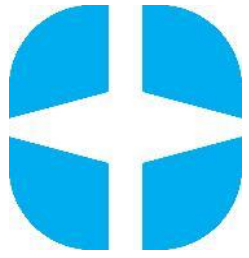


APP4SEA

*Improving preparedness for
oil spill response in the Arctic*

Prof. Eva Pongrácz, University of Oulu

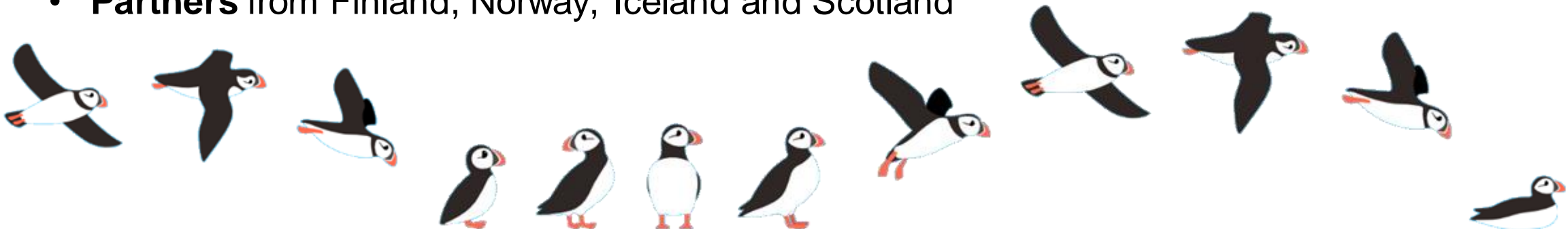
Arctic Cooperation Conference, 17.-18.9.2019, Copenhagen

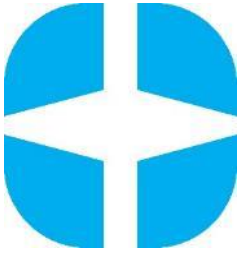


Arctic Preparedness Platform for Oil Spill and other Environmental Accidents (2017-2020)

