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**Minutes of the 31st Meeting of the AMAP Working Group
Reykjavik, Iceland; 12–14 September 2017**

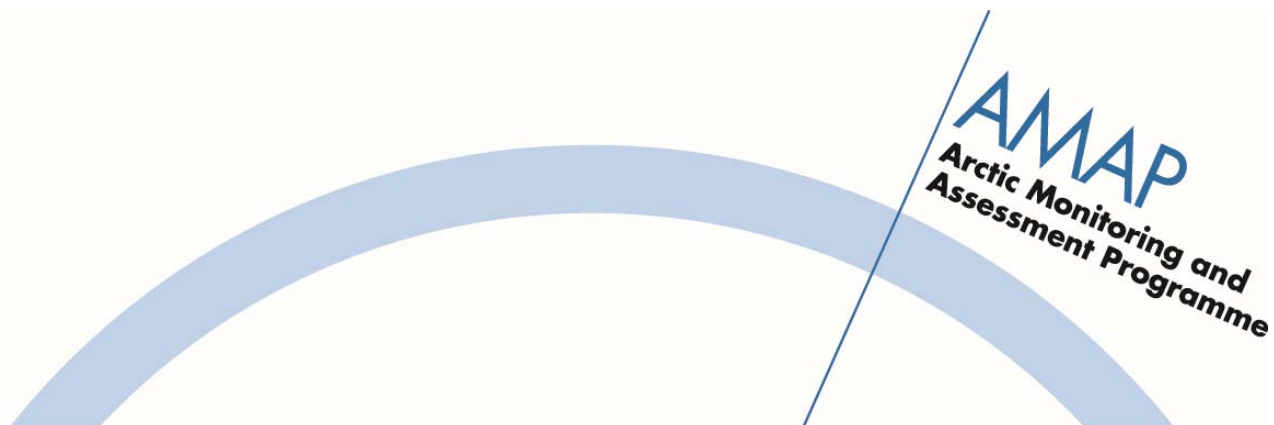


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1 Opening of WG meeting, welcome and adoption of agenda

The AMAP Working Group Chair, Marianne Kroglund (Norway), opened the meeting at 9:00 hrs on 12 September and welcomed the participants. The AMAP WG meeting was attended by representatives from all the Arctic Nations, Permanent Participants (ICC, AAC, Saami Council) and observers or invited experts from France, Germany, Italy, Japan, Netherlands, Republic of Korea; Arctic Economic Council, European Commission (JRC), IASC, and ICES. Parts of the meeting were also attended by representatives of the CAFF and PAME Secretariats, TFAMC; additional experts attended the meeting using teleconnection.

The host, Helgi Jensson, welcomed participants to Iceland and to the meeting. He provided practical information for the meeting.

The meeting reviewed the draft agenda and adopted it without change. The agenda is attached as Annex 1 and the list of participants as Annex 2.

2 Outcome of the 2017 Ministerial Meeting and the SAOX June meeting

The Secretariat presented Document WG31/2/Info-1, the official text of the Fairbanks Declaration, and Document WG31/2/Info-2, the outcome of the 2017 Ministerial Meeting. It was noted that AMAP contributions to the Ministerial Meeting were well-recognized in the report.

The Chair reported that the first Senior Arctic Officials Executive (SAOX) meeting under the Finnish Chairmanship reviewed the work plans from all Arctic Council (AC) Working Groups (WGs) and considered where there are cross-cutting issues among AC WGs. Future SAO meetings will have a thematic agenda and the next SAO meeting will consider pollution; this will feature AMAP-associated work.

3 Follow up of actions from previous AMAP meetings

The Secretariat informed the Working Group (WG) that Actions from the WG30 meeting and AMAP HoDs meeting in Reston (Document WG31/3/Info-1) had been reviewed and that there were no relevant outstanding actions to consider other than issues that would be addressed under other agenda items.

4 Presentation of priorities of the Finnish chairmanship

The Head of Delegation from Finland presented an overview of the priorities of the Finnish chairmanship. There are two overarching themes: climate change and commitment to the Paris Agreement and sustainable development goals. There are four priority areas: 1) environmental protection, including further focus on biodiversity conservation and pollution prevention, and mitigation and adaptation to climate change; 2) connectivity, enhancing telecommunications and broadband services in the Arctic; 3) meteorology, deepening meteorological and oceanographic cooperation among Arctic states in collaboration with the World Meteorological Organization (WMO); and 4) education, to provide equal access to a good, basic education across the Arctic. The Finnish chairmanship work areas stress the importance in the continuity of long-term, ongoing work of the Arctic Council, especially regarding the environment and climate, the seas, the people, and a strengthening of Arctic cooperation.

In addition to the Arctic Council Ministerial Meeting in spring 2019, Finland plans to host a meeting of Environment Ministers in Rovaniemi in October 2018, with the aim of enhancing implementation of the

Paris Climate Agreement and following up on biodiversity targets. This meeting, which will not be an Arctic Council event, will be held in conjunction with the CAFF Second Arctic Biodiversity Conference. Several other events are scheduled under the Finnish chairmanship.

Later in the meeting, Mikko Strahlendorff (Finland) presented remotely a Finnish AC chairmanship project proposal on an assessment of atmospheric and oceanic variables (Document AMAP WG31/4/2). The project is a follow-up to an initiative led by the IDA Science and Technology Policy Institute (STPI) and the Sustaining Arctic Observing Networks (SAON) that has identified a series of Social Benefit Areas (SBAs) that rely on Arctic observations and services¹. This initiative is a follow up to the Arctic Science Ministerial in 2016. The project would use a 'value tree analysis' to identify services and observation data sources that support identified key societal objectives with particular focus on SBAs where meteorological and oceanographic data are relevant for key objectives. The project supports Finland AC chairmanship ambitions to improve meteorological and oceanographic cooperation to fill gaps in the observing system. The aim would be to perform this work within the term of the Finnish AC chairmanship and deliver a final report in spring 2019.

The AMAP WG was asked to nominate experts to the project group. Mikko Strahlendorff stated that STPI has offered support to the project. In terms of potential involvement of SAON in the project, it was noted that such a discussion at the SAON Board level would be organised soon.

In the discussion the delegation of the Kingdom of Denmark expressed support for the project and asked whether it would identify specific parameters that the Arctic Council would need to monitor. Mikko Strahlendorff responded that the project will highlight how well existing observations respond to the needs. The project will also identify gaps, and from this there will be an overview of what objectives are met, and which are not.

The representative of the European Commission stated that, following the Arctic Science Ministers Meeting, the EC decided to fund an analysis of long-term observations in the Arctic, as a joint project of the JRC and DG RTD. It follows a value-tree analysis to provide decision-makers with appropriate information. Information is currently being collected with a focus on observations of climate change and sea ice, after which this information will be linked to a societal benefit analysis.

Several countries expressed support for the project and for the possibility of showing the need for and value of observations. It was agreed to have a more thorough discussion about inclusion of the project in the work plan and the nomination of experts at the next meeting of the HoDs.

5 Overview of AMAP report production

The Secretariat drew attention to Document WG31/5/1, showing the status of the production of AMAP reports and deliverables. The summaries for policy-makers (SPMs) and overview reports for the assessment reports had been completed and delivered in May and one technical report (Influence of Climate Change on Transport, Levels, and Effects of Contaminants in Northern Areas) had been published. Currently the Barents AACA report is at the printers, the SWIPA report is in the final stages and the CEAC is near the end of layout; both are expected to be printed in October. Work on the BBDS and BCB AACA reports will continue into the autumn, with publication later in the year. Several other reports are under preparation and several translations to other languages are being made.

¹ <https://www.arcticobserving.org/news/268-international-arctic-observations-assessment-framework-released>

Among the translations, it was reported that translations of the SPMs of the SWIPA, CEAC, Barents AACA and BCB AACA reports are under preparation and will be available in early October. The Secretariat can provide photos, graphics and the layout if needed to assist the preparation of translations

The Chair expressed appreciation for all the hard work that has gone into the preparation of these assessments and the production of the reports.

6 AMAP Strategic Framework 2018-2026

The Chair reported that a revision of the current AMAP Strategic Framework 2010+ is under way with the aim that it will be available for the 2019 Ministerial Meeting. The work is still in the initial phase of the revision process, which will be an iterative process involving HoDs, PPs, expert groups and observers. Document WG31/6/1 is a zero draft of an AMAP Strategic Framework 2018+, prepared based on a review of the current Strategic Framework and comments on an earlier draft, as compiled in WG31/6/2 and 6/3. The general comments were that the current Strategic Framework document is a good starting point but that it needs to be reviewed and updated. The new Strategic Framework should be forward-looking and address points of growth; it should be clear, simple, more strategic and with more aspirational goals. It should also be easy to monitor and evaluate. It should have a link to the Arctic Council steering document and should also indicate how to work with traditional and local knowledge. There is a draft timeline for the work and HoDs from Canada, the United States, the Kingdom of Denmark, and ICC have volunteered to work on the next draft of the document (**Action Item**). Input from all HoDs, PPs, expert groups and observers is welcome (**Action Item**).

The Head of Delegation from Sweden volunteered to join the drafting group.

In the discussion, it was also considered important to cooperate and coordinate with other AC WGs in the revision of the Strategic Framework, as CAFF has done in the revision of its strategic framework document. This will provide a good platform for joint work with the other WGs.

HoDs expressed interest in shifting the target audience for the document from serving as an internal guidance document to targeting an external audience as well. They also identified the need for an operational document or handbook to accompany or complement the Strategic Framework.

A question was raised concerning the mention of State of the Arctic Environment (SoAE) reports and what they covered. SoAE reports have previously been required on a five-year basis, and AMAP has prepared such reports on issues including pollution and health. Future SoAE reports could serve as a synthesis of recent reports by AMAP and other AC WGs; this would need to be discussed with these other WGs to determine their potential interest.

