Arctic Monitoring and Assessment Programme
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Your ref.	Our ref.	Date
	H.3.20/AACA-C	2 June 2014

Call for nominations of experts to take part in an AMAP project.
Request for climate, environmental, socio-economic, and adaptation policy experts as Lead Authors and Contributing Authors for a scientific study of the Bering/Beaufort/Chukchi region

Background

Climate, environmental, and socio-economic drivers may interact and amplify, making decision making in a rapidly changing Arctic difficult and uncertain. Changes may increase existing pressures in the Arctic, while others may bring new opportunities.

Traditional assessments of climate, environmental and socio-economic issues in the Arctic have focused on single pressures: climate, acidification, persistent organic pollutants, health, oil and gas, to name just a few. These assessments have provided valuable information, but there is currently little understanding on how these drivers of changes may interact. An understanding of the interactions is necessary to inform stakeholders and decision makers as they prepare to respond to a changing Arctic.

To respond to these challenges and opportunities, the Arctic Council initiated the flagship project "Adaptation Actions for a Changing Arctic" (AACA). The project are led by the Arctic Monitoring and Assessment Programme (AMAP) and has an overall objective to enable more informed, timely and responsive decision making in a rapidly changing Arctic.

The region

AACA will focus on three pilot regions, namely the Bering/Chukchi/Beaufort region, the Baffin Bay/Davis Strait region and the Barents Region. Each region includes both marine and terrestrial areas. For each of these regions an interdisciplinary regional assessment report on climatic, environmental and socio-economic drivers, scenarios, impact assessment, resilience, and adaptation actions will be produced.

The marine areas of the Bering/Beaufort/Chukchi region are the Chukchi Sea and Beaufort Sea Large Marine Ecosystem (LME). The terrestrial boundary follows to a large extend the tree line in Alaska and Canada. In Russia the terrestrial boundary is the Chukotka autonomous region.

A Regional Implementation Team (RIT) will oversee the preparation of the regional assessment report. The RIT will be supported by a group of Coordinating Lead Authors, who together with the Lead Authors will be responsible for chapters of the scientific report. The coordination between the three regional reports is overseen by a pan-Arctic integration team.

As with other Arctic Council scientific products, participation is highly recognized across the scientific community, supports the public assignments of the involved institutions, and facilitates building of professional international networks. We are confident that relevant individuals and institutions will be able to prioritize participation in such international work, and we look forward to your positive response to this letter.

Nominations

You are cordially invited to nominate and present names of Lead Authors and Contributing Authors to participate in the Bering/Beaufort/Chukchi regional assessment report, as outlined in the attached draft Table of Contents.

Nominations should be sent by email, using the attached nomination form, to the AMAP Secretariat (amap@amap.no) **by June 27 2014** using the attached template. Nominations should indicate the chapter(s) and author role(s) for which the candidate is being nominated a specification of the nominees' area of expertise and be accompanied by a curriculum vitae, including a list of relevant publications. We request that relevant conflicts of interest be disclosed. Nominations from a broad range of disciplines including traditional knowledge, participants at an early stage of their career, and participants from the Arctic Council observer countries are strongly encouraged. Self-nominations are accepted.

The RIT and the regional Coordinating Lead Authors have been selected. Lead Authors and Contributing Authors will be selected by the RIT together with the Coordinating Lead Authors.

Tasks and responsibilities for the authors

The RIT is responsible for overseeing the preparation of the regional assessment report. Each chapter will be assigned 1-3 Coordinating Lead Authors who will coordinate the writing process and help to identify Lead Authors and Contributing Authors. Together with the Lead Authors, the Coordinating Lead Authors will draft the chapters, integrate stakeholder perspectives and revise the chapters taking into account comments submitted by reviewers. Coordinating Lead Authors must have the ability to synthesis and assess the latest research from a broad range of literature or other fully-justified unpublished sources. They will also prepare text, graphs or data for inclusion in the relevant section or part of a chapter. A summary (Laymen's report) will be produced by a professional science writer with the assistant of Coordinating Lead Authors and Lead Authors.

Coordinating Lead Authors are responsible for ensuring that chapters of the assessment report are completed to a high standard and delivered to the RIT in a timely manner. The deliverables should conform to a set of author guidelines, including guidelines for handling uncertainty and conflicting views. The ability to work to deadlines is a necessary practical requirement for all individuals involved.

The role as Coordinating Lead Author and Lead Author will include participation in workshops, drafting meetings (online and occasionally in person) and finalization of the chapters after a review process. Most of the drafting work is planned for 2014-2015 with the reviewed report to be finalized early 2016. An indicative timeline is attached. Limited resources are available to support workshop costs. Authors are encouraged to source funding from national sources (c.f., IPCC), but if funding is uncertain, please indicate this on the nomination form.

