



ARCTIC CONTAMINANTS  
ACTION PROGRAM

ESTABLISHING A

# CIRCUMPOLAR LOCAL ENVIRONMENTAL OBSERVER NETWORK



ARCTIC COUNCIL



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## Establishing a Circumpolar Local Environmental Observer Network

*The eyes, ears and voice of environmental change and pollution*

Our world is changing rapidly, and local observers can detect subtle changes in weather, landscapes and seascapes, and in plant and animal communities. The Alaska Native Tribal Health Consortium (ANTHC) developed the Local Environmental Observer (LEO) Network in 2009, recognizing the value of traditional and local knowledge (TLK) and the need for a tool to document and share environmental observations, including potential contaminants of concern. The purpose was to increase awareness of vulnerabilities to the impacts of unusual changes in the environment, compared to what is expected based on traditional knowledge, and to connect community members with technical experts.

LEO uses web-accessible maps to display observations of unusual or unique environmental events which are then shared with LEO members, and will encourage actions to reduce emissions and other releases of pollutants. The maps contain event descriptions, photos, expert consultations and links to information resources. LEO has grown to include hundreds of participants and is helping to increase understanding of the emerging effects of climate change.

During the U.S. Chairmanship of the Arctic Council, the Arctic Contaminants Action Program (ACAP) and its Expert Group, the Indigenous Peoples' Contaminants Action Program (IPCAP), have expanded the LEO Network to create a foundation for a Circumpolar Local Environmental Observer (CLEO) Network. They have worked with partners and communities in Canada to establish two new LEO Network hubs in British Columbia and Northwest Territories and outreach to First Nations and communities across Canada. With the new hubs, the LEO Network largely spans the length of the Pacific coast of North America and continues to grow.

Following the success in North America, project partners have broadened outreach to Europe and have conducted three workshops in the Fenno-Scandinavian region, the first in June 2016 in Inari, Finland, the second in January 2017 in Kiruna, Sweden and in August 2017 in Jokkmokk, Sweden. The workshops brought together technical experts and community leaders from the region and resulted in the agreement to a *Framework for the Circumpolar Expansion of the LEO Network*, a ministerial deliverable to the Arctic Council in 2017 that commits ACAP and partners to continue to expand and develop the network. Additionally, the International Centre for Reindeer Husbandry, an independent indigenous transboundary association, has announced their intention to establish a LEO hub in 2018. During the Finnish Chairmanship (2017-2019) of the Arctic Council, project partners are committed to exploring opportunities to realize a circumpolar LEO Network.

## LEO Reporter and Explorer

Since the launch of the LEO Reporter mobile app in February 2016, the number of LEO Observers has quadrupled to more than 2500 members and the number of observations has tripled.

The mobile app has proven to be a powerful tool in the field, providing robust field reporting capabilities even in the most remote areas. Observations taken from locations outside mobile service will be automatically uploaded once a connection has been reestablished. The app includes interactive maps, a search engine to explore the LEO observation database, and the option to update observations from the Network. LEO Reporter puts powerful, user-friendly, mobile technology in the hands of the user, enabling real-time observations on the front lines of climate change and pollution. The LEO Reporter allows users on a desktop computer to engage the network, communicate with collaborators, establish projects, and track issues of growing concern.

## Consultations: Building TLK bridges

Two types of experts provide consultations: community experts and technical experts. Community experts provide the traditional and local knowledge component of a consultation. They review and edit observations in their areas and provide consultation based on traditional, scientific, and local knowledge. Technical experts with special, detailed knowledge on a topic, sometimes located within government agencies, academic institutions or organizations that house subject-matter experts, can provide technical consults to observations. The observers, community experts and technical experts participating are able to interact with one another through the LEO platform to effectively become a “community of practice” that collaborates on monitoring, research, and outreach. LEO hubs are the regional coordination centers for the LEO Network that can, for example, review posts, select posts for a formal consultation, facilitate communication with community and technical experts and provide technical assistance. Hubs may also choose to provide other services such as hosting webinars, publishing e-journals and providing updates to other groups, organizations and networks. These tools and models, which have been successfully tested and deployed in the U.S. and Canadian Arctic, serve as a template for the expansion of the circumpolar LEO Network.

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