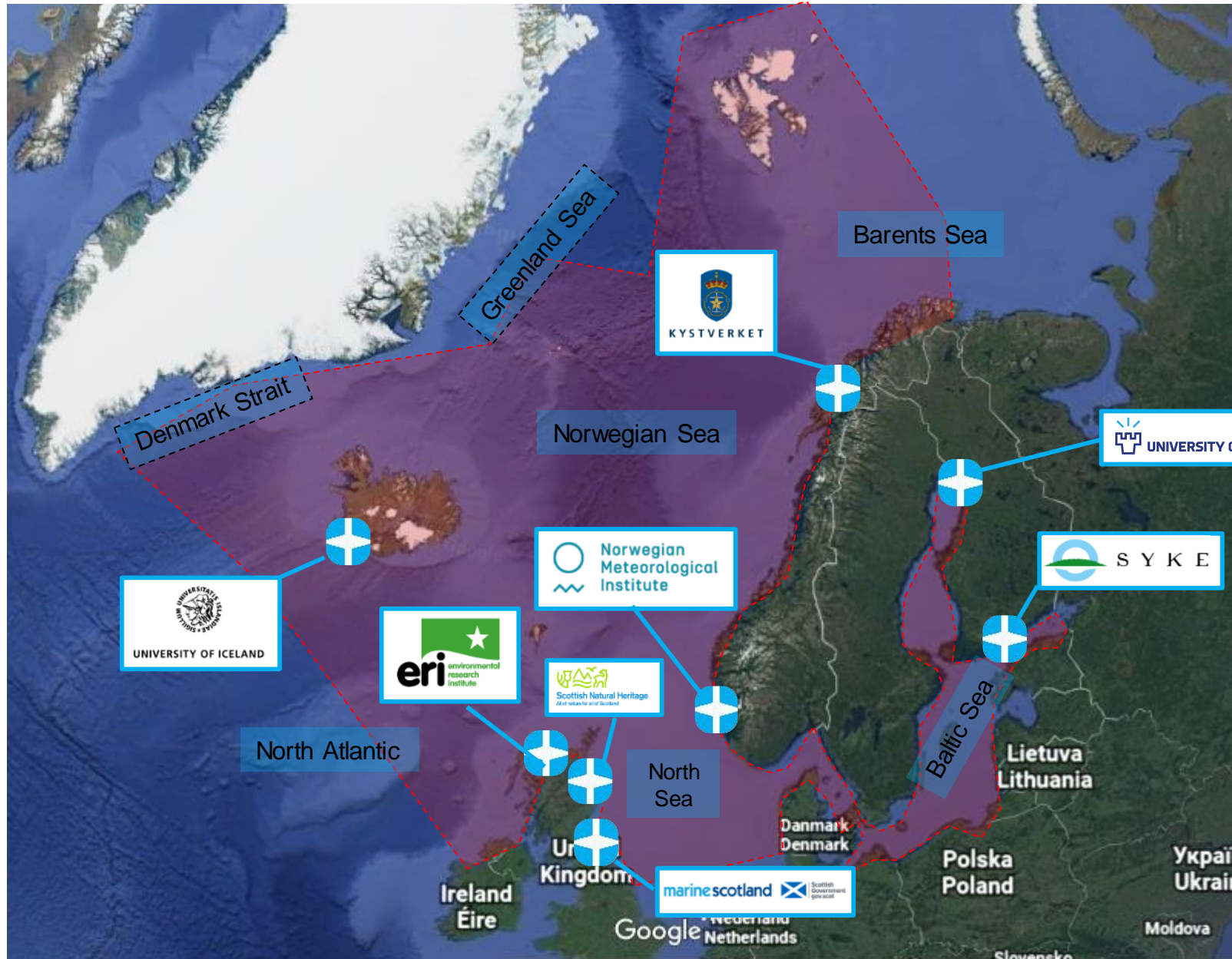
• Objectives

- Sharing best practices on Arctic oil spill response (OSR) methods and technologies considering the ecological vulnerability of the Arctic
- Cross-border collaboration in OSR
- Raise awareness of local authorities and communities of oil spill risks
- Create an open access smart map and interactive educational materials
- **Funded** by the Northern Periphery and Arctic Programme 2014-2020 (and the project partners)
- **Partners** from Finland, Norway, Iceland and Scotland



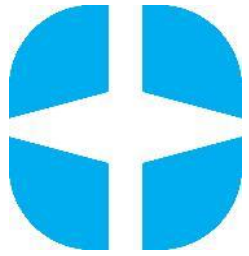


APP4SEA partners and marine areas in our interest



Sea area of interest:
~ 5,2 million km²

Land area of EU:
- 4,476 M km²



What app for sea?

A mobile interface for the general public

Smart map for professionals

Map:

OSR centres
Ship movements
Weather zones
Seabird vulnerability

Database:

Simulations and data on oil behaviour in cold waters

OpenDrift:

Access to Ocean trajectory model

Case studies

Simulations
Reports
Useful links

Social media posts

Interactive website:

To be aware of trends, risks and readiness levels

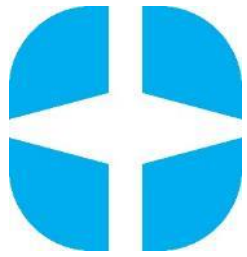
Infographics:

To visualize info for educational purposes

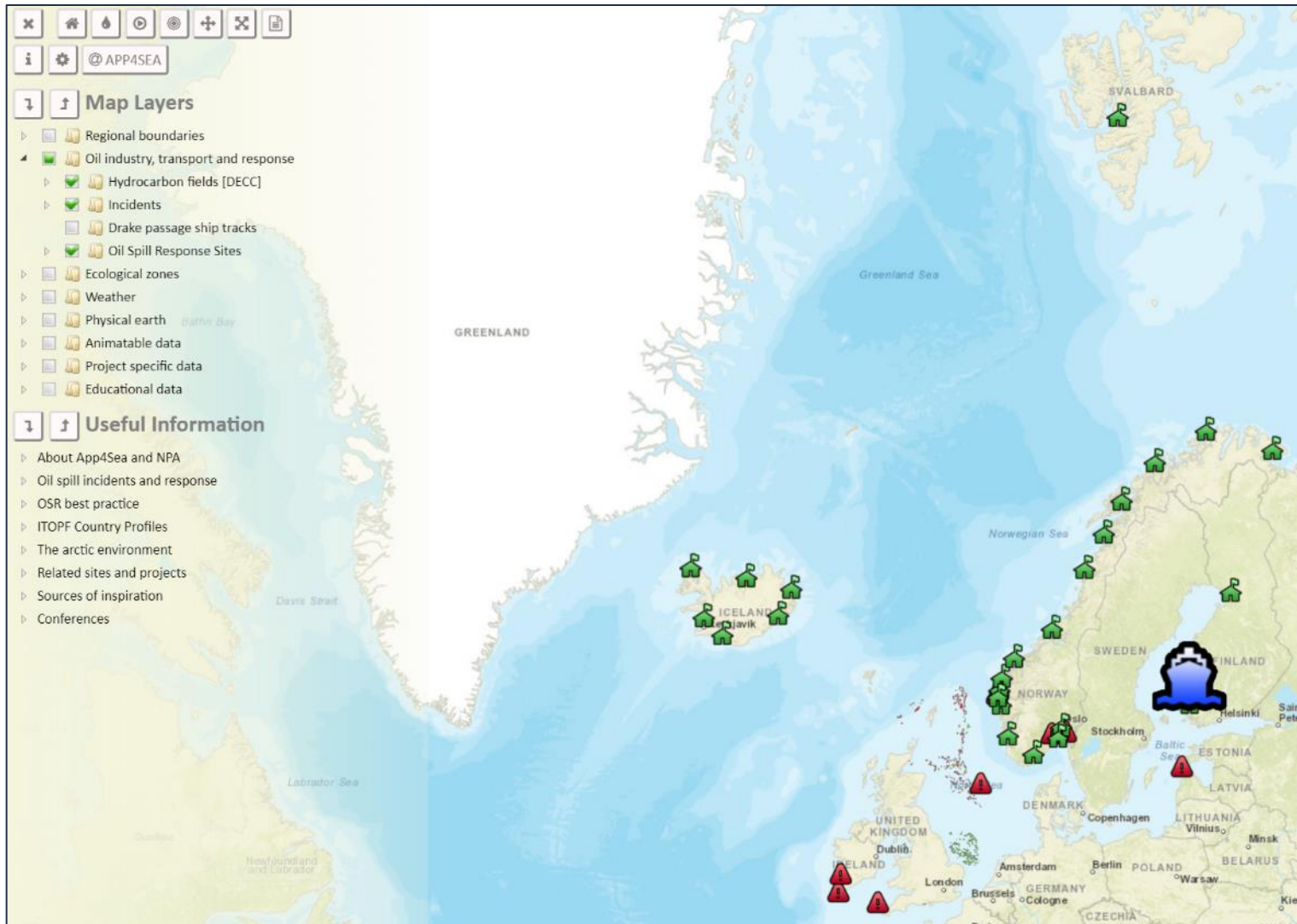
Animations and demos:

