

# Arctic Monitoring and Assessment Programme (AMAP)

## AMAP Workplan 2025-2027

# Implementation Plans

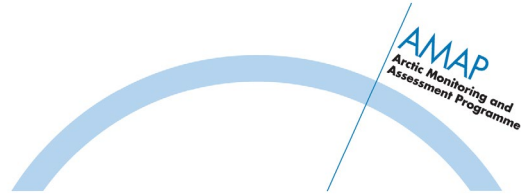
AMAP's work reflects the long-term commitment of the Arctic Council to monitor and assess changes in the levels of pollution and climate change and their impacts on Arctic ecosystems and human populations.

AMAP is currently implementing its agreed biannual [AMAP Work Plan for 2025-2027](#) under the Kingdom of Denmark's Chairship of the Arctic Council.

This document presents the detailed plans for implementing AMAP work to address:

- Pollution Issue: Mercury in the Arctic
- Pollution Issue: Persistent Organic Pollutants (POPs) and Chemicals of Emerging Arctic Concern (CEAC)
- Pollution Issue: Litter and Microplastics
- Pollution Issue: Radioactivity in the Arctic
- Cross-cutting Issue: Human health in the Arctic
- Cross-cutting Issue: Contaminants-Wildlife and Human Health in the Arctic
- Cross-cutting Issue: Short-lived Climate Forcers in the Arctic
- Climate Issues: Climate Change in the Arctic

These plans are intended to help advance project-level work under the current AMAP Workplan in accordance with the [AMAP Strategic Framework 2019+](#) and to provide the AMAP Working Group and wider community with a common understanding of ongoing and planned AMAP activities.



# AMAP Implementation Plans: Overview

*(version December 2025)*

(version: December 2025)



## AMAP Implementation Plans: Overview

### Part 1: Overview of implementation plans in relation to planned products for work over the coming two years

Product / target delivery date	Main activities (responsible) / Status
Summary for Policymakers (SPM) and/or AMAP Policy Brief (APB)	
Local vs LRT SPM / fall 2025 (tbc)	<p><i>Organization of work:</i> POPs EG co-leads Pending completion of scientific journal articles (for status see <i>Annex A</i>) and critically the summary article.</p> <p><i>Outreach:</i> Plan for presentation of results and recommendations at POPRC side-event (September 2025) organized by EG-leads</p>
Policy Brief: black carbon as a climate forcer / fall 2025	<p><i>Organization of work:</i> SLCF EG co-leads Pre-printed version finalized to COP30</p> <p><i>Outreach:</i> Possible coordination of outreach with CCAC; targeted outreach for IPCC/AR7 process and UN ECE Air Convention work fall 2025</p>
Policy Brief: Arctic climate implications of the global methane pledge / spring 2026	<p><i>Organization of work:</i> SLCF EG co-leads Initiated</p> <p><i>Outreach:</i> Targeted outreach at UNFCCC COP</p>
AMAP Climate Update 2026 SPM / 2027	<p><i>Organization of work:</i> CEG co-leads Not yet started; awaiting finalization of background document chapters after peer review in spring 2026.</p> <p><i>Outreach:</i> Planned presentations at conferences such as Arctic Frontiers, ASSW, Arctic Circle Assembly; targeted outreach for IPCC/AR7; possible side event at UNFCCC COPs</p>
Societal Implications of Climate Change in the Arctic (SICCA) SPM	<p><i>Organization of work:</i> SICCA assessment co-leads Not started; awaits finalization of assessment report chapters after peer review in spring/summer 2026.</p> <p><i>Outreach:</i> Planned presentations at conferences such as Arctic Frontiers, ASSW, Arctic Circle Assembly; targeted outreach for IPCC/AR7; possible side event at UNFCCC COPs</p>

(version: December 2025)



Assessment and Reports	
Assessment report on POPs trends / 2027	<p><i>Organization of work:</i> POPs EG co-leads</p> <p>Nomination of project group: completed (identified through expression of interest sent to POPs EG members)</p> <p><i>Preparation of report:</i> chapter leads identified, data acquisition and analysis underway</p>
SICCA / 2027	<p><i>Organization of work:</i> SICCA Assessment co-leads</p> <p>Zero-level draft chapters under review, with aim of first drafts of chapters ready for national data check in early 2026</p> <p><i>Outreach:</i> Presentations at conferences such as Arctic Frontiers, ASSW, Arctic Circle Assembly; targeted outreach for IPCC/AR7; possible side event at UNFCCC COPs</p>
AMAP Climate Update 2026 / 2027	<p><i>Organization of work:</i> CEG co-leads</p> <p>Chapters sent out to HoDs for national data check in mid-October; invitations for nominations for peer reviewers in December</p> <p><i>Outreach:</i> Presentations at conferences such as Arctic Frontiers, ASSW, Arctic Circle Assembly; targeted outreach for IPCC/AR7; possible side event at UNFCCC COPs</p>
Preparations for the first full AMAP assessment on plastic pollution in the Arctic	<p><i>Organization of work:</i> Litter and Microplastics Expert Group (LMEG).</p> <p><i>Main activity:</i> Creating overviews of data across the four Priority 1 compartments: Beaches/shorelines, sediments (freshwater and marine), water (freshwater and marine), and seabirds. Mapping of existing environmental data within prioritised compartments.</p> <p><i>Status:</i> Initiated.</p>
Preparations for the first full AMAP assessment on plastic pollution in the Arctic	<p><i>Organization of work:</i> Litter and Microplastics Expert Group (LMEG).</p> <p><i>Main activity:</i> Scoping document for assessment.</p> <p><i>Status:</i> Initiated.</p>
Preparations for assessment on radioactivity in the Arctic	<p><i>Organization of work:</i> Radioactivity Expert Group (REG).</p> <p><i>Main activity:</i> Scoping document for assessment</p> <p><i>Status:</i> Initiated</p>

(version: December 2025)



Technical Reports	
Technical report scoping use of Hg isotopes / 2026	<p><i>Organization of work:</i> Mercury EG co-leads</p> <p><i>Nomination of project group:</i> completed</p> <p><i>Preparation of report:</i> under development (first draft: fall 2025; final draft: spring 2026)</p>
Technical report scoping REEs/GTEs as a potential issue of Arctic concern / 2026	<p><i>Organization of work:</i> Mercury EG co-leads</p> <p><i>Nomination of project group:</i> completed</p> <p><i>Preparation of report:</i> work organization ongoing</p>
Technical report scoping possible new approaches to monitoring for assessment of contaminant effects on wildlife and humans / 2026	<p><i>Organization of work:</i> Project group (lead Nil Basu, Canada)</p> <p><i>Nomination of project group:</i> completed</p> <p><i>Preparation of report:</i> first draft: Nov 2025; final draft: spring 2026</p>
Data products / possible technical report on mercury time-series analyses / 2026	<p><i>Organization of work:</i> Mercury EG co-leads</p> <p><i>Data acquisition:</i> initiated (not currently connected to POPs time-series data acquisition)</p>
Technical report scoping Arctic implications and of risks of climate interventions to inform possible further work / 2026	<p><i>Organization of work:</i> Establishment of a project group</p> <p><i>Nomination of project group:</i> review of nominations ongoing</p>
Technical report on trends of contaminant levels in humans	<p><i>Organization of work:</i> HHAG co-leads</p> <p><i>Data acquisition:</i> outline prepared; literature scan and data collection started</p> <p><i>Preparation of report:</i> work to begin in autumn 2025 after data collection well advanced / completed</p>
Technical report on updating dietary transitions in Arctic communities	<p><i>Organization of work:</i> HHAG co-leads</p> <p><i>Data acquisition:</i> outline prepared; literature scan to begin in autumn 2025</p> <p><i>Preparation of report:</i> draft outline and identification of contributors in winter 2026</p>
Other (webinars, guidelines etc.)	
Updating of AMAP Trends and Effects Monitoring Programme / 2026	<p><i>Organization of work:</i> Secretariat in consultation with relevant EG-leads and tracking HoDs</p> <p>Proposal for phased approach to update programme and document in an online resource to be prepared for WG38</p>

(version: December 2025)



<p>Webinars and Workshops in support of the deliverables to the AMAP/CAFF project Climate change impacts on Arctic ecosystems and associated feedbacks</p>	<p><i>Organization of work:</i> Work package leads, the Steering Committee and Secretariats are planning the webinars.</p>
<p>Preparation of a synthesis Report as a basis for follow up under AMAP/CAFF project “Climate change impacts on Arctic ecosystems and associated feedbacks”</p>	<p><i>Organization of work:</i> Work package leads, the Steering Committee, nominated experts (tbc)</p> <p>Synthesis report based on results from WP1 on Indigenous Knowledge and WP2 special issue papers, format TBD pending updated implementation plan</p>
<p>Development of recommendations for monitoring zoonotic diseases</p>	<p><i>Organization of work:</i> Establishment of a project group</p> <p><i>Nomination of project group:</i> not yet started</p>
<p>Implementation of co-production in ongoing and planned AMAP work / 2027</p>	<p>Several ongoing and new activities include plans for PP engagement and meaningful/equitable utilization of IK, but comprehensive implementation of co-production requires further development initiatives. Possible new PP-led activity on use of IK in assessment work.</p>
<p>Mercury webinar series / ca. 4-6 per year</p>	<p><i>Organization of work:</i> Mercury EG co-leads</p> <p><i>Web posting follow-up:</i> Secretariat</p> <p><a href="#">Webinar series link</a></p>
<p>POPs LvlRT webinars / September-November 2025</p>	<p><i>Organization of work:</i> POPs EG co-leads</p> <p><i>Web posting follow-up:</i> Secretariat</p> <p><a href="#">Webinar series link</a></p>
<p>AMAP website development</p>	<p><i>Organization of work:</i> Secretariat</p> <p>Website technical development ongoing (redesign; implementation of new CMS)</p>
<p>Updating the AMAP litter and microplastics monitoring guidelines / 2026</p>	<p><i>Organization of work:</i> Litter and Microplastics Expert Group (LMEG).</p> <p><i>Main activity:</i> Formulation of recommendations on the need to update the technical method guidelines. Recommendations for HoDs for review in 2026.</p> <p><i>Status:</i> Initiated.</p>

(version: December 2025)



Outreach	
Minamata COP6	TBD
UNFCCC COP30	Organizing and speaking at multiple side-events the first week of COP30

## Part 2: Implementing AMAP Strategic Goals and Guiding Principles

Implementation plan	Work track	Strategic goals <sup>1</sup>					Guiding Principles <sup>2</sup>					
		SG1	SG2	SG3	SG4	SG5	GP1	GP2	GP3	GP4	GP5	GP6
Mercury in the Arctic	Updating ATEMP	X	X			X	X		X	X	X	X
	Scoping use of Hg stable isotopes	X								X		
	Scoping REEs/GTEs	X								X		
	Updating Hg time-series analyses	X	X		X	X	X				X	X
	Co-production	X	X	X	X	X		X	X		X	X
	Minamata Convention EE support	X			X	X					X	
Persistent Organic Pollutants and CEACs	Stockholm Convention EE/POPRC support	X			X	X					X	
	Updating ATEMP	X	X			X	X		X	X	X	X
	Communication of policy-relevant findings	X		X	X	X			X	X	X	
	Updating POPs time-series analyses	X	X		X	X	X				X	X
	Co-production	X	X	X	X	X		X	X		X	X
Short-lived Climate Forcers	Updating ATEMP	X	X			X	X		X	X	X	X
	Knowledge synthesis-black carbon	X			X	X	X				X	X
	Knowledge synthesis-methane	X			X	X	X				X	X
	Knowledge synthesis-wildfire impacts	X			X	X	X			X	X	X
	Support for work of EGBCM					X	X				X	X
Climate Change in the Arctic	2026 Climate update report	X				X	X		x			
	SICCA	X		x		X	x	x	X			

<sup>1</sup> **SG1:** Improved knowledge/understanding of Arctic change through collaborative assessment processes, for use in evidence-based decision-making. **SG2:** A strong, sustained and coordinated circumpolar monitoring and observation network. **SG3:** Enhanced understanding of Arctic change and its impacts through inclusive partnership with Indigenous Peoples and local residents. **SG4:** Effective communication on Arctic challenges and global implications. **SG5:** Support relevant international processes.

<sup>2</sup> **GP1:** Scientific Integrity. **GP2:** Value of Diverse Perspectives. **GP3:** Inclusion of Arctic Indigenous Peoples and Local Residents. **GP4:** Responsiveness to Emerging Challenges. **GP5:** Knowledge Mobilization. **GP6:** Cooperation, Coordination and Interaction.

(version: December 2025)



Implementation plan	Work track	Strategic goals <sup>1</sup>					Guiding Principles <sup>2</sup>					
		SG1	SG2	SG3	SG4	SG5	GP1	GP2	GP3	GP4	GP5	GP6
	Climate change impacts on Arctic ecosystems and associated feedbacks	X		X		X	X		X			
	Scoping risks and implications of climate interventions						X			X		
Human Health in the Arctic	Updating temporal trends in human contaminants biomonitoring data	X	X	X	X	X	X		X	X		X
	Updating and expanding on studies of dietary transitions in the Arctic and their health implications	X		X			X	X	X	X	X	X
	Updating ATEMP	X	X			X	X		X	X	X	X
Contaminants, Wildlife and Human Health	Zoonoses		X	X	X				X	X		X
	New approaches to monitoring	X	X			X	X		X	X	X	
Plastic pollution	Assessment on plastic pollution in the Arctic	X					X			X	X	X
	Updating the AMAP monitoring guidelines	X	X				X			X		X
	Support for international fora addressing global plastic pollution	X				X	X			X	X	X
	Engaging Indigenous People in addressing plastic pollution	X		X				X	X	X	X	X
	Communicating the findings on effects of plastic pollution on Arctic biota	X			X						X	X
Radioactivity	Scoping an assessment on radioactivity in the Arctic	X					X			X	X	X

<sup>1</sup> **SG1:** Improved knowledge/understanding of Arctic change through collaborative assessment processes, for use in evidence-based decision-making. **SG2:** A strong, sustained and coordinated circumpolar monitoring and observation network. **SG3:** Enhanced understanding of Arctic change and its impacts through inclusive partnership with Indigenous Peoples and local residents. **SG4:** Effective communication on Arctic challenges and global implications. **SG5:** Support relevant international processes.

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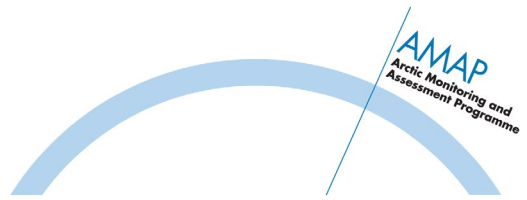
(version: December 2025)



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		SG1	SG2	SG3	SG4	SG5	GP1	GP2	GP3	GP4	GP5	GP6
	Strengthening collaboration with international fora	X				X	X			X	X	X

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## Pollution Issue: Mercury in the Arctic

<i>Most recent approved version</i>	<i>November 2025</i>
<i>This version</i>	<i>November 2025</i>
<i>Notes</i>	<i>Updated as per WG38 decisions</i>

# AMAP Workplan Implementation 2025-2027

## Implementation Plan for AMAP work to address Mercury in the Arctic (version Nov. 2025)

AMAP's work reflects the long-term commitment of the Arctic Council to monitor and assess changes in the levels of pollution and climate change and their impacts on Arctic ecosystems and human populations.

This document presents a detailed step-wise plan for implementing AMAP work to address **Mercury in the Arctic** throughout 2025 to 2027. This implementation plan builds on information from related 'one-pager' project activity proposals that were developed by the AMAP Mercury Expert Group Leads, with guidance and support from the AMAP tracking HoDs and AMAP Secretariat, and/or from detailed scoping documents, as well as previously approved<sup>1</sup> versions of the plan that covered earlier timeframes. Together with other *AMAP implementation plans* that collectively cover the broad suite of issues within the AMAP mandate, this plan is intended to help advance project-level work under the current [AMAP Work Plan](#) in accordance with the [AMAP Strategic Framework 2019+](#), including its guiding principles and strategic goals, and to provide the AMAP Working Group and wider community with a common understanding of ongoing and planned AMAP activities.

The implementation activities described below will be carried out primarily by the AMAP Expert Group(s) with the support of the AMAP Secretariat, under the direction of AMAP HoDs<sup>2</sup>, and in a manner that is consistent with current Arctic Council guidelines for resumption of Working Group work.

These activities will support / contribute to the following AMAP Projects (as per AMAROK):

- Contaminant issues: POPs and mercury;
- Human Health and combined effects;
- Implementing AMAP Contaminant Trends and Effects Monitoring Programme;
- Support for International Conventions (Minamata, Stockholm, UN ECE Air, IPCC)
- Participation in international workshops, conferences;
- Efforts to engage PPs in AMAP's work.

The key AMAP products and deliverables planned for 2025-2027 in relation to AMAP work to address **Mercury in the Arctic** are:

- Technical reports and data products (mercury temporal trend data products, technical reports on scoping REEs/GTEs and use of mercury isotopes);
- Summary for Policy-makers / Policy Briefs (as appropriate);
- Updated monitoring programme for mercury;
- Outreach products, including webinars and outreach at international scientific conferences.

This implementation plan is intended to be updated and presented to the AMAP WG on a biannual basis (approximately June and November), or as needed, as determined by AMAP HoDs.

The AMAP Mercury Expert Group (EG) is co-led by Canada (John Chételat, Environment and Climate Change Canada) and Kingdom of Denmark (Rune Dietz, University of Aarhus), and currently comprises active members from all Arctic nations, 1 Permanent Participant (ICC), 4 Observer nations/organizations (France, Italy, Japan, Netherlands) and others (EC, Portugal). The AMAP Mercury EG is supported by Simon Wilson in the AMAP Secretariat.

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<sup>1</sup> Available on request

<sup>2</sup> Heads of Delegation of the 8 Arctic Council member states and its 6 Permanent Participants, organizations representing Arctic Indigenous peoples.

# AMAP Workplan Implementation 2025-2027

## Implementation Plan for AMAP work to address Mercury in the Arctic (version Nov. 2025)

### A. Background:

Mercury is a global environmental contaminant with both natural sources and sources associated with human activities; much of the mercury contaminating the Arctic is a result of transport by air and ocean pathways from sources outside of the Arctic. Mercury bioaccumulates and biomagnifies in Arctic food chains; this can result in high levels of mercury in top predators such as polar bears and toothed whales. Humans, especially some Indigenous populations that rely on marine mammals as part of their traditional diet, can receive high dietary exposure, raising concerns about possible effects on human health.

Mercury, together with other trace metals including cadmium and lead, were identified as a priority pollution issue in the process that led to the establishment of AMAP in 1991.

AMAP's work on metals, and in particular mercury constitutes a core part of AMAP's activity addressing environmental contaminants that can impact Arctic wildlife and human health. This work is organized under AMAP's Mercury expert group (EG), and is coordinated internally with, in particular, AMAP EGs on POPs and human health, and externally with work under the Arctic Council ACAP WG.

Assessments of mercury (and other trace metals) in the Arctic have been delivered by AMAP in 1998, 2002, 2011, 2018 and most recently in 2021<sup>3</sup>.

In addition to informing the Arctic Council and its member states and Permanent Participants, AMAP assessment and data products concerning mercury provide an important contribution to international processes that address chemicals management and action to reduce environmental pollution. In this respect, AMAP and UNEP (Chemicals Branch) jointly coordinated and implemented technical work to deliver the UN Global Mercury Assessments (GMA) in 2013 and 2018. AMAP experts have historically prepared global inventories of mercury emissions to air from anthropogenic sources, that are geospatially distributed for use in air transport modelling.

AMAP experts contribute to work under the UNEP Minamata Convention on Mercury and the UN ECE Air Convention (Convention on Long-range Transboundary Air Pollution). HoDs have requested AMAP Secretariat to track work under the UNEP Mercury (Fate and Transport) Partnership Area. UNEP's activity to establish a science-policy panel to contribute further to the sound management of chemicals and waste and to prevent pollution (ref. UNEA decision 5.2), and current UN initiatives to link Conventions dealing with climate change, biodiversity and pollution (the triple planetary crisis) are also relevant for AMAP work addressing mercury.

### B. AMAP's Mercury implementation plan – Overview of Implementation Activities

AMAP's Mercury implementation plan for 2025-2027 includes six primary activities:

- Updating AMAP trends and effects monitoring programme (ATEMP).
- Implementing (cross-cutting) updating of contaminants time-series analyses.
- Providing relevant Arctic data for use in Minamata Convention effectiveness evaluation.
- Using mercury stable isotopes for understanding mercury sources and transport in the Arctic.
- Scoping Arctic issues around rare-earth elements and green-transition elements.
- Advancing Co-production in implementation activities.

These activities are carried out in ways that specifically address the AMAP Strategic Goals and Guiding Principles<sup>4</sup>.

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<sup>3</sup> All AMAP reports are available from <https://www.amap.no/publications>

<sup>4</sup> [Combined AMAP implementation plans](#): Overview section

# AMAP Workplan Implementation 2025-2027

## Implementation Plan for AMAP work to address Mercury in the Arctic (version Nov. 2025)

### 1. Providing relevant Arctic data for use in Minamata Convention (MC) effectiveness evaluation (EE)

#### **Activity leads/contacts:**

John Chételat (AMAP Mercury EG co-lead) supported by AMAP Secretariat; AMAP mercury EG members on the Minamata Convention OESG or roster of experts.

#### **Rationale and description:**

The Minamata Convention (MC) Article 22, requires Parties to 'evaluate its effectiveness' beginning no later than 6-years after its entry into force (16 August 2017). The Convention has established an Effectiveness Evaluation Group (EEG) to supervise this process and prepare the EE report, as well as an Open-ended Science Group (OESG) which, together with a roster of experts will undertake the related technical work (Ref: MC Decision MC-5/14). AMAP has committed to engage with this process to ensure that Arctic data are included in the MC EE report; results of time-series analyses (see 2, below) and possible work to update information on mercury emissions and releases (globally) are particularly relevant in this connection.

During 2025-2027, AMAP will continue to support the preparation of the Minamata Effectiveness Evaluation through participation of members of the AMAP Mercury EG in the Minamata EE OESG and roster of experts. AMAP will engage with the Minamata Convention Secretariat to discuss possible future collaborative work, including potential outreach at the Minamata COP6, if appropriate.

#### **Progress to-date:**

AMAP Mercury EG leads have identified experts that are involved or interested in supporting EE work under relevant Conventions, including individuals that are also members of the OESG or its roster of experts, to function as a possible 'AMAP focus group' for this issue.

Under previous AMAP Work Plans and in connection with the Minamata COP-5 (October/November 2023), AMAP, together with Norway, arranged a virtual side-event, and organized an AMAP/Northern Contaminants Program information booth at the COP-5 meeting, in which AMAP Secretariat and AMAP mercury EG co-Chair (John Chételat, Canada) participated.

A mercury webinar (#4) was organized on 13 February 2024 (recording available) where Manoela Pessoa de Miranda and Eisaku Toda of the Minamata Convention Secretariat outlined the process and plans for the work involved in preparing the Effectiveness Evaluation of the Minamata Convention.

AMAP Secretariat contacted the Swedish Environment Institute (IVL) to re-evaluate the possibilities for work on emissions inventories; there was no further follow-up of this activity within Minamata process.

A response to the request issued by the MC Secretariat for submission of relevant data was submitted end-2023 (ref. e-mail from AMAP 16 October 2023). In accordance with procedures established by the Minamata Convention Secretariat/OESG, relevant AMAP data on mercury in human biomedicine, air/precipitation and biota have been provided to the Minamata Convention for use in its effectiveness evaluation (ref. e-mails to AMAP HoDs and Minamata national focal points from AMAP on 9 July 2024 and simon.wilson on 19 August 2024). To the extent possible, submission of data on mercury in biota was coordinated with national submission to avoid duplication.

AMAP-affiliated mercury experts and AMAP Secretariat join online/hybrid Minamata OESG meetings. At the OESG in-person/hybrid meeting 17-21 March in Minamata, Japan an updated plan for work to draft the OESG report was agreed (aiming to complete this work during the summer). The draft report of the biota sub-group includes an AMAP/Arctic case study based on

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AMAP 2021 assessment work and a case study on co-produced studies of mercury in beluga in Canada. AMAP experts are participating in several sub-groups responsible for this work. The drafts of chapters of the technical report prepared by the OESG were briefly presented on an Minamata Convention/OESG call on 15 October; the results of this work are scheduled to be circulated for party review and presentation of preliminary findings to the COP-6. During 2026 the development of the Minamata effectiveness evaluation is due to move from the responsibility of the OESG to the responsibility of the Minamata EE Steering Group/Committee; the continuing role of the OESG in further improving the report is somewhat unclear. The draft report makes reference to AMAP work and data, which form an important component of the material considered by the OESG and are reflected in several case studies; however, it also reveals the considerable shortcomings of the process adopted for the first Minamata effectiveness evaluation with respect to answering the questions posed for effectiveness evaluation. Lack of useable data from many other world regions, lack of resources to undertake appropriate data evaluation, and unrealistic timelines have been identified as challenges by AMAP-affiliated OESG members. The effectiveness evaluation process includes a future vision component, which also addresses future (global) monitoring needs and e.g. use of regional data hubs, which could be a target for AMAP attention in the near-term.

Plans to schedule an *ad hoc* meeting of AMAP mercury experts engaged in or interested in the work of the OESG to coordinate wider AMAP expert input to the discussion of future Minamata effectiveness evaluation work could be considered following the November 2025 COP-6 meeting. Outcomes of any such discussions could then be fed in to the OESG by experts that are members of the OESG or its 'roster of experts'.

AMAP involvement in the [COP-6](#) is limited to participation in some of the [on-line side events](#) held in advance of the COP-6 and possible engagement in '[Knowledge labs](#)' arranged in conjunction with the COP.

## 2. Implementing (cross-cutting<sup>5</sup>) updating of contaminants time-series analyses

### **Activity leads/contacts:**

John Chételat and Rune Dietz (AMAP Mercury EG co-leads)

### **Rationale and description:**

To address an overarching PRSQ: *To what extent are levels of contaminants in the Arctic increasing or decreasing?*, AMAP expert groups routinely update information on temporal trends of hazardous substances in Arctic biotic and abiotic media. To date, such work has been performed in connection with major assessments (at ca. 5-years intervals). The last such update of trends in mercury was undertaken in connection with the AMAP 2021 mercury update assessment (with data to ca. 2018).

HoDs have requested that information is updated in a more timely fashion. Under AMAP workplans beginning in 2021 it was agreed to undertake such work aiming to produce, e.g., biennial product updates. These data products underpin both AMAP assessments and work under global Conventions that track the effectiveness of actions to reduce pollution, globally and in the Arctic. To address the tasks of *compiling and analyzing relevant contaminant time series datasets as input to AMAP products and relevant international processes*, harmonized systems are being developed together with OSPAR and HELCOM to assess time-series data and make these available via dedicated online assessment portals<sup>6</sup>.

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<sup>5</sup> To develop and analyze temporal trend data for mercury, POPs/CEACs, SLCFs, etc.

<sup>6</sup> e.g. apply [HARSAT](#)/OHAT tools and service co-developed by AMAP/HELCOM/OSPAR/ICES, etc.

# AMAP Workplan Implementation 2025-2027

## Implementation Plan for AMAP work to address Mercury in the Arctic (version Nov. 2025)

During 2025-2027, AMAP will work towards producing data product on temporal trends of mercury in the Arctic (for example using the HARSAT statistical analysis tool) and incorporating these in the online AMAP contaminant trend assessment results portal, as a resource that will be available for future AMAP assessment work and relevant external processes.

### **Progress to-date:**

The HARSAT tool co-developed by AMAP, HELCOM and OSPAR is now publicly available and a 'user group' is being established to maintain/further develop and apply this tool (linked to NCM project); a HARSAT user group workshop was held 29 April-1 May 2024 (ref. report in [AMAP Info. Brief, July 2024](#)). A follow-up (online) workshop was held 23 September 2024 targeting potential users in North America who were unable to join the workshop in April/May, with ca. 15 participants and positive reactions; follow-up activity were undertaken during 2025 to demonstrate use of the HARSAT tool on relevant example datasets.

To address formalities associated with work arrangements to secure further development and maintenance of the HARSAT tool going forward, AMAP, HELCOM and OSPAR Secretariats have approached their respective managerial bodies (groups, committees, etc.) to present proposals in this regard. With endorsement from AMAP HoDs (HoDs meeting early 2025) a HARSAT User Group has been established that is 'co-sponsored' by all three organizations. This is an informal arrangement with Secretariats of the three organizations coordinating activities of this group to continue the harmonized approach established in the initial HARSAT development work. A first meeting of the HARSAT User Group took place in December 2024; the next (hybrid) meeting of the HARSAT User Group will take place 17/18 November 2025.

AMAP mercury EG leads have continued to arrange webinars addressing topics of interest to the Arctic mercury community, including recent presentations of studies that address the impact of climate change on processes that can effect trends in environmental mercury (ref. [AMAP mercury webinar series](#)).

On an AMAP mercury expert group meeting in August 2024, a project group was identified to accomplish the work to update AMAP temporal trend analyses, and experts invited to register their interest in joining this project group (ref. Mercury EG meeting notes, e-mail from AMAP on 13 September 2024). AMAP Secretariat is coordinating work with national data providers to inventorize time-series data that would be available for inclusion in updated trend analyses work.

