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AMAP Progress Report to the SAO Meeting, Rovaniemi, Finland 31 October - 2 November 2018 –

including a 2-Page report from AMAP WG32 meeting

1. Introduction: Response to Arctic Council priorities and potential new projects under consideration

Much of AMAP's work on climate and pollution issues is of a continuing nature and resonates well with the Arctic Council's long-term needs to address sustainable development, environmental protection and scientific cooperation, including priorities established under successive Arctic Council Chairmanships.

As part of its mandate, AMAP continues to work to update information on pollution and climate change, and implications for Arctic physical environments and ecosystems – this is essential for providing policy-makers with the most recent and relevant information to inform decision making on these far-reaching issues.

Climate change and long-range transported pollutants are issues that have a global context with respect to sources of pollution that affect the Arctic, linkages between the Arctic and global climate systems, and the international regulatory mechanisms to address these issues. AMAP work is therefore also planned to ensure that Arctic / Arctic Council information is delivered in a timely manner and effectively communicated to relevant international fora that address climate and pollution issues. Especially important in this respect is supporting the further development and implementation of the UNEP Stockholm (POPs) and Minamata (mercury) Conventions as well as the UN ECE Convention on Long-range Transboundary Air Pollution, and work targeting the needs of the UNFCCC and IPCC.

Meteorological cooperation – The Finnish Initiative on Meteorological Cooperation has been important for promoting increased cooperation, for instance on meteorological, oceanographic and terrestrial observations, research and services, and has also contributed to an increased focus on the need for well-maintained and sustained observation networks and continuous monitoring in the Arctic – these are issues of importance to AMAP, as well as the broad observing and modelling communities. In order to support a continued follow-up of the Initiative on Meteorological Cooperation, AMAP will supplement its Climate Expert Group with

experts on meteorology. The details of this follow-up are still under consideration and will be discussed at an AMAP climate-related workshop in early-November 2018.

OECD – Possible work by OECD to investigate the macro-economic implications of scenarios for future economic development and possible actions to address climate and pollution were presented at the recent AMAP WG meeting. If implemented, it is intended to connect this initiative closely to the activities planned under the AMAP



Expert Group on Short-Lived Climate Forcers (SLCFs) as well as the Arctic Council Expert Group on Black Carbon and Methane (EGBCM).

Marine Litter – AMAP started looking into litter and microplastics as part of the AMAP report on Contaminants of Emerging Arctic Concern (CEAC 2017) and has been involved in the upcoming PAME Desktop Study on Marine Litter including Microplastics in the Arctic. AMAP has noted the recommendation in the draft Desktop Study that a regional action plan on marine litter in the Arctic should be developed and that the plan should be accompanied by a monitoring program. In light of AMAP's mandate and expertise, the recent AMAP WG meeting concluded that AMAP is well positioned to take on a role in developing a monitoring program, but emphasized that details in a potential follow-up would have to come after work plan coordination and discussions across WGs.

Integration of pollution and climate issues -- Arctic ecosystems are subject to multiple pressures, of which two of the major challenges are climate change and exposure to contaminants. These issues have largely been addressed individually, yet there is a critical need to enhance the understanding of combined impacts of multiple pressures and their interactions on Arctic ecosystem state and health. This calls for better integration and streamlining of AMAP work on climate and pollution issues, and a more detailed follow up will be discussed as part of the 2019-2021 work plan.

Arctic climate change and ecosystem impacts -- A possible joint AMAP-CAFF assessment of the implications of climate change for Arctic ecosystems is being considered as part of the AMAP long-term workplan and this will be discussed further with CAFF.

2. Summary of progress on AMAP projects

Short-lived Climate Forcers (SLCFs) - The AMAP SLCF Expert Group is undertaking an integrated assessment of air pollution issues with a focus on short-lived climate forcers (SLCFs) for delivery in 2021. This work is being coordinated with work under the Arctic Council EGBCM and is structured around a series of policy-relevant questions to ensure that the updated scientific knowledgebase supports policy needs. Work completed to date to develop updated emissions scenarios is also supported by work under the EU Action on Black Carbon and bridges scientific activities under the Arctic Council with those under other relevant fora including work under the bodies of the Convention on Long-range Transboundary Air Pollution (CLRTAP). The AMAP SLCF Expert Group will meet 15-16 November in Bologna, Italy. AMAP, EGBCM and ACAP will prepare a joint presentation on SLCFs at the AEMM. A Progress report on the AMAP work on SLCFs will be included in the AMAP contribution to the SAO Report to the 2019 Ministerial meeting.

