



2022 Polar Symposium

Priorities from the Poles

Dr Renuka Badhe,

Executive Secretary, European Polar Board



Why go to the ends of the earth for science?



A world map where the landmasses are highlighted in a heatmap style, with colors ranging from red to yellow, indicating higher temperatures. The background is black. At the top, there are horizontal bars in blue, orange, green, and light blue.

**The past seven years have been
the seven warmest on record.**



WORLD
METEOROLOGICAL
ORGANIZATION





WORLD
METEOROLOGICAL
ORGANIZATION

WMO recognizes a new Arctic temperature record



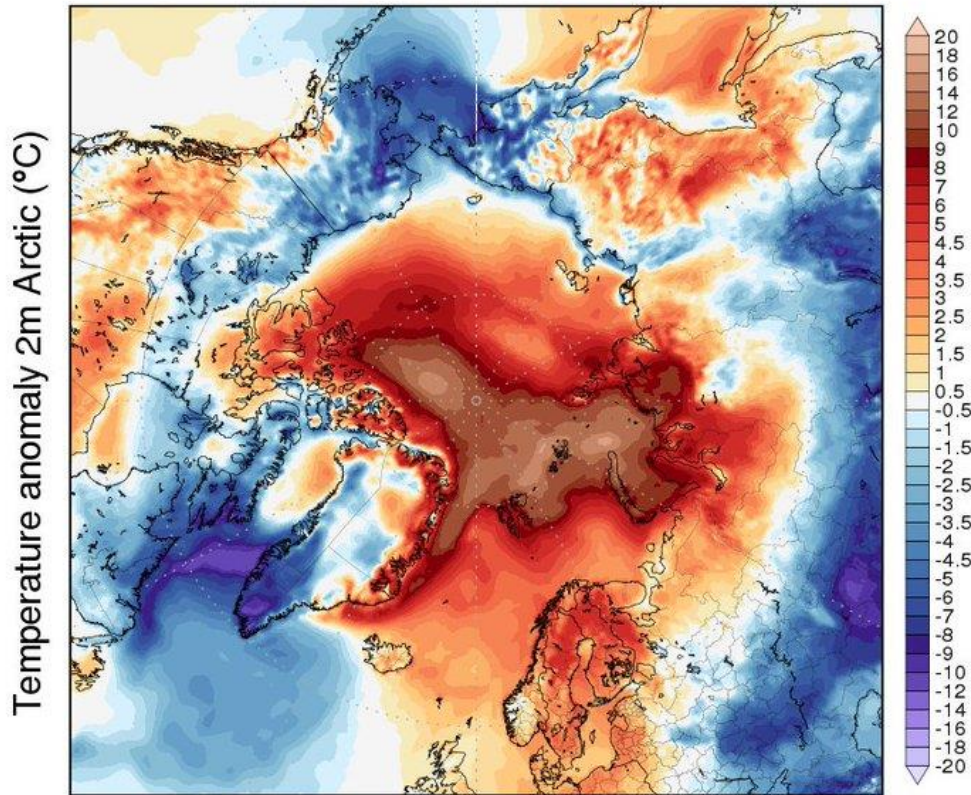
38°C (100.4°F)
Verkhoyansk
20 June 2020



Exceedingly large temperature anomalies at both poles (March 2022)