Compilation of mercury datasets for time-series analysis has been coordinated to a limited degree with compilation of data for use in the POPs trends assessment; work in that connection has also facilitated development of routines for pre-processing data submitted in *ad hoc* formats. An open nomination process to invite additional experts to join this activity will be issued in November 2025 with practical work to acquire additional data continuing during the fall and work on data analysis and development of data products scheduled during spring 2026.

### **3. Updating AMAP trends and effects monitoring programme (ATEMP)**

#### **Activity leads/contacts:**

John Chételat and Rune Dietz (AMAP Mercury EG co-leads); AMAP Secretariat

#### **Rationale and description:**

AMAP implements a coordinated programme for monitoring contaminants and their effects in the Arctic – the AMAP Trends & Effects Monitoring Programme (ATEMP). This programme is intended to deliver the data and information required to address related issues under the overarching PRSQ: *What are the sources, levels, trends and effects of environmental contaminants in Arctic air, marine/terrestrial/freshwater environments, and biota including humans?*

# AMAP Workplan Implementation 2025-2027

## Implementation Plan for AMAP work to address Mercury in the Arctic (version Nov. 2025)

The AMAP programme is based largely on national monitoring and research activities. AMAP defines a set of core activities that it encourages countries to adopt as part of their AMAP national implementation plans and conducts work to harmonize monitoring and related activities (data management, etc.), including harmonization with overlapping international monitoring under e.g. EMEP, OSPAR, etc. The AMAP programme also needs to be reviewed in relation to the development of a global mercury monitoring program under the Minamata Convention to ensure appropriate alignment.

The 'guidelines' for monitoring of contaminants under the AMAP Trends & Effects Monitoring Programme last received a comprehensive update in 2004. The AMAP WG has identified updating of the AMAP monitoring programme, to include both consideration of new approaches and methods, a priority activity in its workplan and charged the Secretariat with developing a plan to accomplish this work. Planned work includes reviewing the use of new methods such as stable mercury isotopes (see 4, below) in a monitoring context. This activity connects to AMAP's Strategic Goal to enhance engagement of indigenous people in AMAP work as well as work to better integrate cross-cutting aspects addressing contaminants, wildlife health and human health.

During 2025-2027, AMAP will work towards producing an updated (online) resource documenting components of the AMAP trends and effects monitoring programme addressing mercury in the Arctic environment.

### ***Progress to-date:***

Scoping work to better integrate contaminants wildlife/human health effects monitoring was included at the Sandbjerg consultation workshop arranged by Canada and Denmark (June 2023). Outcomes of that consultation included proposals to prepare four scientific papers that would serve as 'proof-of-concept' for future interdisciplinary AMAP assessment work and products in this integrated framework, as well as proposals to establish 'task teams' to consider new (cross-disciplinary) monitoring approaches and develop a possible AMAP monitoring programme component to address zoonotic diseases. These activities are addressed in a separate AMAP Implementation Plan covering work on Contaminants-Wildlife-Human health.

On an AMAP mercury expert group meeting in August 2024, it was agreed to establish a project group to undertake the work to update the AMAP monitoring programme for mercury (including new methods and approaches), and experts were invited to register their interest in joining this project group (ref. Mercury EG meeting notes, e-mail from AMAP on 13 September 2024). Work on this component will initially be undertaken by the EG-leads in collaboration with the AMAP Secretariat during the fall/winter of 2025/2026, with results being presented to the wider EG for their review/input in spring 2026.

## **4. Using Mercury Stable Isotopes for understanding Mercury Sources and Transport in the Arctic and Scoping issues around Rare-Earth Elements (REE) and Green-transition Elements (GTEs)**

### ***Activity leads/contacts:***

John Chételat and Rune Dietz (AMAP Mercury EG co-leads); Mercury Isotope Scoping Project: members identified; REE/GTEs Scoping Project: pending review of nominations

### ***Rationale and description:***

Work components addressing the PRSQs:

- *What are the main sources of mercury contaminating the Arctic?*
- *What new/emerging issues of concern for Arctic contamination could arise from REEs/GTRs? and To what extent do these activities impact Arctic wildlife and human populations?*

# AMAP Workplan Implementation 2025-2027

## Implementation Plan for AMAP work to address Mercury in the Arctic (version Nov. 2025)

Mercury stable isotopes ratios are a tool to trace sources and transport pathways of mercury accumulating in Arctic ecosystems. Advances in analytical techniques have made the measurement of mercury stable isotope ratios more broadly accessible, and a number of datasets have now been published on mercury isotopes in the Arctic. Through this activity, AMAP aims to compile existing published and unpublished data on Hg isotopes in Arctic biota and environmental media (e.g., air, seawater, river water, snow). In addition, new measurements of Hg isotopes in Arctic biota may be conducted to broaden the scope of this activity. Sources and biogeochemical processes produce a large range of Hg isotope signatures, and these datasets will allow for an evaluation of key pathways and processes contributing to mercury bioaccumulation in Arctic food webs such as river influence on marine exposure, dry versus wet atmospheric deposition, habitat-specific exposure, and migration patterns. This new activity addresses a recommendation of the AMAP 2021 Mercury Assessment, to continue and expand biomonitoring to improve understanding of key human and wildlife exposure pathways to mercury. AMAP HoDs decided to include scoping work on this issue as part of AMAPs mercury EG implementation plan for work in 2025/26. The scoping activity will produce a technical report with recommendations to AMAP HoDs on possible application of work on mercury isotopes in AMAP monitoring and assessment work.

AMAP has an ongoing mandate to identify new issue of potential Arctic concern. Following completion of its 2021 mercury assessment, the AMAP mercury expert group leads suggested that potential contamination of the Arctic as a result of increasing extraction of REEs/GTEs might be a new issue of concern warranting attention. Demand for REEs is rapidly increasing due to their use in technology including cell phones and electric vehicles. Mineral resources being mined or considered for exploitation in the Arctic include REEs and GTEs; in addition to water and soil contamination, extraction of rare earth elements and other green transition elements and metals can also be a source of, e.g., air and noise pollution. The Mercury EG will undertake a scoping activity on rare earth elements and their possible implications for the Arctic. The scoping activity will produce a technical report summarizing available information on REEs/GTEs in the Arctic, to identify knowledge gaps as a basis for further consideration by HoDs of whether this issue needs to be addressed in a more comprehensive manner in AMAPs future work.

During 2025-2027, AMAP will work towards producing technical reports scoping use of mercury isotopes and possible issues associated with REE/GTEs in the Arctic, including recommendations for consideration by AMAP HoDs.

### ***Progress to-date:***

Mercury webinars (#2 and #3) organized by AMAP mercury EG members have included presentation and preliminary discussion of the potential use of mercury stable isotopes in interpreting monitoring data.

*Mercury Stable isotopes scoping activity:* On an AMAP mercury expert group meeting in August 2024, a project group was established to further the work to address the use of mercury stable isotopes for understanding mercury sources and transport in the Arctic, and experts were invited to register their interest in joining this project group (ref. Mercury EG meeting notes, e-mail from AMAP on 13 September 2024). Following a planning meeting in November 2024 an open request for nominations to participate in this work circulated to HoDs (17 January 2025). On a virtual project group meeting 28 January 2025, leads for different components of the scoping work were identified, an outline including the PRQs to be addressed was provisionally agreed, and a timeline for the work in 2025 developed. The report of this meeting was communicated to tracking-HoDs and progress reported during the AMAP HoDs meeting 12 February 2025. Project work is now underway with follow-up project group calls arranged in May 2025 and September/October 2025. Good progress has been made in drafting, aiming at a first complete draft by the end of the year,

# AMAP Workplan Implementation 2025-2027

## Implementation Plan for AMAP work to address Mercury in the Arctic (version Nov. 2025)

to be followed by review, redrafting and delivery of a technical scoping report to AMAP HoDs in spring 2026.

*REE/GTE scoping activity:* An open nomination letter to identify experts to participate in this scoping activity was circulated to HoDs in March 2025. The mercury webinar arranged for 9 April 2025 included an introductory presentation of work in Canada on REEs; AMAP HHAG members were invited to join this webinar. Following this, a process to organize project work, similar to that for scoping mercury isotope studies, was initiated in May 2025. A call for nominations to the REE/GTE project group was issued 3 September 2025, with a deadline of 30 October. Nominations will be reviewed and a first kick-off call for the project group is scheduled to be held 19 November.

### 5. Co-production of planned implementation activities

#### **Activity leads/contacts:**

John Chételat and Rune Dietz (AMAP Mercury EG co-leads); Eva Kruemmel (ICC)

#### **Rationale and description:**

AMAP's Strategic Goals and Guiding Principles include inclusive partnership with Arctic Indigenous People in AMAP work, and promoting both co-production of knowledge through early engagement of PPs in AMAP work planning as well as activities such as community-based monitoring. AMAP has voiced its ambition to increase its use of and integration of Indigenous Knowledge in AMAP assessments to better understand Arctic change and its impacts on Arctic communities.

AMAP has a long history of collaborating with Permanent Participants, ICC in particular, to highlight Arctic mercury concerns and coordinate input to the Minamata Convention regarding Arctic mercury issues. This includes associated outreach (e.g., highlighting community involvement in AMAP monitoring programme implementation as a model for such activities under the Minamata Convention; Ref: MC Decision MC-5/1).

During 2025-2027, AMAP will work towards continuing to determine best practices for introduction of co-production into AMAP mercury monitoring and assessment work, and to implement these to the greatest possible extent.

#### **Progress to-date:**

AMAP participated in a 'knowledge lab' organized by ICC-Canada at the Minamata COP-5 meeting where the possible development Arctic-Amazon indigenous people's capacity building initiative was raised.

Discussions on co-production of planned mercury monitoring were initiated at the Sandbjerg workshop and will build also on discussion at venues including the UNFCCC Arctic Regional Workshop in Kirkenes (October 2023) and NCP results workshop (February 2024).

A proposed new project that aims to 'develop guidance on how to meaningfully and appropriately engage Indigenous peoples and use Indigenous Knowledge in AMAP assessments and assessment processes', was approved in principle by AMAP HoDs/PPs but remains to be further developed; once in an implementation phase, it is expected to inform further work on co-production in relation to AMAP mercury assessment work.

AMAP mercury webinar #6 (February 2025) was used to present an example of co-produced work in Canada concerning studies of mercury in beluga. The recording of this webinar is included in the collection available from the [AMAP YouTube playlist](#).

# AMAP Workplan Implementation 2025-2027

## Implementation Plan for AMAP work to address Mercury in the Arctic (version Nov. 2025)

Implementation activities – Timelines and Tasks					
	Providing relevant Arctic data for use in Minamata Convention (MC) effectiveness evaluation (EE) and Supporting EE work under relevant Conventions	Implementing (cross-cutting) updating of contaminants time-series analyses	Updating AMAP monitoring programme	Using Mercury Stable Isotopes for understanding Mercury Sources and Transport in the Arctic and Scoping issues around REEs/GTEs	Co-production of planned mercury implementation activities
Timing	Tasks	Tasks	Tasks	Tasks	Tasks
January-December 2024	<i>See archived record of implementation work in 2024</i>				
	<p><b>SUMMARY OF KEY STEPS, AT A GLANCE</b>  <u>Key Meetings:</u> OESG-17 (14 May 2025); OESG-18 (2 July 2025); OESG-19 (10 September 2025); COP6 (Geneva, 3 November – 7 November 2025)  <u>Product(s) Completed:</u> AMAP data (based on data used in 2021 assessment) and related case studies have been included in the OESG draft effectiveness evaluation (EE) report; Party and EE Committee review this report has been delayed and is not scheduled for 2026. AMAP experts engaged in OESG work may wish to review this experience to learn lessons for future such activities.  <u>Outreach Events:</u> potential outreach opportunities for AMAP:</p> <ul style="list-style-type: none"> <li>- The 17th International Conference on Mercury as a Global Pollutant (ICMGP) will 4-9 October 2026 in Hyderabad, India</li> <li>- .The Minamata EE is an external process that will be on the agenda of the Minamata Convention COP7 in Geneva 14-18 June 2027</li> </ul>	<p><b>SUMMARY OF KEY STEPS, AT A GLANCE</b>  <u>Call for Nominations:</u> to be circulated in Nov/Dec 2025  <u>Key Meetings:</u> project group meetings to be arranged as necessary  <u>Product(s) Completed:</u> Data products (spring2026); HoDs decision on desired technical report and SPM products for production in 2026  <u>Outreach Events:</u> project group meetings, webinar(s) and conference presentations (spring 2026, timing to be decided)  <u>National Data Check / Review:</u> Compiled data products (spring 2026)</p>	<p><b>SUMMARY OF KEY STEPS, AT A GLANCE</b>  <u>Calls for Nominations:</u> to be circulated in January 2026  <u>Key Meetings:</u> project group meetings to be arranged as necessary  <u>Product(s) Completed:</u> draft updated monitoring programme component (spring 2026)  <u>Outreach Events:</u> webinar (timing to be decided)  <u>National Review:</u> HoDs review summer 2026</p>	<p><b>SUMMARY OF KEY STEPS, AT A GLANCE</b>  <u>Key Meetings:</u> Mercury stable isotope and REE project group meetings to be arranged as necessary  <u>Product(s) Completed:</u> technical scoping reports with recommendations for consideration by HoDs: Hg stable isotopes - spring 2026; REE/GTEs – fall 2026  <u>Outreach Events:</u> webinars (timing to be decided)</p>	<p><b>SUMMARY OF KEY STEPS, AT A GLANCE</b>  <u>Product(s) Completed:</u> pending outcomes of proposed new project activity on co-production/Indigenous Knowledge use in AMAP assessment work  <u>Outreach Events:</u> possible related outreach at COP7 (June 2027)</p>
Jan 2025					
Feb 2025	<p><u>Milestones/Products:</u></p> <ul style="list-style-type: none"> <li>• Participation in Minamata OESG-16 virtual meeting</li> </ul>				<p><u>Milestones/Products:</u></p> <ul style="list-style-type: none"> <li>• Mercury webinar#6 (co-production)</li> </ul>
March 2025	<p><u>Milestones/Products:</u></p>				

# AMAP Workplan Implementation 2025-2027

## Implementation Plan for AMAP work to address Mercury in the Arctic (version Nov. 2025)

Implementation activities – Timelines and Tasks					
	Providing relevant Arctic data for use in Minamata Convention (MC) effectiveness evaluation (EE) and Supporting EE work under relevant Conventions	Implementing (cross-cutting) updating of contaminants time-series analyses	Updating AMAP monitoring programme	Using Mercury Stable Isotopes for understanding Mercury Sources and Transport in the Arctic and Scoping issues around REEs/GTEs	Co-production of planned mercury implementation activities
	<ul style="list-style-type: none"> <li>Participation in Minamata OESG-17 in-person meeting</li> </ul>				
April 2025				<u>Milestones/Products:</u> <ul style="list-style-type: none"> <li>Mercury webinar#7 (REE introduction)</li> </ul>	
May 2025	<ul style="list-style-type: none"> <li>Drafting contributions to OESG report</li> </ul>	<ul style="list-style-type: none"> <li>Secretariat: Organize HARSAT walk-through demo for N. American experts</li> </ul>		<ul style="list-style-type: none"> <li>Mercury stable isotopes project group call (THoDs)</li> </ul>	
June 2025		<ul style="list-style-type: none"> <li>Secretariat/EG leads: Organize work to compile relevant time-series data sets and apply analysis tools and identify experts to participate in this activity</li> </ul>			
<ul style="list-style-type: none"> <li>AMAP HoDs/PPs - Implementation plan mid-year review; Facilitate project group meeting(s) – logistics/resources/expert participation</li> </ul>					
July 2025	<ul style="list-style-type: none"> <li>Drafting contributions to OESG report</li> </ul>				
Aug 2025					
Sep 2025				<ul style="list-style-type: none"> <li>Mercury stable isotopes project group call</li> <li>Call for nominations (deadline 30 Oct): Establish REE project group</li> <li>Mercury THoDs call</li> </ul>	
Oct 2025	<u>Milestones/Products:</u> <ul style="list-style-type: none"> <li><u>Draft OESG report accessible for national review</u></li> </ul>	<ul style="list-style-type: none"> <li>Compilation of data and preliminary analysis</li> </ul>		<ul style="list-style-type: none"> <li>Mercury stable isotopes project group calls</li> </ul>	

## AMAP Workplan Implementation 2025-2027

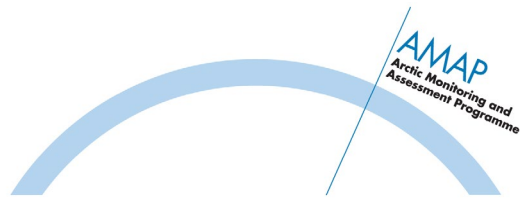
### Implementation Plan for AMAP work to address Mercury in the Arctic (version Nov. 2025)

Implementation activities – Timelines and Tasks					
	Providing relevant Arctic data for use in Minamata Convention (MC) effectiveness evaluation (EE) and Supporting EE work under relevant Conventions	Implementing (cross-cutting) updating of contaminants time-series analyses	Updating AMAP monitoring programme	Using Mercury Stable Isotopes for understanding Mercury Sources and Transport in the Arctic and Scoping issues around REEs/GTEs	Co-production of planned mercury implementation activities
Nov 2025	<u>Milestones/Products:</u> <ul style="list-style-type: none"> <li>Outreach? - Minamata COP6 – November 2025</li> </ul>	<ul style="list-style-type: none"> <li>Call for nominations to project group</li> </ul>	<ul style="list-style-type: none"> <li>EG leads/Secretariat: Establish mercury project group and convene project group meeting(s) to organize AMAP programme update activity</li> </ul>	<ul style="list-style-type: none"> <li>Mercury REE/GTEs scoping project group – project kick-off call (THoDs; 19 Nov.)</li> </ul>	<u>Milestones/Products:</u> <ul style="list-style-type: none"> <li>Collaboration on Minamata COP6 Knowledge lab?</li> </ul>
Dec 2025	<u>Milestones/Products:</u> <ul style="list-style-type: none"> <li>Input to review of EE report?</li> <li>End of project?</li> </ul>		<ul style="list-style-type: none"> <li>Initiate work to draft (Hg) monitoring programme update for review by HoDs/PPs.</li> </ul>	<u>Milestones/Products:</u> <ul style="list-style-type: none"> <li>First draft: Technical scoping report on Hg isotope application with, if relevant, proposals integrated into monitoring programme development')</li> </ul>	
AMAP HoDs/PPs - Implementation plan mid-year review; Facilitate project group meeting(s) – logistics/resources/expert participation					
Jan-Mar 2026		<u>Milestones/ Products:</u> <ul style="list-style-type: none"> <li>Data products available for national review and then added to AMAP online 'assessment portal'</li> <li>HoDs/PPs/EG Leads/Secretariat: Consider whether to develop an AMAP technical report on updated time-series results and/or related input to an AMAP SPM deliverable for 2025</li> </ul> <u>Milestones/Products:</u>	<ul style="list-style-type: none"> <li>Initiate work to draft (Hg) monitoring programme update for review by HoDs/PPs.</li> </ul> <u>Milestones/Products:</u> Updated AMAP monitoring programme for mercury	<u>Milestones/Products:</u> <ul style="list-style-type: none"> <li>Final draft: Technical scoping report on Hg isotope application with, if relevant, proposals integrated into monitoring programme development')</li> </ul>	

## AMAP Workplan Implementation 2025-2027

### Implementation Plan for AMAP work to address Mercury in the Arctic (version Nov. 2025)

Implementation activities – Timelines and Tasks					
	Providing relevant Arctic data for use in Minamata Convention (MC) effectiveness evaluation (EE) <i>and</i> Supporting EE work under relevant Conventions	Implementing (cross-cutting) updating of contaminants time-series analyses	Updating AMAP monitoring programme	Using Mercury Stable Isotopes for understanding Mercury Sources and Transport in the Arctic and Scoping issues around REEs/GTEs	Co-production of planned mercury implementation activities
		<ul style="list-style-type: none"> <li>Potential technical report and SPM deliverables</li> </ul>			
Mar-Jun 2026				<p><u>Milestones/Products:</u></p> <ul style="list-style-type: none"> <li>First working draft: Technical scoping report on REE/GTEs; initial (THoDs) consideration of recommendations for consideration by HoDs</li> </ul>	
Jun-Dec 2026	<ul style="list-style-type: none"> <li>AMAP HoDs/PPs/EG Leads/Secretariat: Development and delivery of technical reports, possible SPM, updated monitoring programme</li> <li>AMAP HoDs/PPs - Implementation plan mid-year review</li> </ul>				



## Pollution Issue: POPs/CEACs in the Arctic

<i>Most recent approved version</i>	<i>November 2025</i>
<i>This version</i>	<i>November 2025</i>
<i>Notes</i>	<i>Updated as per WG38 decisions</i>

# AMAP Workplan Implementation 2025-2027

## Implementation Plan for AMAP work to address POPs/CEACs in the Arctic (*version Nov 2025*)

AMAP's MAP's work reflects the long-term commitment of the Arctic Council to monitor and assess changes in the levels of pollution and climate change and their impacts on Arctic ecosystems and human populations.

This document presents a detailed step-wise plan for implementing AMAP work to address **Persistent Organic Pollutants (POPs) and Chemicals of Emerging Arctic Concern (CEAC) in the Arctic** throughout 2025 to 2027. This implementation plan builds on information from related 'one-pager' project activity proposals that were developed by the AMAP POPs Expert Group Leads, with guidance and support from the AMAP tracking HoDs and AMAP Secretariat, and/or from detailed scoping documents, as well as previously approved<sup>1</sup> versions of the plan that covered earlier timeframes. Together with other *AMAP implementation plans* that collectively cover the broad suite of issues within the AMAP mandate, this plan is intended to help advance project-level work under the current [AMAP Work Plan](#) in accordance with the [AMAP Strategic Framework 2019+](#), including its guiding principles and strategic goals, and to provide the AMAP Working Group and wider community with a common understanding of ongoing and planned AMAP activities.

The implementation activities described below will be carried out primarily by the AMAP Expert Group(s) with the support of the AMAP Secretariat, under the direction of AMAP HoDs<sup>2</sup>, and in a manner that is consistent with current Arctic Council guidelines for resumption of Working Group work.

These activities will support / contribute to the following AMAP Projects (as per AMAROK):

- Contaminant issues: POPs and mercury;
- Human Health and combined effects;
- Implementing AMAP Contaminant Trends and Effects Monitoring Programme;
- Support for International Conventions (Minamata, Stockholm, UN ECE Air, IPCC)
- Participation in international workshops, conferences;
- Efforts to engage PPs in AMAP's work.

The key AMAP products and deliverables planned for 2025-2027 in relation to AMAP work to address **POPs/CEAC in the Arctic** are:

- Technical reports and data products (POPs trends data products);
- Scientific assessment report (POPs trends);
- Summary for Policy-makers / Policy Briefs (as appropriate) (Local vs Long-range transported POPs/CEACs; POPs trends);
- Updated monitoring programme for POPs/CEACs;
- Outreach products, including webinars and outreach at international scientific conferences (LvLRT webinar series, POPRC 2025 presentation).

This implementation plan is intended to be updated and presented to the AMAP WG on a biannual basis (approximately June and November), or as needed, as determined by AMAP HoDs.

The AMAP POPs Expert Group (EG) is co-led by Canada (Derek Muir, Canada), Kingdom of Denmark (Katrin Vorkamp, University of Aarhus) and Sweden (Cynthia deWit and Matthew MacLeod,

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<sup>1</sup> Available on request

<sup>2</sup> Heads of Delegation of the 8 Arctic Council member states and its 6 Permanent Participants, organizations representing Arctic indigenous peoples.

# AMAP Workplan Implementation 2025-2027

## Implementation Plan for AMAP work to address POPs/CEACs in the Arctic (version Nov 2025)

Stockholm University), and currently comprises active members from all Arctic nations, 1 Permanent Participant (ICC), 10 Observer nations/organizations (China, Germany, Italy, Poland, Republic of Korea, Spain, Switzerland, The Netherlands, United Kingdom) and others (Australia, Czech Republic, EC). The AMAP POPs EG is supported by Simon Wilson in the AMAP Secretariat.

### A. Background:

Persistent organic pollutants (POPs) were identified as a priority pollution issue in the process that led to the establishment of AMAP in 1991. AMAP's work on POPs and Chemicals of Emerging Arctic Concern (CEAC) constitutes a core part of AMAP's activities to address environmental contaminants that can impact Arctic wildlife and human health. This work is organized under AMAP's POPs expert group (EG), and is coordinated internally with, in particular, AMAP EGs on mercury, human health, and litter and microplastics, and externally with work under the Arctic Council's Arctic Contaminants Action Programme (ACAP) Working Group.

Assessments concerning POPs and CEACs in the Arctic have been delivered by AMAP in 1998, 2002, 2009, 2015, 2016, 2018 and most recently in 2021<sup>3</sup>.

In addition to informing the Arctic Council and its member states and Permanent Participants, AMAP assessment and data products concerning POPs and CEAC provide important contributions to international processes that address chemicals management and action to reduce environmental pollution. In this respect, AMAP contributes to work under the UNEP Stockholm Convention on Persistent Organic Pollutants and the UN ECE Air Convention (Convention on Long-range Transboundary Air Pollution), as well as the Convention on Biodiversity. It also relates to UN initiatives, such as the Global Framework on Chemicals (<https://www.chemicalsframework.org/>), UNEP's activity to establish a science-policy panel to contribute further to the sound management of chemicals and waste and to prevent pollution (ref. UNEA decision 5.2), and current UN initiatives to link Conventions dealing with climate change, biodiversity and pollution (the triple planetary crisis) are also relevant for AMAP work addressing POPs/CEACs.

### B. AMAP's POPs/CEAC implementation plan – Overview of Implementation Activities

AMAP's POPs/CEACs implementation plan for 2025-2027 includes five primary activities:

- Updating AMAP trends and effects monitoring programme (ATEMP).
- Communication of policy-relevant findings, including findings of work on Local vs LRT sources of POPs and CEACs
- Updating contaminant time-series analyses.
- Providing relevant Arctic data for use in the Stockholm Convention effectiveness evaluation and POPs Review Committee.
- Advancing Co-production in implementation activities.

These activities are carried out in ways that specifically address the AMAP Strategic Goals and Guiding Principles<sup>4</sup>.

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<sup>3</sup> All AMAP reports are available from <https://www.amap.no/publications>

<sup>4</sup> [Combined AMAP implementation plans](#): Overview section

# AMAP Workplan Implementation 2025-2027

## Implementation Plan for AMAP work to address POPs/CEACs in the Arctic (version Nov 2025)

### 1. Providing relevant Arctic data for use in Stockholm Convention effectiveness evaluation and POPs Review Committee

#### **Activity leads/contacts:**

POPs EG co-leads supported by AMAP Secretariat; AMAP POPs EG members on the Stockholm Convention EE Groups and POPs Review Committee (POPRC).

#### **Rationale and description:**

The Stockholm Convention (SC) effectiveness evaluations (EE) are conducted at 6-year intervals and AMAP engages with these processes to ensure that Arctic data are included in the SC EE reports; results of time-series analyses (see 2, below) are particularly relevant in this work. AMAP also provides relevant data on contaminants that are being considered by the SC POPs Review Committee (POPRC) for listing under the Convention annexes.

In connection with its work on POPs/CEAC, AMAP also engages with other relevant processes under UNEP, including its Global Framework on Chemicals, and supports the UN ECE Air Convention (on long-range transboundary air pollution, CLRTAP).

As part of its initiative to address the triple planetary crises of climate change, nature and biodiversity loss, and waste and pollution, UNEP has established the [Intergovernmental Science-Policy Panel on Chemicals, Waste and Pollution](#) (ISP-CWP); the work of this Panel will be tracked by the POPs/CEAC EG.

During 2025-2027, AMAP will continue to support work under the Stockholm Convention by preparing data products and relevant information for use in its next Effectiveness Evaluation process and ongoing work of its POPRC. AMAP will engage with the Basel-Rotterdam-Stockholm Convention Secretariats to discuss possible future collaborative work, including potential outreach.

#### **Progress to-date:**

The HARSAT tool co-developed by AMAP, HELCOM and OSPAR is now publicly available (see <https://harsat.amap.no/>) and a 'user group' has been established to maintain/further develop and apply this tool.

Timelines for activities under relevant external bodies (SC EE, SC POPRC, UN OEWG, etc.) are established. The timeline for the SC EE envisages compilation of data and data products for use in the EE during fall 2025, with initial drafts being prepared by the regional drafting team responsible for the WEOG region (which includes the North American/European Arctic region) in spring 2026. Members of the POPs EG are serving on the WEOG drafting team as follows: WEOG Coordinator - Tom Harner (Canada); Air - Hayley Hung (Canada) and Matt MacLeod (Sweden); other media (Pernilla Carlsson (Norway)); water/PFAS (Derek Muir). Work on the compilation/analysis of data for the Stockholm Convention effectiveness evaluation has been initiated, in part related to the temporal trend assessment work (see 2, below).

An AMAP outreach event was arranged by the POPs EG in connection with the 21<sup>st</sup> meeting of the POPRC (29 September-3 October 2025) where results and recommendations arising from the work on local vs LRT sources of POPs were presented/communicated (see 4, below).

### 2. Updating of contaminants time-series analyses and POPs/CEACs temporal trend assessment

#### **Activity leads/contacts:**

POPs EG co-leads supported by AMAP Secretariat; AMAP POPs EG members identified to lead time-series analysis and/or lead chapters of the trend assessment.

