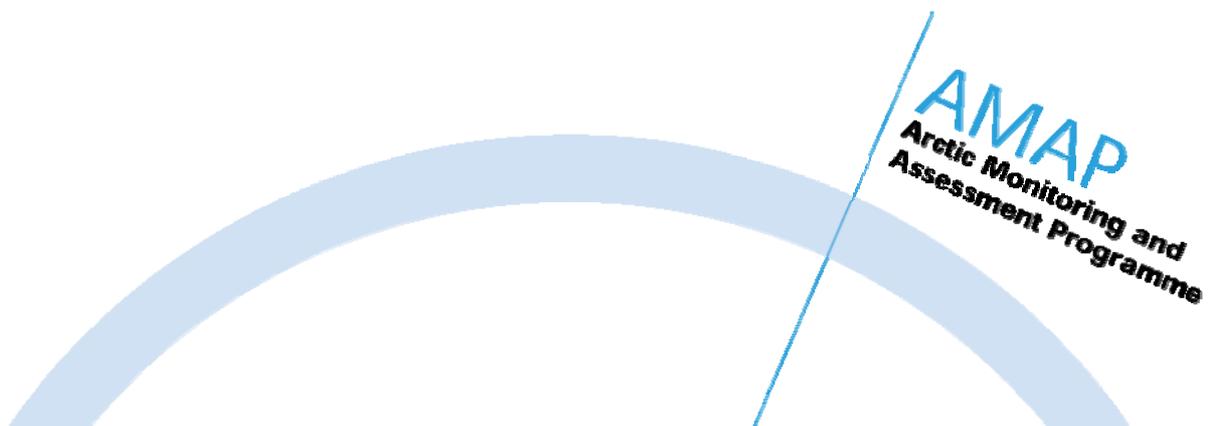


## **Minutes of the AMAP HODs Meeting**

**Oslo, Norway**

**May 20–22, 2008**



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## **Minutes of the AMAP HODs Meeting Oslo, 20–22 May 2008**

### **1 Opening of the meeting**

John Calder (USA), Chair of the AMAP WG, opened the HODs meeting at 9:00 hrs on 20 May 2008 in a joint meeting with the AMAP Assessment Steering Group. There was a tour de table to introduce all participants.

### **2 Approval of the agenda**

The agenda was approved without change (Annex 1). The list of document is attached as Annex 2 and the list of participants as Annex 3.

### **3 Follow up of the SAO meeting**

#### **a. Oil and Gas reports, status, strategy for further work and release**

Details are contained in the minutes of the ASG and AMAP HODs/ASG meetings in Annex 4.

#### **b. SWIPA preparation and implementation: The proposed Integration Team meeting in Copenhagen**

In addition to the information in the minutes of the ASG and AMAP HODs/ASG meetings in Annex 4, HODs continued the consideration of this topic as reported below.

AMAP HODs agreed that Morten Olsen (Denmark) should serve as Project Leader of SWIPA, assisted by John Walsh (USA), one of the Co-Chairs of the Climate Expert Group. The Integration Team (IT) for this project will hold its first meeting in Copenhagen on 9–10 June to begin the integration between the various parts of this project. The role of the IT needs to be clarified, a time schedule needs to be prepared, and cross-cutting drafting teams need to be established for certain issues such as socio-economic impacts.

Lars-Otto Reiersen, AMAP Executive Secretary, reported that lead authors have been proposed for the various parts of the SWIPA project, as well as authors for all of the sub-sections of the reports. However, official nominations are needed for the members of the core team of SWIPA. The AMAP Secretariat will distribute to AMAP HODs via e-mail a list of all people currently nominated to participate in this project so that they can be considered for funding by the Arctic countries. Nominations with CVs should be received by Lars-Otto Reiersen and John Calder by 6 June. With regard to whether names of persons for whom national funding would not be available should be removed from the

list, it was felt that they should not be removed because such persons may be able to contribute without funding.

It was agreed that there should be two or three co-leads per chapter and also a gender balance. Rune Fjellheim, head of the IPS Secretariat, will identify one or two persons with climate expertise from the indigenous peoples; CVs should also be supplied for them.

Morten Olsen reported that the Greenland Ice Sheet component of SWIPA is now well established. Meetings have been held on this component and it is intended to produce a scientific report on the initial outcome for the April 2009 AC Ministerial Meeting. In addition, a summary report will be prepared so that it can be ready for the UNFCCC COP15 meeting to be held in Copenhagen in December 2009.

Lars-Otto Reiersen reported that the component on sea ice, with Norway as lead country, will hold its first meeting in Tromsø in August; an e-mail concerning this meeting has been sent to AMAP HODs and to some experts. As the project has been initiated by Norway, it will have some funding available to assist in the cost of travel for scientists who are unable to secure funding to attend project meetings.

Russel Shearer stated that he may offer for Canada to serve as a co-lead with Sweden on snow and permafrost, if this possibility is still open.

It was noted that there is a strong team for SWIPA and a good network, but improvement is needed in some areas. The IT will serve as the core group for the overall administration of the project. A clear strategy has been developed for the selection of reviewers and IASC will assist in the selection of reviewers for the Greenland Ice Sheet component.

The human dimension of climate change, including the socio-economic consequences of climate change, is important and is close to the remit of the Sustainable Development Working Group (SDWG). The degree and means of potential involvement of SDWG in this aspect of SWIPA would be discussed at the joint meeting with SDWG on 21 May. (The minutes of the joint AMAP-SDWG meeting are attached as Annex 6.) However, it was stressed that any participation of SDWG in this work should occur on the usual AMAP terms, with the preparation of scientific reports and the scientists being responsible for their work. There should be no compromise in this regard.

In addition, the Chairs of the AMAP expert groups on human health, POPs, and radionuclides should look into how they can cooperate with the SWIPA project on combined effects of climate change.

In terms of the review process for the results of SWIPA, clear instructions were given by the SAOs in April. AMAP HODs should appoint an independent review committee of eight persons (one per country, appointed in association with the national science academies). This committee should prepare for the review process which, among others, should ensure that authors respond to all review comments. The first results of the

Greenland Ice Sheet component will be the first subject of review, but it is exempt from the process approved by SAOs in favour of a more streamlined process in association with IASC.

### **c. The production line for the 2009 assessments**

Details of the current status of the 2009 assessments on human health, POPs, and radioactivity were discussed at the ASG meeting and in the joint meeting between ASG and HODs (Annex 4).

Lars-Otto Reiersen informed HODs that the science writers Annika Nielson and Henry Huntington were willing to write the SOAER 2009 report, which will be a compilation of the assessment overview reports on human health, POPs, and radioactivity. In addition, a summary report on AMAP climate work will be included.

It was proposed that the web-based Arctic Climate report card also be printed and included with the short climate-related part of the report.

### **d. The follow up for “Black Carbon” – planning of a possible workshop**

Regarding the workshop on non-CO<sub>2</sub> drivers, Lars-Otto Reiersen stated that U.S. NOAA, NERI (Denmark), NILU (Norway), and Finland have indicated an interest in taking part in this work; IASA is also cooperating. Currently, activities are taking place to identify scientists, engineers, indigenous people, and policy-makers to provide information to this workshop, which will be held on 15–16 September 2008. A drafting team on non-CO<sub>2</sub> drivers is needed, together with assistance from Arctic agencies, to prepare a good background for this workshop. This should include persons who can evaluate the feasibility of proposed solutions. Currently, Patricia Quinn (NOAA, Seattle) is drafting a paper on the scientific issues and Pam Pearson (Climate Centre, Malmö) will prepare a paper on the policy issues, but it would be preferable to have teams to produce these papers.

Several experts and institutes were identified to review the papers produced. HODs should be sent the draft papers as soon as they are available to provide for this review.

### **e. The joint biodiversity programme with CAFF**

The meeting discussed the status of the joint AMAP-CAFF work on monitoring. It was noted that the papers sent to the April SAO meeting proposing projects to be included in this programme contained standard CAFF project descriptions, but the relationship between the projects reported and the criteria for selecting joint projects was not clear; the projects reported to the SAO meeting were mainly national and not broader, as required. It was pointed out that the format for the project reports was decided at the joint AMAP-CAFF meeting last September, but the countries were required to apply the criteria to their projects themselves. These projects need to be reviewed over the summer.

The AMAP Secretariat agreed to prepare a first list of projects that meet the criteria for the joint programme. The projects will be narrowed down to those that are worth coordinating on a broad basis. The criteria agreed at the joint AMAP-CAFF meeting are attached as Annex 5.

#### **f. Inputs to the SAO report and Ministerial declaration**

This item was deferred to the December WG meeting.

#### **4 The work to be done prior to the WG meeting in December in Quebec**

The AMAP Board will draft recommendations from the assessments on human health, POPs, and radioactivity. HODs were requested to prepare the way for the approval of these recommendations in their countries within a period of 30 days from receipt. No sensitivity was anticipated for the recommendations from the POPs assessment, but there may be some issues of sensitivity from the human health and radioactivity assessments. Time should also be set aside for reading the three overview reports and their recommendations so that they can be accepted by 8 December 2008; these should be forwarded to SAOs by no later than 8 January 2009.

#### **5 Draft plans for the Arctic Net meeting in Quebec and arrangements for the AMAP WG meeting and the joint meeting with CAFF**

With regard to the approval of the three assessment reports, it was recommended that a clear schedule be prepared for the December WG meeting in Quebec so that appropriate experts can be brought in to discuss the reports. This will assist the approval of these reports during the meeting. It was also proposed that parallel sessions be held for the review of the overview reports by the national experts; however, approval of the executive summaries must be done by HODs.

Given the need to approve three overview reports as well as hold a half-day joint meeting with CAFF, it was decided to begin the meeting on Sunday to have an extra day. In addition to approval of the three overview assessment reports, the WG will need to discuss the AMAP monitoring programme, non-CO<sub>2</sub> drivers, the two-year work plan, and the progress report to the Ministerial Meeting.

