



# **Blue Action WP5 Workshop**

## **10-12 July 2017**

### **GERICS, Hamburg**

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Blue Action has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 727852



# H2020 Blue-Action:

## Arctic Impact on Weather and Climate



### What?

- Blue-Action is a research and innovations project funded by the European Union's Horizon 2020 programme
- Responded to the Blue-Growth BG-10-2016 Arctic call

### Why?

- To actively improve our ability to describe, model, and predict Arctic climate change and its impact on Northern Hemisphere climate, weather and their extremes.
- **To deliver valued climate services of societal benefit.**
- To make a significant contribution to YOPP, AR6 and C3S.



### How?

- Through synthesising observations
- Assessing model performance
- Designing and performing coordinated multi-model sensitivity experiments,
- Developing innovative initialization techniques.

# H2020 Blue-Action:

## Arctic Impact on Weather and Climate



### Who are we?

- We bring together experts from 40 organizations in 17 countries on three continents
- We work directly with local communities, businesses operating in the Arctic and industrial organizations, local authorities and maritime industries.
- Blue-Action is coordinated by *Steffen M. Olsen* (DMI) and *Daniela Matei* (MPI).

### When?

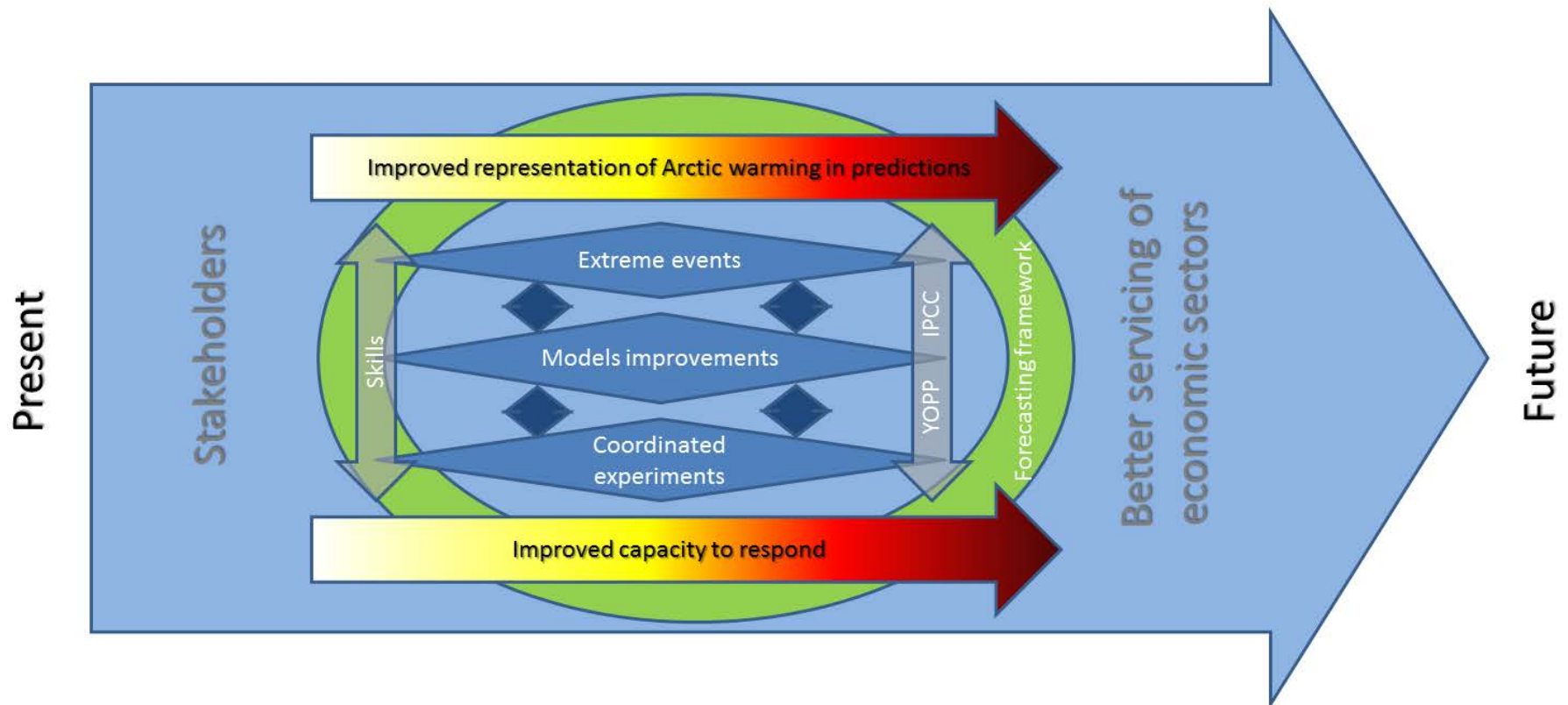
- Blue-Action started 1 December 2016 and is a 4-year project (51 months).



