Arctic Observing Summit (AOS)

Statement: Circumpolar Biodiversity Monitoring Programme (CBMP)

Relevant to all themes: but especially for themes 1 and 4

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Facilitating more rapid detection, communication, and response to the significant biodiversity-related trends and pressures affecting the circumpolar world.

The Conservation of Arctic Flora and Fauna[a] (CAFF) is the biodiversity working group of the Arctic Council [b] and has a mandate to address the conservation of Arctic biodiversity, and to communicate its findings to the governments and residents of the Arctic, helping to promote practices which ensure the sustainability of the Arctic's living resources. It does so through various monitoring, assessment [c] and expert group [d] activities. CAFF's projects provide data for informed decision making to resolve challenges arising from trying to conserve the natural environment and permit regional growth. This work is based upon cooperation between all Arctic countries, Indigenous Organizations, international conventions and organizations.

As the Arctic continues to experience a period of intense and accelerating change, with climate change at the forefront, and as changes in polar regions impact environments, migratory species and communities globally, it has become increasingly important to effectively and sustainably manage Arctic ecosystems. CAFF operates at the interface between science and policy and as such is positioned to develop common responses on issues of importance. In order to deliver informed policy advice to decision-makers, it is important that accurate, credible and timely information on current and predicted changes in the Arctic's ecosystems are made available. To efficiently address this information CAFF created the Circumpolar Biodiversity Monitoring Program (CBMP – www.cbmp.is [1]), an international network of scientists, government agencies, Indigenous Organizations and local resource users working together to enhance Arctic biodiversity monitoring to improve detection, understanding, prediction and reporting of important changes facing Arctic biodiversity. Community well-being, health, food security, fisheries and other economies depend on the successful and sustainable management and monitoring of biodiversity and ecosystem health.

The CBMP is collecting information from the existing extensive and varied monitoring efforts across the Arctic to provide more robust and timely information on what is happening in the Arctic environment. Harmonizing and integrating efforts to monitor the Arctic's living resources will allow decision makers to develop responses to challenges facing the Arctic environment in a more efficient and effective manner.

The CBMP coordinates marine[e], freshwater[f], terrestrial [g]and coastal[h] monitoring activities while establishing international linkages [i]to global biodiversity initiatives including the UN Convention on Biological Diversity (CBD) and the Group on Earth Observations Biodiversity Observation Network (GEOBON). The CBMP emphasizes data management (through the Arctic Biodiversity Data Service[j]), capacity building[k], reporting[l], coordination and integration [m] of Arctic monitoring, and communications, education and outreach[n].

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[1] *The CBMP is a response to Arctic Council recommendations that have called for improved and better coordinated, long-term Arctic biodiversity monitoring e.g. from the Arctic Climate Impact Assessment (ACIA) and reinforced by the recommendations of the Arctic Biodiversity Assessment and other Arctic Council projects. The development and implementation of the CBMP has been further highlighted as an Arctic Council priority in the Kiruna (2013), Tromso (2009), Salekhard (2006), Reykjavik (2004), Inari (2002), Barrow (2000) and Iqaluit (1998) Declarations.*

Experts are currently developing and implementing coordinated and integrated Arctic Biodiversity Monitoring Plans to help guide circumpolar monitoring efforts. Results will be channelled into effective conservation, mitigation and adaptation policies supporting the Arctic. These plans represent the Arctic's major ecosystems: 1) marine[o]; 2) freshwater[p]; 3) terrestrial[q]; and 4) coastal[r]. The Coastal Plan is currently under development while the other Plans are being implemented. These umbrella Plans work with existing monitoring capacity to facilitate improved and cost-effective monitoring through enhanced integration and coordination.

Implementation activities include the collection and aggregation of existing monitoring information and capacity across the Arctic, identifying opportunities to fulfill gaps in monitoring, and working towards the publication of the State of the Arctic Marine, Freshwater and Terrestrial Biodiversity reports in 2017, 2018 and 2019. Work also continues to make data available through the Arctic Biodiversity Data Service (ABDS)[s], an online, interoperable data management system that serves as a focal point and dynamic source for up-to-date circumpolar Arctic biodiversity information and emerging trends. Satellite data is underutilized in the Arctic. There is a desire among the various science disciplines to use remote sensing to support ongoing biodiversity assessments and monitoring. In addition, remote sensing data also has value for site-specific and regional applications. CAFF, through the CBMP is creating a framework to harness remote sensing potential for use in Arctic[t] biodiversity monitoring and assessment activities and to produce a series of satellite-based remote sensing products focusing on the circumpolar Arctic. MODIS satellite products of relevance to Arctic processes are being converted to a more Arctic-friendly projection, facilitating a top-of-the-world analysis perspective. Satellite products are being developed for use by different stakeholder groups and products will be organized by terrestrial, marine, coastal, and freshwater disciplines. Landsat images will be used to generate additional remote sensing products at a finer scale.

