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Framework for the Expansion of the Local Environmental Observer Network

Background

Climate change is impacting the Arctic at a significant rate. Arctic communities experience first-hand the challenges of a rapidly changing environment in remote locations across the circumpolar north. Indigenous communities, often hit hardest by climate change, have lived with the land and through indigenous, traditional, ecological, and local knowledge, live in sync with their environment. This knowledge is built through an ongoing learning process, an engagement and dependence on the natural environment and the observations these communities make about their land is critical to understanding and developing responses to environmental challenges. Community-based monitoring networks in rural communities can help connect those with indigenous, traditional, local, and ecological knowledge with scientists, policymakers and technical experts to develop trust, collaborative approaches, and solutions to human health and environmental problems resulting from contaminants and pollution. Strengthening this cooperation and increasing collaboration will bring benefits to communities across the Arctic.

Under the U.S. Chairmanship of the Arctic Council (AC), partners in the Arctic Contaminants Action Program (ACAP) Working Group and its subsidiary Indigenous Peoples Contaminants Action Programme (IPCAP), are building on the success of the Alaska Native Tribal Health Consortium's (ANTHC) Local Environmental Observers (LEO) network in Alaska and developing the foundation for a Circumpolar Local Environmental Observer (CLEO) Network. Using funding from the U.S. Environmental Protection Agency and the North American Commission for Environmental Cooperation, new and active LEO partners are working with communities in British Columbia and Northwest Territories, and in western Canada to establish new LEO observer communities and regional hubs.

A Framework for Expansion

The project steering committee has taken a phased approach to the development of a Circumpolar Local Environmental Observer Network. The U.S. Chairmanship of the Arctic Council approved the steering committee's approach, which the steering committee has advanced. There timeline for the expansion of the network is flexible; however, Phase One activities are on track to be completed and delivered to the Arctic Council Ministers at the May 2017 Ministerial in Fairbanks, Alaska. The North American expansion of the LEO Network experienced exponential growth in 2015 and 2016, with new chapters in operation at Yurok Tribe in Northern California, at Northwest Indian College in Washington State, and interest for a third chapter in the American Southwest. New LEO Observers and hubs in the Arctic are now active with newly established hubs in British Columbia and Northwest Territories (expected February 2017). Resources for these hubs has been secured for multiple years of

operation and workshops in Canada have drawn engagement with communities in Alberta, Quebec, and Yukon Territory.

The first steps of Phase Two activities are underway and groundwork has been laid for expansion with Nordic partners, specifically through recent LEO workshops in Inari, Finland and Kiruna, Sweden where projects of interest to the Sámi Education Institute, the Sámi Parliament, the Sámi Council, the International Centre for Reindeer Husbandry, Snowchange Cooperative and Sámi indigenous communities across the region were identified for further exploration.

Below are the phases of the approach employed by Circumpolar LEO project steering committee:

- Phase One
 - Establish North American chapters of LEO in the U.S. and Canadian Arctic (completed May 2017)
 - Develop a framework for the expansion of the LEO network in the Arctic (this document; once approved by ACAP, this is completed)
- Phase Two
 - Establish additional country, regional hubs/activities (underway in Finland, Norway, and Sweden and other Arctic areas with Sami communities)
- Phase Three
 - Link all LEO chapters into Circumpolar LEO Network – CLEO (TBD)

Framework Components:

Raise Awareness of the LEO Network

- Conduct webinars with interested stakeholders, partners, Permanent Participants, and indigenous communities across the Arctic region that:
 - connect communities encountering the same or similar climate change impacts and issues
 - present and communicate the issues with the science and research communities operating in the Arctic
 - highlight the breadth of the LEO Network and the ability to connect through LEO on a wide variety of topics of interest
- Present at relevant conferences, meetings and workshops where issues of common concern are being addressed
- Send newsletters to all LEO members and invite new members to receive the information and join the LEO network (e.g. Northern Climate Observer)
- Translate LEO Observations, guidance, and materials into Arctic Council member state and Permanent Participant languages on the LEO site
- Communicate and deliver information about LEO with the other Arctic Council Working Groups

