

AMAP

Arctic Monitoring and Assessment Programme

Implementing EA for contaminants in the Arctic

August 23-25, 2016, Fairbanks, AK



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AMAP Deputy Executive Secretary

Outline

- **AMAP mandate**
- **Monitoring programmes**
- **Assessments**
- **International conventions**



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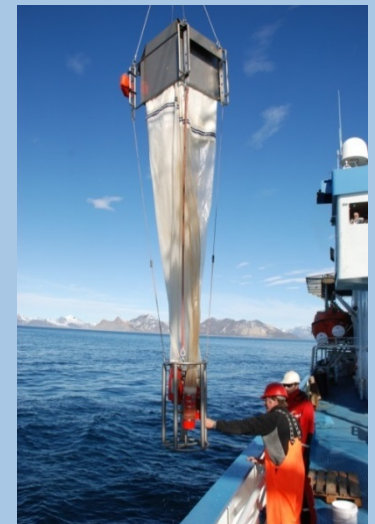
Arctic Monitoring and Assessment Programme

AMAP's mandate

To monitor and assess the status of the Arctic region with respect to pollution and climate change



Alert, Nunavut. Defence R&D Canada/Janice Lang



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Arctic Monitoring and Assessment Programme

AMAP's geographical coverage



AMAP's Trends and Effects Monitoring Program

- **Harmonized for monitoring the trends and effects of contaminants and climate change elements across the circum-Arctic region**
- **Largely based on ongoing national and international monitoring and research activities and AMAP national implementation plans (NIPs).**
- **Divided into different sub- programs and coordinated with and complements the CBMP**
- **Essential and recommended parameters**

Monitoring- pathways

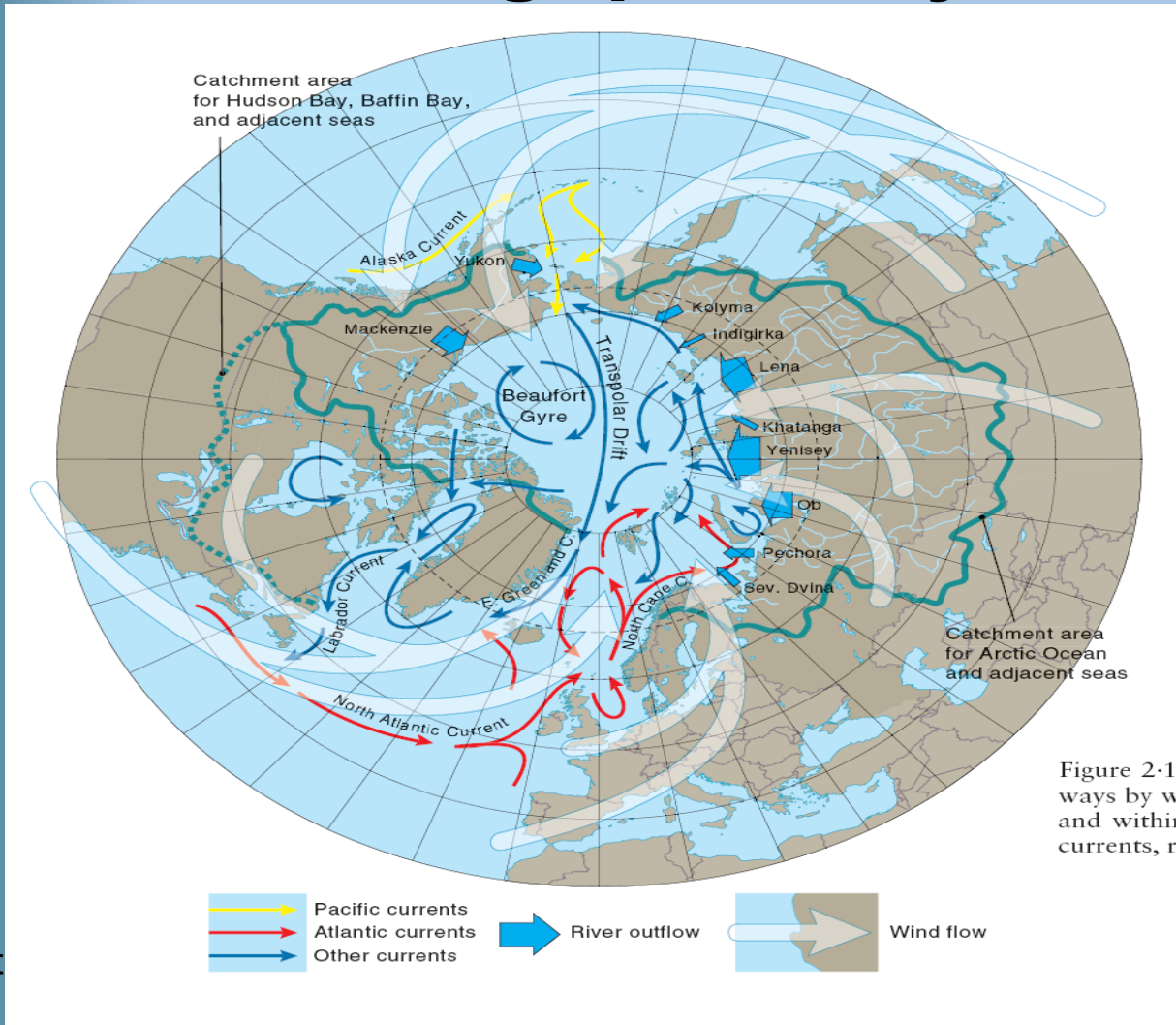
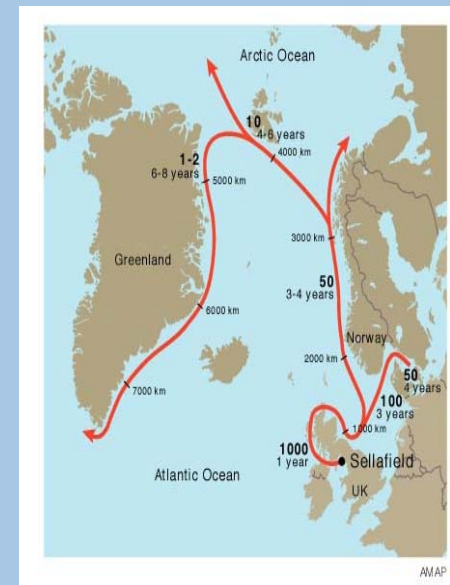


