



## Exemples de Projets de Recherche Collaboratifs dans l'Arctique

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*Séminaire de lancement de l'OHMI-Nunavik  
20-22 novembre 2013 - à Québec  
Programme*



National Snow and Ice Data Center  
Supporting Cryospheric Research Since 1976



# L'introduction

- Aujourd'hui je vais vous présenter le projet ELOKA (Echange pour les observations et les connaissances locales de l'Arctique)
- Je vais me concentrer sur trois projets spécifiques qui impliquent un réseau de partenaires
- Je vais d'abord parler du contexte



# *ELOKA fait partie du “National Snow and Ice Data Center, University of Colorado*



Manages and distributes scientific data

Creates tools for data access



Performs scientific research

Engages in local and traditional knowledge stewardship



Supports data users

Educes the public about the cryosphere



# ELOKA - Énoncé de mission (Mission Statement)



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Offrir des services d'appui à la gestion et l'utilisation des données afin de faciliter la collecte, l'échange, et le stockage des observations et des connaissances locales dans l'Arctique.

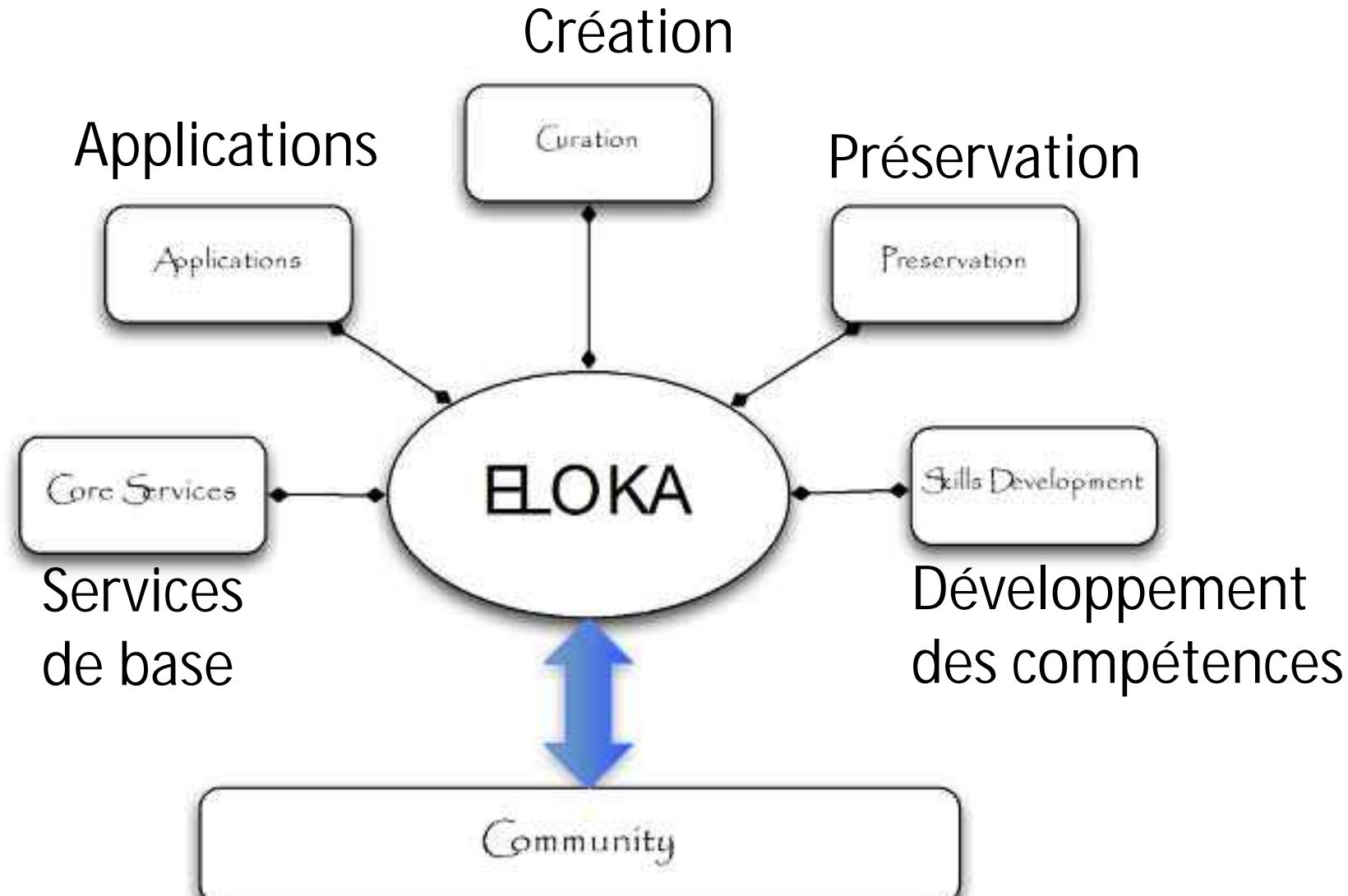
To provide data management and user support services to facilitate the **collection, exchange, use** and **preservation** of local observations and knowledge of the Arctic.