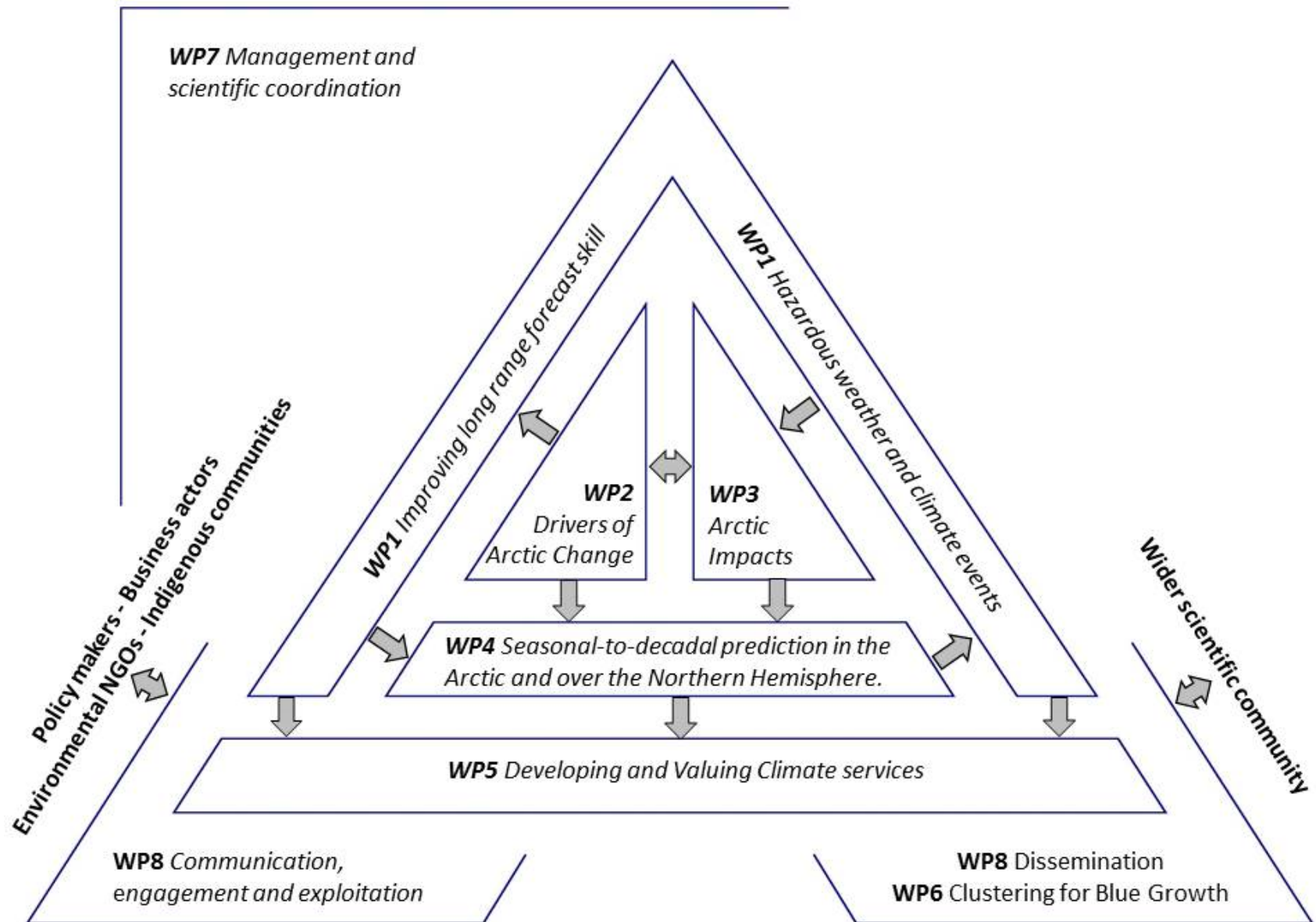
# Overarching Objective

## - The concept

To actively improve our ability to describe, model, and predict Arctic climate change and its impact on Northern Hemisphere climate, weather and their extremes, and to deliver valuated climate services of societal benefit.



