



First Nations Health Authority
Health through wellness

Local Environmental Observer Network: the eyes, ears and voice of environmental change

Marine Biotoxin Workshop, North Vancouver
By Linda Pillsworth, Environmental Public Health Services
October 25, 2016



Canada is already warmer, wetter & stormier

www.fnha.ca

WILDLAND FIRES
A photograph showing a large fire at night with people silhouetted in the foreground.

DROUGHT
A photograph of cracked, parched earth.

HEAT WAVES
A photograph of people spraying water on themselves to cool down.

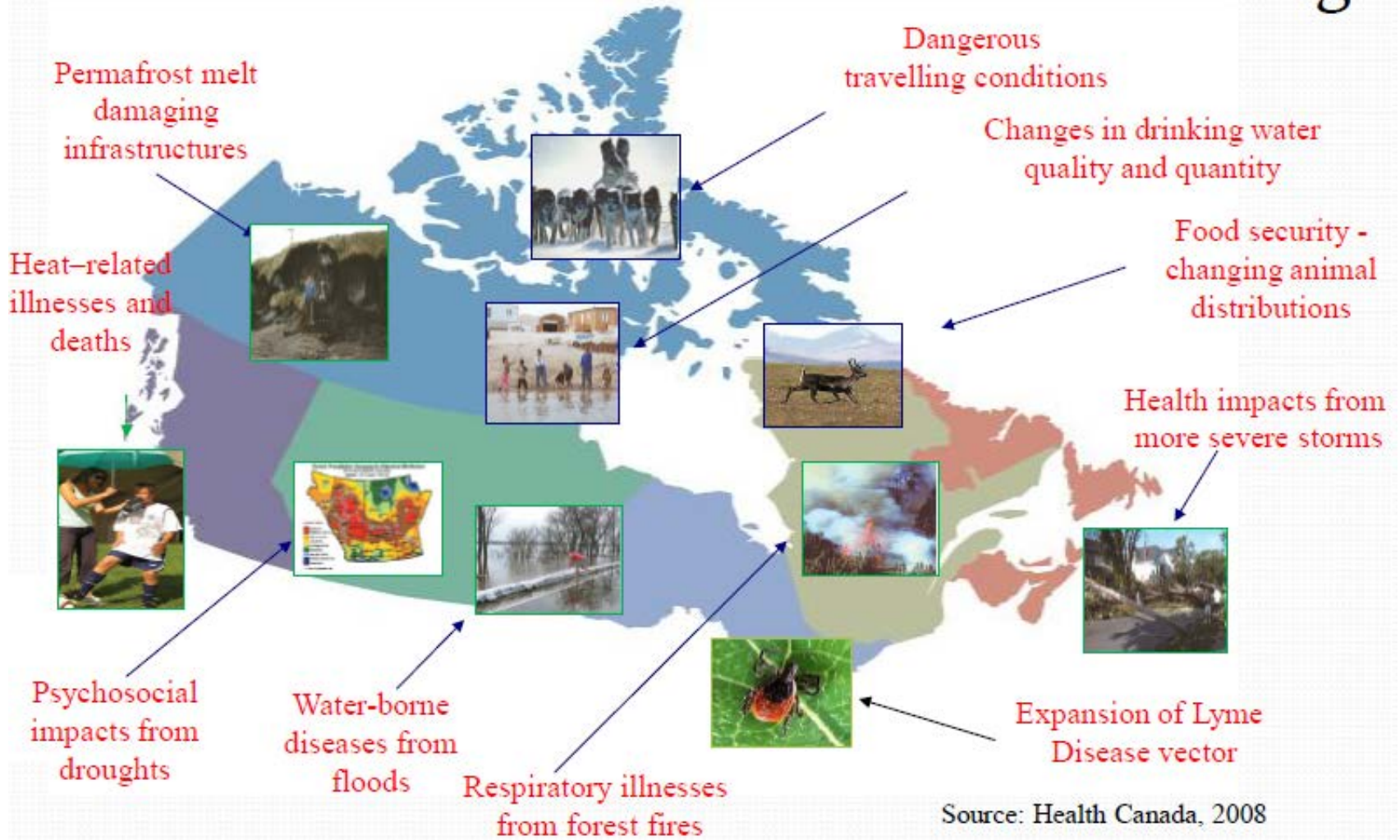
INFRASTRUCTURE FAILURE
A photograph of a road that has collapsed into a deep trench.