# Portée de ELOKA



Mettre l'accent sur les données, les connaissances locales et traditionnelles ("data")

Nous essayons de travailler avec les projets menés par les communautés



Faciliter la construction de la communauté

# Résultats: les produits



Curation

App

Education

Core Services

Skills Development

ELOKA

SIP Commons

Community





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## Les Projets:

# SIZONet Yup'ik Environmental Knowledge Atlas of Community Based Monitoring



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# SIZONet

- Seasonal Ice Zone Observing Network
- Originated from partnership between **Inupiat** and **Yupik** sea ice experts, **communities** and **scientists**
- Involves **local experts**, other **community members**, **academics** (anthropology, geophysicists, informatics etc.)
- “**Coproduction**” of program goals
- Relationships (rapport) developed over many years (de nombreuses années) (7 +)



# Communautés Partenaires

- Barrow
- Gambell
- Kwigillingok
- Savoonga
- Shishmaref
- Toksook Bay
- Wales



Photo near Barrow, Alaska: Photo by Andy Mahoney

# Partenariat pour le Développement

SIZONet

The SIZONet website features a blue header with the logo 'Seasonal Ice Zone Observing Network (SIZONET)'. Below the header, a main content area discusses the mission to improve seasonal ice forecasting and operational support for Arctic shipping. It highlights the development of an observation system to monitor sea ice thickness and movement, and the creation of a central data archive. The 'Goals & Objectives' section lists five key areas: identifying key ice parameters, improving seasonal ice forecasts, increasing the availability of sea ice information, developing an observation system, and establishing a central data archive. The footer includes a 'Project Team' section with names like Dr. David Barber, Dr. Mark Ikeda, and Dr. Michael Steele, along with copyright information and a Creative Commons Attribution-NonCommercial-ShareAlike license.



ELOKA

The ELOKA website has a red header with the logo 'ELOKA: Enabling Local Knowledge and Knowledge of the Arctic'. The main content area focuses on the mission to facilitate the exchange of knowledge between the Arctic and Subarctic regions. It emphasizes the importance of local knowledge in decision-making and the development of sustainable Arctic communities. The 'Goals & Objectives' section includes: 1) building capacity for Arctic communities to collect and analyze their own data; 2) improving the quality of data available to Arctic communities; 3) increasing the availability of data to Arctic communities; and 4) increasing the availability of data to Arctic communities. The footer includes a 'Project Team' section with names like Dr. David Barber, Dr. Mark Ikeda, and Dr. Michael Steele, along with copyright information and a Creative Commons Attribution-NonCommercial-ShareAlike license.

Programme d'observation  
locale

Programme de  
développement

# Accès Contrôlé



Local Observations  
Seasonal Ice Zone Observing Network (SIZONet)

Exchange for Local Observations and Knowledge of the Arctic



Home | Search Observations | About | Research methods | Contacts | Log In

The Local Observations database was developed to record, archive, and share indigenous sea ice knowledge and expertise. This information is generously shared with the public by the observers and the communities within which the observers reside. We ask that anyone interested in interacting or using the information review and agree to adhere to the ethical and appropriate use guidelines.

Visit the Contacts link if you have questions or would like to contribute observations.

## Access to the Observations Catalog

### User Agreement

I understand that the observations compiled in this product were made by indigenous local sea ice experts and are shared generously by the observers and their communities to help further education, scientific research, and communication between holders of local and Indigenous knowledge and research scientists. I also understand that the observations were made in the context of sea ice knowledge and use specific to the different communities that are part of this project; any interpretation of the data should respect this context.

When using or referencing data from this product for research or reporting purposes, I:

1. Must acknowledge and cite by name the person(s) whose observations are being discussed or analyzed, unless the name of the observer(s) is not identified in the observation record.
2. Must use the following citation to reference the data set: Asangaqook, L., P. Apangalook, S. John, J. Laakk, W. Wayapuk, Jr., and others (editors), 2013. Local Observations from the Seasonal Ice Zone Observing Network (SIZONet). [Indicate subset used]. Edited by K. Eicken and R. Kaufman. Boulder, Colorado USA: National Snow and Ice Data Center. <https://doi.org/10.7265/NISTSL4VT>.
3. Should refer to the specific context within which the observations were made and compiled, as outlined in the following paper that provides additional background information: Eicken et al. (submitted) Developing a Framework and Database for Community Sea-Ice Observations for Multiple Users, Polar Geography.