In conclusion, the Chair noted that the zero draft was generally well received and will serve as a basis for further work. CAFF is invited to cooperate in this work. The final timeline will be decided in relation to the implementation of the AMAP Work Plan (**Action Item**). Further written comments on the zero draft are welcomed from HoDs, PPs, expert groups and observers and should be sent to the Secretariat immediately after this meeting (**Action Item**). If the ultimate Strategic Framework document will be a short, concise document, it will probably need to be accompanied by an ancillary operational document.

7 AMAP Scientific Assessment work PART 1: Initiatives that may help frame AMAP work

The Secretariat introduced the WG meeting session that comprised agenda items 7, 8 and 9. Part 1 (agenda item 7) was intended to provide an opportunity for organizations including Arctic Council Expert Groups

(AC EGs) and WGs and new observers to present their work and initiatives that may help frame future AMAP work, as well as to assist in exploiting synergies and avoiding unnecessary overlap. Under Part 2 (agenda item 8), representatives of AMAP Expert Groups (EGs) would present their plans, in particular for work to implement the agreed AMAP work-plan for the period 2017–2019. Time had been allocated in this part of the meeting to allow a good discussion with the WG of the planned AMAP EG activities and related questions, needs for guidance, etc. Finally, Part 3 (agenda item 9) would address interactions between AMAP EGs, scientific organizations, observers and AMAP HoDs/PPs with the aim of enhancing communication and streamlining the organization of work among the various parties that implement AMAP activities.

7.1 Presentation of ‘Task Force on Arctic Marine Cooperation’

Jóhann Sigurjónsson (TFAMC Co-chair) presented a status of the work of this Arctic Council Task Force, which was established in 2015 with the mandate to assess future needs for a mechanism for increased cooperation in Arctic marine areas. In the period 2015–2017, it had held five rounds of consultations, and the mandate had been renewed for the period 2017–2019. The Task Force is co-chaired by USA, Norway, and Iceland. In the first period, the Task Force focussed on information gathering and a discussion about current mechanisms and whether they were sufficient to meet changes that have taken place in the Arctic. The first round of work arrived at the following conclusions: 1) more work remained for the Task Force; 2) the Task Force should begin work on the terms of reference for a possible subsidiary body; and 3) no single cooperative mechanism is the answer to all needs, and the Task Force should explore complementary enhancements to existing AC mechanisms.

In the second round, the Task Force will focus on the structure and function of a potential new subsidiary body and on complementary enhancements to existing Arctic Council mechanisms. It will also develop Terms of Reference for such a potential new subsidiary body.

Jóhann Sigurjónsson believed that the work of the Task Force could facilitate the elevation of marine topics to a higher level within the Arctic Council. He also believed that the Task Force would benefit from close cooperation and input from the AC Working Groups and encouraged the AMAP WG to contribute to the work ; the issue of WG involvement will probably be considered at the meeting of the Task Force in September 2017.

7.2 Presentation of ‘Arctic Economic Council’

Anu Fredrikson, Director of the Arctic Economic Council (AEC), stated that the AEC was created in 2014 during the Canadian chairmanship of the Arctic Council. The purpose is to facilitate Arctic business activities in a sustainable manner. The AEC has five overarching themes: 1) to establish strong market connections between the Arctic states; 2) to encourage public-private partnerships for infrastructure investments; 3) to promote stable and predictable regulatory frameworks; 4) to facilitate knowledge and data exchange between industry and academia; and 5) to highlight traditional Indigenous knowledge, stewardship and a focus on small businesses. The AEC implements these five overarching themes at the national, pan-Arctic and international levels through organizations and business representatives. Working groups have been established for four selected business areas: 1) infrastructure: marine transportation; 2) infrastructure: telecommunications; 3) responsible resource development; and 4) Arctic stewardship. The three pillars of the AEC Strategic Plan 2016–2018 are organizational, stewardship and economic growth. Under the Finnish Businesses’ AEC Chairmanship 2017–2019, the extra themes of an interconnected Arctic, a competent Arctic and a safe Arctic have been chosen to align with and support the Finnish AC chairmanship objectives.

In the discussion, the Secretariat noted that there is a need to include socio-economic issues in AMAP assessments, but there have been difficulties engaging industry stakeholders, with the exception of the

AACA project in which cooperation has occurred with AEC. Further cooperation will be needed to ensure that the AACA results regarding adaptation actions can best be communicated to the business community. It would also be useful to exploit data connections with industry partners; there was good cooperation in the preparation of the AMAP Oil and Gas Assessment, but access to other types of industry data has been very difficult.

Anu Fredrikson stated that the Arctic Observing Summit next year will concentrate on how Arctic observations can assist business and there can be greater cooperation between industry and researchers on data.

7.3 Presentation of SAON strategy

Larry D. Hinzman (SAON Vice-Chair, USA) presented remotely the draft Strategic Framework for SAON (Document WG31/7/Info-1). The background for the work had been statements of the 2016 Arctic Science Ministerial and the 2017 Arctic Council Fairbanks Declaration, both encouraging the countries to sustain and strengthen Arctic observations. In addition, the 2016 external review of SAON had recommended that SAON further refine its vision, mission and goals.

Larry Hinzman explained that the work involves reformulation of the SAON mission, vision, and guiding principles. In addition, SAON has formulated three provisional goals:

- 1) Strengthening Arctic observational capacity;
- 2) Free and ethically open access to all Arctic observational data; and
- 3) Articulating justification for long-term commitment in Arctic observing.

Each goal is supported by a series of objectives, and each of these has associated resource allocations, deliverables and timelines. The plan is to finalise the document for approval by the SAON Board in 2017 and to submit it to the SAO meeting in spring 2018.

The delegation of Canada expressed appreciation for this presentation and asked SAON to ensure that its strategic framework is developed in agreement with the strategic frameworks of other initiatives such as those of AMAP and CAFF. She provided information about the status of the national Canadian SAON process, noting that its structure is changing as Polar Knowledge Canada takes shape.

The observer of Germany also appreciated that the presentation highlighted the role of the Arctic Science Ministerial, and looked forward to SAON's contributions to the next Ministerial in 2018.

The delegation of the Kingdom of Denmark asked about the process for review, and the Secretariat explained that the document will be updated and circulated for review. Comments on the current version should be submitted to the national SAON Board member (**Action Item**).

Christine Daae Olseng, Research Council of Norway, stepped down as Chair of SAON on 1 July 2017. According to the 2011 Arctic Council Nuuk Declaration, the Arctic Council is responsible for providing the Chair of SAON and, accordingly, the AMAP WG has nominated Þorsteinn Gunnarsson from the Icelandic Centre for Research to serve as the next SAON Chair.

In closing remarks, the AMAP WG Chair encouraged SAON to continue to have focus on how to sustain the SAON Secretariat. She then expressed appreciation to Christine Daae Olseng for her work as SAON Chair.

7.4 Presentation of other AC Working Groups' work plans

SDWG

As no representative from the Sustainable Development Working Group (SDWG) was present, the Secretariat drew attention to Document WG31/7/Info-3, a note from the SDWG Chair describing SDWG projects of interest to AMAP work and the SDWG Work Plan and Strategic Framework.

AMAP work relevant to SDWG includes the AACA project and human health activities; the next meeting of the AMAP Human Health Assessment Group (HHAG) will be held in association with the meeting of SDWG Arctic Human Health Expert Group in Finland and joint discussions between the groups will be held.

The Finnish delegation reported that, as a follow up to the resilience framework adopted by the Arctic Council in May, Finland will host a Resilience Forum in Rovaniemi on 6–7 November 2018. A team led by Sweden, Finland and the United States will be established and all countries will be invited to nominate a member to this resilience team.

Seija Rantakallio (Finland) joined the meeting remotely to describe another project endorsed by the SDWG: the Arctic EIA, which will provide good practice recommendations for environmental impact assessments (EIA) and public participation in the Arctic. The aim is to review all national EIAs for the Arctic and determine how well they implement the 1997 Guidelines for EIA in the Arctic. The goals for this project in 2017–2019 are to ensure that environmental considerations specific to the Arctic are addressed and incorporated into the planning and decisions on large-scale projects; to identify good practices and develop recommendations; to increase the effectiveness of public participation; and to build a network of Arctic EIA actors. An organizational structure and network has been established to implement this work with the aim of formulating and spreading good practice recommendations in 2019.

Seija Rantakallio requested AMAP to consider supporting this project by identifying relevant AMAP material to contribute, possibly nominating a contact person for further information exchange and possibly also participating in the project. Assistance in distributing a questionnaire that has been drafted would also be appreciated.

In the discussion, it was considered that AMAP has data and information relevant to this project, although national, regional or local data may be more relevant. With regard to a contact person, the delegation of the United States offered to speak to a colleague to determine his involvement in this project and whether he would be willing to serve as the AMAP contact to the group. The delegation of the Kingdom of Denmark stated it has a great deal of data that will be transmitted by representatives from Greenland. The delegation of Canada noted that Canada is already well-represented on this project and could potentially provide connections between the EIA project and AMAP representatives.

CAFF

Tom Barry, CAFF Executive Secretary, encouraged greater cooperation between CAFF and AMAP. He stated that CAFF is organizing an Arctic Biodiversity Congress in Rovaniemi on 9–11 October 2018 and invited AMAP to take part in the congress and to nominate an AMAP representative on the program advisory committee. Three themes will be highlighted: 1) Arctic change, including resilience and adaptation; 2) linking Arctic ecosystems to society; and 3) understanding cumulative effects and managing impacts.

Tom Barry also noted the continued engagement in the Circumpolar Biodiversity Monitoring Program (CBMP), for which a new 2019–2021 strategy is being drafted. AMAP has been engaged in three monitoring plans for the CBMP and he hoped for continued and increased engagement. In terms of the CAFF Arctic Biodiversity Data Service (ABDS; www.abds.is) covering terrestrial, freshwater and marine data, he

suggested that AMAP and CAFF consider aligning their data handling standards. He also felt that there is room for CAFF and AMAP to work more closely together on communication and outreach activities, and especially on education as it is a Finnish chairmanship priority. CAFF was represented at the Workshop on AMAP Contributions to the IPCC in Oslo in June and would like CAFF work to be included in these contributions to the IPCC.

