

WP 8 – Cleaner Arctic, cleaner world: documenting and reducing pollution (WP8 focus on chemical pollution, cooperation with WP2 – similar activities on plastics)

Objective: Pilot implementation ...

... **to work with station managers** (WP2) to identify potential sources of emerging contaminants of concern and reduce their impacts by:

- Identifying/establishing screening monitoring protocols for emerging pollutants; **field testing protocols at INTERACT stations**
- **Working with INTERACT station-managers/researchers to promote and support screening monitoring studies**

Deliverables D.1 D.2 **D.3 (due end 2022 ... significant delay?)**

- ✓ **D8.1** Catalogue listing local and transboundary emerging pollutants selected for possible (targeted) screening at INTERACT Stations (Month 18)
- ✓ **D8.2** Protocols for (target and non-target) screening of contaminants of emerging concern at INTERACT stations (Month 24)
- **D8.3** Compilation of results from testing of protocols with Managers at **selected INTERACT Stations** (Month 36)
- **D8.4** Plan, in consultation with INTERACT Station Managers and Researchers, for development of screening monitoring networks and enhancing application of screening monitoring (Month 42)

POLLUTION

Facebook Twitter ResearchGate



Cleaner Arctic, cleaner world: documenting and reducing pollution

WP8 is designed to focus on emerging contaminants of concern from local sources of pollution and also ensuring that the stations (within the INTERACT network) themselves are not contributing to this pollution. The main objectives of the work package are to work with station managers (WP2) to identify potential sources of emerging contaminants of concern and reduce their impacts by:

- Identifying and establishing screening monitoring protocols for emerging pollutants and field testing these protocols at INTERACT stations.
- Working with INTERACT station-managers and researchers to promote and support screening monitoring studies through enhanced networking in this important field of work.
- Refining existing systems at INTERACT stations to minimize introduction

The work package is led by the Arctic Monitoring and Assessment Program



D8.1 CATALOGUE LISTING LOCAL
POLLUTANTS
application/pdf



D8.2 PROTOCOLS FOR (TARGET AND NONTARGET) SCREENING OF
EMERGING CONTAMINANTS OF CONCERN
application/pdf

Project No. 871120
D8.2 – Protocols for (target and nontarget) screening of
contaminants of emerging concern at INTERACT stations



Integrating Activities for Advanced Commu



D8.2 – Protocols for (target and nontarget) screening of
emerging concern at INTERACT stations

Project No. 871120
D8.2 – Protocols for (target and nontarget) screening of
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6. Next Steps

The information contained in this deliverable will be presented to INTERACT station managers who will be encouraged to consider pilot implementation of work at stations that could facilitate new contaminants monitoring/screening activities.

This work will also be coordinated with relevant activities under AMAP and could be connected to planned work under the *Network of reference laboratories, research centres and related organisations for monitoring of emerging environmental substances* (NORMAN network, <https://www.norman-network.net/>), for example in the field of passive sampling, as well as other relevant ongoing and planned initiatives. One possibility would be to arrange a meeting where INTERACT station managers could meet with coordinators of some of the ongoing screening studies, Arctic contaminant research and monitoring programmes to further discuss possible collaboration in this respect.

D8.3 Options – Passive sampling for different purposes

- **Option 1: Evaluating possible sources of station ‘on-site’ contamination using passive air sampler**
- **Option 2: Evaluating possible sources of station ‘on-site’ contamination using blank exposure studies**
- **Option 3: Evaluating whether the station constitutes a local source of POPs/CEAC air contamination**
- **Option 4: Evaluating whether the station constitutes a local source of POPs/CEAC water contamination**
- **Option 5: Evaluating POPs/CEAC contamination around sources of potential contamination in the local area using passive air sampler**
- **Option 6: Evaluating POPs/CEAC contamination around sources of potential contamination in the local area using passive water sampler**
- **Option 8: Evaluating POPs/CEAC contamination in the local area / around local sites of potential contamination using environmental media (e.g. fish, wildlife)**