Figure 2-1. Ways by which contaminants are transported and within, currents, river outflow, and wind flow.





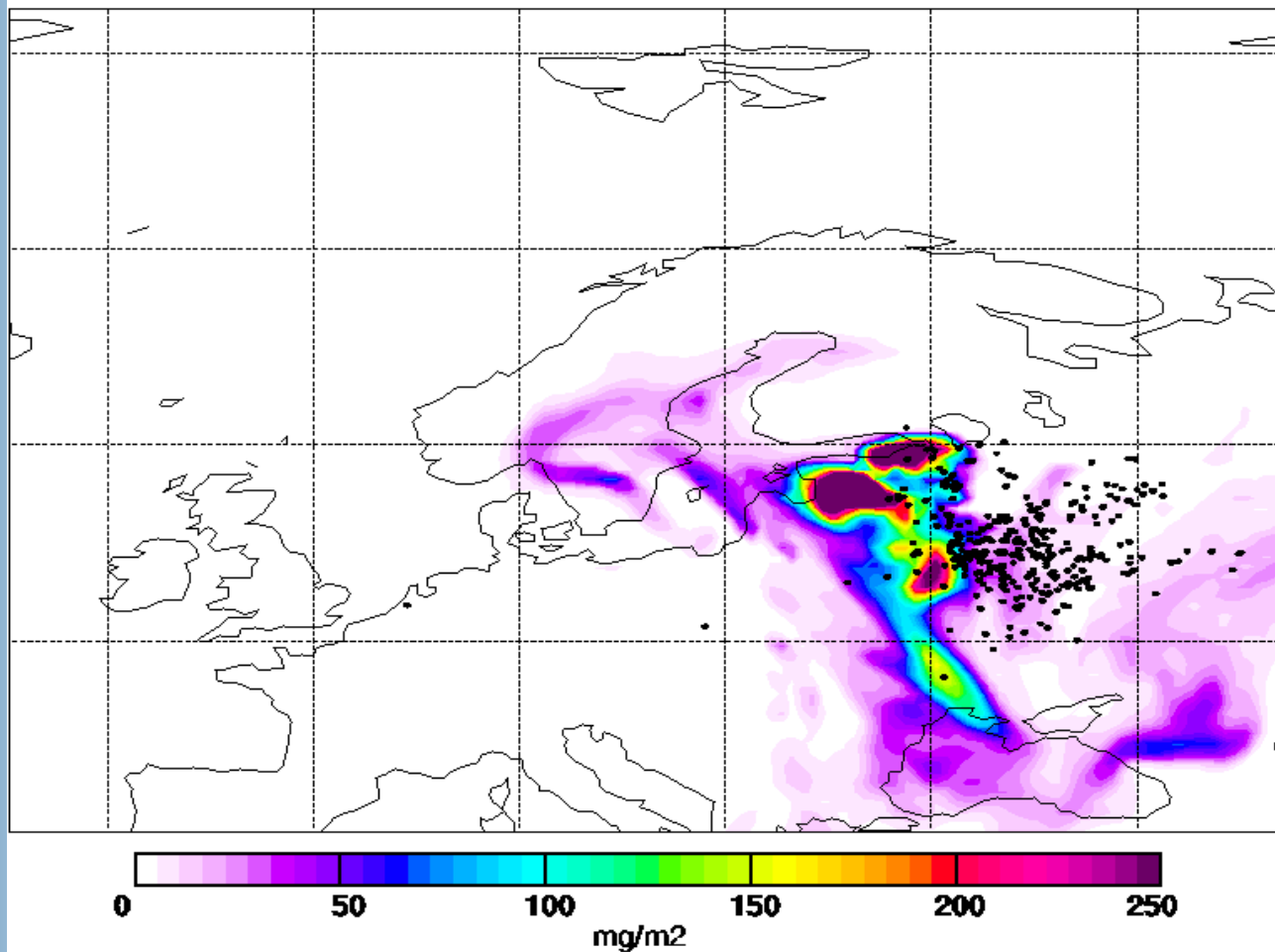
View from the station on a clear day...

And during the 2nd episode in May, 2006



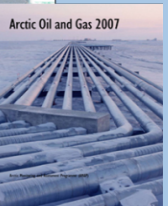
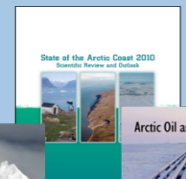
<http://www.amap.no>