# Project Structure



# Blue Action WP5

## Developing and Valuing Climate Services

Translate the skill of forecast models into products that are relevant to stakeholders

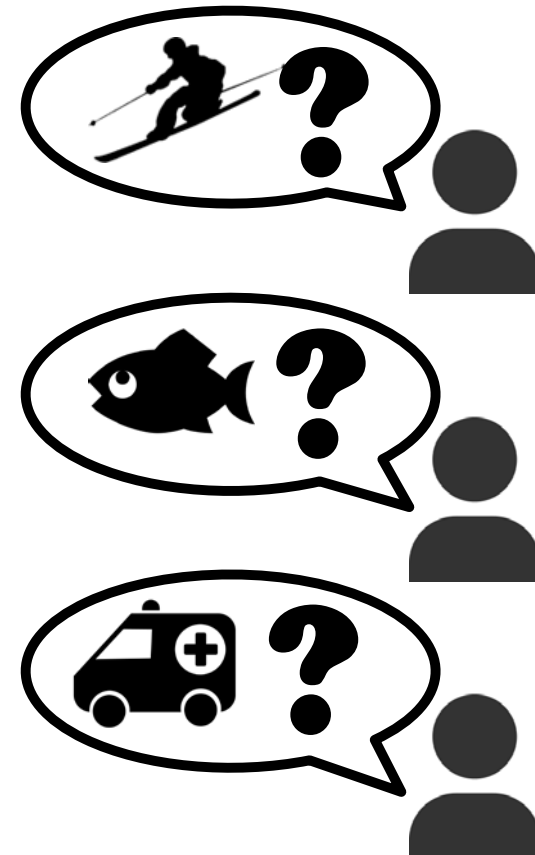
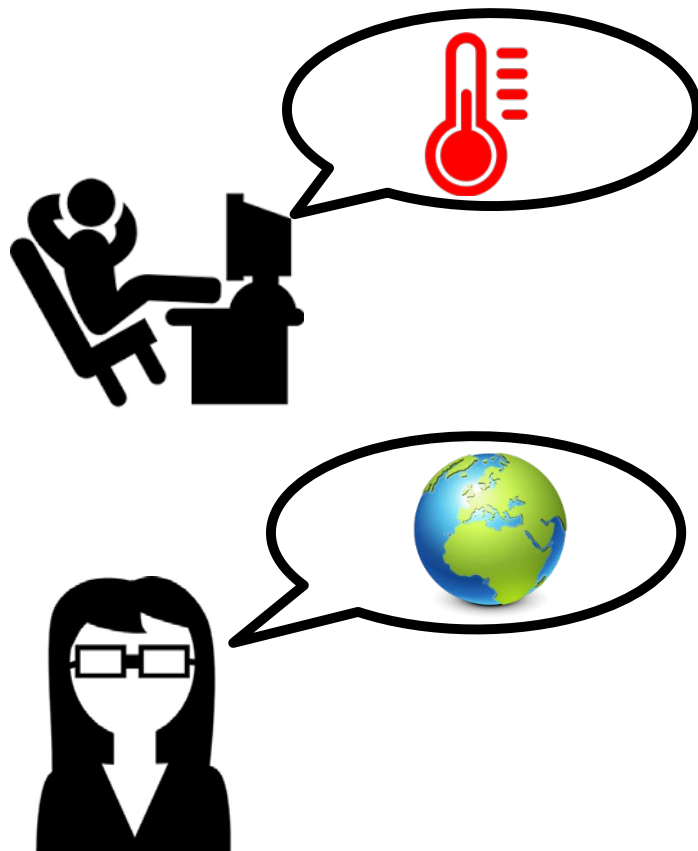
Demonstrate the value of these products to stakeholders and estimate their economic value

