

Discovering the research needs of current and potential partners and collaborators for NASA's Arctic Boreal Vulnerability Experiment (ABoVE)

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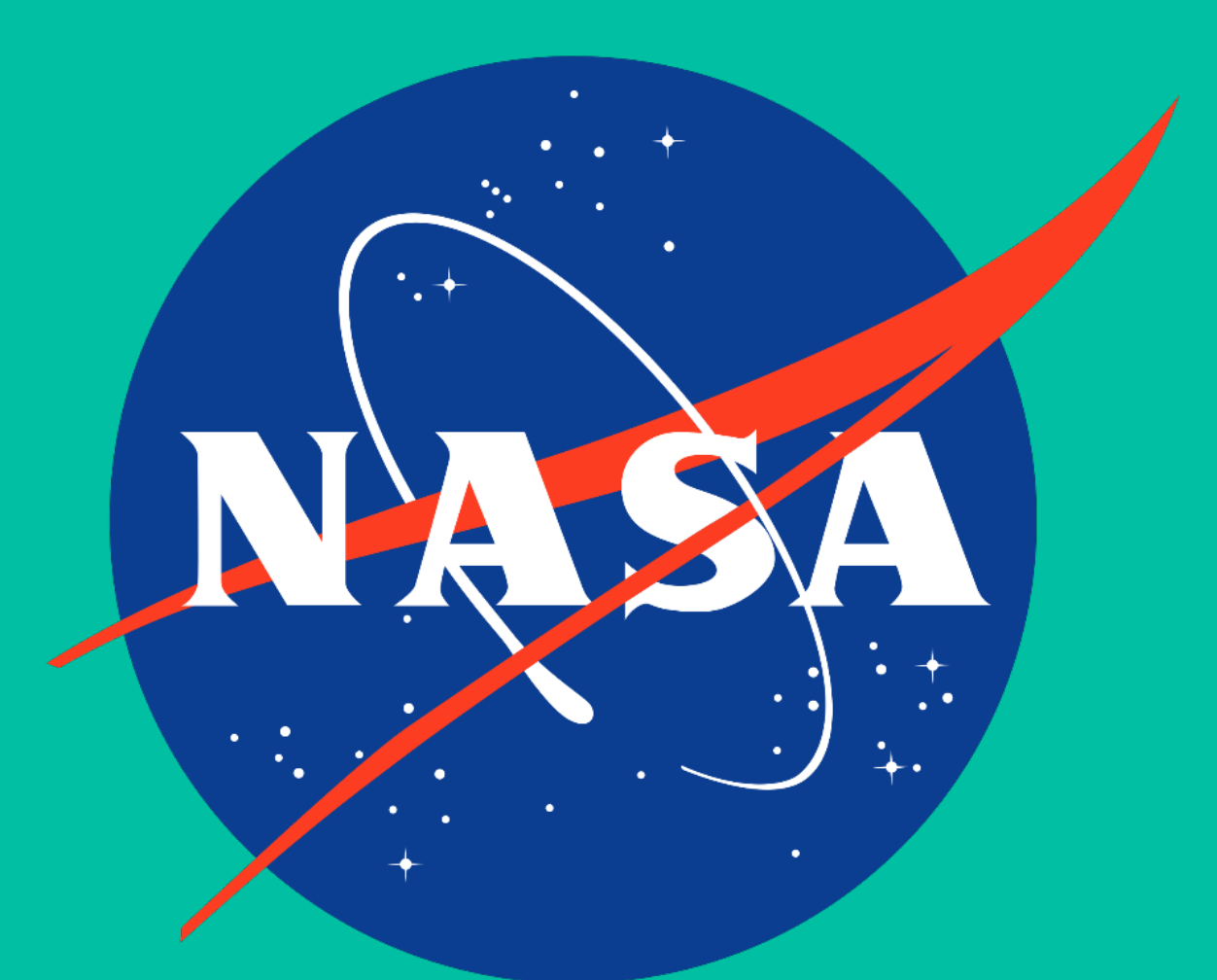
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Abstract

