



ESA ITT: AO/1-9158/18/I-BG



arcticsalinity.argans.co.uk

Arctic+ salinity is an ESA's Invitation To Tender devoted to provide a better description of salinity gradients, freshwater fluxes and currents than the obtained until now from SMOS derived products. The result is a product capable of characterize the Arctic salinity and monitor some aspects of the climate change.

Arctic+ salinity ITT started in December 2018 and it will finish in June 2020. Now we are presenting the resulting salinity product that will be freely distributed in January. The next step is to provide specific studies about the Arctic.

Stay tuned to our oral contribution in Ocean Sciences Meeting 2020!



Data distribution



Barcelona Expert Center



Arctic+ salinity product will be publicly available in January. Our distribution list is open to inform about news concerning this and other products.



Our products are distributed by ftp. You can freely register to this service.



Arctic+ salinity daily 9-day maps will be distributed in WGS 84 / NSIDC EASE-Grid 2.0 North EPSG:6931 (25 km) for years 2011-2019.

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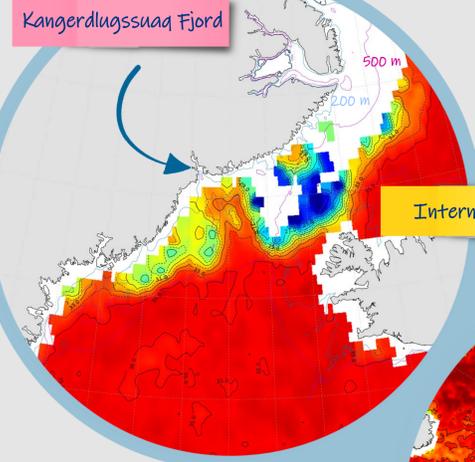
ARCTIC SALINITY FROM SPACE: MONITORING THE FRESHWATER SYSTEM

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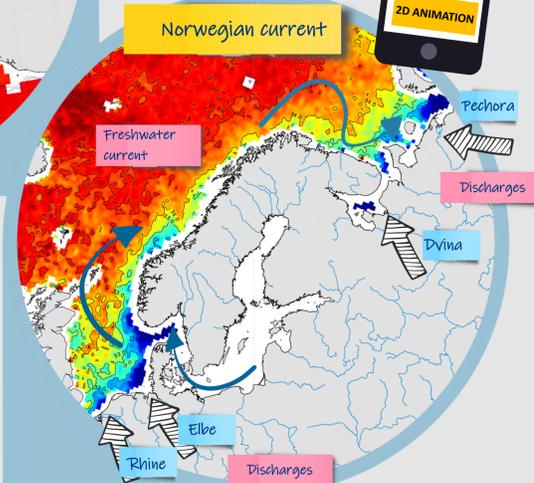
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This is the SMOS satellite