In the discussion, several delegations reported that there was a need for good coordination at the national level on the work of AC WGs as well as more formalized cooperation among the Secretariats, especially among CAFF, PAME and AMAP, would be useful. There is much room for cooperation, particularly on issues for which AMAP has been less involved including terrestrial and ecosystem issues.

In conclusion, the Chair welcomed the invitation for AMAP to join the CAFF Arctic Biodiversity Congress in October 2018. AMAP will follow up on this and discuss the invitation for a person to join the program advisory committee for the congress (**Action Item**). AMAP will also discuss data handling and how to obtain synergies between the two groups, as well as the invitation to cooperate on communication and outreach activities, which could be relevant for the new assessments under way.

7.5 Introductory presentations of the work of new Observers

International Council for the Exploration of the Sea (ICES)

Anne Christine Brusendorff, General Secretary of ICES, presented a brief overview of ICES, noting that the eight Arctic countries are also members of ICES. ICES is an intergovernmental marine science organization, with an extensive science network, a marine data center, and a science advisory function to decision-makers. ICES has worked with a number of other organizations in the Arctic, including AMAP, and would like to explore further possibilities of working together. In 1959, ICES established an Arctic Fisheries Working Group to assess fish stocks in the Arctic and, more recently, the effects of climate change, mainly in the European Arctic. An ecosystem approach is used to prepare integrated ecosystem assessments as a basis for more integrated advice. There is also a joint PICES/ICES/PAME Working Group on Integrated Assessment of the Central Arctic Ocean (WGICA) that is reviewing future potential fisheries and their impact in this area. Ecosystem overviews are also prepared for the Barents Sea, the Norwegian Sea, and Icelandic waters. She considered that there are many possibilities for interactions between ICES and AMAP, especially regarding climate, ocean acidification and pollution. The first step in this cooperation could be to have joint production of specific products.

She stated that ICES, together with PICES, IOC and FAO, will arrange the fourth symposium on 'Climate Change and Impacts on the World's Oceans' in June 2018 in Washington, DC.

In the discussion, several areas of cooperation were identified: incorporation of traditional knowledge; updating of monitoring guidelines, particularly on climate parameters, and the development of better products for AMAP data on contaminants in biota in the ICES database; microplastics; and the potential that AMAP trend assessments of contaminant data could be incorporated in the annual OSPAR/ICES temporal trend assessment work.

World Meteorological Organization (WMO)

As a new observer to the Arctic Council, Etienne Charpentier, Observing Systems Division, WMO, participating remotely, presented WG31/7/Info-9 WMO: 'Initiatives that may help frame AMAP work'. He described the seven priorities for 2016–2019, including improving meteorological and hydrological monitoring. To promote and coordinate relevant observations, research and services that are carried out in the Arctic, Antarctic and high mountain regions, WMO has established an Expert Group on Polar and High

Mountain Regions (EC-PHORS). He invited AMAP to participate in EC-PHORS. He noted that in order to better assess the impacts of climate change, there is a need to increase cooperation on meteorological, hydrological and terrestrial observations, research and services. In the presentation, Etienne Charpentier specifically mentioned WMO's contributions to SWIPA and SAON, and introduced a series of programmes and initiatives that could support AMAP work: the Polar Space Task Group (PSTG), the Global Integrated Polar Prediction System (GIPPS), the Polar Prediction Project (PPP), the Year of Polar Prediction (YoPP), World Climate Research Programme (WCRP), Climate and Cryosphere (CliC), Arctic Hydrological Cycle Observing System (HYCOS), Global Framework for Climate Services, and Global Atmosphere Watch (GAW), and the Arctic Polar Regional Climate Change Network, with nodes for North America, Northern Europe/Greenland, and Eurasia. Etienne Charpentier finally mentioned the Arctic-Polar Regional Climate Centre–Network (PRCC) and the Global Cryosphere Watch (GCW), which will be operational in 2019, as important potential contributions to AMAP work.

France

Katy Law, CNRS, stated that France conducts a great deal of research in the Arctic and supports infrastructure at the Svalbard research station. A new mission, MERLIN, conducted with Germany, will measure methane from a satellite. She also reported about an H2020 project: the aeroplanet project, which concerns aerosols and contaminant measurements. Her own work is on short-lived climate forcers (SLCFs), particularly characterizing the transport of emissions from lower latitudes to the Arctic and better characterizing pollution sources, especially in winter.

European Union

Elisabetta Vignati, EC Joint Research Centre (JRC), stated that the EU is interested in contributing to AMAP assessments in the future. JRC has information on SLCFs and can contribute to emission inventories and uncertainty modelling for methane. It can also contribute climate model runs to investigate the impact of pollution on the Arctic, as well as contribute to POPs and mercury inventories. JRC would like to provide support for the SWIPA contribution to the IPCC, and potentially contribute to an impact assessment of long-term observations and the EU project on Black Carbon.

Impact Assessment on a Long-Term Investment on Arctic Observations (IMOBAR)

Elisabetta Vignati also presented the project *Impact Assessment on a Long-Term Investment on Arctic Observations (IMOBAR)* (Document WG31/07/Info-02 IMOBAR). The goal of IMOBAR is to provide policy makers with the elements for supporting the long-term investments in Arctic observing systems and, in this way, support the decision-making process. This will be achieved by evaluating costs and societal benefits from the Arctic observing systems. The project will end in June 2018, and AMAP and SAON will be invited to provide information. The first workshop will be held in November.

The Chair stated that it is important to align monitoring and assessment with societal benefits, and she asked for AMAP to receive relevant material.

Germany

Volker Rachold, German Arctic Office, Alfred Wegener Institute, stated that Germany has participated in almost all expert groups under the Arctic Council. Germany conducts a great deal of research in the Arctic and coordinates a number of polar-related projects, including EU-PolarNet, a new project on permafrost, the WMO project Year of Polar Predictions, and MOSAIC, a one-year expedition of the R/V Polarstern in the ice. There is also a joint German-French research station on Svalbard. A science ministerial conference will be held in Berlin on 25–26 October 2018 at which a number of AMAP priorities will be discussed. In

addition, Germany, together with France and Finland, will organize a seminar on the environment on 10 October 2017, which will be relevant to AMAP, CAFF, and PAME. This will provide an opportunity for observers to contribute to Arctic Council work.

Italy

Vito Vitale, Institute of Atmospheric Sciences and Climate (ISAC) Italian National Research Council (CNR), stated that Italy has continued its strong involvement in pollution measurements in the Arctic and can contribute results to AMAP assessments of pollution, including on SLCFs and microplastics. Italy is also involved in the Global Monitoring Network for Mercury.

Japan

Takashi Kikuchi, Japan Agency for Marine-Earth Science and Technology (JAMSTEC), reported that a new Arctic research project has been started that intends not only to understand change in the Arctic but also provide information to stakeholders and residents in the Arctic. Japan has contributed to AMAP work on AACA, SWIPA and AOA and is translating the SWIPA SPM into Japanese. The Fifth International Symposium on Arctic Research (ISAR-5) will be held in Tokyo on 15–18 January 2018 with the theme 'The Changing Arctic and its Regional to Global Impact: From Information to Knowledge and Action'. Social issues will be included in this conference for the first time.

The Netherlands

Frits Steenhuisen, University of Groningen Arctic Centre, stated that the Netherlands has been an observer in the Arctic Council since the 1990s and has participated in the work of AMAP, CAFF and SDWG. He underlined the work and the interest the Netherlands has in microplastics and marine litter. The University of Utrecht holds a very long series of records of measurements in the Arctic and Antarctic, and has recently joined the University of the Arctic. Measurements of methane and carbon dioxide are also being taken in Russian and Canadian Arctic areas.

South Korea

Yoo Kyung Lee, Korea Polar Research Institute (KOPRI), reported that monitoring has continued at a number of stations across the Arctic. A new project has been initiated, with the Norwegian Institute for Water Research (NIVA) to investigate new pollutants on Svalbard. The AACA BCB overview document and the SWIPA SPM will be translated to Korean.

The AMAP Chair thanked the observers for their very interesting contributions and their promise of continued support for AMAP work. She invited them to nominate members for the AMAP Expert Groups.

8 AMAP Scientific Assessment work PART 2: AMAP 2017–2019 Work-plan Implementation

8.1 Persistent Organic Pollutants and Mercury Update Assessment delivery

Cynthia de Wit (Sweden, co-lead of the AMAP Expert Group on Persistent Organic Pollutants (POPs)) reviewed the status of the multi-component POPs update assessment agreed under the 2013–2015 work-plan and presented highlights of the *POPs temporal trends* and *Chemicals of Emerging Arctic Concern* (CEAC) assessments delivered in 2015 and 2017, respectively; preliminary results of the almost completed update on biological effects of POPs and mercury; and plans for the climate change and contaminants update for tentative delivery in 2019. The POPs Expert Group is in good shape but changes to the long-standing leadership of this group are impending. The POPs Expert Group is also in need of experts from the AC


observer countries. Cynthia de Wit presented a number of future challenges associated with monitoring and screening for new chemicals of concern and possible new approaches and information needs for local, regional and global chemicals management, e.g., the increasing number of chemicals in use and the increasing difficulty to separate between long-range transport and local sources for pharmaceuticals and personal care products (PPCP) in the Arctic. She also brought up the value of holding a common workshop between AMAP POPs, Hg and Human Health Expert Groups, and ultimately also the Climate Expert Group.