NCEP GFS forecast vs CFSR reanalysis @0.5deg
Run: 20 Mar 2022 12z

7 day hindcast mean (168h)
Reference: 20 Mar 2022 12z



60-90N:
2.169K

66-90N:
3.733K

Greenland:
-0.61K

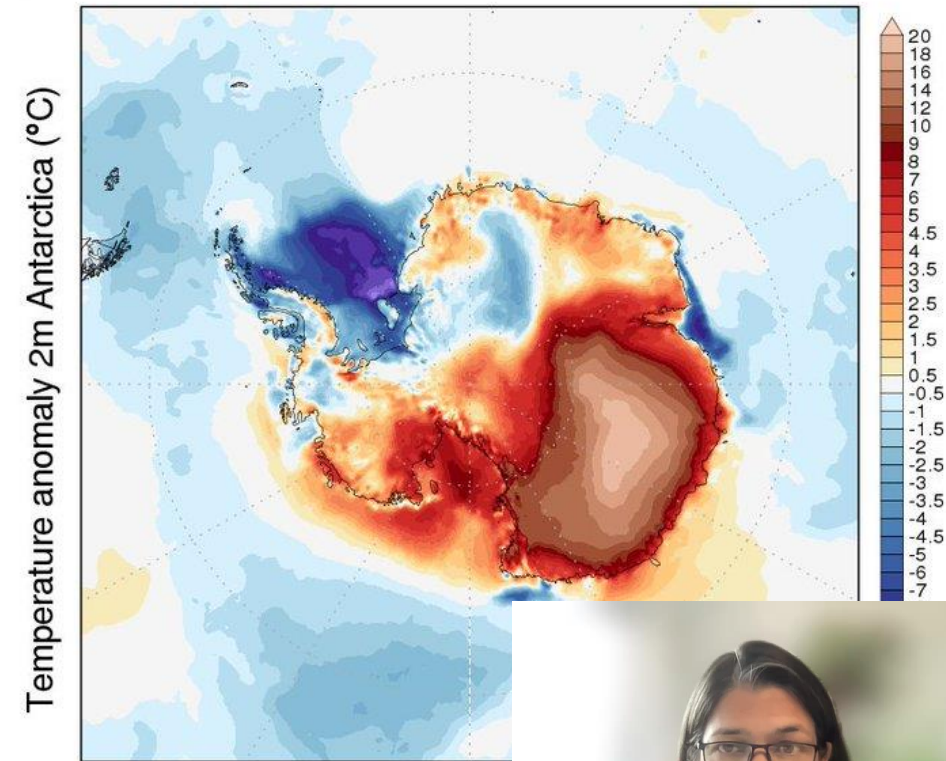
Arctic
Ocean:
4.698K

(c) Karsten Haustein

Climatology for 1981-2010 reference period (5 day running mean) | Approximate grid box anomalies