# "Climate data is not climate information"

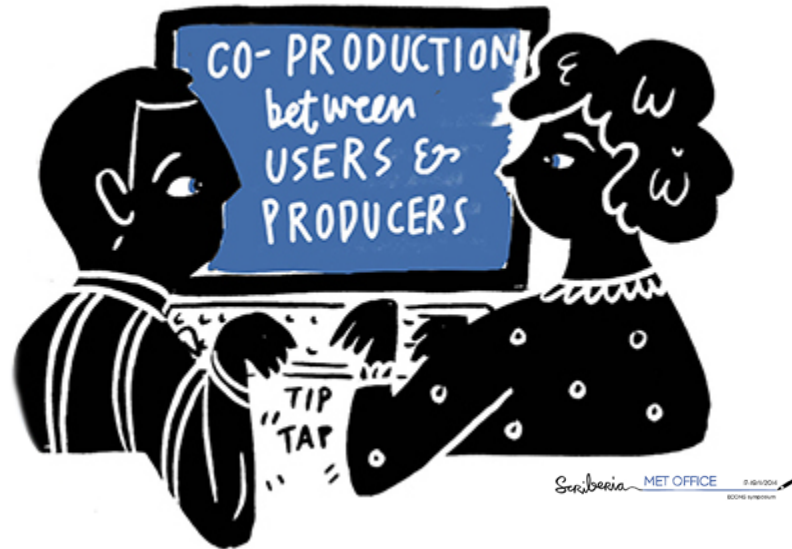
- Francisco Doblas-Reyes

Climate models  
& modellers

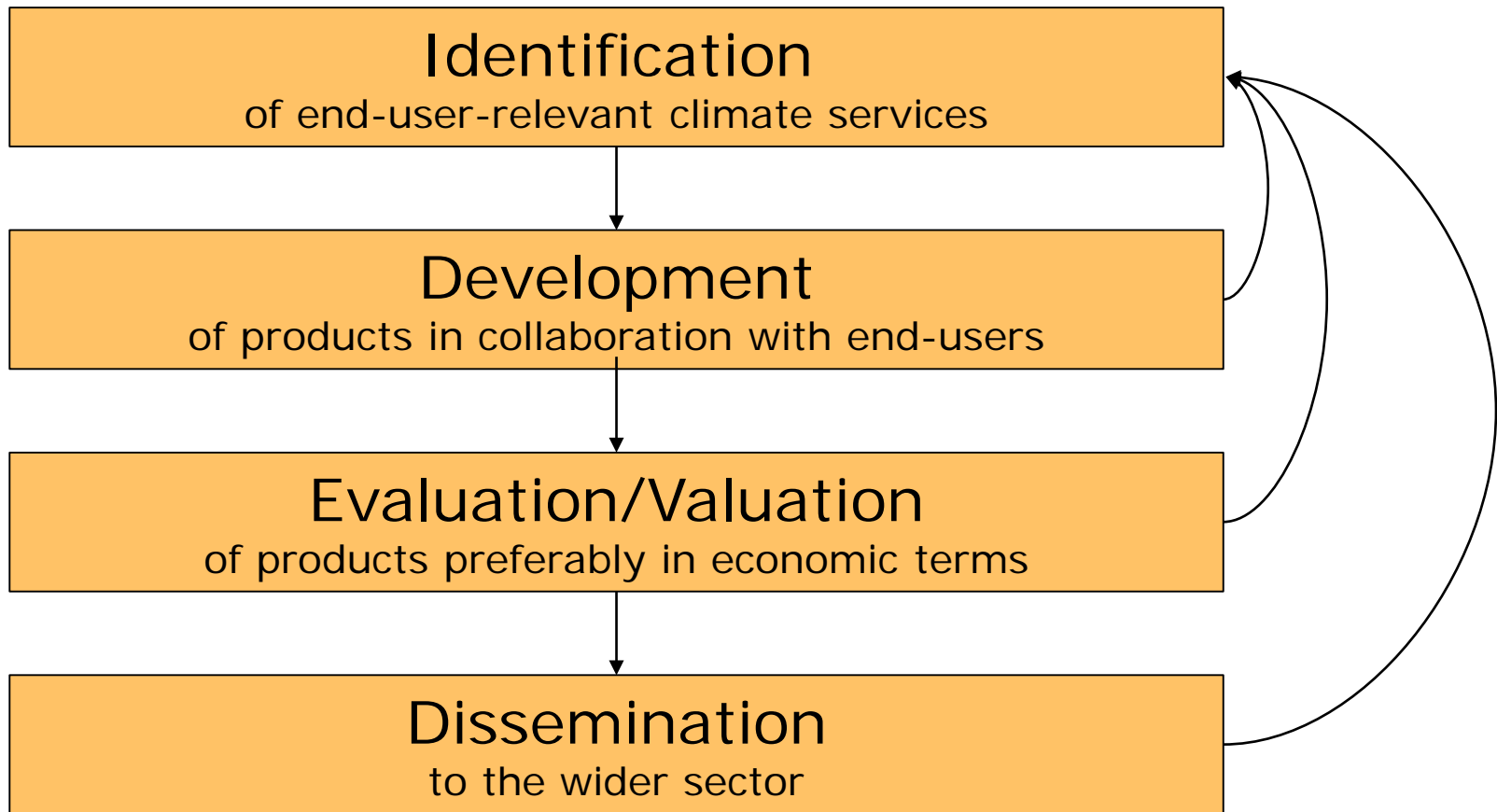
End-users &  
stakeholders



# End-Users are Key



# Five Case Studies Applying a Common(ish) Approach

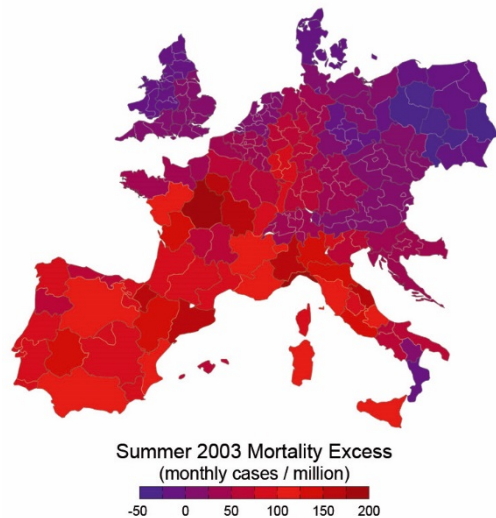


# Temperature Related Mortality (TRM)

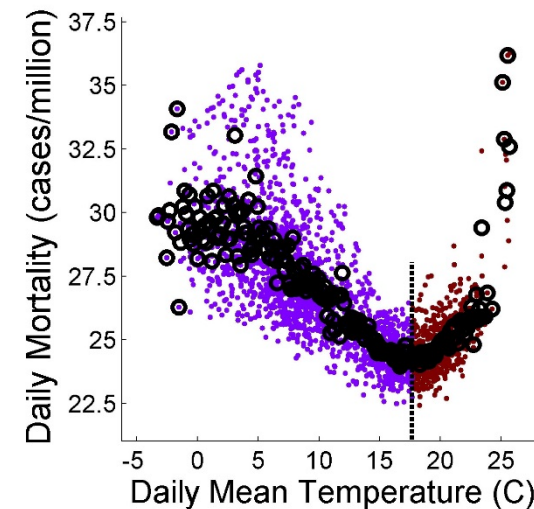
(Joan Ballester, IC3)



Develop forecast scheme for thermal stress and TRM for 160 administrative units across Europe



e.g. Excess Mortality due to  
2003 Summer Heatwave



Both summer and winter  
temperatures are important

# Winter Tourism Industry in Lapland (Pamela Lesser, U. Lapland)



ARCTIC CENTRE  
University of Lapland



Seasonal forecasts of winter conditions to 1) allow for planning of activities & 2) compare with Alps to establish competitiveness of Lapland