# AMAP Workplan Implementation 2025-2027

## Implementation Plan for AMAP work to address POPs/CEACs in the Arctic (version Nov 2025)

### ***Rationale and description:***

To address an overarching PRSQs: *To what extent are levels of contaminants in the Arctic increasing or decreasing?, how do these changes vary between matrices, locations and contaminants (and what can we deduce from these variations)?, and how is climate change affecting these trends?*

AMAP expert groups routinely update information on temporal trends of hazardous substances in Arctic biotic and abiotic media. To date, such work has been performed in connection with major assessments (at intervals of 5+ years). HoDs have requested that information and results of monitoring activities are updated in a more timely fashion and have previously expressed support for an updated assessment of contaminant time trends. Data products on (statistical) analysis of time-series underpin both AMAP assessments and work under global Conventions that track the effectiveness of actions to reduce pollution, globally and in the Arctic. The last such comprehensive update of temporal trends in POPs/CEAC was undertaken in 2014 (with data to ca. 2012); trends for selected CEACs in air and biota to 2014 were included in the assessment of CEACs (2016) and influences of climate change on long-term POP levels were addressed in the assessment of influences of climate change (2021). Additional data from e.g. environmental archives such as ice cores can be used to supplement the (recent) time-series for air and biota.

Harmonized systems are being developed together with OSPAR and HELCOM to assess marine time-series data and make these available via dedicated online assessment portals, providing updated statistics on POPs/CEAC temporal trends in biota, that can be used in a scientific assessment. Given the variety of CEAC (and their physical-chemical properties) as well as the climate-related dynamics of the physical environment of the Arctic and its ecosystems, it will be relevant to conduct a multimedia time trend assessment of POPs and CEAC, to enhance our understanding of the complex changes of chemicals in the Arctic.

In its most recent assessment, AMAP recommended that temporal trend analytical methods and approaches be further developed to better incorporate and investigate relationships with climate-related parameters and apply these to retrospectively re-analyze trends in existing time-series. Data for POPs/CEAC in air and biota together with Arctic time trend datasets for other matrices can be used in a comprehensive circumarctic temporal-trends scientific assessment across matrices and contaminants, and include links to climate change parameters.

During 2025-2027, an assessment considering multi-compartment POPs/CEAC trends and relationships to possible drivers (sources and climate change, etc.) will be prepared for delivery, in the form of a technical assessment report and SPM, in 2027. During 2025/2026, AMAP will prepare data products and other forms of information based on time-series analyses that will feed into this assessment and also be communicated to the Stockholm Convention for use in its Effectiveness Evaluation process (that has aligned timing) as well as other initiatives (UN ECE Air Convention, incorporation in AMAP data portal, etc.).

### ***Progress to-date:***

An 'expression of interest' letter was sent by EG co-leads to members of the AMAP POPs/CEAC expert pool on 19 February 2024 to ask experts about availability of relevant data and interest in participating in a comprehensive POPs/CEAC temporal trends assessment process – responses have been compiled by the EG leads. As of April 2024, ca. 35 experts had expressed their interest to contribute with data and/or to the assessment and writing process.

AMAP POPs EG co-leads arranged a virtual project group 'kick-off' meeting 21 November 2024, with a second virtual meeting 30 January 2025 and a third on 18 March 2025. These meetings resulted in an overview of the data sources that exist for possible analysis/evaluation and a plan to arrange work around contaminant group chapters, as well as identification of experts to lead

# AMAP Workplan Implementation 2025-2027

## Implementation Plan for AMAP work to address POPs/CEACs in the Arctic (version Nov 2025)

and contribute to the various sections. A (hybrid) project group workshop took place 15/16 May 2025 in conjunction with SETAC-Europe to further specify the work plan for this assessment with subsequent (online) chapter leads meetings at approximately monthly intervals to track progress. Chapter leads have arranged *ad hoc* chapter group calls, and an online workshop to introduce the use HARSAT in preparing data products from statistical analyses of biota time-series was arranged in October 2025). Overall progress in compiling and analyzing the (biota and air) data for use in the assessment, originally planned to be completed over the summer 2025, was delayed; this work is now scheduled for completion by the end of 2025, which is still consistent with allowing for it to deliver data products for inclusion in the SC EE work (see 1, above). Work to draft the technical report chapters is to some extent dependent on delivery of data products from this delayed process, but parts of the work concerning acquisition of and evaluation of data from other media (water, sediment/ice cores, etc.) and climate case studies based on publications are ongoing.

### 3. Updating AMAP trends and effects monitoring programme (ATEMP)

#### **Activity leads/contacts:**

POPs EG co-leads supported by AMAP Secretariat.

#### **Rationale and description:**

AMAP implements a coordinated programme for monitoring contaminants and their effects in the Arctic – the AMAP Trends & Effects Monitoring Programme (ATEMP). This programme is intended to deliver the data and information required to address related issues under the overarching PRSQ: *What are the sources, levels, trends and effects of environmental contaminants in Arctic air, marine/terrestrial/freshwater environments, and biota including humans?*

The AMAP programme is based largely on national monitoring and research activities. AMAP defines a set of core activities that it encourages countries to adopt as part of their AMAP national implementation plans and conducts work to harmonize monitoring and related activities (data management, etc.), including harmonization with overlapping international monitoring under e.g. EMEP, OSPAR, etc. The 'guidelines' for monitoring of contaminants under the AMAP Trends & Effects Monitoring Programme last received a comprehensive update in 2004.

The AMAP WG has identified updating of AMAP monitoring programme, to include both consideration of new approaches and methods, a priority activity in its workplan and charged the Secretariat with developing a plan to accomplish this work. Planned work includes reviewing the use of new methods for screening for chemicals in a monitoring context, and reviewing implementation of passive samplers in ATEMP. This activity connects to AMAP's Strategic Goal to enhance engagement of indigenous people in AMAP work as well as work to better integrate cross-cutting aspects addressing contaminants, wildlife health and human health. Chemical mixture and non-targeted screening approaches to consider chemicals and their transformation products more holistically are relevant in this context.

During 2025-2027, AMAP will work towards producing an updated (online) resource documenting components of the AMAP trends and effects monitoring programme addressing POPs and CEACs in the Arctic environment. This should also address QA/QC aspects, for example the participation of laboratories involved in AMAP work in the NCP/AMAP interlaboratory study.

#### **Progress to-date:**

Work on this component has not yet started and has been rescheduled for implementation in 2026.

# AMAP Workplan Implementation 2025-2027

## Implementation Plan for AMAP work to address POPs/CEACs in the Arctic (version Nov 2025)

Scoping work to better integrate contaminants wildlife/human health effects monitoring was included at the Sandbjerg workshop arranged by Canada and Denmark (May 2023). The Task Team being established under the Contaminants-Wildlife-Human health initiative to work during 2025/2026 to consider new approaches to monitoring and their connections to chemicals management could be particularly relevant to work on POPs/CEACs.

#### 4. Communication of policy-relevant findings, including findings of work on Local vs LRT sources of POPs and CEAC

##### **Activity leads/contacts:**

POPs EG tracking HoDs, co-leads and experts, supported by AMAP Secretariat.

##### **Rationale and description:**

In 2021, AMAP WG approved an activity under the POPs/CEAC EG to prepare an assessment of the relative importance of local vs long-range transport (LRT) as sources for POPs and CEAC entering the Arctic. This work is of particular significance to the Stockholm Convention POPs Review Committee that evaluates chemicals for addition to the Convention and which uses LRT as a criterion for defining potentially hazardous chemicals as POPs in the environment and significant for northern communities.

During 2025-2027, AMAP will finalize work on scientific journal articles that can be developed into a derivative SPM with associated outreach targeting the Stockholm Convention and Air Convention.

##### **Progress to-date:**

Work reviewing local vs LRT sources of PPs and CEAC impacting the Arctic has been implemented through a scientific collaborative process led by AMAP POPs EG co-leads and involving members of the AMAP POPs EG. Scientific journal articles are published/under preparation for publication in a special issue of [Environmental Science: Advances](#) which will include six review papers as well as papers detailing seven case studies.

Currently, four of the main articles and five case studies have been published, with other papers in late stages of drafting. Articles are due to be completed by fall 2025. AMAP Secretariat has contributed technical support for graphical production.

The scientific articles<sup>5</sup> will be reviewed as a basis for the potential development of an AMAP Summary for Policy-makers in spring 2025. As the journal publication work is still ongoing this SPM will be delivered under the Kingdom of Denmark Chairship period.

Outreach at scientific conferences: Preliminary findings of this work were presented at a satellite event of the International Conference for Chemistry in the Environment (June 2023)<sup>6</sup>, the Canadian Northern Contaminants Program (NCP) results workshop (Ottawa, February 2024), the Society of Environmental Toxicology and Chemistry (SETAC) Asia-Pacific meeting (Tianjin, China, September 2024), ArcticNet's Arctic Change Conference (Ottawa, December 2024) and SETAC-Europe 2025 (Vienna, 12-15 May 2025).

Outreach at policy fora: Preliminary findings were presented at a side event of the SC POP Review Committee in autumn 2023, with updated findings presented at a POPRC side-event in 2025.

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<sup>5</sup> <https://pubs.rsc.org/en/journals/articlecollectionlanding?sercode=va&themeid=a14805b2-43d4-4cc1-acc6-b1c6383b1562>

<sup>6</sup> <https://icce2023.com/satellite-events/>

# AMAP Workplan Implementation 2025-2027

## Implementation Plan for AMAP work to address POPs/CEACs in the Arctic (version Nov 2025)

A series of six webinars was arranged (between September-November 2025) to present results of the local vs LRT work. The recordings of presentations in this webinar series are available in the collection posted on the [AMAP YouTube channel](#)<sup>7</sup>.

### 5. Co-production of planned implementation activities

#### **Activity leads/contacts:**

POPs EG co-leads and Permanent Participant representatives, supported by AMAP Secretariat.

#### **Rationale and description:**

AMAP's Strategic Goals include enhancing engagement of Indigenous People in AMAP work, promoting both co-production of knowledge through early engagement of PPs in AMAP work planning as well as activities such as community-based monitoring and integration of Indigenous Knowledge in AMAP assessments.

During 2025-2027, AMAP will work towards continuing to determine best practices for introduction of co-production into AMAP POPs/CEACs monitoring and assessment work, and to implement these to the greatest possible extent.

#### **Progress to-date:**

Discussions on co-production of planned POPs monitoring were initiated at the Sandbjerg workshop and will build also on discussion at venues including the UNFCCC Arctic Regional Workshop in Kirkenes (October 2023) and NCP results workshop (February 2024).

A proposed new project that aims to 'develop guidance on how to meaningfully and appropriately engage Indigenous peoples and use Indigenous Knowledge in AMAP assessments and assessment processes', was approved in principle by AMAP HoDs/PPs but remains to be further developed; once in an implementation phase, it is expected to inform further work on co-production in relation to AMAP mercury assessment work.

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<sup>7</sup> [https://www.youtube.com/playlist?list=PLlIe73o0XFzOBnfpFFd\\_eOEuo2vshnGI](https://www.youtube.com/playlist?list=PLlIe73o0XFzOBnfpFFd_eOEuo2vshnGI)

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## Implementation Plan for AMAP work to address POPS/CEACs in the Arctic (version Nov 2025)

Implementation activities – Timelines and Tasks					
	Providing relevant Arctic data for use in Stockholm Convention (SC) effectiveness evaluation (EE) and POPs Review Committee (POPRC)	Updating contaminants time-series analyses and POPs/CEACs temporal trend assessment	Updating AMAP monitoring programme	Communication of policy-relevant findings, including findings of work on Local vs LRT sources of POPs and CEAC	Co-production of planned POPs/CEAC implementation activities
Timing	Tasks	Tasks	Tasks	Tasks	Tasks
January-December 2024	<i>See archived record of implementation work in 2024</i>				
Summary for 2025-2027	<p><b>SUMMARY OF KEY STEPS, AT A GLANCE</b></p> <p><u>Key Meetings</u>: POPRC-21 (29 Sep-3 Oct 2025); Stockholm Convention EE meetings (timing to be confirmed)</p> <p><u>Product(s)</u>: Data products for Stockholm Convention EE (Jan/Feb 2026)</p> <p><u>Outreach Events</u>: POPRC-21 side-event</p>	<p><b>SUMMARY OF KEY STEPS, AT A GLANCE</b></p> <p><u>Key Meetings</u>: project group meetings to be arranged as necessary; assessment project group meeting (ASSW, 29 March)</p> <p><u>Product(s) Completed</u>: Data products (by Jan 2026);</p> <p><u>National Data Check / Review</u>: Compiled data products (summer 2026); Assessment final draft for peer review (fall 2026)</p> <p><u>Outreach Events</u>: Communication of data products to Stockholm Convention EE (end 2025/early 2026)</p>	<p><b>SUMMARY OF KEY STEPS, AT A GLANCE</b></p> <p><u>Calls for Nominations</u>: to be circulated (timing tbd)</p> <p><u>Key Meetings</u>: project group meetings to be arranged as necessary</p> <p><u>Product(s) Completed</u>: draft updated monitoring programme component (timing tbd)</p> <p><u>National Data Check / Review</u>: HoDs review (timing tbd)</p>	<p><b>SUMMARY OF KEY STEPS, AT A GLANCE</b></p> <p><u>Product(s) Completed</u>: scientific journal articles; SPM pending finalization of ‘summary’ journal article and development of SPM (fall 2026)</p> <p><u>Outreach Events</u> webinars (September 2025) and presentation of recommendations at POPRC (Sep-Oct 2025)</p>	<p><b>SUMMARY OF KEY STEPS, AT A GLANCE</b></p> <p><u>Product(s) Completed</u>: pending outcomes of proposed new project activity on co-production/Indigenous Knowledge use in AMAP assessment work</p>
January 2025		<p><u>Milestones/Products</u>:</p> <p>Second online workshop; identification of chapter leads/contributors</p>			
February 2025					
March 2025		<p><u>Milestones/Products</u>:</p> <p>Third online workshop; identification of chapter leads/contributors</p>			
April 2025					
May 2025		<p><u>Milestones/Products</u>:</p>			

# AMAP Workplan Implementation 2025-2027

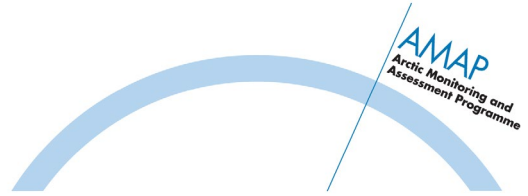
## Implementation Plan for AMAP work to address POPS/CEACs in the Arctic (version Nov 2025)

Implementation activities – Timelines and Tasks					
	Providing relevant Arctic data for use in Stockholm Convention (SC) effectiveness evaluation (EE) and POPs Review Committee (POPRC)	Updating contaminants time-series analyses and POPs/CEACs temporal trend assessment	Updating AMAP monitoring programme	Communication of policy-relevant findings, including findings of work on Local vs LRT sources of POPs and CEAC	Co-production of planned POPs/CEAC implementation activities
Timing	Tasks	Tasks	Tasks	Tasks	Tasks
		Participation of relevant experts in hybrid workshop, with in-person participation at project group workshop (15-16 May) arranged in connection with SETAC-Europe			
June 2025					
July 2025					
Aug 2025		<ul style="list-style-type: none"> <li>Chapter leads call</li> </ul>			
Sept 2025		<ul style="list-style-type: none"> <li>Chapter leads calls</li> <li>Biota data analysis workshop</li> </ul>		<u>Milestones/Products:</u> <ul style="list-style-type: none"> <li>LvLRT webinars #1 and #2</li> </ul>	
Oct 2025		<ul style="list-style-type: none"> <li>Air and biota time-series data analysis</li> <li>HoDs review of plans for AMAP assessment report on temporal trends across matrices linking to climate change and food web parameters.</li> </ul>		<u>Milestones/Products:</u> <ul style="list-style-type: none"> <li>LvLRT webinars #3 and #4</li> <li>POPRC side-event</li> </ul>	
Nov 2025				<u>Milestones/Products:</u> <ul style="list-style-type: none"> <li>LvLRT webinars #5 and #6</li> <li>Publication of remaining articles</li> </ul>	
Dec 2025- Jan 2026	<u>Milestones/ Products:</u> <ul style="list-style-type: none"> <li>Data products available for national review and then added to AMAP online ‘assessment portal’;</li> <li>Data products available for use in Stockholm Convention EE</li> </ul>	<u>Milestones/ Products:</u> <ul style="list-style-type: none"> <li>Air and biota data analyses products available to chapter leads</li> </ul>			

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## Implementation Plan for AMAP work to address POPS/CEACs in the Arctic (version Nov 2025)

Implementation activities – Timelines and Tasks					
	Providing relevant Arctic data for use in Stockholm Convention (SC) effectiveness evaluation (EE) and POPs Review Committee (POPRC)	Updating contaminants time-series analyses and POPs/CEACs temporal trend assessment	Updating AMAP monitoring programme	Communication of policy-relevant findings, including findings of work on Local vs LRT sources of POPs and CEAC	Co-production of planned POPs/CEAC implementation activities
Timing	Tasks	Tasks	Tasks	Tasks	Tasks
Jan-Jun 2026		<ul style="list-style-type: none"> <li>POPs trends assessment project group meeting (ASSW Friday 27 March) analysis workshop</li> </ul> <p><u>Milestones/ Products:</u> Final draft technical report for national data check</p>			
Aug-Dec2026		<p><u>Milestones/ Products:</u></p> <ul style="list-style-type: none"> <li>Final draft technical report for peer review</li> </ul>	<p><u>Milestones/Products:</u></p> <ul style="list-style-type: none"> <li>Draft version of the (POPs/CEAC) monitoring update?</li> <li>Review and revision of the draft</li> <li>Updated AMAP monitoring programme</li> </ul>	<p><u>Milestones/Products:</u></p> <ul style="list-style-type: none"> <li><u>Potential SPM deliverable</u></li> </ul>	
2026	<ul style="list-style-type: none"> <li>AMAP HoDs/PPs/EG Leads/Secretariat: Development and delivery of technical reports, possible SPM, updated monitoring programme</li> </ul>				



## Pollution Issue: Litter and Microplastics

*(version July 2025; approved in June 2025; includes subsequent changes)*

## AMAP Work Plan Implementation 2025-2027

Implementing AMAP work to address **Litter and Microplastics Pollution** in the Arctic  
(Version 1.1 - 17th July 2025)

AMAP's work reflects the long-term commitment of the Arctic Council to monitor and assess changes in the levels of pollution and climate change and their impacts on Arctic ecosystems and human populations.

This document presents a detailed stepwise plan for implementing AMAP work to address **litter and microplastics pollution in the Arctic** throughout 2025 to 2027. This implementation plan builds on information from related 'one-pager' project activity proposals (see Annex A) that were developed by the AMAP Litter and Microplastics Expert Group (LMEG) leads, with guidance and support from the AMAP tracking HoDs and AMAP Secretariat, as well as previously approved versions of the plan that covered earlier timeframes. Together with other AMAP implementation plans that collectively cover the broad suite of issues within the AMAP mandate, this plan is intended to help advance project-level work under the current AMAP Work Plan in accordance with the *AMAP Strategic Framework 2019+<sup>1</sup>*, including its guiding principles and strategic goals, and to provide the AMAP Working Group and wider community with a common understanding of ongoing and planned AMAP activities.

The implementation activities described below will be carried out primarily by the AMAP Litter and Microplastics Expert Group (LMEG) with the support of the AMAP Secretariat, under the direction of AMAP HoDs and PPs, and in a manner that is consistent with **current Arctic Council guidelines for resumption of Working Group work**.

These activities will support the following AMAP projects (as per AMAROK):

- Contaminant issues: Arctic Marine Microplastics and Litter;
- Addressing Contaminants and Human Health Issues;
- AMAP Trends and Effects Programme;
- Support for International Conventions;
- Participation in international workshops, conferences; and
- Efforts to engage PPs in AMAP's work.

The key products and deliverables planned for 2025-2027 in relation to AMAP work to address litter and microplastics pollution in the Arctic are:

- Scientific report (*The Effects of Plastic Pollution on Arctic Biota*);
- Summary for Policy-makers (*The Effects of Plastic Pollution on Arctic Biota*. Based on the AMAP scientific report 2025. Released in May 2025);
- A technical report, which would map existing environmental data within prioritised compartments
- A scoping document for consideration by the AMAP WG in 2026 on organising a first comprehensive AMAP assessment on litter and microplastics in the Arctic, most likely in the period 2027-2029
- Recommendations to the AMAP WG on an approach to updating of monitoring guidelines
- Outreach products, including webinars and outreach at international scientific conferences

This implementation plan is intended to be updated on a biannual basis (spring and fall), or as needed, as determined by AMAP HoDs.

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<sup>1</sup> <https://www.amap.no/documents/doc/amap-strategic-framework-2019/1802>

## **AMAP Work Plan Implementation 2025-2027**

Implementing AMAP work to address **Litter and Microplastics Pollution** in the Arctic  
(Version 1.1 - 17th July 2025)

The AMAP LMEG is co-led by Canada (Jennifer Provencher) and Norway (Eivind Farnen), and currently comprises active members from seven Arctic nations, two Permanent Participants (AIA and ICC), and three Observer nations (France, Germany, and Italy). The AMAP LMEG is supported by Jan Rene Larsen in the AMAP Secretariat.

## AMAP Work Plan Implementation 2025-2027

Implementing AMAP work to address **Litter and Microplastics Pollution** in the Arctic  
(Version 1.1 - 17th July 2025)

### Background

The spread and accumulation of plastic pollution in the Arctic, including from litter and microplastics is an issue of increasing concern for communities and people of the Arctic. The Arctic region may be particularly vulnerable to plastic pollution.

Plastic pollution has also been an issue of increased attention in recent years from the Arctic Council, and specifically from AMAP. The issue was first addressed by the Arctic Council in the AMAP assessment *Chemicals of Emerging Arctic Concern*<sup>2</sup> (AMAP 2016), and subsequently the PAME (Protection of the Arctic Marine Environment) *Desktop Study on Marine Litter, including Microplastics in the Arctic*<sup>3</sup> (PAME 2019) provided a first overview of plastic pollution in the Arctic. The studies acknowledged the limited data and information on this form of pollution in the Arctic and pointed to the need for more work to address the transport, fate, levels, trends and effects of plastic and microplastic in the Arctic environment and ecosystems. Understanding the effects of litter and microplastics in the Arctic and monitoring the changes in their levels over time is important for enabling AMAP to inform policy-makers about potential pollution threats.

AMAP work on litter and microplastics is organized under the AMAP Litter and Microplastics Expert Group (LMEG), and coordinated internally with, in particular, the AMAP Expert Group on Persistent Organic Pollutants, and externally with work under the Arctic Council PAME Working Group. The LMEG was formed in 2019 in response to the need to better understand litter and microplastics in the Arctic environment. It was tasked by AMAP HoDs to: review and assess the status and knowledge of plastic pollution in the Arctic; provide recommendations for developing coordinated pan-Arctic monitoring activities; and promote a harmonized monitoring and standard reporting approach. Collectively, these activities were seen as critical in order to address the concerns of Arctic communities and peoples, and to inform mitigation actions. The Icelandic Chairmanship of the Arctic Council (2019-2021) identified litter and microplastics as a priority for the Arctic Council; the topic was also identified as a priority under the Norwegian Chairmanship of the Arctic Council (2023-2025) and remains a priority for the Kingdom of Denmark during their Chairship from 2025 to 2027.

A phased approach was chosen for LMEG's work. In the first phase (2019-2021), the focus was on developing a monitoring programme for litter and microplastics in the Arctic. In 2021, AMAP published a plan (*AMAP Litter and Microplastics Monitoring Plan*<sup>4</sup>) and guidelines (*AMAP Litter and Microplastics Monitoring Guidelines*<sup>5</sup>) for the environmental monitoring of litter and microplastics. The monitoring guidelines includes an assessment of the state of knowledge and the methods for assessing litter and microplastics in 11 environmental compartments found in the pan-Arctic region. This work also led to a published series of peer-reviewed papers that are *open access* and form a collection in the journal *Arctic Science*<sup>6</sup> as part of the ongoing efforts to share, collaborate and coordinate with other groups working on this issue.

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<sup>2</sup> <https://www.amap.no/documents/doc/AMAP-Assessment-2016-Chemicals-of-Emerging-Arctic-Concern/1624>

<sup>3</sup> <https://pame.is/ourwork/arctic-marine-litter/desktop-study-on-marine-litter/>

<sup>4</sup> <https://www.amap.no/documents/download/6713/inline>

<sup>5</sup> <https://www.amap.no/documents/download/6761/inline>

<sup>6</sup> <https://cdnsiencepub.com/topic/as-litter-microplastics>

## **AMAP Work Plan Implementation 2025-2027**

Implementing AMAP work to address **Litter and Microplastics Pollution** in the Arctic  
(Version 1.1 - 17th July 2025)

In the second phase of the work by the LMEG (2021-2025) work expanded to include a gap analysis of the effects of litter, microplastics and plastic chemical additives on animals. In 2025, AMAP will publish the scientific report *Effects of Plastic Pollution on Arctic Biota*, which is also addressing effects of plastics additives, and a related Summary for Policy-makers.

AMAP's key publications to date on litter and microplastics in the Arctic include:

- Overview of AMAP Initiatives for Monitoring and Assessment of Plastic Pollution in the Arctic (2021)
- AMAP Litter and Microplastics Monitoring Plan (2021)
- AMAP Litter and Microplastics Monitoring Guidelines. Version 1.0 (2021)
- Summary for Policy-makers: Effects of Plastic Pollution on Arctic Biota (2025)

## AMAP Work Plan Implementation 2025-2027

Implementing AMAP work to address **Litter and Microplastics Pollution** in the Arctic  
(Version 1.1 - 17th July 2025)

### AMAP's Litter and Microplastics Implementation Plan – Overview of Implementation Activities

AMAP's Litter and Microplastics Implementation Plan for 2025-2027 includes five primary activities:

1. Preparations for the first full AMAP assessment on plastic pollution in the Arctic (APPol-A)
2. Updating the AMAP monitoring guidelines
3. AMAP support for international fora addressing global plastic pollution issues
4. Engaging Indigenous People in addressing plastic pollution in the Arctic
5. Communicating the findings from the AMAP scientific report, *The Effects of Plastic Pollution on Arctic Biota*.

#### 1. Preparations for the first full AMAP assessment on plastic pollution in the Arctic (APPol-A)

##### 1.1 Rationale and description

In this phase of work (2025-2027), the LMEG will prepare for a larger assessment, potentially for the period 2027-2029. Given that this will be the first full assessment that the LMEG will undertake, the work plan for 2025-2027 focuses on developing a more fulsome understanding of what will be needed to carry out the work potentially for 2027-2029. This will include:

- Status/learning from national implementation of the current monitoring plan and guidelines.
- Creating overviews of data across the four Priority 1 compartments: Beaches/shorelines, sediments (freshwater and marine), water (freshwater and marine), and seabirds. Mapping of existing environmental data within prioritised compartments.
- Creating an overview of existing data on sources and transportation.
- Investigate the effort that it will take to bring these data together. Ongoing conversation on this with the ICES Working Group on Marine Litter, and similar groups under IASC, SPAR, MOEJ, SCAR, SCOR, OSPAR, IMDOS, and PICES.
- Discuss assessment methodology with the above mentioned, including QA/QC of data.
- Work with PPs and experts to explore where PP partners can contribute to the mentioned overviews (see section 2.4 for more details).

Preliminary findings can be presented at the anticipated plastics symposium in Iceland in 2026. A 2-day workshop is planned in 2026, and support for experts' participation in the workshop is anticipated.

A full assessment could involve a full review of the eleven compartments in relation to their priority status for temporal and spatial trend monitoring. For example, the current monitoring plan identifies Priority 1 and 2 compartments for monitoring. Indicators within these compartments met a set of criteria that was outlined in the monitoring plan developed in 2021. In the assessment phase in 2027-2029, LMEG would examine the progress in the compartments, and evaluate how compartments currently listed as a Priority 2, may be moved to Priority 1, or if any Priority 3 compartments may be moved to a higher priority.

The LMEG will create an overview in 2025-2027 for Priority 1 compartments: Beaches/shorelines, sediments (freshwater and marine), water (freshwater and marine), and seabirds.

## **AMAP Work Plan Implementation 2025-2027**

Implementing AMAP work to address **Litter and Microplastics Pollution** in the Arctic  
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The outcome of the work includes a scoping document for consideration by the AMAP WG in 2026 on organising a first comprehensive AMAP assessment on litter and microplastics in the Arctic, most likely in the period 2027-2029

### **1.2 Progress to-date**

During the preparation of the *AMAP Litter and Microplastics Monitoring Guidelines* (2021), the LMEG produced a series of overview maps of the sampling for selected compartments.

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### **2. Updating the AMAP monitoring guidelines**

#### **2.1 Rationale and description**

This activity will build on the work carried out by LMEG throughout 2019-2021, which resulted in the development and delivery of a monitoring programme for litter and microplastics in the Arctic in 2021. This included a series of technical documents that outlined methods for collecting samples and producing data on litter and microplastics across 11 compartments. While this work was based on existing and harmonized methods when possible, there are several environmental compartments where method development was still in the early stages.

This activity will formulate recommendations on the need to update the technical method guidelines, based on these themes:

- What are the status and lessons learned from national implementation of the current monitoring guidelines? For example, are there some approaches that are not applicable to the Arctic region?
- Are there learnings from the effects analysis that merits updates to the monitoring plan or guidelines?
- Is there new information on the need to monitor and understand risks in the Arctic, including information related to Indigenous priorities?