Simulation start 20060407. 0 Actual time 20060425. 0

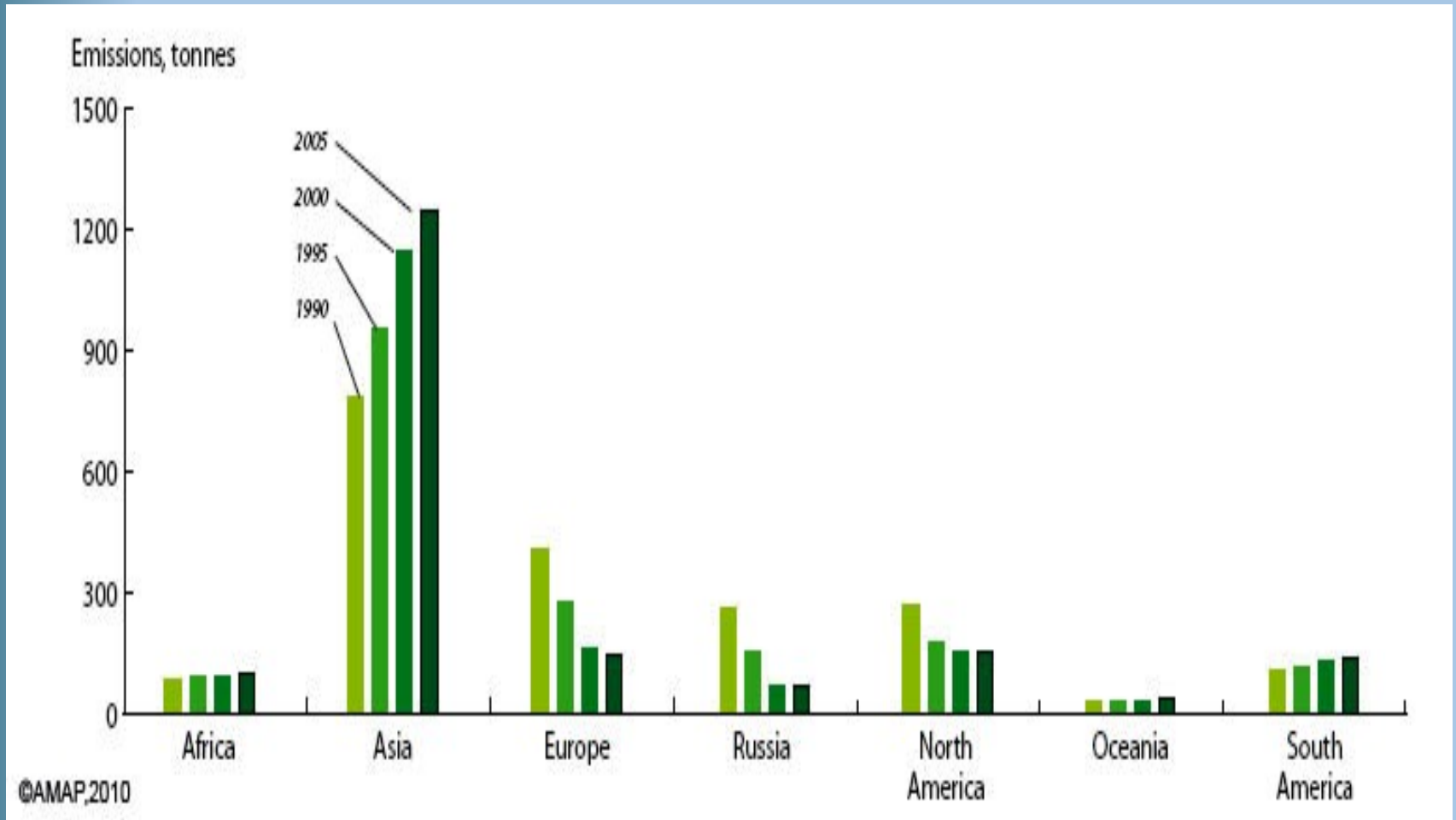


Mercury assessment:

- Long range transport
- High dietary exposure
- International actions



Global emissions of mercury



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Monitoring of air, human blood and biota



