical juncture in the negotiation of the Iqaluit Transit Agreement."

As she said this, she noticed that the young Canadian was speaking to his colleague, not loudly enough for her to hear, but certainly loudly enough to be noticeably disruptive. She chose to ignore it.

"Come on, let's have some fun." her Memory whispered. Oolanie smiled, but continued.

"As minister for land water and ice here in Inuit Nunangat, I represent the interests of the indigenous community that has stewarded these lands,... Am I boring you?" Minister Oolanie Kusugak interrupted the young Canadian who had chosen to speak even more loudly this time.

"Well, I wouldn't say boring me" said the self-satisfied young Canadian, "but what I don't understand is how the Inuit Nunangat government can make such expansive claims about these lands. Only recently has your government taken things over from Canada. Now, I think —"

"You think..." interrupted Oolanie, now coldly.

"Yes I think," said the young Canadian, now with more fervor, "That your government needs to be whipped into shape a little."

The senior Canadian delegates suddenly realized who was talking and what was happening. One visibly swore, and the others grimaced knowing what would come next.

Oolanie closed her folder. "I see. Who do you think you are, who knows how this land ought to be managed?"

The young Canadian began to speak, but Oolanie cut them off.

"*That*, as you should have known, was rhetorical. I am not interested in your answer. I'm not sure who is supposed to be holding your leash, but I'm holding it now." Oolanie said. "And I'm going to educate you."

The young Canadian went to speak, but a more Senior Delegate gripped the shoulder of the young Canadian, and told them to be quiet.

"That," Oolanie inclined her head to the Senior Delegate, "Was a piece of wisdom. Let me start with your first comment, that our government has only recently taken over from the Canadians. This of course is embarrassingly short sighted. The Inuit Nunangat government has indeed recently taken control of these lands. Yet this is a return to the historical order." She paused.

"Come on..." said her Memory. Not Yet, thought Oolanie.

"*You* see a history where Canada has claimed this land for a few hundred years." said Oolanie, "Set that against the thousands of years that my people have inhabited and stewarded this land. Perhaps you choose to go a bit further back to the "discovery" of Rupert's land? Maybe the century or so of extraction from the Hudson's Bay Company? Fine, you explorers and colonizers get a few more decades. But all of that is over now."

The Canadian goes to say something. He is cut off.

"Do not speak." Oolanie's voice has changed, become deeper... sounding older. She feels a sense of letting go, and someone else taking over.

"Whipped into shape, you say? I was *born* on the ice, I can tell you of a life more closely tied to this place, than you can dream of. Whipped into shape? Let me tell you my experience, first hand, of being separated from my parents before I was age 10, where I spent close to a decade in a residential school actually being whipped and beaten for speaking the language of my people." Oolanie paused, the Memory now pouring out of her. "Don't sit there and tell me about how we need to be whipped into shape. Something tells me you have very little idea of what those words mean."

Recognition dawned on the young Canadians' face.

"Yes, you see now." The words tumbled out of Oolanie more quickly. "You see an Inuit woman, and you judge, you preconceive. You can plainly see that I am those things. I am also the Minister of Land, Water, and Ice." She paused, then let go, permitting the Memory Well to pour her ancestor's words out of her mouth. Jeannie Kusugak, Oolanie's great, great grandmother, now spoke through Oolanie, to the assembled audience. Oolanie/Jeannie continued to look at the young Canadian. It may be a trick of the meeting room, or a trick of the ears listening — but two voices seemed to speak in unison. "You are looking into a well of memory. I can remember what this world looked like before climate change. I can remember this place when your rules were violence, dispossession of culture, with no consequences for your theft, rape, and murder. You should be pleased that we the Inuit government are only seeking to steward our domain with justice and equity — rather than seeking vengeance for the past."

The assembly was silent. Perched on the edge of their seats.

"I remember the fights in government, the protests for recognition of our rights, and the slow progress of redress and returning of the lands to our people. Recognition of

Nunavut in 1999. Nunavik in 2055. Inuvialuit in 2061. This is not an aberration, or some new order. This is a return to the way this land was governed long before you ever set foot here."

Oolanie/Jeannie took a deep breath. Inviting an interruption. None came.

"You may claim that you had nothing to do with this. That it was not you, but people who came before you, that perpetrated this literal and figurative violence. But you sit there, on the spoils of history from which you continue to thoughtlessly benefit. I am not interested in any sort of apology, and I don't care for your excuses. It is irrelevant at this point."

Silence. Oolanie paused. Took a breath, and smiled, no longer with bared teeth, but with cold resolve. Although no change was visible, Oolanie closed her Memory Well, for now.

"This is not the end by the way, but the beginning. Our stewardship of these lands will continue and expand, with knowledge and cultural practice connecting into the past, and throughout the world, well beyond the Arctic. Our research and our development produced the technology of the Memory Well. This has allowed our communities to connect to centuries past — accessing first hand, lived-knowledge of how the land was, and how it might be again. We have shared this technology with other indigenous communities, who are similarly connecting their elders to their future leaders."

The visiting delegations from Alaska and Greenland, nod at one another.

Oolanie continued, "And we, as stewards of the pan-Arctic indigenous movement, are advancing Indigenous recognition and land claims throughout the polar regions. We support the Sámi communities, who won independence in 2075, Native Alaskan communities will join us as they separate officially in 2100. And we hope that our Kalaallit Nunaatwill family will join soon."

"So." Oolanie cleared her throat, as though to return to herself.. "The Iqaluit Transit Agreement."

She stared at the group of delegates, focusing her attention on the Canadian senior staff and representatives. She finished with a long look at the young Canadian.

"We have come to this table because *you* requested it. We have offered terms in good faith, terms that are fair, and that respect our view of stewardship of the land, water, and ice."

Oolanie looked to her colleagues momentarily, then they all nodded together.

"We had planned hours of negotiation today, perhaps even going into tomorrow," said Oolanie. "Now — we have decided that we are no longer doing that. The offer that we have made, stands. You may take it or you may leave it."

The Canadian ministers conferred briefly, the young Canadian noticeably excluded, and appearing suitably chastened from the dressing down.

Standing up, the senior Canadian delegate said, "Thank you for sharing your thoughts and your wisdom, Minister Kusugak. The Canadian government officially accepts these terms and we look forward to cooperating with the Inuit Nunangat government."

In Oolanie's mind, Jeannie chuckles, then sighs contentedly.

8. Icebreaker

The wind whipped past Shukhov as he reached over the railing, willing his fingers to connect with Artie's outstretched hand. He could see Artie's grip on the ladder rung slipping. The freshly shaken crushed ice field beneath them showed the black Arctic ocean between tank-sized chunks of ice.

Twenty minutes earlier.

"Absolutely not! That's impossible!" shouted Shukhov.

"What's impossible? The fact that you lost, or that you don't know the rules of the game?" said Artie wryly. "Because I assure you that both are — in point of fact — very possible." Artie smiled, putting his hands behind his head and leaning back on his chair.

Shukhov muttered under his breath.

The digital voice of the Shaker began its countdown. "Resonant Frequency Pulse countdown in 10, 9, 8,...."

"Ah come on, we'll play another game," Artie began to set the board up again.

"...2, 1... Pulse". The room gave a massive shudder, skittering the pieces across the board and onto the floor. "Ah! I didn't even hear that shake coming." exclaimed Artie.

"Me neither —" said Shukhov, "they just blend into the next."

They both fished the last few pieces off the deck, and put them back in the designated box, bolted to the table. Shukhov stretched, and yawned massively. Artie puttered around the room, righting a few things that had been shaken loose, that weren't attached to the tabletops. There was little, however, to pick-up. The routine of keeping things tucked away was beyond habit now. A breakfast pod had tipped on its side, though, spilling its contents on the mess table. Shuhov grabbed a spare rag, and wiped up the mess. He noticed the news was still unfurling across the holo tray "... Officials at the Murmansk Shipyards noted the indiscriminate use of force by Norway, and how the entire fleet docked in Kola Bay was functionally destroyed. Citizens have called for a response, and the President was heard saying Russian flags will soon fly from Spitsbergen..." Shukhov shut it off, and let out a sigh.

"Same old, same old?." said Artie, who had seen Shukhov's gaze on the news.

"Yes. Today it was Norway. Apparently..." Shukhov shook his head, and sat down.

"ALL HANDS. PRIORITY ALERT." Artie and Shukhov gave a confused look, then Artie swiped the nearest panel, and the Alert blossomed toward the holo tray. "Priority Alert from Barents Sea Ice Station Hub." The face of the Barents Sea Hub Commander appeared in the midst of the klaxons.

"Temporary Kara Sea Ice Station #32. At five hundred hours, a possible unknown submarine vessel may have been detected exiting the Barents Sea zone. Military command has confirmed it is not Russian. You are commanded to deliver an unscheduled resonant frequency pulse at seven hundred hours to assist in the acoustic confirmation of this unidentified vessel." Artie had already opened his eyes wide, staring directly at Shukhov, with a silent, questioning 'oh'.