LOSS OF PERMAFROST
A photograph of a multi-story stone building that is tilted and leaning due to ground instability.

STORM SURGES
Two photographs: the top one shows waves crashing over houses, and the bottom one shows a house partially submerged in water.



Health risks in Canada from climate change





Longer-term impacts of a changing climate in Canada fnha.ca

The image features a map of Canada with six callout boxes, each with a blue header and a corresponding photograph:

- FOREST:** A photograph of a dense evergreen forest.
- ECOSYSTEMS:** A photograph of a polar bear standing on a piece of ice.
- AQUATIC RESOURCES:** A photograph of a fishing boat on the water.
- AGRICULTURE:** A photograph of a golden wheat field under a cloudy sky.
- WATER QUALITY:** A photograph of a body of water with a thick green algal bloom.
- WATER AVAILABILITY:** A composite image showing a dam, a bridge, and a red cargo ship on a river.



Local Environmental Observer (LEO) Network

- Current challenges:
 - Monitoring changes in;
 - Weather
 - Landscape
 - Biota
 - Public health
 - Communicating with other regions
- LEO's Purpose:
 - to increase understanding about climate and other drivers of change & to develop appropriate adaptation strategies.
- How:
 - applies traditional knowledge, western science & modern technology to achieve a robust and effective environmental health surveillance system





Alaska Native Tribal Health Consortium (ANTHC)

Center for Climate & Health

- Assessments
- Technical assistance
- Training through 7 Generations
- Assistance monitoring environmental impacts