NCEP GFS forecast vs CFSR reanalysis @0.5deg
Run: 20 Mar 2022 12z

7 day hindcast mean (168h)
Reference: 20 Mar 2022 12z



60-90S:
1.574K

66-90S:
2.764K

East AA
(Land):
6.183K

West AA
(Land):
-0.27K

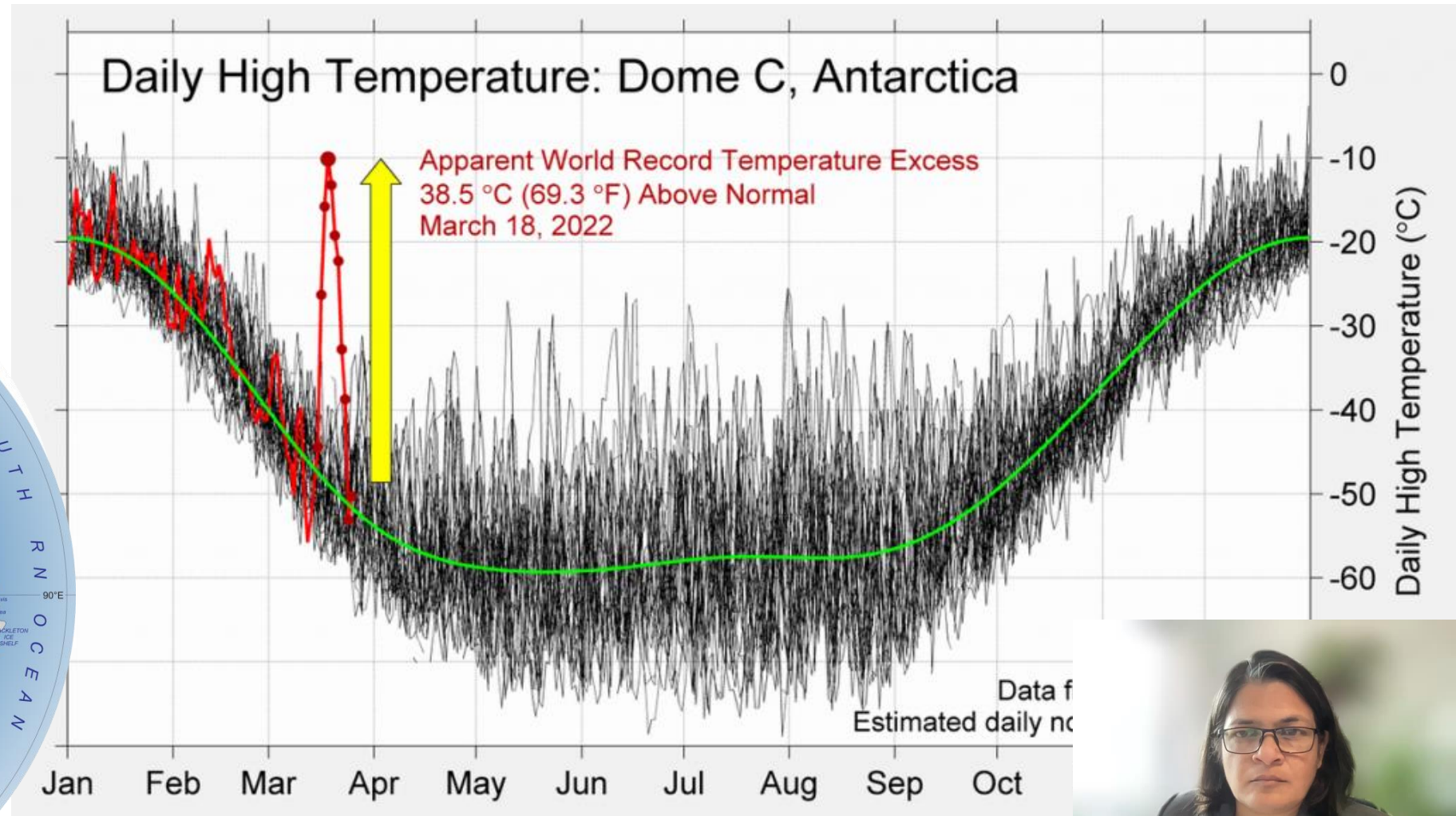
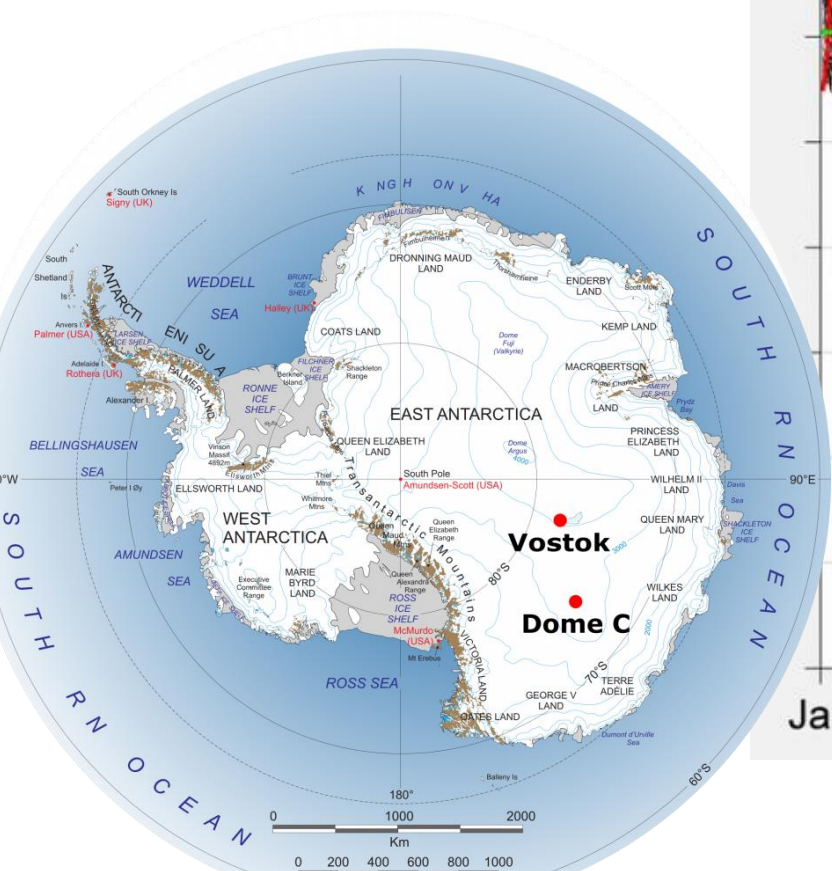
(c) Karsten Haustein

Climatology for 1981-2010 reference period (5 day

Credit: <http://karstenhaustein.com/climate>, Za



Exceedingly large temperature anomalies at both poles (March 2022)