This work will be foundational for work that will be undertaken in the 2027-2029 phase, including considering the following:

- Re-evaluating the prioritisation of compartments to provide.
- Is there a need to update the technical components of the guidelines?
- Can the current guidance be updated to reflect the development of the principles for the management of monitoring data that have been developed since the guidelines were published?

The questions will be discussed at the proposed workshop in 2026. Recommendations will be formulated and submitted for discussion at AMAP WG meeting in autumn 2026.

It should be noted that the direction from the AMAP HoDs was that guidelines should have 'time to work' before they are updated. Therefore, this phase of work will work with the LMEG experts to assess not only what new methods may be available, but also the maturity of any new approaches within the field that would warrant a future updating of the technical guidelines.

The main outcome/deliverable of this work will be the formulation of recommendations on the need to update the technical method guidelines.

#### **2.2 Progress to-date**

A brief national reporting on the implementation of the monitoring guidelines was organised at an expert workshop in 2023. There is continuous dialogue with ICES on data reporting. Current focus from their side is on the reporting of litter from fish trawling, while biota has lower priority.

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### **3. AMAP support for international fora addressing global plastic pollution issue**

#### **3.1 Rationale and description**

One of AMAP's strategic goals is to support relevant international processes. Results from the AMAP assessments are reported to the Arctic Council and governments of Arctic and Observer states as well as to relevant international organizations and processes that use AMAP results in their work.

The UNEP Intergovernmental Negotiating Committee (INC) is in the process of developing an international legally binding instrument on plastic pollution, including in the marine environment. AMAP will continue to follow the development of the instrument and ideally inform the development process. With its current activities, AMAP is ahead of the curve with regards to monitoring plastics in the environment and providing input into policy-making. AMAP's contributions to other pollution-related conventions (e.g. Stockholm Convention on POPs, Minamata Convention on Mercury) have been through assessment work that contributes to the evaluation of the effectiveness of the policy instruments, and AMAP will be well-positioned to do the same with respect to an anticipated plastics treaty.

The *Implementation Plan for the Regional Action Plan on Marine Litter in the Arctic* (ML-RAP) stipulates regular reporting on Arctic Council Working Group activities. LMEG will prepare AMAP's contributions to this.

Key questions for AMAP to address during the period of 2025-2027 are:

- What are the main contents and needs of the INC, and how can they be related to AMAP's overall goals?
- Will there be INC goals which need the development of new monitoring/indicators?
- Are there developments in the implementation of the Marine Litter Regional Action Plan (ML-RAP) in the period that AMAP should address?

There are also other groups working on litter and microplastics monitoring, including ICES in the North Atlantic and PICES in the North Pacific, which have overlapping geographies with AMAP. Given the ongoing ICARP IV planning process for the next International Polar Year, there are also overlapping interests on litter and microplastics with SCAR. Thus, LMEG will work to coordinate work in this area through its members who also have seats in these related organisations.

#### **3.2 Progress to-date**

The AMAP Secretariat and the LMEG have followed the INC negotiations, and ICC is directly involved in the process. An Arctic and Indigenous Peoples focused side event was organised in the context of INC-4 in April 2024 in Ottawa, Canada. INC-5 in autumn 2024 was not successful in producing the final treaty text, and another INC (5.2) has been scheduled to take place in August 2025, with the hope that this meeting will result in an agreed treaty text.

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### 4 Engaging Indigenous People in addressing plastic pollution in the Arctic

#### 4.1 Rationale and description

A pillar of work with the Arctic Council is engagement of Indigenous partners, that is, the Permanent Participants (PPs), and utilization of Indigenous Knowledge and Ways of Knowing throughout the Council's work. The AMAP Expert Groups are encouraged to engage with the PPs as a way to ensure that Indigenous Ways of Knowing are utilized throughout their work.

LMEG would like to have a more meaningful approach to increasing the Indigenous engagement in the group and its activities. Similar to the technical work, the work will take a phased approach that will support LMEG members to engage with PP participants, including undertaking some foundational work that will allow a broader understanding of Indigenous Ways of Knowing. Thus, the phase 2025-2027 will focus on education and training of the membership of LMEG.

#### 4.2 Progress-to-date

In its early years (Phase I), the LMEG had Indigenous experts, nominated by the PPs, among its membership, but those members have decided that the highly technical scientific nature of the LMEG discussions was not the ideal place for their effort at the time. The LMEG co-chairs and the Tracking HODs have discussed what next steps could include to better prepare LMEG members to undertake this work. The following plan has been proposed.

The work that the LMEG can undertake in the period 2025-2027 may include the following:

- Development of a LMEG positionality statement guided by existing examples.
- Informational presentations (proposed to occur quarterly) to the LMEG about Indigenous Ways of Knowing from Indigenous scholars from the Arctic and other regions. This may include:
  - Discussions on the new database from the Government of Canada - Bridging Indigenous and Science-Based Knowledge (BIAS-K) - [Bridging Indigenous and Science-Based Knowledge \(BIAS-K\)](#)
  - Presentations about co-developed plastic pollution projects from the Arctic region, and other regions
  - Presentation from scholars about the importance of firm and explicit space for non-Western sciences and knowledges
  - Presentations from Indigenous scholars on Indigenous methodologies, including facilitated discussions (like talking circles), "what we heard" reports, storytelling (IK), Elder addresses, being on the land together, collaborative editing, community peer-review, and other modes of verbal, collective, and equal input (e.g. The Centre for Wise Practices in Toronto has expertise in these modes, as do other Indigenous organizations that focus on research).
  - Presentation about how Code of Ethics/Conduct that recognizes Indigenous Ways of Knowing have been developed by other groups in relation to plastic pollution and contaminants data.
  - Showcasing of story map that share of community-driven programs around plastic pollution
- Development of a report from LMEG that discusses Community-Based Monitoring for litter and microplastics in the Arctic, and how this has similarities and differs from Indigenous Ways of Knowing.
- Creation of a dedicated sub-group within LMEG to dive into what appropriate and meaningful

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engagement of Indigenous Peoples looks like for LMEG now and in the future. This would discuss a process to include Indigenous participation throughout the assessment process, through the development of a framework for meaningful and equitable Indigenous engagement, including guidelines / code of conduct for work on plastic pollution.

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### **5 Scientific report on effects on biota (gap analysis) / Communication of results**

#### **5.1 Rationale and description**

A guiding principle for AMAP is *Knowledge Mobilization*, and a strategic goal is *Effective communication on Arctic challenges and global implications*<sup>7</sup>. In addition to publishing the scientific report and the associated Summary for Policy-makers in summer 2025, there are considerations to publish the findings in the scientific report as journal articles. It is believed that the third plastics symposium will be held in Iceland 2026, and this will be an opportunity to organize sessions and presentations.

#### **5.2 Progress-to-date**

There was a press release and social media releases for the SPM in May 2025. The scientific report and the SPM was the subject of a webinars on 25th June 2025. The one-pager (below) lists other already undertaken activities.

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<sup>7</sup> <https://www.amap.no/documents/doc/amap-strategic-framework-2019/1802>

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Implementation activities – Timelines and Tasks					
Timing	Assessment preparations	Updating monitoring guidelines	AMAP support for international fora addressing global plastic pollution issue	Further engagement with Indigenous partners	Communication of SPM / Technical report
May 2025	Confirm membership and leadership of Expert Group on the key activities for 2025-2027 and identify gaps: Arctic Council nations, PPs, Observers				<p>Press release to be issued</p> <p>Presentation deck to be prepared for use, as needed, by HoDs and Experts</p> <p>Social media release(s)</p>
June-Dec 2025	<p>Compiling information and data from nations / national sources;</p> <p>Compiling information from the mentioned organisations</p>		<p>UN-INC5.2 Meeting, August 2025</p>		<p>Webinar</p> <p>Preparing journal articles based on scientific report (TBD)</p> <p>Presentation at ArcticNet Annual Science Meeting (Calgary, Canada) – TBC</p> <p>Translation of SPM into other languages</p>
Summer 2025				<p>First quarterly Indigenous scholar presentation to LMEG</p>	

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Implementation activities – Timelines and Tasks					
Timing	Assessment preparations	Updating monitoring guidelines	AMAP support for international fora addressing global plastic pollution issue	Further engagement with Indigenous partners	Communication of SPM / Technical report
	Presentation of Implementation Plan at AMAP WG meeting (June 2025 (TBC)) and presentation of progress to date (Fall 2025)				
Fall 2025				Second quarterly Indigenous scholar presentation to LMEG	
Dec 2025 - April 2026	Synthesizing compiled information				
Winter 2026				Third quarterly Indigenous scholar presentation to LMEG	
Spring 2026				Fourth quarterly Indigenous scholar presentation to LMEG	
May-June 2026	Discuss and refine synthesis at a physical workshop; Formulate scoping document	Discuss at physical workshop	Discuss at physical workshop		
Summer 2026				Fifth quarterly Indigenous scholar presentation to LMEG  Start the process developing a LMEG positionality statement	
September 2026	Presenting scoping document at WG meeting. Discuss next steps with the WG. This will allow for planning of work Winter 2026-				

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Implementation activities – Timelines and Tasks					
Timing	Assessment preparations	Updating monitoring guidelines	AMAP support for international fora addressing global plastic pollution issue	Further engagement with Indigenous partners	Communication of SPM / Technical report
	Spring 2027				
Fall 2026	TBD			Sixth quarterly Indigenous scholar presentation to LMEG	Session and presentation at anticipated plastics symposium (TBC)
Winter 2027				Seventh quarterly Indigenous scholar presentation to LMEG	
Spring 2027				Eight quarterly Indigenous scholar presentation to LMEG	

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### 3 'One-pagers'

<b>Implementation Activity 1:</b> Preparations for the first full AMAP assessment on plastic pollution in the Arctic (APPoI-A)
<b>Relates to Project(s):</b> Contaminant issues: Litter and microplastics
<b>AMAP Experts:</b> LMEG
<b>PRSQ:</b> Are measures to reduce pollution with litter and microplastics globally reducing transport and deposition in the Arctic?
<b>Rationale:</b>  In this phase of work (2025-2027), the LMEG will prepare for a larger assessment, potentially for the period 2027-2029. Given that this will be the first full assessment that the LMEG will undertake, the work plan for 2025-2027 focuses on developing a more fulsome understanding of what will be needed to carry out the work potentially for 2027-2029.  Preliminary findings can be presented at the anticipated plastics symposium in Iceland in 2026. A 2-day workshop is planned in 2026, and support for experts' participation in the workshop is anticipated.
<b>Short description of tasks:</b> <ul style="list-style-type: none"><li>● Status/learning from national implementation of the current monitoring plan and guidelines.</li><li>● Creating overviews of data across the four Priority 1 compartments: Beaches/shorelines, sediments (freshwater and marine), water (freshwater and marine), and seabirds. Mapping of existing environmental data within prioritised compartments.</li><li>● Creating an overview of existing data on sources and transportation.</li><li>● Investigate the effort that it will take to bring these data together. Ongoing conversation on this with the ICES Working Group on Marine Litter, and similar groups under IASC, SPAR, MOEJ, SCAR, SCOR, OSPAR, IMDOS, and PICES.</li><li>● Discuss assessment methodology with the above mentioned, including QA/QC of data.</li><li>● Work with experts to explore where PP partners can contribute to the mentioned overview.</li></ul>
<b>Timing</b> <ul style="list-style-type: none"><li>● Confirm membership and leadership of Expert Group on the key activities for 2025-2027 and identify gaps: Arctic Council nations, PPs, Observers</li><li>● June-Dec 2025:<ul style="list-style-type: none"><li>○ Compiling information and data from nations / national sources</li><li>○ Compiling information from the mentioned organisations</li></ul></li><li>● Dec 2025-April 2026: Synthesizing compiled information</li><li>● May-June 2026: Discuss and refine synthesis at a physical workshop. Formulate scoping document</li><li>● September 2026: Presenting scoping document at WG meeting. Discuss next steps with the</li></ul>

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WG. This will allow for planning of work Winter 2026-Spring 2027.
<b>Product(s):</b> A scoping document for consideration by the AMAP WG in 2026 on organising a first comprehensive AMAPan assessment on litter and microplastics in the Arctic, most likely in the period 2027-2029
<b>Internal coordination:</b> Involvement of relevant AMAP experts.
<b>External coordination:</b> Potential collaboration with CAFF and PAME. Ongoing coordination with ICES, PICES and SCAR.
<b>Resources:</b> Main resource requirement is national support for engagement of national experts to prepare/contribute relevant data, including the described physical workshop.
<b>Issues to be resolved:</b> (Void)

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<b>Implementation Activity 2:</b> Updating the AMAP monitoring guidelines
<b>Relates to Project(s):</b> Contaminant issues: Litter and microplastics
<b>AMAP Experts:</b> LMEG
<b>PRSQ:</b> Are measures to reduce pollution with litter and microplastics globally reducing transport and deposition in the Arctic?
<b>Rationale:</b>  This activity will build on the work carried out by LMEG throughout 2019-2021, which resulted in the development and delivery of a monitoring programme for litter and microplastics in the Arctic in 2021. This included a series of technical documents that outlined methods for collecting samples and producing data on litter and microplastics across 11 compartments. While this work was based on existing and harmonized methods when possible, there are several environmental compartments where method development was still in the early stages.
<b>Short description of tasks:</b>  This activity will formulate recommendations on the need to update the technical method guidelines, based on these themes: <ul style="list-style-type: none"><li>• What are the status and lessons learned from national implementation of the current monitoring guidelines? For example, are there some approaches that are not applicable to the Arctic region?</li><li>• Are there learnings from the effects analysis that merits updates to the monitoring plan or guidelines?</li><li>• Is there new information on the need to monitor and understand risks in the Arctic, including information related to Indigenous priorities?</li></ul> This work will be foundational for work that will be undertaken in the 2027-2029 phase, including considering the following: <ul style="list-style-type: none"><li>• Re-evaluating the prioritisation of compartments to provide.</li><li>• Is there a need to update the technical components of the guidelines?</li><li>• Can the current guidance be updated to reflect the development of the principles for the management of monitoring data that have been developed since the guidelines were published?</li></ul>
<b>Timing:</b> <ul style="list-style-type: none"><li>• May 2025: Confirm membership and leadership of Expert Group on the key activities for 2025-2027 and identify gaps: Arctic Council nations, PPs, Observers</li><li>• May-June 2026: Discuss at physical workshop</li><li>• September 2026: Presenting overviews and recommendations at WG meeting. Discuss next steps with the WG. This will allow for planning of work</li></ul>

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winter 2026-Spring 2027
<b>Product(s):</b> Recommendations will be formulated and submitted for discussion at AMAP WG meeting in autumn 2026.
<b>Internal coordination:</b> Involvement of relevant AMAP experts.
<b>External coordination:</b> Ongoing coordination with ICES.
<b>Resources:</b> Main resource requirement is national support for engagement of national experts to prepare/contribute relevant data, including the described workshop.
<b>Issues to be resolved:</b> (Void)

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<b>Implementation Activity 3:</b> AMAP support for international fora addressing global plastic pollution issue
<b>Relates to Project(s):</b> Contaminant issues: Litter and microplastics
<b>AMAP Experts:</b> LMEG
<b>PRSQ:</b> Are measures to reduce pollution with litter and microplastics globally reducing transport and deposition in the Arctic?
<b>Rationale:</b> <p>One of AMAP's strategic goals is to support relevant international processes. Results from the AMAP assessments are reported to the Arctic Council and governments of Arctic and observer states as well as to relevant international organizations and processes that use AMAP results in their work.</p> <p>The UNEP Intergovernmental Negotiating Committee (INC) is in the process of developing an international legally binding instrument on plastic pollution, including in the marine environment (INC). AMAP will continue to follow the development of the instrument and ideally inform the development process. With its current activities, AMAP is ahead of the curve with regards to monitoring plastics in the environment and providing input into policy-making. AMAP's contributions to other pollution-related conventions (e.g. Stockholm Convention on POPs, Minamata Convention on Mercury) have been through assessment work that contributes to the evaluation of the effectiveness of the policy instruments, and AMAP will be well-positioned to do the same with respect to an anticipated plastics treaty.</p> <p>The <i>Implementation Plan for the Regional Action Plan on Marine Litter in the Arctic (ML-RAP)</i> stipulates regular reporting on Arctic Council Working Group activities. LMEG will prepare AMAP's contributions to this.</p>
<b>Short description of tasks:</b> <p>Key questions for AMAP to address during the period of 2025-2027 are:</p> <ul style="list-style-type: none"><li>• What are the main contents and needs of the INC, and how can they be related to AMAP's overall goals?</li><li>• Will there be INC goals, which need the development of new monitoring/indicators?</li><li>• Are there developments in the implementation of the Marine Litter Regional Action Plan (ML-RAP) in the period that AMAP should address?</li></ul>
<b>Timing:</b> <ul style="list-style-type: none"><li>• May 2025: Confirm membership and leadership of Expert Group on the key activities for 2025-2027 and identify gaps: Arctic Council nations, PPs, Observers</li><li>• August 2025: UN-INC5.2 Meeting</li><li>• May-June 2026: Discuss at physical workshop</li><li>• September 2026: Presenting overviews and recommendations at WG meeting. Discuss next steps with the WG. This will allow for planning of work Winter 2026-Spring 2027</li></ul>

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<b>Product(s):</b> Recommendations will be formulated and submitted for discussion at AMAP WG meeting in autumn 2026.
<b>Internal coordination:</b> Involvement of relevant AMAP experts.
<b>External coordination:</b> Potential collaboration with CAFF and PAME. Ongoing coordination with ICES, PICES and SCAR.
<b>Resources:</b> Main resource requirement is national support for engagement of national experts to prepare/contribute relevant data, including the described workshop.
<b>Issues to be resolved:</b> (Void)

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<b>Implementation Activity 4: Improving Indigenous engagement</b>
<b>Relates to Project(s):</b> Engaging Indigenous People in addressing plastic pollution in the Arctic
<b>AMAP Experts:</b> LMEG, Invited Indigenous experts/scholars
<b>PRSQ:</b> How can AMAP, through the membership and work of its Expert Groups, build and demonstrate the engagement of PPs, Indigenous Peoples, and Indigenous ways of knowing?
<b>Rationale:</b>  A pillar of work with the Arctic Council is engagement of Indigenous partners, that is, the Permanent Participants (PPs), and utilization of Indigenous Knowledge and Ways of Knowing throughout the Council's work. The AMAP Expert Groups are encouraged to engage with the PPs as a way to ensure that Indigenous Ways of Knowing are utilized throughout their work.  LMEG would like to have a more meaningful approach to increasing the Indigenous engagement in the group and its activities. Similar to the technical work, the work will take a phased approach that will support LMEG members to engage with PP participants, including undertaking some foundational work that will allow a broader understanding of Indigenous Ways of Knowing. Thus, the phase 2025-2027 will focus on education and training of the membership of LMEG.
<b>Short description of tasks:</b>  The work that the LMEG can undertake in the period 2025-2027 may include the following: <ul style="list-style-type: none"><li>● Development of a LMEG positionality statement guided by existing examples.</li><li>● Informational presentations (proposed to occur quarterly) to the LMEG about Indigenous Ways of Knowing from Indigenous scholars from the Arctic and other regions. This may include:<ul style="list-style-type: none"><li>○ Discussions on the new database from the Government of Canada - Bridging Indigenous and Science-Based Knowledge (BIAS-K) - <a href="#">Bridging Indigenous and Science-Based Knowledge (BIAS-K)</a></li><li>○ Presentations about co-developed plastic pollution projects from the Arctic region, and other regions</li><li>○ Presentation from scholars about the importance of firm and explicit space for non-Western sciences and knowledges</li><li>○ Presentations from Indigenous scholars on Indigenous methodologies, including facilitated discussions (like talking circles), "what we heard" reports, storytelling (IK), Elder addresses, being on the land together, collaborative editing, community peer-review, and other modes of verbal, collective, and equal input (e.g. The Centre for Wise Practices in Toronto has expertise in these modes, as do other Indigenous organizations that focus on research).</li><li>○ Presentation about how Code of Ethics/Conduct that recognizes Indigenous Ways of Knowing have been developed by other groups in relation to plastic pollution and contaminants data.</li><li>○ Showcasing of story map that share of community-driven programs around plastic pollution</li></ul></li><li>● Development of a report from LMEG that discusses Community-Based Monitoring for litter and microplastics in the Arctic, and how this has similarities and differs from Indigenous Ways of Knowing.</li><li>● Creation of a dedicated sub-group within LMEG to dive into what appropriate and meaningful</li></ul>

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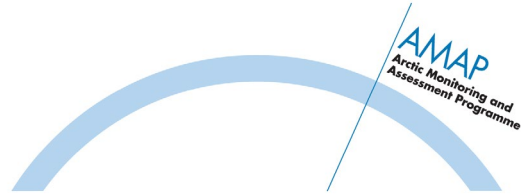
engagement of Indigenous Peoples looks like for LMEG now and in the future. This would discuss a process to include Indigenous participation throughout the assessment process, through the development of a framework for meaningful and equitable Indigenous engagement, including guidelines / code of conduct for work on plastic pollution.
<b>Timing:</b> <ul style="list-style-type: none"><li>● May 2025: Confirm membership and leadership of Expert Group on the key activities for 2025-2027 and identify gaps: Arctic Council nations, PPs, Observers</li><li>● Summer 2025-Winter 2027: Quarterly Indigenous scholar presentation to LMEG</li><li>● Spring 2026: Start the process of the development of a LMEG positionality statement</li></ul>
<b>Product(s):</b> <ul style="list-style-type: none"><li>● An LMEG positionality statement</li><li>● A report that discusses Community Based Monitoring for litter and microplastics in the Arctic, and how this has similarities and differs from Indigenous Ways of Knowing</li></ul>
<b>Internal coordination:</b> Involvement of relevant AMAP experts.
<b>External coordination:</b> (Void)
<b>Resources:</b> Main resource requirement is national support for engagement of national experts.
<b>Issues to be resolved:</b> (Void)

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<b>5. Implementation Activity:</b> Scientific report on effects on biota / Communication of results
<b>Relates to Project(s):</b> Contaminant issues: Litter and microplastics
<b>AMAP Experts:</b> LMEG
<b>PRSQ:</b> What are the gaps in the understanding of the effects of plastic pollution on Arctic animals
<b>Outreach and communication:</b>  The scientific report and the associated Summary for Policy-makers (SPM) was/will be published in summer spring 2025. Outreach and communication activities include: <ul style="list-style-type: none"><li>● There are considerations to publish the findings in the scientific report as journal articles.</li><li>● PAME workshop on fishing gear (ALDFG) in the Netherlands, autumn 2025.</li><li>● It is believed that the third plastics symposium will be held in Iceland 2026: Organize sessions and presentations.</li></ul> Already organised outreach includes: <ul style="list-style-type: none"><li>● A press release and social media releases for the SPM</li><li>● The scientific report and the SPM was the subject of a webinars on 25th June 2025. There are considerations on engaging Observers, and there could be another webinar in collaboration with one or more of these.</li><li>● Presentation: 5.-9.5. ICES Working group Marine Litter (WGML). Presentation 'Plastic pollution in the Arctic' - International seminar on marine littering in the Barents region, 24th October 2024, Tromsø, Norway.</li><li>● Arctic Circle, January 2025: AMAP was a co-organiser of a side event at the Arctic Youth Conference: "Community- Based Monitoring in the Arctic". A presentation by Destiny Kushin of AIA was focused on a community-driven environmental monitoring program on St. Paul Island on litter and plastics.</li><li>● Interview with Bloomberg.</li></ul>



## Pollution Issue: Radioactivity in the Arctic

*(version July 2025; approved in June 2025; includes subsequent changes)*

# AMAP Workplan Implementation 2025-2027

## Implementing AMAP work to address Radioactivity in the Arctic

(Version 1.1 - 17th July 2025)

AMAP's work reflects the long-term commitment of the Arctic Council to monitor and assess changes in the levels of pollution and climate change and their impacts on Arctic ecosystems and human populations.

This document presents a detailed plan for implementing AMAP work to address **Radioactivity Pollution in the Arctic** throughout 2025 to 2027. This implementation plan builds on the scientific and policy recommendations emerging from the most recent AMAP Assessment of Radioactivity in the Arctic (2025), and is primarily focused on laying the foundations for, and scoping future assessment work. Together with other *AMAP implementation plans*<sup>1</sup> that collectively cover the broad suite of issues within the AMAP mandate, this plan is intended to help advance project-level work under the current [AMAP Work Plan](#) in accordance with the [AMAP Strategic Framework 2019+](#), including its guiding principles and strategic goals, and to provide the AMAP Working Group and wider community with a common understanding of ongoing and planned AMAP activities.

The implementation activities described below will be carried out primarily by the AMAP Radioactivity Expert Group with the support of the AMAP Secretariat, under the direction of AMAP Heads of Delegation (HoDs) and Permanent Participants (PPs), and in a manner that is consistent with **current Arctic Council guidelines for resumption of Working Group work**.

These activities will support / contribute to the following AMAP Projects (as per AMAROK):

- Contaminant issues: Radioactivity;
- Human Health and combined effects;
- Participation in international workshops, conferences;

The key AMAP products and deliverables planned for 2025-2027 in relation to AMAP work to address **Radioactivity in the Arctic** are:

- Scientific assessment report (AMAP Assessment 2025: Radioactivity in the Arctic – 2025);
- Summary for Policy-makers for the AMAP Assessment 2025: Radioactivity in the Arctic (Released in May 2025);
- 1<sup>st</sup> draft of a scoping document for the next AMAP Assessment on Radioactivity in the Arctic
- Process/platform for bringing together data from monitoring stations (TBC)
- Outreach at international scientific conferences (TBD).

This Implementation Plan is intended to be updated and presented to the AMAP WG on a biannual basis (approximately June and November), or as needed, as determined by AMAP HoDs.

The AMAP Radioactivity Expert Group (EG) is co-led by Ingar Amundsen (Norway), Margarita Katkova (Russia), and Amanda Anderson (USA, and currently comprises active members from eight Arctic nations, and two Observer nations/organizations (Poland and the Netherlands ). The AMAP Radioactivity EG is supported by Jan Rene Larsen in the AMAP Secretariat.

## A. Background

Radioactivity was identified as a priority pollution issue in the process that led to the establishment of AMAP in 1991. Radioactivity in the Arctic comes from both man-made and naturally occurring radionuclides. Exposure to radioactivity can damage living tissues and organs. How radionuclides

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<sup>1</sup> <https://www.amap.no/documents/doc/amap-strategic-framework-2019/1802>

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## Implementing AMAP work to address Radioactivity in the Arctic

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behaviour in the Arctic is changing, as a result of climate change, while potential new sources of radionuclides could threaten the region's vulnerable environment, the people who live there and their traditional livelihoods.

AMAP's work on radioactivity constitutes a core part of AMAP's activities to address environmental contaminants that can impact Arctic wildlife and human health. This work is organized under AMAP's Radioactivity Expert Group (EG), and is coordinated externally with work under the Arctic Council's EPPR Working Group.

AMAP has published assessments of radioactivity in the Arctic in 1998, 2002, 2009, and 2015, and is currently completing production of the 2025 assessment report.

### B. AMAP's Radioactivity implementation plan – Overview of Implementation Activities

AMAP's Radioactivity implementation plan for 2025-2027 includes three primary activities:

- Scoping of the next AMAP assessment on radioactivity in the Arctic
- Strengthening collaboration with international fora
- Communication and outreach related to the 2025 assessment report

These activities are carried out in ways that specifically address the AMAP Strategic Goals and Guiding Principles<sup>2</sup>.

#### 1. Scoping of the next AMAP assessment on radioactivity in the Arctic

##### *Rationale and description:*

AMAP's mandate 'to monitor and assess the status of the Arctic region with respect to pollution ...' encompasses the assessment of both existing and emerging pollution threats. Following temporal trends in contaminant levels in the Arctic is vital for enabling AMAP to inform policy-makers about the effectiveness of their actions to reduce contamination and to identify potential pollution threats.

The AMAP 2025 Assessment of Radioactivity in the Arctic, which, as of June 2025 is in its final production stages, captured data up to 2020 and focused on the sources and trends of radionuclides to and within the Arctic environment. It also provides new information about radioactive waste handling and decommissioning and addresses possible effects that climate change might have on radioactivity in the Arctic. A related [Summary for Policy-makers](#) (SPM) was released in connection with the 14<sup>th</sup> Meeting of the Arctic Council, on May 12, 2025 as a formal AMAP deliverable to the Arctic Council.

In the 2025-2027 period, AMAP will undertake preparatory work for development of a scoping document for the next AMAP assessment of radioactivity in the Arctic. The 2025 assessment should provide the rationale/context for new or updated assessments at regular intervals. More specifically, the AMAP Radioactivity Expert Group will meet regularly to discuss:

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<sup>2</sup> <https://www.amap.no/documents/doc/amap-strategic-framework-2019/1802>

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- Lessons learned from the 2025 assessment. In particular, there are messages in the 2025 SPM on questions/matters that should be included in future work. Some topics include climate change, increased civil and military activities in the Arctic and the balance between monitoring for naturally occurring (NOR) and anthropogenic nuclides. Consider the need to harmonise monitoring and develop standardised guidelines.
- Preparations for the next assessment, tentatively targeted to be organised during 2027-2029 or 2029-2031 (TBD)
- Current activities of expert group members, including preparations for and participation in funding calls.
- The process for bringing national monitoring data together for assessments, including the possibility of a process/platform for bringing together data from monitoring stations. The latter would enable a better understanding of atmospheric radionuclide levels, the behavior of other pollutants, and their associated risks.
- Communication with AMAP climate experts, especially on permafrost from the perspective of radon.
- Communication with nuclear safety/accident analysts and emergency preparedness policy groups to address the issue of increasing potential for an accident in the Arctic as novel technologies are introduced (e.g., SMRs) and military presence and activities increases.