The Arctic Boreal Vulnerability Experiment (ABoVE) is a NASA Terrestrial Ecology field campaign comprised of researchers from many disciplines and institutions who use field-based, remote sensing, and modeling approaches to understand the vulnerability and resilience of Arctic ecosystems and people in western North America. One goal of ABoVE is to provide the scientific basis for informed decision-making to guide societal responses at local to international levels, which requires knowledge of the identities and data needs of ABoVE's partners and collaborators. The research presented here sought to identify relevant existing and new communities, organizations and institutions for ABoVE products while simultaneously assessing their research needs that future ABoVE activities can meet. We report on the results of an online survey sent to all ABoVE participants, defined broadly as an individual who engages with ABoVE, to identify their most relevant research themes and activities while simultaneously asking participants to identify potential new partners and collaborators for ABoVE engagement. These results are compared with data about who has downloaded ABoVE data products from the ORNL DAAC (the designated data archive for most ABoVE data products). The analysis reveals the current relevancy of ABoVE research themes and activities to participants, identification of additional organizations for ABoVE engagement, and potential gaps between data product access, usage, and engagement with ABoVE. Results indicate opportunities to tailor to the needs of current participants and focused outreach for newly identified groups.



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Background

ABoVE is a NASA Terrestrial Ecology field campaign focusing on environmental change in the Arctic and boreal regions of northwestern North America, with a goal to better understand the vulnerability and resilience of the region's ecosystems and societies.

The final phase of ABoVE includes the objective of creating decision-making support products. There is a need to:

- enhance engagement with current partners
- identify which organizations and groups ABoVE is not engaging with

To support this goal of providing the scientific basis for informed decision-making for ABoVE's local to international partners, this study has two objectives:

- identify the research needs/interests of the communities, organizations, and institutions that ABoVE already engages with; and
- identify new groups for future ABoVE engagement.

The outcomes of this research should be considered a first, critical step in influencing how ABoVE interacts with its current and potential partners and collaborators.

Methods

Data Source 1	Data Source 2	Data Source 3
ABoVE Participant Database n=1698	ABoVE Participant Survey n= 217	ORNL DAAC Database n=1916

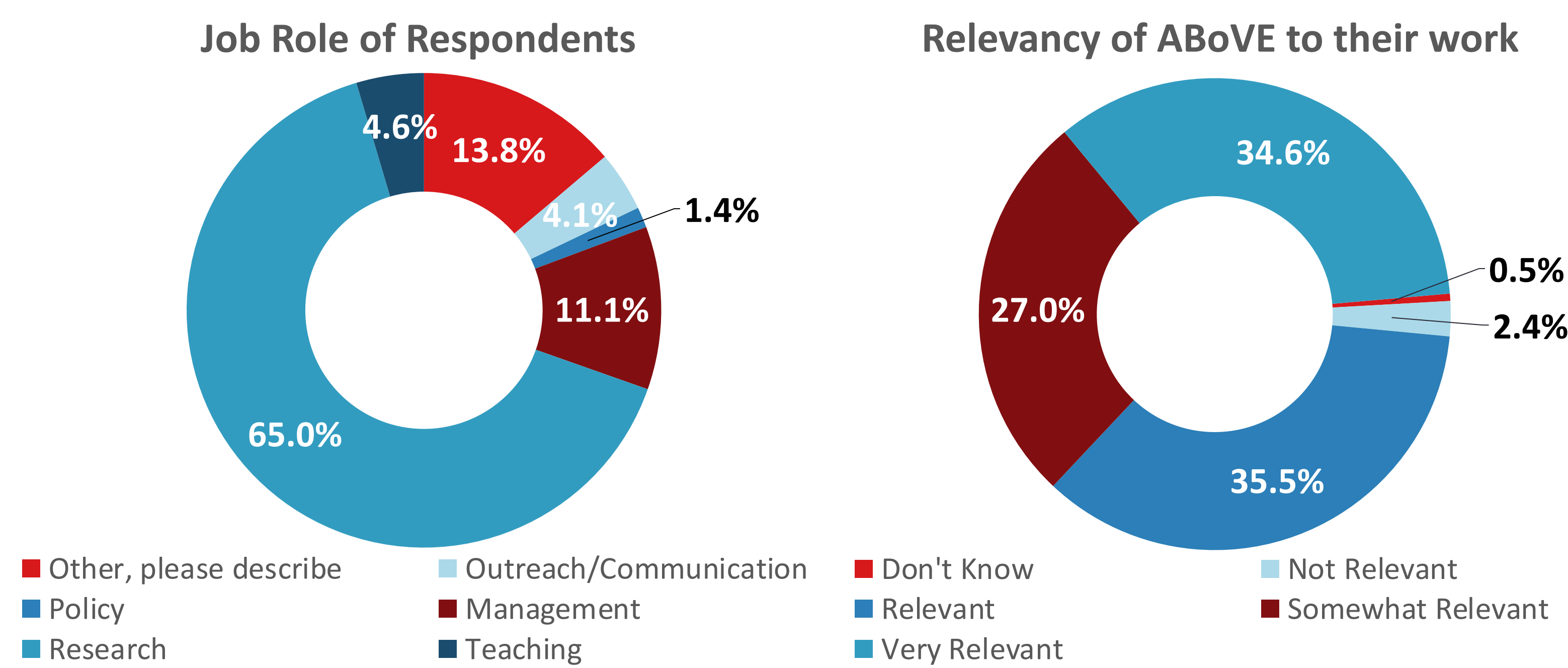
Three sources of data were used for this study:

1. Existing ABoVE participant database, defined broadly as anyone who engages with ABoVE
2. Online survey sent to all ABoVE participants asking:
 - most relevant ABoVE research themes to their work
 - suggestions of potential new partners and collaborators
3. Users who have downloaded ABoVE data products from the ORNL DAAC from October 1st, 2017, to June 23rd, 2021

We compared results from subsets of respondents to gain deeper insights on differences in relevance of ABoVE research themes. The subsets were:

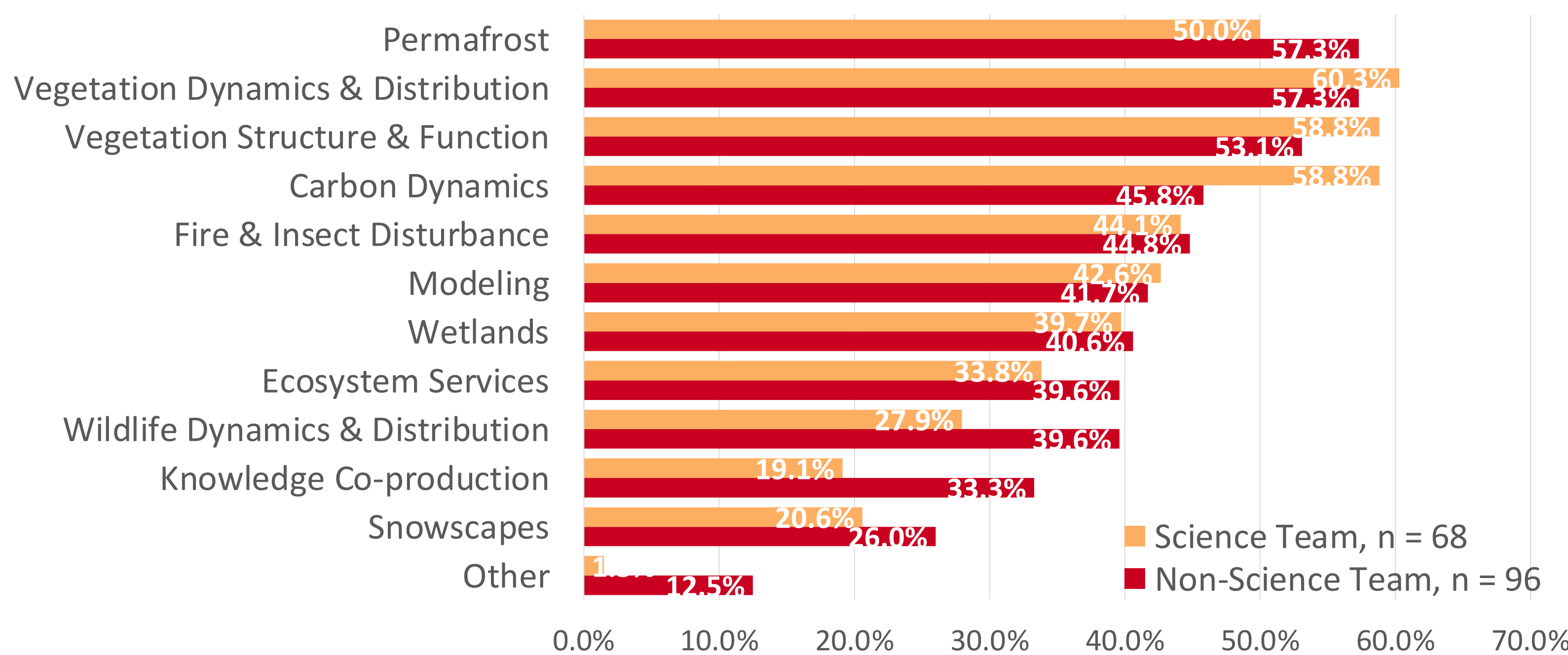
- **Science Team Members** (people associated directly with ABoVE research projects) vs. non-Science Team Members
- **Regional Respondents** (people living/working in the study region) vs. all survey respondents