Accordingly, it was decided that the AMAP WG meeting will be held in Quebec City, Canada from Sunday, 7 December to Wednesday, 10 December 2008. The Mercury Expert Group will be scheduled at the time of this meeting. The joint meeting with CAFF will be held on the third day to discuss the joint AMAP-CAFF monitoring programme and follow up of the oil and gas assessment and climate work from the CAFF perspective. Noting that an annual meeting could be held between AMAP, CAFF, and SDWG, it was considered that the issue of joint meetings with other AC WGs should be discussed further.

The Arctic Change Conference will be held in Quebec City from 9 to 12 December, with student presentations on 9 December. AMAP participants were encouraged to attend this conference also.

## **6 Any other business**

### **GIS mapping**

Simon Wilson, AMAP Deputy Executive Secretary, reported that AMAP and EPPR, together with GRID Arendal, cooperated on a GIS project and tried to promote its use. A workshop was held in Tromsø in January 2008 with the attendance of representatives of AMAP, EPPR, the Marine Shipping Assessment, but not CAFF owing to a meeting conflict. The aim is to coordinate mapping efforts in various organizations to avoid the production of different maps with conflicting results by different agencies. Another aim is to promote the possibility of obtaining access to other data sets outside the Arctic Council that may be useful. Furthermore, most base maps are prepared by organizations not associated with the Arctic Council, so AC WGs will need to fit into the wider network, making their products available to this network while also obtaining access to the network's products.

Simon Wilson noted that the Arctic Council wanted to establish a project on this issue, but such mapping is really a long-term, open-ended process. However, there is a plan to develop a proposal for the November SAO meeting concerning organization of AC mapping work. This will include principles for holding data, criteria for data distribution, and other relevant issues. These issues will be introduced to all AC WGs for their support and a discussion document from the April SAO has been distributed to the other WGs for further consideration so that a proposal can be prepared for the November SAO meeting.

After discussion, the AMAP HODs agreed that a proposal should be prepared for the November SAO meeting. Simon Wilson will work with Ole Christian Bjerkmo from EPPR on this proposal, which should include a description of the funding implications. CAFF and other WGs can also join this work, if desired. One implication of AMAP involvement in the mapping project is that data sets will need to be better documented so that they will be more useful and can be included in a portal.

### **Regional Plan of Action**

Lars-Otto Reiersen reported that PAME has requested AMAP to assist in the update of a paper concerning the Regional Plan of Action for Protection of the Marine Environment from Land-Based Sources for the Arctic. Canada has agreed to support the update of this paper for which AMAP wants both the text and appendices to be rewritten. In particular, AMAP has seriously criticized the selection criteria for hotspots in terms of rating the threats to the marine environment and the methodology was also seriously criticized.

Russel Shearer noted that there has been confusion concerning this update, but Canada will focus on reviewing Section 4 of the Regional Plan of Action and update it based on

new information on POPs, heavy metals, radionuclides, oil and gas activities, etc. Appendix B also needs to be reviewed and revised. Table 1 should be revised based on a qualitative assessment of the criteria. This work will be conducted in relation to the PAME meeting in St Johns, Nfld in the first week of June, together with the PAME consultant working on the revisions.

AMAP HODs requested that they be sent the revised materials before the meeting in St Johns, for information only. Russel Shearer agreed to have the material distributed to HODs via e-mail. He noted that the work on revision will continue after this meeting.

### **IPY legacy**

John Calder reported that Norway had submitted a proposal for an IPY legacy project at the April SAO meeting, but based on some technicalities ultimately withdrew the proposal. Despite this, Norway has decided to fund a review of IPY-coordinated projects, and identify which were actually funded, what work was conducted, and how this might fit into AC projects; this will be a Norwegian contribution to the AC.

In the discussion, the clear view was expressed that AMAP should not take on any formal involvement in this work, but it may respond to requests from the project leader, the Norwegian Polar Institute, to comment on the template for the work to ensure that the results will meet AMAP needs.

### **SAON**

HODs discussed the role of the Arctic Council in relation to the Sustaining Arctic Observing Network, noting that SAON is broader than the Arctic Council.

Lars-Otto Reiersen reported that a draft proposal for SAON is being prepared by a drafting team based on the reports of the SAON workshops in Stockholm and Edmonton; this will be available by the end of June for ultimate presentation at the third SAON workshop in Helsinki in October. AMAP should review this draft proposal over the summer.

John Calder reported that U.S. agencies involved in Arctic observations have prepared a report that will be available at the Helsinki workshop describing the locations of their Arctic observing platforms, the parameters observed, and what they can do at the national level to coordinate among them. This report and its recommended actions could be a model for other countries to consider.

However, to sell this system politically and to obtain sustained national funding, it is necessary to clearly indicate the successes and the added value of a network of Arctic observing stations—what can be accomplished through SAON that would not be possible otherwise. This is necessary to convince the decision-makers. In addition, any proposed mechanism should make use of current groups and structures rather than establishing

costly new, possibly duplicative, mechanisms. For example, WMO supports a free flow of observational data from its member countries.

AMAP work provides a good example of the value of obtaining information for the entire Arctic region via the sharing of open, free data and the promotion of comparability, rather than just working on the basis of national observations. Accordingly, the AMAP Secretariat will prepare a paper by 15 September for the Helsinki workshop on the AMAP experience with data submissions and handling in the Thematic Data Centres, describing when data submissions succeeded and when not. A draft will be distributed to HODs by the end of June for further elaboration over the summer.

The list of persons nominated for attendance at the Helsinki workshop will also be distributed to AMAP HODs so that final decisions can be made on participation.

### **Unmanned aircraft systems (UAS)**

Lars-Otto Reiersen reported that the report of a workshop held on UAS in the United States was provided to the April SAO meeting; a second workshop will be held in the autumn. The U.S. has the lead for this work under Betsy Weatherhead, but is seeking a co-lead from Sweden or possibly Finland.

### **AMAP monitoring programme**

Lars-Otto Reiersen stated that there have been some requests to improve the AMAP monitoring programme and its methodology. Several proposals have already been submitted. This could also consider whether new types of monitoring should be included, such as for climate-related issues.

HODs decided that the review of the monitoring programme should be discussed at the December AMAP WG meeting and also in the joint meeting with CAFF.

Lars-Otto Reiersen also reported that he and others from AMAP have been participating in the development of the monitoring programme under the Stockholm Convention, where AMAP is promoting the monitoring of POPs in human blood using a Canadian measurement method. This Canadian method is currently being written into an appropriate standard with guidelines for the full procedures including quality assurance and will be used for Stockholm Convention monitoring.

It was noted that the AMAP Human Health Assessment Group would like to limit participation in its monitoring of contaminants in human tissues to laboratories that have participated in relevant intercalibration programmes. This means that AMAP laboratories would need to participate in round-robin intercalibrations and reveal their code numbers for QA of their data. The Canadian Northern Contaminants Program recently offered to coordinate an intercalibration exercise with free participation, but few laboratories accepted this offer. Some laboratories claim that their accreditation for such analyses

implies that they do not need to take part in further intercalibrations, with the associated costs and time spent.

AMAP HODs considered that participation in intercalibration activities should be a requirement for submitting data to AMAP; the issue of quality control requirements for participation in AMAP monitoring programmes should be discussed further at the December meeting.

### **Nomination of Project Leader for SWIPA**

AMAP HODs designated Morten Olsen (Denmark) as the overall Project Leader for the SWIPA project, with the responsibility also of serving as the formal liaison between SWIPA and AMAP.

### **Election of Vice Chair of AMAP**

As the current Vice Chair of AMAP, Per Døyle, has requested to step down, nominations were held for a new Vice Chair. Russel Shearer was elected to serve as Vice Chair for the next period of office.

## **7 End of meeting**

The Chair closed the meeting on Thursday, 22 May at 12:15 hours, thanking the participants for their inputs.

An Action List of decisions from the meeting is attached as Annex 7.

## **Annex 1**

### **Agenda for the AMAP HODs meeting**

**May 20, 21 & 22, 2008**

**Venue: Holmenkolmen Park Hotel, Oslo**

For May 20-21, the HOD meeting will be held after the ending of the joint meetings with ASG and SDWG. For the 22<sup>nd</sup> we would like to start at 0900 and end at 1200.

1. Opening of the meeting
2. Approval of the agenda
3. Follow up of the SAO meeting
  - a. Oil and Gas reports, status, strategy for further work and release;
  - b. SWIPA preparation and implementation,  
The proposed Integration Team meeting in Copenhagen;
  - c. The production line for the 2009 Assessments,  
Status and problems for the work as learned by ASG. How to solve the presented problems? The Work to be done forward and the solution of the financial requests;
  - d. The follow up for “Black Carbon” – planning of possible workshop;
  - e. The joint Biodiversity programme with CAFF;
  - f. Inputs to the SAO report and Ministerial declaration;
4. The work to be done prior to the WG meeting in December in Quebec
5. Draft plans for the Arctic Net meeting in Quebec and how will the AMAP WG and joint meeting with CAFF be arranged.
6. Any other business
7. End of the meeting

### **Draft Time Schedule for the AMAP HODs meeting**

The Secretariat assumes that the joint ASG/AMAP HOD meeting will end at 1700 on Tuesday at the latest. At that time we have had a summing up of the status for the assessments reports and questions to be solved by the HODs. Hopefully we will have 1-2 hours for a HOD meeting on Tuesday. We can arrange for a joint dinner somewhere in downtown Oslo and continue some of the discussions under a more informal setting.

The Secretariat assumes that the joint AMAP/SDWG meeting will end around 1600 at the latest on Wednesday. Norway will invite for a joint WG dinner at the meeting hotel around 1900. This should give us 2-2 ½ hours for a HOD meeting on Wednesday.

Therefore, the Secretariat intends to end the HOD meeting the 22<sup>nd</sup> at 1200, have lunch and fly home.

May 20<sup>th</sup>. 1700 – 1830 Agenda item 1, 2, 3a & b.  
May 21<sup>st</sup> 1600 – 1830 Agenda items 3c, d & e  
May 22<sup>nd</sup> 0900 – 1200 Agenda items 3f, 4, 5, 6, & 7.