### ***Progress to-date:***

Work on this component will be initiated in September 2025.

## **2. Strengthening collaboration with international fora**

### ***Rationale and description:***

One of AMAP's strategic goals is to support relevant international processes. Results from the AMAP assessments are reported to the Arctic Council and governments of Arctic and observer states as well as to relevant international organizations and processes that use AMAP results in their work.

Under this activity, the REG and the AMAP Secretariat will seek to enhance collaboration with international fora like the International Commission on Radiological Protection (ICRP), the United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR), International Atomic Energy Agency (IAEA), The EU Joint Research Center (EU JRC), OSPAR, and the Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO). There are experts involved in different activities within international work. These experts of AMAP can facilitate the collaboration, transfer of data from Arctic and improved use of Arctic data in global assessments.

The REG should also seek collaboration with similar processes under EPPR.

### ***Progress to-date:***

Work on this component will be initiated in September 2025.

## **3. 2025 assessment report - Communication and Outreach**

The scientific report of the AMAP 2025 Assessment of Radioactivity in the Arctic will be published in summer 2025. The associated Summary for Policy-makers (SPM) was released on May 12, 2025.

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Outreach and communication activities will include webinars, journal articles, media/social releases, and various presentations.

- AMAP is organising a series of webinars in 2025. The scientific report and the SPM should be the subject of a webinar subsequent to the May 2025 14th meeting of the Arctic Council, which would be open to a broad audience, including Observers.
- An offer from the *Journal of Environmental Radioactivity* to publish journal articles based on the assessment report is currently under consideration.

### ***Progress to-date:***

#### Release of the 2025 SPM:

The Summary for Policy-makers Radioactivity in the Arctic was released on May 12, 2025 and was accompanied by a press release issued by the AMAP Secretariat and posts on social media:

- <https://www.linkedin.com/feed/update/urn:li:activity:7330524647446175746/?actorCompanyId=80875483>
- <https://www.facebook.com/AMAPSecretariat>
- [https://www.instagram.com/p/DJ3t1uAqj5m/?img\\_index=1](https://www.instagram.com/p/DJ3t1uAqj5m/?img_index=1)
- [https://www.linkedin.com/posts/arctic-monitoring-and-assessment-programme\\_amap-has-just-released-three-new-summaries-activity-7332638607704248320-P0hW?utm\\_source=share&utm\\_medium=member\\_desktop&rcm=ACoAAAW4ojwBmXv2tvRsWjSZ4bmo-qAVbh3gmrs](https://www.linkedin.com/posts/arctic-monitoring-and-assessment-programme_amap-has-just-released-three-new-summaries-activity-7332638607704248320-P0hW?utm_source=share&utm_medium=member_desktop&rcm=ACoAAAW4ojwBmXv2tvRsWjSZ4bmo-qAVbh3gmrs)
- [https://www.instagram.com/p/DKGu-qcKDnW/?img\\_index=1](https://www.instagram.com/p/DKGu-qcKDnW/?img_index=1)
- <https://www.facebook.com/AMAPSecretariat>

#### Oral presentations at Meetings/Conferences:

- March 2025, Bodø, Norway: Norwegian Arctic Council chairship meeting. Arctic Emergency Management Conference
- March, 2025, Phoenix, Arizona, USA: Joint panel with Norwegian DSA, Canada CNL, US DOE Office of Environmental Management, and US Office of Environmental Management on the Arctic
- February, 2025, Monaco: Presentation to OSPAR's Radioactive Substances Committee (RSC)
- February, 2025, Anchorage, Alaska, USA: Joint panel with US DOE Office of Environmental Management and Office of Legacy Management at the Alaska Forum on the Environment
- October 2024, Reykjavik, Iceland: Joint panel with AMAP and EPPR at Arctic Circle Assembly
- March 2024, Phoenix, Arizona, USA: Joint panel with US DOE Office of Environmental Management and Office of Legacy Management at the 2024 Waste Management Symposia.
- Violeta Hansen, Angela Sabo, Juergen Korn, Douglas MacLean, Dorte Petersen, Jens Sjøgaard-Hansen, Frank Farsø Riget, Joel Cubley, Mats Isaksson. Oral presentation: Indoor radon survey in Greenland and Whitehorse, Canada, and dose assessment. NSFS XIX Conference, June 5-9, 2023 "Sharing and caring", Malmö, Sweden
- Violeta Hansen, Louise Kiel Jensen, Hilde Elise Heldal, Ari-Pekka Leppänen, Jussi Paatero, Pål Andersson, Jing Chen, Weihua Zhang, Chuanlei Liu, Malcolm McKee, Tim Moulding, Hans Pauli Joensen, Kjartan Gudnason, Gísli Jónsson, Pernille Ahlmann Jensen, Edyta Łokas, Amanda Andersen, Ingvild Engen Finne, Mari Komperød, Bredo Møller, Mats Isaksson. NSFS XIX Conference, June 5-9, 2023 "Sharing and caring", Malmö, Sweden

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- November 2022, Vienna, Austria: Presentation at IAEA Methods for Radiological and Environmental Impact Assessment (MEREIA) technical meeting potential consideration of Arctic case study
- March 2022, Phoenix, Arizona, USA: Presentation of status of AMAP Radioactivity Expert Group work at the 2022 Waste Management Symposia. Link to website: <https://www.wmsym.org/technical-program/proceedings/> (To get to the WM Conference proceedings, individuals need to login to their profile. There is no charge to create a profile)
- International Conference dedicated to the 60th anniversary of establishing the State Service for Radiometric Monitoring and Information (*RPA «Typhoon»*) Obninsk, October 19-21, 2021, oral presentation: Arctic Monitoring and Assessment Programme, AMAP, Radioactivity in the Arctic, 2023 Assessment, Chapter 2: Naturally occurring radionuclides Violeta Hansen, Anders Mosbech, Louise Kiel Jensen, Hilde Elise Heldal, Ingvild Engen Finne, Mari Komperød, Carol Robinson, Justin Gwynn, Ari Leppänen, Jussi Paatero, Pål Anderson, Amanda Andersen, Weihua Zhang, Chuanlei Liu, Trevor Stocki, Angela Sabo, Tim Moulding, Malcolm – McKee, Margarita Katkova, Alexander Kryshev, Kjartan Gudnason, Gísli Jónsson, Jixin Qiao, Hans Pauli Joensen

### Published peer-reviewed papers

1. Violeta Hansen, Dorthe Petersen, Jens Sjøgaard-Hansen, Frank Farsø Rigét, Anders Mosbech, Daniel Spelling Clausen, Gert Mulvad, Tryggve Ronnqvist. Indoor radon survey in Greenland and dose assessment, *Journal of Environmental Radioactivity* 257 (2023) 107080. <https://doi.org/10.1016/j.jenvrad.2022.107080>
2. Violeta Hansen, Angela Sabo. Radon in Yukon dwellings and dose assessment. Submitted revised version, 9 Jan 2023 to *Journal of Radiological Protection*, accepted to be published on 15 Jan 2023.
3. Violeta Hansen, Anders Mosbech, Frank Farsø Rigét, Jens Sjøgaard-Hansen, Peter Bjerregaard, Rune Dietz, Christian Sonne, Gert Asmund, Niels Bøknæs, Maia Olsen, Kim Gustavson, David Boertmann, Sandra Drewes Fabricius, Daniel Spelling Clausen, Alexander Serban Hansen. Background  $^{210}\text{Po}$  and activity concentrations in Greenlandic marine biota, and dose assessment, *Science of the Total Environment* 806 (2022) 150508. <https://doi.org/10.1016/j.scitotenv.2021.150508>
4. Violeta Hansen, Anders Mosbech, Jens Sjøgaard-Hansen, Frank Farsø Rigét, Flemming Ravn Merkel, Jannie Fries Linnebjerg, Ralf Schulz, Jochen P. Zubrod, Igor Eulaers, Gert Asmund. 2020.  $^{210}\text{Po}$  and  $^{210}\text{Pb}$  activity concentrations in Greenlandic seabirds and dose assessment. *Science of the Total Environment* 712 (2020) 136548. <https://doi.org/10.1016/j.scitotenv.2020.136548>

### Media Interviews

1. The race against radon. Scientists are working to map out the risks of the permafrost thaw, which could expose millions of people to the invisible cancer-causing gas. By Chris Baraniuk 05.11.2022. Knowable Magazine. <https://www.facebook.com/pagina100prensa/posts/scientists-are-working-to-map-out-the-risks-of-the-permafrost-thaw-which-could-e/789929721915142/>
2. A risk of radon exposure in the Arctic as permafrost thaws (knowablemagazine.org) - CBS Radio Yukon, Canada. a 15 min radio interview at CBC CANADA: <https://lnkd.in/dBF3d8ne>

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3. Kræftfremkaldende gas siver ind i de grønlandske hjem. Kræftfremkaldende gas siver ind i de grønlandske hjem, KNR. <https://knr.gl/da/nyheder/kr%C3%A6ftfremkaldende-gas-siver-ind-i-de-gr%C3%B8nlandske-hjem>
4. Grønlændere kan være i høj risiko for radon - og det er ikke uden konsekvenser | Sermitsiaq.AG 6. <https://www.sermitsiaq.ag/samfund/gronlaendere-kan-vaere-i-hoj-risiko-for-radon-og-det-er-ikke-uden-konsekvenser/298813>

Arctic Hub produced a video on radon & climate change in the Arctic by Violeta Hansen

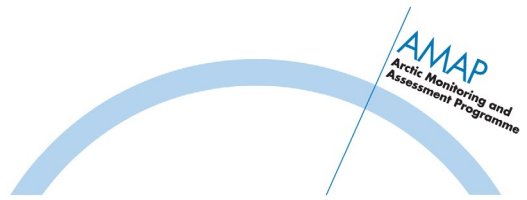
1. Researcher is measuring radon in Greenlandic homes – Arctic Hub. <https://polarjournal.net/researcher-is-measuring-radon-in-greenlandic-homes/>

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Implementation activities – Timelines and Tasks			
	Scoping of the next AMAP assessment on radioactivity in the Arctic	Strengthening collaboration with international fora	Communication and outreach related to the 2025 assessment report
Timing	Tasks	Tasks	Tasks
Summary for 2025-2027	<p><b>SUMMARY OF KEY STEPS, AT A GLANCE</b>  <u>Key Meetings</u>: Regular, monthly meetings of the REG  <u>Main Product(s)</u>: Delivery of a scoping document to AMAP HoDs in 2027  <u>Call for Nominations</u>: June 2025</p>	<p><b>SUMMARY OF KEY STEPS, AT A GLANCE</b>  <u>Key Meetings</u>: [TBD]  <u>Main Product(s)</u>: [TBD]  <u>Outreach Events</u>: [TBD]</p>	<p><b>SUMMARY OF KEY STEPS, AT A GLANCE</b>  <u>Main Product</u>:            - 2025 assessment report            - Journal articles (TBD)  <u>Outreach Events</u>:            - Webinar in 2025, date TBD            - Conference session (TBD)</p>
June 2025 - October 2025	Call for nominations		Drafting of journal articles (TBD)
	Monthly meetings in Expert Group		
October 2025 - October 2026	Monthly meetings in Expert Group		
AMAP WG meeting autumn 2026	Delivery of 1st draft of a scoping document		



## Pollution Issue: Human Health in the Arctic

<i>Most recent approved version</i>	<i>November 2025</i>
<i>This version</i>	<i>November 2025</i>
<i>Notes</i>	<i>Updated as per WG38 decisions</i>

# AMAP Workplan Implementation 2025-2027

## Implementation plan for AMAP work **Human Health in the Arctic** (version 22 May 2026)

AMAP's work reflects the long-term commitment of the Arctic Council to monitor and assess changes in the levels of pollution and climate change and their impacts on Arctic ecosystems and human populations.

This document presents a detailed stepwise plan for implementing AMAP work to address **contaminants and Human Health in the Arctic** throughout 2025 to 2027. This implementation plan builds on project activity proposals that were developed by the AMAP Human Health Assessment Group co-leads and others, with guidance and support from the AMAP tracking HoDs and AMAP Secretariat, and/or from detailed scoping documents, as well as previously approved<sup>1</sup> versions of the plan that covered earlier timeframes. Together with other *AMAP implementation plans* that collectively cover the broad suite of issues within the AMAP mandate, this plan is intended to help advance project-level work under the current *AMAP Work Plan* in accordance with the *AMAP Strategic Framework 2019+*, including its guiding principles and strategic goals, and to provide the AMAP Working Group and wider community with a common understanding of ongoing and planned AMAP activities.

The implementation activities described below will be carried out primarily by the AMAP Human Health Assessment Group (HHAG) and specific task groups with the support of the AMAP Secretariat, under the direction of AMAP HoDs<sup>2</sup>, and in a manner that is consistent with current Arctic Council guidelines for resumption of Working Group work.

These activities will support / contribute to the following AMAP Projects (as per AMAROK):

- Contaminant issues: human biomonitoring;
- Human Health and combined effects;
- Implementing AMAP Contaminant Trends and Effects Monitoring Programme;
- Support for International Conventions (Minamata, Stockholm);
- Participation in international workshops, conferences; and
- Efforts to engage PPs in AMAP's work.

The key AMAP products and deliverables planned for 2025-2027 in relation to AMAP work to address **Human Health in the Arctic** are:

- A report on biomonitoring trends in humans in the Arctic;
- A report on dietary transitions in Arctic communities;
- Updates to the AMAP Trends and Effects Monitoring Programme;

This implementation plan is intended to be updated on a biannual basis (approximately June and November), or as needed, as determined by AMAP HoDs.

The AMAP Human Health Assessment Group (HHAG) is co-led by Kingdom of Denmark (Pál Weihe) and Canada (Shawn Donaldson, Health Canada), and currently comprises active members from all Arctic nations, one Permanent Participant (ICC), and no Observer nations/organizations. The AMAP HHAG is supported by Janet Pawlak in the AMAP Secretariat.

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<sup>1</sup> Available on request.

<sup>2</sup> Heads of Delegation of the 8 Arctic Council member states and its 6 Permanent Participants, organizations representing Arctic indigenous peoples

# AMAP Workplan Implementation 2025-2027

## Implementation plan for AMAP work Human Health in the Arctic (version 22 May 2026)

### A. Background:

AMAP contaminants and human health assessments address priority issues that have been at the core of AMAP work for the past 30 years. In particular, they are associated with concerns of Arctic Indigenous peoples including food security, where wildlife exposure/contamination and human exposure to contaminants through traditional diets are closely related, and contaminant effects on wildlife that, at the population level, could threaten Arctic biodiversity. This consideration includes the impacts on human health associated with exposure to contaminants, including guidance on risk levels of exposure, as well as potential health effects associated with recent dietary transitions away from subsistence foods. The increasing health-related implications of climate change are also of concern.

Environmental contaminants, particularly persistent organic pollutants (POPs) and mercury, were identified as a priority pollution issue in the process that led to the establishment of AMAP in 1991.

AMAP's work on contaminants in human populations constitutes a core part of AMAP's activities to address environmental contaminants that can impact Arctic wildlife and human health. This work is organized primarily under AMAP's Human Health Assessment Group (HHAG), and is coordinated internally with, in particular, AMAP Expert Groups (EGs) on POPs and mercury.

Assessments of the effects of contaminants on human health in the Arctic have been delivered by AMAP in a chapter in the 1998 *AMAP Assessment Report: Arctic Pollution Issues*, and in the *AMAP Assessment: Human Health in the Arctic* reports in 2002, 2009, 2015 and most recently in 2021.

In addition to informing the Arctic Council and its member states and Permanent Participants, AMAP assessment and data products concerning POPs, mercury and emerging contaminants of concern provide important contributions to international processes that address chemicals management and action to reduce environmental pollution. In this respect, AMAP contributes to work under the UNEP Stockholm Convention on Persistent Organic Pollutants and the UNEP Minamata Convention on Mercury. It also relates to current UN initiatives to link Conventions dealing with climate change, biodiversity and pollution (the triple planetary crisis). This work supports the Arctic Council Strategic Goals 2021-2030, specifically Strategic Goal 2 (Health and Resilient Arctic Ecosystems).

AMAP has reported on how exposure to environmental chemicals in the Arctic are influenced by the rapidly changing Arctic environment. Climate-driven processes such as permafrost thaw, coastal erosion, and increased forest fires are mobilizing legacy contaminants such as persistent organic pollutants (POPs) and mercury that were previously stored in ice, soils, and sediments. At the same time, warming temperatures and shifting atmospheric and oceanic circulation patterns are altering how contaminants such as PFAS are transported into and within the Arctic.

The Norwegian Chairship of the Arctic Council and the current Chairship of the Kingdom of Denmark have both identified Indigenous Peoples and communities of the Arctic as a priority for the Arctic Council.

AMAP's key publications to date on contaminants and their effects on human health in the Arctic include:

- Chapter 12, Pollution and Human Health, In: *AMAP Assessment Report: Arctic Pollution Issues*, 1998
- *AMAP Assessment 2002: Human Health in the Arctic*

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## Implementation plan for AMAP work Human Health in the Arctic (version 22 May 2026)

- *AMAP Assessment 2009: Human Health in the Arctic*
- Hansen, J.C., A.P. Gilman and J.O. Odland, 2014. The Seven Pillars of Obesity: Development of a holistic understanding of a complex problem. AMAP Technical Report No. 8 (2014)
- *AMAP Assessment 2015: Human Health in the Arctic and associated Summary for Policy-makers: Arctic Pollution Issues 2015*
- *AMAP Assessment 2021: Human Health in the Arctic and Human Health in the Arctic 2021: Summary for Policy-makers*

### **B. AMAP's Pollution/Contaminants and Human Health Effects Implementation Plan – Overview of Implementation Activities**

AMAP's Human Health Implementation Plan for 2025 - 2027 includes four primary activities:

- Preparation of a report on results of biomonitoring of trends in contaminant levels in human populations in the Arctic to be included as a chapter in a broader health assessment report.
- Preparation of a report evaluating the ongoing dietary transitions in Arctic regions and their implications for health to be included as a chapter in a broader health assessment report.
- Preparation of a report evaluating the impacts of contaminants on human health and recent activities to communicate this potential risk to affected populations as a chapter in a broader health assessment report.
- Review of human health guidelines in the AMAP Trends and Effects Monitoring Programme with the aim of proposing updates.
- Contribute to scoping work on new approaches to monitoring and new methods for risk assessment, as a component of addressing the interaction between contaminants, climate change, and human and animal health
- Contribute to scoping work on zoonoses in the Arctic, including developing a framework for monitoring zoonotic diseases in the Arctic, as a component of addressing the interaction between contaminants, climate change, and human and animal health.
- Advancing co-production in AMAP work, including identifying approaches to better utilize Indigenous Knowledge in AMAP assessments related to human health.
- Contributing to work evaluating the impacts of climate change on human health.

#### **1. Preparation of 2028 Human Health in the Arctic assessment report**

##### **1.1 Preparation of chapter on biomonitoring trends of contaminants in human populations**

###### ***Activity leads/contacts:***

Bryan Adlard (CAN)

###### ***Rationale and description:***

Biomonitoring of contaminants in humans in the Arctic is a core activity of AMAP that has been conducted for several decades to document the levels and trends of environmental contaminants in human media, primarily blood. The collection of this information is used to improve understanding of human exposure to contaminants, identify susceptible/disproportionally impacted populations,

## **AMAP Workplan Implementation 2025-2027**

### **Implementation plan for AMAP work Human Health in the Arctic** (version 22 May 2026)

and identify common issues and concerns across the circumpolar Arctic. The contaminants covered include POPs, mercury, some trace metals, and an increasing number of contaminants of emerging concern. Data are collected in cohort studies, particularly mother-child cohorts, as well as in various national and regional programs, cross-sectional surveys and targeted biomonitoring studies. Biomonitoring data are compiled by AMAP on a periodic basis to contribute to assessment reports, and the most recent compilation of biomonitoring data was presented in a chapter of the AMAP Human Health assessment report published in 2021 and summarized in the related AMAP Summary for Policy-makers. Despite reductions in the levels of some contaminants, AMAP recommends the reduction or elimination of POPs, mercury and emerging chemicals at their sources globally to protect human health. Biomonitoring data are used to assess the presence of contaminants in Arctic populations, identify new temporal and spatial trends, and identify existing knowledge gaps. After the publication of the 2021 assessment, the key findings and results from the assessment are in the process of being published in a special issue of the International Journal of Circumpolar Health.

As part of this activity and together with the POPs Expert Group, human biomonitoring data are compiled for contribution to the Stockholm Convention Effectiveness Evaluation programs. In addition, as part of this activity and together with the Mercury Expert Group, human biomonitoring data on mercury are compiled for contribution to the Minamata Convention Effectiveness Evaluation programs.

Human biomonitoring is a component of the AMAP Trends and Effects Monitoring Programme, which is scheduled for review and revision in this work period. Potential additions or changes to the program will be discussed in association with the wider review of the monitoring guidelines.

During 2025-2027, AMAP will work towards developing a trends report based on available biomonitoring data, which will reflect an update of biomonitoring information presented in the 2021 human health assessment and provide an encompassing perspective on observed contaminant trends among human populations living in the Arctic. This work will involve the collection of biomonitoring data from cohort studies, national, regional or international studies, and other activities, their tabulation and assessment of trends. This trends report will include a chapter qualitatively discussing how climate-driven pressures can modify contaminant pathways, increasing the potential for uptake in Arctic food webs and, ultimately, human exposure to contaminants through traditional diets and local water sources.

#### ***Progress to date***

Biomonitoring data have been compiled in human health assessment reports approximately every five or six years. The most recent assessment report was published in 2021.

Progress has been made on the "AMAP 2021 Human Health in the Arctic" special issue in the International Journal of Circumpolar Health by publishing journal articles. Eight articles have been developed based on the chapters of the 2021 assessment, two of which were based on key findings presented in the biomonitoring chapter of the 2021 assessment (POPs and metals data respectively). Seven of these articles were published in 2024 and the remaining article is expected to be published in 2025.

Biomonitoring of contaminants in human populations continues in cohort studies and regional, national and international programs. As the most recent compilation of relevant literature and data

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## Implementation plan for AMAP work Human Health in the Arctic (version 22 May 2026)

from cohort studies and biomonitoring activities is from five years ago, a new compilation of literature and data has begun, with the aim of preparing a final report for publication in 2027-2028. This trends report will identify key spatial and temporal trends in contaminants observed among human populations from across the circumpolar Arctic and will focus on POPs (legacy and new), metals, and chemicals of emerging Arctic concern (CEACs). Trend data will identify which contaminants are of declining or increasing concern and will identify regions or populations with elevated exposures to contaminants. Based on available literature and input from key national experts, apparent knowledge gaps will be identified in this report, and this will be used to provide recommendations for future biomonitoring priorities.

Conversations between HHAG and other expert groups (POPs, Hg) have been initiated to coordinate HHAG work with ongoing trends work in the POPs and Hg expert groups. Meetings are currently being planned to ensure that the work is complementary and to avoid duplication.

### 1.2. Preparation of a chapter on dietary transitions in Arctic communities

#### ***Activity leads/contacts:***

Kelly Skinner (CAN) (possible co-lead from Greenland)

#### ***Rationale and description:***

Dietary and cultural transitions in the Arctic have been influenced by contact with Western culture and better communication, as well as by concerns regarding potential contaminant-related risks and the safety of consuming traditional marine foods within Arctic populations. There is an ongoing need to weigh contaminant exposure from the traditional diet while counterbalancing the nutritional, cultural and social importance of these foods, as changes in diet may have both negative and positive impacts, but how they will balance is often difficult to ascertain. However, the decrease in consumption of healthy country or subsistence foods and the increased use of market foods are resulting in less nutritious diets and a lack of key nutrients. Food insecurity is also an issue in some Arctic populations and needs to be taken into consideration in relation to diet and dietary transitions.

The AMAP HHAG prepared a chapter on dietary transitions in the 2021 human health assessment report which presented information for the first time on dietary transitions among circumpolar Arctic regions. This report recommended the expansion of efforts to collect data on contaminant exposure, dietary transitions and health impacts, particularly in relation to pregnant women and women of childbearing age. Further compilation of data has continued to provide an update of this work.

During 2025-2027, the AMAP HHAG will work towards developing a new dietary transitions report based on available research data, which will provide an update of information presented in the 2021 human health assessment report.

This report will explore the ongoing dietary transition across the circumpolar region. It will examine the multiple drivers of this transition, including climate change impacts on wildlife and harvesting, economic pressures, globalization, and shifts in cultural and intergenerational food knowledge. This will include continuing to compile information on ongoing dietary transitions in Arctic communities, especially in Indigenous communities, that have occurred over recent decades and their impacts on

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### Implementation plan for AMAP work Human Health in the Arctic (version 22 May 2026)

nutritional and health status. Further studies of dietary transition are also needed, as well as establishing a better link between data and information collected in biota monitoring work concerning species that are part of traditional diets and human health work to estimate dietary exposure to contaminants. This should also consider nutrient deficiencies and other impacts associated with dietary transition.

Consideration should also be given to harmonizing questionnaires across the Arctic to some extent, but maintaining awareness of diversity and cultural differences.

Central to this assessment is the engagement of Indigenous Peoples and Arctic communities. Indigenous experts, knowledge holders, and community members will be invited to co-author the report, providing their perspectives on country food use, cultural continuity, and community-based approaches to food security. This participatory process will ensure that the report reflects lived experience and the values embedded in Indigenous food systems.

In addition, contributors will be invited to share recipes and stories that reflect local traditions, seasonal cycles, and the cultural meanings of country foods. These narratives will offer readers a grounded and personal understanding of how food connects health, identity, and the environment in the Arctic.

Through this inclusive approach, the report will highlight not only the challenges of dietary transition but also the resilience, innovation, and enduring strength of Arctic food cultures. Ultimately, it seeks to answer a central question: What are the underlying drivers of today's dietary transition in the Arctic, and what are the subsequent implications for human health and well-being?

#### ***Progress to date***

A first overview of dietary transition in Arctic regions was prepared for the 2021 human health assessment report. This described the traditional diet in each major region of the Arctic, the dietary changes and consequences of this dietary transition, as well as the level of food security/insecurity. Follow-up on this work has continued in this work period.

Scoping of literature for a follow-up report is being initiated, with the aim of preparing a final report for publication in 2028.

### **1.3. Preparation of a chapter on effects of contaminants on human health and risk communication**

**Project Lead: Pal Weihe (co-lead, Faroe Islands), Eva Kruemmel (ICC) and Shawn Donaldson (co-lead, Canada).**

#### ***Rationale and description:***

Rapid environmental change, coupled with ongoing exposure to multiple chemicals, presents complex and evolving health challenges for Arctic populations, particularly Indigenous communities whose livelihoods, diets, and cultures are closely tied to the land and traditional foods. The health effects assessment chapter will build on decades of Arctic monitoring and research on environmental contaminants and their impacts on human health. The purpose is to provide a comprehensive update assessment of recent information on how exposure to environmental contaminants and changing Arctic conditions affect the health of Arctic residents. This will be an expanded update on the information presented in the AMAP Assessment 2021: Human Health in the

# AMAP Workplan Implementation 2025-2027

## Implementation plan for AMAP work Human Health in the Arctic (version 22 May 2026)

Arctic report, which was based on data and information up to the end of 2019. This update assessment would integrate evidence from both Arctic and relevant non-Arctic contexts to provide a comprehensive understanding cumulative of chemical risks and their health impacts in real-world contexts.

This will include responding to the recommendations in the 2021 human health assessment report SPM to focus on the effects of contaminants on pregnant women and women of childbearing age whose diets involve significant consumption of marine mammals, as well as the effects of mixtures of POPs on reproductive health and the immune system. By assessing health outcomes across neurodevelopment, immune function, endocrine and metabolic effects, cardiovascular health, and cancer risk, the chapter aims to support informed decision-making, strengthen risk communication strategies, and identify knowledge gaps to guide future research priorities. The objectives of this report would be to:

- 1) Assess the health effects of environmental contaminants across multiple outcomes, such as neurodevelopment, cognitive and behavioral function, immune system alterations, endocrine and metabolic effects (e.g., obesity, diabetes, metabolic syndrome), hypertension, and cancer risk;
- 2) Provide an initial broadbrush qualitative assessment of the influence of a changing environment—including climate change, biodiversity loss, microplastics, zoonotic diseases, and wildfires—on contaminant pathways and health outcomes.
- 3) Support northern health professionals in their risk communication efforts by reviewing material published and descriptions of communication efforts in Indigenous regions and communities since the 2021 Human Health Assessment report. This will further advance efforts on the ethical and equitable utilization of Indigenous knowledge and perspectives, participatory approaches, and tools used, which may include visual storytelling, community workshops, and community-based and Indigenous-led monitoring and research projects.
- 4) Identify knowledge gaps to guide future research priorities and improve the evidence base for protecting human health in the Arctic.

