SUSTAINING ARCTIC OBSERVING NETWORKS (SAON) DATA MANAGEMENT IN SUPPORT OF ASSESSMENTS

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AMAP

Mandate:
"to monitor the levels of, and assess the effects of, anthropogenic pollutants in all components of the Arctic environment."

*Established in 1991, Working group of the Arctic Council from 1996*

AMAP

Examples of current AMAP activities:
- Air quality and climate modelling
- Chemicals of Emerging Arctic concern
- Emissions from wildfires
- Plastics and microplastics
- Methane release from permafrost
- Societal impacts of climate change
- Contaminants and their effects on wildlife and human health
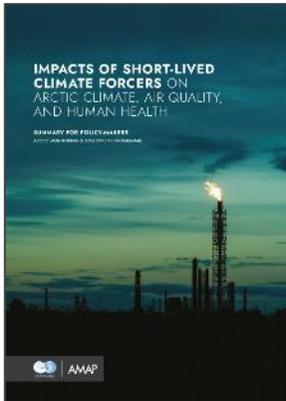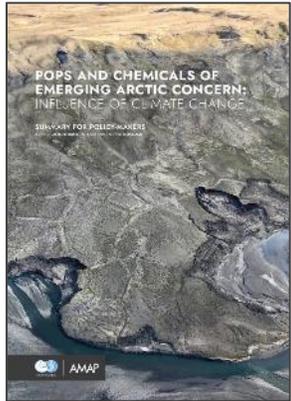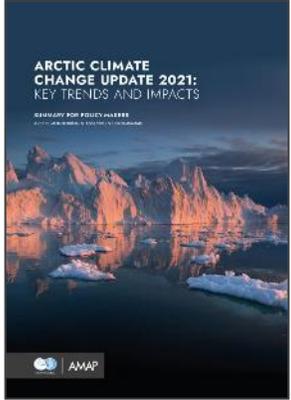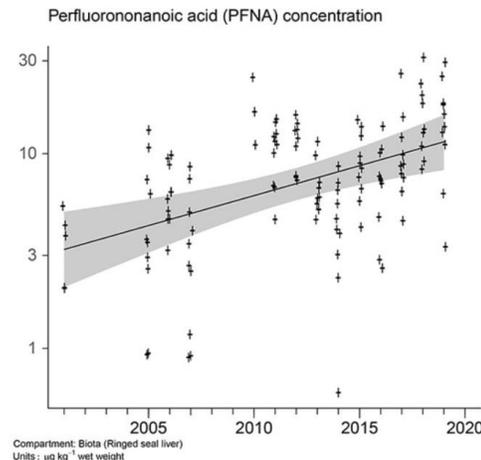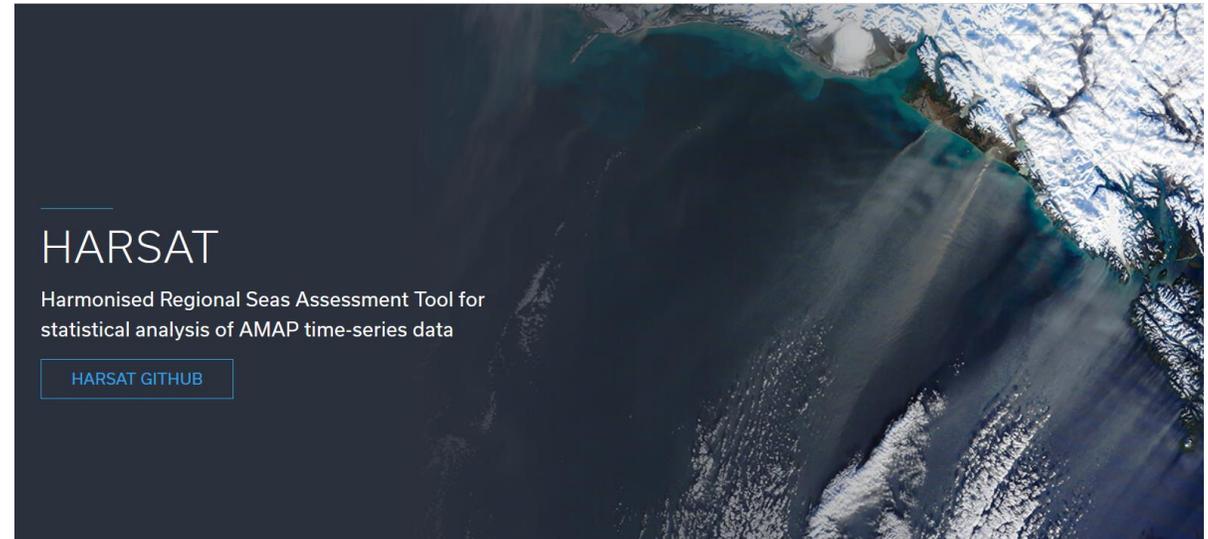
Science to inform policy-making