Option 1: Evaluating possible sources of station ‘on-site’ contamination using passive air sampler	
Context for pilot study	Evaluating suitability of station for research or monitoring of environmental (POPs/CEAC) contaminants
Pre-requirements	
Access to relevant expertise...	Necessary/recommended if not otherwise in place
Access to laboratory services...	Required
Permissions for work...	Probably not required/relevant if work is within existing operator licence
Permissions from, engagement with and support of local community...	N/A
Type of sampler	PUF-PAS deployed for weeks/months; screening to identify SVOCs present in indoor/outdoor station environment
Related protocols/guidance	Wania and Shunthirasingham, 2020 (and references therein)
Links to ongoing/planned projects/programmes	
Contacts points	<p>AMAP POPs EG: Hayley Hung (Environment and Climate Change Canada, ECCC); Derek Muir (ECCC, Canada); Cynthia de Wit (Stockholm University, Sweden); Katrin Vorkamp (Aarhus University, Denmark)</p> <p>NORMAN network: Working Group 6: Emerging substances in the indoor environment. Co-ordinators: NILU-Norway/IVM-Belgium. Pernilla Bohlin Nizzetto (NILU, Norway)</p> <p>Research groups that have deployed PAS at INTERACT sites (Toolik, Sonnblick, Ny-Ålesund)</p>

Hybrid Workshop in connection with SETAC Europe (Copenhagen, May 2022) ... aimed to implement activity in second half of 2022 to report in D8.3 (if possible)

Invitation to Stations >>> only 2 responses (CHARS, CNR); none from identified key stations

What would help station managers to make progress in meeting the WP objectives of implementing pilot monitoring

Use of WP8 funding for travel/workshop (ArcticNet December 2022?) ... deploy (passive) samplers? ... analyze samples?

Funding 'station participation' in ongoing NORMAN air/water PS exercises (ILS on PS and NTS for PFAS in water; collaborative trial PAS and NTS in indoor and outdoor air; deadlines for labs has passed but opportunities to contact organizers re. deploying samplers at stations?

Installing Hg PAS at stations (Canadian programme)?

Greenland Inst. Natural Res. Station ... response to request from Danish researcher re. PWS deployment

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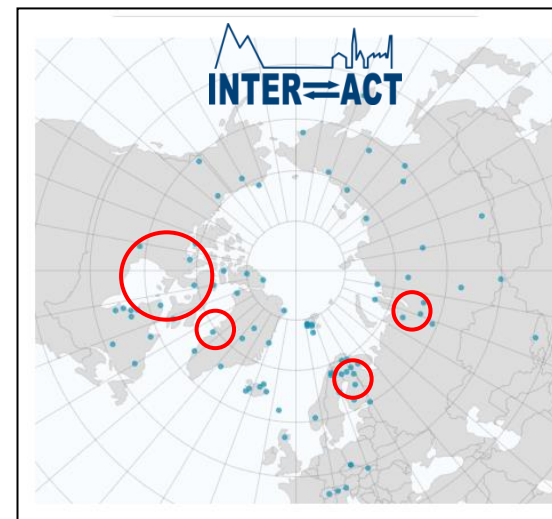


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WP8 Objectives

... to **work with station managers** (WP2) to identify potential sources of emerging contaminants of concern and reduce their impacts by:

- Identifying/establishing screening monitoring protocols for emerging pollutants; **field testing protocols at INTERACT stations**
- **Working with INTERACT station-managers/researchers to promote and support screening monitoring studies**
- Refining existing systems at INTERACT stations to minimize introduction and use of new chemicals/pollutants of concern





WP8 Tasks

Task 8.0 Work package management

Task 8.1 Identifying emerging pollutants ...

where INTERACT can play a role, and policies suggested to reduce/minimize use/impacts

Existing information on chemicals of emerging Arctic concern will be reviewed to identify those that are most relevant with respect to possible use/presence at or around selected INTERACT research stations, for possible investigation of occurrence and/or actions to reduce possible local contamination.

Task 8.2 Development of protocols for screening monitoring at and close to selected INTERACT monitoring stations

Designing, in consultation with INTERACT station managers and others protocols for investigating the presence of chemicals of emerging concern at or around INTERACT stations using target and/or non-target screening methods.

Task 8.3 Enhancing screening monitoring applications at INTERACT Stations

Implementing and/or testing the protocols developed under Task 8.3, and where possible linking this work into ongoing screening monitoring programs and networks.