Yours sincerely,

Lars-Otto Reiersen
AMAP Executive Secretary

Attachments:

- Template for nominations
- Draft table of contents for regional assessment report
- Schedule for the Bering/Beaufort/Chukchi regional assessment report
- Map of Bering/Beaufort/Chukchi region

For further information:
AMAP Secretariat: Jon L. Fuglestad, Deputy Executive Secretary (jon.fuglestad@amap.no)

Bering/Beaufort/Chukchi RIT team contact information:
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Integration team contact:
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Adaptation Actions for a Changing Arctic

Annex 1

Template for nominations of experts: Bering/Beaufort/Chukchi regional report

Please complete form, and send to amap@amap.no by **27 June 2014**

We encourage early nominations. This call is for the **Bering/Beaufort/Chukchi regional assessment report**, other regions will have separate calls for nominations.

Please send a short CV, including list of relevant publications.

Name nomination file as follows:
Specify region and relevant chapter(s), followed by last name; for example: BBC-Chapter2-name

Name your CV file as follows:
"CV" followed by region, relevant chapter(s) and last name; for example: CV-BBC-Chapter2-name

Name	
Affiliation	
Address	
Phone	
Email	
Webpage	
Date of Birth	
Education (degree/ institution/ year)	
Position held	
Main field of expertise	
Years of experience	
Which chapter/part of the regional report	
Are you nominated as Lead author or Contributing author?	
Relevant past and ongoing projects	
Please list five most recent publications relevant to the role	

Please describe why you are interested in contributing, and the type of contribution you would like to make: (maximum 1/4 page)	
Specify any funding issues	
State any Conflicts of Interest	
Any addition information you want to give?	

Appendix:

Your CV including list of publications

Annex 2- Bering/Beaufort/Chukchi region assessment report

Draft Table of Content -- to be further developed

SHORT VERSION

This draft table of content has been developed with the input from previous AACA workshops. The chapter outlines will be further developed and detailed in cooperation with the coordinating lead authors and input from stakeholders.

- 6.1 Impact assessment by driver of change/pressure
  - 6.1.1 Impacts from climate drivers/pressures
  - 6.1.2 Impacts from socio-economic drivers/pressures
  - 6.1.3 Impacts from environmental drivers/pressures
  - 6.1.x
- 6.2 Impacts across drivers and impacts:
  - 6.2.1 Consequences for Ecosystem Health / Integrity
  - 6.2.2 Consequences for Human Health/Well-being
  - 6.2.3 Consequences for Sustainable Communities/Infrastructure
  - 6.2.4 Consequences for Heritage / Culture (e.g. workers from other cultures)
  - 6.2.5 Consequences for Socio-economic opportunities
  - 6.2.6 Linkages and cumulative impacts
- 6.3 Science-policy interface and knowledge gaps
- 6.x Summary

Chapter 7 Resilience

- 7.1 Resilience in the Bering/Beaufort/Chukchi region
- 7.2 Adaptive capacity in the Bering/Beaufort/Chukchi region (identify ideal-typical examples)
- 7.3 General sources of adaptive capacity in Bering/Beaufort/Chukchi
- 7.4 Social thresholds
- 7.5 What does this tell us about adaptation options?

Chapter 8 Arctic future scenarios

- 8.1
- 8.2
- 8.x

Chapter 9 Adaptation Options/Actions/Measures related to:

- 9.1 Ecosystem Health / Services (stressors to ecosystem services)
- 9.2 Human Well-being
- 9.3 Sustainable Communities
- 9.4 Heritage / Culture
- 9.5 Socio-economic opportunities
- 9.x Co-benefits and synergies

Chapter 10 Knowledge gaps. How can science-policy interface be improved?

References and appendices

Bering/Beaufort/Chukchi region assessment report
Draft table of content – to be further developed

ANNOTATED VERSION (version 210214)

This draft table of content has been developed with the input from previous AACA workshops. The chapter outlines will be further developed and detailed in cooperation with the coordinating lead authors and input from stakeholders.

Chapter 1 Introduction

1.1 Rationale, goals, objectives, tasks
1.2 Definitions, methods, sectors etc.
1.3 …

This chapter will introduce the objectives, scope and mandate of the AACA, as agreed by the Arctic Council and/or AMAP working group. It will explain the rationale for the AACA, and the need to assess future challenges and opportunities, including socioeconomic aspects (including an explanation of what is new compared to other Arctic Council assessments).

The chapter will also discuss general issues relating to the thematic scope of the project, the stakeholder consultations, the collection of data relating to the ecosystems and human uses of them, including aggregation and analysis of information and data. The collection and use of traditional and local knowledge will be described. Describe what drivers and sectors are included and why, and what are excluded and why? Justify choices for 2030, 2080, scenarios used, etc. What is the role of opportunities and mitigation in the report, and how far will we go on adaptation.