The recorded alert went on. "Attached to this message is the required override code. Your Artificial Station Attendant will transfer the code. Thank you for your service to Rosatom, and to Russia." The Commander disappeared.

"Wow", said Artie. "There's an Artificial Station Attendant here?!" Shukhov threw the rag he'd been using to clean up the breakfast box. "And to think." continued Artie. "I'd just been calling these things Shakes. Who knew they were Resonant Frequency Pulses."

"Ah — so we're Temporary. Good to know." Shukhov said.

"Indeed " Artie kept the old joke going. "We must not grow too attached to this posting. Thirty years is, after all, an ephemeral blip on the cosmic radar."

"A fleeting third of a century," Shukhov said, hand over his heart, "Only a passing glance of three decades of service—"

Another alert sounded, letting them know they were nearing the shake window.

They both chuckled. Somehow the joke never grew old. Shukhov checked the diagnostics of the Station, and looked at the clock. Only 10 minutes till the unscheduled shake was due. "Let's get moving."

Artie and Shukhov both stood at the ready stations, and began tapping instructions into the holo screens. "Ready?" asked Shukhov. "Born ready." said Artie, through gritted teeth. Shukhov rolled his eyes.

"Testing countdown", said Shukhov. "Testing resonant frequency pulse in 3, 2, 1."

Nothing. Only the constant hum of the tokamak and the faint sound of wind, whistling on the station surface. Artie went to make a joke, thought better of it, and began swiping screens and checking diagnostics. After a moment of confusion, Shukhov began to do the same thing. If there's a nearby vessel, sometimes that can prohibit a shake from

happening. The Coastal Siberian Seaway is, after all, worth nearly 100 trillion rubles. And Rosatom would do close to anything to avoid sanctions for interrupting these shipping lanes.

Hmm. Tokamak status? Active. Fusion diagnostics? Good. Resonant frequency distributors? Nominal. Hmm.

Artie chimed in, "I think I found the glitch. It looks like the station AI failed to update to the latest software patch from Hub. Probably ice crusting the receiver dish on deck..."

"We really need to get a permanent heater up there to keep this from happening..." muttered Shukhov.

"Let's go." said Artie.

They wound their way up the spiral staircase to the deck hatch. Closer to the surface they could hear the wind whistling across the station deck. Shukhov tossed a hat up to Artie and put one on himself. They both put on the winter parkas stored near the exit. "It actually sounds kind of dicey up there." Artie said "Let's try and do this quickly." Shukhov nodded.

Artie tapped in the hatch release code, and the whisper of wind instantly became a roar. Bowing their heads to the cold they exited the hatch. As Shukhov emerged, Artie immediately clipped a safety tether to his belt, then patted his shoulder. "CAN'T BE TOO CAREFUL" yelled Artie. Shukhov could barely make out the words. They both peered up into the whipping wind, and saw icicles, formed horizontally on the receiver dish. Artie extended a two meter melt rod, and held it steady as Shukhov brushed the icicles and rime away. The dish was soon cleared, and Shukhov checked the clock, 5 minutes to go.

"LET'S GET MOVING", yelled Shukhov. He tapped his watch, and Artie nodded in recognition. As Artie telescoped the melt rod back, the wind whipped the other direction pulling Artie off balance, snapping his tether, and folding him over the railing.

"ARTIE!" called Shukhov, and Shukhov dove after him. Nearly falling down the ten meters to the water below, Artie had grabbed the topmost ladder rung, already slick from the ice and saltwater.

The wind whipped past Shukhov as he reached over the railing, willing his fingers to connect with Artie's outstretched hand. He could see Artie's grip on the ladder rung slipping. The freshly shaken crushed ice field beneath them showed the black Arctic ocean between tank-sized chunks of ice.

His coverall ripped at the shoulder seam, and the outer lining of his arm tore away revealing the dull plastisteel beneath. Finally, their fingers met, and Shukhov was able to

pull Artie up and over the railing. It looked like something was wrong with Artie's shoulder. Shukhov turned, opened the hatch and helped Artie down into the station.

Catching their breath in the mess room, Shukhov said "I'll get that update, then it's time to shake."

"Shake and bake" trying to joke, but only managing a wince, Artie held his shoulder gingerly. Shukhov turned to the panel, tapped in the update sequence. The software quickly updated, and they were ready for the shake sequence.

"Ready?" asked Shukhov. Artie gave a quick nod.

"Shaking in three, two, one. Shake." The entire station gave a lurch, and then was quiet again. "Well," said Shukhov, "I hope all of that was worth an unscheduled resonant frequency pulse." Artie snorted, then grimaced at the pain in his shoulder. Shukhov brought the medkit over to look at Artie's injury, and whistled. "It looks like you won't be able to play chess for a few days." said Shukhov. "Too bad." Shukhov set the autostitcher on Artie's shoulder to fix the torn ligaments, and repair any bruising.

"You wish!" said Artie, though noticeably in pain. "But seriously, thank you. I owe you one." The autostitcher chirped its completion, and Shukhov placed it back in the medkit.

"Good. Then *you owe me* a few days peace before you subject me to more chess." Shukhov smiled. Then he turned to the mess table, rolled up his sleeve, carefully sliced off the torn nanoskin, and inspected the damage to his arm. The plastisteel arm appeared unscathed, and the diagnostics were good. The nanoskin would need replacing, but mechanically everything looked fine. Shukhov dismissed the diagnostic window, discarded the shredded nanoskin, and rolled his sleeve back down.

"Do you think we'll find out what that was?" Shukhov asked Artie.

"As two dauntless employees of Rosatom," Artie responded with mock seriousness, "I can confidently say - No." Shukhov smirked, then patted his friend's *good* shoulder, and set about preparing the next scheduled break of the ice, 20 minutes to go and counting.

9. Assisted Migration

"As the caribou cluster together, we can see the determination in their eyes. These next few days will be the herd's greatest test." Gillian intoned, eyes heavy with meaning, as she looked into the camera.

"And, cut! I think we got it that time!" Hank said.

Rachel and Niillas looked at each other, and mimicked Gillian's tone, "... their greatest test..." then they laughed, stood up, and stretched.

"I know I'm laying it on thick, but the viewers are going to want drama, right?" said Gillian. "And if we don't add our own drama, this will be .. pretty boring."

Gillian was, of course, right. As the Porcupine herd was leaving the Gwich'in Environmental Management Area, and headed into the Prudhoe Coastal Refuge, things were - mostly - very safe. The permafrost bogs could be dangerous given how soft and unpredictable the tundra was. But the caribou were adaptable.

"Think we can make Prudhoe Bay by Sunday?" asked Hank, hopeful at the thought of a warm bed.

"Maybe" said Niillas. , "The drone monitors show good forage all the way to the coast." He showed the drone display to the crew, and a 3D map with red veins crisscrossed through a miniature map of the region, with large areas of green.

Rachel pointed to a section of red line split in half, "What happened there? Is that drill road out?" The old oil roads, now serving as refugia for some plants and animals from the surging seas, were also strange, elevated corridors through the swamp. When big chunks of subsurface permafrost melted, the roads would sometimes collapse too, in big gaping sections.

"Not sure," said Niillas. "We could try steering the herd around the gap, are you concerned?" asked Niillas

"Maybe, I just don't think we want an ambush." said Rachel.

"We can't re-route," said Gillian. "Our funding depends on documenting the full migration. Driving them away from the gap means we could fall behind in the jostle, and we can't lose them now."

"Agreed. It's just a short bit." said Rachel.

The Porcupine migration crew was in their fourth season together. Niillas, still on an Arctic conservation exchange, was wrapping up his PhD at the University of Helsinki. Gillian and Hank were both ecologists from the Athabaskan Research Institute, and Rachel was the government biologist - mandated under the Murkowski Assisted Migration Act.

The MAMA crew was responsible for monitoring the migration of the Porcupine herd, as part of the Global Conservation Pact. This was, probably, their last year together, as Niillas would be returning to Finland, and Rachel would likely rotate to a different crew.

The crew prepared to make their way down the hilltop they were perched on since the herd was giving indications they would start moving soon. Despite the swampy tundra, the caribou could still move fast, so each MAMA crew member had their own Strider. A lightweight, maneuverable, land walker. Each rider, perched on a small chair, sat strapped in their strider. It took getting used to, but Striders could easily keep up with the caribou, and in a pinch could even sprint away from a predator. What they gained in speed, though, they gave up in protection. A nickname for the Striders was also fast food.

"My left leg is a little sticky, so probably no sprinting for me today," said Gillian. "Just a heads-up." No joking at this. The crew knew that everyone's suit needed to be as functional as possible to keep moving.

"We'll get it checked when we get to town," assured Hank. The crew finished checking each others' Striders, and just in time, since the herd had begun their daily trot.