Delegations commended the expert group on its well-organized and high-quality work. The Saami Council delegation noted with concern the lack of terrestrial data on CEAC. The delegation of the Kingdom of Denmark stressed the importance of continuing the production of timely information on candidate POPs for the Stockholm Convention and proposed a more formalized cooperation between AMAP and the POPs Review Committee (POPRC) and WEOG (Western Europe and Other – effectiveness evaluation – group) and enhancing cooperation with EU REACH. They also encouraged updating of the AMAP online database of properties of CEAC and enhanced effort by countries to provide access to information on chemical production volumes and emissions. The proposed AMAP cooperation on management of chemicals with SAICM was not considered as a clear way forward for the Kingdom of Denmark. The delegation of Canada stressed the importance of communication of information on CEAC to policy-makers and the public. Canada was identified as a possible venue for workshops between contaminant EGs and the HHAG EG on joint contaminant issues. The delegation of Finland stressed the need for peer-reviewed information for the POPRC, especially in relation to candidate chemicals, and also noted the potential for engaging with the UN Environment Strategic Approach to International Chemicals Management (SAICM). The delegation of Iceland stated that ‘timely’ provision of information depends on the intended recipients and recommended that EGs cooperate and report regularly (e.g., every second year) to the WG on their activities. The delegation of ICC also supported the engagement with POPRC and SAICM as the POPs trends and CEAC assessments include messages that they need to hear. They further asked whether it would be possible to extend the database to include references to papers and results. The delegation of Norway supported the suggestion to re-establish the AMAP Assessment Steering Group (ASG) as a means of improving the connection between the WG and its EGs, and also the proposal for enhancing collaboration between the AMAP POPs and mercury EGs and the ICES/OSPAR group involved in assessment of temporal trend data sets in order to provide timely products. The delegation of Norway would also look into the question relating to availability of terrestrial monitoring data. The delegation of Russia noted that the lack of availability of data from Russia was generally related to the limited funding for monitoring of POPs and that publication of information in Russian could also explain problems in EG access to Russian data. Air monitoring for POPs is ongoing at Amderma and Tiksi and would be continued if funding support could be identified. The delegation of Sweden referred to the need for development of monitoring guidelines for screening work as a task for the POPs EG and also supported the proposal to re-establish the ASG. The delegation of the USA encouraged further work by the EG on microplastics, especially to link chemical contamination perspectives to possible impacts on the food-chain and biodiversity. The delegations of both Canada and Sweden reported that they were ready to identify new EG leads when their current leads step down.

The WG thanked the EG for its excellent work and good proposals for future development, and agreed to (i) pursue the ideas for outreach to POPRC, SAICM and EU-REACH, and cooperation with ICES/OSPAR on regular assessments of time-series datasets; (ii) support workshops to facilitate cooperation between different EGs, in particular contaminants and human health EGs and EGs working on contaminants and climate change effects; and (iii) consider re-establishment of the ASG (**Action Item**).

8.2 2019/2021 assessment of Short-lived Climate Pollutants (SLCPs) and integrated air pollution issues

Kaarle Kupiainen (Finland, co-lead of the AMAP Expert Group on Short-lived Climate Pollutants (SLCPs)) presented the EG plans to produce an integrated air pollution assessment with a focus on SLCPs for delivery in 2019/2021, as agreed in the AMAP work-plan for 2017–2019. A summary report of the EG meeting held in Victoria, BC in June 2017 (document WG31/8/2) includes the proposed outline of the assessment and associated timeline. He highlighted the EG discussion of the plan to prepare an interim assessment product in 2019 (an update assessment of SLCP emissions and scenario projections of emissions) and the challenges associated with this, in particular if the product is to be peer reviewed prior to its delivery. The next meeting of the EG is planned to be held in Helsinki in early 2018 to further develop draft policy-relevant questions that should scope the assessment. Reference was also made to coordination of the AMAP assessment activity with work ongoing under the Arctic Council Expert Group on Black Carbon and Methane (EGBCM), the Convention on Long-Range Transboundary Air Pollution (CLRTAP) and its subsidiary groups, and the proposed EC Action on Black Carbon (see agenda item 11).

The delegation of the Kingdom considered the document's statement that the ministers had "agreed  collectively reduce black carbon emission by at least 25-33 % below 2013 levels by 2025" to be incorrect.

In relation to the challenges reported by the EG with respect to preparing a technical document and having it peer reviewed in time to develop policy-relevant recommendations by 2019, the WG agreed to reduce the scope of the 2019 product. The interim assessment by 2019 would therefore comprise a technical report produced during 2018 that would constitute a component of the 2021 assessment, and a progress report to the Arctic Council Ministerial in 2019. It was further agreed that close coordination of the work with, in particular, the EGBCM should be continued, and that the EGBCM could be requested to participate in the peer review of the 2019 interim product.

Further nominations of experts to this EG by HoDs, PPs and observers were encouraged in advance of the next workshop, which will be held in early 2018 in Helsinki. Expertise on all issues in relation to methane is particularly needed (**Action Item**).

8.3 AOA Updated Assessment delivery

Richard Bellerby (China, Norway) presented the status of the scientific understanding of ocean acidification and an update of the preparation of the second AMAP Arctic Ocean Acidification (AOA) report. He explained that the current rate of change is faster than in the pre-industrial period, that the ocean is changing rapidly, and that an enhanced CO₂ concentration already exists in parts of the Arctic Ocean. The focus of the coming report is five case studies with a socio-economic perspective, each trying to understand and describe the status of a system in which changes will impact society. In addition to the case studies, the report will also address questions on carbon exchange between the Arctic and global systems.

The first case is about kelp farming that is becoming popular along Norwegian coast. A change has been seen in the balance between sea urchins and kelp, and the case study reviews the change in this balance and its economic consequences. The second study concerns the Barents Sea and follows a more traditional fisheries model to understand the effect of ocean warming and acidification on the fishery for Northeast Atlantic cod. The third case is about the Greenland shrimp/prawn fishery and involves downscaling of climate change to the region in an attempt to determine how changes in the food supply may change an ecosystem. It also considers changes to the taste of shrimp growing under high CO₂ conditions. The fourth case focuses on crab fisheries in Alaska and involves a framework for developing adaptation strategies for communities depending on fisheries. The fifth case has focus on climate change impacts on subsistence

fisheries in the Western Canadian Arctic; it develops a framework for linking climate model projections to impacts on local communities.

Richard Bellerby stated that many changes impact the Arctic marine environment, including warming, freshening, darkening, penetration of light, nutrient availability, disappearance of the marginal ice zone, and introduction of invasive species. Ocean acidification does not work alone and a multi-stressor approach is needed. He proposed that AMAP in the future should focus on integrated assessments and cooperate with regulators and stakeholders to develop indicators and targets towards what could be called an Arctic 'Good Environmental Status' assessment.

The delegation of the United States stated that she was involved in the Alaska case study and that future ocean acidification assessment work should have greater emphasis on the impact on humans. She believed that this should be the focus for AMAP's 2019–2021 work plan. The Delegation of the Kingdom of Denmark supported this view, noting that humans are concerned with things that impact themselves.

The delegation of Iceland saw a need for a policy-relevant document that should be prepared for ministers, with the aim that it would be available for the 2019 AC Ministerial Meeting or, alternatively, the Environment Ministers' conference. The delegation of Canada supported this and considered that there is a need to provide better information to the public on this subject, which is generally not well-understood widely; there is also a need to establish closer relations with CAFF and PAME and perhaps also the TFAMC to enhance outreach on this topic.

In conclusion, the Chair stated that the aim should be for the full AOA report, including a summary for policy-makers, to be available in spring 2019 and that the results should also be presented at the CAFF Arctic Biodiversity Congress in October 2018 (**Action Item**). Plans for future work should await the finalization of the current report. Discussion of potential integrated assessments should be a subject for AMAP's strategy discussions and the next work plan.

There is also a need for a discussion about the format for publicizing the work; one option could be that, in addition to an assessment report, each case study could be published as a separate paper.

8.4 Future plans for AMAP Human Health Assessment work

Pál Weihe (Kingdom of Denmark, Co-chair of the Human Health Assessment Group (HHAG)), presented an overview of the current work of the group and the plans for future work. The group will continue to coordinate circumpolar biomonitoring of POPs and mercury in human blood as well as studies of the health effects of these contaminants, including the combined effects of contaminants. Greater attempts are being made to obtain data from areas in the Arctic that are poorly studied. In its 2017–2019 work plan, the HHAG would like to establish a network of compatible circumpolar mother/child studies; these studies should include the potential effects of contaminants on different organ systems and should preferably be established together with relevant public health authorities so that the general public health status and potential impacts of societal and lifestyle changes can also be included in the national cohorts and health surveys. For this latter, cooperation with the SDWG Arctic Human Health Expert Group (AHHEG) is needed so that it will be a joint effort. The HHAG will also begin an update of dietary exposure assessments in relation to contaminants and the development of a general strategy and protocol to support circumpolar monitoring of zoonotic pathogens. There is also a need to develop monitoring approaches and guidelines for studies of human exposure to emerging contaminants of concern in the Arctic. Regarding outreach of the results of its work, the HHAG has released new publications since 2015 and would like to have links to these papers on the AMAP website.

Pál Weihe stated that a meeting had been held with representatives of the POPs EG in Reston and a joint meeting will be held with the SDWG AHHEG at the end of September, with the aim of bringing together information on general health status and contaminant effects and climate change. HHAG results have been used for the Stockholm and Minamata Conventions. Laboratories reporting data for HHAG assessments have participated in a number of ring tests arranged by the Centre for Toxicology in Quebec; these have covered 38 different POPs analysed in serum.

Among the challenges facing HHAG include the cost and time required for studies of the effects of dietary contaminants on humans. In addition, researchers are already fully occupied with other academic activities outside AMAP, which leaves little time for AMAP work. There is also a need to recruit young researchers and this has been difficult (**Action Item**).

In the discussion of the laboratory quality assurance exercises, the Secretariat requested HoDs to identify laboratories from their countries who have participated in these exercises and preferably also to indicate their code numbers in the report of the results (**Action Item**).