## Annex 2

### List of Documents for the following Meetings:

**19 May: Assessment Steering Groups (ASG): 10.00 – 17.00**

**20 May: Joint meeting between ASG and AMAP HODs: 09.00 – 17.00**

**20 May: AMAP HODs meeting: 17.00 – 18.30**

**21 May: AMAP HODs meeting: 16.00 – 18.30**

**22 May: AMAP HODs meeting: 09.00 – 12.00**

Meetings	Title	Notes
	Draft Agenda and Time Schedule for the ASG meeting the 19 <sup>th</sup> of May and the Joint AMAP HODs/ASG the 20 <sup>th</sup> of May, 2008.	Distributed 4 April
	Draft Agenda and Time Schedule for the AMAP HODs meeting May 20, 21 & 22, 2008	Distributed 4 April
	Draft Agenda and Time Schedule for the joint AMAP- SDWG meeting May 21, 2008	Distributed 4 April. Updated version distributed 18 May.
	AMAP HOD & ASG meetings in May in Oslo – Information (How to get from the Airport to Holmenkollen Park Hotel)	Distributed 7 May
	Draft List of Participants: AMAP HoDs/ASG/SDWG Meetings, Oslo, Norway, 19 – 22 May, 2008	Version 15 May. Updated version distributed 18 May
	Draft List of Documents: AMAP HoDs/ASG/SDWG Meetings, Oslo, Norway, 19 – 22 May, 2008	Version 15 May. Updated version distributed 18 May

AMAP/SDWG	Sustainable Development Working Group  Circumpolar Human Health Advisory Network - (CHHAN)  (Also document for the Joint SDWG – AMAP Meeting)	Draft for discussion purposes – revised March 20, 2008  (Distributed 17 April to AMAP HODs and AMAP Human Health Group)
ASG/HODs	Draft Workplan/Time schedule for the work with Non-CO2 drivers	Distributed to AMAP HODs and ASG 15 May
ASG/HODs	Short-Lived Pollutants in the Arctic: Their Climate Impact and Possible Mitigation Strategies	Distributed to AMAP HODs and ASG 15 May
ASG & AMAP/SDWG	OGA Proposal from Michael Baffrey (Also document for the Joint SDWG – AMAP Meeting)	Distributed 13 May
ASG/HODs	International Institute for Environment and Development (IIED): A Sustainable future for the Polar Regions	Distributed 15 May to ASG and AMAP HODs
HODs	New RPA – Arctic. PAME	Distributed prior to the SAO Meeting in Svolvær to AMAP HODs.  Redistributed 18 May

HODs	Map/GIS  EPPR/CAFF/AMAP	Distributed prior to the SAO Meeting in Svolvær to AMAP HODs.  Redistributed 18 May
ASG/HODs	Potential Measures to Address Short-term Arctic Climate Forces	Will be handed out at the meeting
ASG/HODs	The Workplan/Timeline for the AMAP 2011 Mercury Assessment.  Prepared by Peter Outridge and Rune Dietz, May 17, 2008	Distributed 18 May
ASG/HODs	AMAP Assessment of Mercury in the Arctic  Content of Assessment  (File date: 22 April, 2008)  Overall question for the assessment: What controls mercury levels in the arctic, and what are the effects on arctic biota?	Distributed 18 May
ASG/HODs	AMAP Mercury Expert Group – E-mail Distribution List - November 2007	Distributed 18 May

### Annex 3: List of Participants: AMAP HoDs/ASG Meetings, Oslo, Norway, 19 – 22 May, 2008

Country	First name	Last name	Institute name	Mailing address	Direct phone	Direct fax	e-mail	Institute phone	Institute fax
Canada	Russel	Shearer	Northern Science and Contaminants Research Indian and Northern Affairs Canada	Rm. 658 10 Wellington St. Ottawa, Ontario K1A 0H4	+1 819 994 7484	+1 819 934 8980	shearerr@ainc-inac.gc.ca		
Canada	Peter	Outridge	Geological Survey of Canada, Natural Resources Canada	Heidelberg			outridge@nrcan.gc.ca		
Canada	Jay	Van Oostdam	Health Canada Safe Environments Canada	BMO Building, 4th Floor, Rm. 5-074 AL 4904B 269 Laurier Ave W. Ottawa, ON K1A 0K9	+1 613 941 3570	+1 613 948 8485	Jay_van_oostdam@hc-sc.gc.ca	+1 613 941 3570	+1 613 941 8921
Denmark	Morten S.	Olsen	Ministry of Climate and Energy Danish Environmental Protection Agency	Amaliegade 44 DK-1256 Copenhagen K	+45 33 92 68 92	+45 33 92 67 00	mso@ens.dk		
Denmark	Frank	Sonne	Danish Environmental Protection Agency Ministry of Environment	Strandgade 29 DK-1401 Copenhagen K	+45 32 66 03 30	+45 32 66 02 01	fms@mst.dk	+45 32 66 01 00	+45 32 66 04 79
Finland	Outi	Mähönen	Ministry of the Environment	Lapland Regional Environment Centre P.O. Box 8060 Rovaniemi FIN-96101	+358 40 512 7393	+358 20 490 6766	outi.mahonen@ymparisto.fi	+358 16 329 4111	+358 16 310 340
Iceland	Helgi	Jensson	Environment and Food Agency of Iceland	Sudeslandsbraut 24 IS-128 Reykjavik	+354 591 2030	+354 591 2010	helgij@ust.is	+354 591 2000	+354 591 2020
Norway	Per S.	Døvle	Norwegian Pollution Control Authority	P.O.Box 8100 Dep. Strømsveien 96 N-0032 Oslo	+47 22 57 34 37	+47 22 67 67 06	per.dovle@sft.no	+47 22 57 34 00	+47 22 67 67 06
Norway	Brit Lisa	Skjelkvåle	Norwegian Institute for Water Research	Gaustadalléen 21 N-0349 Oslo	+47 91 69 40 04	+47 22 18 52 00	brit.skjelkvaale@niva.no	+47 22 18 51 00	+47 22 18 52 00
Norway	Hilde	Aarefjord	Norwegian Pollution Control Authority	P.O.Box 8100 Dep. Strømsveien 96 N-0032 Oslo	+47 22 57 37 16	+47 22 67 67 06	hilde.aarefjord@sft.no	+47 22 57 34 00	+47 22 67 67 06

Country	First name	Last name	Institute name	Mailing address	Direct phone	Direct fax	e-mail	Institute phone	Institute fax
Norway	Hein Rune	Skjoldal	Institute of Marine Research	P.O.Box 1870 Nordnes N-5817 Bergen	+47 55 23 69 46	+47 55 23 85 84	hein.rune.skjoldal@imr.no	+47 55 23 85 00	+47 55 23 85 31
Norway	Jon-Øyvind	Odland	Institute of Community Medicine	University of Tromsø N-9038 Tromsø	+47 75 58 41 66	+47 75 50 70 49	joodland@online.no	+47 77 64 40 00	+47 77 64 48 31
Norway	Astrid	Liland	Norwegian Radiation Protection Authority	P.O.Box 55 N-1332 Østerås			Astrid.Liland@nrpa.no	+47 67 16 25 38	+47 67 14 74 07
Norway	Martin A.	Ytre-Eide	Norwegian Radiation Protection Authority	P.O.Box 55 N-1332 Østerås			Martin.Album.Ytre-Eide@nrpa.no	+47 67 16 25 00	+47 67 14 74 07
Norway	Pål	Prestrud	Center for International Climate and Environmental Research (CICERO)	P.O. Box 1129 Blindern N-0318 Oslo	+47 22 85 87 53	+47 22 85 87 51	pal.prestrud@cicero.uio.no	+47 22 85 87 50	+47 22 85 87 51
Russia	Yuri	Tsaturov	Russian Federal Service for Hydrometeorology and Environmental Monitoring	Novovagankovsky Street 12 123995 Moscow	+ 7 495 252 0728	+ 7 495 252 24 29	tsaturov@mecom.ru		
Russia	Andrey	Kolesnikov	Embassy of the Russian Federation	Drammensveien 74 N-0271 Oslo Norway	+47 22 44 06 08		rembassy@online.no		
Sweden	Yngve	Brodin	Swedish Environmental Protection Agency	SE-106 48 Stockholm	+46 8 698 13 06  Cell: Cell: +46 73 646 52 45	+46 8 698 15 85	yngve.brodin@naturvardsverket.se	+46 8 698 1000	+46 8 698 1600
Sweden	Cynthia	de Wit	Department of Applied Environmental Science (ITM) Stockholm University	S-106 91 Stockholm	+46 8 674 7180	+46 8 674 76 37	cynthia.de.wit@itm.su.se	+46 8 16 2000	+46 8 674 76 37
USA Chair	John A.	Calder	National Oceanic and Atmospheric Administration Climate Program Office R/CPO	1100 Wayne Ave. Room 1218 Silver Spring, Maryland 20910-5603	+1 301 427 2470	+1 301 427 0033	john.calder@noaa.gov	+1 301 427 2470	+1 301 427 0033