Planning of snow-making and storage requirements

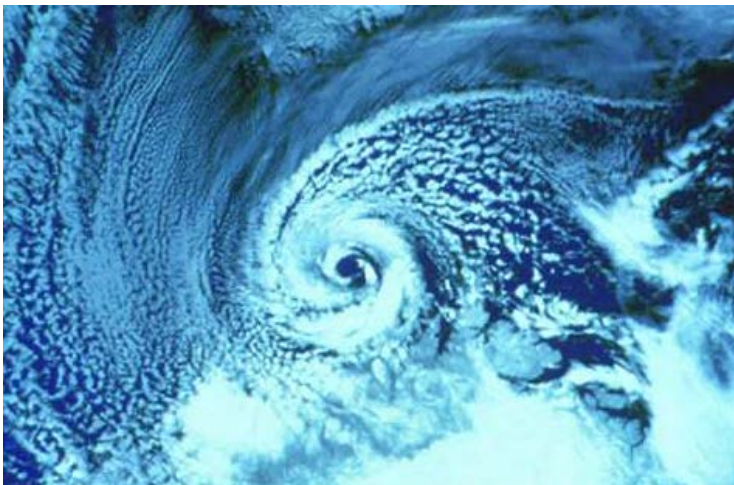


Planning of alternative activities

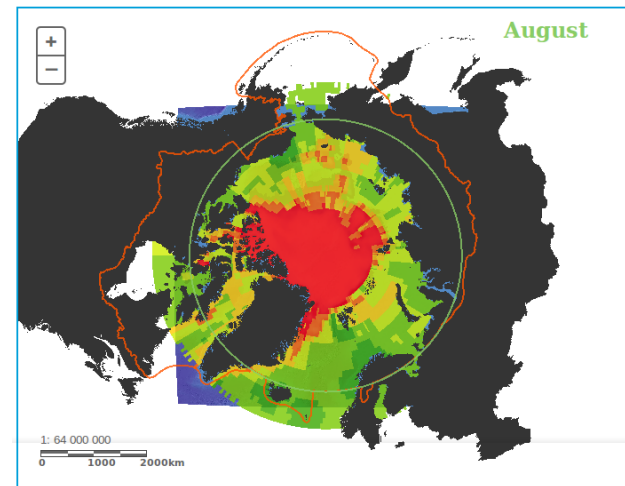
# Polar Low Forecasts (Erik Kolstad, Uni Research)



Prediction of cold air outbreaks and polar low environments to incorporate into shipping risk assessment tools



Polar Low in Barents Sea



Safety risk map for August

# Climate Services for Fisheries

## (Mark Payne, DTU Aqua)



Develop forecasts for the distribution, productivity and timing of commercially important fish stocks



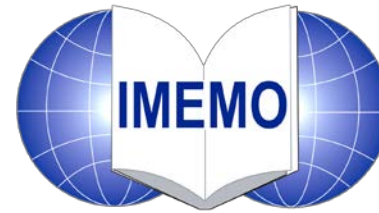
Applications in scientific monitoring of fish stocks



Planning and performance of commercial fisheries

# Impacts of resource extraction on Russian Arctic

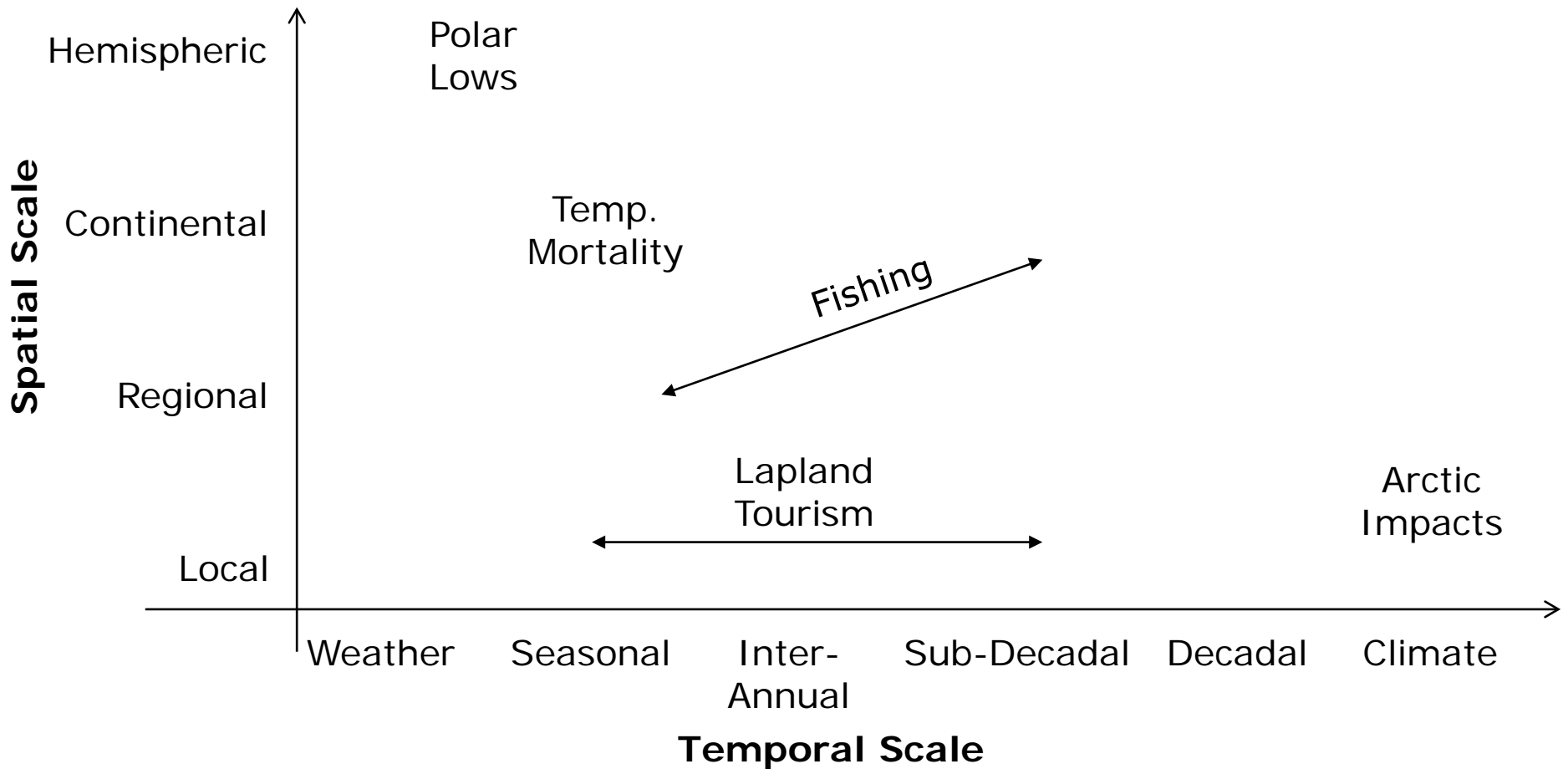
(Kathrin Stephen, IASS Potsdam)