The delegation of the Kingdom of Denmark agreed that there is a need for a greater focus on quality assurance of contaminant analyses as well as a need for cooperation on emerging POPs and particularly on new POPs standards. A joint meeting between the POPs EG and the HHAG on this topic would be useful (**Action Item**). There is furthermore a need to include the HHAG more in the strategic work of AMAP.

It was agreed that the HHAG should prepare a better description of how it can contribute to the work plan and the Strategic Framework (**Action Item**).

8.5 SWIPA/AACA follow-up

The Secretariat reported on the outcome of the Workshop on AMAP Contributions to the IPCC, which had been held in Oslo on 13–14 June, and drew particular attention to Section 8 of the minutes of this workshop (WG31/8/3) that described the plans for future work. They comprise:

1. For the IPCC Special Report on 1.5°C: a paper on the impact of the Paris Agreement 2°C goal on the Arctic;
2. For the IPCC Special Report on the Ocean and Cryosphere in a Changing Climate: publication of individual SWIPA2017 chapters in peer-reviewed publications, and additional papers on sea ice, sea-level rise and trends in snow;
3. For IPCC Sixth Assessment Report: an evaluation of current global climate models in relation to the Arctic;
4. For AMAP: a peer-reviewed publication highlighting SWIPA2017 key findings and papers on Arctic/mid-latitude weather connections; abrupt changes and thresholds; and extremes in the Arctic.

The meeting welcomed the continuation of the SWIPA work and the broader dissemination of the results, particularly the use of SWIPA material for papers in peer-reviewed journals. However, the Canadian delegation raised concerns about the development of the first paper, which had initially been prepared for SAOs. There is a need for clarity on authorship on journal papers derived from SWIPA material and supported through AMAP processes.

The delegation of Finland offered to host another SWIPA-related workshop in Helsinki in early March 2018. Further details will be developed with the SWIPA lead scientists (**Action Item**).

The Secretariat also presented Document WG31/8/4 on a possible paper for the IPCC process, AR 6 report, based on the AACA regional reports. This document had been discussed among the AACA Integration Team

(INT) at a teleconference in mid-August. The Secretariat stated that the INT members were interested in producing a paper for a peer-reviewed scientific journal, but no specific author had stepped forward to take the lead in producing the paper.

The Secretariat reported that it was not planned that the paper should take human or financial resources from the Secretariat or from national resources, but the Secretariat could provide a platform for the authors to meet, e.g. via teleconferences; with this exception, the authors should themselves organize the writing team.

The WG meeting agreed that the paper would be a good contribution to the IPCC process and welcomed the initiative. The paper was not intended to be approved by AMAP HoDs, but HoDs gave their blessing to the process. The HoDs also wanted to be informed about progress and status for the paper.

The delegation of the Kingdom of Denmark presented a proposal to consider the development of additional outreach products based on SWIPA2017, AACA and other recent climate-related Arctic Council publications; such products could include educational materials.

In the discussion, the delegations agreed that additional outreach materials are desirable and that initiative created by SWIPA2017 and AACA should not be lost; however, no additional burden should be placed on the Secretariat at this stage. Furthermore, the potential to finance this work is not certain. It was agreed that there is a need to prepare a memorandum concerning what is possible to do and what finances would be required (**Action Item**). HoDs were requested to indicate their priorities and any resources that they had available for this work (**Action Item**).

8.6 Enhanced cooperation between human health and contaminants EGs

As discussed under Agenda Item 8.4, a joint meeting between the POPs EG and the HHAG on analyses of emerging contaminants in Arctic media as well as on work to correlate contaminant levels in Arctic animals and humans was considered very useful (**Action Item**).

9 AMAP Scientific Assessment work PART 3: Discussion of interactions between AMAP Expert Groups, scientific organizations, observers and AMAP HoDs/PPs

The Secretariat presented document WG31/9/1 to set the stage for a discussion of how engagement and internal communication in AMAP scientific work can be improved. This should include communication among the various groups working on AMAP activities, communication between HoDs and the Secretariat, and increased participation of observers in the work.

In the consideration of the experience with the recent system of AMAP HoDs 'tracking' the topics covered in the various expert groups, most delegations and the Secretariat generally felt that this had been useful. The aim has been that the 'tracking' HoD would follow the work of a specific expert group more closely to be able to help the Secretariat, as needed. However, most HoDs felt that their role was not clearly specified and they often had not been included on the mailing list so that they could not adequately follow the work. It was also important for the expert groups to know which HoD(s) are intended to track their work.

The meeting agreed that a dialogue on the work between the expert group and HoDs is important and can make the AMAP work more valuable, without interfering in the work of the group. It was agreed that the HoDs 'tracking' system should continue, but rather than referring to the names of specific HoDs for each expert group, the country should be responsible. This list will be updated after the meeting and a description of the function of a tracking HoD should be prepared by the Secretariat (**Action Item**).

Regarding the participation of observers in AMAP work, several observers requested information on the work of the various AMAP expert groups so that they could determine where they could contribute. Several observers indicated that they had nominated people to participate in an expert group, but had received no reply.

The Secretariat regretted any miscommunication and encouraged observers to contact them if they have any questions.

The observer from ICES mentioned previous secretariat-to-secretariat meetings that had been very useful and suggested that they be continued in the future to enhance cooperation and determine opportunities for joint work.

10 AMAP Trends and Effects Monitoring Programme

10.1 Update status on updating of AMAP Monitoring Programme Guidelines

The Secretariat referred to discussions at the past two meetings of the AMAP WG on the guidelines underlying AMAP's Trends and Effects Monitoring Programme (ATEMP). These discussions had concluded that the chapter on climate change and their effects should be updated and that focus in this process should also be on the coordination with other similar initiatives. It had also been concluded that the DPSIR (*Driver/Pressure/State/Impact/Response*) framework would be a relevant model for organizing the update of the guidelines, noting that AMAP's role is mainly within *State* and *Impact*. Document AMAP WG31/10/Info-1 outlines how the DPSIR framework could be applied, and the Secretariat explained that relevant experts from the SWIPA Expert Group and AMAP's Climate Expert Group had been asked to contribute to the development of the guidelines within this area.

A similar dialogue has also been initiated with HHAG. The DPSIR framework had been introduced to the group at their two most recent meetings and planning had been initiated on how to update the sections on human health in the guidelines.

In the discussion, the Chair inquired as to the potential relationship between the monitoring guidelines and the Finland project on value tree analysis for atmospheric and oceanographic variables. The Secretariat responded that the project could identify gaps in observations, data or services that could potentially be filled by ATEMP.

10.2 Update status on Reporting to AMAP thematic data centres; Relationship between AMAP data handling and SAON activities; QA/QC initiatives (ILS and results); AMAP/SAON project directory (agency monitoring and national research projects); AMAP National Implementation Plans

The Secretariat presented document WG31/10/1 addressing several issues associated with AMAP data handling (status of data reporting to AMAP Thematic Data Centres (TDCs); quality assurance activities; AMAP National Implementation Plan reporting, etc.). HoDs were referred to specific questions relating to national data reporting to AMAP TDCs and requested to follow-up to ensure the participation of national laboratories in AMAP-related interlaboratory QA/QC studies as well as requesting laboratories to provide their identification numbers for confidential use by the Secretariat (**Action Item**). The AMAP Project Portal (<http://projects.amap.no/>) was introduced and demonstrated as a system that can be conveniently used to document national implementation plans (NIPs) as an alternative to reporting them on paper.

Countries welcomed the specific questions on data reporting and agreed to take action to follow-up on them. The delegations of Finland and Sweden reported that they are now using the Project Portal to

document their long-term programmes that are part of their AMAP NIPs; Canada is also looking into possibilities to do this. The delegation of the Kingdom of Denmark stated that projects funded by the AMAP-related DANCEA program are requested to report to the Project Portal, whereas it is difficult to fully cover monitoring and research efforts which AMAP draws on in NIPs. The Secretariat confirmed that the idea is that both of these categories of programme/project can be documented in the Project Portal. The Portal now describes some 950 'projects' covering all types of monitoring (climate, pollution, biodiversity, social, etc.); although many have been terminated, about 300 have been added since the last report on this subject at the WG29 meeting. The delegation of the Kingdom of Denmark further reflected that the subject of NIPs should be addressed in the Strategic Framework document.

It was noted that updated monitoring guidelines are important so that countries know the types of data that are required to be reported. In addition, it was considered useful if a presentation could be prepared for the next meeting indicating the status of each Thematic Data Centre (**Action Item**). Finally, observers were encouraged to update the Project Directory also so that a broad overview of work in the Arctic can be obtained (**Action Item**).

11 Other ongoing and planned work

11.1 Contributions to International Initiatives

The Secretariat introduced document WG31/11/01, and plans for the presentation of AMAP/Arctic work on mercury at the Minamata Convention COP1, and the results of SWIPA and AACA assessments at the UNFCCC COP23.

At the Minamata COP1, Eva Kruemmel (ICC) would highlight impacts of dietary exposure to mercury on Arctic subsistence lifestyles at a theme session on 'Oceans'. Following an offer from Canada, it was agreed that Sandy Steffen would make the Arctic presentation at the corresponding theme session on 'Air', and Simon Wilson (AMAP Secretariat) agreed to provide Sandy Steffen with input on messages to communicate at this session.

A proposal for a side event at the UNFCCC COP23 had been submitted by the Arctic Council Secretariat, planned as a collaborative activity with WMO. AMAP has contributed to the development of the content of this side-event that would showcase in particular the SWIPA results on impacts of Arctic climate change on the cryosphere and implications for other regions and also include results from AACA and CAFF biodiversity work. Unfortunately, WMO were no longer able to co-host this event but the ACS application had been supported by AMAP and CAFF and the organizers were awaiting confirmation of whether the side event had been accepted.

Delegations expressed their support for the planned outreach at both the Minamata COP1 and UNFCCC COP23. Experts participating in the COP23 event would need to be registered as part of national delegations of Contracting Parties and discussions were being undertaken to ensure that this would be possible.