It is important that monitoring programs develop the most effective reporting strategies if they are to inform decision making. To facilitate effective and consistent reporting, the CBMP has chosen a suite of indices and indicators [u]that provide a comprehensive picture of the state of Arctic biodiversity – from species to habitats to ecosystem processes to ecological services. These indices and indicators are developed in a hierarchical manner, allowing users to drill down into the data from the higher-order indices to more detailed indicators. Indicators available or under development include Arctic Species Trend index; Arctic Migratory Bird index, Protected Areas index, Land Cover change; and Linguistic diversity.

Enhanced coordination of Arctic biodiversity monitoring via the CBMP is yielding an improved ability to detect important trends, link these trends to their underlying causes, predict future trends and scenarios for Arctic biodiversity, and thereby provide more timely and credible information to support responsible decision making at multiple scales (local, regional, national and global). It is anticipated that this increased coordination will result in reduced costs, compared to the cost of multiple, uncoordinated approaches that stop at regional or national boundaries. While most Arctic biodiversity monitoring networks are, and will remain, national or sub-national in scope, there is immeasurable value in establishing circumpolar connections among monitoring networks. In addition, this coordination is resulting in more rapid uptake of new technologies and methodologies through increased dialogue.

The CBMP has been endorsed by the Arctic Council and the UN Convention on Biological Diversity. It is the biodiversity component of the Sustaining Arctic Observing Networks (SAON[v]) and the official Arctic Biodiversity Observation Network of the Group on Earth Observations Biodiversity Observation Network (GEOBON[w]).

Information from the efforts of the CBMP will flow through national processes as well as through appropriate international venues such as the Arctic Council and the UN Convention on Biological Diversity. This not only provides the best information to the most relevant policy actors, but also creates cost efficiencies in reporting activities. The continued implementation of CBMP comes at a critical time. The recent Conference of the Parties to the Convention on Biological Diversity (CBD) resulted in a strong recognition of the importance of Arctic biodiversity and of the Arctic Council work.

For more information please visit: www.cbmp.is or contact caff@caff.is.

Recent updates and reports:

- Arctic Freshwater Biodiversity Monitoring Plan
- Arctic Terrestrial Biodiversity Monitoring Plan
- Arctic Marine Biodiversity Monitoring Plan
- Arctic Biodiversity Data Service (ABDS)
- Land Cover Change Index [x]
- Arctic Species Trend Index[y]
- Arctic Migratory Bird Index
- Protected Areas
- Linguistic Diversity[z]

Sign up for the CBMP Newsletter[aa] and read past issues[bb].

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[a] http://www.caff.is/
[b] http://www.caff.is/arcticcouncil
[c] http://www.caff.is/assessments
[d] http://www.caff.is/expert-group
[e] http://www.caff.is/index.php?option=com_content&view=article&id=499&Itemid=1014
[f] http://www.caff.is/index.php?option=com_content&view=article&id=508&Itemid=1015
[g] http://www.caff.is/index.php?option=com_content&view=article&id=557&Itemid=1016
[h] http://www.caff.is/index.php?option=com_content&view=article&id=524&Itemid=1017
[i] http://www.caff.is/index.php?option=com_content&view=article&id=470:about-the-cbmp&catid=385:about-the-cbmpnew&Itemid=1011
[j] http://www.abds.is/
[k] http://www.caff.is/cbmp-capacity-building
[l] http://www.caff.is/cbmp-reporting
[m] http://www.caff.is/cbmp-coordination
[n] http://www.caff.is/cbmp-communications-and-outreach
[o] http://www.caff.is/marine/marine-monitoring-plan
[p] http://www.caff.is/freshwater/freshwater-monitoring-plan
[q] http://www.caff.is/terrestrial/terrestrial-monitoring-plan
[r] http://caff.is/coastal
[s] http://www.abds.is/
[t] http://caff.is/indices-and-indicators/land-cover-change-index
[u] http://caff.is/indices-and-indicators
[v] http://www.arcticobserving.org/
[w] http://geobon.org/
[x] http://www.caff.is/indices-and-indicators/land-cover-change-index
[y] http://www.caff.is/asti
[z] http://abds.is/index.php/explore-indicies/linguistics

[aa] http://visitor.r20.constantcontact.com/manage/optin/ea?v=0013J7BZf17TJUwvedPSUdU0w==
[bb] http://www.caff.is/cbmp-newsletter