Country	First name	Last name	Institute name	Mailing address	Direct phone	Direct fax	e-mail	Institute phone	Institute fax
USA	Patricia	Jellison	U.S. Geological Survey Earth Surface Dynamics Program	906 National Center Reston, VA 20192	+1 703 648 4773/571 749 8434	+1 703 648 6937	pjellison@usgs. gov		
Arctic Council Indigenous Peoples' Secretariat	Alona	Yefimenko	Arctic Council Indigenous Peoples' Secretariat	Strandegade 91, 4th floor P.O. Box 2151 DK - 1016 Copenhagen	+45 32 83 37 96	+45 32 83 37 91	alona.yefimenko @arcticpeoples. org	+45 32 83 37 96	+45 32 83 37 91
AMAP	Lars-Otto	Reiersen	Arctic Monitoring and Assessment Programme Secretariat	P.O. Box 8100 Dep. N-0032 Oslo	+47 23 24 16 32	+47 22 67 67 06	lars- otto.reiersen@a map.no	+47 23 24 16 30	+47 22 67 67 06
AMAP	Simon	Wilson	Arctic Monitoring and Assessment Programme Secretariat	P.O. Box 8100 Dep. N-0032 Oslo	+31 10 466 2989	+31 10 4662989	s.wilson@inter. nl.net	+47 23 24 16 30	+47 22 67 67 06
AMAP	Janet	Pawlak	Arctic Monitoring and Assessment Programme Secretariat	c/o MEC Consulting ApS Ingeborgvej 11A DK-2920 Charlottenlund Denmark	+45 39 64 18 65	+45 39 64 17 75	jpawlak@dahm. dk		
AMAP	Inger	Utne	Arctic Monitoring and Assessment Programme Secretariat	P.O. Box 8100 Dep. N-0032 Oslo	+ 47 23 24 16 35	+ 47 22 67 67 06	inger.utne@ama p.no	+47 23 24 16 30	+47 22 67 67 06
AMAP	Odd	Rogne	Arctic Monitoring and Assessment Programme Secretariat	P.O. Box 8100 Dep. N-0032 Oslo	+47 23 24 16 34	+47 22 67 67 06	Odd.Rogne@am ap.no or: oddr@hotmail.c om	+47 23 24 16 30	+47 22 67 67 06

## **Annex 4**

### **Minutes of the AMAP Assessment Steering Group Meeting 19 May, and the Joint AMAP HODs/ASG Meeting Oslo, 20 May 2008**

#### **1 Opening of the meeting**

The AMAP Executive Secretary, Lars-Otto Reiersen, opened the meeting of the ASG at 10:00 hrs on 19 May 2008 and welcomed the participants. He informed the group that AMAP Vice-Chairman Per Døvlø was supposed to have chaired this meeting but had been unable to attend.

#### **2 Approval of the agenda**

The agenda was approved without amendment.

#### **3 Report from the SAO meeting held in April**

Lars-Otto Reiersen informed the group about the main outcome of the SAO meeting in April in relation to AMAP work, including the approval of the executive summary and overview report for the oil and gas assessment and the approval of the SWIPA project on climate change.

#### **4 AMAP's plan for production of assessments for the period 2009–2011**

Lars-Otto Reiersen reported that the following assessments were intended to be published in 2009: 1) the human health assessment report; 2) the radioactivity assessment report; 3) an update on part of the mercury assessment report; 4) part of the POPs assessment report; 5) part of the climate report covering non-CO<sub>2</sub> drivers of climate change and the first results of the Greenland Ice Sheet sub-project. Final assessment reports on mercury, POPs, and climate are due in 2011.

In the discussion, it was pointed out that the Assessment Steering Group (ASG) has been re-established after some years in abeyance to promote greater integration and cross-fertilization between the various assessments conducted under AMAP. This can include issues such as whether contaminants are having an impact on human health. Thus, the question was raised as to whether the mercury assessment report should include health effects on humans.

## **5 Reports from the Lead Authors on the status of their assessments, including problems, call for cooperation with other expert groups, etc.**

### **5.1 Human health assessment**

Jay van Oostdam (Canada), lead for the human health assessment, provided a status report on the conduct of this assessment, which began two years ago. He stated that the draft scientific assessment report had been distributed for national review in April, but that few comments had been received. The draft report had also been reviewed at the meeting of the AMAP Human Health Assessment Group in Copenhagen on 8–10 May, but data are still missing to complete the assessment. The report is expected to be ready for international peer review in June, with two peer reviewers to be chosen per chapter; nominations of peer reviewers are currently under way. Peer review will be completed by September and the authors must complete their revisions by October, when lead authors will meet to finally agree on the report. The draft conclusions and recommendations will also be distributed in June for review.

Jay van Oostdam stated that the report will be ready for the SAO ministerial meeting in April 2009. It is intended that the report be initially released at a meeting of the Canadian Northern Contaminants Assessment Program to be held in northeastern Canada in late February or early March 2009.

The assessment shows that economic issues and changes have the greatest effects on health status, with high rates of alcohol consumption and smoking affecting health. In terms of contaminants, immune system effects can be seen in the high rates of ear and respiratory infections as well as in learning and other deficiencies; however, the time series of data are still too short to draw many conclusions. On the positive side, in the Faroe Islands, mercury levels have dropped significantly in women and children since they have been advised to stop eating pilot whale. Furthermore, contaminant levels are decreasing in nearly all populations in the Arctic, e.g., in northern Norway and Sweden. However, there are few data on new contaminants and no information on their trends.

The deadline for nomination of peer reviewers for the human health assessment chapters is 22 May 2008. Noting that the national review of these chapters in April was inadequate, the ASG decided that a second round of national review should be conducted over the summer in parallel with the scientific peer review. David Stone will read the entire document to identify contradictions, overlaps, and missing issues. All graphical material should be forwarded to Simon Wilson as soon as possible. The science writer chosen to prepare the overview report, Henry Huntington, should receive the draft report in June and should attend either the editorial meeting in September or, preferably, the meeting of authors in October 2008. The executive summary, recommendations, and overview report will need to be approved at the AMAP WG meeting in early December, and thus will need to be available to AMAP HODs by 7 November for review.

## 5.2 Mercury assessment

Peter Outridge (Canada), lead of the mercury assessment, described the status of the work on this assessment, which is due to be presented at the 2011 Ministerial Meeting. The plan of work had been decided at a meeting of scientists that took place in Copenhagen in October 2007, at which the structure of the report was agreed and a series of questions were developed to be covered in eight chapters. These questions will be used in the preparation of a number of review articles for publication in peer-reviewed journals in 2008 and 2009, which will provide much of the substance and conclusions for the assessment report that will be compiled by a smaller number of people. This process will decrease double work and also promote a resolution of controversial issues before completion of the assessment report. A final draft of the scientific assessment report will be available for national comments and peer review in November 2009, with the comment period until February 2010; the final report will be ready for technical editing in May 2010, and the report will be published for delivery to the spring Arctic Council meeting in 2011. He hoped that a part-time scientific secretary would be appointed to assist this process; a candidate has been identified at NERI in Denmark.

An important aspect of beginning the work with the use of peer-reviewed articles is the choice of journals that first agree that the review articles can be reproduced as part of the AMAP mercury assessment report. This is exemplified by a volume of *Environmental Chemistry* which has published an article on environmental mercury in the Arctic that serves as a good beginning for the assessment report.

Simon Wilson, AMAP Deputy Executive Secretary, provided information on the relationship between the AMAP assessment and other international reports on mercury. UNEP Chemicals is preparing a report on mercury in 2009 and, as AMAP usually prepares a global emissions inventory for mercury assessments, AMAP will bring forward this work to 2009, pooling resources with UNEP Chemicals and conducting it together. The emissions inventory and atmospheric deposition data compilation for mercury will be prepared by Josef Pacyna (NILU) with AMAP funding and John Munthe (IVL) under UNEP Chemicals funding.

Simon Wilson reported that Henry Huntington will prepare a shorter layman's report for UNEP; the draft will be reviewed during the summer by UNEP reviewers and sent to the UNEP Governing Council later in 2008. This report is intended for politicians. Henry Huntington's report will also serve as a basis for the AMAP overview report on mercury due in 2011, after updating, and national review and comment under AMAP. Thus, UNEP and AMAP will give different emphasis in their reports.

In addition, a report on mercury (as well as another on POPs) is being prepared under the UNECE Convention on Long-Range Transport of Air Pollutants (LRTAP); this report has been delayed to 2010, which may create an overlap with the AMAP report. The Fate and Transport Partnership has also prepared a document on mercury, and there has been some confusion between this initiative and that of UNEP.

In the discussion, it was noted that the update on mercury emissions will be completed in winter 2009 and that it could be useful if Pacyna and Munthe prepared a peer-reviewed article on mercury inventories for publication, to ensure that the official data are available.

### **5.3 POPs assessment**

Cynthia de Wit (Sweden), co-lead with Derek Muir (Canada) of the POPs assessment, stated that all of the scientific background material may be published in *The Science of the Total Environment*. Review articles are being prepared on several groups of new contaminants in the Arctic: brominated flame retardants, per- and poly-fluorinated compounds, polychlorinated naphthalenes, endosulfan, and current use pesticides, with articles also on the effects of POPs (including legacy POPs), temporal trends of legacy and new POPs in air, and a meta-analysis of POP temporal trends, and finally an overview and executive summary. It had been intended that these review articles would be available for the science writer by 1 May to prepare the layman's overview assessment report, but as only one or two articles were available so far, this deadline was extended to the end of May. The scientific articles should be ready for peer review by mid-August, to be completed by mid-October with submission by mid-November 2008 of the final manuscripts for publication in a special issue of *The Science of the Total Environment*. The layman's report will be submitted to AMAP HODs by 7 November for approval at the WG meeting in December.

Cynthia de Wit noted that AMAP will also feed information into the UNEP process of preparing fact sheets on major trends in legacy and some new POPs for the UNEP Conference for Review of the Sufficiency and Effectiveness of the Stockholm Convention.

Although no national review of these articles had initially been planned by the co-leads because the POPs review articles are being prepared by national experts, the ASG decided that the AMAP network must have a chance to review the articles, so national review should be conducted simultaneously with the peer review, from mid-August to mid-October 2008. This review will ensure that all national data have been included and used appropriately.

In the discussion, it was noted that this assessment is only concerned with new POPs, without consideration of legacy POPs. However, an assessment of legacy POPs can be conducted later, if requested, as there are not many new data on legacy POPs.

Accordingly, ASG suggested that the next Ministerial Meeting request an update on legacy POPs by 2011 to be able to feed into the Stockholm Convention report for 2013. IPY data should be included in this report.

In the discussion, it was felt that there is a need to consider how AMAP can link with LRTAP groups working on POPs, as LRTAP uses a number of scientists who have

traditionally been involved in AMAP and follows similar procedures to AMAP, but without coordination with AMAP. Furthermore, a new group, the Global Atmospheric Pollution Forum, has been established and will meet in Stockholm on 17–19 September 2008. This group includes representatives from UNEP and LRTAP and overlaps some of AMAP's work, so it would be better to try to coordinate efforts but AMAP has no relationship with this group.