Collaboratively develop scenarios outlining possible impacts of climate change on stakeholders in the region



# Case Study Overview



# What can we learn from GERICS?

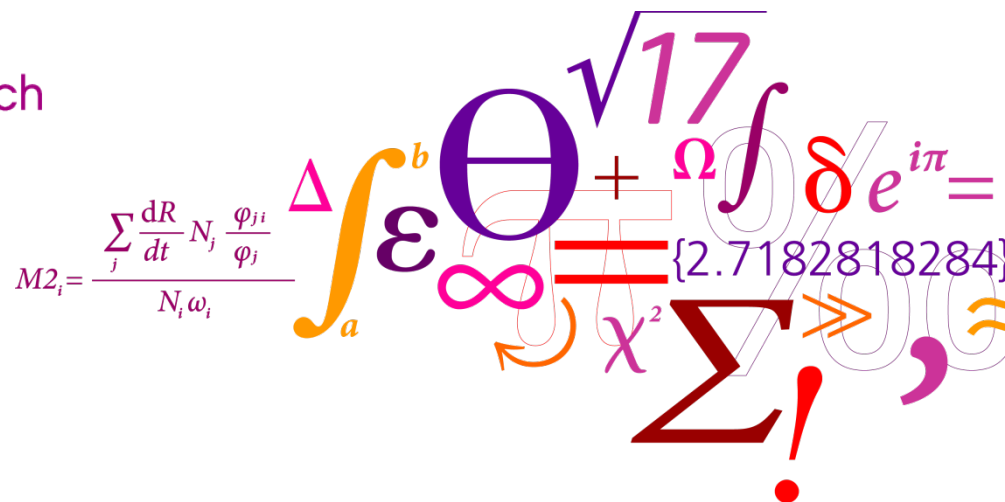
- What is the optimal route to developing climate services? And how does it work in reality?
- How do we get the most out of stakeholders? What is the best way to engage them?
- Examples of successful (and unsuccessful) climate services
  - What elements make them succeed / fail?
- How we generalise our results from a user to the rest of the sector? And beyond?
- How do we place a value on a climate service?

# Blue Action WP5

## Developing and Valuing Climate Services



DTU Aqua  
National Institute of Aquatic Resources



# Acknowledgements



Arctic Impact on Weather and Climate

The research leading to these results has received funding from the European Union Horizon 2020 research and innovation programme under grant agreement No 727852 (Blue Action)