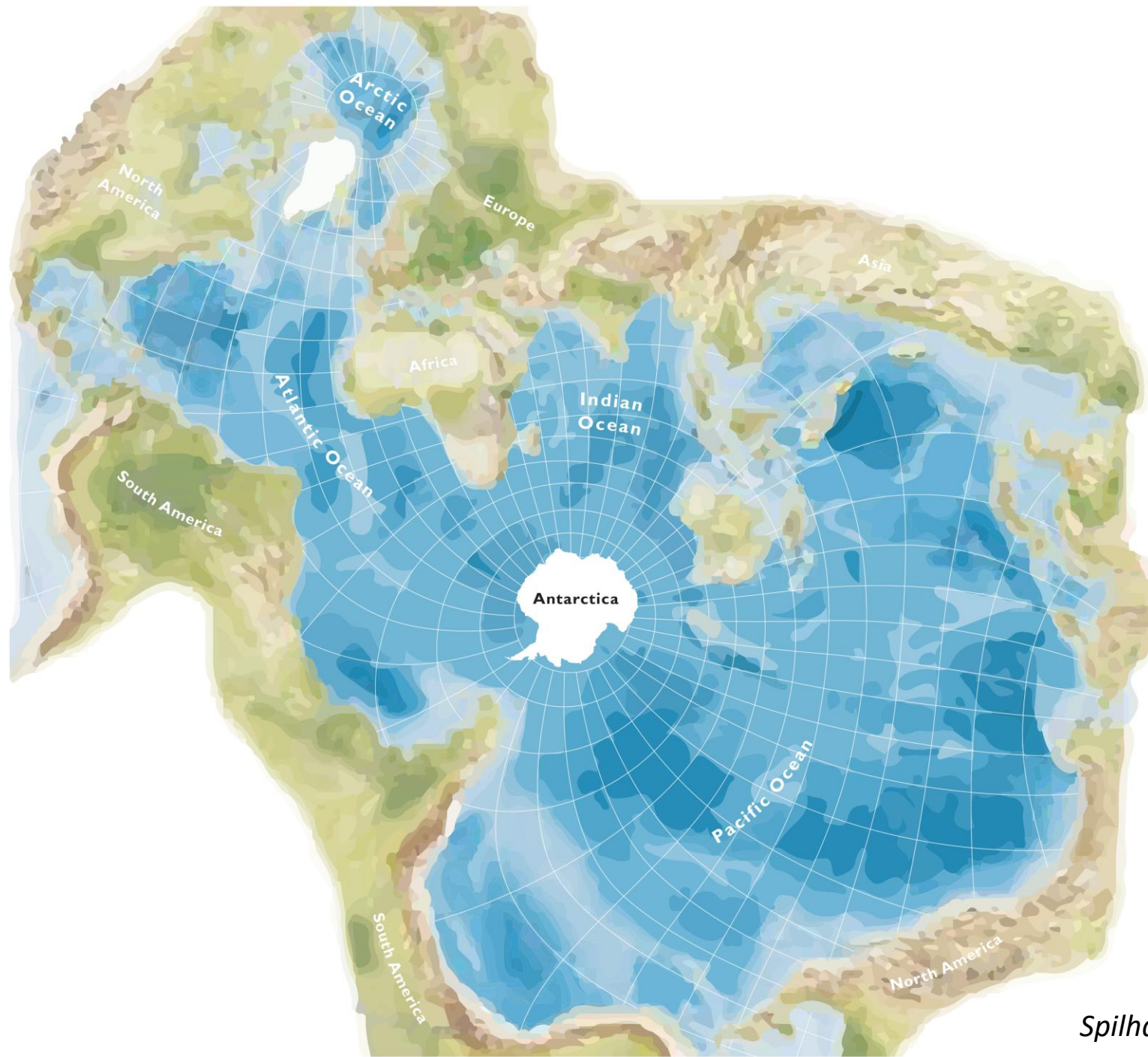


© B



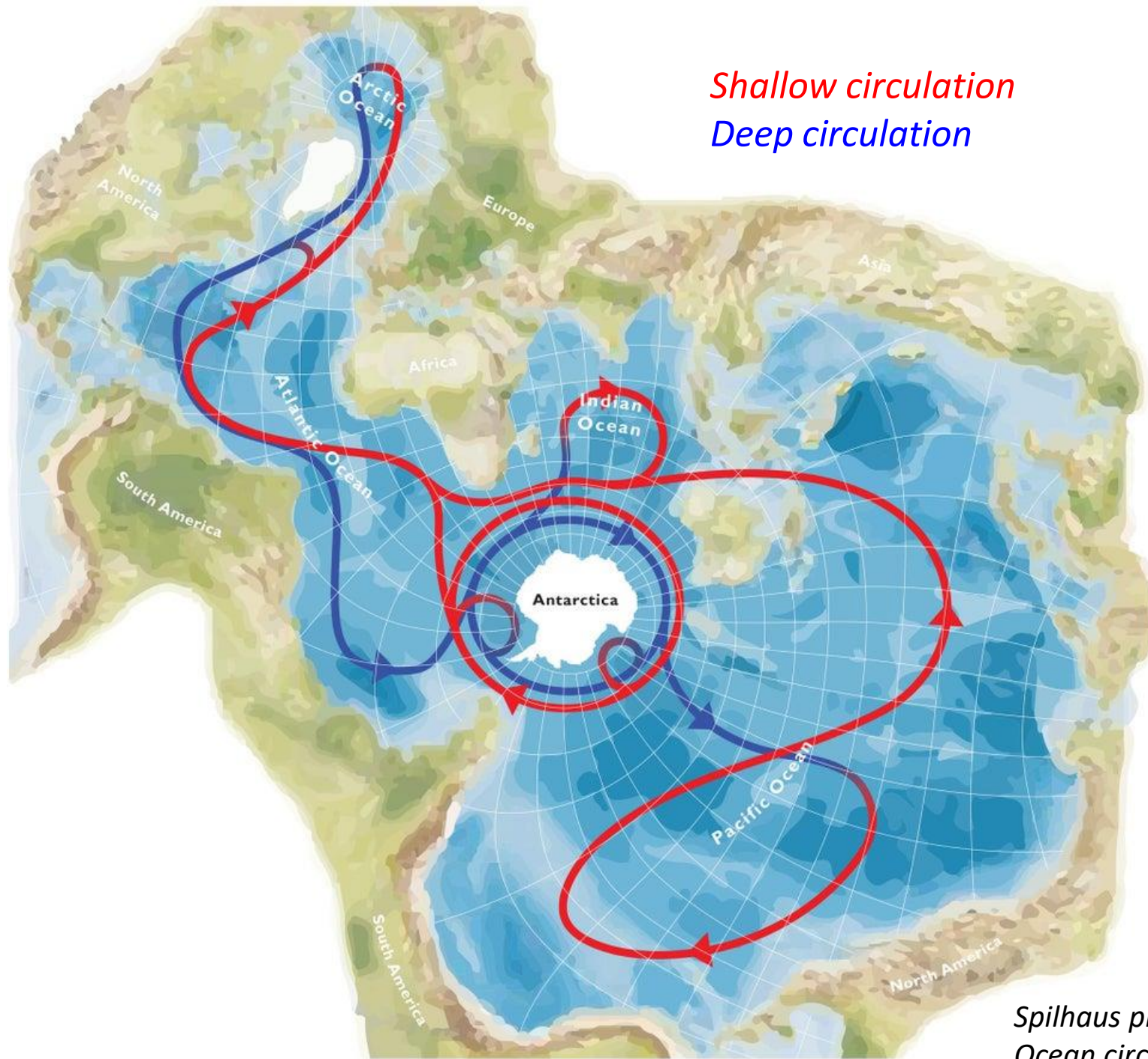
“What happens at the poles does not stay at the poles”





Spilhaus pro





Shallow circulation
Deep circulation

Spilhaus project
Ocean circulation



“What happens at the poles does not stay at the poles”



Journals

JOURNALS

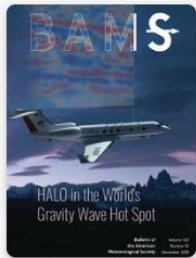
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Bulletin of the American
Meteorological Society

☰ Volume 96: Issue 11 ▼

▼ Sections

Polar Lower-Latitude Linkages and Their Role in Weather and Climate Prediction

Thomas Jung¹, Francisco Doblas-Reyes², Helge Goessling³, Virginia Guemas⁴, Cecilia Bitz⁵, Carlo Buontempo⁶, Rodrigo Caballero⁷, Jakobson⁸, Johann Jungclaus⁹, Michael Karcher¹⁰, Torben Koenigstorfer¹¹, Daniela Matei¹², James Overland¹³, Thomas Spengler¹⁴, and Shuang Yang¹⁵

View Less —





Climate change could cause more severe droughts in '98% of European cities'

More than 500 European cities could face sharp increases in droughts, floods and heatwaves if climate change continues to rise unabated, a new study finds. The UK and...[Read More](#)

EXTREME WEATHER | 21.02.18



English **EN**

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News



Melting Greenland ice sheet will lead to higher sea level rise than previously predicted

New research has shown that the Greenland ice sheet will than scientists had thought, pushing rising sea levels from



SCIENTIFIC ADVANCES



Current Climate Change Reports (2018) 4:223–237
<https://doi.org/10.1007/s40641-018-0106-1>

ARCTIC CLIMATE CHANGE (M SERREZE, SECTION EDITOR)

Societal Impacts of a Rapidly Changing Arctic

Kathrin Stephen¹



Coastal Risk Screening Tool

An interactive map showing areas threatened by sea level rise and coastal flooding. Combining the most advanced global model of coastal elevations with the latest projections for future flood levels.

[CHOOSE MAP](#)

[WATCH TUTORIAL](#)



Coastal Risk Screening Tool

COASTAL RISK SCREENING TOOL

THREATS FROM ANTARCTIC ICE LOSS

Explore how much land different amounts of Antarctic ice loss could put below the tideline. Map reflects local effects that vary from the global average.