#### **5.4 Radioactivity assessment**

Astrid Liland (Norway), co-lead with Russia on the radioactivity assessment, described the contents of the assessment, comprising seven chapters covering updated information on existing and new sources of artificial radionuclides, monitoring, protection of the Arctic environment, and the potential influence of climate change on sources, uptake, and effects of radionuclides. She stated that the first draft is nearly finished and will be distributed to the Radioactivity Expert Group before the end of May for review by 15 August. Norway is preparing the first draft together with a framework for each country to fill in its own information. A second draft will be ready by 10 September for distribution to experts for review and to the science writer. A third draft should be completed by 13 October for international peer review and national review. The peer-reviewed report will then be submitted to AMAP HODs by 6 November 2008, for approval at the December WG meeting.

The ASG and AMAP HODs noted that the time frames for the preparation, review, and approval of the assessments on human health, radioactivity, and POPs are very tight and that national experts need to be available and ready to review the draft reports as soon as they are available in order to meet this timetable. Sensitive questions arising in the reports should be cleared as soon as possible.

#### **5.5 Publication of articles in peer-reviewed journals**

The issue of the publication in peer-reviewed journals of articles that are intended to serve as an AMAP assessment or are to be compiled into an AMAP assessment after journal publication was discussed in detail. One problem is to ensure that the review articles show a clear relationship with AMAP, e.g., including the words 'AMAP assessment' in the title. Another problem involves ensuring open, free access to the reports published in peer-reviewed journals, as AMAP reports are usually freely available on the AMAP website and in printed publications for a reasonable cost. A further question concerns whether unpublished data can be included in review articles in peer-reviewed publications: some scientists do not mind publication of their unpublished data by AMAP but will not provide data for a review article prepared by another author for a peer-reviewed publication.

The AMAP Secretariat will need to handle the copyright issues for peer-reviewed publication of AMAP assessments and will prepare a guidance document in this regard. Authors should be made aware that they are not obliged to give away the copyright to their articles.

Jay van Oostdam reported that the Northern Contaminants Program had used an opposite approach regarding a recent report on human health in relation to contaminants: after publication of the NCP report in the grey literature, the entire 80-page report was published as one article in *The Science of the Total Environment*.

## 5.6 SWIPA

Pål Prestrud (Norway), Co-Chair of the Climate Experts Group (CEG), summarized the outcome of the work of this group in recent months. There are four important items on its agenda:

- 1) The project on Climate Change and the Cryosphere: Snow, Water, Ice, and Permafrost in the Arctic (SWIPA), which has been established to follow up the Arctic Climate Impact Assessment at the request of Norway and the other Scandinavian countries. It is a project rather than an assessment and the details of the work have been elaborated by national groups outside the aegis of the CEG;
- 2) The assessment of the carbon cycle and flux, which is nearly finished; a draft has been out for review since 16 March with a deadline of 12 April; it will be published in an international journal and made available to the 2009 Ministerial Meeting;
- 3) The downscaling project, which nearly stopped owing to a lack of clarification of IPCC follow up; a Norwegian institute has developed a methodology for downscaling for use in the Arctic; information is available on the Abisko and AMAP websites. SWIPA should apply this statistical technique in its work;
- 4) The update of the Arctic Climate Report Card, a newsletter published with U.S. NOAA, has been running as a website since 2007. Draft contents for the next newsletter were circulated in late winter, but no responses have been received so far. This issue will be taken up at the SWIPA Integration Team meeting in June.

In terms of the SWIPA project, the Greenland Ice Sheet component led by Denmark is well under way; guidelines for the work have been developed and the international group of scientists has held two meetings. Other components comprise sea ice, led by Norway, and the terrestrial cryosphere, comprising snow (Sweden), permafrost (Sweden), glaciers and ice sheets (Russia, Canada, and USA), and hydrology (Russia, Canada, and USA).

An Integration Team (IT) is being established for overall coordination of SWIPA. It will include representatives of all the drafting groups as well as of CliC, IASC, indigenous peoples' groups, and several other relevant organizations. However, it will need to be kept small to be effective. The first meeting of the IT will be held in Copenhagen on 9–10 June 2008.

One scenario will be chosen by Jim Overland and Vladimir Kattsov to be used for modelling throughout the project; a paper describing the chosen scenario will be available

in the near future. This scenario should preferably also be used in other AMAP assessments.

It was noted that it would be desirable to have a stronger component on the human dimension, including human health, in this project, but not much has been written into the project description.

The question was raised as to whether SWIPA should also include oceans, as they are presently not included owing to objections. Several participants felt that oceans were important and had a strong relationship to sea ice.

Lars-Otto Reiersen reported that AMAP has also been requested to consider non-CO<sub>2</sub> drivers of climate change and develop a process to determine whether the Arctic countries can do anything on their own regarding them. In parallel, NILU, in cooperation with other organizations, is investigating the relationship between these drivers and the UNECE LRTAP Convention and the Gothenburg Protocols. He pointed out a scientific paper on non-CO<sub>2</sub> drivers and processes that had been prepared by Patricia Quinn and co-authors; this needs to be expanded. In addition, Pam Pearson will take the lead to write a paper on draft actions against such drivers. These papers will initially be discussed at an AMAP workshop on non-CO<sub>2</sub> climate drivers to be held on 15–16 September 2008. It is intended that these two papers and a paper containing a list of actions will also be presented at the November meeting of SAOs.

To broaden this work, experts are needed from other countries as well. Outi Mähönen offered to support the participation of a Finnish expert, Kari Tukinen, if he is willing to contribute. It was noted that NILU and NERI both have expertise on this issue and black carbon in relation to climate change is being studied in Sweden as well. It was further noted that black carbon is being studied in IPY Project 1035 by Russia, Greenland, and Canada.

**The Joint AMAP HODs/ASG Meeting on 20 May continued from here under the chairmanship of John Calder (USA), Chair of the AMAP WG (with some minutes from above also arising from the joint meeting).**

## **5.7 Acidification assessment**

Brit Lisa Skjelkvåle (Norway) gave a presentation on the lessons learned from the production of the AMAP assessment on Acidifying Pollutants, Arctic Haze, and Acidification in the Arctic. This report was finalized in 2006 with Finland the Lead Country under Martin Forsius from SYKE. The key messages of the assessment showed that there is clear evidence of recovery, with few areas of acidification in the Arctic with the exception of the Kola Peninsula; however, given the increasing importance of climate and global change issues and hemispheric transport in relation to Arctic haze, it is important to continue monitoring at the stations in the Arctic.

The report took 2.5 years to prepare and a scientific secretary—one of the authors—worked >50% of the time to ensure its production. Lessons learned from this assessment included the following:

- 1) It is essential to have a clear focus of the work and to cover a clearly limited sector;
- 2) There must be a clear deadline for the production of the report;
- 3) Sufficient financial resources must be available;
- 4) There should be a scientific secretary/coordinator with sufficient time during the entire period to maintain the flow of material and the time schedule;
- 5) Lead authors should be chosen who have experience from previous assessments;
- 6) There should be central production of the graphics;
- 7) Writing workshops should be held at regular intervals for the core writing team to maintain momentum and integrate the results across sectors.

In summary, a pragmatic approach was used for the production of this assessment, with an excellent coordinator; the report was completed within the time schedule and within the allocated financial resources.

In the discussion, AMAP HODs noted the success of this ‘pragmatic approach’, including 1) the importance of the lead country allocating resources for a scientific secretary to work part-time to coordinate the activities, 2) the need for approximately three authors per chapter to ensure that there is wide access to data and a broad approach, and 3) the value of writing workshops to maintain momentum and integrate results. It is also important to ensure that funding will be available for the entire assessment period.

It was also considered important that an Assessment Steering Group coordinate the work among assessments currently in production.

## **5.8 Oil and gas assessment**

Simon Wilson reported on the status of the oil and gas assessment. He noted that the overview report, including the executive summary and conclusions, were approved at the SAO meeting in April so this report can now go to print.

In terms of the scientific assessment report, Chapter 3 has been edited, and the layout completed and proofed by authors, with small corrections only. It is available on the public part of the AMAP website. Chapter 4 has been edited and the layout completed; it only needs the authors’ proof. Chapter 5 is currently with the editor and requires some questions to be resolved by the authors before it can go for layout. It is anticipated to be ready in late June. Chapter 7 has been completed and the layout is ready. Chapter 2 is currently under editing, but many questions still remain; hopefully it will go for layout by the end of the summer.

The plans are to print the assessment in three volumes: 1) Chapters 2 and 3; 2) Chapters 4 and 5; and 3) Chapter 6 alone. It will need to be decided where to place Chapters 1 and 7.

The status of Chapter 6 was reported by its Lead Author, Hein Rune Skjoldal, via telephone conference connection. He is currently updating the sections on seabirds in the different parts of the Arctic. He will then do final editing and updates of the descriptions of Arctic Large Marine Ecosystems; in particular, the descriptions of the Beaufort Sea and Chukchi Sea LMEs need to be edited in final. In addition, new Russian text on terrestrial ecosystems needs to be edited. A number of maps on distributions of species have been prepared, but additional maps are needed for a number of issues. Finally, the references need to be sorted out. In terms of beginning editing of this chapter, Hein Rune Skjoldal estimated that editing could begin on some core sections on vulnerability and environmental impact statements in one or two months. Some of the material should also be sorted out to go into annexes. He stated that Chapter 6 will serve as a basis for the Arctic Marine Shipping Assessment in relation to vulnerability to oil spills.

The AMAP HODs strongly emphasized the importance of completing the work on Chapter 6 of the OGA and urged Hein Rune Skjoldal to complete this chapter before contributing to the work on the Arctic Marine Shipping Assessment. The need to begin editing the first parts of this chapter as soon as possible was stressed.

Hein Rune Skjoldal noted that there may be a need for national delegations to check the final sections of Chapter 6, including the new maps, to ensure that the information is correct and has been correctly interpreted. He requested that HODs appoint someone from each country to coordinate this checking as soon as possible.