One Health Group

- Surveillance on emerging environmental, wildlife & public health threats

LEO

- Started 2012 – by Mike Brubaker & team
- Website
- Mobile App – LEO Reporter

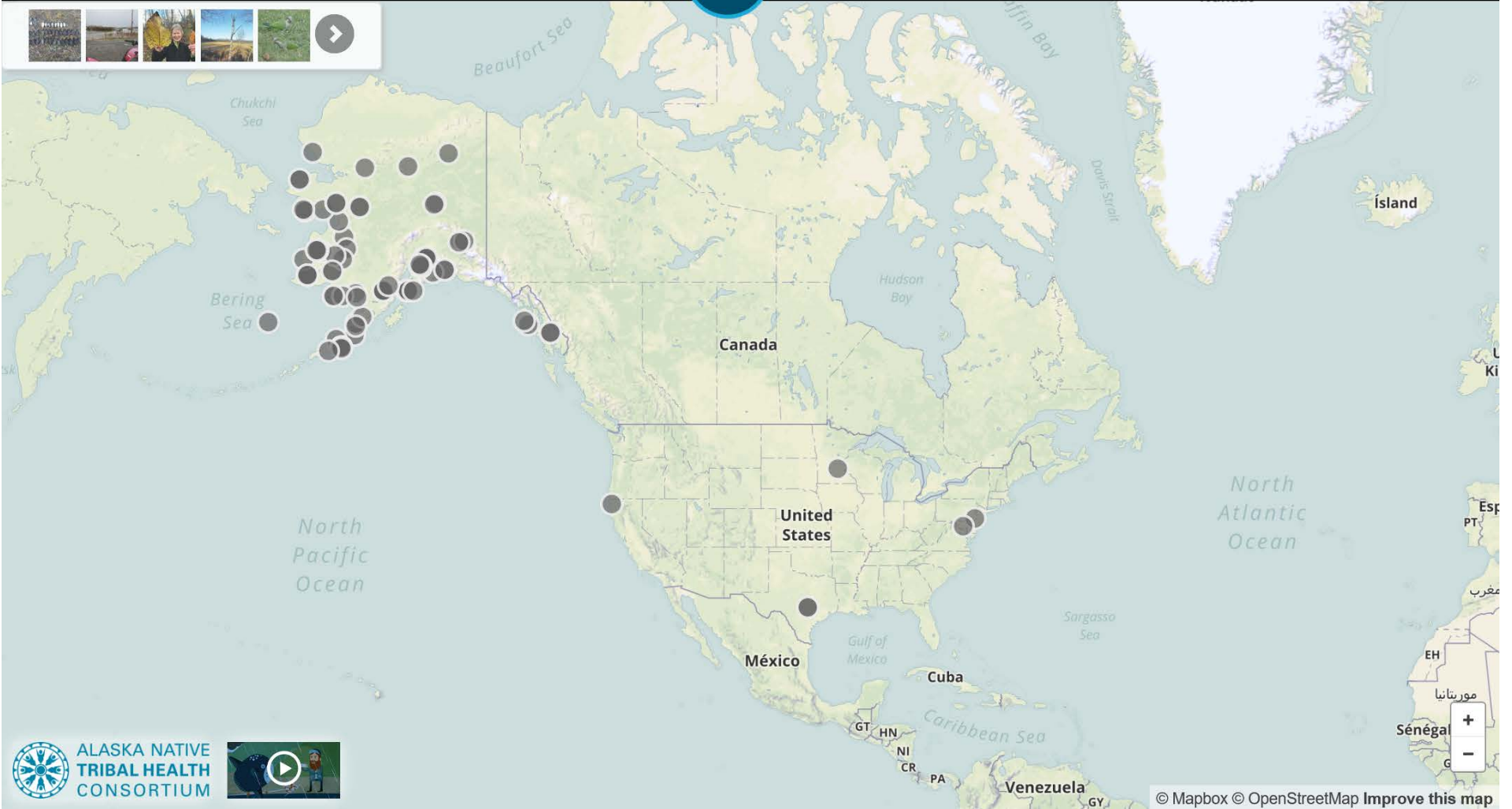




Observations ▾ About ▾ ?



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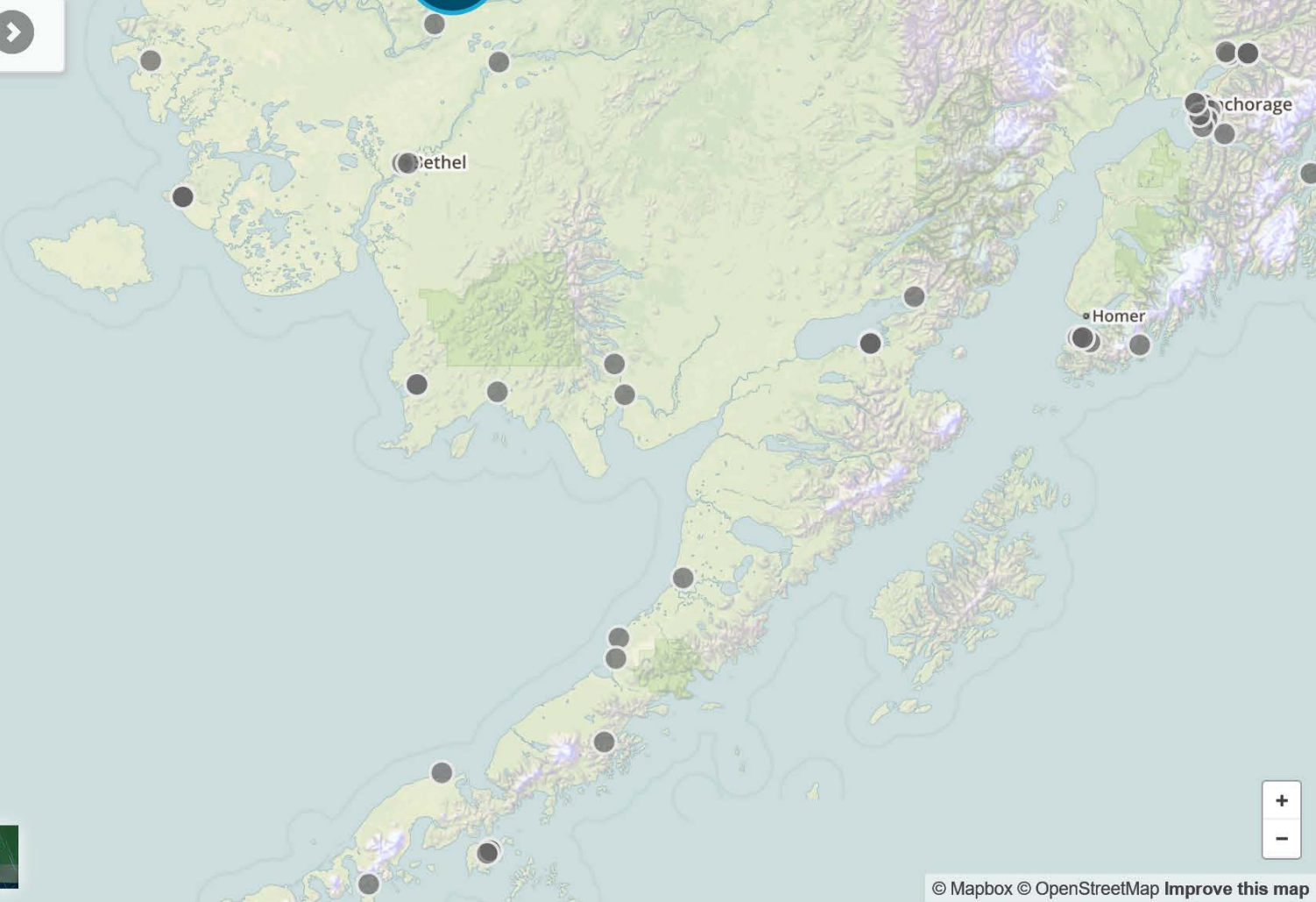
Observations ▾