To visualize accidents and their impacts

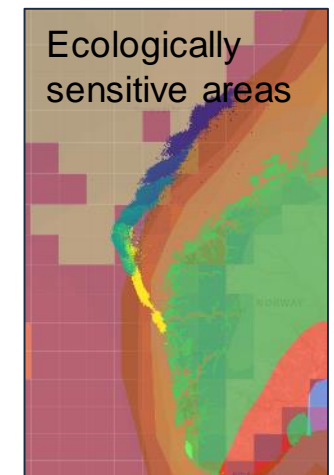


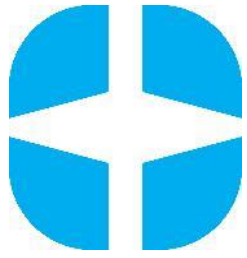


The APP4SEA map



Oil spill response sites and simulated drift models





The Arctic marine aspect



- Multiple stressor and their cumulative impacts
- Climate change impacts
 - The Arctic is warming twice as fast at the rest of the planet
- Ocean acidification is closing critical levels
 - Levels are higher in Arctic seas than globally
- A major pollution concern is marine plastics
 - Arctic Ocean is a dead end of floating plastics
- Pollution from ships, coastal activities, oil & gas
 - Short term climate forcers, such as black carbon and methane are also gaining attention
- Far too little is known about Arctic biodiversity, in terms of marine ecosystems
 - Loss of habitat/sea ice decline
 - Northward shifting of Arctic species

PAME
Protection of the Arctic Marine Environment



A WORKING GROUP OF
THE ARCTIC COUNCIL



Northern Periphery and
Arctic Programme
2014-2020

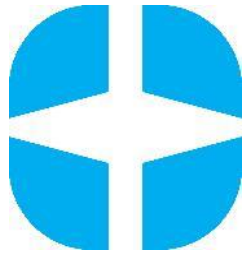


EUROPEAN UNION
Investing in your future
European Regional Development Fund

APP4SEA

ARCTIC PREPAREDNESS PLATFORM
FOR OIL SPILL AND OTHER ENVIRONMENTAL ACCIDENTS

 Arctic
Cooperation

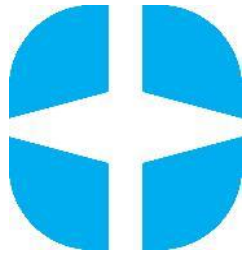


The Arctic: Bottom-up vs. top-down



- The Arctic is vast
- Problems transboundary in nature
- Understanding Arctic change requires a systemic perspective that integrates human and natural dynamics
- **Transnational and transdisciplinary cooperation is indispensable**

Map data ©2019 Google, ORION-ME, SK telecom, INEGI Finland Terms Send feedback 1000 km



Messages from APP4SEA

- Challenges of the Arctic
 - The state of the Arctic environment indicates deepening unsustainability
 - Cumulative impacts from several stressors are inhibiting the ability of ecosystems to resist and recover
- What can we learn from the Arctic?
 - The Arctic seas unite, cooperation of Arctic nations and communication across sectors is necessary
 - We scale and pace of change is unprecedented, we need to act fast, adaptation and mitigation in parallel
- The importance of collaboration
 - Cooperation of research, environmental authorities and regional governance ensures that competing needs and interests are taken into consideration
 - Based on sound science, sharing best practices, action rooted in local communities
 - This would not have been achieved without the funding of the NPA Programme
- Benefits to local communities
 - Ultimately, our major stakeholders and major beneficiaries are the people of Arctic communities
 - The issue at hand is the future of these communities; raising awareness and communication are key

Thank you!



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