Roles and ABoVE Relevancy

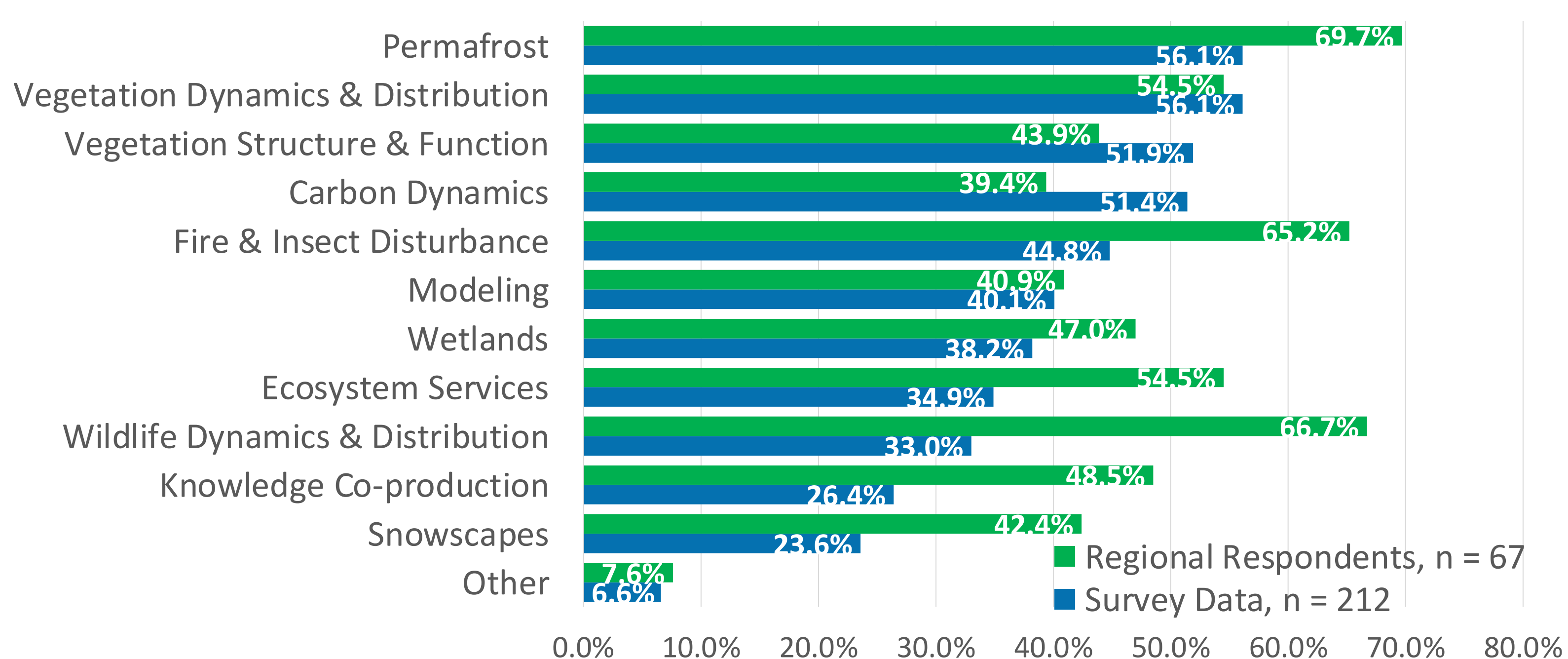


Above: Main job role (left) and expressed relevancy of ABoVE to the respondents' work (right).