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Unusual Mortality of Tufted and Horned Puffins (*F. cirrhata* and *Fratercula corniculata*)
 Saint Paul, Alaska, United States
 Oct 16, 2016





OCTOBER 16, 2016

Unusual Mortality of Tufted and Horned Puffins (*F. cirrhata* and *Fratercula corniculata*)

Saint Paul, Alaska, United States

500 km
300 mi

© Mapbox © OpenStreetMap Improve this map

Observation: Two puffin juveniles (one horned, one tufted) were brought to the Ecosystem Conservation Office at the Aleut Community of St. Paul Island on October 8-9th. The following week, locals began observing dead or "sick and dying" puffins of various plummages and beak variations from dull to bright (presumably representing various-aged individuals). ECO staff counted 42+ dead birds and 6+ sick or dying birds

Contributors

<p>Observer</p> <p>Lauren Divine St. Paul Island United...</p> <p>Co-Director Ecosystem Conservation Office Aleut Community of St. Paul Island</p>	<p>Observer</p> <p>Paul Melovidov Saint Paul Alaska, Unit...</p> <p>Aleut Community of St. Paul Island</p>
<p>Observer</p> <p>Aaron Lestenkof Aleut Community of...</p>	<p>Observer</p> <p>Pamela Lestenkof St Paul Island United...</p>





How to join...



Mike Brubaker

Anchorage Alaska, United States
Member since 2011












Community Environment & Health
Alaska Native Tribal Health Consortium - ANTHC



One Health Group

Contributions [View on Map](#)

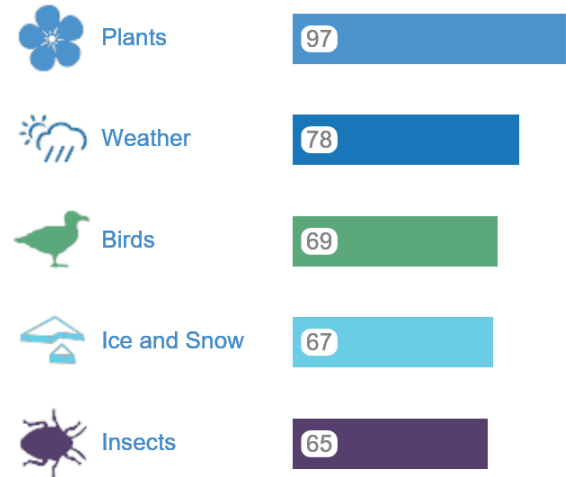
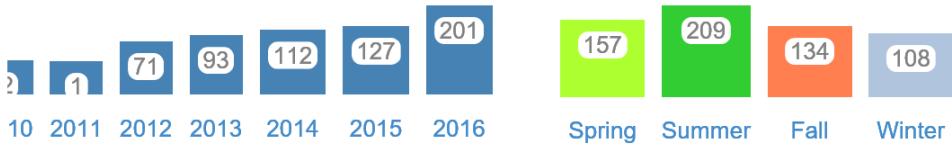
<p>Observer</p>  <p>Great Horned Owl (<i>Bubo virginianus</i>) Mortality</p> <p>Seldovia Village, Alaska, United States OCT 7, 2016</p> 	<p>Consultant</p>  <p>Hot Sun</p> <p>Goodnews Bay, Alaska, United States SEP 5, 2016</p> 	<p>Observer</p>  <p>Great Berry Picking</p> <p>Anchorage, Alaska, United States JUL 31, 2016</p> 
<p>Observer</p>  <p>High Lake</p>	<p>Consultant</p>  <p>Raspberries</p>	<p>Observer</p>  <p>Year Of The</p>



Explore

590 Observations [View >](#)

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1088 Members [View >](#)

266 Communities [View >](#)

410 Organizations [View >](#)

18 Projects [View >](#)



Make an observation...