By accepting the data, I agree to the above Use Agreement.

### Guest Access:

I hereby agree to abide by the terms set forth in the User Agreement.

I accept

### Registered Users:

Email:

eloka@nsidc.org

Password:

\*\*\*\*\*

I accept

# Recherche



**Local Observations**  
Seasonal Ice Zone Observing Network  
(SIZONet)

Exchange for Local Observations and Knowledge  
of the Arctic



[Home](#) [Search Observations](#) [About](#) [Research methods](#) [Contacts](#)

[Add observation](#) [Logged in as ELOKA Team](#) [Log out](#)

## Search the observations catalog:



[View All](#)

Search for:

AND:

AND:

Date range:  to

# Consultation



**Local Observations**  
Seasonal Ice Zone Observing Network  
(SIZONet)



Exchange for Local Observations and Knowledge of  
the Arctic

[Home](#) [About](#) [Research Methods](#) [Public Information](#) [Data](#) [Add observation](#) [Contact](#)

Logged in as Joe Leavitt [Log out](#)

## CURRENT SEARCH

**Keyword(s):**

**Date(s):**

**Location(s):**

All

**Observer(s):**

All

[NEW SEARCH ▶](#)

## Search Results

Showing observations 1 – 20 of 2389

Sort by: Date ↓

[First](#) [Previous](#) [Next](#) [Last](#)

Date	Observer	Village	Additional elements noted (legend)	Transcript	Edit
2012-02-13	Joe Leavitt	Barrow		All details	<a href="#">Edit</a>
2010-12-04	Paul Aqangalook	Gambell		All details	<a href="#">Edit</a>
2010-12-03	Joe Leavitt	Barrow		All details	<a href="#">Edit</a>
2010-06-30	Winton Weyspuk Jr.	Wales		All details	<a href="#">Edit</a>
2010-06-30	Joe Leavitt	Barrow		All details	<a href="#">Edit</a>
2010-06-29	Winton Weyspuk Jr.	Wales		All details	<a href="#">Edit</a>
2010-06-29	Joe Leavitt	Barrow		All details	<a href="#">Edit</a>
2010-06-27	Joe Leavitt	Barrow		All details	<a href="#">Edit</a>
2010-06-26	Joe Leavitt	Barrow		All details	<a href="#">Edit</a>

# Voir

[Home](#) | [Search Observations](#) | [About](#) | [Research methods](#) | [Contacts](#)

[Add observation](#) | [Logged in as ELOKA Team](#) | [Log out](#)

Observation ID:  
WALWE1303270920

Recorder: Mette Kaufman

Observer: Winton Weyapuk Jr.  
(Walrus)

Date: 2013-03-27

Time: 09:20 AM

Observation location: Walrus

[New Search ▶](#)

## Observation Details

[Back to search results](#)

[Edit Observation](#)

[Previous](#) [Next](#)

### Transcript

Sky is clear, wind is calm, temperature -13 F, visibility unlimited. There is pack ice to 1 mile out from the shore fast ice with a lead covered with young ice extending towards the north. One whaling captain said he found six possible launch sites on the shore fast ice near Walrus. One spot near a high pressure ridge seems optimal with no work needed on the trail and with a freeboard of about two feet at the edge. This will require relatively minimal work to cut a boat launching ramp. A few hunting crew members have been checking the lead almost daily to watch for bowhead whales and other marine mammals.

### Sea ice related activities

#### Sea ice travel:

Sea ice observing/scouting

#### Whaling:

Preparing for whaling

Crews out on the ice

### Sea ice observations

#### Distance to the pack ice:

Approximately 1.0 miles

#### Lead condition:

Young ice covering lead

### Weather

#### Air temperature:

Approximately -13.0 Fahrenheit

#### Sky:

Clear

#### Wind speed:

Calm

#### Visibility:

Unlimited

### Game and Wildlife

#### Marine Mammals:

Bowhead whale (Not seen)

# Ajouter Observations



Local Observations  
Seasonal Ice Zone Observing Network  
(SIZONet)

Exchange for Local Observations and Knowledge of  
the Arctic



Home About Research Methods Public Information Data Add observation Contacts

Logged in as Joe Leavitt Log out

General observation information Weather detail Toe detail Wildlife Activity detail Photos/Video

Observation ID: GAMAP101204

Recorder: Paul Apangalook

Observer: Paul Apangalook

Observation Location: Gambell

Observation date

2010-12-04

(yyyy-mm-dd)