The delegation of Finland introduced a proposal for an AMAP side event at the next meeting of the Stockholm Convention POP Review Committee (POPRC) in Rome. The objective of the side event would be to present results of the AMAP assessment of Chemicals of Emerging Arctic Concern (CEAC) and related AMAP policy-relevant recommendations on chemicals management issues.

Delegations also supported this proposal and agreed to try to identify experts to take part in this event (**Action Item**). The delegation of Finland would confirm within two weeks whether it had been possible to identify enough appropriate experts to hold this event, as two of the co-leads of the AMAP CEAC assessment were unavailable at the time of the planned event (**Action Item**). The delegation of Canada

nominated Hayley Hung as a possible speaker at the side event and the Secretariat and Finland agreed to prepare necessary letters of support for this nomination.

The Secretariat provided an update (WG31/11/Info-6) on the status of work on the joint UN-Environment/AMAP technical document that will constitute the background for the UN-Environment Global Mercury Assessment (GMA). The draft technical background document is currently out for national and peer review (WG31/8/Info-2) and is due to be completed during late 2017/early 2018. The GMA summary report will be produced during 2018 for delivery to the UN Environment Assembly in 2019. The Secretariat proposed that HoDs convene a small group of AMAP mercury experts (not involved in drafting of the GMA technical background document) to conduct a review of the AMAP-relevant parts to ensure that they reflect all relevant Arctic information (**Action Item**). Information was also provided on activities connected with the UN Environment Mercury Fate and Transport Partnership that AMAP joined following a decision at the WG30 meeting. This included an invitation to participate in a meeting being convened in connection with the GEO4 meeting in Washington (October 2017) to establish the governance structure for a GOS4M flagship project on mercury.

The delegation of the Kingdom of Denmark supported the proposal to establish a small group of experts to review the draft GMA technical report and requested the Secretariat to provide further information on the GOS4M mercury flagship project. The delegation of Canada also confirmed its interest in the small group to review the GMA draft.

The Secretariat also reported about preliminary discussions with ICES and OSPAR concerning possibilities to coordinate and update joint work to undertake statistical analyses of temporal trend time-series datasets. Further discussions on this were planned for the latter part of 2017 and the Secretariat would present a concrete proposal to AMAP HoDs at their meeting in February 2018 (**Action Item**).

11.2 EU-PolarNet

The Secretariat presented an update on the status of AMAP's work on the EU-PolarNet action (WG31/11/Info-2). As part of AMAP work to hold international stakeholder workshops on research needs in the Arctic, the AMAP/EU-PolarNet Stakeholder Workshop on Research Needs for Arctic Marine Ecosystems and Ecosystem Services was held on 20 September 2016 in Riga, Latvia as part of the ICES Annual Science Conference. The report on the workshop is available as WG31/11/Info-5. The third stakeholder workshop, on Research Needs on Climate-related Effects on the Arctic Cryosphere and Adaptation Options, was held on 28 April 2017 in association with the AMAP science conference in Reston, VA. A draft of the report on the workshop is contained as WG31/11/Info-5.

Regarding other AMAP work on EU-PolarNet, the Secretariat reported that an inventory of existing monitoring and modelling programs, holding a total of 670 monitoring/observational programs, was delivered in 2016. Work is now proceeding, together with the Vrije Universiteit in Brussels, on a roadmap for optimization of monitoring and modelling programs based on a strategic analysis of the inventory of existing programs. The roadmap is due to be submitted to the EU-PolarNet coordinator in February 2018.

Work is also now nearing completion on data management recommendations for polar research data systems and infrastructures in Europe. The recommendations in this deliverable are based on existing initiatives such as SAON and the International Polar Data Forum, as well as on the results of a survey on relevant rules relating to data access.

EU-PolarNet will coordinate a five-day White Paper workshop near Madrid at the end of September 2017 at which drafts of five or six white papers will be initiated that will provide recommendations for future polar

research. The reports of the AMAP-sponsored stakeholder workshops will form part of the background materials at this event.

11.3 EU Black Carbon Action

The Secretariat provided an update on the status of the development of a proposal for implementing the EU Action on black carbon, including the proposals concerning AMAP Secretariat engagement in this work. If successful, this project would deliver on work packages over a three-year timeframe. In developing this proposal the EGBCM, ACAP and a number of external groups (CLRTAP bodies, etc.) had been consulted to ensure that the proposal was also compatible with and supported their activities. The second draft proposal had been delivered to the EC on 6 September, with comments expected by 15 September. The final draft was due to be submitted 6 October.

Delegations welcomed the work on this initiative; however, the delegation of the Kingdom of Denmark (Greenland) stated that Greenland had perspectives in black carbon emissions reduction policies that differed from those of the EU and some other Arctic countries.

11.4 Arctic Report Card

The delegation of the USA reported on the plans for the production of the Arctic Report Card (ARC), which has been issued annually by NOAA since 2006. Since its inception, AMAP has organized the external review of the ARC, and the process to identify reviewers had been initiated.

The Secretariat reported that 44 reviewers had been nominated and that the AMAP Board will decide on the final composition of the review team. The Secretariat is currently in the process of contacting the nominees, asking them about their interest and willingness to contribute to the review and, if in the affirmative, asking them to provide documentation about their scientific background and interest.

There was a question about the nature of this documentation, and the Secretariat stated that the requirements were quite liberal, but that nominees had to document their expertise within the area that they want to review.

Concerning whether AMAP could have an influence on the table of contents of the ARC, it was noted that this has not been discussed. Various models for cooperation between ARC and AMAP have been considered over time, but a model has never been developed. However, there is an indication that the editors of the ARC would be interested in a closer cooperation.

11.5 Upcoming Conferences and Meetings

The Secretariat introduced document WG31/11/3 listing currently known events and meetings of possible interest to AMAP, also addressing possible needs for AMAP representation at a number of these events or meetings. The increasing number of meetings places demands on resources and emphasizes the need for sharing this work between the Secretariat, HoDs and, for example, leads of AMAP Expert Groups in an appropriate manner, especially during the busy transition period of the coming six months.

The delegation of the USA, supported by other delegations, stressed that the approach that should be adopted is that if attending a meeting is not essential it should not be considered. The delegation of Canada also expressed a wish to see a clear role for HoDs/PPs and – in relation to meetings requiring outreach on technical matters - lead experts. The WG also discussed the need to provide meeting attendees with necessary instructions regarding expectations of their participation and information to allow them to adequately prepare for the meeting. It was further agreed that participants representing AMAP at events

and meetings would prepare a short note reporting on the outcome of the event or meeting relevant to AMAP that could be circulated to HoDs.

Delegations asked whether there was a standard series of slides presenting basic information about AMAP and results of its assessments that could be recirculated at meetings. The Secretariat agreed that it should be possible to prepare this type of material and agreed to look into this and to try to prepare some products for presentation at the HoDs meeting in February 2018.

Delegates were asked to notify the Secretariat of additional events and meetings to include on the overview (**Action Item**), and the Secretariat would update the list prior to the planned HoDs conference call in October (**Action Item**). In this connection, Japan noted that the Fifth International Symposium on Arctic Research (ISAR-5) would take place in Tokyo, January 15-18, 2018, and invited all WG participants to attend this symposium.

The Secretariat were also asked to prepare regular updates of information on AMAP-relevant meetings and events and also add this to the events calendar on the AMAP website together with links to related documentation (**Action Item**).

11.6 Specific project information from member states, PPs and observers

There were no contributions on this item.

12 Adaptation Actions for a Changing Arctic

The agenda item was introduced by the Secretariat who presented the document about evaluation of the AACA project (WG31/12/1). The two co-chairs of the Baffin Bay-Davis Strait (BBDS) Region, Mickaël Lemay, Canada, and Anders Mosbech, Kingdom of Denmark, gave a power-point presentation about 'Background, challenges and way forward' for the AACA project. They stressed that this was a pilot project and the first time such a project has been conducted both as an integrated project among different fields of expertise and across national borders. They emphasized that when the project was initiated there was no specific guidance from the higher AC levels (AC, SAOs, HoDs) concerning how the project should be performed. Much of the work was left to the Regional Implementation Teams (RITs) to organize, but that also increased the regional flexibility.

For the BBDS region a challenge during the project phase was that the regional study involved at least two different regional governments and two national governments and the region as such was very diverse in nature, population and socio-economics. Therefore, there was a need to find the correct balance, alignment and diversity in each chapter. Concerning implementation of the results of the assessment, the two co-chairs were of the opinion that the governance structures are so different between the two countries that a general implementation process that can accommodate both countries is a challenge. However, the co-chairs recommended that AMAP 'capitalize' on the work of the assessments in future work.

In the discussion, the U.S. delegation expressed appreciation to all the experts involved in the project and stated that the process was a combination of what was requested by the AC and what was possible to achieve. The U.S. delegation considered that AMAP should primarily evaluate the impact that the project has had and, as such, it was too early to conduct an evaluation.

The interventions of most of the other delegations supported the proposal that an evaluation should include the impact and the effectiveness that the results have had and therefore should be conducted after the results have been disseminated to end-users.

The meeting decided that, instead of an evaluation, a 'lessons learned' process should be performed. The WG participants should provide feedback to the Secretariat about what and who should be included in a lessons learned process, in addition to the co-chairs, leads and authors of the three regional assessments (**Action Item**).

Finally, while AMAP has a clear role in studying climate change drivers, there is also a need to consider the question of a future role of AMAP in adaptation issues. The AACA project involved a number of consultations with stakeholders and generated a lot of enthusiasm; the momentum generated should be maintained. There is now the need for plans on a national level to disseminate findings; however, some common sets of tools for communication are required. For presentations of the results and other outreach activities, it was suggested that a set of slides be prepared to show the background of the project and the general structure. The Secretariat agreed to give this request some thought in the light of the heavy workload (**Action Item**), but noted that translations into local languages is an important aspect of outreach to communities and regions.