The Porcupine caribou herd still completed the largest land migration of any animal, anywhere on Earth, but now, it was an assisted migration. Contrary to global expectations early in the 21st century, the world was well on its way toward tackling the myriad collective action problems required to address climate change. By 2050, the world had mostly reached net-zero carbon emissions, and technologies were being rolled out to go negative within the decade. But centuries worth of carbon had already been emitted to fuel industrial growth, and there it would remain till it could be sucked out of the atmosphere. A consequence of all of this was that global ecosystems around the world, particularly those with migratory ecologies, were in dire straits. Entire ecosystems needed assistance to keep pace with changing conditions of temperature, rainfall, and seasonal cycles. The Global Conservation Pact, a descendent of earlier agreements like the Convention on Biological Diversity, was a binding agreement by all signatory countries to assist in the migration of entire ecosystems, along the best available pathways through continents.

"Race you to the front of the herd!" yelled Rachel, and Niillas was hot on her Strider's heels. They didn't actually race, since that would terrify the herd into a dangerous stampede, but they did move swiftly along the sides. Not all species had adapted to the

Striders well. In Sweden and Finland, the Sámi used different tech to keep up with the big herds, mostly solarmobiles. But here, the Porcupine herd tolerated the Striders which were cheaper, lighter — and more fun.

"Radio comms up, confirm." said Gillian

"Confirmed," said Hank.

"Confirmed" huffed Niillas, still striding to the front of the herd.

Silence.

"Rachel — please confirm." said Gillian.

Static sound, then "—esss".

"Niillas, what's going on, can't you see Rachel?" asked Hank, concern in his voice.

"Drones show her as standing next to that open patch of the drill road. Her Strider is motionless, but it's functional, and her comms are on."

Static, then... "lvess..."

Gillian got it first, and swore. "Wolf sighting. Niillas, confirm sighting."

The silent drone swarm above the herd, changed direction like an uncanny flock of birds, and sure enough, a pack of 10 Arctic wolves were crouched in the gap. Rachel was motionless in her Strider, only 50 feet away from the gap, but safe, around a corner from the wolves.

"Joo. Kymmenen susia... ah, sorry. Yes. 10 wolves." said Niillas, then "Ghost baby?"

Hank laughed, "Not again!"

"Yes. Do it," said Gillian.

Niillas sent five of the drones well over the gap in the road, and fanned them out 200 yards behind the wolves. Then they started all crying, in synchrony, like a human baby. It was creepy, but effective. Almost all at once the wolves spun around toward the new sound behind them, the three closest to the drones began snarling. Continuing their baby cry, the drones began clumping together as they coaxed the wolves closer, then the drones would back off further away, drawing the attention of the wolves further from the herd.

"Thank God for ghost baby." whispered Rachel.

A few of the wolves lingered looking at the herd, and then spun following the pack, running away, as the drones drew them further from the gap.

"OK everyone. Double time to the northeast corner of the herd. Then, Niillas, bring the ghost baby back to the herd. We don't want the pack to go hungry today, they need food as much as the bou."

The MAMA crew could hear Niillas muttering. Old habits die hard, and he had always begrudged the wolves on this migration.

"Niillas — please confirm." said Gillian.

"Confirmed. Good to go." said Niillas.

The crew began moving calmly, and quickly, to the corner of the herd, Gillian's Strider lagging a bit behind with the gummed up leg.

"Release the ghost baby" said Gillian.

No one laughed, despite the absurdity. Niillas sent the crying ghost baby back toward the gap in the road, and then turned off the sound. The wolves were back on the hunt, if only a bit confused.

The herd reacted predictably to the wolves, scattering a bit and running faster toward their goal. Niillas' drones caught footage from multiple perspectives showing the pack picking off a slower, older member of the herd. As the wolves began feeding, the herd stopped their panicked run, and slowed to a trot. The Striders kept pace a good distance away.

"Thanks," said Rachel, as she strode up next to Gillian. "You said you wanted drama today, right?"

Gillian laughed, "I'm just happy you're safe. Let's keep our distance a bit so we don't spook the herd again."

They all agreed, and their Striders kept up a steady, satisfying splosh as they made their way toward the flooded coast of Prudhoe Bay.

10. School's out forever

Reindeer looked up at the sound of laughter, and the friendly banter that floated out of the homestead. The sun was low on the horizon, and lights could be seen in the distance as the night shift was starting in Verkhoyansk.

"No way, grandfather!" exclaimed Svetlana.

"Yes way!" Laughed Anton.

Svetlana did not look convinced.

"Okay okay, I will start at the beginning again." said Anton. "First, you go to school for about 12 years, and you try and do very well. After you go to school for this time, you hope that your grades—"

"What are those again?" asked Svetlana.

"Hah... they are the evaluations that you received in the classes that you took, about how well you learned the content in that class."

"And how were they given to you? I mean, your peers gave these to you?"

Anton rocked with laughter. "If only. No, the instructor who was nominally an expert in the material would give you these grades. You hoped that you received good grades, so that you could continue going to school."

Svetlana was shaking her head.

"Now I know this seems very strange to you," said Anton, now more earnestly. "But you must understand that everything has truly changed, and the absence of any sort of system now is very strange to me. So — the next stage was called university or college. And this is where you would learn what you would be trying to do for your job, and you—"

"This is where the whole thing just falls apart. Your job? We have many jobs... don't we?" asked Svetlana.

"Indeed," said Anton. "The wisdom of the present time is very clear in this regard. And what is true now, was similarly true in the past, in that your job or jobs often did not reflect what you did at college or university."

"This doesn't make any sense!" said Svetlana, holding her face in her hands. "But please continue — so what did you do in all of this? Did you really go to college or university?" said Svetlana trying to keep her incredulity out of her voice.

"Oh yes." said Anton. "I studied extreme environment robotics in Vladivostok, among other things."

"Don't let him trick you!" shouted Yegor, from the other room. "He studied drinking and chasing girls!"

"What do you know, Yegor?" shouted a smiling Anton.

Yegor peaked his head around the corner. "Well, Papa, I can tell you that from the sound of it, your way was much more fun. But, what I know is very different" said Yegor, who turned toward his daughter, "In 2041, about when I was in 3rd grade, the Florida Flu emerged — and that pandemic lasted 5 years." Yegor looked into the distance.

"What does that mean?" asked Svetlana.

"It means" interjected Anton, "that for five years, governments around the world struggled to contain a deadly virus. Even though society had learned much from the COVID19 pandemic way back in 2020, they had apparently not learned enough."

"Indeed", said Yegor. "The start and stop of governments trying to kickstart the global economy, well, it eventually led to economic hardship—"

"That's a word for it..." said Anton. "I would call it collapse!"

"We are still here" chided Yegor, with eyebrows raised. "But yes, things broke down. One thing was the massive increase in machine intelligence and automation during this time, while governments, companies, everyone scrambled to try and make things work without infecting one another."

"Yes." said Anton. "This led to fewer and fewer jobs. People stopped going to expensive universities. Why would you? No jobs! Then.... In the midst of this, KhanU emerged as a way to learn specific things, for specific jobs, and they kept your credentials in a blockchain."

"Ah," said Svetlana, "I know the chain."

"Yes you do," said Yegor proudly. "But I interrupted your grandfather telling you his tale first. Papa, please continue" said Yegor with a bow to Anton.

"Pah." Anton smiled at Yegor as he waved him away with his hands. "Where was I... Ah, yes. Robotics in Vladivostok. This experience took me to North America, to a small town called Dawson in Canada. This was before the Florida Flu, before all of that. In fact — this is way back when we really thought that we could do something to stop the climate from changing. And so, enormous effort was being poured into almost any strategy that promised to help reduce the amount of carbon in the atmosphere." Anton paused, looked outside at the stunted, tundra forest.

"I was in Dawson," said Anton, "working for a company that was trying to harvest carbon from the atmosphere, and then sequester this carbon underground. The company needed roboticists to help transport the carbon solids into abandoned mines. Anyway... this is just history now, and it didn't work anyway."

"In the midst of this, I met your grandmother, Katya." Anton smiled. "Shortly thereafter, we met this thorn in my paw" Anton smiled, and patted Yegor's shoulder. "And as Yegor has already explained, many things changed so we came back to Siberia. To home."

"So — you came back here, and started herding reindeer" said Svetlana, "I can't believe a robotics expert would become a herder..."

"It is a good profession!" said Anton. "But you know I never stopped, Sveta." Anton winked. "The Shepherds do their work, and I maintain the Shepherds." Anton looked out the window proudly, at the hulking multi-legged robots, now resting on their plastic and metal haunches as the reindeer milled peacefully around them.

"And here we have lasted for many years. Me working odd jobs and tending the homestead." said Yegor.

"Papa — " said Svetlana, turning to Yegor. "When did Mama fit into this?"

"Ah, my sunshine." said Yegor, smiling, but sad. "Your mama was a wonderful, brilliant woman. And we were a happy family. But, you know, the Flu came back..." Yegor stopped, eyes suddenly moist.

"Yes," said Anton. "The second wave of the Florida Flu took too many. My Katya, Yegor's Galina." said Anton. "But —" he whispered, as he scooped up Yegor's and Svetlana's hands, "We are still here." Anton said, squeezing their hands gently.

Yegor smiled, with streaked cheeks, and Svetlana smiled, too.