In response, Lars Otto Reiersen requested that Hein Rune Skjoldal send him all material requiring review for further distribution as soon as possible.

Volunteers are needed to provide GIS support for the production of the maps. From the large number of maps currently under production, HODs decided that the most important maps that are needed for inclusion in the printed report should be determined and these should be carefully checked and improved. The remainder should be posted on the web and updated as appropriate. CAFF should also be contacted with regard to the finalization of the maps on species distribution and vulnerability and should ultimately take charge of the updating of these maps. EPPR may also find the maps useful if they prepare maps in relation to the risk of accidents.

In summary, Lars-Otto Reiersen stated that the OGA overview report will be published by mid-summer and two of the three volumes of the scientific background report will be available by Christmas. Final orders for the overview report are needed because the contract for printing will be signed in the near future. Furthermore, contact with the oil and gas industry needs to be established to determine the number of copies they will purchase.

## **5.9 Combined effects projects**

Lars-Otto Reiersen reported briefly on the project ‘Combined Effects of Climate Change and Contaminants’, which is coordinated by the AMAP Secretariat with funding by the Nordic Council of Ministers and Norway at 2.5 million NOK. This project is investigating the impact of climate change on the change in transport of mercury and POPs and its impact on contaminant uptake and transfer in the marine food chain.

He also reported that AMAP has coordinated the preparation of a proposal for EU funding with 22 partners entitled ‘Arctic Health Risks: Impacts on health in the Arctic and Europe owing to climate-induced changes in contaminant cycling’. This will investigate the impact of climate change on long-range transport of contaminants to the Arctic, the transport and uptake of contaminants in food chains leading to humans, and effects on human health. Although not yet a project under the Arctic Council, if funded this project would provide for basic research on topics of interest to AMAP and the AC.

A Russian workshop on human health held this week is aiming to start a GEF project on the combined effects of climate change on pollution and human health in parallel with the AMAP Secretariat project and using the latter as co-funding.

Jay van Oostdam stated that there are some Canadian projects on similar subjects currently ongoing.

## **6 Graphical production for the science reports: needs, timeline, etc.**

Simon Wilson stated that standard AMAP graphics should be used for the peer-review journal publications as there are many requests for graphics from AMAP reports, even the older reports. AMAP uses the services of a good graphics assistant, but the requirements must be made clear to him. Descriptions of standard dimensions of graphics, base styles, etc., can be obtained from Simon Wilson for use in the assessment reports.

Given the large number of requests for AMAP graphics, Simon Wilson has started to upload all the graphics from AMAP assessment reports onto the AMAP website. However, it is a very large task to document and upload the graphics on the web as there are hundreds of figures; thus, any assistance from Arctic countries in this work would be appreciated.

## **7 Technical and linguistic editing of the science reports: needs, timelines, etc.**

Simon Wilson stated that AMAP has a good, reliable technical editor, Carolyn Symon, but such work requires time. The technical editor is currently committed to finishing the editing of the oil and gas assessment, and with all the new reports in the pipeline it would be advantageous to find a back-up for the technical editing. Janet Pawlak mentioned that she is working with Carolyn Symon on another project in which they are sharing the

editing, with the work divided between them into scientific editing and technical editing; she could thus serve as a back-up if needed.

Regarding layout, Simon Wilson stated that AMAP currently hires one person to prepare the layout, but he requires supervision; he would like Carolyn Symon to assist in this supervision. Again, given the number of reports to be published in the near future, another layout expert would be useful. AMAP HODs were encouraged to inform the AMAP Secretariat if they have contact with a good layout expert.

## **8 Printing and outreach: Scientific articles, etc.**

Lars-Otto Reiersen reported that a Danish company located in Jutland has been chosen to print the oil and gas assessment report. This company will also be requested to print the assessment reports on human health and radioactivity. He noted that there had been a very strong call for the ACIA report to be published by a recognized publishing house as this is advantageous for the contributing scientists, but it is more costly to purchase copies for AMAP and it can result in difficult problems regarding the copyright for the diagrams, as has been the case for the ACIA report.

Patricia Jellison (USA) pointed out that for journal articles written by an employee of the Federal government, the U.S. government retains the copyright and copies of the article must be supplied for free. Jay van Oostdam stated that in Canada there is a similar situation, with the copyright either vested in the Canadian government or in the government employee author.

## **9 The preparation of the SOAER for 2009**

The meeting discussed whether the 2009 State of the Arctic Environment Report should be published as individual assessment reports or as a compilation of those reports that would be available at the appropriate time. The AMAP HODs decided that the SOAER 2009 report should contain a compilation of the overview reports for the assessments on human health, POPs, and radioactivity as well as a synthesis of the climate-related reports, with the exception of the initial report on the Greenland Ice Sheet component, which will be published as a separate report. This may result in a volume of 110 to 120 pages.

## **10 Financial issues**

Lars-Otto Reiersen stated that funds have been raised from the Nordic Council of Ministers to assist in the preparation of graphics, layout, and printing of the assessment reports on human health, radioactivity, and POPs. Additional donations will still be needed, and some funds will arise from the sale of publications.

The cost of science writers for the overview reports to be compiled in SOAER 2009 was estimated at USD 100,000, but current cost estimates will need to be obtained. Some funds are also needed to support the translation of some of the reports into Russian.

## **11 Summing up of the two days' work**

Jay van Oostdam reviewed the work of the Human Health Assessment Group (HHAG) on the human health assessment document over the past two years. He noted that this is the third assessment report prepared by the HHAG, which has been functioning since 1991. Denmark has supported a secretariat for the HHAG at the University of Aarhus. This secretariat has kept the assessment work on schedule and supported two meetings of the group per year.

Frank Sonne reported that Denmark will continue to fund the HHAG secretariat at the University of Aarhus until the Arctic Council Ministerial Meeting in 2009.

Jay van Oostdam further reported that Canada would like to release a report from its Northern Contaminants Program (NCP) with at least part of the AMAP human health assessment report at a conference in late February/early March 2009 in Iqaluit, about one month before the Arctic Council Ministerial Meeting.

The meeting considered that it would be acceptable for the scientific results of the human health assessment to be released before the Ministerial Meeting, but the overview report would not be released until after that meeting. Thus, it was agreed that the scientific results of the AMAP human health assessment report will be released together with the Canadian NCP report at the conference in Iqaluit in early 2009.

Noting that SDWG was in the process of establishing a human health expert group, the meeting discussed whether there should be two groups on human health: one in AMAP and the second in SDWG. It was pointed out that human health is a large field. AMAP concentrates on contaminant- and climate-related health issues and has cooperation with other groups on cross-cutting issues. The SDWG also realizes that human health is a large issue and cannot easily be covered by one group. SDWG is currently working on maternal determinants of health, socio-economic factors in relation to health, and other issues. Thus, the two groups are working on different issues related to human health and there is no reason to change this.

## **12 Any other business**

### **Sustaining Arctic Observing Network (SAON)**

Odd Rogne reported on the status of SAON. This initiative aims: 1) to identify core observation sites in the Arctic and ensure their long-term funding; and 2) to promote cooperation and coordination among these sites. Thirteen international organizations are involved in this work, which is being conducted in the course of three workshops. The first workshop was held in Stockholm in November 2007 to determine the needs of users in relation to Arctic observing systems. The second workshop took place in Edmonton, Canada on 9–11 April 2008 to discuss potential means of coordinating and sustaining Arctic observing and data and information management systems over the long term.

There were a large number of participants at both workshops, indicating the great interest in this subject, but an institutional framework is still missing to ensure sustainability.

The third workshop will be held in Helsinki on 15–17 October 2008. This is intended to be a much smaller meeting (maximum 50 participants) that considers the recommendations that should be made to the Arctic Council in relation to sustaining long-term Arctic observing stations, based on the reports of the first two workshops. Given the need to keep the number of participants small, it was agreed that the Helsinki workshop should be limited to the key people from the previous two workshops.

## **Annex 5**

### **Extract from the minutes of the**

### **Joint Meeting between AMAP Heads of Delegation and CAFF Board Members Copenhagen, 18 September 2007**

#### **Item A        The AMAP-CAFF Coordinated Monitoring Effort**

Both AMAP HoDs and CAFF Board Members accepted the Green Paper (AMAP-CAFF 2007/9-2) on coordination of AMAP and CAFF monitoring efforts. The next step is to determine the pilot projects that would be included as part of this coordinated monitoring effort. It was agreed that the following criteria would be applied in reviewing the projects proposed by the delegations:

- 1) The project must meet the goals of both AMAP and CAFF;
- 2) Funding for the project must already be in place, and the project producing results;
- 3) The project must have a long-term perspective (not just three or five years);
- 4) There should preferably be a data management plan and a plan for the dissemination of results.

At its November meeting, SAOs will be informed of the projects that have been identified as pilot projects under this coordinated monitoring effort. Thereafter, these projects will need to present annual reports (approximately two pages) at SAO meetings, beginning in April 2008.

## **Annex 6**

# **Minutes of the Joint Meeting between AMAP and SDWG Oslo, 21 May 2008**

### **1 Opening of the joint meeting**

The Chair of SDWG, Stein Rosenberg (Norway), opened the joint meeting at 9:00 hrs on 21 May 2008 and welcomed the participants. He chaired the meeting together with the Chair of AMAP, John Calder (USA).

The Chair of the Senior Arctic Officials, Karsten Klepsvik, welcomed the participants. He noted that SAOs want to coordinate the work of Arctic Council Working Groups to avoid duplication and to utilize the strengths of each group, for example, the scientific approach of AMAP and the socio-economic approach of SDWG. AMAP has a long-standing approach to its work and the use of experts that can be instructive for SDWG.

He stated that the Arctic Council, as the only circumpolar body, is becoming more important as the interest in the Arctic increases. Furthermore, the Arctic Council is already focussing its work on the main challenges in the Arctic, particularly climate change. SWIPA will be a decisive project in this regard. The oil and gas assessment will also serve as an important reference document for oil and gas activities in the Arctic in the future.

There was then a tour de table to introduce all participants.