This chapter will be combined with the chapters on biomonitoring trends of contaminants and dietary transitions in Arctic communities into a single, comprehensive 2028 AMAP Human Health Assessment report. This unified approach will allow for stronger connections between exposure pathways, observed health outcomes, and communication strategies, providing a more holistic understanding of human health in the Arctic. ***Progress to date***

A detailed outline of this chapter has been prepared and nominations for contributing authors are being sought.

## **2. Contributing to work on contaminants in wildlife and humans**

### ***Rationale and description***

The overall goal of this activity is to improve coordination between AMAP groups involved in contaminants and human health assessment work, also addressing climate change impacts on wildlife and human health. The work is also directed at enhancing relevant components of the AMAP program to better support more integrated contaminants-health assessments and to introduce new methodologies, including methods to address new health concern issues such as zoonosis.

## **AMAP Workplan Implementation 2025-2027**

### **Implementation plan for AMAP work Human Health in the Arctic** (*version 22 May 2026*)

A first overall consideration of this issue took place in an online workshop held on 24-25 June 2020, with the aim of, among others, strengthening cooperation on work on POPs, mercury and human health within AMAP and also with other groups. Improved engagement of Indigenous groups, especially Permanent Participants, was also discussed as well as the preparation of more integrated information for international processes, improved communication and outreach products. An important focus was on contaminants in wildlife and humans as well as One Health initiatives and zoonotic diseases in subsistence species.

As a follow-up to this workshop, it was agreed that cross-cutting review papers, bringing together results on wildlife and humans, should be prepared on four topics to bring the work forward: 1) zoonoses and food security; 2) effects of contaminants on wildlife and humans; 3) chemicals of emerging Arctic concern; and 4) a case study on PFASs.

Work on these four papers was considered and advanced at a workshop funded by the Kingdom of Denmark, held on 23-25 May 2023 at Sandbjerg Manor in southern Denmark. In addition, new findings and technical developments were also considered and a Task Team was proposed to review the current AMAP Trends and Effects Monitoring Programme and another to review and consider the addition of new methodologies that could be used in wildlife and human biomonitoring programs.

During 2025-2027, members of the HHAG will continue their work on the remaining review papers and contribute to the consideration of new methodologies.

#### ***Progress to date***

For details on the progress in this work, please see the Implementation Plan for Contaminants, Wildlife and Human Health.

As these are cross-cutting issues, experts from HHAG will work with experts from the POPs and Mercury EGs to develop the work further, as described in the Implementation Plan for Arctic One Health: Contaminants, Wildlife, Human Health and Food.

### **3. Contributing to the AMAP SICCA assessment work related to impacts of climate change on human health and wellbeing in the Arctic**

#### ***Rationale and description***

As an outcome of the work on Chapter 7 Impacts of climate change and climate extremes on Arctic livelihoods and communities in the *AMAP Arctic Climate Change Update 2021: Key Trends and Impacts*, it was considered that AMAP should prepare an overall assessment of the societal implications of climate change in the Arctic. Scoping this assessment indicated that there were a number of implications of climate change for human health and well-being, including risks for food and water security; implications for the distribution, availability and quality of subsistence species; and physical risks associated with permafrost thaw or poor sea and lake ice quality, among others.

During 2025-2027, members of the HHAG will work with SICCA contributors to ensure appropriate coverage of the issues in relation to the impacts of climate change on the health of Arctic inhabitants, especially Indigenous people.

#### ***Progress to date***

## **AMAP Workplan Implementation 2025-2027**

### **Implementation plan for AMAP work Human Health in the Arctic** *(version 22 May 2026)*

The above-mentioned issues are being addressed in the Societal Implications of Climate Change in the Arctic (SICCA) assessment, with HHAG experts joining other health experts and Indigenous knowledge holders in the preparation of a chapter on climate change impacts on the health and wellbeing of Arctic residents that will provide an overview of the primary, secondary and tertiary health impacts of climate change on Arctic residents, as well as examples of current and potential future adaptation strategies. Particular consideration is being given to Indigenous and local communities. A zero draft of the chapter has been prepared as of November 2025.

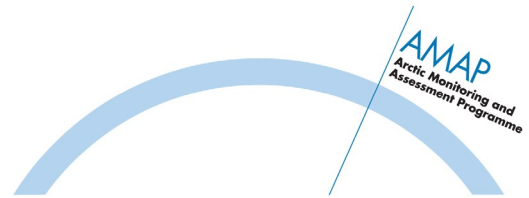
The overall work on this assessment is described in the Climate Implementation Plan.

## AMAP Workplan Implementation 2025-2027

Implementation plan for AMAP work **Human Health in the Arctic (CWH)** (version 22 May 2026)

	<b>2028 Human Health in the Arctic assessment report</b>	<b>Contaminants in wildlife and humans<sup>1</sup></b>
Timing	Tasks	Tasks
Summary for 2025-2027	SUMMARY OF STEPS AT A GLANCE Call for nominations Key meetings Product(s) completed National data check/peer review Outreach events	SUMMARY OF STEPS AT A GLANCE Call for nominations Key meetings Product(s) completed National data check/peer review Outreach events
Oct 2025	<ul style="list-style-type: none"> <li>• Discussion of draft outline of trends report at HHAG virtual meeting</li> <li>• Draft policy questions to be addressed</li> <li>• Identification of potential contributors</li> </ul>	
March 2026	<ul style="list-style-type: none"> <li>• Preparation of zero drafts of chapters</li> </ul>	
May 2026	Review of first drafts of chapters	
Summer 2026	<ul style="list-style-type: none"> <li>• Preparation of revised draft report for national review in the autumn</li> </ul>	
Autumn 2026	<ul style="list-style-type: none"> <li>• Discuss revised report at HHAG virtual meeting.</li> <li>• Submission of report for national review</li> </ul>	
Winter 2027	<ul style="list-style-type: none"> <li>• Revisions to report based on national review feedback.</li> </ul>	
Spring 2027	<ul style="list-style-type: none"> <li>• Review and discuss revised report at HHAG virtual meeting.</li> </ul>	
Summer 2027	<ul style="list-style-type: none"> <li>• Submission of report for peer review</li> </ul>	
Fall 2027	<ul style="list-style-type: none"> <li>• Revisions to final report based on peer review feedback</li> <li>• Final report submitted for technical editing</li> </ul>	
Winter 2028	<ul style="list-style-type: none"> <li>• Publication</li> </ul>	

<sup>1</sup>See Implementation Plan for Arctic One Health: Contaminants, Wildlife, Human Health and Food



Cross-cutting Issue:  
Integrated Approaches to Address Contaminants, Wildlife Health  
and Human Health in the Arctic (CWH)

<i>Most recent approved version</i>	<i>May 2026</i>
<i>This version</i>	<i>22 May 2026</i>
<i>Notes</i>	<i>Including comments from HoDs meeting 20 May 2026</i>

# AMAP Workplan Implementation 2025-2027

## Implementation plan for AMAP work **Contaminants, Wildlife Health and Human Health in the Arctic (CWH)** (version 22 May 2026)

AMAP's work reflects the long-term commitment of the Arctic Council to monitor and assess changes in the levels of pollution and climate change and their impacts on Arctic ecosystems and human populations.

This document presents a detailed step-wise plan for implementing AMAP work on **Integrated Approaches to Address Contaminants, Wildlife Health and Human Health in the Arctic** (hereafter **CWH**) throughout 2025 to 2027. It builds on information from specific project activity proposals presented to AMAP HoDs in the Summer/Fall 2024, with support from the AMAP Secretariat, as well as previous versions of the plan that covered earlier timeframes. Together with other *AMAP implementation plans* that collectively cover the broad suite of issues within the AMAP mandate, this plan is intended to help advance project-level work under the current [AMAP Work Plan](#) in accordance with the [AMAP Strategic Framework 2019+](#), including its guiding principles and strategic goals, and to provide the AMAP Working Group and wider community with a common understanding of ongoing and planned AMAP activities.

As the topic of this Implementation Plan is cross-cutting, the implementation activities described below will be carried out by Project or Task Groups composed primarily of members of the AMAP Human Health Assessment Group, the POPs and Mercury Expert Groups, along with additional experts identified through targeted/open Calls for Nominations, with the support of the AMAP Secretariat, under the direction of AMAP HoDs<sup>1</sup>, and in a manner that is consistent with current Arctic Council guidelines for Working Group activities.

These activities will support/contribute to the following AMAP Projects:

- Human Health and combined effects.
- Implementing AMAP Contaminant Trends and Effects Monitoring Programme.
- Support for International Conventions (Minamata, Stockholm, UN ECE Air, IPCC)
- Addressing Climate Change and Pollution Issues.
- Participation in international workshops and conferences.
- Efforts to engage PPs in AMAP's work.

The key AMAP products and deliverables planned for 2025-2027 in relation to AMAP work to address **CWH** are:

- Knowledge synthesis – Informing future actions through demonstration of collaborative work.
- Developing concrete recommendations on new methodologies that could be used for more integrated wildlife and human biomonitoring.
- Developing concrete recommendations on methodologies that could be used to monitor zoonotic diseases in the Arctic.

This implementation plan is intended to be updated and presented to the AMAP WG on a biannual basis (approximately June and November), or as needed, as determined by AMAP HoDs.

The composition of the membership and leadership of the AMAP Project Groups tasked with the activities included in this plan will be determined by the HoDs as a first step in implementation work and will be followed by the Tracking HoDs identified specifically for this implementation plan. The AMAP CWH activities are supported by Mario Acquarone, Simon Wilson and Janet Pawlak in the AMAP Secretariat.

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<sup>1</sup> Heads of Delegation of the 8 Arctic Council member states and its 6 Permanent Participants, organizations representing Arctic Indigenous peoples.

# AMAP Workplan Implementation 2025-2027

## Implementation plan for AMAP work **Contaminants, Wildlife Health and Human Health in the Arctic (CWH)** (version 22 May 2026)

### A. Background:

AMAP is mandated to monitor and assess the status of Arctic pollution and climate and their effects on ecosystems and humans. To this end AMAP has produced several assessments addressing trends and levels of contaminants in Arctic wildlife and fish and related effects (e.g. 2018 report *Biological effects of contaminants on wildlife and fish*; 2021 *Assessment of Mercury in the Arctic*, etc.), as well as assessments considering contaminant effects on human health (e.g. 2021 *Human Health Assessment*). These assessments have also considered, e.g. immune-suppressive and reproductive effects of certain environmental contaminants on both wildlife and humans. They also have addressed some of the concerns of Arctic Indigenous Peoples regarding food security associated with wildlife exposure/contamination and human exposure to contaminants through traditional diets. Both issues are closely related; contaminant effects on wildlife, at the population level, could also threaten Arctic biodiversity.

Following initial efforts involving leads of relevant AMAP Expert Groups and HoDs between 2017 and 2020, a collaborative project was included in the [2021-2023 AMAP Workplan](#) to integrate work across three Expert Groups (POPs, Mercury, and Human Health) and address gaps in knowledge and policy-relevant questions. The long-term objective of this initiative was the inclusion of the One Health approach to the work of AMAP which will be integrated into this document as soon as the dedicated project component is finalized and approved by HoDs. The following short-term objectives were identified:

- To update the AMAP Trend and Effects Monitoring Programme and to determine whether there are new approaches and methods that should be utilized to improve results and gain synergies.
- To consider new strategic directions for the assessment process, including ways to organize the work to better meet the needs of policy-makers, such as better outreach products, and more frequent scientific products, more integrated monitoring as well as updated monitoring guidelines.
- To consider additional issues such as local sources of pollution and impacts of climate change, zoonoses and other stressors, in addition to current work, such as on marine biota and human health which remain important.
- To strengthen cooperation among the AMAP expert groups in view of the overlap among the fields of science, policy and user needs.

A workshop co-arranged by Kingdom of Denmark and Canada was organized by the University of Aarhus (23-25 May 2023 in Sandbjerg, Denmark) to discuss options for integrating work on Arctic pollution and climate and their effects on ecosystems and humans in a One Health context. The present implementation plan considers relevant outcomes of this workshop and aims at providing an integrated, transdisciplinary framework for monitoring and assessing the status of Arctic pollution and climate change and their cumulative effects on ecosystems and humans, building up towards the identified One Health approach.

Three primary recommendations to guide future AMAP work were identified and provided the basis for the work tracks currently reflected in this implementation plan:

1. Development of White Papers reviewing Zoonotic diseases in the Arctic, Biological effects of contaminants in wildlife and humans, Human exposure to Chemicals of Emerging Arctic Concern (CEACs), and a PFAS case-study intended to inform future AMAP work plans regarding monitoring, assessment, and policy activities while ensuring the inclusion of Arctic Indigenous Peoples and responsiveness to emerging challenges.

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## Implementation plan for AMAP work **Contaminants, Wildlife Health and Human Health in the Arctic (CWH)** (version 22 May 2026)

2. Establishment of a task group to focus on new methodologies for wildlife and human biomonitoring with the goal of developing concrete recommendations for monitoring, including implementing New Approach Methods (NAMs) and techniques such as use of the dried blood spot method and “omics”.
3. Establishment of a task group to review and update the AMAP Trends and Effects Programme with respect to wildlife and human biomonitoring and specifically propose options for monitoring of zoonotic diseases.

### **B. AMAP’s CWH Implementation Plan – Overview of Implementation Activities**

AMAP’s CWH implementation plan for 2025-2027 includes the following primary activities:

- Knowledge synthesis: Informing future actions through demonstration of collaborative work
- Monitoring and assessing existing and potential zoonotic diseases in the Arctic, composed of:
  - Taking stock of the current knowledge on relevant and potential Arctic pathogens
  - Developing recommendations for monitoring of zoonotic diseases in the Arctic
- Developing recommendations on new methodologies for monitoring of zoonotic diseases as part of an integrated wildlife and human biomonitoring programme.

These activities are carried out in ways that specifically address the AMAP Strategic Goals and Guiding Principles.

#### **1. Knowledge synthesis – Informing future actions through demonstration of collaborative work**

##### ***Activity leads/contacts:***

Coordinating lead authors:

- PFAS case-study: Rainer Lohmann (USA)
- Review of zoonotic diseases in the Arctic: Christian Sonne (KoD)
- Biological effects of contaminants in wildlife and humans: Eva-Bonefeld Jørgensen (KoD), Jean-Pierre Desforges (Canada)
- Human exposure to Chemicals of Emerging Arctic Concern (CEACs): Kartin Vorkamp (KoD)

##### ***Rationale and description:***

The knowledge synthesis effort was conceived as a pilot activity to demonstrate the benefits of closer collaboration among specialists from multiple disciplines, including contaminants research, veterinary sciences, human health, and related fields. At the same time, the four technical papers to be submitted for publication in scientific journals were intended to support future AMAP planning and decision-making. The process emphasized scientific integrity, the integration of diverse expert perspectives, meaningful inclusion of Arctic Indigenous Peoples and local communities, responsiveness to emerging issues, effective knowledge mobilization, and strong cooperation and coordination among contributors

During 2025-2027, the AMAP Secretariat will assist the authors of the technical papers and encourage their completion and publication. No further action is planned on this item.

##### ***Progress to date:***

Two of these papers are now published:

# AMAP Workplan Implementation 2025-2027

## Implementation plan for AMAP work **Contaminants, Wildlife Health and Human Health in the Arctic (CWH)** (version 22 May 2026)

- “Cross-cutting studies of per- and polyfluorinated alkyl substances (PFAS) in Arctic wildlife and humans” (published 18 September 2024).
- «Environmental stressors and zoonoses in the Arctic: Learning from the past to prepare for the future» (published 17 October 2024).
- “Human-Wildlife biological effects (crosscutting)” is in an advanced preparation phase and intended for submission in 2026.
- “Human Exposure to CEACs” is expected for submission in the second half of 2026.

### 2. **Monitoring and assessing existing and potential zoonotic diseases in the Arctic**

#### **Activity leads/contacts:**

In the interim:

- Christian Sonne (KoD)
- Arja Rautio (Finland)
- Solveig Jore (Norway)
- Susan Kutz (Canada)
- Emily Jenkins (Canada)

#### **Rationale and description:**

The potential increase in occurrence and spread of zoonotic diseases in the Arctic is an area of increasing concern. While AMAP implements a human biomonitoring program for environmental contaminants that considers some related health conditions, it does not have a monitoring program to address zoonotic diseases. National Arctic monitoring systems for diseases associated with pathogens affecting human health are based primarily on their occurrence in a limited list of media (water, soil, market food, and human media). In a broader context, biological hazards are organisms or biological substances that can affect the health of humans and animals. These include *e.g.* parasites, viruses, bacteria, fungi, venomous marine fishes, plants and their biotoxins, and allergies. The environmental and health risks of a biohazard vary greatly by *e.g.* its characteristics, origin and exposure pathway (*e.g.* vector-borne pathogen exposure, consumption of contaminated food and water, or contact with contaminated surfaces).

A proposal for a new project on this topic, building on background work to review the subject of zoonotic diseases in the Arctic, was developed and approved by HoDs. It identified one policy-relevant science question: *“Is it possible to devise a monitoring network in the Arctic that could avoid contagion with pathogens of pandemic potential both in and outside the Arctic?”*. The activity intended to prepare the background for subsequent work to assess animal-to-human transmission risk of infections in the Arctic, to identify the Arctic communities at higher health risks related to climate change impact on migration routes, seasonality and breeding area of species capable of transmitting infectious agents, and to develop recommendations on methods for monitoring, assessing and predicting the risk of spreading virulent pathogens in the Arctic.

During 2025-2027, AMAP will work towards producing recommendations for a harmonized monitoring program for zoonotic diseases in the Arctic.

#### **Progress to date:**

##### Taking stock of the current knowledge on relevant and potential Arctic pathogens:

The technical paper “Environmental stressors and zoonoses in the Arctic: Learning from the past to prepare for the future” (published 17 October 2024) provides the fundamental overview information for the present status of knowledge on Arctic zoonoses and the associated risks for wildlife and human health in a changing climate. A call for nomination of experts for the activity/project group

## AMAP Workplan Implementation 2025-2027

### Implementation plan for AMAP work **Contaminants, Wildlife Health and Human Health in the Arctic (CWH)** (*version 22 May 2026*)

was issued in December 2025 with deadline on 23<sup>rd</sup> January 2026; 38 nominations have been received and the process to organize and distribute the practical work is ongoing.

#### **3. Developing recommendations on new methodologies for more integrated wildlife and human biomonitoring**

##### ***Activity leads/contacts:***

Project group: Niladri Basu (Canada, project group lead), Marc Amyot (Canada), Jon A. Arnot (Canada), Jean-Pierre Desforges (Canada), Eva Krümmel (Inuit Circumpolar Council), Mélanie Lemire (Canada), Melissa McKinney (Canada), Oskar Karlsson (Sweden), Katrin Vorkamp (Denmark), Simon Wilson (AMAP Secretariat).

##### ***Rationale and description:***

The activity will address the overarching policy-relevant question: Are there new approaches to monitoring and assessment that should be considered by AMAP for adoption and/or inclusion in its coordinated AMAP Trends and Effects Monitoring Programme to provide the knowledge base required for future AMAP assessment needs?

AMAP's Trends and Effects Monitoring Programme was originally developed to meet the needs of AMAP in connection with its initial (1998) assessment of the State of the Arctic Environment; it defines an 'ideal' program that countries would hopefully implement in a harmonized manner. It was subsequently updated in 2004, and some parts have been added/adjusted/refined since that time (e.g. for monitoring of litter and microplastics). The AMAP Trends and Effects Monitoring Programme addresses monitoring of environmental contaminants but has only very limited content relating to monitoring (essential) climate variables (mostly restricted to climate effects monitoring). Essentially therefore, the core AMAP monitoring program has had little consideration with respect to new monitoring approaches, or new assessment approaches and their associated information requirements, since it was first outlined.

Data and information generated by the AMAP Trends and Effects Monitoring Programme supports national and international actions addressing chemicals management based on exposure to harmful chemicals. This approach, however, has associated limitations, in particular with respect to predicting risks from exposure to mixtures of chemicals and being responsive rather than reactive to environmental chemical pollution. In recent years, driven by advances in scientific technologies and societal/regulatory needs, the way in which chemicals are assessed and managed has been transformed, including rapidly advancing regulatory and scientific activities in the area of "New Approach Methodologies" (widely referred to as NAMs). This has created a timely opportunity for AMAP to evaluate emerging research techniques that are either being used, or have the potential for use, for exposure assessment and hazard assessment in the Arctic and consider how these could be further integrated into broader AMAP monitoring and assessment efforts.

In addition to NAMs, other new methodologies and approaches exist with potential for application in monitoring the effects of climate change, contaminants and other stressors on wildlife and humans. Several of these new approach methods are now of regulatory interest in AC member states (including EU countries, Canada, and USA) and it is appropriate to consider how this may influence contaminants work in the Arctic region. This activity complements ongoing and planned work to update the current AMAP trends and effects monitoring program as a specific activity focusing on new methods/approaches rather than adjustments to existing program specifications. Furthermore, it is part of AMAP's efforts to better integrate its monitoring and assessment work related to contaminants with those focusing on wildlife health and human health.

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### **Implementation plan for AMAP work Contaminants, Wildlife Health and Human Health in the Arctic (CWH) *(version 22 May 2026)***

During 2025/2026, AMAP will work towards producing a technical report scoping new approach methods to monitoring and assessment work, including recommendations for consideration by AMAP HoDs.

#### ***Progress to date:***

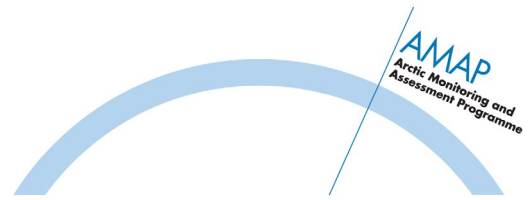
The proposal for this new scoping activity was approved by HoDs at AMAP WG36 in October 2024. HoDs have thus initiated technical work to review new approaches and make concrete recommendations on new approach methodologies (NAMS) that could potentially be used in wildlife and human biomonitoring. An invitation to nominate experts to be involved in this work was circulated in March 2025; nominations were reviewed in consultation with national HoDs and all nominated experts accepted based on their qualifications. The Task Team to further this work was established under the leadership of Nil Basu (Canada). A first project group (virtual) meeting was held in June 2025 where an initial outline for the proposed report was discussed; a draft (v2, ca. 50% complete) was circulated to the project group 3 November 2025. The project work was presented to AMAP WG members during their WG38 meeting in December 2025. Updated drafts were circulated for further input, with a final draft developed during March 2026 and discussed during a project group meeting with tracking HoDs on 1 April 2026. The scoping report will be delivered to HoDs in May 2026 for their further consideration of recommendations in relation to future AMAP monitoring and assessment work, including any follow-up relating to external or policy-relevant communication products that may be developed based on the scoping work.

# AMAP Workplan Implementation 2025-2027

## Implementation plan for AMAP work Contaminants, Wildlife Health and Human Health in the Arctic (CWH) (version 22 May 2026)

Implementation activities – Timelines and Tasks			
	Knowledge synthesis – Informing future actions through demonstration of collaborative work	Methodologies that could be used to monitor of zoonotic diseases in the Arctic	New methodologies that could be used for more integrated wildlife and human biomonitoring
Timing	Tasks	Tasks	Tasks
Jan-Dec 2024	<i>See archived record of implementation work in 2024</i>		
Summary for 2025-2027	<p><b>SUMMARY OF KEY STEPS, AT A GLANCE</b></p> <p><u>Product(s) Completed:</u> two scientific papers from the workshop in Sandbjerg 2023 were published in 2024.</p> <p>Biological effects in wildlife and humans, STOTEN article, to be published in 2026</p> <p>Human Exposure to CEACs, STOTEN article, to be published in 2026</p>	<p><b>SUMMARY OF KEY STEPS, AT A GLANCE</b></p> <p><u>Call for nominations:</u> circulated in December 2025, closed on 23 January 2026.</p> <p><u>Key Meetings:</u> project group meetings to be arranged as necessary</p> <p><u>Product(s) Completed:</u> report “Overview of Zoonoses monitoring in the Arctic and recommendations (tentative title)” to be presented to HoDs end of 2026 including recommendations for further work on zoonoses in 2027</p>	<p><b>SUMMARY OF KEY STEPS, AT A GLANCE</b></p> <p><u>Call for nominations:</u> circulated in March 2025. Closed on 10 April 2025; project group established: June 2025.</p> <p><u>Key Meetings:</u> project group meetings were held between June 2025 and April 2026.</p> <p><u>Product(s) Completed:</u> Scoping report and recommendations delivered to HoDs in May 2026</p>
Mar 2025			Nominations for project group (Completed)
Jun 2025			Review of nominations; Establish team; (completed)
			<u>Milestones:</u> Online project group meeting to organize work (completed)
Jun-Aug 2025		Establish team and prepare recommendations (no objections to WG36 decision, approved)	
Oct-Dec 2025		<u>Milestone:</u> Call for nomination of experts to Zoonoses Project Group (ZPG) (completed)	Circulation of draft version 2 (completed) Input to draft version 2 (completed)
Jan-Feb 2026		Establishment of project group and identification of ZPG Leads	Circulation of draft versions 3 and 4 (completed) Input to draft versions 3 and 4 (completed)
		First online/planning meeting of ZPG Leads	
Mar-Jun 2026	<u>Milestone:</u>	Meeting in-person of lead members of ZPG at Arctic Circle Rome Forum (3-4 March 2026)	<u>Milestones:</u> Final scoping report with recommendations for HoDs consideration

Implementation activities – Timelines and Tasks			
	Knowledge synthesis – Informing future actions through demonstration of collaborative work	Methodologies that could be used to monitor of zoonotic diseases in the Arctic	New methodologies that could be used for more integrated wildlife and human biomonitoring
Timing	Tasks	Tasks	Tasks
	<p>Biological effects in wildlife and humans STOTEN article (Likely finalized by Summer 2026)</p> <p>Human Exposure to CEACs STOTEN article (in advanced preparation phase)</p>	<p>Meeting online of ZPG (April-May 2026 - TBD)</p> <p>Meeting in-person/hybrid of members of ZPG in connection with the UArctic Congress Tórshavn (26-28 May 2026)</p> <p><u>Milestone/Products:</u> Draft “Overview of Zoonoses monitoring in the Arctic and recommendations (tentative title)”</p>	<p><u>Follow up:</u> <i>May: delivery of scoping report to HODs for national consultations including policy-makers engaged in national chemicals management</i></p> <p><i>HoDs decisions regarding:</i></p> <ul style="list-style-type: none"> <li>• Application of recommendations in future AMAP work</li> <li>• Scoping report production for external use</li> <li>• Possible development of a related policy communication product</li> </ul> <p><i>Authors decision on a derivative journal submission</i></p>
July-Dec 2026		<p>Meeting online of ZPG and production of advanced draft of “Overview of zoonoses monitoring in the Arctic and recommendations (tentative title)” (September 2026)</p> <p>Meeting online of ZPG and production of Final draft of “Overview of zoonoses monitoring in the Arctic and recommendations (tentative title)” (November 2026)</p> <p><u>Milestones/Products:</u> “Overview of zoonoses monitoring in the Arctic and recommendations (tentative title)”</p>	
2027-2029		Follow up from recommendations	



## Cross-cutting Issue: Short-lived Climate Forcers (SLCFs) in the Arctic

<i>Most recent approved version</i>	<i>November 2025</i>
<i>This version</i>	<i>November 2025</i>
<i>Notes</i>	<i>Updated as per WG38 decisions</i>

# AMAP Workplan Implementation 2025-2027

## Implementation Plan for AMAP work to address SLCFs in the Arctic (version November 2025)

AMAP's work reflects the long-term commitment of the Arctic Council to monitor and assess changes in the levels of pollution and climate change and their impacts on Arctic ecosystems and human populations.

This document presents a detailed step-wise plan for implementing AMAP work to address **Short-lived Climate Forcers (SLCFs) in the Arctic** throughout 2025 to 2027. This implementation plan builds on information from related 'one-pager' project activity proposals that were developed by the AMAP SLCF Expert Group Leads, with guidance and support from the AMAP tracking HoDs and AMAP Secretariat, and/or from detailed scoping documents, as well as previously approved<sup>1</sup> versions of the plan that covered earlier timeframes. Together with other *AMAP implementation plans* that collectively cover the broad suite of issues within the AMAP mandate, this plan is intended to help advance project-level work under the current [AMAP Work Plan](#) in accordance with the [AMAP Strategic Framework 2019+](#), including its guiding principles and strategic goals, and to provide the AMAP Working Group and wider community with a common understanding of ongoing and planned AMAP activities.

The implementation activities described below will be carried out primarily by the AMAP Expert Group(s) with the support of the AMAP Secretariat, under the direction of AMAP HoDs<sup>2</sup>, and in a manner that is consistent with current Arctic Council guidelines for resumption of WG work.

These activities will support / contribute to the following AMAP Projects (as per AMAROK):

- Contaminant issues: POPs and mercury;
- Human Health and combined effects;
- Implementing AMAP Contaminant Trends and Effects Monitoring Programme;
- Support for International Conventions (Minamata, Stockholm, UN ECE Air, IPCC)
- Participation in international workshops, conferences;
- Efforts to engage PPs in AMAP's work.

The key AMAP products and deliverables planned for 2025-2027 in relation to AMAP work to address **SLCFs in the Arctic** are:

- Technical reports;
- Summary for Policy-makers / Policy Briefs (knowledge synthesis reports updating information on methane and Arctic wildfires);
- Updated monitoring programme for SLCFs;
- Outreach products, including webinars and outreach at international scientific conferences.