Engage Local Communities on the potential benefits of LEO

- Identify potential LEO project links and key environmental issues/concerns impacting communities across the Arctic
 - Through discussions and workshops, potential LEO project links are being identified and include, among others:
 - Follow-up work on the Kolarctic Salmon Monitoring project in County of Finnmark
 - Birch moth monitoring and reporting across the Arctic, with special emphasis on communities in Northern Europe
 - Detection and monitoring of Atlantic Salmon stocks in the Snowchange Co-management work in the Näätämö basin (FIN/NO), including cultural indicators, invasive species, ecological restoration and changes in water quality
 - Reindeer monitoring across the Arctic with special emphasis on collaboration between academic communities in Fairbanks, Alaska and Inari, Finland
- Establish LEO project links in areas of common interest between governmental agencies and indigenous communities where trust and collaboration can be built with the local community
- Conduct training activities for observers and potential regional hubs/chapters of the LEO Network
- Demonstrate the application of LEO information and Network coordination
- Explore the potential of databases of visual histories building on LEO materials for baselines of change as already developed by the Skolt Sámi in Finland

Develop Best Practices for LEO usage in each community

- Submit a report on the successful expansion of the LEO Network from Alaska across Northern Canada
 - Following on the workshop held in November 2016 in British Columbia, Canada and the upcoming February 2017 workshop in Northwest Territories, Canada, project steering committee will develop a report on best practices and lessons learned that will guide future expansion
- Share information, early reports on project streams established or identified in Finland, Norway, Russia, and Sweden
 - Once activity has been established, periodic reporting will enable adaptability and replication in other project streams
 - Explore possibilities of a Russian Workshop

Translate Materials for new LEO Observers, Hubs

- LEO Network developers have created simplified means of translating content on the LEO web application that can be used by new communities seeking to establish a new chapter or hub of the LEO community

Establish secure, long-term funding for LEO Networks and hubs

- Identify funding sources and resources for research and expansion activities
 - LEO has been successfully replicated in communities outside of Alaska by leveraging resources with ANTHC, and funding from the U.S. EPA, the Canadian government, and the North American Commission for Environmental Cooperation. As the project looks to the Nordic and neighboring regions for expansion, Nordic entities that provide funding will be explored
- Encourage and pursue contributions and support from government entities, especially Arctic Council Member States
 - Arctic Council member states are encouraged to provide funding and support to the LEO network, subject to available resources; to leverage funding from available sources; and to encourage and guide project steering committee members to available sources for long-term operation

Explore interoperability of LEO with other community-based monitoring networks, especially those active in the Arctic region

- Take the first steps to incorporate observations and information gathered through other networks and community-based monitoring activities, i.e. SAON, CAFF, SDWG, and other project stream activities
- Advance the inclusion of LEO Network observations as a layer of information on geospatial platforms coordinated through the Arctic Council and member states (Arctic SDI, NOAA ERMA)
- By positioning the observations inside the cultural matrix of the Sámi, seeking interoperability with organizations such as Snowchange and ELOKA (NDSIC) networks for the Eurasian Arctic (Finland, Siberia)

Raise the profile and standing of LEO within the Arctic Science Community

- Continue the cooperation with scientific academic institutions, such as University of Alaska-Fairbanks
- Pursue commitments for future work that were advanced at the Arctic Science Ministerial in Washington DC in September 2016
- Follow-up on discussions during Arctic Science Summit in Fairbanks, Alaska in March 2016 where LEO was prominently featured
- Seek ways for the Arctic science community to facilitate recognition of traditional, indigenous, and local knowledge in decision-making and research activities
- Explore opportunities to feature an existing pilot LEO community project demonstrating a One Health approach that incorporates STEM principles during STEM Summit
- Participate in region-wide forums, such as a Sámi Water or Health Forum to deepen LEO cooperation with between the region and villages in Eurasia