Arctic Ocean Acidification (AOA) - The AOA update assessment 2018 has been completed. Arctic Ocean acidification is caused by the increasing concentration of carbon dioxide in the atmosphere and subsequent uptake by the oceans. The assessment focuses on societal impacts of Arctic Ocean acidification through five case

studies that consider impacts on marine resources in five geographical areas. The scientific findings of the assessment will be delivered at the Arctic Biodiversity Congress (Rovaniemi, 9-12 October) and a Summary for Policy-makers will be prepared as a deliverable to the Arctic Council Ministerial meeting in 2019. The assessment reconfirms earlier messages concerning the need for action to counter AOA through reduction in emissions of greenhouse gasses.

Contaminants – Work on contaminants issues since the spring of 2018 includes continuing follow-up of the AMAP assessment of *Chemicals of Emerging Arctic Concern*. Results of this assessment have been communicated in a number of scientific fora and have contributed to evaluation by the Stockholm Convention POPs Review Committee of candidate chemicals for attention under the Convention, and is being followed up as part of national screening activities. An update assessment of *Biological Effects of POPs and mercury on Arctic wildlife* has been completed and results of this work will be presented at the Arctic Biodiversity Congress in October 2018. A Summary for Policy-Makers will be prepared for the 2019 Arctic Council Ministerial meeting. An update assessment of mercury in the Arctic for delivery in 2021 will be initiated at a workshop in Ottawa in December 2018. Work targeting the effectiveness evaluation under Stockholm and Minamata Conventions will have priority. Work on an update assessment on radioactivity is planned with delivery in 2023.

Human Health – Consideration of the health effects of dietary transitions in Arctic populations, including an update assessment of dietary exposure related to POPs and Hg, has been incorporated in work planned under the AMAP work-plan for the coming years.

SWIPA/IPCC follow-up – The *Snow, Water, Ice and Permafrost in the Arctic* (SWIPA) 2017 assessment is being followed up through a number of targeted activities, including scientific journal articles that are under preparation. The SWIPA results have been used in the ongoing IPCC work to prepare the IPCC Special Report on the Ocean and Cryosphere in a Changing Climate. The SWIPA Summary for Policy-Makers is being translated into Saami, Russian and Greenlandic and also into Japanese and Korean, with this work actively supported by the relevant observing countries.

An AMAP Climate Expert Group workshop will be held in Copenhagen in November 2018 to further develop plans for SWIPA follow-up, including better integrating and streamlining this with other ongoing and planned AMAP work on climate- and pollution-related issues, including work on SLCFs, meteorological initiatives, climate-contaminant interactions, and ecosystem changes and feedbacks.

AACA follow-up – Technical and overview reports presenting results of the *Adaptation Actions for a Changing Arctic* (AACA) studies in three regions (Barents; Bering/Chukchi/Beaufort; Davis Strait/Baffin) have been completed and published and are available in hard copy and from the AMAP website. The AACA has been a huge interdisciplinary undertaking and a 'lessons learned' survey has been completed to evaluate the process and inform AMAP's future work in this area. Translation of overview reports is underway together with follow-up work at the national level



aimed at communicating the information necessary to enable end-users to develop tools and strategies to adapt to Arctic change.

AMAP Strategic Framework -- Last year AMAP began work on updating its Strategic Framework, aiming for delivery at the next AC Ministerial. The current draft emphasizes five strategic goals related to the need for collaborative assessment processes; access to data; inclusive partnership with indigenous peoples; effective communication and the timeliness and relevance for international processes. One of the elements highlighted in the strategic framework is the need to constantly oversee the implementation of AMAP recommendations and evaluate the impact and relevance of AMAP work.

3. Deliverables for the next Ministerial

AMAP deliverables under preparation for the 2019 Ministerial Meeting include:

- A 'Summary for Policy-Makers' (SPM) based on the results of the *Arctic Ocean Acidification (AOA)* update assessment.
- A 'Summary for Policy-Makers' (SPM) based on the results of the update assessment of *Biological Effects of Contaminants on Arctic Wildlife and Fish*.
- A communication on *Key Climate Issues for Ministers* summarizing results of SWIPA follow-up and other related work.
- An updated AMAP Strategic Framework document.