Observations ▾ About ▾ ?

- View on Map
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- ★ Projects
- Make Observation

Observations ▾ About ▾ ? **LEO NETWORK** Sign In / Join English ▾

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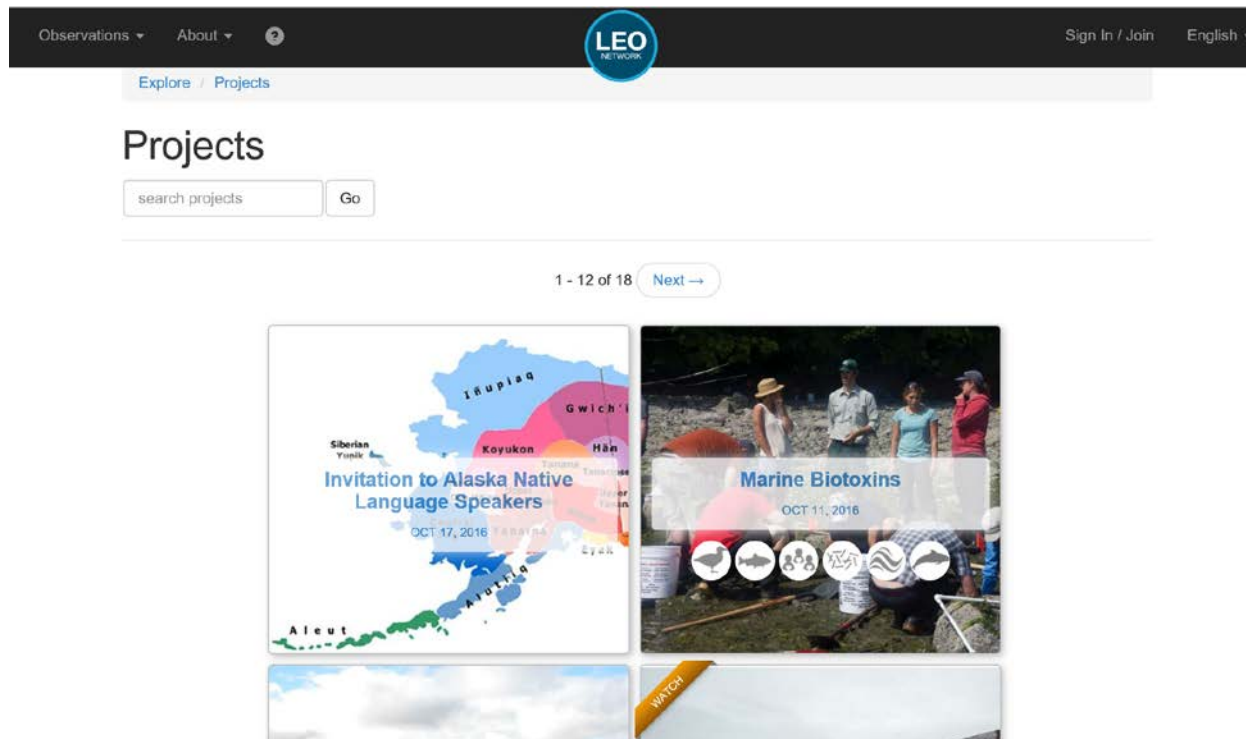
What's your headline?