A summary of issues related to the template and guidelines agreed for carrying out an integrated assessment, and the way in which this template and guidelines have been implemented, including the approach to the science/policy interface, the choices made on the establishment of geographic scope, the description and categorizing of uncertainties and the quality assurance of data, review process will be described. More detailed description of methods will be in Annex.

Chapter 2 Stakeholder regional perspective

2.1
2.2
2.3

Chapter 3 General Description of the region – status and trends

3.1 Boundaries
3.2 The natural environment
3.3 The socio-economic environment
3.4 Political environment
3.5 Science-policy interface and knowledge gaps
3.x Summary

This chapter will describe the boundaries of the region, and justify the choice of these.

The chapter will describe status and trends in the natural environment (draw on ABA, SWIPA, AOA, Arctic chart, Life linked to Ice, AMAP pollution reports, etc). There will be a description of the physical environment, i.e bio-geophysical characteristics of the region, including climate dimensions; vegetation maps etc (draw on ABA, SWIPA and others). A description of the ecosystem functions (broad approach here -- production, habitats and biodiversity particularly on these issues being touched upon in impact assessment in later chapters. Draw on ABA and others). There should be a description of connectivity and landscapes perspectives. Non-renewable resources might be described here, or in a later chapter.

There should be a description of the status and trends of the socio-economic environment (draw on AMSA, OGA, Human development report, Megatrends (NORREGIO), EcoNOR, etc). Avoid overlap with chapter on socio-economic drivers in later chapter. Relevant topics to include might be:

- demography, settlement structure, education, migration/mobility in the area, health/well-being, employment (employment rate and what type of sectors, income and wealth - the total and the distribution)
- cultural environment, heritage, identity and social values
- resource base, and economic values, infrastructure (for instance health services, education services,..), traditional land use activities
- transport and communication (roads, shipping routes, technology/internet)
- other links to environmental system (could include ecosystem services here)

There will also be a chapter on the political environment. Possible topic to include might be:

- Institutional and legal framework (local, regional, national, international, e.g international rights,)
- Administrative boundaries
- Governance regimes including land use, conservation, management, etc.)
- Conflicts (contested boarders, boundaries, territories, jurisdictions, use etc.)

Chapter 4 Globally driven change. Current, 2030 and 2080 (literature and modelling)

4.1 Global socio-economic drivers (SSPs)
4.2 Global climate drivers (IPCC RCPs)
4.3 Global environmental drivers
4.4 Science – policy interface. Knowledge gaps
4.x Summary

This chapter will describe global socio-economic and climate drivers that may affect the region. The climate impacts will be based on the Representative Concentration Pathways (RCPs) RCP4.5 and RCP8.5 used in the Fifth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC AR5). The global socio-economic developments leading to the RCPs will be based on the ongoing Shared Socio-economic Pathways (SSP) process. Impacts will not be addressed in this chapter. Regional scale climate drivers (downscaling) will build on model projections, observations and expert judgment. There will be subchapters on environmental drivers of change/pressures such as long range transported POPs, secondary and high order impacts of climate change (such as ocean acidification, freshening of surface waters, coastal erosion, acid rain, alien and invasive species).

Some of the environmental drivers, such as ecosystem wide impacts due to changes in the water cycle, may additionally be based on output from global and regional climate models, observations, and expert judgment. The climatic and environmental parameters selected for analysis will relate to / be relevant for pressures and impacts assessment. Draw on AMAP Climate Expert Group. Ocean acidification will be included in this chapter.
For 2080: Rely on IPCC scenarios at global scale. Fewer climatic parameters needed. Also task for AMAP Climate Expert Group what can be done with the 2080 projections. Discussion on changes due to variability or changes due to system shifts (climate change).

Traditional view point of change covering socioeconomics, climate and environmental drivers. Reflections on knowledge gaps, in particular gaps relevant for the science-policy interface.

Chapter 5 Regionally driven change. Current, 2030 and 2080 (literature based)

- 5.1 Regional socio-economic drivers
- 5.2 Sector based industry development
- 5.3 Environmental regional drivers of change/sectors/pressures (e.g. oil spills, air pollution, SLCF, POPs)
- 5.5 Science-policy interface, knowledge gaps
- 5.x Summary

This chapter will focus on regional drivers and pressures. Impacts will not be addressed in this chapter. Describe the drivers (and pressures) only. There will be a description of regional non industrial drivers of change, for instance socio-economic drivers such as population and demography, economy, education, settlement structure and livelihoods, social, cultural, educational aspects. [Scenarios of changes in drivers could be included]

The chapter will also include a description of human activity and industrial drivers at regional level. There will be one sub-chapter for each driver of change/sector/human activity (for instance mining and processing, oil and gas (off- and onshore), transportation (on land and marine), tourism, large scale industries such as energy (hydro, wind power, renewable energy, coal, etc), fisheries, reindeer herding, aquaculture, forestry, agriculture, etc). These (sub)chapters could examine significance, scale and location of activity, projections of growth (2030 and if possible towards 2080) . Relevant environmental regional drivers of change/pressures will be described, for instance oil spills, air pollution, SLCF, POPs.