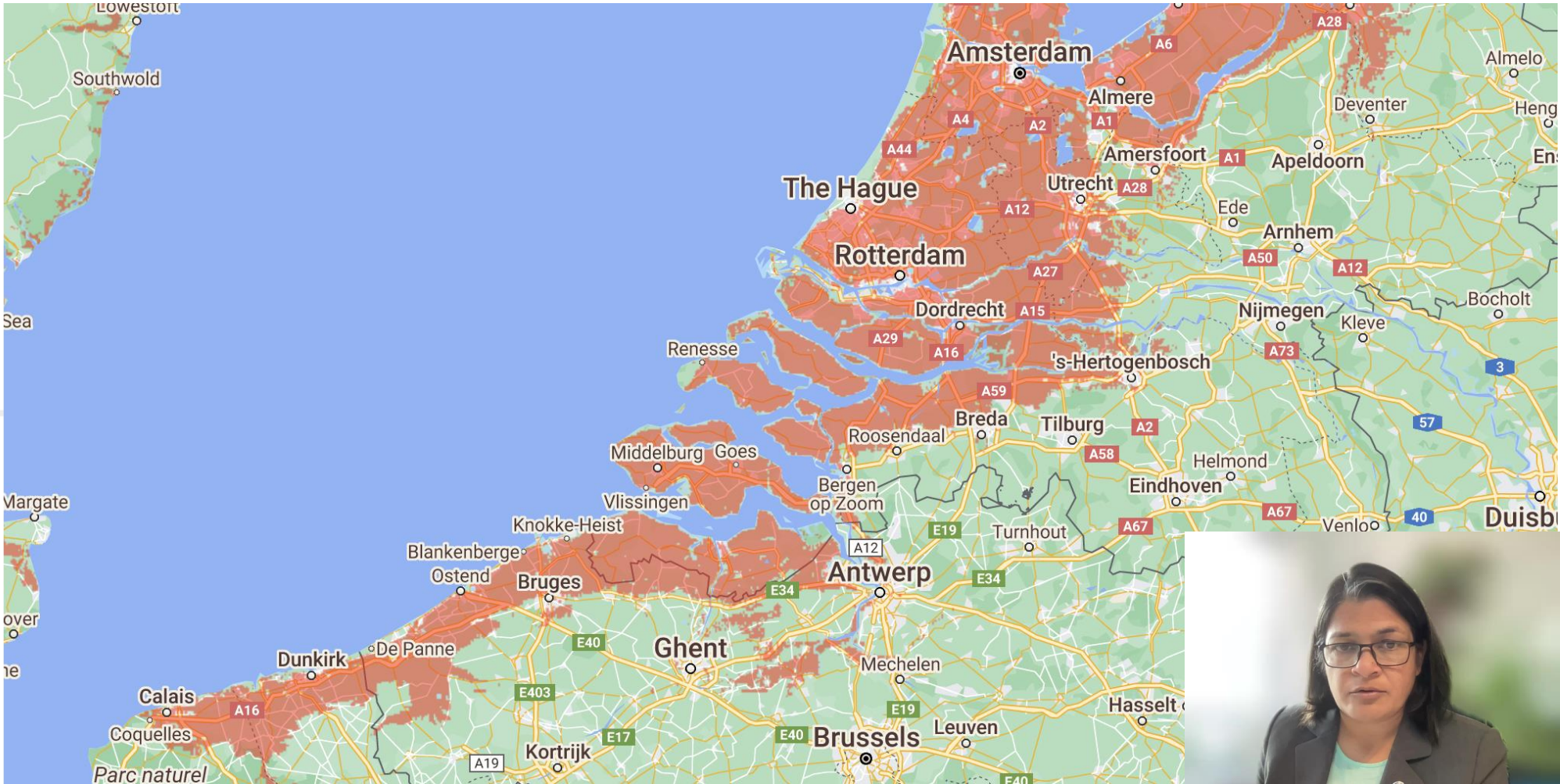
DETAILS AND LIMITATIONS

ICE SHEET

- Antarctica
- Greenland

CONTRIBUTION TO AVG GLOBAL SEA LEVEL

1.0 m





WORLD METEOROLOGICAL ORGANIZATION



UN Decade of Ocean Science for Sustainable Development



ALL-ATLANTIC OCEAN RESEARCH ALLIANCE

Creating an Atlantic Ocean Community by Implementing the Galway and Belém Statements