### **2 Approval of the Agenda**

The agenda was adopted with the addition of an item for the presentation of a report on energy from SDWG.

### **3 Human health-related work**

It was reported that, after several years of development, SDWG has decided to establish a SDWG Arctic Human Health Experts Group. The terms of reference for this group, developed by representatives of Canada and the USA, have been accepted by consensus in SDWG together with a framework for cooperation, which will include engaging indigenous peoples groups and institutions to nurture capacity building in northern communities.

SDWG delegations will now nominate experts for this group so it is a good time to begin dialogue with AMAP to obtain cooperation with the AMAP Human Health Assessment Group (HHAG), which has functioned since 1991.

The following points were made in the discussion of the new SDWG Arctic Human Health Experts Group:

- 1) The terms of reference are very broad and may result in a very large number of people in the group; there is a need to be more precise in what the group should do at any given time by preparing a clear description of the work to be done and developing a structure that can function;
- 2) An item in the terms of reference for the group states that the group 'will follow AC rules of procedure'; this could unintentionally constrain the work of an expert group, which should have the freedom to decide what recommendations to give to SDWG on the basis of the science; the SDWG can then determine what to bring forward to SAOs and ministers;
- 3) It is useful to have an experts group addressing the broader issues of human health in the Arctic; it can complement the AMAP HHAG and, for example, implement the knowledge obtained in AMAP HHAG assessments of health effects of contaminants, which have identified specific problems;
- 4) The SDWG Arctic Human Health Experts Group, with more of a focus on research, would also be complementary to the Norden Partnership of Health and Wellbeing, with a focus on policy-making, which coordinates actions on health care and implements health-related projects in the Arctic;
- 5) Regional representation is critical for work on health and health care issues;
- 6) Funding the type of work of the new experts group can be very expensive; there should be a clear view of the deliverables to keep the costs under control.

AMAP representatives indicated their support for this new expert group. However, they objected to the name 'Arctic Human Health Expert Group' on two grounds: 1) this was previously the name of the AMAP Human Health Assessment Group and, thus, could result in confusion; and 2) it might be misconstrued as an Arctic (Council) Human Health Expert Group. Accordingly, the AMAP representatives requested that SDWG reconsider the title of its new group. In terms of cooperation with the AMAP HHAG, AMAP representatives pointed out that it is very useful to have some experts who are members of both groups. Joint meetings may also be useful. When establishing a new expert group, nominations for experts can be called for and the nominated persons can then be invited to a workshop to discuss and propose potential projects for the group to coordinate. Countries will need to consider their willingness to financially support experts for their participation in the work of the expert group when making their nominations. This is the model used by AMAP recently when it established its Climate Expert Group. The AMAP WG then reviewed the projects proposed at the workshop and chose those that it felt were most important for the CEG to implement.

The Co-Chairs of the SDWG Arctic Human Health Experts Group invited AMAP to describe how AMAP runs expert groups and coordinates assessment activities. On behalf of AMAP, John Calder accepted this invitation. It was considered useful for the Executive Secretaries of AMAP and SDWG to discuss how to move forward on cooperation and effective coordination between the two WGs.

The Chair of SDWG thanked the AMAP representatives for their excellent advice and input on this new expert group.

#### **4 Handling of socio-economic issues related to climate and environmental assessments**

##### **a. Climate-related projects**

Lars-Otto Reiersen, Executive Secretary of AMAP, reported that the project on Climate Change and the Cryosphere: Snow, Water, Ice, and Permafrost in the Arctic (SWIPA) was approved at the SAO meeting in April. He noted that all components of this project have socio-economic aspects so it would be advantageous to have a small team of socio-economic experts available to assist in this project, with one or two of them joining the meeting of the Integration Team for SWIPA in Copenhagen on 9–10 June 2008. In addition, two experts from indigenous peoples' groups have been requested to participate in the Integration Team. The chapter contents of the SWIPA project description in relation to socio-economics and the human dimension need to be expanded and this is one issue for the meeting in June.

It was pointed out that the Integration Team is intended to be a small coordination group. Participation in the work of the various components will be much broader and open to all Permanent Participants with appropriate expertise.

##### **b. Follow up of the Oil and Gas Assessment, socio-economic part**

John Calder reported that a number of the recommendations in the executive summary of the overview report on the oil and gas assessment fall into SDWG interest areas. These include such issues as the need for research guidelines for socio-economics to be developed under the Arctic Council, comparative research on socio-economic benefits of oil and gas activities in the Arctic, and obtaining lasting benefits of oil and gas profits for Arctic communities. He encouraged SDWG to review these recommendations when developing work plans for SDWG over the next several years and take at least some of them into account.

A representative from the Northern Forum stated that a conference on corporate social responsibility in the oil and gas industry will be held on 9–10 September 2008, and that the oil and gas assessment report would provide very valuable information for the conference in relation to the situation in the Arctic.

Lars-Otto Reiersen drew attention to the proposals of M. Baffrey and H. Huntington for follow-up activities to obtain more comparable information on the social and economic effects of oil and gas activities, based on their experience in preparing the socio-economic chapter of the oil and gas assessment. He noted that several of these issues are already being covered by ECONOR, and suggested that a small task force be established to review the issues and prepare a proposal for how to take them forward.

There was considerable discussion on the ideas put forward in the paper by Baffrey and Huntington. The Canadian HOD to AMAP expressed reservations concerning two aspects of the proposal: feature 1 on the economic, social, and political effects of investment funds, and feature 2 on the social and cultural effects of consultations and co-management. He felt that they should be treated in a separate study because these features are very different across the Arctic and do not lend themselves to the circumpolar comparison that is one of the aims of the proposed study.

It was ultimately agreed that the AMAP Secretariat should organize a teleconference with the participation of M. Baffrey, H. Huntington, a representative from ECONOR, and the Executive Secretaries of AMAP and SDWG to consider, refine, and further develop the proposal from Baffrey and Huntington on follow-up activities to better study the socio-economic effects of oil and gas activities in the Arctic, for input to SDWG by 1 October 2009.

Solveig Glomsrød (Norway) provided information on further developments in the project The Economy of the North (ECONOR). The results of the ECONOR 1 project are now being updated and expanded to include data on, for example, disposable income of families and other economic factors, health-related aspects, and education. An analysis of the wealth of petroleum in Arctic regions will be conducted using a major database with market possibilities in relation to oil production costs, energy costs, and price development projections for the future to determine a realistic perspective for oil and gas in the North. The destruction of land in relation to petroleum activities in the North, the extent of infrastructure, and the potential effects of thawing permafrost will also be estimated. Thus, ECONOR is expanding the types of socio-economic data to be collected and the resource base covered. Solveig Glomsrød welcomed suggestions for additional types of data to collect.

The Canadian SDWG member reported on ArcticStat, a statistical database at the University of Laval, Canada, which contains data on socio-economic conditions in the Arctic, including education level, income, etc. This database was launched in October 2007 and comprises a compilation of data from national statistical agencies in Arctic countries.

Information was provided on the Survey of Living Conditions in the Arctic (SLiCA), in which data have been collected to measure and understand the living conditions of residents and indigenous peoples of the Arctic and provide a better basis for policy-making. A first report was issued in 2007 containing approximately 6000 tables of information based on questionnaire surveys and interviews. Phase 2 of the project

includes validation of the data and further analysis, with individual focussed analyses on Inuits, Samis, and the indigenous peoples of Chukotka. This will be completed in 2008.

It was noted that SLiCA is one of the largest projects under SDWG, which has been conducted for many years resulting in a very large collection of data.

The Icelandic SDWG member noted that an extensive report has been presented to SAOs on Arctic indicators as a follow up of the Arctic Human Development Report. Special indicators are needed for the Arctic owing to its special features that are not reflected well by broader socio-economic indicators. These indicators are intended to serve as real-time indicators of current situations, reflecting changes in the Arctic and the need for political actions. Two workshops have been held and the completed indicators will be presented at the Sixth International Congress on Arctic Social Sciences in Nuuk on 22–26 August 2008.

The meeting pointed out that it is important to coordinate the various projects and activities including ECONOR, SLiCA, and ArcticStat; they should not be viewed as separate projects because together they provide a picture of Arctic social conditions. However, to be useful, this information and data need to be made available to policy-makers and the public in a simple, accessible way. Appropriate access to the information is very important, and products showing trends over time as well as maps can be useful in this regard.

### **c. SDWG report on energy**

Bernard Funston, Executive Secretary of SDWG, provided information the preparation of an SDWG report to ministers on Arctic energy issues, based on a request from the Salekhard Declaration. This will be a status report on past cooperation regarding energy issues and will point the way to opportunities for future cooperation. The steering group for this report is chaired by Norway and has been open to participation from all Arctic countries and Permanent Participants. A draft of this report will be available by 1 September 2008, consultations with WG Chairs and the SAO Chair will take place on 7–9 October, and SDWG will review the draft on 20–25 October. After the SAO discussion of the resulting draft in November, the final report will be completed in January 2009 and printed in March. Norway has provided funding for this project and for printing the report.

He noted that past AC work on energy has primarily been related to oil and gas activities; for future cooperation, issues such as Arctic energy research needs and Arctic energy innovation should also be considered.

### **d. General principles for the coordination and cooperation of work**

This was not discussed specifically, but was considered throughout the meeting.

## **5 Climate adaptation project – VACCA**

Ilan Kelman from CICERO described the work on the project Vulnerability and Adaptation to Climate Change in the Arctic (VACCA). This has included a scoping study comprising a questionnaire survey regarding relevant projects. To date, 114 questionnaires have been completed, with the largest number of responses from Norway, and many from Canada and Finland. The survey is still open for new input. An analysis of the survey results will be conducted during July and various reports will be produced. A workshop to review the outcome and develop recommendations will be held on 22–23 October 2008 in Tromsø. An advisory group comprising one member per Arctic country has assisted in this project and the preparations for the workshop.

## **6 Any other business**

The importance of SAON was noted as one of the most important current AC activities and an important contribution to the IPY legacy. SAON is needed as a mechanism to understand the forces and trends in the Arctic on a real time basis and to be able to correct models based on observations. From the SDWG standpoint, there is a wish to add the monitoring of socio-economic conditions in the Arctic to this network in the future.