This implementation plan is intended to be updated and presented to the AMAP WG on a biannual basis (approximately June and November), or as needed, as determined by AMAP HoDs.

The AMAP SLCF Expert Group (EG) is co-led by Finland (Kaarle Kupiainen, YM), Norway (Sabine Eckhardt, NILU) and the United States (Lori Bruhwiler, NOAA), and currently comprises active members from 7 Arctic nations (all except Iceland), 0 Permanent Participant, 8 Observer nations/organizations (China, France, Germany, Italy, Japan, Republic of Korea, United Kingdom,

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<sup>1</sup> Available on request

<sup>2</sup> Heads of Delegation of the 8 Arctic Council member states and its 6 Permanent Participants, organizations representing Arctic Indigenous peoples.

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WMO) and others (EC, IIASA). The AMAP SLCF EG is supported by Simon Wilson and Maria Malene Kvalevåg in the AMAP Secretariat.

### A. Background:

Short-lived climate forcers (SLCFs) include greenhouse gases, particles, and other air pollutants that strongly influence climate but have a relatively short atmospheric lifetime compared to carbon dioxide. Some SLCFs and co-emitted air pollutants impact air quality with consequences for human health and ecosystem health. SLCFs were identified by AMAP in 2009 as an 'issue of concern', and AMAP assessments<sup>3</sup> delivered between 2011 and 2015 initially focused on climate impacts of black carbon and methane. This work highlighted the potential impact of black carbon on surface albedo when deposited on ice and snow, as well as potential releases of methane associated with permafrost thaw. The most recent (2021) AMAP assessment of SLCF Impacts on Arctic Climate, Air Quality, and Human Health addressed SLCFs and co-emitted species in a more integrated manner when considering trends and modelling addressing future scenarios for emissions and related climate and air quality projections. AMAP's work on SLCFs is organized under AMAP's SLCF expert group (EG), and is coordinated internally with, in particular, AMAP climate, and externally with work under the Arctic Council ACAP WG and Expert Group on Black carbon and Methane (EGBCM). The establishment of the AC EGBCM was a response to AMAP SLCF assessments that called for urgent reductions in emissions of SLCFs to complement reduction in emissions of carbon dioxide.

In addition to informing the Arctic Council and its member states and Permanent Participants, AMAP assessment and data products concerning SLCFs provide an important contribution to international processes that address action to mitigate climate change and improve air quality. These include work under the UN ECE Air Convention (Gothenburg Protocol); IMO (work to address black carbon emissions from shipping); EU Arctic Policy (including the EU Action on Black Carbon Impacting the Arctic, and related EU-funded projects (EUA-BCA and ABC-iCAP) co-led by AMAP Secretariat), as well as work under the WMO, UNFCCC and IPCC and current UN initiatives to link Conventions dealing with climate change, biodiversity and pollution (the triple planetary crisis).

AMAP's work on SLCFs has also addressed the role of wildfires as sources of black carbon and other contaminants, highlighting the climate feedbacks associated with increasing occurrence and intensity of Arctic wildfires, work that is related to the AMAP-CAFF joint project on *climate change impacts on Arctic ecosystems and associated climate feedbacks* and follow-up to the *Arctic Council's Chairship Initiative on Wildland fires*.

### B. AMAP's SLCFs implementation plan – Overview of Implementation Activities

AMAP's SLCF implementation plan for 2025-2027 includes five primary activities:

- Updating AMAP trends and effects monitoring programme (ATEMP).
- Supplement to recent knowledge synthesis – ongoing importance of black carbon on Arctic climate forcing.
- Knowledge synthesis – Methane trends and Arctic climate response.
- Knowledge synthesis - Wildfire impacts on the Arctic: emissions, climate response and health impact .
- AMAP support for work of EGBCM.

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<sup>3</sup> All AMAP reports are available from <https://www.amap.no/publications>

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These activities are carried out in ways that specifically address the AMAP Strategic Goals and Guiding Principles<sup>4</sup>.

### 1. Knowledge synthesis – Methane trends and Arctic climate response

#### **Activity leads/contacts:**

AMAP SLCF EG co-leads supported by AMAP Secretariat.

#### **Rationale and description:**

Work components addressing the PRSQs:

- *How are major Arctic and non-Arctic methane emission sources changing (e.g.: oil and gas, agriculture, and waste), and how are they expected to continue changing looking forward in the mid- (2050) to long-term (to 2100)?*
- *What is the anticipated Arctic and global climate response to the release of methane from: anthropogenic Arctic and non-Arctic sources; and from thawing permafrost (terrestrial and marine) and wetlands? What research and monitoring is needed to reduce uncertainties in these estimates?*
- *Are the natural and anthropogenic emission signals evident in the Arctic atmospheric methane observations? How well does current atmospheric monitoring capture emission hot spots, and contribute to tracking progress in emission reductions? What monitoring is required to capture these signals (i.e.: surface in-situ, fluxes, satellite based)?*
- *How do Arctic nation methane emissions contribute to global emission pathways consistent with limiting global average warming to 1.5C, 2 and 4C, including overshoot scenarios? What are the major limitations in earth system models for understanding Arctic climate responses to Arctic and global methane source changes?*
- *Are there air quality implications for increasing methane emissions in the Arctic? How do these impact human and ecosystem health in the Arctic?*

Methane is a potent short-lived climate forcer. AMAPs 2021 SLCF assessment concluded that global anthropogenic emissions of methane and levels of methane in the Arctic atmosphere continue to increase. Limiting near-term Arctic and global temperature increases requires ambitious methane emission reductions. Arctic states have committed<sup>5</sup> to significantly reduce their overall methane emissions, and most also support the 'Global Methane Pledge'<sup>6</sup>.

With no evidence of a significant decrease in anthropogenic methane emissions, and with potential for increased emissions from thawing permafrost,, understanding how Arctic methane sources and atmospheric methane concentrations are changing is key to evaluating the potential impacts of the Global Methane Pledge and the individual commitments of Arctic nations.

Models will be further developed and applied to understand trends in atmospheric concentrations of methane relative to Arctic sources (natural and anthropogenic) and to evaluate the potential outcomes of the 'Global Methane Pledge' for Arctic climate. The resulting knowledge synthesis will extend the work conducted under the AMAP 2021 SLCF assessment to address identified Policy-relevant science questions (PRSQs) (see above). Additional modelling work could also consider the climate response to nationally determined contributions (NDCs) as part of the UNFCCC 'global stocktake' process.

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<sup>4</sup> [Combined AMAP implementation plans](#): Overview section

<sup>5</sup> Arctic Council's Framework for Action for Enhanced Black Carbon and Methane Emissions.

<sup>6</sup> The 'Global Methane Pledge' - to cut global methane emissions by 30% by 2030, relative to 2020 levels - was launched at the UNFCCC COP26 in November 2021; more than 150 countries are participating.

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Progress will need to be periodically reviewed to evaluate the extent to which relevant PRSQs can be answered and/or what additional knowledge is still required; this will determine the timeline for potential deliverables associated with work addressing methane.

During 2025-2027, AMAP will continue to address methane as a SLCF including development of an AMAP Policy Brief (APB) during winter 2025/26 (building on work conducted under NCM-funded project and other relevant research); related outreach initiatives include activities at UNFCCC COPs that are coordinated with the UNFCCC, CCAC and others.

### ***Progress to-date:***

Work has been performed under external activities to develop updated scenarios for methane emissions linked to the Methane Pledge (IIASA), and to apply improved models to evaluate the potential impact of resulting emissions reductions. The modelling work includes the NCM-supported project Reduc(h4)e, and CMIP-related activities such as Methane-MIP. Several AMAP SLCF EG experts and key partners involved the AMAP 2021 assessment work are engaged in these activities. In agreement with the NCM, work under the Reduc(h4)e project will be delivered through the AMAP SLCF implementation activity on methane. AMAP's work on methane informs work under the EGBCM. Presentations based on work by AMAP experts connected to the Reduc(h4)e project were made at AMAP organized side-events at COP-30.

AMAP Secretariat has held discussions with CCAC regarding potential collaboration on outreach connected with methane issues; CCAC launched their Global Methane Status Report in November 2025 at a high level methane event at COP-30. CCAC are planning a first integrated global climate and clean air assessment for delivery in 2028. Methane emulator development is also a potential topic for SLCF scientific collaboration going forward.

Work to prepare an AMAP Policy Brief (APB) has been initiated; the science writer engaged to undertake drafting of this Policy Brief is reviewing the available material and consulting with relevant experts, with a first 'outline draft' anticipated in December 2025.

## **2. Supplement to recent knowledge synthesis – ongoing importance of black carbon on Arctic climate forcing**

### ***Activity leads/contacts:***

AMAP SLCF EG co-leads supported by AMAP Secretariat.

### ***Rationale and description:***

Work components addressing the PRSQs:

- *Is it still the case that action on black carbon is crucial for to achieving climate goals? What are the explanations for differences in representation of BC radiative forcing in the AMAP 2021 assessment and the IPCC AR6 report?*
- *In what geographic areas (if any) should action on black carbon be prioritized to help achieve climate goals?*
- *How effective is action on black carbon compared to action on various SLCFs/GHGs? Regionally, would action on black carbon be considered as important/more important than action on other SLCFs/GHGs (ranking)?*

The recent IPCC AR6 report estimated a globally-averaged radiative forcing estimate for black carbon that is significantly lower than estimates published in earlier major synthesis reports, including the AMAP 2021 assessment. Additionally, the IPCC AR6 report demoted black carbon from the third largest contributor to climate warming after CO<sub>2</sub> and methane, and grouped it with other aerosols which are discussed as climate cooling agents.

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Scientific publications (e.g. <https://www.nature.com/articles/s43247-022-00555-x>) have endeavored to clarify the interpretation of the radiative forcing estimate for black carbon and the continuing importance of action on black carbon to the Arctic environment, however the visibility of the scientific communication is limited and there is a need to update of the communication to policy-makers in the Arctic and globally to avoid potential confusion in messaging regarding the need for reducing emissions of black carbon and its relationship to other GHGs and SLCFs.

The implementation activity will involve recalculation of the Arctic radiative forcing for black carbon, ideally comparing it in terms of magnitude of importance to CO<sub>2</sub>, methane, and other SLCFs, as a basis for an updated communication to the Arctic Council and IPCC, and to inform the work of the EGBCM.

### ***Progress to-date:***

During 2025-2027, AMAP will continue to address black carbon as a SLCF.

The scientific work conducted to date provides a basis for an updated communication to clarify the role of black carbon. AMAP Secretariat has been in dialog with external groups (including CCAC, Clean Air Fund (CAF) and ICCL) to discuss potential areas for collaboration or coordination of work.

A scientific project to develop an emulator for use in guiding BC policy work is being developed with CAF and involving AMAP SLCF expert groups from Denmark, Sweden and Norway as well as United Kingdom. Project work to perform ESM simulations as a basis for 'emulator training are underway and Canadian modeling groups are also contributing to this activity with relevant results from modelling work; emulator development and application activities are due to be completed in 2026. Experts involved in this work have provided input to discussions regarding research priorities for possible future funding by CAF, reflecting AMAP identified gaps in knowledge.

An AMAP Policy Brief (APB) to clarify policy-messaging around the role of black carbon in radiative forcing has been produced. Key messages and recommendations arising from this work were presented at AMAP organized side-events at COP-30 and will be communicated for use in other relevant policy- and decision-making processes (e.g., IPCC work on SLCFs).

### **3. Updating AMAP trends and effects monitoring programme (ATEMP)**

#### ***Activity leads/contacts:***

AMAP SLCF EG co-leads supported by AMAP Secretariat.

#### ***Rationale and description:***

AMAP implements a coordinated programme for monitoring contaminants and their effects in the Arctic – the AMAP Trends & Effects Monitoring Programme (ATEMP). This programme is intended to deliver the data and information required to address related issues under the overarching PRSQ: *What are the sources, levels, trends, and climate and air quality impacts of environmental contaminants in Arctic air?*

The AMAP programme is based largely on national monitoring and research activities. AMAP defines a set of core activities that it encourages countries to adopt as part of their AMAP national implementation plans and conducts work to harmonize monitoring and related activities (data management, etc.), including harmonization with overlapping international monitoring under e.g. EMEP, OSPAR, etc. The 'guidelines' for monitoring of air pollutants including radiatively important trace species under the AMAP Trends & Effects Monitoring Programme last received a comprehensive update in 2004. The AMAP WG has identified updating of AMAP monitoring programme as a priority activity in its workplan and charged the Secretariat with developing a plan to accomplish this work. Planned work includes reviewing methods currently used to

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quantify 'black carbon'. Improved monitoring of methane emissions, including methane releases from thawing permafrost, is a priority, and new methods based on remote sensing need to be reflected in the AMAP monitoring programme.

During 2025-2027, AMAP will work towards producing an updated (online) resource documenting components of the AMAP trends and effects monitoring programme addressing SLCFs in the Arctic environment. This work will take account of identified knowledge gaps including observations of vertical profiles of SLCFs, and high latitude dust. Possible new activities to update AMAP data products summarizing relevant results from SLCF observing systems will be developed in consultation with HoDs.

### **Progress to-date:**

Work conducted under the (external) ABC-iCAP project to evaluate the Arctic monitoring network for black carbon and co-emitted species and make recommendations that could be considered by AMAP.

A workshop on 'coupled monitoring for the Arctic terrestrial environment' held in October 2024 and followed-up with a second workshop in March 2025 is expected to provide input to the activity to update the AMAP monitoring programme.

Work to review and update the current AMAP monitoring programme has not yet started and has been rescheduled for implementation in 2026.

## **4. Knowledge synthesis - Wildfire impacts on the Arctic: emissions, climate response and health impact**

### **Activity leads/contacts:**

AMAP SLCF EG co-leads supported by AMAP Secretariat.

### **Rationale and description:**

Work components addressing the PRSQs:

- *How will boreal/Arctic region wildfire emissions and impacts change under future climate scenarios?*
- *What are the factors influencing emissions of SLCFs and other pollutants, and how do these relate to scenarios for future wildfire emissions.*
- *What is the net Arctic climate impact of increasing wildfire emissions? (taking into account aerosols and GHGs, albedo change, feedbacks, etc.)? What is the related impact on human health?*
- *What is the impact (e.g., on BC) of different fire management practices and/or fire management emission scenarios? (including both Indigenous- and contemporary fire management practices).*

AMAPs 2021 Assessment of impacts of SLCFs on Arctic climate air quality and human health addressed open biomass burning (wildfires and agricultural burning) focusing on their importance as a source of black carbon emissions impacting the Arctic, and on changes in fire regimes as a consequence of climate change. Increases in the extent, intensity and (health) consequences of boreal and peatland fires has elevated concerns about their (Arctic) climate and air pollution impacts.

Planned AMAP SLCF work on open-burning (wildfires and open agricultural burning) aims to address key knowledge gaps relating to the anticipated frequency and severity of wildfires as well as the impact of wildfire emissions on air quality and Arctic climate. Work under consideration includes assessing fuel loads (fuel type mapping and reviewing associated fuel EFs) as a key factor

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for improving estimates of emissions of black carbon (and other pollutants including bioaerosols, mercury and PAHS); smoke transport modelling to underpin human health impact assessments; and the development of new pathways and scenarios for fires, to support (Arctic and global) climate and air pollutant modelling initiatives.

During 2025-2027, AMAP will continue to address open burning as a source of SLCF emissions, including addressing health effects and contributing to wider Arctic Council work addressing wildfires.

### ***Progress to-date:***

Work conducted under the (external) ABC-iCAP project provides a basis for further activities relating to estimation of fire emissions and development of future pathways for fire scenarios.

AMAP work contributed to the Norwegian Chairship wildland fire initiative and delivered outreach in that context (e.g. at ASSW 2024). The report on the outcomes of the wildland fire initiative is available from the Arctic Council Secretariat. This work is being taken forward under the KoD Arctic Council Chairship with discussions currently ongoing regarding a wildfire coordination group under EPPR.

A large number of wildfire-related initiatives are ongoing including work under the AMAP-CAFF project, Air Convention (HTAP group), etc. and work has been undertaken to track relevant activities with a view to aligning future work and avoiding duplication.

AMAP SLCF expert Cynthia Whaley (ECCC, Canada) is lead for the fire modelling work under HTAP, and on behalf of the AMAP SLCF EG is coordinating this with AMAP planned work to secure results that can be used in future AMAP assessments of this issue. This subject was discussed during project meetings held in connection with the EGU 2025 (April 2025) and HTAP meeting sessions (May and October 2025) and on calls arranged between AMAP fire modelling community experts. Potential outputs of the fire modelling initiative include emissions estimates for mercury and some POPs as well as carbon dioxide, black carbon and organic carbon species. This work also addresses smoke transport modelling.

Plans for the development of an AMAP Policy Brief synthesizing latest knowledge on Arctic wildfires, for delivery in 2026 or 2027 depending on scope, have been developed by relevant experts in the SLCF EG, including alignment of this work with the HTAP modelling initiative. An outline for the knowledge synthesis report will be provided to AMAP HoDs in 2026.

## **5. AMAP support for work of EGBCM**

### ***Activity leads/contacts:***

AMAP SLCF EG co-leads; AMAP Secretariat.

### ***Rationale and description:***

AMAPs work on SLCFs led to the establishment of the Arctic Council's Framework for Action on Black Carbon and Methane and its Expert Group on Black Carbon and Methane (EGBCM). AMAP provides scientific knowledge to underpin the work of the EGBCM. As work under the EGBCM develops, AMAP aligns its activities to support new needs identified by the EGBCM, with recent indications that the scope of this support work may be expanded in relation to compiling and reviewing information on emissions of short-lived climate forcers.

During 2025-2027, AMAP will continue to support work under the EGBCM including contributing to work to evaluate and review climate impacts of policy actions to reduce emissions of SLCFs and co-emitted species. Work under a project supported by the Clean Air Fund to develop a 'black

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carbon emulator' for rapid modelling of emission reduction strategies is expected to contribute to this work.

### **Progress to-date:**

Work on emissions data compilation conducted under the (external) ABC-iCAP project was communicated to the EGBCM on a webinar in April; the draft AMAP SLCF implementation plan has also been provided to the EGBCM for internal discussions.

The EGBCM has expressed interest in parts of the proposed AMAP work and this was further discussed by the EGBCM HoDs during their meeting on 18/19 September 2024. In preparing for that meeting, the EGBCM posed the following questions to the AMAP SLCF-EG:

- 1a. Is the downward revision of the global radiative forcing from BC highlighted in the IPCC's AR6 report representative for the Arctic?
- 1b. What are the underlying uncertainties in the net climate effect of [sector] sources of BC emissions in the Arctic?
- 2a. When targeting sources of BC-emissions, which sectors have the highest net climate benefit? (Taking the co-emitted species into account).
- 2b. Are there any source where the health effect is higher (Taking the co-emitted species into account)
3. What alternative target metrics could be further explored based on existing AMAP work? Is it possible to determine what nature of target would be the most efficient (i.e. just BC or with co-emitted species, focus on specific sectors) to maximize climate benefits?
4. Present projections of BC through 2035, and not just look at total BC % change, but changes in sectors with high net climate effect and changes in total PM2.5 and in OC.
5. Present modelling to help understand what the world will look like in 2035 in terms of BC and co-emitted species. Arctic States have not reported on co-emitted species (GHG and other pollutants), but scenarios developed by AMAP with existing modelling data can assist in setting the goal.
6. Implications of the Global Methane Pledge in the Arctic both in terms of emissions and rate of warming
7. Does AMAP have recommendations on which sectors the AC member States should focus on to most effectively accelerate reductions of methane emissions in the Arctic?
8. The latest science on methane super-emitter events, and the natural sources of methane in relation to warming and permafrost thaw.

AMAP experts provided responses to the questions posed by the EGBCM, to the extent possible, based on AMAP's 2021 assessment results and some more recent studies. Additional information required to answer questions from the EGBCM will be taken into account in planning the future work of the SLCF-EG.

Outcomes of discussions within the EGBCM will be communicated to AMAP HoDs for their consideration in possible further development of this track to the AMAP SLCF EG implementation plan or future AMAP workplan; including consideration of possible associated resource requirements.

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Implementation activities – Timelines and Tasks					
	Methane: atmospheric trends, emissions trends, and climate implications / Knowledge synthesis – Methane trends and Arctic climate response	Supplement to recent knowledge synthesis – ongoing importance of black carbon on Arctic climate forcing	Updating AMAP monitoring programme	Knowledge synthesis - Wildfire impacts on the Arctic: emissions, climate response and health impact	AMAP support for work of EGBCM
Timing	Tasks	Tasks	Tasks	Tasks	Tasks
January-December 2024	<i>See archived record of implementation work in 2024</i>				
Summary for 2025-2027	<p><b>SUMMARY OF KEY STEPS, AT A GLANCE</b></p> <p><u>Key Meetings:</u> EGU2025/splinter meeting; EG meeting/project group meeting June 2026?</p> <p><u>Product(s) Completed:</u> Potential APB/SPM with focus on results of modelling of global methane pledge (spring 2026)</p> <p><u>Outreach Events:</u> COP30 side-events</p>	<p><b>SUMMARY OF KEY STEPS, AT A GLANCE</b></p> <p><u>Key Meetings:</u> EGU2025/splinter meeting</p> <p><u>Product(s) Completed:</u> APB with focus on black carbon radiative forcing (summer 2025); Black carbon emulator and results of application (fall 2026)</p> <p><u>Outreach Events:</u> COP30 side-events; Air convention meeting (Denmark fall 2025); IPCC?</p>	<p><b>SUMMARY OF KEY STEPS, AT A GLANCE</b></p> <p><u>Call for nominations:</u> for experts to be involved in monitoring update and possible update on monitoring results (spring 2026)</p>	<p><b>SUMMARY OF KEY STEPS, AT A GLANCE</b></p> <p><u>Call for nominations:</u> for additional experts to be involved in work on wildfires (summer 2025) linkages to NCM project group</p> <p><u>Key Meetings:</u> EGU2025/splinter meeting; HTAP meeting; AMAP modellers follow-up (May 2025); project group meeting June 2026?</p> <p><u>Product(s) Completed:</u> Model output: emissions estimates; smoke and contaminant transport modelling; fuel load mapping; AMAP update technical report/SPM (tbd)</p>	<p><b>SUMMARY OF KEY STEPS, AT A GLANCE</b></p> <p><u>Call for nominations:</u> linkages to NCM project</p> <p><u>Key Meetings:</u> EGBCM meeting(s) under KoD Chairship (possible new requests to AMAP SLCF EG)(Feb. 2026)</p> <p><u>Outreach Events:</u> Communication to EGBCM of results of relevant AMAP work (black carbon and methane SPMs, results of application of black carbon emulator, etc.); coordinated outreach targeting Air Convention?</p>
January – March 2025		<p><u>Milestones/Products:</u></p> <ul style="list-style-type: none"> <li>• Consultations with experts; Drafting of SPM</li> </ul>			
April 2025	<p><u>Milestones/ Products:</u></p> <ul style="list-style-type: none"> <li>• Splinter meeting for AMAP SLCF EG members participating in EGU2025: presentations of recent work on methane, wildfires, black carbon and health, observation systems and plans for IPY; discussion of future SLCF EG work and coordination with external activities including work under HTAP and PACES.</li> </ul>				
	<p><u>Milestones/ Products:</u></p> <ul style="list-style-type: none"> <li>• EG co-leads: Presentation of results of scientific work at</li> </ul>				

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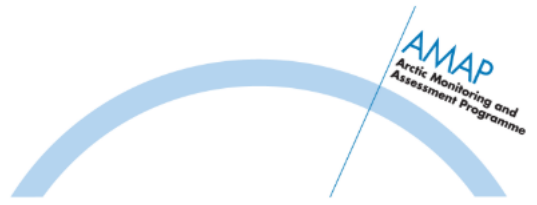
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Timing	Tasks	Tasks	Tasks	Tasks	Tasks
	EGU; Scientific journal publications				
May 2025	<ul style="list-style-type: none"> <li>• HoDs/PPs/EG Leads/Secretariat: Consider timeline for developing an AMAP technical report on methane trends and Arctic climate and related SPM deliverable</li> </ul>	<u>Milestones/Products:</u> <ul style="list-style-type: none"> <li>• Circulation of first draft SPM to THoDs/HoDs; Redrafting</li> <li>•</li> </ul>		<ul style="list-style-type: none"> <li>• EG Leads/Secretariat: Consider coordination issues with HTAP and other wildfire related work; possible coordination with work under AMAP CEG and AMAP-CAFF project</li> </ul>	<ul style="list-style-type: none"> <li>• HoDs/PPs/EG Leads/Secretariat: Consider outcomes of 2025 EGBCM Report to SAOs and any related requests for AMAP support</li> </ul>
June 2025		<u>Milestones/Products:</u> <ul style="list-style-type: none"> <li>• Initiation of CAF-funded black carbon emulator project work (workshop)</li> </ul>		<ul style="list-style-type: none"> <li>• HoDs/PPs/EG Leads/Secretariat: Consider whether to develop an AMAP technical update report on emissions from wildfires, air pollution and climate impacts, health impacts, etc. and related SPM deliverable</li> </ul>	
July -Oct 2025	<u>Milestones/Products:</u> <ul style="list-style-type: none"> <li>• Reduc(h4)e project report</li> </ul>	<u>Milestones/Products:</u> <ul style="list-style-type: none"> <li>• Implementation of CAF-funded black carbon emulator project work</li> </ul>			
Aug-Oct 2025		<ul style="list-style-type: none"> <li>• Policy Brief: drafting</li> </ul>			
Nov 2025	<u>Milestones/Products:</u> <ul style="list-style-type: none"> <li>• Outreach coordination with CCAC</li> </ul>	<u>Milestones/Products:</u> <ul style="list-style-type: none"> <li>• Outreach coordination with CCAC</li> </ul>			

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Timing	Tasks	Tasks	Tasks	Tasks	Tasks
	<ul style="list-style-type: none"> <li>• Presentation(s) at COP-30</li> </ul>				
Dec 2025	<u>Milestones/Products:</u> <ul style="list-style-type: none"> <li>• Outline draft of Policy Brief: Knowledge synthesis deliverable (including reporting on final results of Reduc(h4)e project work)</li> </ul>	<u>Milestones/Products:</u> <ul style="list-style-type: none"> <li>• Policy Brief: finalization and production; Development of C&amp;O plan (targeting AC, IPCC, etc.)</li> </ul>			<u>Milestones/Products:</u> <ul style="list-style-type: none"> <li>• Use of black carbon emulator products in ECBCM work</li> </ul>
Jan-Dec 2026	<u>Milestones/Products:</u> <ul style="list-style-type: none"> <li>• Policy Brief: Knowledge synthesis deliverable</li> </ul>		<ul style="list-style-type: none"> <li>• HoDs/PPs/Secretariat: Implement work to identify experts to participate in activity</li> <li>• EG leads/Secretariat: Establish SLCF project group and convene project group meeting(s) to organize AMAP programme update activity</li> </ul> <u>Milestones/Products:</u> <ul style="list-style-type: none"> <li>• Draft (SLCF) monitoring programme update for review by HoDs/PPs.</li> <li>• Updated AMAP monitoring programme</li> </ul>	<u>Milestones/Products:</u> <ul style="list-style-type: none"> <li>• Knowledge synthesis report (outline)</li> </ul>	<ul style="list-style-type: none"> <li>• EGBCM meeting/ consultations (Feb 2026)</li> </ul>
<ul style="list-style-type: none"> <li>• AMAP HoDs/PPs/EG Leads/Secretariat: Development and delivery of technical reports, possible SPMs, updated monitoring programme</li> <li>• Delivery of results of black carbon emulator project work</li> </ul>					



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## Climate change in the Arctic

## AMAP Workplan Implementation 2025-2027

### Implementing AMAP work to address Climate Change in the Arctic (*approved at WG38, nov 2025*)

AMAP's work reflects the long-term commitment of the Arctic Council to monitor and assess changes in the levels of pollution and climate change and their impacts on Arctic ecosystems and human populations.

This document presents a detailed stepwise plan for implementing AMAP work to address **issues related to climate change in the Arctic** throughout 2025 to 2027. This implementation plan builds on a related scoping document that was developed in support of the 2021-2023 Work Plan, scoping documents for separate activities, as well as previously approved versions of the plan that covered an earlier timeframe. This plan has been developed with guidance and support from the AMAP Climate Expert Group (CEG) Leads<sup>1</sup>, AMAP Secretariat and climate tracking HoDs<sup>2</sup>.

Together with other *AMAP implementation plans* that collectively cover the broad suite of issues within the AMAP mandate, this implementation plan is intended to help advance project-level work under the [AMAP Work Plan](#) in accordance with the [AMAP Strategic Framework 2019+](#), including its guiding principles and strategic goals, and to provide the AMAP Working Group and wider community with a common understanding of ongoing and planned AMAP activities.

The implementation activities described below will be carried out by the AMAP Climate Expert Group (CEG) with the support of the AMAP Secretariat, under the direction of AMAP HoDs<sup>3</sup>, and in a manner that is consistent with current Arctic Council guidelines for resumption of Working Group work.

These activities will support/contribute to the following AMAP Projects (as per AMAROK), in which they are referred to in Arctic Councils reports:

- Climate Issues: Cryosphere, meteorology, ecosystem impacts
- Understanding climate change impacts on Arctic ecosystems and associated climate feedbacks
- Human Health and combined effects;
- AMAP Trends and Effects Programme;
- Participation in international workshops, conferences;
- Efforts to engage PPs in AMAP's work.