This will be the title of your post

Cancel [Next >](#)

Projects

- Bundling of similar observations
- Community of Practice
- Can be with own organization, communities, other agencies



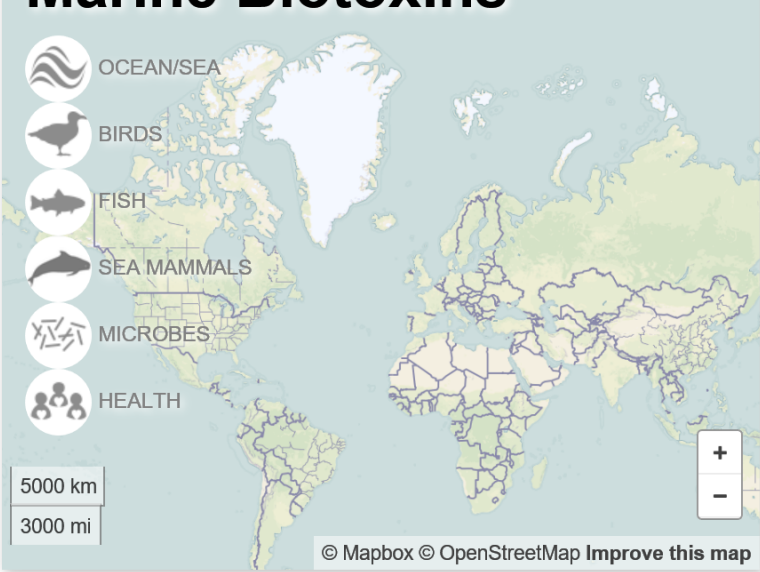
The screenshot displays the LEO Network website interface. At the top, there is a navigation bar with "Observations", "About", and a help icon on the left, and "Sign In / Join" and "English" on the right. The "LEO NETWORK" logo is centered in the navigation bar. Below the navigation bar, there is a breadcrumb trail "Explore / Projects". The main heading "Projects" is followed by a search bar containing the text "search projects" and a "Go" button. Below the search bar, there is a pagination indicator "1 - 12 of 18" and a "Next" button with a right arrow. The main content area shows a grid of project cards. The first card is titled "Invitation to Alaska Native Language Speakers" and features a map of Alaska with various regions labeled: Iñupiat, Gwich'in, Koyukon, Hän, Tanana, Koyuk, Kuskokwim, Aleut, and Siberian Yupik. The date "OCT 17, 2016" is displayed below the map. The second card is titled "Marine Biotoxins" and shows a group of people outdoors. The date "OCT 11, 2016" is displayed below the image. Below the "Marine Biotoxins" card, there is a "WATCH" button.



OCTOBER 11, 2016

Marine Biotoxins

-  OCEAN/SEA
-  BIRDS
-  FISH
-  SEA MAMMALS
-  MICROBES
-  HEALTH



This project is intended to support a planned biotoxin initiative in British Columbia, initiated by a workshop on October 24-25, 2016. The objective described in the meeting invitation is "to explore the potential sources of data on environmental factors, wildlife mortality events, or unusual findings that may be associated with marine biotoxins or other hazards of public health relevance." This LEO Project enables the recording and

Project Contributors [View All](#) ▶

Add Comment

 **Dionne Sanderson**
Oct 24, 2016

Who can see your comment?

Send Comment

Reference

"Marine Biotoxins." *LEO Network*. Alaska Native Tribal Health Consortium, Observed 11 October 2016. Web. Accessed 24 October 2016.