"And you are here doing amazing things!" said Anton looking happily at Svetlana. "Can you believe it, that when I was in school only a small number of people could work as effortlessly with computers as you do?"

Svetlana frowned. "That doesn't make any sense, everyone needs to know how to code."

Yegor chuckled. "Of course you are right, now. But back then, when your grandfather was a boy, very few people knew how to code. In fact, it was a very highly valued skill. One of the best jobs that you could have would be to work for a company and to write their computer programs."

Svetlana bursts out laughing. "Now you are certainly trying to make fun of me." she said smiling.

"I know this is impossible to grasp," said Yegor, "but what you did this morning, checking the predictive solar array and diagnosing the errors in the protein synthesizer - are two skills that would each have required a University education!"

"Well, then," Svetlana said, "may I have two degrees, please?"

"You can have any degree that you want," said Anton, smiling back.

They all laughed, and the reindeer herd looked up again at the sounds, then returned to wandering in their pens among the dwarf oak and slumped shepherds, as the sunset turned to dusk.

Figures S1- S10

The methodological overview for tracing the topic model output to the story-based scenario are outlined for each of the ten scenarios.

The methods for the ten stories:

1. Campus Utqiagvik (Supplement Page 44)
2. Nanook Station (Supplement Page 45)
3. Security Detail (Supplement Page 46)
4. The Last Preserve (Supplement Page 47)
5. Concession 60 (Supplement Page 48)
6. Putin's Gambit (Supplement Page 49)
7. Voice from the Past (Supplement Page 50)
8. Icebreaker (Supplement Page 51)
9. Assisted Migration (Supplement Page 52)
10. School's Out Forever (Supplement Page 53)

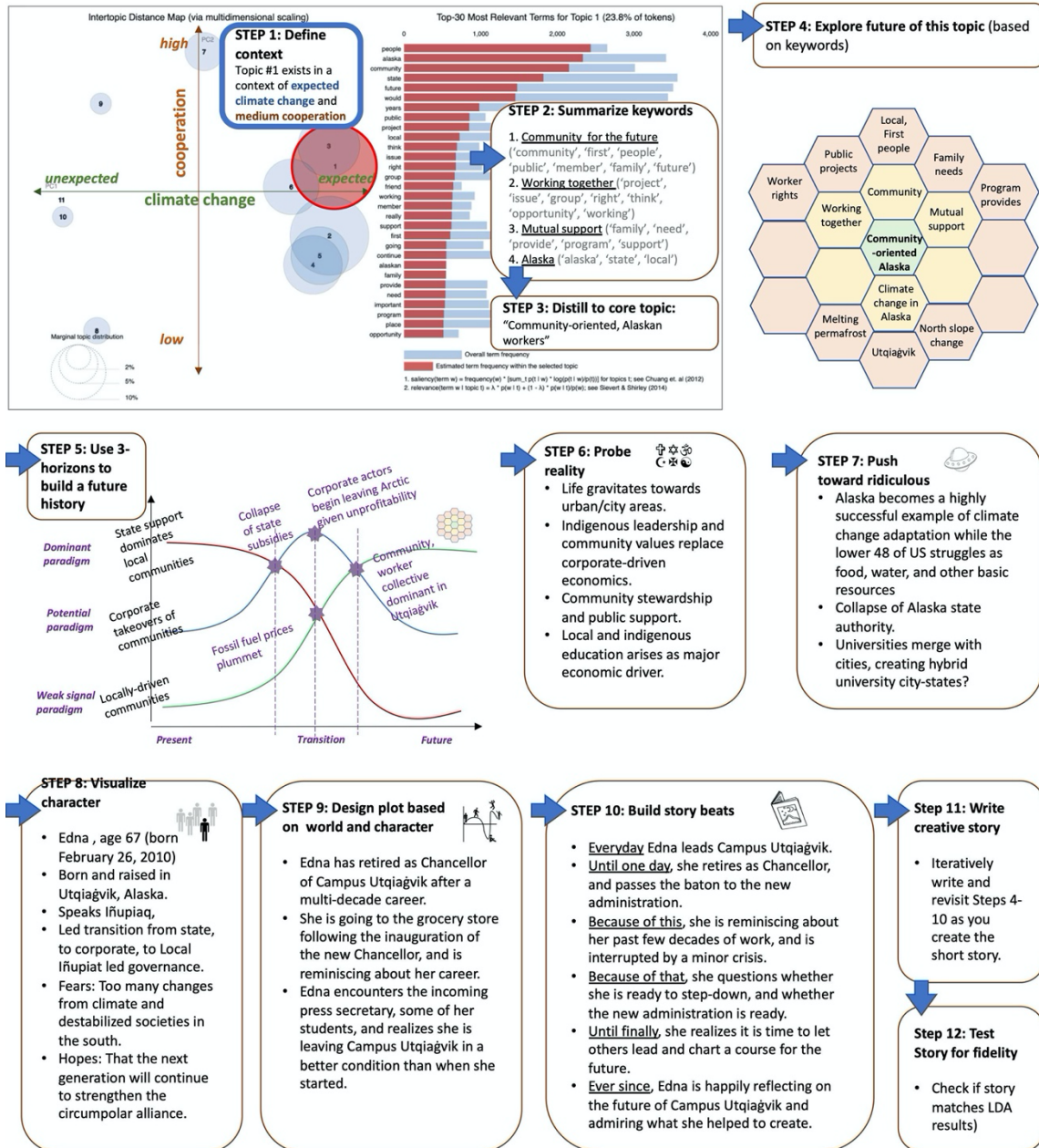


Figure S1. Methods for Topic #1 "Campus Utqiagvik."

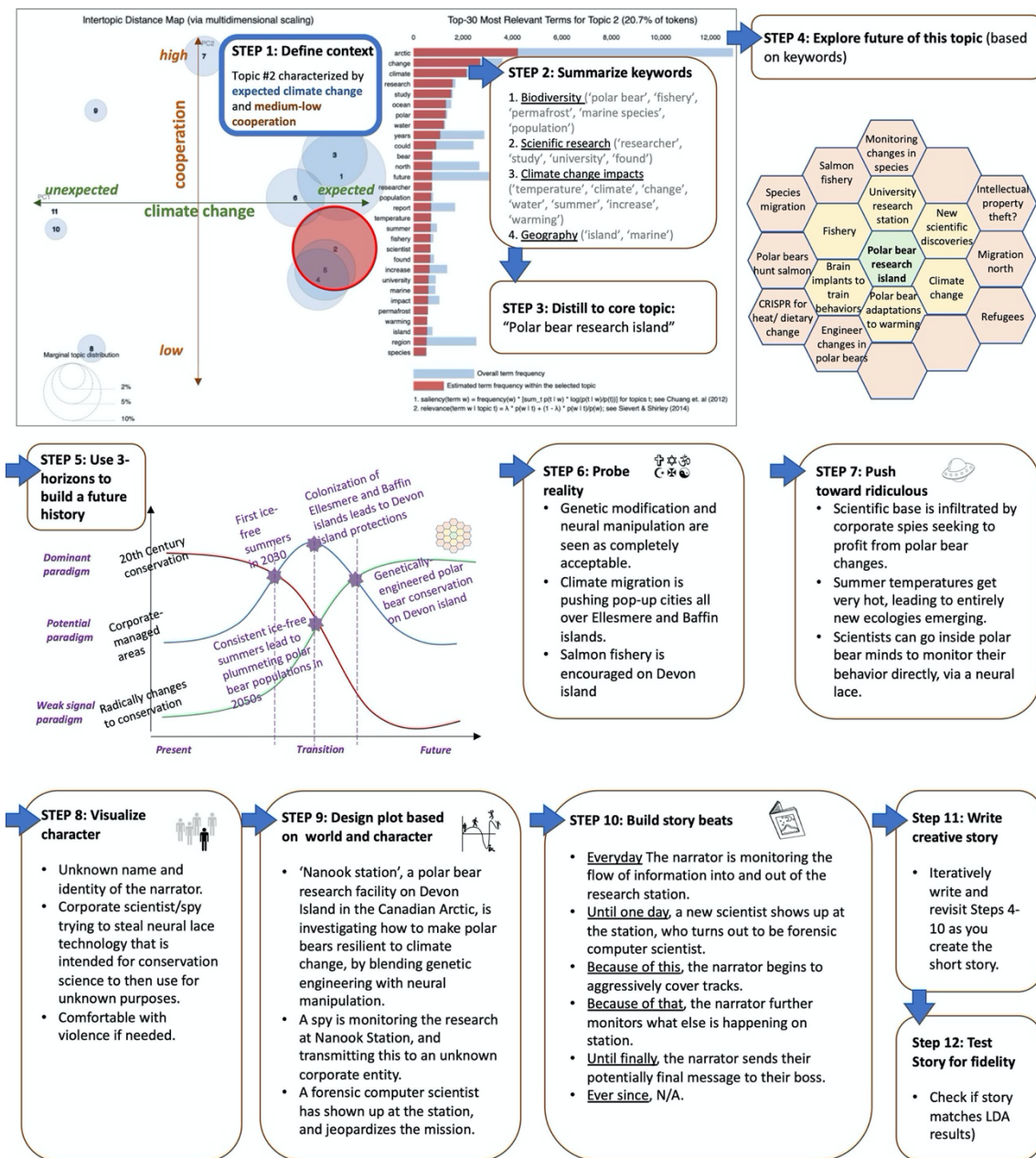


Figure S2. Methods for Topic #2 "Nanook station."

