

AMAP input to Nuuk Declaration report and the SAO report, 2009–2011

Proposals for the Nuuk Declaration

AMAP has over the last two years produced several significant assessments to the Arctic Council that require policy related actions by the Ministers, and the following text is the proposal from AMAP to the Nuuk declaration:

Welcome with appreciation the full report on the assessment of the Arctic Cryosphere: Snow, Water, Ice and Permafrost in the Arctic (SWIPA). Note with concern the accelerated change in major components of the cryosphere, and the profound local, regional, and global effects of observed and foreseen changes. While taking note of the recommendations of the assessment, **request** Senior Arctic Officials (SAOs) to develop appropriate follow-up actions, and urge the international community to implement international agreements for substantially reducing global greenhouse gas emissions;

Welcome with appreciation the latest findings and recommendations of the AMAP Assessment on Mercury in the Arctic, and **fully support** the work under the United Nations Environment Programme (UNEP) to establish a global agreement to reduce the emissions of mercury;

Take note of the technical report from AMAP and the recommendations from the Task Force on Short-Lived Climate Forcers and request SAOs to develop and implement appropriate follow-up actions;

Call for further consideration of the proposal of a more integrated approach to assess the cascading effects of Arctic change, referring to the results of recent assessments that highlight the need for an integrated assessment of multiple drivers of Arctic change as an important tool for Indigenous Peoples, Arctic residents, governments, and industry to prepare for the future;

Reaffirm commitments to maximize the legacy of the International Polar Year (IPY) 2007–2008, and **encourage** continued international coordination within the areas of observations, data access and management, access to study areas and infrastructure, education, recruitment and funding, outreach, communication and assessment for social benefits, and benefits to local and Indigenous Peoples,

Regard the Sustaining Arctic Observing Networks (SAON) process as a significant vehicle for follow up to the IPY and to activities undertaken under the auspices of the Council, and **approve** the recommendations of the SAOs, including on the future relationship between the Arctic Council and SAON;

Welcome the revised Strategic Framework for the Arctic Monitoring and Assessment Programme (AMAP) to address future monitoring and assessment priorities.

For SAO report for 2009 – 2011, AMAP will propose the following text:

Preamble: (The overall challenge)

The Arctic is today the “Global Barometer” regarding the trends and effects of climate change and long-range transported pollutants. The AMAP WG has over the past two-year period presented several high-level reports that document the trends and effects of climate change and pollution both at local and regional scales within the Arctic, as well as how feedback from the Arctic may affect global systems. Based on the results presented in the AMAP scientific assessments, AMAP has prepared clear calls for actions on the political level to reduce the threats to the Arctic ecosystems, societies and humans, especially the Arctic Indigenous Peoples. A major challenge for AMAP’s work is implementing, on behalf of the Arctic Council, secure long-term monitoring and research on the whole Arctic environment. The call for the Sustaining Arctic Observing Networks (SAON), to secure networks of stations and platforms where research and monitoring can be performed, and to improve the sharing of collected data, is of highest priority if we are to effectively document and explain what is occurring in the Arctic and document the effects that any mitigation actions taken may have. This situation requires substantial political and financial support to the work AMAP is implementing.

Main achievements in 2009–2011

AMAP will deliver the following reports to the 2011 Ministerial Meeting:

- The *Climate Change and the Cryosphere: Snow, Water, Ice and Permafrost in the Arctic* (SWIPA) products, comprising the full scientific report, a layman’s report including a summary for policymakers, and three films.
- *AMAP Assessment 2011: Mercury in the Arctic* scientific report and layman’s report.
- *The Impact of Black Carbon on Arctic Environment* report.
- The Plan for the Implementation Phase of SAON.

In addition, AMAP has in this period produced and released the following reports:

- *The 2009 AMAP Assessment of Persistent Organic Pollutants in the Arctic.*
- *AMAP 2009 Assessment of Human Health in the Arctic.*
- *AMAP 2009 Assessment of Radioactivity in the Arctic.*
- *Oil and Gas in the Arctic: Effects and Potential Effects* Volumes 1 and 2.
- The Arctic Report Card 2010.
- AMAP Strategic Framework 2010+

Major activities in addition to the assessment work:

SAON (Sustaining Arctic Observing Network)

In the spring 2009, the Arctic Council agreed to lead further development of SAON and established the SAON Steering Group (SG), composed of representatives from the Arctic Council, the International Arctic Science Committee (IASC) and the World Meteorological Organization (WMO). The SG worked most closely with the eight Arctic countries and consulted with experts in community-based monitoring and in data management. It created a new website (www.arcticobserving.org) where all SAON reports can be found. The SAON SG further specified the potential roles and responsibilities of SAON and agreed that the consultation and

planning processes for SAON had gone as far as needed, and that a transition to an implementation phase was the next logical step. The Arctic Council endorsed this view and called for an implementation plan, to include “institutional framework” and an initial list of tasks to be undertaken. The report to the Arctic Council and the International Arctic Science Committee on “Plan for the Implementation Phase of SAON” was delivered in February 2011.