The key AMAP products and deliverables planned for 2025-2027 in relation to AMAP work to address **climate change in the Arctic** are:

- Technical reports;
- Scoping report;
- Summary for Policy-makers;
- Outreach products, including webinars and outreach at international scientific conferences.

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<sup>1</sup> The Climate Expert Group co-leads have since changed and are currently: Julie Brigham-Grette (US), Rasmus Benestad (NOR) and Johanna Mård (SWE)

<sup>2</sup> [Link to Tracking HoDs List](#) on Sharepoint

<sup>3</sup> AMAP HoDs includes AMAP Heads of delegation of the 8 Arctic Nations and 6 Permanent Participants.

This implementation plan is intended to be updated and presented to the AMAP WG on a biannual basis (approximately January and July), or as needed, as determined by AMAP HoDs.

## A. Background

The impacts of increasing concentrations of greenhouse gases in the atmosphere are being amplified in the Arctic. The ice, the snow, the frozen ground, the main components of the Arctic environment are all extremely sensitive to heat and are rapidly responding to these changing conditions and in turn affecting the Arctic's physical, chemical, and biological systems. The region is transitioning to a new state. What happens in the Arctic does not stay in the Arctic. This region plays a crucial role as a regulator of global temperatures. It contributes to sea-level rise and impacts ecosystems and the livelihoods of those who live and work in the Arctic and beyond.

The 1991 AMAP mandate to monitor the levels of, and assess the effects of, anthropogenic contaminants in the Arctic was expanded in 1996 to include assessment of the effects of climate change in the Arctic including its ecosystems. AMAP's work on climate change is currently addressed mainly by the CEG, building on the groundbreaking 2004/2005 *Arctic Climate Impact Assessment (ACIA)*, the two *Snow, Water, Ice and Permafrost in the Arctic (SWIPA)* assessments (2011 and 2017), the three 2017 regional assessments of *Adaptation Actions for a Changing Arctic* and the 2018 assessment of *Arctic Ocean Acidification (AOA)*. In addition, AMAP's cross-cutting work on climate and air pollution has addressed Short-lived Climate Forcers (SLCFs) through its SLCF expert group.

As well as informing the Arctic Council and its member states and Permanent Participants, AMAP assessment and data products concerning climate change contribute to assessment activities under the Intergovernmental Panel on Climate Change (IPCC), the UN Framework Convention on Climate Change (UNFCCC) and current UN initiatives to link Conventions dealing with climate change, biodiversity and pollution. They are also a basis for outreach activities in relation to climate change.

## B. AMAP's CEG implementation plan – Overview of Implementation Activities

AMAP's Climate implementation plan for 2025-2027 includes five primary activities:

- 2026 Arctic Climate Update Report: Key Trends and Impacts
- Societal Implications of Climate Change in the Arctic Assessment
- Ecosystem impacts of climate change and associated feedbacks to climate (AMAP/CAFF project)
- Scoping of AMAP's work on Risks and Implications of Climate Interventions
- Cooperation with other organizations and outreach activities

### 1. Observation and assessment: preparing timely Arctic climate update reports on key climate issues, trends and impacts

**Climate Expert Group co-leads: Johanna Mård (SWE), Rasmus Benestad (NOR), and Julie Brigham-Grette (US)**

#### **Rationale and description:**

A key activity of AMAP is to ensure continued monitoring of key climate indicators/essential climate variables at Arctic sites, to extend the coverage of these observations, and to include additional parameters as may be needed. Model evaluation and downscaling of models to regional level are key components of this work. Arctic Ocean Acidification (AOA) is also incorporated into this work to provide a broader scope on the impacts of carbon emissions.

However, major climate change assessments, including the ACIA (2005) and two SWIPA (2011 and 2017) assessments, as well as the IPCC assessments, are very resource-demanding and time-consuming to prepare, review and publish, resulting in an interval of about six years between each major assessment. While the extent and comprehensiveness of such assessments are extremely important, the current rate of climate change and the increasing extent of its impacts led HoDs in 2021 to request the CEG to produce shorter, more frequent (preferably biennial) reports on topics that the CEG identifies as in need of a critical update or for highlighting their importance.

Accordingly, the first substantive climate update report, the *AMAP Arctic Climate Update 2021: Key trends and Impacts*, was published in early 2022. This was followed by the second *AMAP Arctic Climate Update 2024: Key trends and Impacts* in spring 2025. This second report contains data and observations to the end of 2023 and partially to the end of 2024. The report provides updates on 1) key Arctic climate indicators; 2) the cryosphere (updating the 2021 report and the 2017 SWIPA assessment); 3) terrestrial hydrology, partially updating the 2015 Arctic Freshwater Synthesis; 4) Arctic Ocean acidification, updating the 2018 AOA assessment; 5) Arctic extremes, Arctic/mid-latitude weather connections and wildfires, updates from 2021.

In 2025-2026, a third *AMAP Arctic Climate Update 2026: Key Trends and impacts* report is under preparation. It includes chapters on: 1) Key Arctic climate indicators, 2) Greenland ice sheet and Arctic Land ice (update of SWIPA 2017), 3) Snow changes in the Arctic, 4) changing marine climate (partly new topic), 5) terrestrial carbon cycle (update of SWIPA 2017), 6) persistent Arctic weather

patterns (new topic), 7) attribution of Arctic Amplification (new topic), 8) Arctic Thresholds and tipping points (update of the climate update 2021)<sup>4</sup>.

In addition, during 2026, a small team of experts on ocean acidification will be formed to assess the results of statistical downscaling of CMIP6-models for the Arctic regional seas for variables relevant for ocean acidification, including comparisons with observations for the Barents Sea Large Marine Ecosystem (LME), the Northern Bering/Chukchi sea LME and Laptev LME. It is proposed that a technical report should be prepared on the results of this analysis.

***Progress to-date:***

The summary for policymakers of the Climate Update Report 2024 was delivered to the Arctic Council for their preparation of the 14<sup>th</sup> meeting of the Arctic Council in May 2025.

A compilation of draft outlines of proposed chapters for a 2026 climate update report, prepared on the basis of discussions at the Climate Expert Group meeting in October 2024 and subsequent discussions at an online meeting on 21 November, was on the agenda of the 15 January 2024 HoDs meeting. However, owing to a lack of time, initial discussion of the scope and proposed contents of the report was deferred to a meeting of climate Tracking HoDs on 22 January. At that meeting, there was generally a positive view of the topics proposed, but there was concern that experts are not overloaded with work, given that AMAP is also coordinating two major climate assessments scheduled for completion in 2027. Also, given the time and effort to produce biennial climate update reports, HoDs wished to know the value of these reports and whether they provide timely information to policy-makers on evolving topics of importance. Ultimately, based on revised outlines for several of the chapters and the justifications for the various topics, HoDs approved the topics for this report.

Regarding potential overload and overlap with other assessments, based on a meeting of the AMAP/CAFF Steering Group for the assessment of Climate Change Impacts on Arctic Ecosystems and Associated Feedbacks to Climate on 10 February 2025, the current status of that project is that work on the scientific articles in the special journal issue is nearly complete. Work on Work Package 1 on co-production is currently being planned. The AMAP/CAFF project Steering Group agreed that production of an overall report for the project is important and proposals for the content and scope of such a report will be developed over the next several months. This implies that there will be no overlap in the timing of the work on that project and the 2026 update report. There is also virtually no overlap in the topics under consideration in the two activities.

The process of nominating chapter contributing authors to the Climate Update Report 2026 ended in April 25 and the drafting as of November 2025 is well under way, with the first draft of the chapters submitted for the national data check on 5 October 2025.

The national data check for the nine chapters of the 2026 AMAP climate update report was initiated 14 October with the deadline for comments from the Heads of Delegation 8 December.

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<sup>4</sup> Final outline to be confirmed in spring 2025

## 2. Documenting and assessing the societal implications of climate change in the Arctic (SICCA)

**Project co-leads: Vera Hausner (NOR), Marianne Falardeau (CAN), Lauren Divine (AIA) and Nathan Kettle (US)**

### **Rationale and description:**

After the completion of the SWIPA assessment work, the CEG concluded that, while it is still important to monitor and assess the physical and geochemical changes associated with climate change, it is also essential to document and assess the societal implications of these many changes. Initial work in this area was included in parts of the 2017/2018 AACA and AOA assessments.

The primary objective of this activity is to provide a broad documentation of the impacts of climate change on Arctic societies and people, with strong participation of PPs and other Indigenous Peoples' representatives. In addition to documenting the current status of such impacts, the initial aim has been to project, to the extent possible, the further development of these impacts over time to enable a basis for adaptation actions.

### **Progress to-date:**

AMAP HoDs approved in 2021 the outline of this assessment activity, comprising a structure of the chapters and some policy-relevant questions. A nomination process in 2021/22 for chapter co-leads was also held and experts were recruited for some of the chapters. The AMAP Secretariat, in cooperation with UiT and Prof. Vera Hausner, has secured funding to employ an assistant to provide administrative support and assist in communications and collection of information.

However, progress in implementation was delayed due to the strategic pause of the Arctic Council and the challenges that follow when working under those conditions with such an extensive and complex assessment activity as SICCA.

Several planning meetings have been held since summer 2024 between the assessment co-leads, PPs and the AMAP Secretariat to resume the work. For the current assessment, a co-assessment approach with PP representatives in central roles has been agreed among the assessment co-leads and PP Tracking HoDs. This will now mainly be based on a compilation and assessment of literature on relevant studies (including academic and grey literature) that also include the results of co-produced studies. This approach will facilitate the appropriate inclusion of Indigenous Knowledge that has been published in the literature.

This resulted in a need to revisit the scoping document, chapter outlines and policy-relevant science questions that were drafted over three years ago. A new process of identifying and inviting chapter co-leads to join the assessment ended in November 2024 and nominations for contributing authors ended in April 2025.

An assessment team has been established with the four assessment co-leads and chapter co-leads (2-3 per chapter) and the drafting has started. The PPs have also proposed that a representative of the PPs serve as a review editor of the SICCA assessment chapter texts, similar to what is being done in the IPCC Assessment process. Kata Kuhnert, ICC, has agreed to serve in this role and will work with chapter co-leads to ensure the inclusion of Indigenous Knowledge in and across chapters. This is the first time such a role has been taken on in an AMAP Assessment.

## **AMAP Workplan Implementation 2025-2027**

### **Implementing AMAP work to address Climate Change in the Arctic** *(approved at WG38, nov 2025)*

The zero drafts of the chapters were due by October 8<sup>th</sup>. At present, the assessment leads are reviewing the submitted chapters and aim to provide consolidated comments by October 31<sup>st</sup>. Regarding the next steps in the process, the assessment leads intend to send the chapters for the national data check mid-January 2026 – to be confirmed upon the first review of submitted drafts.

The assessment is planned to be published in 2027 in order to meet the deadline for contributions to the IPCC AR7. A summary for policymakers will be prepared and delivered to the ministerial meeting in May 2027.

### 3. Ecosystem impacts of climate change and associated feedbacks to climate (AMAP/CAFF project)

**Project co-leads: WP1: Sophie Crump (ICC) and Marét Hætta (Saami Council), WP2: Torben R. Christensen (KoD) and Per Fauchald (NOR)**

**Rationale and description:**

Climate change is currently altering Arctic ecosystems and biodiversity. These ecosystem changes feed back to the climate system, with a potential to dampen or accelerate local to regional changes in climate and emissions of greenhouse gasses and SLCFs and affect global-scale climate systems. The resulting impacts on Arctic ecosystem services, livelihoods and well-being are accelerating and will have far-reaching consequences for local communities, and particularly Arctic Indigenous Peoples. The over-arching objective of the joint activity between the AMAP and CAFF Working Groups of the Arctic Council is to assess how climate change affects Arctic ecosystems and the associated climate feedbacks, to inform strategies for adaptation and increase resilience. A scoping document<sup>5</sup> for this assessment was approved at a joint meeting of AMAP HoDs and the CAFF Board, and an implementation plan<sup>6</sup> was subsequently approved separately by AMAP HoDs/PPs and the CAFF Board.

**Progress to-date:**

Work to date under Work Package 1 (co-production of knowledge) has initially been addressed at the Arctic Regional Climate Gathering under UNFCCC's Local Communities and Indigenous Peoples' Platform (LCIPP) in Kirkenes in October 2023. A breakout session at this meeting had a specific focus on AMAP/CAFF WP1 knowledge gathering. Saami Council is currently preparing a report from that gathering. Two co-leads were chosen to lead WP1 of the project in 2024 after a nomination round by the CAFF Board and AMAP HoDs: Marét Haetta (Saami Council) and Sophie Crump (ICC). A workshop about co-production of knowledge for this project was planned at an early stage of the implementation period but never carried out. Now that the co-leads for WP1 are in place, a series of workshops is under planning for late 2025 and 2026. The plan for implementing WP1 is still under development and regularly discussed at monthly meetings of the Steering Committee.

The Steering Committee for the assessment has been re-established to guide the work and to propose any further changes to the implementation plan for this assessment, for consideration by AMAP HoDs and the CAFF Board. The Steering Committee has met nine times since December 2024 and will draft an updated implementation plan with deliverables achievable for the 2025-27 Workplan period.

To advance the co-production of knowledge on climate change impacts on Arctic ecosystems (WP1), it is proposed to host a workshop in Aarhus, in March 2026 in association with the Arctic Science Summit Week (ASSW). The workshop would build on existing guidelines, definitions, and practices around co-production of knowledge that Permanent Participants (PPs) and other Indigenous Peoples' organizations have developed. Funding support to cover costs for PP participation is needed, and a request to AMAP and CAFF HoDs will be sent out in end of October.

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<sup>5</sup> Link to AMAP/CAFF scoping document on sharepoint: [AMAP-CAFF Joint-Work ScopingDocument -FINAL-24May2021.pdf](#)

<sup>6</sup> Link to AMAP/CAFF implementation plan on sharepoint: [AMAP-CAFF Implementation Plan.pdf](#)

## AMAP Workplan Implementation 2025-2027

### Implementing AMAP work to address Climate Change in the Arctic (approved at WG38, nov 2025)

Progress to date under Work Package 2 (scientific background), comprises the production of 11 scientific review papers for the journal *Frontiers in Environmental Science/Earth Science* for a special issue under the title “Climate Change Impacts on Arctic Ecosystems and Associated Climate Feedbacks”, where currently ten of them can be found online<sup>7</sup>. AMAP and CAFF HoDs have nominated experts to contribute to these overview papers; the final list of papers and authors/co-authors will be available by the time of the completion of the submissions. A workshop with the authors from the special issue as participants is under planning during the ASSW in Aarhus in March 2026.

A series of open webinars will be held in December 2025 – February 2026 to provide an overview of the findings of the ten special issue papers focusing on ecosystem impacts of particular concern to Arctic Indigenous Peoples and their livelihoods and subsistence activities. The webinars will also serve as a knowledge base for the WP1 Workshop next year.

The Steering Committee has agreed that production of an overall report for the project is important and proposals for the content and scope of such a report will be developed over the next several months. An updated implementation plan for this project will be sent to HoDs for review in fall 2025/early 2026.

To date, the other work packages (WP3 on “Ecosystem impacts on communities and livelihoods” and WP4 on “Ecosystem based adaptation strategies”) have not been advanced.

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<sup>7</sup> <https://www.frontiersin.org/research-topics/56230/climate-change-impacts-on-arctic-ecosystems-and-associated-climate-feedbacks/articles>

#### 4. Scoping activity: Risks and implications of climate interventions

***Rationale and description:***

Scoping work on “Risks and Implications of Climate Interventions” has been adopted for inclusion in the AMAP 2025-2027 workplan, including a timeline for delivering a product in 2026. The scoping activity should result in proposals for ways in which AMAP can contribute to existing or needed processes for developing a governance framework or ethical guidelines for Arctic-relevant climate interventions.

The product of the scoping work to be delivered in 2026 is intended to inform AMAP HoDs regarding the need for further scientific work on this topic under AMAP, including possible messages that could be addressed to international processes on behalf of the AC/AMAP in this connection.

***Progress to-date:***

In fall 2024, a small group of experts nominated by the AMAP HoDs formed a pre-scoping group and drafted a report on “Implications and risks of climate interventions for Arctic ecosystems and peoples”. This document was presented to the HoDs at a meeting on the 15th of January 2025 and addressed considerations when undertaking the ‘Risks and Implications of Climate Interventions’ scoping work. Among other considerations, this pre-scoping exercise provided a small set of provisional policy-relevant questions, some indications on initial tasks essential to the main scoping activity and a tentative timeline. Based on the 29 nominations received from HoDs by the extended deadline 17 September 2025, a group of experts will be established and tasked with conducting a comprehensive review of relevant existing information and initiatives on climate interventions with significant risk to potentially harm Arctic ecosystems and/or people and an evaluation of how AMAP can best contribute to ongoing processes (e.g. UN and IPCC initiatives) to bring in Arctic information and perspectives. The outcome/product of the scoping work would be a series of proposals and/or recommendations that would be presented to AMAP HoDs for their consideration, and (as appropriate) communicated to other relevant stakeholders and processes.

The meeting with CEG and SLCF leads will be organized in November to receive their guidance in selecting the experts for the scoping activity as well as in identifying areas of expertise potentially missing in the group which would be nonetheless essential to be brought to the group and inform AMAP’s scoping effort. The process will be facilitated by the AMAP Secretariat.

## 5. Co-production of planned implementation activities

### ***Rationale and description:***

AMAP's Strategic Goals include enhancing engagement of Indigenous people in AMAP work, promoting both co-production of knowledge through early engagement of PPs in AMAP work planning as well as activities such as community-based monitoring and integration of Indigenous knowledge in AMAP assessments.

### ***Progress to-date:***

As noted above, co-production of knowledge is an important aspect of AMAP's climate work, in particular in relation to the assessment of societal implications of climate change and the AMAP/CAFF project. A proposed new project on 'how to incorporate Indigenous knowledge in AMAP assessments', approved by AMAP HoDs/PPs but yet to be implemented, is expected to inform further work on co-production in relation to AMAP work on climate change.

Utilizing Indigenous knowledge is core to AMAP's current two assessments (see 2 and 3, above); however, due to insufficient time and resources in the SICCA work, a co-assessment approach has been adopted instead.

## 6. Cooperation with other organizations and outreach activities

### ***Rationale and description:***

In addition to the Arctic Council, AMAP has a strong interest in communicating the results of its climate work to relevant international organizations, in particular the UNFCCC and IPCC. The AMAP Secretariat organizes side-events or sessions at several conferences throughout the year, for instance Arctic Frontiers, Arctic Science Summit Week and Arctic Circle Assembly. Outreach activity targeted towards observers is also planned.

### IPCC

The AMAP Secretariat was granted observer status to the IPCC in January 2024 and will follow the work on the IPCC 7th Assessment Cycle closely. As an observer to the IPCC, AMAP has nominated experts to participate in scoping meetings and to take part in reports and assessments as authors and review editors.

### UNFCCC

AMAP representatives plan to be present at the UNFCCC COP30 in Belem, Brazil in November 2025. Outreach activities during the COP30 include the presentation of the climate update report 2024 (full report or key highlights and recommendations), the black carbon policy brief and other results from AMAP SLCF work, and possibly other outreach activities. Current UN initiatives to link Conventions dealing with climate change, biodiversity and pollution (the triple planetary crisis) are also relevant for AMAP work addressing climate change in the Arctic.

### ***Progress to-date:***

- AMAP had one expert representing AMAP Secretariat at the IPCC plenary meeting in July 2024 and expressed our interest in their work and our possible contributions during AR7.
- The AMAP Secretariat nominated 12 experts to attend the IPCC scoping meeting in December 2024, and two experts were selected by IPCC and participated in WG1- and WG2-discussions to draft outlines for the IPCC Seventh Assessment Report.
- The AMAP Secretariat has also nominated four experts with Arctic expertise as either lead authors or review editors for WG1 and WG2 to the IPCC Seventh Assessment cycle by their deadline April 17<sup>th</sup> and one was accepted (Ninis Rosquist)
- The SICCA leadership and AMAP Secretariat met with the IPCC WG2 co-chair in April 2025 to talk about AMAP's contributions to their work and in particular the results of the SICCA Assessment.
- The AMAP Secretariat and ICC plan to co-organise a side-event at COP30 on Equitable Collaboration on climate change in the Arctic, as an input from AMAP about experience working with Indigenous knowledge holders to IPCC's work on engaging with different knowledge system (workshop to be held by IPCC in February 2026).

## **AMAP Workplan Implementation 2025-2027**

### **Implementing AMAP work to address Climate Change in the Arctic** *(approved at WG38, nov 2025)*

The Climate Update 2024 Report has been presented at Arctic Frontiers (January 2025, Tromsø) and Arctic Science Summit Week (March 2025, Boulder).

The Climate Expert Groups co-leads will decide on topics for webinars about AMAP's work, targeted to the AMAP WG, including the observers. We also plan to discuss with some observers about holding a webinar presenting observer members' work on climate that could be relevant to AMAP and the activities in the current Workplan (2025-2027).

Annex: Table overview of implementation plan with tasks and timing

	<b>Finalizing 2024 Arctic Climate Update report</b>	<b>Preparing 2026 Arctic Climate Update report</b>	<b>Implementing the assessment of societal implications of climate change in the Arctic (SICCA)</b>	<b>Implementing the AMAP/CAFF assessment of climate change impacts on Arctic ecosystems and associated feedbacks to climate</b>	<b>Scoping of Risks and Implications of Climate interventions</b>	<b>Cooperation with other organizations and outreach activities</b>
Timing	Tasks	Tasks	Tasks	Tasks	Tasks	Tasks
Summary for 2025-2027	<p><b>SUMMARY OF KEY STEPS, AT A GLANCE:</b></p> <p><b><u>Products completed:</u></b> Summary for policy-makers and technical report published and available on the web site in May/June 2025</p> <p><b><u>Outreach</u></b> Sessions at several conferences during 2025 and 2026 (Arctic Circle, ASSW, Arctic Frontiers)</p>	<p><b>SUMMARY OF KEY STEPS, AT A GLANCE:</b></p> <p><b><u>Products completed:</u></b> Summary for policy-makers and technical report published and available on the web site in late 2026</p> <p><b><u>National Data Check</u></b> HoDs review 14 Oct – 8 Dec</p>	<p><b>SUMMARY OF KEY STEPS, AT A GLANCE:</b></p> <p><b><u>Products completed:</u></b> Summary for policy-makers and technical report published and available on the web site in 2027</p> <p><b><u>National Data Check</u></b> HoDs review Jan 15 - March 15</p>	<p><b>SUMMARY OF KEY STEPS, AT A GLANCE:</b></p> <p><b><u>Review:</u></b> HoDs review of the updated implementation plan on the work moving forward with possible deliverables for 2027 (fall 2025/early 2026)</p>	<p><b>SUMMARY OF KEY STEPS, AT A GLANCE:</b></p> <p><b><u>Call for nominations:</u></b> On scoping: to be circulated in May/June 2025</p> <p><b><u>Product(s) Completed:</u></b> technical scoping reports with recommendations for consideration by HoDs (2026)</p>	<p><b>SUMMARY OF KEY STEPS, AT A GLANCE:</b></p> <p><b><u>Outreach Events:</u></b> Sessions at UNFCCC COP30 (November 2025). Webinars (fall 2025)</p>

Annex: Table overview of implementation plan with tasks and timing

	<b>Finalizing 2024 Arctic Climate Update report</b>	<b>Preparing 2026 Arctic Climate Update report</b>	<b>Implementing the assessment of societal implications of climate change in the Arctic (SICCA)</b>	<b>Implementing the AMAP/CAFF assessment of climate change impacts on Arctic ecosystems and associated feedbacks to climate</b>	<b>Scoping of Risks and Implications of Climate interventions</b>	<b>Cooperation with other organizations and outreach activities</b>
<b>Timing</b>	<b>Tasks</b>	<b>Tasks</b>	<b>Tasks</b>	<b>Tasks</b>	<b>Tasks</b>	<b>Tasks</b>
Jan-Jun 2025	<p>Launch of key findings at Arctic Frontiers (Jan 29th)</p> <p>Session at Arctic Summit Science Week (March 24th)</p> <p>Pre-print online version available</p> <p>SPM Deliverable to the 14<sup>th</sup> Meeting of the Arctic Council Technical Report published</p>	<p>Final decision on structure and content</p> <p>Preparation of the chapters – drafting</p> <p>Monthly meetings with the chapter leads</p>	<p>Updated scoping document to reflect the co-assessment approach and response to HoDs comments in the HoDs meeting in December 2024</p> <p>Monthly chapter meetings</p> <p>Nominations of contributing authors (Due 25 April)</p> <p>Finalizing outlines for HoDs review May 30 – June 20</p> <p>Preparing draft chapters</p>	<p>Monthly meetings with the Steering committee</p> <p>Special Issue in Journal Published 11 papers (June)</p> <p>WP1 planning</p>	<p>Nomination of contributors by HoDs (May/June)</p>	<p>Arctic Frontiers</p> <ul style="list-style-type: none"> <li>- Climate Update Report session</li> </ul> <p>Meeting with IPCC WG2 co-chair</p> <p>Arctic Science Week Assembly</p> <ul style="list-style-type: none"> <li>- Climate Update report session</li> </ul>

Annex: Table overview of implementation plan with tasks and timing

	<b>Finalizing 2024 Arctic Climate Update report</b>	<b>Preparing 2026 Arctic Climate Update report</b>	<b>Implementing the assessment of societal implications of climate change in the Arctic (SICCA)</b>	<b>Implementing the AMAP/CAFF assessment of climate change impacts on Arctic ecosystems and associated feedbacks to climate</b>	<b>Scoping of Risks and Implications of Climate interventions</b>	<b>Cooperation with other organizations and outreach activities</b>
Timing	Tasks	Tasks	Tasks	Tasks	Tasks	Tasks
July-Dec 2025	Printed report available November 2025	National Data check (14 Oct – 8 Dec)  Nominations for peer review (mid-November to end December)	Zero draft (8 October)	First webinar on topics from the Special Issue (Dec)	Meetings with scoping Group  Draft scoping document	UNFCCC COP30 in Belem  Arctic Circle 2025 - plenary session on the Triple planetary crisis, side-events on permafrost etc.  Webinars AMAP/CAFF project  Webinars for observers about climate work (tbc)
<b>2026</b>						
Jan – Jun	Draft report on ocean Acidification for review	Peer Review (March-April)  Editing (from mid-June on)	National Data Check (Jan 15- Mar 15)  PP review  Peer Review	2 <sup>nd</sup> and 3 <sup>rd</sup> webinars on topics from the Special Issue (Jan-Feb)	Finalize scoping report and send to HoDs for their review	Arctic Frontiers

Annex: Table overview of implementation plan with tasks and timing

	<b>Finalizing 2024 Arctic Climate Update report</b>	<b>Preparing 2026 Arctic Climate Update report</b>	<b>Implementing the assessment of societal implications of climate change in the Arctic (SICCA)</b>	<b>Implementing the AMAP/CAFF assessment of climate change impacts on Arctic ecosystems and associated feedbacks to climate</b>	<b>Scoping of Risks and Implications of Climate interventions</b>	<b>Cooperation with other organizations and outreach activities</b>
Timing	Tasks	Tasks	Tasks	Tasks	Tasks	Tasks
		SPM drafting (June to end October)		Updated Implementation Plan for HoDs review (February)  WP1 and WP2 workshops at ASSW (March)  Preparation of a synthesis Report for the whole project (tbc <sup>8</sup> )		
July – December		Publication (late 2026)	Peer review continued  Editing	SPM drafting of the synthesis report (tbc)		

<sup>8</sup> Pending approval of the updated implementation plan early 2026

Annex: Table overview of implementation plan with tasks and timing

	<b>Finalizing 2024 Arctic Climate Update report</b>	<b>Preparing 2026 Arctic Climate Update report</b>	<b>Implementing the assessment of societal implications of climate change in the Arctic (SICCA)</b>	<b>Implementing the AMAP/CAFF assessment of climate change impacts on Arctic ecosystems and associated feedbacks to climate</b>	<b>Scoping of Risks and Implications of Climate interventions</b>	<b>Cooperation with other organizations and outreach activities</b>
Timing	Tasks	Tasks	Tasks	Tasks	Tasks	Tasks
			SPM drafting			
<b>2027</b>						
Jan – Jun		Outreach (see column to the far right)	Approval of SPM  Launch of SPM and technical Report	Approval of SPM (tbc)  Launch of SPM and synthesis report (tbc)		Arctic Frontiers (January) <ul style="list-style-type: none"> <li>- Climate update 2026</li> <li>- Climate Interventions</li> </ul>
July – December						

## Annex: Table overview of implementation plan with tasks and timing

### Document Version Description

Version #	Date	Comments
0.1	October 2024	Version circulated to AMAP WG for WG36
1.0	October 2024	Version approved by AMAP WG at WG36
2.0	MAY 2025	Version of 2025-2027 Implementation Plan for approval by AMAP WG at WG37, June 2025
2.1	August 2025	Version updated reflecting decision at WG37 and subsequent follow-up in writing by HoDs/PPs, as per WG37 request
3.0	Nov 2025	Version approved at WG38, November 2025

### Document Approval

Approved By	Date	Current Approved Version #
AMAP WG	June 2025	2.0 – approved with specific edits to be made
AMAP HoDs	August 2025	2.1
AMAP WG	November 2025	3.0