Interest in ABoVE Research Themes

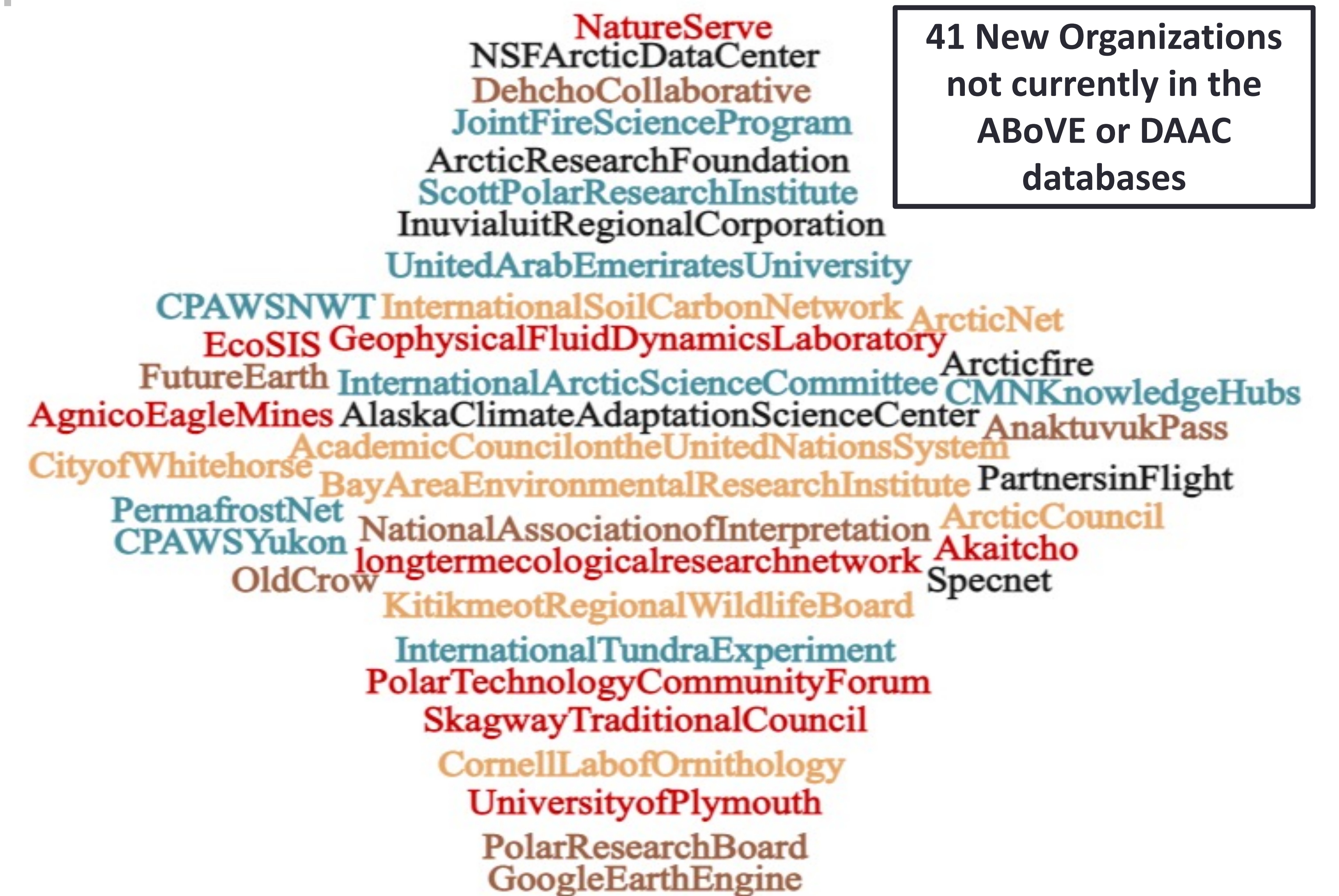


Above: Percent of respondents expressing interest/relevance of ABoVE research themes, by Science Team and Non-Science Team.



Above: Percent of respondents expressing interest/relevance of ABoVE research themes, by Regional and all survey respondents.

New Organization Identification



Insights & Recommendations

Organize Workshops	Data Workshop • ABoVE data types • Database locations • Data use	Networking Workshop • Invite Science Team members • Facilitate interaction • Organize in winter	Listening Session • Feedback on data integration into decision-making support products
Prioritize recommended organization outreach	• Identify mission of each organization • Outreach should include ABoVE description with hyperlink, research themes, and database locations		
Individualized outreach	• Utilize the existing data to filter and discover the research interests and aspects of ABoVE each partner/collaborator is interest in		
Survey new organizations to identify interests	• Response rate will be low but will be highly interested organizations • Include a description of ABoVE and why they were selected • Be mindful of respondent burden and delete unnecessary sections		
Modify survey to determined prioritized outreach	• Use a stratified random sample • Use incentives to increase response rate • Include questions about their organization's mission & perception of mission alignment with ABoVE's mission, objectives, and goals		