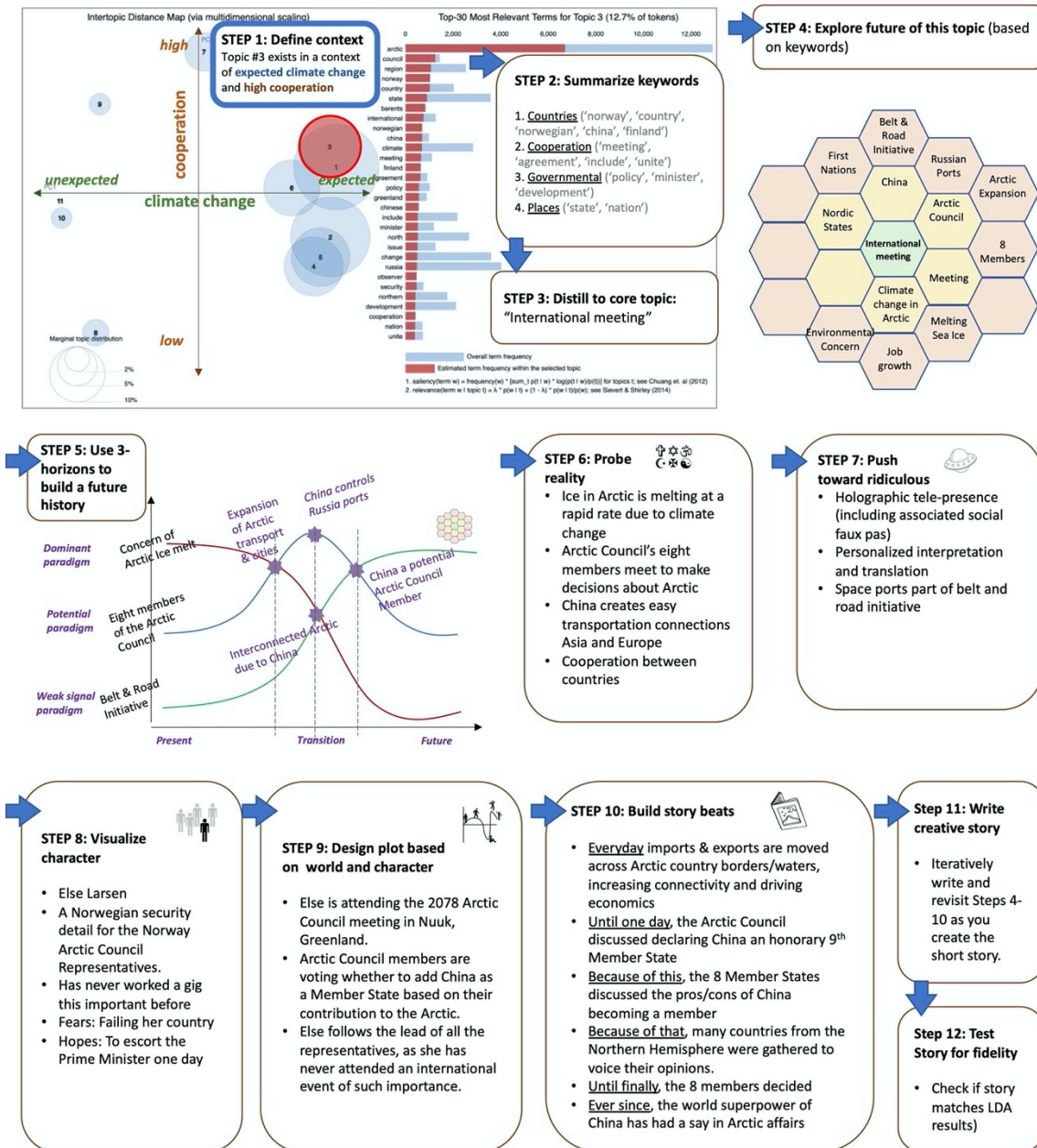


Figure S3. Methods for Topic #3 "Security Detail."

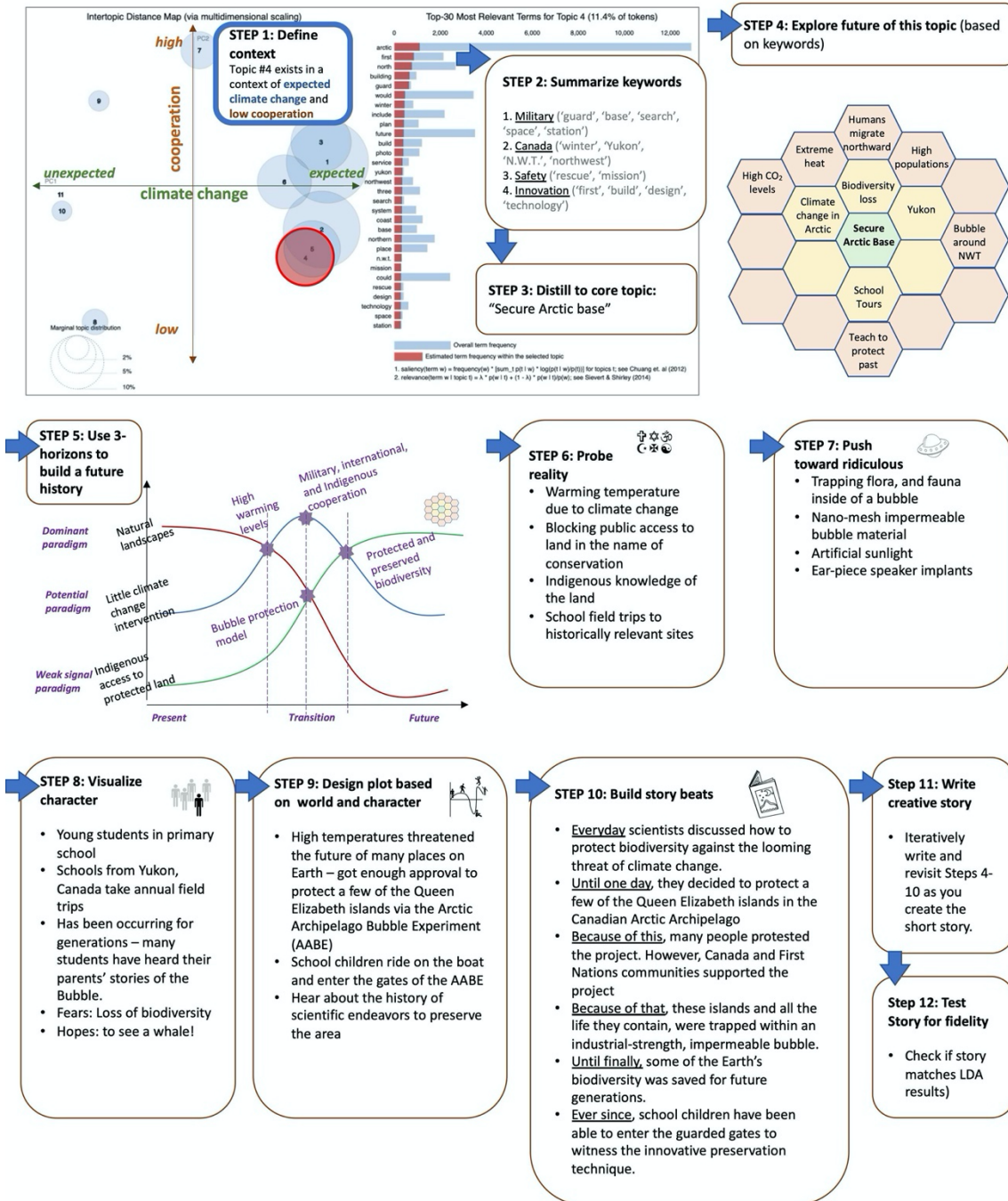


Figure S4. Methods for Topic #4 "The Last Preserve."