Air

- Air (high volume)
- Air monitoring

Freshwater fish

- Arctic char, lake trout
- Burbot
- Pike

Marine fish/shellfish

- Blue mussels
- European plaice
- Atlantic cod

Marine mammals

- Ringed seal, northern fur seal
- Beluga
- Polar bear
- Killer whale

Seabirds

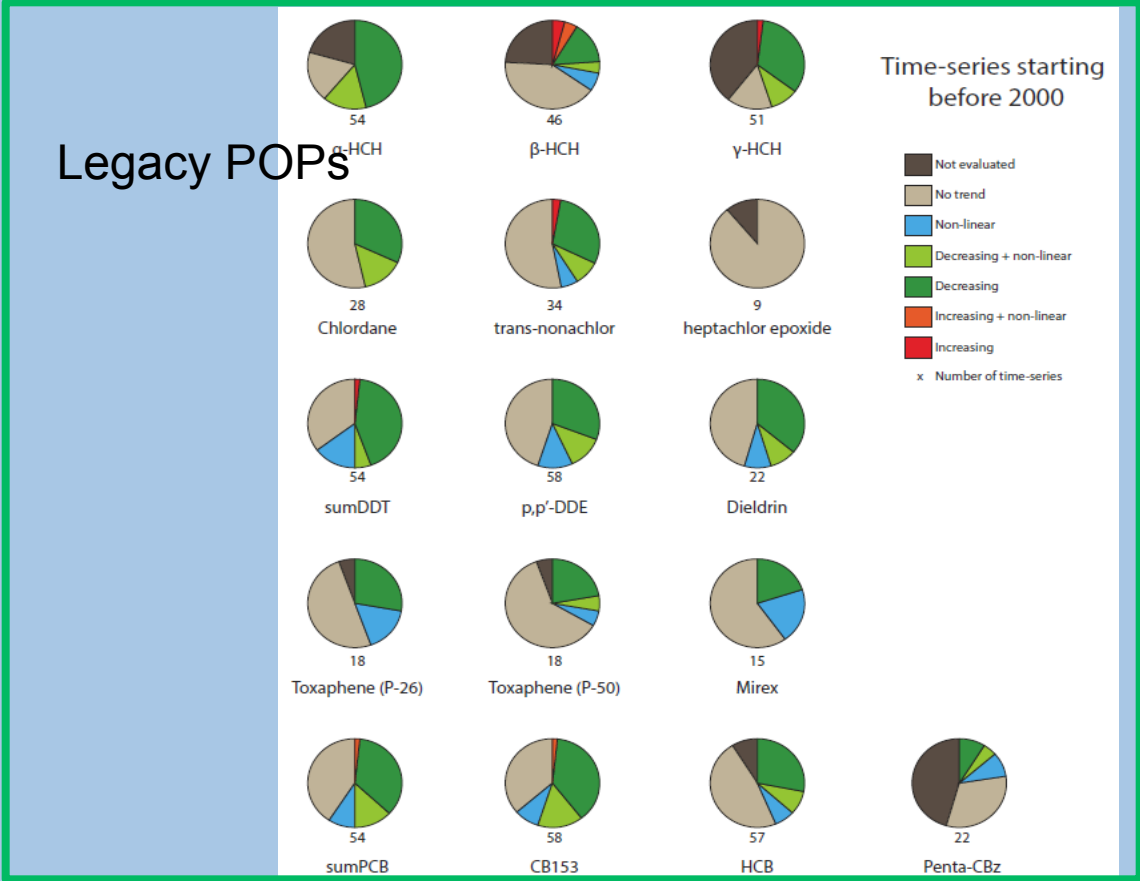
- Thick-billed murre/black guillemot, common murre
- Black-legged kittiwake, northern fulmar, glaucous gull

Time-series reported/analysed Time series not yet available

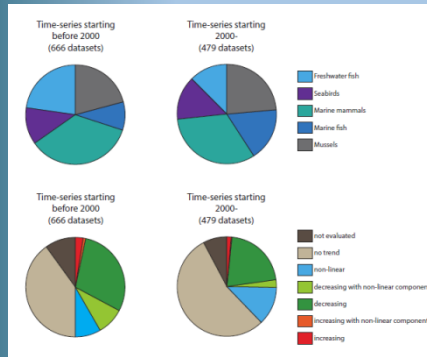
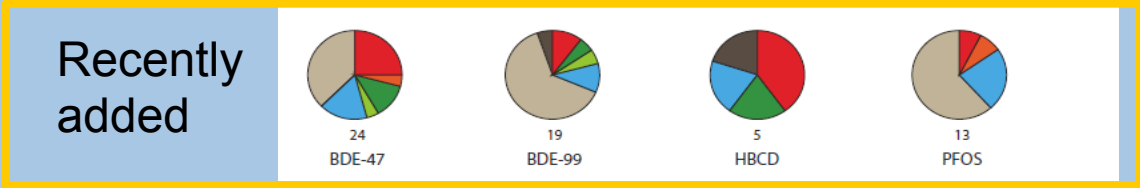
Biota time trends