13 Presentation of PAME work and micro-plastics project

Soffia Guðmundsdóttir (PAME Executive Secretary) presented the 2017–2019 work-plan for PAME. It contains more than 20 activities, many of which are on shipping and the Ecosystem Approach (EA) to management. She encouraged AMAP to become more involved in ecosystem work, also because this is now more related to Marine Protected Area (MPAs). The Arctic Marine Strategic Plan (AMSP) and its implementation plan are topics for the coming PAME meeting. She expressed concern that there are currently many implementation plans within the Arctic Council, and she believed that a general discussion about follow-up to WG activities would be a good topic for the WG chairs and Executive Secretaries at their meetings.

Soffia Guðmundsdóttir informed the meeting about a planned PAME desktop study on marine litter and microplastics. It will comprise a summary of the existing literature in relation to the Arctic with the aim of categorizing the literature. The next step will be the development of a marine litter action plan in 2019–2021. A workshop in Iceland in 2018 would be arranged as a part of the project, and an application for support to the projects has been submitted to the Nordic Council of Ministers (NCM). OSPAR has expressed interest in this project, and Soffia Guðmundsdóttir was interested in knowing whether AMAP would be interested in participating in the project.

The Secretariat reported that AMAP has submitted an application to the Nordic Council of Ministers (NCM) for a project on monitoring for microplastics in the Arctic. The application had been circulated among the AMAP HoDs prior to the meeting. The project would involve two workshops, and the second would be together with PAME.

In the discussion, the delegation of the Kingdom of Denmark expressed the view that it would be important for AMAP to take part in the mentioned workshop with PAME. She offered to host the first workshop in Greenland, and believed that this workshop should be held, even if the project was not supported by NCM.

The Chair responded that there should be a dialogue among the countries, if they would be interested in the project, even if there is no NCM funding.

The delegation of Iceland stated that it would be important to make a distinction between microplastics and litter but that there should be a close cooperation with PAME's litter group. The delegation of Canada expressed support for the work on behalf of Canada and offered to identify experts to participate in the workshops. Canada has recently established a marine litter and microplastics network. The delegation of

Norway informed the meeting that Norway has increased its focus on microplastics and that Norway has a report coming up on microplastics in the Arctic.

Katrin Vorkamp (Co-Chair of the POPs EG, Kingdom of Denmark) expressed the view that work on microplastics should also have focus on them as a vector for spreading other contaminants.

In conclusion, the Chair noted that many countries had interest and activities within the area and that it would be worthwhile to continue to exchange information and collaborate with PAME on this issue, even if the application to NCM is not successful.

14 AMAP administrative issues

The AMAP Secretariat reported about the status of the new Fram2 center in Tromsø, Norway, where AMAP will have the new offices together with the Arctic Council Secretariat (ACS) and the Indigenous Peoples Secretariat (IPS). He showed some photos and a floor plan of the new offices and informed about the possibilities the Secretariat saw in the office space to secure AMAP's independence, as has been requested earlier by the HoDs.

It was suggested that the AMAP staff should be located close to each other in the office area with two (or one combined) office with external windows. The location of the AMAP offices within the office space area tries to take into consideration the independence requested by HoDs, but also consider the decision by the Norwegian Ministry of Climate and Environment that AMAP and ACS should be co-located in the Fram2 center.

AMAP had requested to have four offices in the new building, combining two existing offices for the new Executive Secretary, one for a deputy secretary and one for the administrative assistant. However, the Secretariat was informed that there was not much possibility to extend its space with more offices at a later stage. The final office plan has not yet been agreed with the ACS and the IPS.

Sarah Kalhok and Morten S. Olsen, the two HoDs on the interview panel for the position of Executive Secretary, reported about status for the work to appoint a new AMAP ES. There were 35 applicants to the vacant position. By the time of the WG31 meeting, the list was shortened to five candidates. The plan is to finalize the interviews by mid-October.

15 Any other business

A decision was taken to arrange a two-hour HoDs teleconference in October. The teleconference should review the Secretariat workload, actions from the WG31 meeting and the Strategic Framework 2018+.

Noting that this will be the last AMAP WG meeting for Helgi Jensson, head of the Icelandic delegation, the WG expressed its warmest appreciation for his wise counsel and conflict-solving abilities during the several decades of his participation in AMAP activities.

16 Meeting Sum-up

The Secretariat presented a draft action list from the meeting. The action list will be finalised in several days and circulated to HoDs.

The next AMAP HoDs meeting was planned for February 2018. The delegation of Canada kindly offered to host this meeting and would inform the HoDs about possible dates and a venue in northern Canada as soon as possible (**Action Item**).

The delegations of Sweden and the Saami Council kindly offered to co-host the next AMAP WG meeting, scheduled for September 2018 in northern Sweden.

17 Close of Meeting

As all business was complete, the Chair thanked Iceland, and especially Helgi Jensson, for hosting the meeting. She also thanked the Secretariat for their preparations of the meeting and the documents, and all the participants for their contributions. With this, she closed the meeting at 14:00 hrs on 14 September.

Annex 1: Annotated Agenda

AMAP WG 31 meeting – Reykjavik

Tuesday 12 – Thursday 14 September 2017

Tuesday 12 September	
Tentative Time	Agenda item
09:00	<p>1. Opening of the 31st AMAP WG meeting</p> <p>Welcome statement, practical information and adaptation of the agenda.</p> <p><i>The Chair will open the WG meeting, invite welcome statement and practical information, review the meeting objectives, and present the draft agenda for approval.</i></p>
09:15	<p>2. Outcome of the 2017 Ministerial Meeting and the SAOX June meeting</p> <p><i>The Chair and Secretariat will provide a short update on the outcome of the 2017 Arctic Council Ministerial Meeting and the June 2017 SAOX meeting, with a focus on AMAP relevant issues.</i></p>
09:30	<p>3. Follow up of actions from previous AMAP meetings</p> <p><i>Actions from the previous WG and HoD meetings will be reviewed and any outstanding items that will not be considered under other agenda items addressed.</i></p>
09:40	<p>4. Presentation of Finnish chairmanship priorities and implications for AMAP work</p> <p><i>The Finnish HoD will present the Finnish chairmanship priorities with a focus on AMAP relevant issues, followed by questions from WG participants.</i></p>
10:15	<p>5. Status of AMAP report production</p> <p><i>The Secretariat will present an update on the status of production of the 2017 assessment reports and other relevant AMAP products.</i></p>
10:30	Health break
11:00	<p>6. AMAP Strategic Framework 2018+</p> <ul style="list-style-type: none"> - Introduction to Goal of Strategic Framework Update - Outcome of HoD discussions - Timeframe and process until adoption - Comments, ideas and feedback from the WG <p><i>The Chair will present the draft document and the plans for finalizing the revision of the AMAP Strategic Framework, including timeline and work tasks.</i></p>

12:00	<p>7. AMAP Scientific Assessment work PART 1: Initiatives that may help frame AMAP work²</p> <ul style="list-style-type: none"> • Presentation of ‘Task Force on Arctic Marine Cooperation’ <i>A representative of the TFAMC is invited to present the TF work with a focus on aspects that are relevant to AMAP. [to be confirmed]</i> • Presentation of ‘Arctic Economic Council’ <i>A representative of the AEC is invited to present the AEC work with a focus on aspects that are relevant to AMAP. [to be confirmed]</i>
12:30	Lunch
13:30	<p>PART 1 – Initiatives that may help frame AMAP work (continued)</p> <ul style="list-style-type: none"> • Presentation of SAON strategy <i>SAON representatives will present the proposed SAON Strategy to address the outcome of the Arctic Science Ministerial in 2016 and the external review of SAON, and its relationship to AMAP work. The WG will also consider the appointment of the new SAON Chair.</i> • Presentations of other AC Working Groups work plans <i>Representatives of other AC WGs are invited to present their 2017-2019 work plans with a focus on cooperation with AMAP.</i> • Introductory presentations of the work of new Observers <i>Representatives of new observers to the AC/AMAP are invited to present information on their activities with a focus on cooperation with AMAP.</i>
15:30	Health break
16:00	<p>8. AMAP Scientific Assessment work PART 2: AMAP 2017-2019 Work-plan Implementation</p> <p><i>The Secretariat will provide a short introduction to the AMAP 2017-2019 work plan that was approved at the 2017 Arctic Council Ministerial meeting.</i></p> <p><i>AMAP Expert Group representatives will present their plans for implementing the agreed work; the EG presentations will provide an opportunity to present and discuss:</i></p> <ul style="list-style-type: none"> – <i>the current status of the science/knowledge for the subject areas concerned</i> – <i>the science-policy priorities as seen from the EGs</i> – <i>plans for implementing the agreed work-plan and producing associated deliverables including routine data compilation, data and information needs, coordination with other groups and initiatives, etc.</i>

² Due to ongoing discussions regarding national ratification, the proposed presentation of the AC Scientific Cooperation Task Force ‘Agreement on Enhancing International Arctic Scientific Cooperation’ is removed from the agenda.