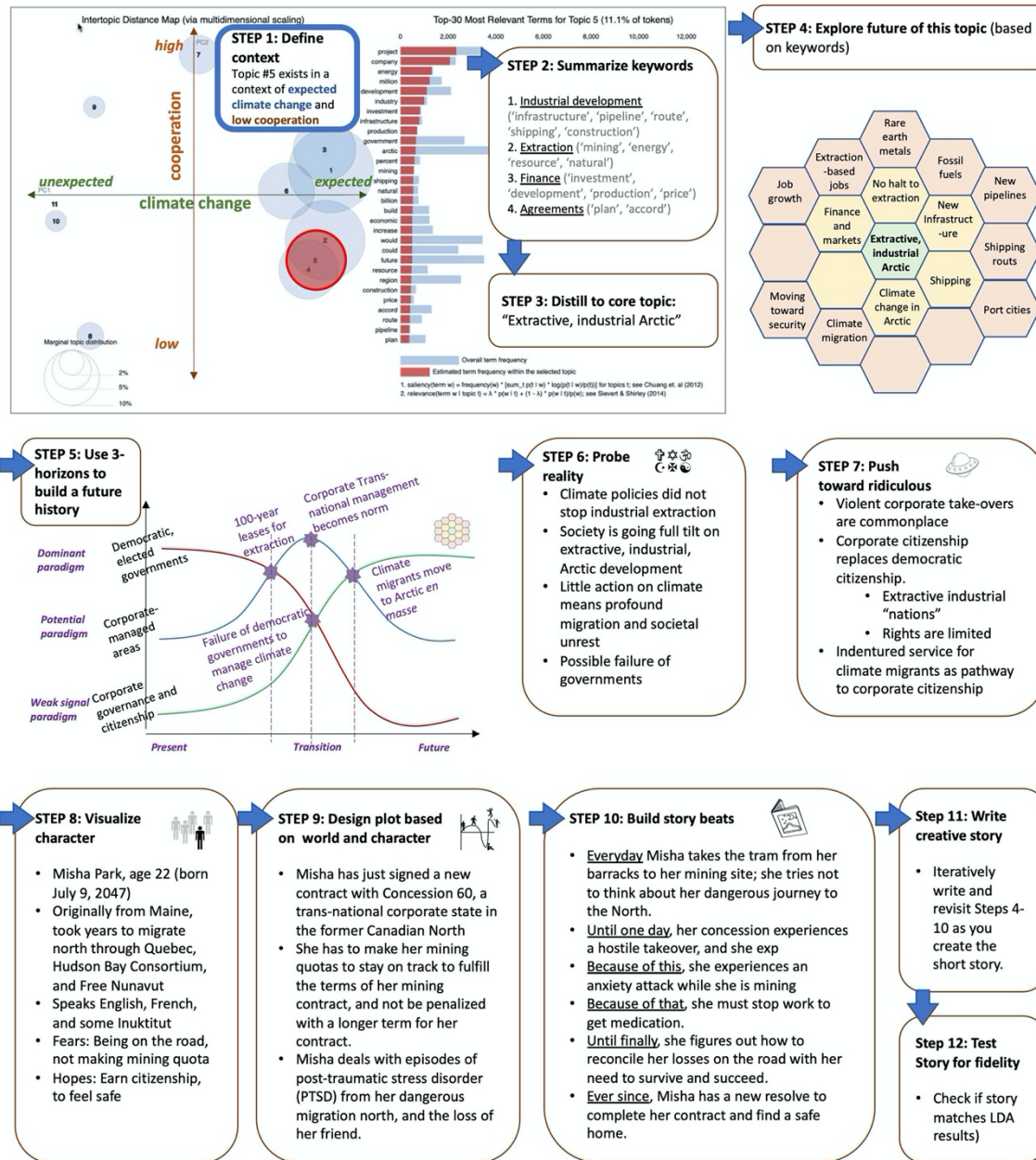


Figure S5. Methods for Topic #5 "Concession 60."

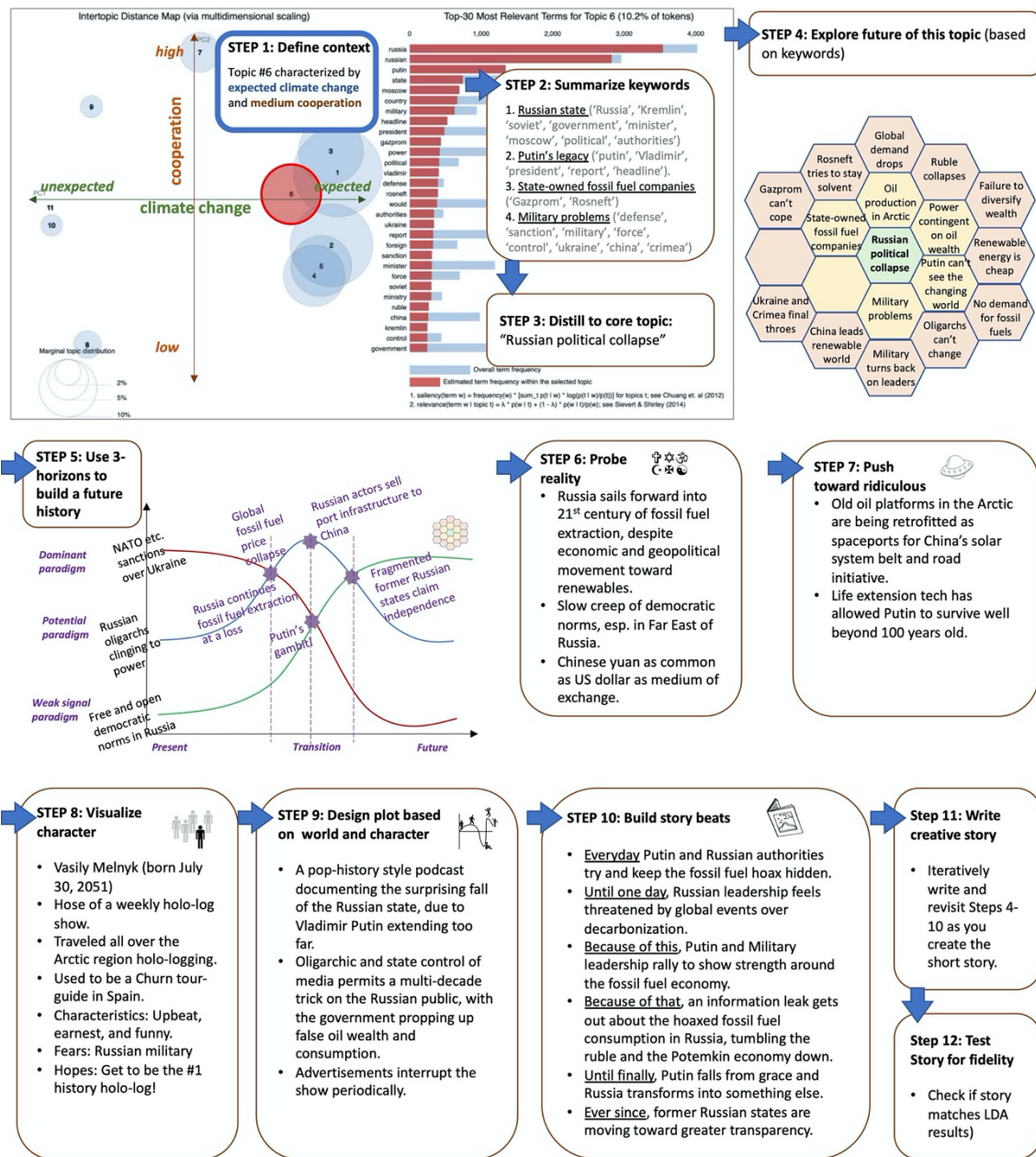


Figure S6. Methods for Topic #6 "Putin's Gambit."