Legacy POPs



Recently added



POPs of Emerging Concern

Arctic concern

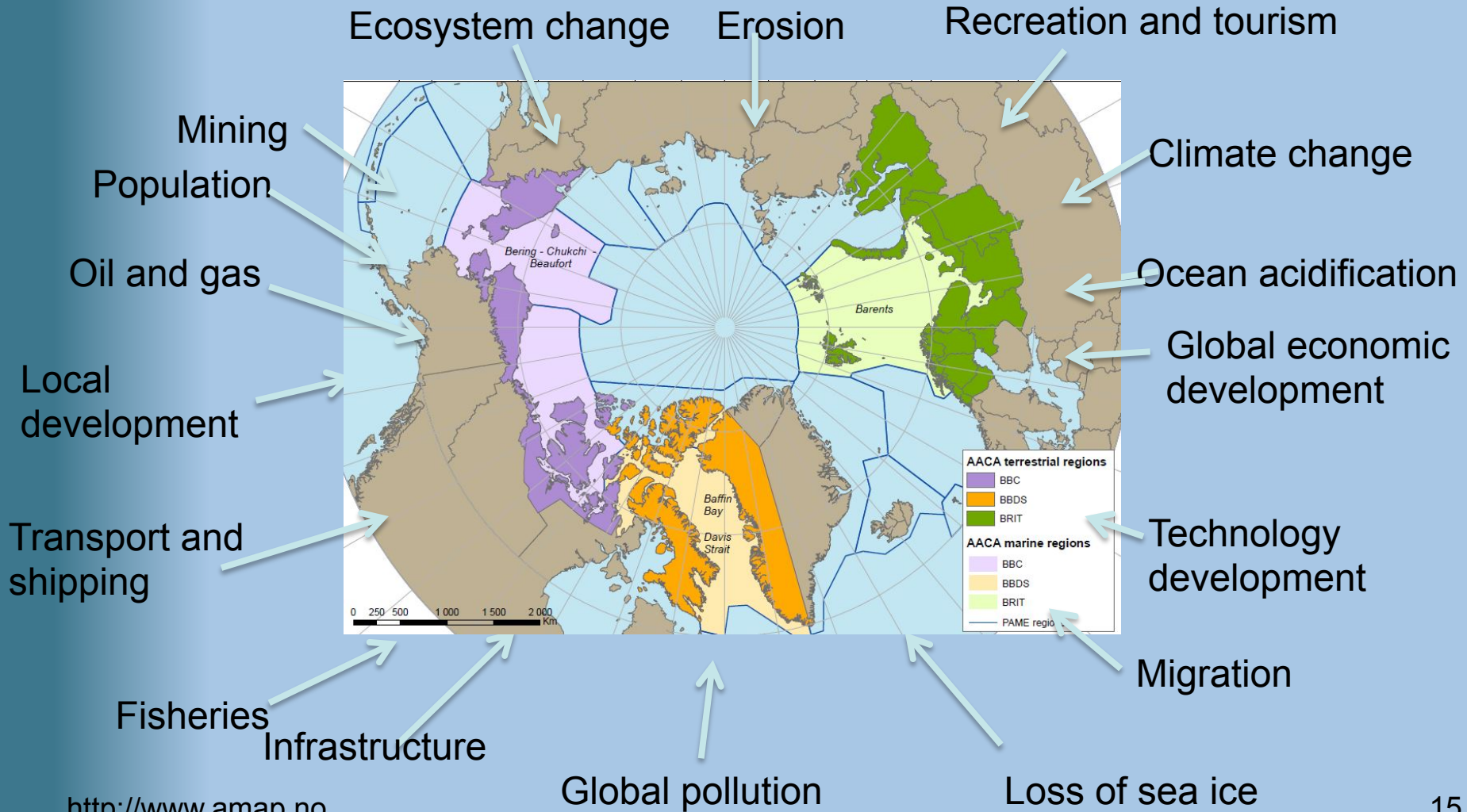
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- Per-polyfluorinated compounds (PFCAs, PFSAAs, etc.)
- Brominated flame retardants (BDE-209, HBCD, DPTE, etc.)
- Chlorinated flame retardants (Dechlorane plus, Dechlorane 602, etc.)
- Organophosphate-based flame retardants and plasticisers (TnBP, TCEP, TCPP, TDCPP, etc.)
- Phthalates
- Short-chained chlorinated paraffins (SCCP)
- Siloxanes
- Pharmaceuticals and personal care products (PPCPs)
- Polychlorinated naphthalenes (PCN)
- Hexachlorobutadiene (HCBD)
- Current use pesticides (Dicofol, Pentachlorophenol/anisole, etc.)
- Mono-dibutyltins
- PACs (e.g. nitro-PAHs, hydroxyl-PAHs, alkyl-PAHs)
- PCB11 from smelting
- Halogenated natural products (naturally formed BDEs, OH-BDEs, MeO-BDEs, brominated dioxins etc.)

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Some drivers of Arctic change



Future (re)direction

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Policy development

Perception that POPs is a solved problem?

- Continuing concerns about food and water security



A Changing Arctic

- LRT (global) vs. within Arctic (local) sources
- Influence of climate change?
- Influence of increasing regional development?



Environmental Specimen Banks

- Retrospective analyses of emerging contaminants
- Immediate time trends
- International ESB network



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Thank you for listening!

More information at www.amap.no