4. Working Group administration and next meeting(s)

The AMAP Working Group held its 32nd meeting in Kiruna, Sweden (25-27 September) followed by an AMAP Heads of Delegation meeting (27-28 September). The main items addressed during the meetings concerned:

- Plans for the finalization of deliverables for the AC Ministerial meeting in 2019.
- The development of the AMAP work-plan for 2019-2021 and beyond.
- Continuing development of the AMAP Strategic Framework for the period 2018+
- AMAP work relating to initiatives including the Arctic Biodiversity Congress/Arctic Environment Ministers meeting; Science Ministerial'; Minamata COP2; UNFCCC COP24.

The AMAP Secretariat relocated to the Fram Centre, Tromsø on 1 April 2018, where it shares office space with the Arctic Council Secretariat. The AMAP Executive Secretary, Rolf Rødven started in his position in Tromsø on 1 March 2018.

AMAP will arrange a Heads of Delegation meeting in spring 2019.



The AMAP WG Chair, Marianne Krogglund (Norway), announced that she will step down as AMAP WG Chair in May 2019. A new WG Chair and Vice-Chairs will be elected at the HoDs meeting in early 2019.

5. Collaboration with other working groups / other organizations

AMAP works closely with several of the working groups, task forces and Observers within the Arctic Council, on monitoring, climate change and pollution issues. All AMAP work endeavors to engage Permanent Participants (PPs) and utilize Traditional and Local Knowledge where applicable.

AMAP involvement in cooperation on cross-cutting issues includes:

CAFF – AMAP is arranging sessions at the Arctic Biodiversity Congress in October 2018 where the scientific findings of the AMAP assessments of Arctic Ocean Acidification and Biological effects of POPs and Mercury will be presented; a joint session on climate change and implications on marine biodiversity is also being organized together with CBMP. A possible joint AMAP-CAFF assessment of the implications of climate change for Arctic ecosystems is being considered as part of the AMAP long-term workplan and this will be discussed further with CAFF.

PAME – possible AMAP work under its 2019-2021 workplan on marine litter and microplastics is being considered in relation to PAME's proposed follow-up work on these topics.

SDWG – AMAP representatives participated in the recent meeting to discuss follow-up work on the resilience framework.

ACAP – ACAP have approached AMAP in relation to coordination of future ACAP work to follow-up on AMAP's assessments planned under the future AMAP work plan. AMAP has presented results from the assessment on Contaminants of Emerging Arctic Concern (CEAC 2017) in a recent ACAP meeting, to ensure that ACAP has an overview of ACAP relevant recommendations, for example related to local sources and waste management within the Arctic.

EGBCM – AMAP continues to work closely with the EGBCM in planning and conducting its update assessment of short-lived climate forcers (SLCFs), due to be delivered in 2021. The coordination of this work with EGBCM will ensure that the work is complementary.

To be able to fulfil its mandate, AMAP relies on sharing, access and exchange of data and information, as well as cooperative assessment to improve understanding of challenges and opportunities. This includes sharing, accessing and exchange of information between AMAP, research and educational institutions, international and partner organizations.

AMAP therefor continues to cooperate with:

IASC – *in relation to assessment activities, coordination of peer review processes, and as co-sponsor of SAON.*



UN-Environment - on activities connected with the UNEP global mercury process, including the delivery of a joint AMAP/UN-Environment report on the Technical Background to the [UN-Environment] Global Mercury Assessment 2018; and on activities connected with the Stockholm Convention, including follow-up to the AMAP assessment of *Chemicals of Emerging Arctic Concern* and the *Biological Effects of POPs and Mercury*. AMAP is investigating possibilities to engage in side-events being held in connection with the Minamata Convention COP2.

UNECE - in relation to relevant LRTAP activities, in particular SLCFs and mercury. AMAP participated in the Saltsjöbaden VI - Clean Air for a Sustainable Future – Goals and Challenges workshop in Gothenburg in March 2018 where outcomes include recommendations to the Arctic Council and LRTAP Convention to improve integration of actions addressing climate change and air pollution. AMAP was also represented at the joint session of EMEP and the Working Group on Effects in Geneva, 10–14 September 2018.

WMO - and contribute to the meteorological collaboration initiative.

SAON - to enhance and strengthen observational networks and sharing of data and knowledge, including activities in connection with the Science Ministerial meeting in October 2018.