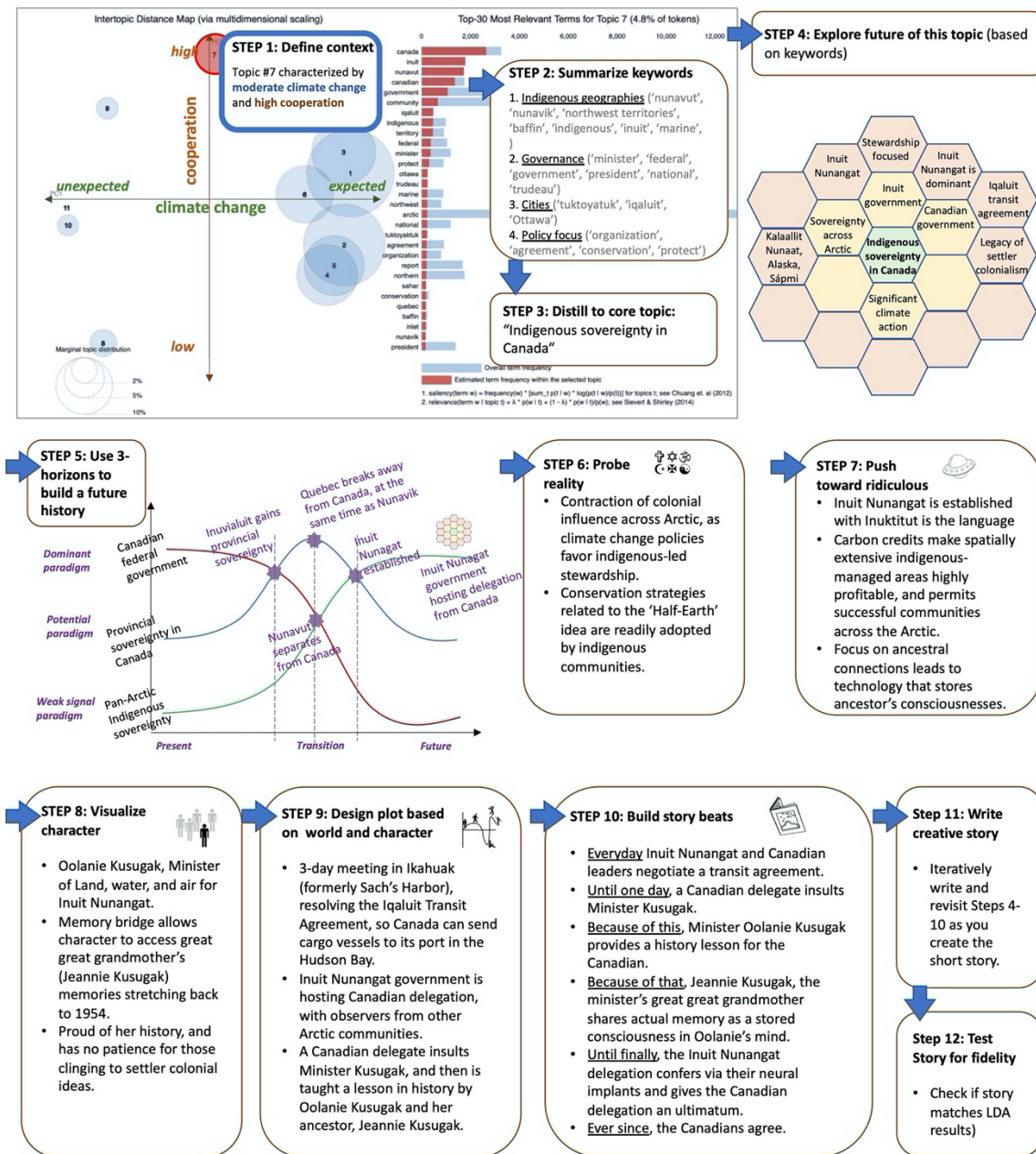


Figure S7. Methods for Topic #7 "Voice from the Past."

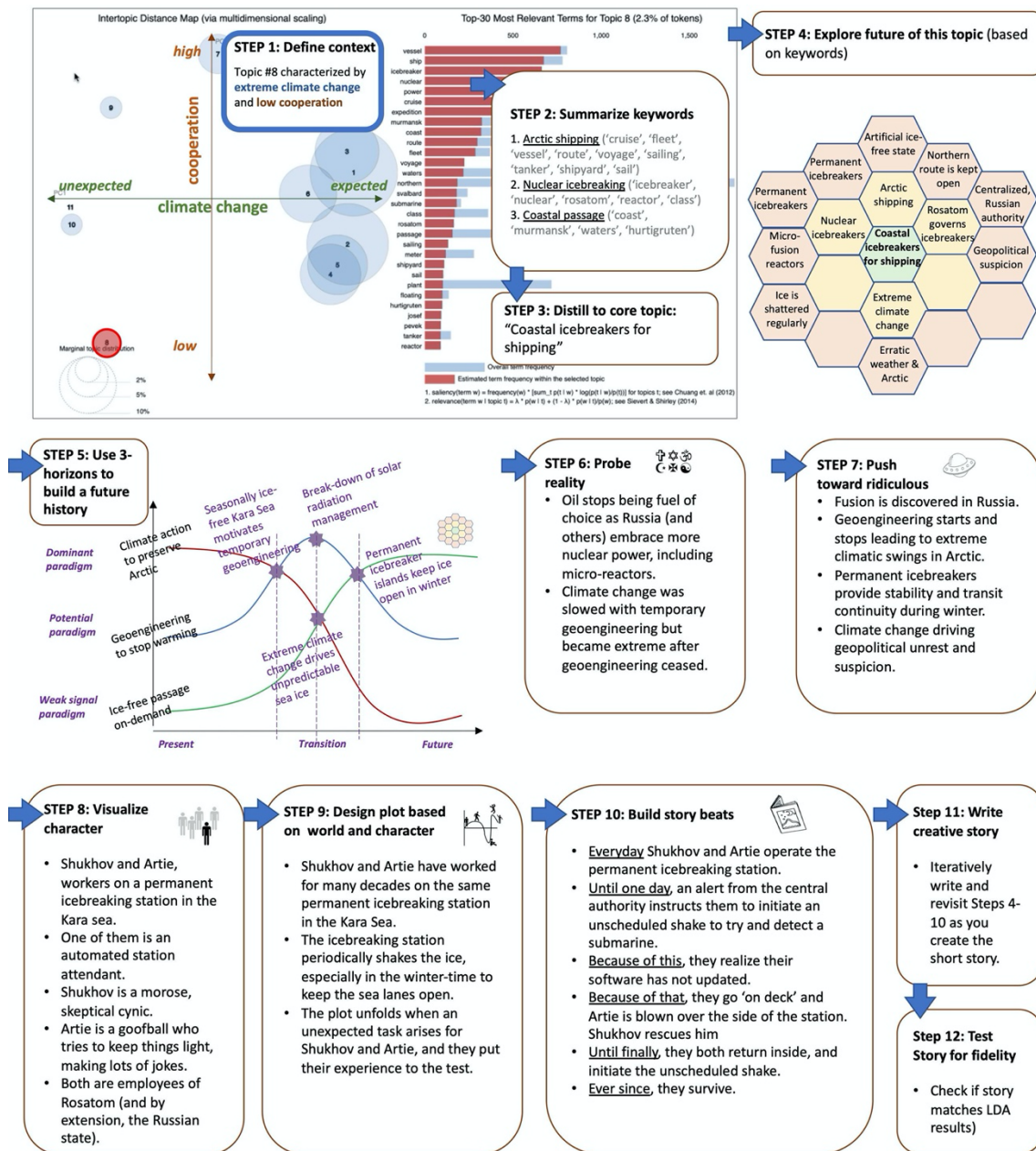


Figure S8. Methods for Topic #8 "Icebreaker."

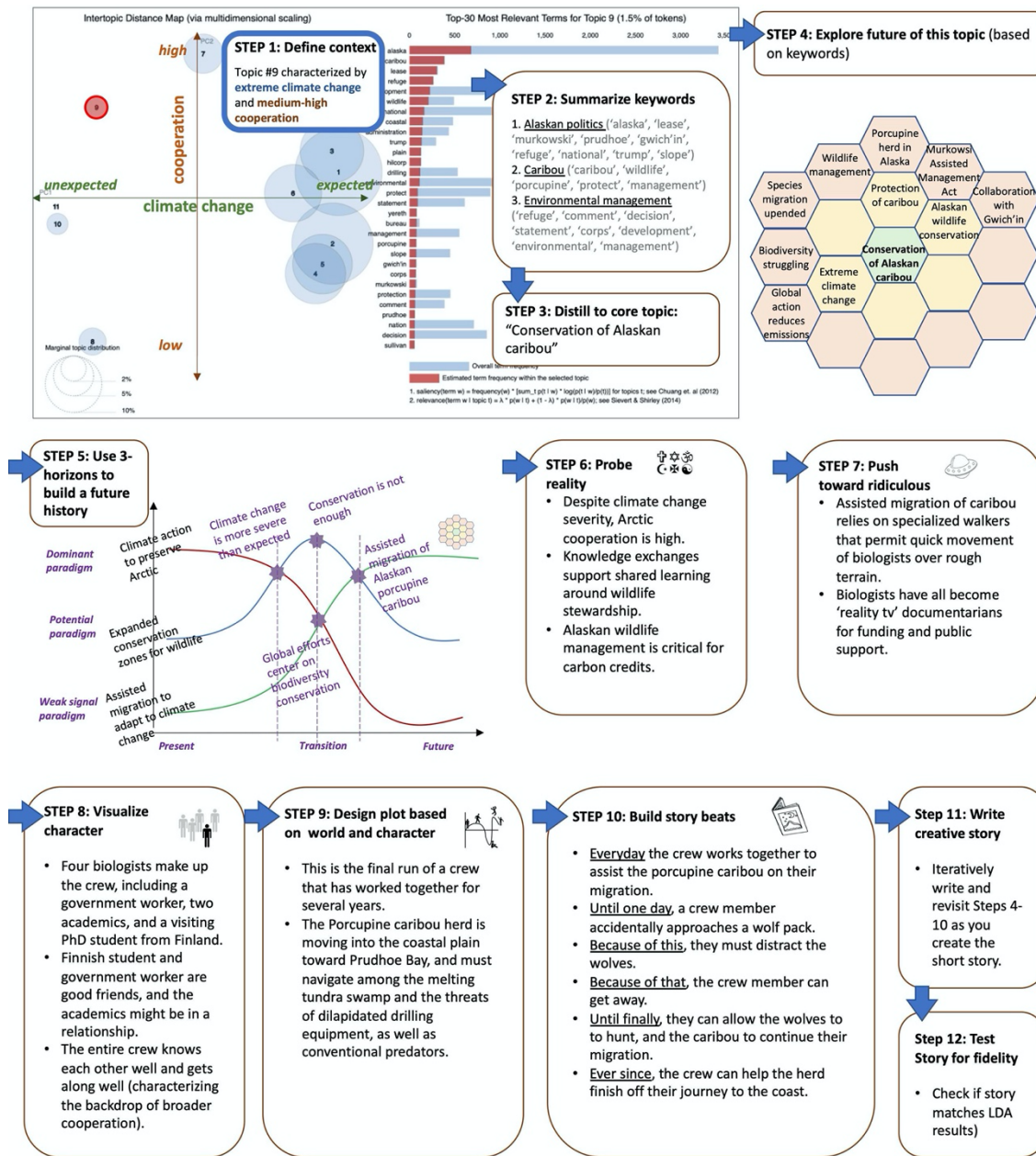


Figure S9. Methods for Topic #9 "Assisted Migration."