Evaluation of AMAP strategic framework, monitoring programme and assessment strategy;

During 2009-2011, AMAP conducted a major review and evaluation of its work. As part of this evaluation, an external panel of experts was convened to consider the work and products of AMAP in the context of stakeholders that have a need for information on Arctic environmental and health issues. This panel consulted a large number of relevant stakeholders ranging from indigenous peoples and local governments to international organizations and industries. The outcome of this review and resulting suggestions for improvements were reviewed at an AMAP workshop held in February 2010. These results were used to revise the AMAP Strategic Framework document, which was approved by SAOs in 2010. Based on this approved document, work has been initiated to revise and update the AMAP Assessment Plan and the Monitoring Programme for Trends and Effects of contaminants, climate, and human health.

Unmanned Aircraft Systems (UAS)

The UAS Expert Group, co-chaired by Norway and the United States, has been working to assist the Arctic science community to understand the possibilities and challenges of UAS and has worked with civil aviation authorities in Arctic countries concerning the operation of UAS for research purposes in the Arctic. The Expert Group has been preparing: 1) a website that lists points of contact to national UAS experts and civil aviation authorities; 2) a safety case outline: a comprehensive description of what a safety case should include and methodology for estimating risks and the effect of mitigation; 3) a report on the use of UAS in Arctic research; and 4) a demonstration campaign during the spring of 2011 in Svalbard. UAS is a tool that may provide a substantial improvement of the monitoring and research in Arctic areas.

Arctic Ocean Acidification (AOA)

An Arctic Ocean Acidification Expert Group has been established under the of Norway. The group has begun work on an assessment report of Arctic Ocean Acidification covering the carbon dioxide system in the ocean, biogeochemical processes, responses of organisms and ecosystems, and the economic costs of acidification in the Arctic Ocean. SAOs approved AMAP’s request to conduct a full scientific assessment of AOA for delivery in 2013.

Combined effects of climate change and contaminants

AMAP has coordinated a project partly funded by the Nordic Council of Ministers and some Arctic countries on the combined effects of climate change and contaminants, covering the transport of contaminants to the Arctic, uptake by marine organisms, and potential impacts on human health. A report on the results of Phase 1 of this project is complete and in press; Phase 2 was initiated in 2010.

The AMAP Secretariat is also Project Coordinator for the EU-funded FP7 project ArcRisk (Arctic Health Risks: Impacts on health in the Arctic and Europe owing to climate-induced

changes in contaminant cycling) as well as lead partner for the communication and dissemination of the results of the project. A total of 21 partners from twelve countries, including six Arctic countries, are participating in the project, which will run until the end of 2013.

AMSA IIC report

Based on a request from PAME, AMAP under the coordination of Norway and in cooperation with CAFF has prepared an initial report on the identification of Arctic marine areas of heightened ecological significance, to follow up Recommendation IIC of the 2009 Arctic Marine Shipping Assessment. This report will be completed by the end of 2011, including supplementary information on areas of heightened cultural significance prepared by SDWG.

Cooperation with other AC WGs

AMAP has actively worked with other Working Groups of the Arctic Council, including the joint work with PAME and CAFF on the AMSA IIC report, work with PAME on the Arctic Ocean Report and the ecosystem-based approach to marine management. AMAP has also worked with CAFF on the CBMP via AMAP representatives on the marine and freshwater groups. The AMAP Human Health Assessment Group has coordinated with the SDWG Human Health Experts Group.

Cooperation with international organizations

AMAP has conducted work with UNEP Chemicals in the preparation and publication of a joint AMAP/UNEP report on Global Emissions of Mercury. AMAP prepared a four-page outreach document on the key results of the AMAP mercury assessment for the second UNEP global mercury negotiations session held in Chiba, Japan, 24–28 January 2011. Similarly, together with the Secretariat of the Stockholm Convention a joint technical report was recently prepared containing a comprehensive review of the inter-linkages of climate change and persistent organic pollutants (POPs) and their impacts on the environment and humans. The report was released at the UNEP Governing Council 26 Meeting held in February, and will be the subject of discussion at the upcoming COP 5 of the Stockholm Convention to be held in April 2011.

Outreach and communication

AMAP has been designing a new website to provide better outreach to readers with different levels of interests from scientists, policy-makers, to the general public. Discussions are also occurring on the need for an outreach and communications plan for AMAP that supports the overarching Arctic Council plan under development.

International Polar Decade (IPD)

The International Polar Year 2007/2008 (IPY) was officially concluded in June 2010. One of the most important IPY achievements is that the new level of knowledge of the Polar Regions made it possible to draw preliminary conclusions that the processes determining the environmental changes of Polar Regions may be predictable at the decadal time scale. However, practically exploiting this predictability requires a coordinated continuation of long-term observations and studies that started during the IPY and comprised its legacy." AMAP has discussed the potential value of supporting the development of an International Polar Decade (IPD) with WMO, ICSU, and other organizations as a means of supporting longer-term observations in the Arctic, maximizing the IPY legacy, and following up the SWIPA project.