Task 8.4 Informing appropriate agencies of potential threats from emerging pollutants



WP8 deliverables

WP8 Deliverables

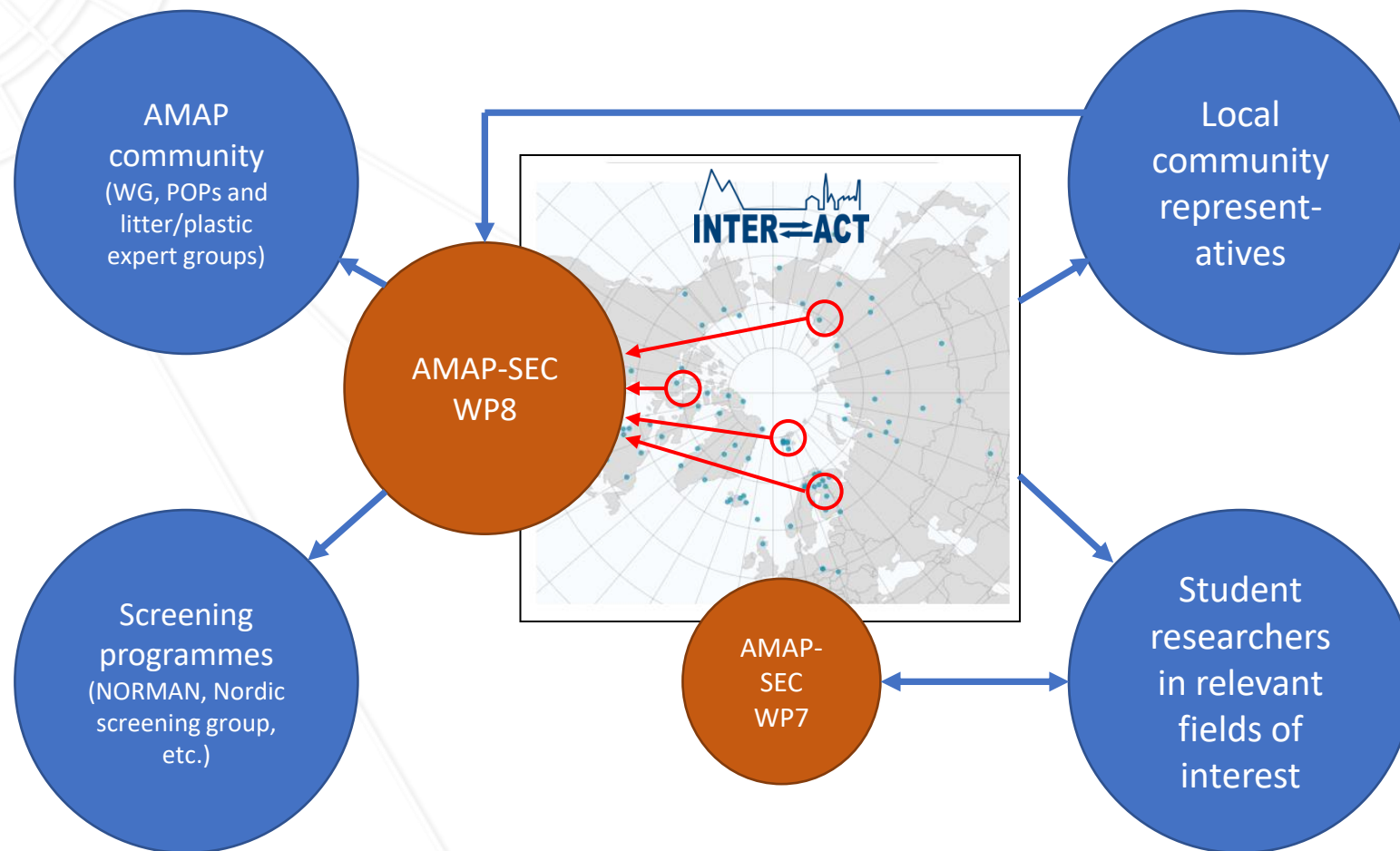
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External collaboration



Tasks: Engagement in other WPs

Task 7.5 Ensuring a new generation of international environmental assessors

(1 Month in WP7)

Arctic Council working groups inform policy makers about ongoing environmental issues and their impacts in the Arctic through environmental assessments

This task will mentor active researchers from the INTERACT research community to build capacity and create a new generation of international environmental assessors.

Candidates?
Arctic Council 'Pause'