Questions?
 Contact with Justino at justino@iem.csic.es

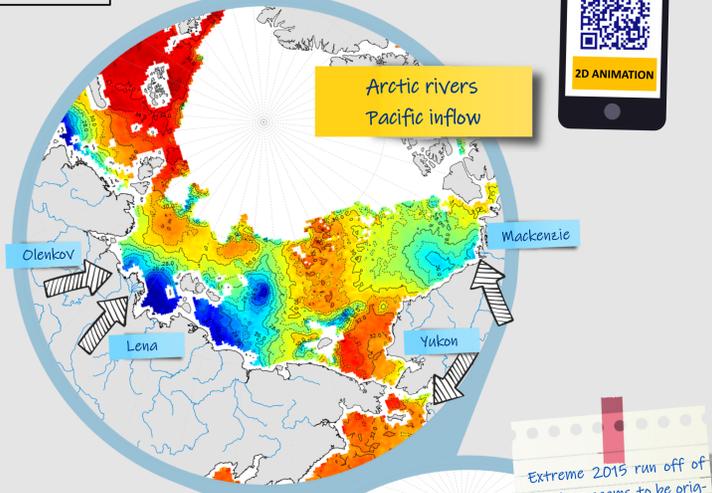


Internal waves



Norwegian current

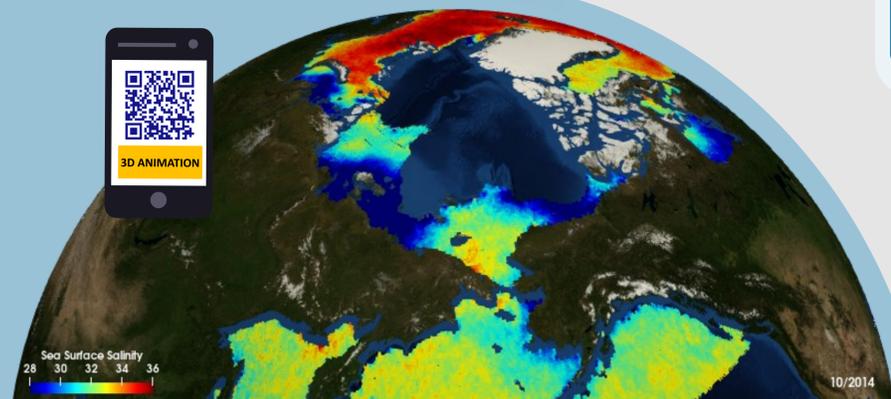
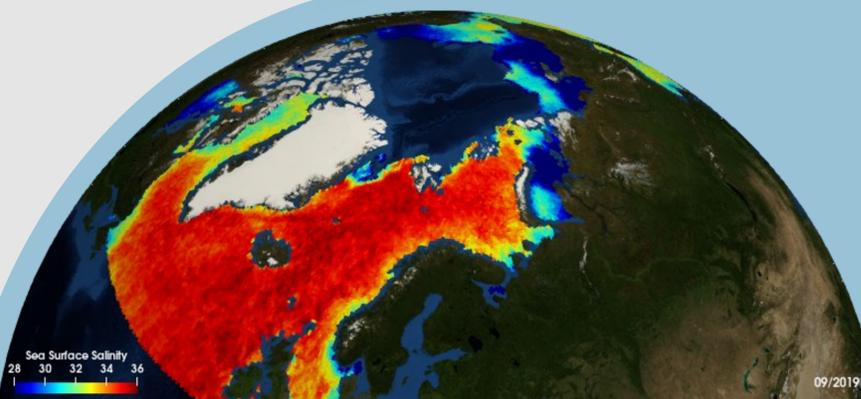
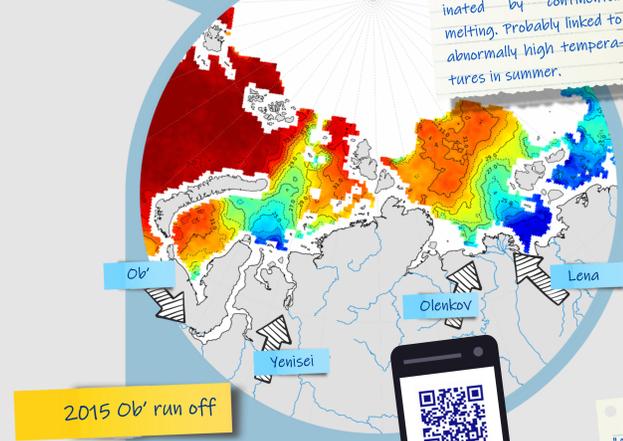
Freshwater current



Arctic rivers Pacific inflow

2015 Ob' run off

Extreme 2015 run off of Ob river seems to be originated by continental melting. Probably linked to abnormally high temperatures in summer.



AGU100 ADVANCING EARTH AND SPACE SCIENCE

AGU FALL MEETING — Thursday, 12 December 2019



SMOS MISSION providing L-band data since 2010

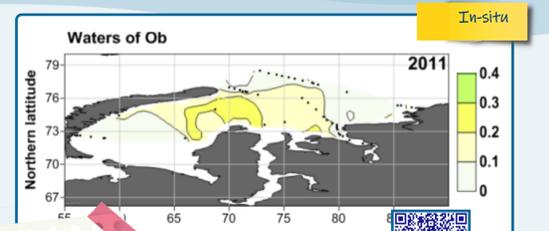
Soil Moisture and Ocean Salinity (SMOS) mission is measuring those variables from space since 2010.

SMOS, launched on 2 November 2009, is one of the ESA's Earth Explorer missions. Its single payload, the Microwave Imaging Radiometer by Aperture Synthesis radiometer (MIRAS), is the first 2D synthetic aperture interferometric radiometer in space. It operates in L-band at 1.413 GHz.

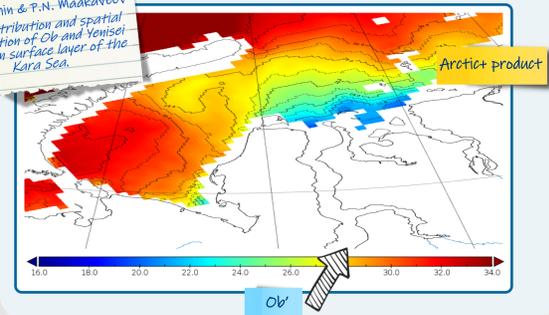
SMOS provides brightness temperature 2D images about 1400 km wide every 1.2 seconds.



Rivers freshwater signatures are well characterized



59th cruise of R/V "Academic Mstislav Keldysh" (Sep. 11th - Oct. 7th, 2011) EGU-2012
 A.A.Polukhin & P.N. Maakaveev
 The contribution and spatial distribution of Ob and Yenisei runoffs on surface layer of the Kara Sea



2D maps and the corresponding animations have been made using Panoply (https://www.giss.nasa.gov/tools/panoply/). 3D animation has been made using ParaView (https://www.paraview.org/)