Chapter 5bis Climate response in the Bering/Beaufort/Chukchi region

This chapter should draw the description of globally and regionally driven changes elaborated in chapter 4 and 5.

Chapter 6 Impact assessment

- 6.1 Impact assessment by driver of change/pressure
  - 6.1.1 Impacts from climate drivers
  - 6.1.2 Impacts from socio-economic parameters
  - 6.1.3 Impacts from environmental drivers
  - 6.1.x
- 6.2 Impacts across drivers (cumulative impacts):
  - 6.2.1 Consequences for Ecosystem Health / Integrity
  - 6.2.2 Consequences for Human Health/Well-being

6.2.3 Consequences for Sustainable Communities/Infrastructure
6.2.4 Consequences for Heritage / Culture (e.g. workers from other cultures)
6.2.5 Consequences for Socio-economic opportunities
6.2.6 Cumulative impacts
6.4 Science-policy interface and knowledge gaps
6.x Summary

One sub-chapter for each driver/sector/pressure. For sectors/ human activities, these subchapters could examine pressures and impacts, nature of impacts (physical disturbance, pollution, etc, including acute effects and longer term effects); links to other industries/human activities; and assess environmental, economic and/or social aspects in relation to the sector/activity, i.e: the consequences on i) ecosystem health/integrity; ii) food and water security and human health; iii) sustainable communities; iv) culture/heritage; v) socio-economic opportunities.

Chapter 7 Resilience

7.1 Resilience in the Bering/Beaufort/Chukchi Region
7.2 Adaptive capacity in the Bering/Beaufort/Chukchi Region (identify ideal-typical examples)
7.3 General sources of adaptive capacity in Bering/Beaufort/Chukchi
7.4 Social thresholds
7.5 What does this tell us about adaptation options?

In this chapter, we would seek to describe resilience in the region, by identifying ideal-typical examples about the sources of capacity in communities in the region, underlying sources of adaptive capacity that could be strengthened or weakened by developments that might be expected in the region. These could be social (economic, legal, cultural, etc), or ecosystems based. The chapter will address possible dangers that can be identified for the communities, such as thresholds. The chapter will set the stage for the chapter on adaptation, by discussing potential for effective adaptation, the factors that are likely to contribute to or undermine resilience.

Chapter 8 Arctic future scenarios

Identify alternative future environments and indicate how critical uncertainties might play in ways that can challenge the Arctic states to make timely and effective decisions. This chapter will provide a complement to the traditional forecasting/impact assessment and resilience perspective in the previous chapters.

Chapter 9 Informing Adaptation Options/Actions/Measures

Description of adaptation options related to:

9.1 Ecosystem Health / Services (stressors to ecosystem services)
9.2 Human well-being
9.3 Sustainable Communities
9.4 Heritage / Culture
9.5 Socio-economic opportunities
9.x Co-benefits and synergies

This chapter will synthesizes the material in the previous chapters to provide policy relevant information to assist local decision makers and stakeholders developing adaptation tools and strategies to better deal with climate change and other pertinent environmental stressors. This will enable more informed, timely and responsive policy and decision making in a rapidly changing Arctic. This chapter will not recommend specific adaptation actions, but it will describe how climate and non-climate drivers may interact and amplify changes. It will indicate key places for policy intervention, and empower decision makers with the tools to respond to changes. This chapter brings everything together, and will also address co-benefits and synergies. Consequently, it will be a difficult chapter to write, but it will be the most valuable chapter to decision makers.

Chapter 10 Knowledge gaps. How can science-policy interface be improved?

References and appendices

Annex 3

Draft schedule for Bering/Beaufort/Chukchi regional report

Author nomination process	June-July 2014
Develop chapter outlines	1 September 2014
Authors workshop	21-22 September, Seattle, USA
First Order Draft Chapters 1-5	31.12.2014
Start work on Impact Assessment (Chapter 6) (scoping workshop)	January 2015
Progress report to Arctic Council Ministerial meeting (Canada)	April 2015
Adaptation Actions Workshop (May 2015)	May 2015
First order draft Ch. 6-9	August 2015
Peer review	October-December 2015
Final draft	January 2016