	<ul style="list-style-type: none"> – questions to the WG concerning administrative and resource questions (confirmation/changes to leads and experts; planned meetings and workshops, needs for guidance, e.g. whether planned work meets requirements of the WG; needs for Secretariat support, etc.); <p>Following each presentation the WG will discuss the plans and address any questions raised; observers will be invited to provide information about their possibilities to contribute to the planned work.</p> <p>Contaminant Issues</p> <ul style="list-style-type: none"> • 2019/2021 assessment of Short-lived Climate Pollutants (SLCPs) and integrated air pollution issues <ul style="list-style-type: none"> – Coordination with AC EGBCM, CLRTAP, etc. • Persistent Organic Pollutants and Mercury Update Assessment delivery <ul style="list-style-type: none"> – Completion of ongoing work on biological effects; follow-up of the CEAC assessment, e.g. future reporting to Stockholm Convention and other relevant bodies; SIACM developments, etc.
18:00	Adjourn
Wednesday 13 September	
09:00	<p>PART 2: AMAP 2017-2019 Work-plan Implementation (continued)</p> <p>Climate Issue</p> <ul style="list-style-type: none"> • AOA Update Assessment delivery <p>Contaminant issue</p> <ul style="list-style-type: none"> • Future plans for AMAP human health assessment work (routine data compilation and data products, etc.)
10:30	Health break
11:00	<p>PART 2: AMAP 2017-2019 Work-plan Implementation (continued)</p> <p>Climate issue</p> <ul style="list-style-type: none"> • SWIPA / AACA follow-up: <ul style="list-style-type: none"> – Preparation of SWIPA and AACA Contributions to the planned IPCC special reports, and any other SWIPA/AACA planned products – Joint communication and outreach of SWIPA results Other proposed SWIPA follow-up initiatives <p>Emerging Issues and other areas of work</p> <ul style="list-style-type: none"> • Enhanced cooperation between human health and contaminants EGs

	<ul style="list-style-type: none"> • Arctic observation value project – assessment for physical atmospheric and oceanic variables (Finnish initiative)
12:30	Lunch break
13:30	<p>9. AMAP Scientific Assessment work PART 3: Discussion of Interactions between AMAP Expert groups, scientific organizations, observers and AMAP HoDs/PPs</p> <p><i>This agenda item aims enhance the communication and cooperation between AMAP HoDs and the scientific communities.</i></p> <p>WG and observers are invited to discuss how to improve the cooperation among the scientific bodies and the HODs, PPs to make best use of all resources.</p>
15:00	<p>10. AMAP Trends and Effects Monitoring Programme</p> <p>How can we best secure that necessary data is available for AMAP assessments?</p> <ul style="list-style-type: none"> • Update status on updating of AMAP Monitoring Programme Guidelines • Update status on Reporting to AMAP thematic data centers • Relationship between AMAP data handling and SAON activities • QA/QC initiatives (ILS and results) • AMAP/SAON project directory (agency monitoring and national research projects) • AMAP National Implementation Plans
15:30	Health break
16:00	AMAP Trends and Effects Monitoring Programme - continued
16:30	<p>11. Other ongoing and planned work</p> <ul style="list-style-type: none"> • Contributions to International Initiatives <p><i>The Secretariat will give an overview of the joint work with UNEP relevant to Minamata Convention and GMA 2018, including plans for presentation of parts of this work at the Minamata Convention Cop1.</i></p> <p><i>The Secretariat/Finland will provide an update on AC activities in connection with the UNFCCC Cop and Minamata Convention COP.</i></p> <p><i>The WG may wish to discuss responses to UN Environment on the possible future development of SAICM</i></p> <ul style="list-style-type: none"> • EU PolarNet <p><i>The Secretariat will inform about status and progress for the EU PolarNet work</i></p> <ul style="list-style-type: none"> • EU Black Carbon Action <p><i>The Secretariat will give an overview of the EU Black carbon application and status for the work.</i></p>

	<ul style="list-style-type: none"> • Arctic Report Card <i>The Secretariat will give an overview the status of identifying reviewers for the ARC.</i> • Upcoming Conferences and Meetings <i>The Secretariat will present an overview of other upcoming meetings and events including the planned ABA Conference and the WG will discuss possible AMAP representation and contributions to these events.</i> • Specific project information from member states, PPs and observers <i>Each member state, PP and observer which has information about other relevant projects or ongoing work is welcome to inform the meeting about this.</i>
17:30	Adjourn
19:00	Hosted dinner
Thursday 14 September	
09:00	12. Adaptation Actions for a Changing Arctic <ul style="list-style-type: none"> • Presentation of the AACA process • Decide on process for the evaluation of AACA • Aim of the AACA evaluation <i>The Secretariat will present the draft outline for the evaluation of the AACA project. The aim of this agenda item is to decide the content, organization, timeline and the aim of the evaluation.</i>
10:00	13. Presentation of PAME work - Possible AMAP work on microplastics and potential linkages to proposed PAME work on marine litter
10:30	Health break
11:00	Any outstanding issues
11:30	14. AMAP administrative issues <i>Short information about relocation of AMAP offices, appointment of new ES</i>
11:45	15. Any other business
12:00	16. Meeting Sum-up <ul style="list-style-type: none"> • Action List from the WG meeting <i>The Secretariat will present an overview of actions from the WG meeting</i>

	<ul style="list-style-type: none"> • Report to the SAO meeting in October The Secretariat will present timeline and content for the AMAP report to the SAO meeting 25-26 October. • Planning of next HoD/WG meeting Dates and host country for the next AMAP HoD/WG meeting.
13:00	17. Close of Meeting

Annex 2: List of Participants

Version 14 September 2017

AMAP 31th WG, Reykjavik, Iceland 12-14 September, 2017

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Annex 3: Action List

AMAP WG31 meeting Reykjavik, Iceland, 12-14 September 2017

Agenda Item	Action/decision	Who	When
5	HoDs notify of possible needs for additional copies of the SPMs/Overview reports (and deadlines) for inclusion when considering re-printing	HoDs/PPs/Observers	14 September
6	Serve on a writing team for SF 2018+	US (Mike), ICC (Eva), Canada (Sarah), Sweden (Tove)	
6	Written comments on the zero draft SF 2018+ to be sent to AMAP Secretariat	HoDs, PPs, expert groups and observers	15 October
6	Confirm timeline for the SF 2018+ preparation		October HoDs call
6	Inform HoDs about Secretariat workload/work-plan including possible work on C&O	Secretariat	October HoDs call
7	AMAP to seek presentation at next AEC annual meeting May 2018	Secretariat	2 January
7	Send comments on SAON strategic framework via the national SAON representative	HoDs/PPs	1 November
7	Nominate an AMAP representative to serve on the ABA Congress organizing committee	HoDs/PPs	15 October
7	Develop plans for AMAP session(s) at ABA Congress October 2018	HoDs/PPs and Secretariat	HoDs meeting 2018
7	Confirm AMAP contact person for EIA project	USA	27 September
8	Nominate experts on SLCP (especially on methane, modeling, observations, etc.) to the EG and for the Helsinki workshop (January 2018). Consider hosting future workshops	HoDs/PPs and observers	15 October
8	Represent AMAP at the next meeting of the AC Task Force on Black Carbon and Methane	Kaarle Kupiainen	
8	Correct way AC agreement on BC emissions reductions target is reflected in SLCP EG work-plan	SLCP EG co-chairs	
8	Ensure that the results of the current AOA assessment are available for presentation at ABA Congress in October 2018 and that the full report with a SPM is ready for AC Ministerial in 2019	AOA EG	
7	Identify national labs participating in Human Health round-robin analytical exercises (and preferably participation codes), and check labs participating in NCP/AMAP ILS	HoDs/PPs and HHAG	HoDs meeting 2018

8	Prepare a document describing HHAG plan to implement relevant parts of AMAP work-plan	HHAG (at meeting in Inari)	October HoDs call
8	Plan 2018 joint workshop with HHAG and POPs EG, including cooperation regarding analyses of emerging chemicals. Nominate organizing team	Co-chairs of HHAG/POPs/Mercury/Radioactivity EGs	
8	Consider nominations of young researchers to the HHAG (and other EGs)	HoDs/PPs	Ongoing
8	Consider re-establishing an Assessment Steering Group	HoDs/PPs	HoDs meeting 2018
8	Provide letter of support for HH.	Secretariat/Finland	Within week
8	Propose dates for SWIPA follow-up workshop in Helsinki in March 2018	Finnish HoD	1 October
8	Inform on national needs for SWIPA/AACA communication, connections to national (e.g. educational) resources	HoDs/PPs	1 November
8	Prepare a memo on what types of educational materials on SWIPA/AACA would be feasible to have prepared and the finances associated with these materials	Secretariat	15 November
8	Nominate possible experts for POPRC side event	HoDs/PPs	Within week
8	Decide on whether POPRC event should proceed	Secretariat and Finland (Timo)	Within 2-3 weeks
8	Discuss follow-up on request for cooperation with POPRC	HoDs/PPs	October HoDs call
8	Decide on AMAP involvement in work on the Arctic observation Value Tree Analysis / Nomination of experts.	HoDs/PPs and observers	October HoDs call
9	Inform the Secretariat about any changes to tracking HoDs	HoDs/PPs	1 October
9	Distribute updated list of tracking HoDs together with a description defining roles	Secretariat	October HoDs call
9	Continue communication between AMAP/ICES Secretariats (incl. exchanging contact points on relevant work for circulation to HoDs)	Secretariat	1 November
10	Prepare a document on NIPs and project portal for discussion at next HoDs meeting	Secretariat	HoDs meeting 2018
10	Establish a small group to prepare information about TDCs for next HoDs meeting	Secretariat / TDCs	HoDs meeting 2018
11	Follow up with ICES and OSPAR on proposal for cooperation on temporal trend analyses of POPs and Hg and other relevant issues for discussion at next HoDs meeting	Secretariat	15 November
11	Identify experts for small team to review GMA (by mid-October) from AMAP perspective	HoDs/PPs	30 September

11	Circulate list of participants for White Paper EU PolarNet conference	Secretariat	18 September
11	Send Secretariat details of additional events to add to the meeting overview document, and information on views on priorities for AMAP representation and existing plans for national participation	All	30 September
12	Give feedback to the Secretariat about what to include the evaluation of lessons learned from AACA work and who to involve	HoDs/PPs, AACA co-leads, Secretariat	30 September
12	Present options and timeline for potential standardized presentation materials (specifically regarding AACA products)	Secretariat	October HoDs call
13	Establish contact with PAME EG on marine litter and determine how AMAP could cooperate	WG Chair	PAME meetings
16	Arrange doodle-poll to decide date of HoDs call in mid-October – two-hour call to focus on urgent actions	Secretariat	22 September
16	Update overview on status of data reporting to TDCs, NIPs, etc.	HoDs/PPs and observers	HoDs meeting 2018