Example: 'Harmonized analysis'

HARSAT: Harmonized Regional Seas Assessment Tool for statistical analysis of AMAP time-series data on contaminants in the Arctic environment

Produces standardized analysis, based on data flows from a number of national institutions in Europe

A prerequisite is that data are collected, analyzed and reported in an agreed, standardized format. This is similar to the processes for meteorological services and based on agreed commitments among nations (OSPAR convention)

HARSAT

Harmonised Regional Seas Assessment Tool for statistical analysis of AMAP time-series data

HARSAT GITHUB

Perfluorononanoic acid (PFNA) concentration

Compartment: Biota (Ringed seal liver)
Units : µg kg⁻¹ wet weight

Another example: Categorizing litter and microplastics from environmental sampling

Litter:

- Small pieces of rubbish that have been left lying on the ground in public places
- A group of animals that are born at the same time and have the same mother
- The substance, especially straw, that is used for farm animals to sleep on

Aggregated name for litter types	NOAA litter types	OSPAR litter types
plastic/polystyrene pieces (> 2.5 cm)	N1a, 1b, 1c – plastic fragments (hard, foamed, film)	45 - foam sponge 46 - plastic/polystyrene pieces 2.5-50 cm 47 - plastic/polystyrene > 50 cm
drinks (bottles, containers, and drums)	N3 – beverage bottles	4 - drinks (bottles, containers, and drums)
food package and assorted jugs and containers	N2 - food wrappers, N4 - other jugs or containers	5 - cleaner (bottles, containers, and drums) 6 - food containers incl. fast food containers 8 - engine oil containers and drums < 50 cm 9 - engine oil containers and drums > 50 cm 10 - jerry cans (square plastic container with handle) 11 - injection gun containers 12 - other bottles, containers, and drums 13 - crates 34 - fish boxes 38 – buckets 19 - crisps/sweet packets and lolly sticks
		27 - octopus pots

SAON
SUSTAINING ARCTIC
OBSERVING NETWORKS

AMAP
LITTER AND
MICROPLASTICS
MONITORING GUIDELINES

AMAP
LITTER AND
MICROPLASTICS
MONITORING PLAN

Sustaining Arctic Observing Networks (SAON)

Goals

1. Create a roadmap to a well-integrated Arctic Observing System;
2. Promote free and ethically open access to all Arctic observational data; and
3. Ensure sustainability of Arctic observing

Partnership

The eight Arctic states, Arctic Indigenous organizations, non-Arctic states, global (WMO) and regional organizations

Governance

A joint initiative of the Arctic Council (2011) and the International Arctic Science Committee (IASC)

Committees

- Arctic Data Committee
- Committee on Observations and Networks (CON)

Promoting semantics

Open Letter: Promoting effective use of semantics in Polar science and operations

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In this letter, we introduce The Polar Vocabularies and Semantics Working Group, originally established as a joint effort between the joint SAON/IASC Arctic Data Committee and the Data Management Collaboration Team of the Interagency Arctic Research Policy Committee. We Invite, communities of practice to actively engage with us in our activities (described below), to advance the state of semantics-based applications in polar activities (and to increase interoperability between stakeholders and rights holders within existing and emerging digital ecosystems).

SAON
SUSTAINING ARCTIC
OBSERVING NETWORKS

SAON Data Portal

https://data.arcticobserving.org

Mapping the Polar Data Ecosystem

Get involved!

More information:
- Polar Semantics:
    - Working Group: https://arcticdc.org/activities/core-projects/vocabularies-and-semantics-wg
    - Open letter: https://doi.org/10.5281/zenodo.10780541
- SAON Data Portal: https://data.arcticobserving.org/
- Mapping the Polar Data Ecosystem: https://mpde.gcrc.carleton.ca/index.html
- Sustaining Arctic Observing Networks (SAON): arcticobserving.org

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