## **7 Summing up by the Chairs**

John Calder summed up for AMAP by stating that this has been a worthwhile meeting, and that there is a need to continue the dialogue and have follow-up actions. A major positive development is the agreement to work together on health issues when the SDWG Arctic Human Health Expert Group has been established. During the autumn, when both WGs are developing work plans for the next two years, they should exchange their draft plans to find the links and plan more joint work. Another joint meeting should also be held in the future.

Stein Rosenberg, summing up for SDWG, stated that he will ask countries for nominations for the new expert group on human health under the co-leadership of Canada and the USA. AMAP experts will be invited to attend the kick-off workshop for this new group. Funding will need to be found for the work of this group.

In relation to the AMAP request regarding socio-economic input, the general recommendations of the oil and gas assessment have been noted and a small task force has been formed to review the specific requests from Baffrey and Huntington. SDWG will also consider the request for participation in the SWIPA project.

This meeting was a good start to networking between the two WGs.

## **8 End of joint meeting**

The meeting was closed at 16:00 hours on 21 May.

## Annex 7

# Action List from AMAP HODs meeting Oslo, 19–22 May 2008

### **Actions from the ASG and HODs meetings.**

#### **Human health assessment**

**May 30.** AMAP HODs to nominate **international peer reviewers** for the human health scientific assessment report to the AMAP Secretariat and Jens C. Hansen.

**Mid June.** AMAP Secretariat to choose peer reviewers and to contact the persons nominated.

**Mid-June 2008.** Human health scientific assessment report to be distributed **for international peer review**, with the **second round of national review** conducted simultaneously. The report to be given **to the science writer** at same time.

**June 30.** AMAP Secretariat to prepare **contract** with David Stone to read the entire human health scientific assessment report to identify contradictions, overlaps, missing issues, etc.

**September 1, 2008.** Comments back.

**Mid September.** Drafting meeting in Oslo.

**October.** Meeting of the human health expert group **to finalize the report** and the recommendations.

**November 6.** **Overview report** should be submitted to AMAP for approval at WG meeting in December 2008.

#### **POPs assessment**

**May 30.** The co-leads of the POPs assessment should send **drafts of review articles** on each selected contaminant group or issue **to the science writer** for preparation of the overview report.

**Mid August.** The co-leads of the POPs assessment should send final review articles to the **journal for peer review**. The AMAP HODs should arrange for **national review** of the same articles for the POPs assessment.

**Mid-October 2008.** The POPs peer review and national review completed.

**Mid-November 2008.** The **co-leads of the POPs assessment** should ensure final submission of the review articles to Science of the Total Environment (if this Journal is selected based on joint copyright, acknowledgement and cost, etc.)

**November 6.** The **science writer** should submit the overview report on POPs to AMAP for approval at WG meeting in December 2008.

**AMAP Secretariat** should make contact with the Global Atmospheric Pollution Forum, which will meet in Stockholm in mid-September, to establish a linkage with relevant AMAP work.

## **Radionuclide assessment**

**Late May 2008.** 1<sup>st</sup> draft distributed to KNEs of radioactivity expert group for comments and inputs.

**June 16–20.** International Radioactivity Conference in Bergen, drafters' discussions.

**August 15.** Input from all drafters.

**September 10.** 2<sup>nd</sup> draft distributed to experts and to science writer.

**September 22-25.** Working meeting with KNEs of radioactivity expert group in Oslo.

**October 13.** 3<sup>rd</sup> draft ready and distributed for international peer review and national review.

**October 24:** Feedback from peer review and national review.

**November 1.** Executive summary ready including views from peer review and national review.

**November 6.** The science writer should submit the overview report on radionuclides to AMAP HODs for approval at WG meeting in December 2008.

**Late November:** Final draft passed on to technical editor.

## **Climate change activities**

Regarding **non-CO2 drivers**, Patricia Quinn will lead the drafting of a scientific paper on non-CO2 drivers and Pam Pearson will lead the preparation of a paper on possible actions in relation to non-CO2 drivers. They should be assisted by a small team of experts in the preparation and review of these papers so that they will be ready before the workshop in three months. **AMAP Secretariat** to clarify the title of workshop, exact time and venue.

**May 28. AMAP Secretariat** should send an e-mail to HODs to obtain nominations for experts to assist in the **non-CO2 drivers** work and reviewers for the papers produced.

**June 2.** AMAP HODs to nominate experts for the drafting of the two papers mentioned above.

**June 6.** AMAP HODs and members of the Climate Expert Group should review the draft contents of the **Arctic Climate Report Card** circulated by NOAA in late winter; comments to Jim Overland and AMAP Secretariat.

**June 6.** AMAP HODs should review the **SWIPA** project description document (available on AMAP website) and provide comments to the AMAP Executive Secretary.

**June 6.** AMAP HODs should review the list of experts currently nominated to take part in the **SWIPA** project (as e-mailed by the AMAP Secretariat), determine which to support financially for their participation, and send official nominations to the Executive Secretary and the AMAP Chair.

**June 6.** AMAP HODs to contact national **PPs** to clarify nomination of PP experts to the SWIPA project.

**June 6.** The AMAP Secretariat will clarify with the **IPS** Secretariat the participation of **PPs** in the Integration Team meeting.

**December.** AMAP HODs should appoint an **independent review committee** of eight members (one from each Arctic country) to review the results of the SWIPA project and to ensure that the authors respond to all review comments. Regarding the Greenland Ice Sheet report for 2009, IASC will assist.

## **Oil and gas assessment**

Hein Rune Skjoldal must finish **Chapter 6** of the oil and gas assessment before he contributes to the Arctic Marine Shipping Assessment (AMSA).

**May 30.** Hein Rune Skjoldal should send next to final sections of **Chapter 6** and all maps to the AMAP Secretary for distribution for national review.

**May 30.** Authors of **Chapter 5** should provide final answers to the technical editor's questions so the chapter can go for layout work.

**May 30.** AMAP HODs should send **final orders** for the OGA scientific background report (3 volumes) and the overview report to the AMAP Executive Secretary.

**May 30.** AMAP HODs to contact **oil companies** to encourage them to order OGA reports.

## **Publication in peer-reviewed journals, conditions**

**June 30.** AMAP Secretariat should handle copyright issues and write guidance for citation by authors so that acknowledgement of the relationship with AMAP assessments in articles in peer-reviewed journals can be clarified and regulated.

For POPs assessment, copyright and open, free access to the scientific assessment articles needs to be investigated and clarified.

## **AMAP Graphics on the web**

**June 6.** AMAP HODs should consider whether they can offer an assistant to document and upload graphics from AMAP assessments onto the AMAP website.

## **AMAP-CAFF joint monitoring programme**

**June 6.** AMAP Secretariat should apply the approved **selection criteria** for the choice of monitoring programmes for the joint AMAP-CAFF monitoring programme and circulate the table to AMAP HODs and CAFF for comments.

**August 15.** AMAP HODs should review the list of projects from their countries against the criteria and determine which should be chosen to represent their country in the joint programme. To be discussed at the joint meeting in December.

## **GIS mapping project**

**June 2.** The AMAP Executive Secretary will contact Ole Christian Bjerkemo (EPPR) to inform him that Simon Wilson will work with him on the preparation of a proposal on the GIS mapping project, for consideration at the SAO meeting in November 2008; this proposal will include the funding implications.

## **Regional Plan of Action (RPA)**

**May 30.** The results of the work funded by Canada to revise and update the paper on Arctic hotspots (particularly Appendix B and Table 1) for the Regional Plan of Action for Protection of the Marine Environment from Land-Based Sources should be circulated to AMAP HODs by e-mail, before the meeting in St Johns.

## **Science writer for the Overview report**

**May 26.** AMAP Secretariat to contact the two science writers to clarify their cost for writing the Overview.

**June 2.** AMAP Secretariat will send out an e-mail with a budget and request for funding to cover the cost of science writers to prepare the 2009 SOAER report and for the drafting, layout and printing processes.

## **Sustaining Arctic Observing Network (SAON)**

**June 30.** AMAP HODs should review the draft document with **proposals** for the way forward for SAON, to be distributed via the AMAP Secretariat at the end of June, over the summer and provide feedback to the **Helsinki Workshop** on 15–17 October 2008.

**June 30.** The AMAP Secretariat will send AMAP HODs the draft list of persons nominated to attend the Helsinki Workshop so that they can take decisions on actual participation.

**September 15.** The AMAP Secretariat should prepare a paper for the Helsinki Workshop summarizing AMAP experiences in terms of successes and problems with the collection, handling, and storage of data at its Thematic Data Centers (TDCs).

## **Unmanned Aircraft Systems (UAS)**

**June 2.** AMAP Secretariat to clarify if there is a co-lead country for the UAS work.

## **AMAP Working Group meeting in December 2008**

**November 1.** AMAP Secretariat should send a draft of the two-year AMAP work plan to HODs.

AMAP Board will draft recommendations from current assessments on human health, POPs, radioactivity, and climate issues (except for the Greenland Ice Sheet) and distribute them and the associated overview report as early as possible.

AMAP HODs should prepare the way for the review of the overview report and approval of the assessment recommendations within 30 days of their distribution, so that they are accepted by no later than **8 December 2008**.

**January 8, 2009.** AMAP Secretariat should send the three final overview reports and their recommendations to SAOs.

## **Actions from joint AMAP/SDWG meeting**

### **Socio-economic follow-up of the Oil and Gas Assessment**

**June 20.** The AMAP Secretariat will organize a **teleconference** with the participation of **M. Baffrey, H. Huntington**, and representatives from ECONOR, Canada, and the United States [or the Executive Secretaries of AMAP and SDWG] to consider, refine,

and further develop the proposal from Baffrey and Huntington on follow-up activities to better study the socio-economic effects of oil and gas activities in the Arctic, for input to SDWG by 1 October 2009.

**Autumn 2008.** AMAP and SDWG will exchange drafts of their work plans for the next two years to find links between them and plan more joint work.