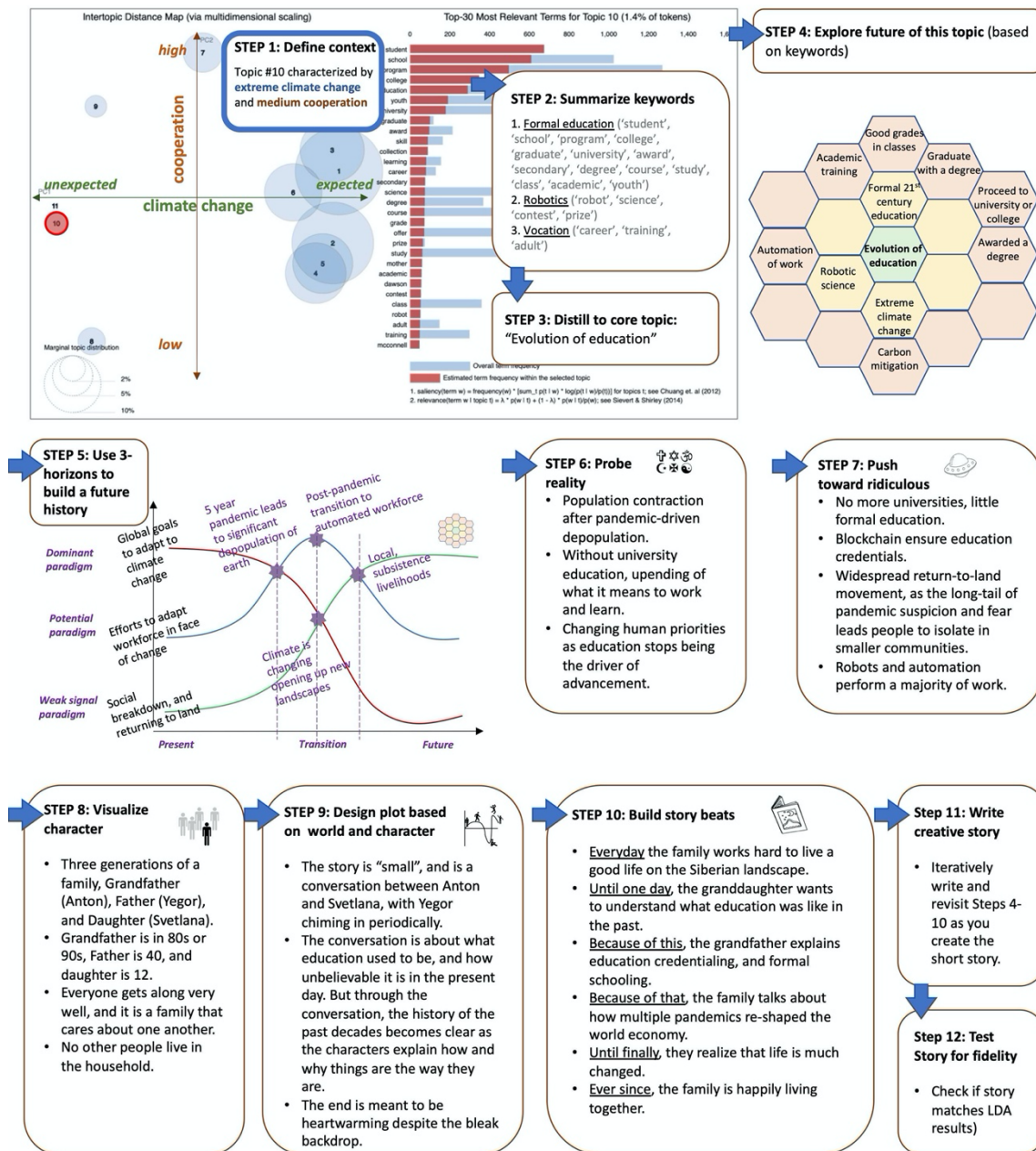


Figure S10. Methods for Topic #10 "School's Out Forever."

Additional information for corpus distribution by year of publication date.

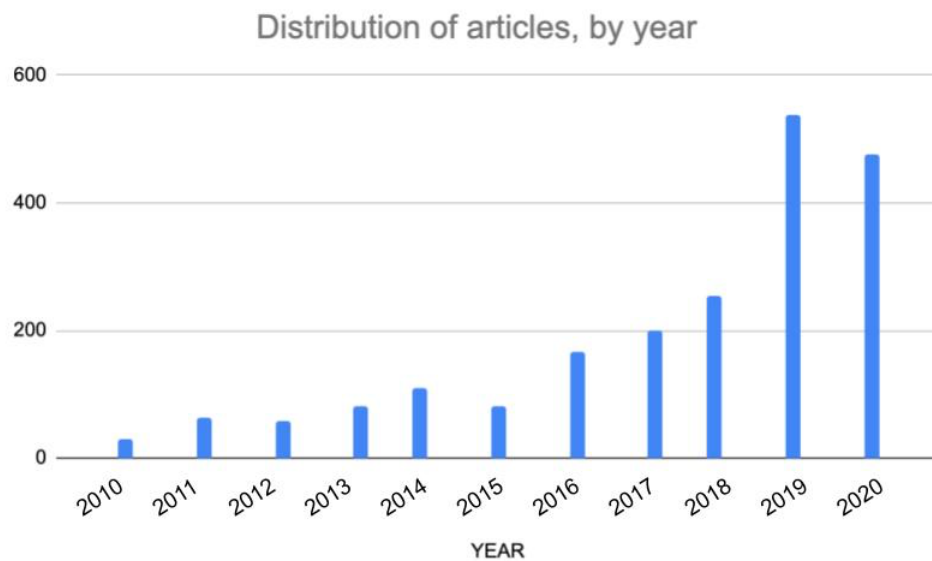


Figure S11. Graph showing distribution of articles across the 2,058 text corpus, between the years 2010 and 2020.

Additional information for Coherence score analysis

An iterative analysis based on varying the number of topics was performed to identify the highest Coherence score.

Comparison of number of topics versus Coherence score

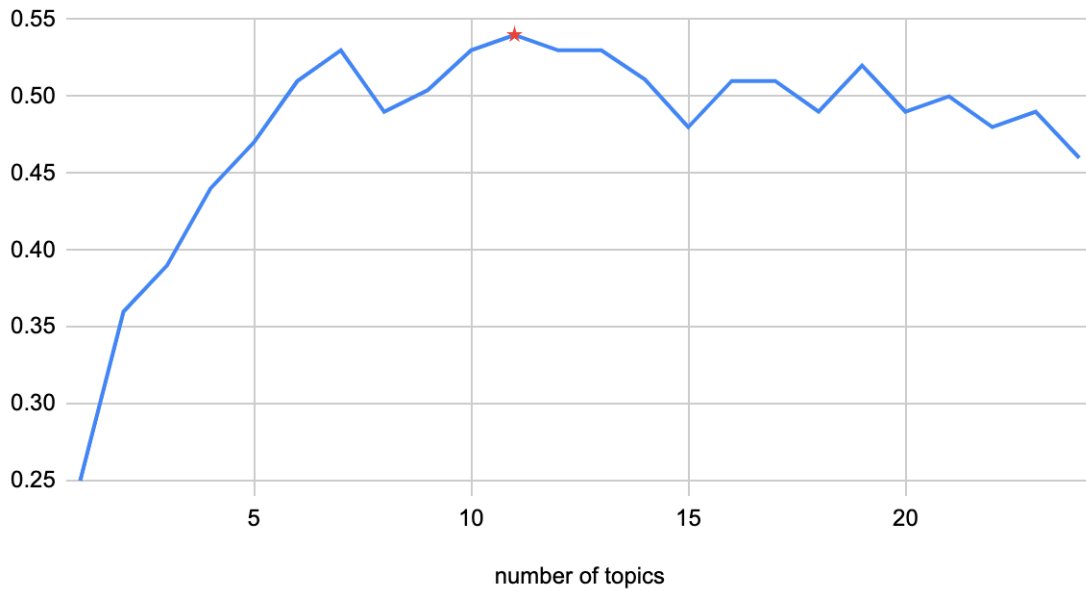


Figure S12. Graph showing the comparison of number of topics versus coherence score, using the metric C_v . The red star indicates the highest Coherence score of 0.54 corresponding to 11 topics. For more information on Coherence scores please see Röder et al., 2015.