LEO Reporter Mobile App

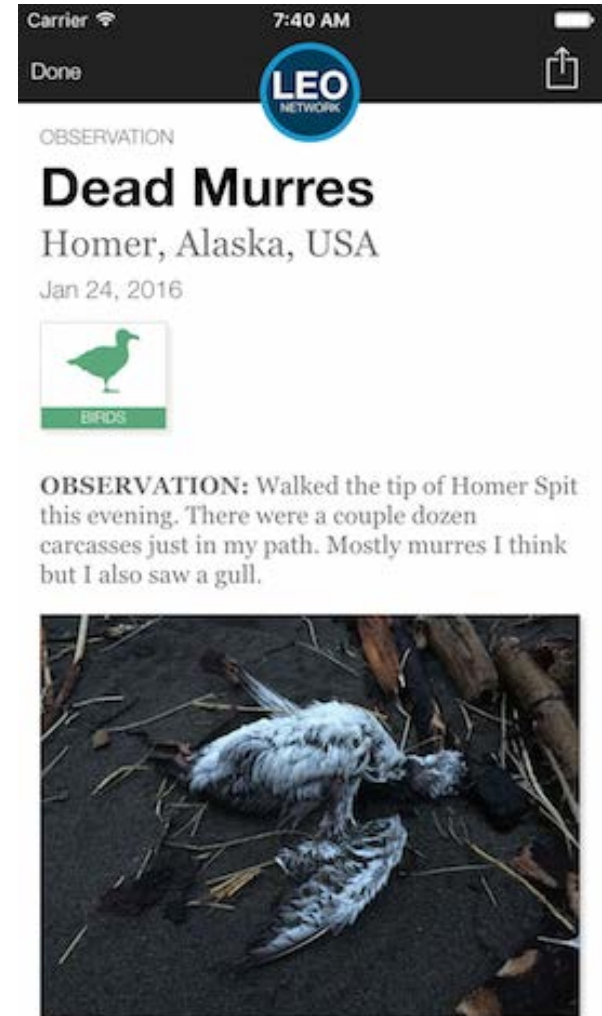
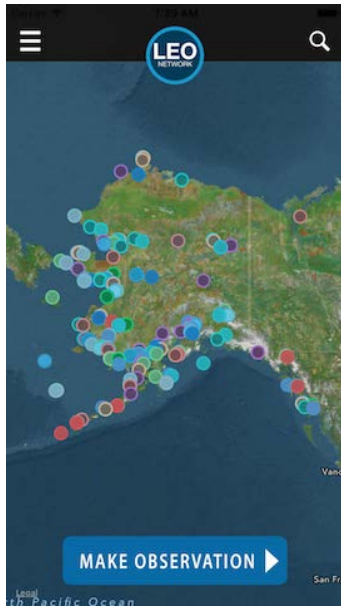


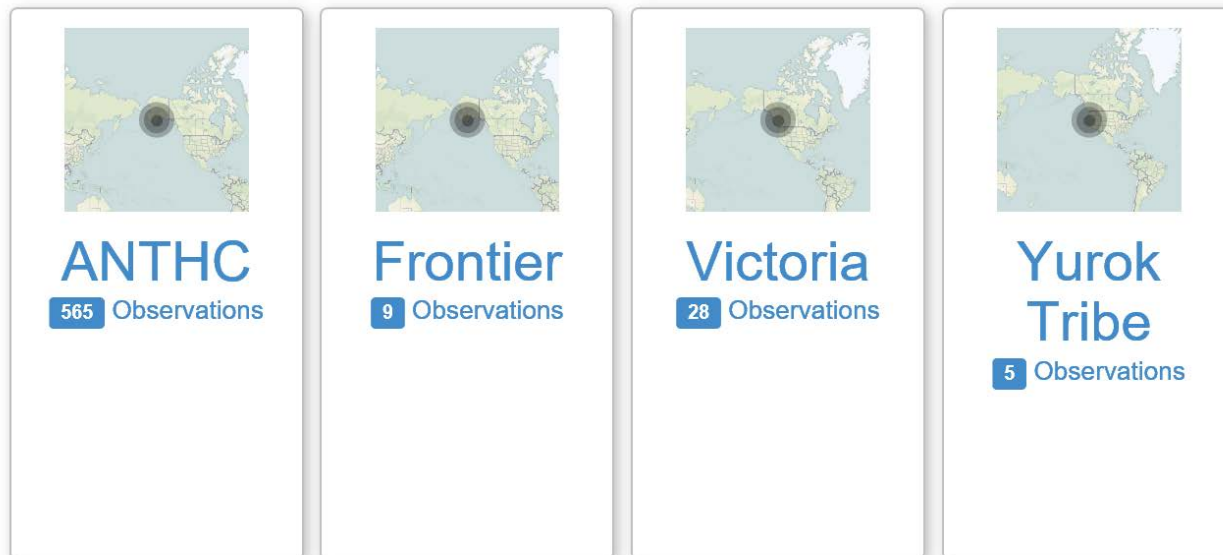
Photo by Michael Bechler



Hubs

- Connecting observers with topic experts
- Hosting focus groups, webinars, publishing regional newsletters or developing special projects

Hubs





BC LEO Hub

- Funding:
 - Commission for Environmental Cooperation (CEC)
 - FNHA
- Technical support:
 - ANTHC





Hub Coordinator, Dr Tom Okey

Marine Ecologist

Adjunct Professor, UVIC Environmental Studies

Owner of Ocean Integrity Research





Thank you!

www.leonetwork.org