Scientific Committee
on Antarctic Research



Antarctic Climate Change and the Environment

A DECADAL SYNOPSIS AND
RECOMMENDATIONS FOR ACTION



STEVEN L. CHOWN
RACHEL L. LEHNY
TIM R. NAISH
CASSANDRA M. BROOKS
PETER CONVEY

BENJAMIN J. HENLEY
ANDREW N. MACKINTOSH
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SUSIE M. GRANT



WASHINGTON, D. C. - OCTOBER 15, 1959



CCAMLR

Commission for the Conservation of Antarctic Marine



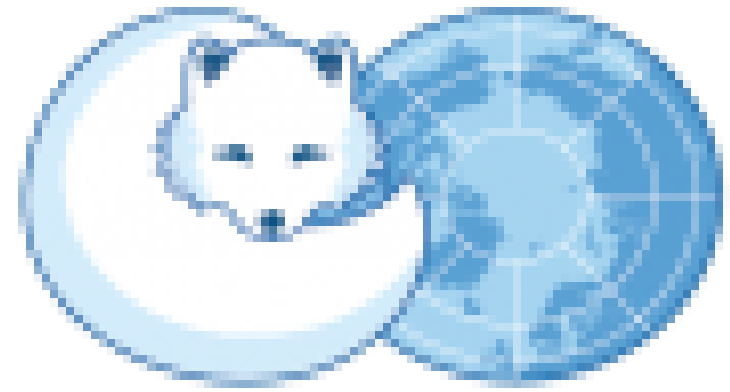


IASC



IASSA

INTERNATIONAL ARCTIC SOCIAL
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ARCTIC COUNCIL



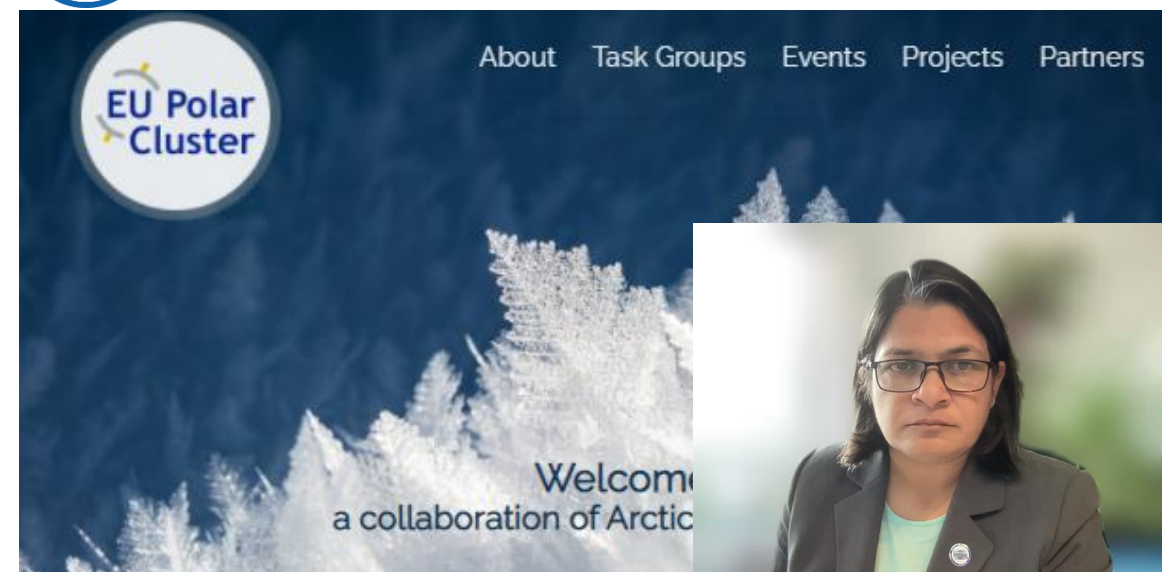
European Organisations



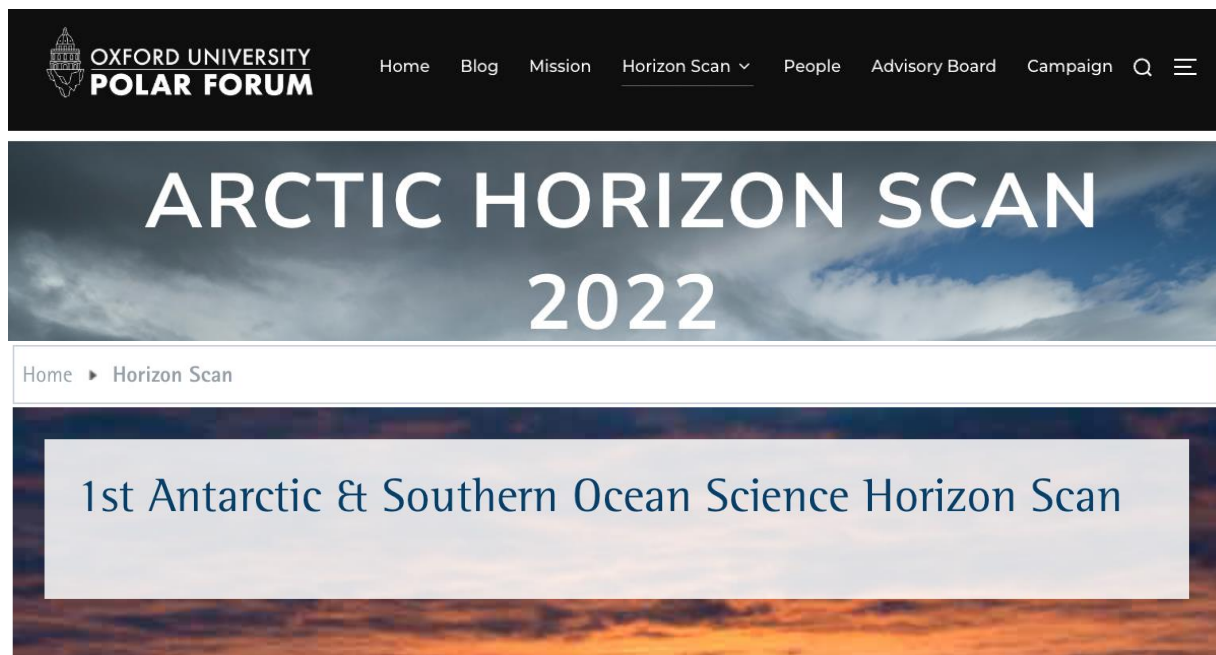
European
Union

THE EU'S ARCTIC POLICY

A SAFE, STABLE, SUSTAINABLE, PEACEFUL AND PROSPEROUS ARCTIC



Scientific Prioritisation activities



Scientific Prioritisation activities



Cross cutting needs



Funding



Crossing
boundaries



Identifying and
connecting
stakeholders



Data,
observations
and modelling



Capacity
building,
inclusion,
diversity



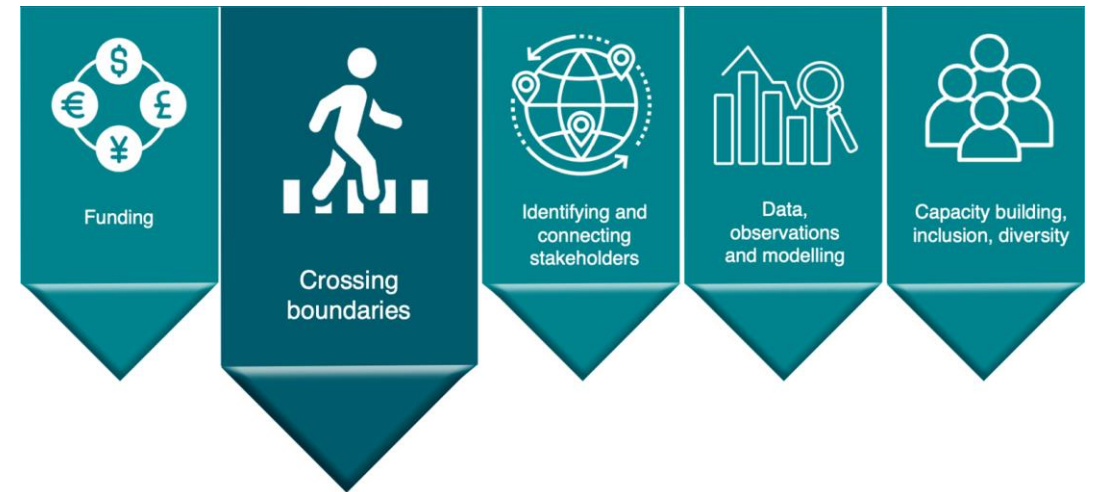
Cross cutting needs - Funding

- Sustained & long-term investment
- Diversity of funding
- Time-scales of funding
- One-time vs Sustained
- Funding for infrastructure and logistics AND funding for science



Cross cutting needs – Crossing Boundaries

- Blurring national and regional borders
- Linking disciplines
- Co-designing global polar research priorities



Cross cutting needs – Connecting Stakeholders

- Improving dialogue at the science-policy interface
- Ensuring societal needs are reflected and addressed through research
- Linking research, industry, infrastructure and logistics



Cross cutting needs – Data and Observations

- Improving spatial and temporal coverage
- Ensuring data and information fully utilised
- Long term sustainability of observatories and data stewardship



Cross cutting needs – Capacity Building, Inclusion and Diversity

- Ensuring diversity of voices at the table, at all stages
- Capacity building in infrastructure as well as science
- Improving technology for better access (e.g. open access)



Messages to carry with you:

- Highlight relevance & importance of the Polar regions in a global context
- Strengthen links between all stakeholders
- Tighten knowledge and data gaps
- Secure funding, short and long term
- Cross disciplinary boundaries
- Build capacity in infrastructure
- Ensure diverse voices are heard

THANK YOU