Observation time

00:00:00 (hh:mm:ss)

Conditions:

Precipitation:

Skies:

Wind speed:

Visibility:

Change wind dir:

Wind direction:

Ice fog:

Air temperature:

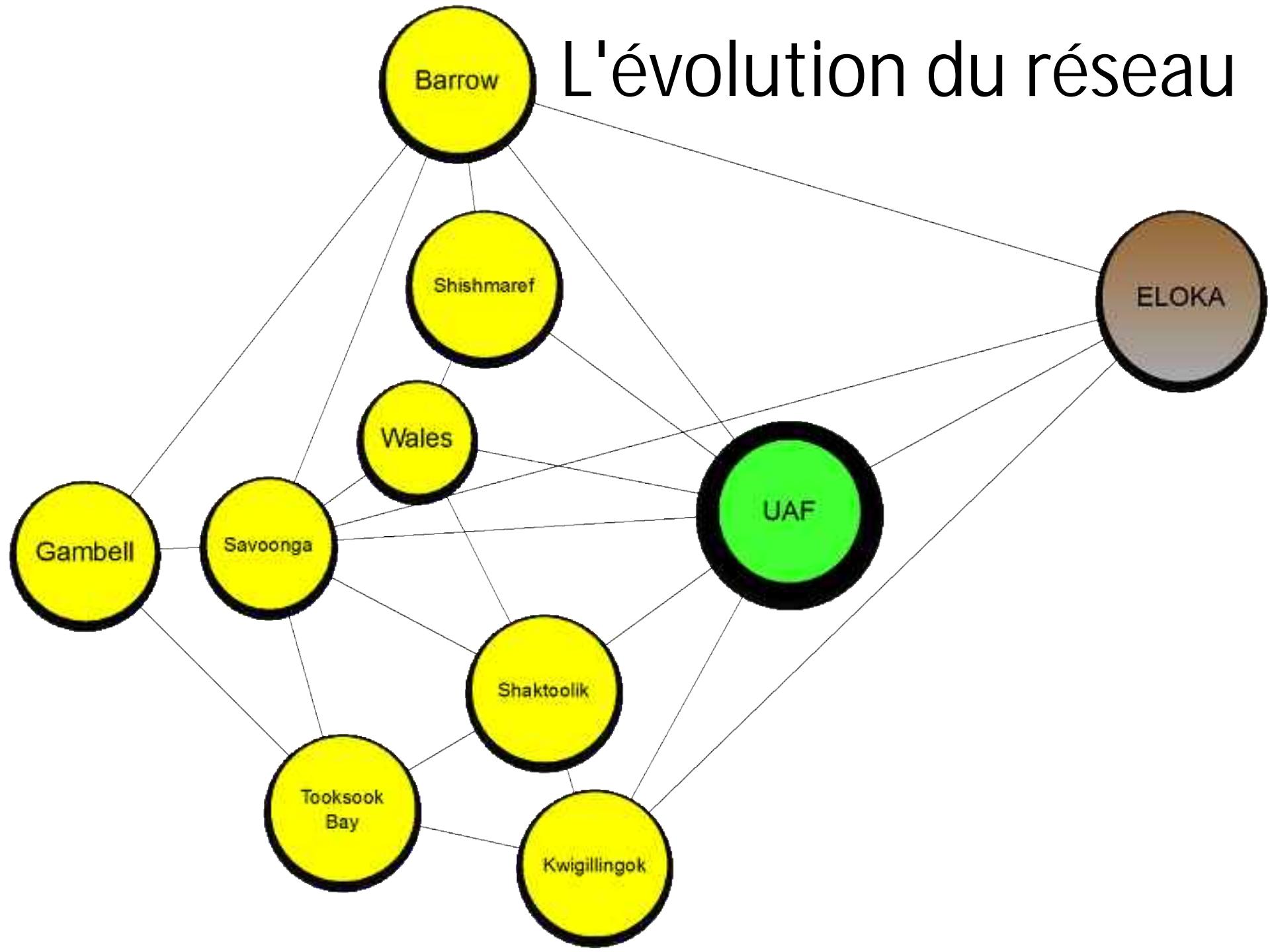
Wind speed:

Visibility:

Uncertain observation

The SIZONet Observation Database is a collaborative between [SIZONet](#) and [ELOKA](#). This Web site is hosted by the [National Snow and Ice Data Center](#).

# L'évolution du réseau



# Nouvelles idées

The image displays two main components. On the left is a concept map titled "Concept Map based on interpretation of 'Ellavut: Our Yup'ik World and Weather'". It shows relationships between various concepts: Fresh rain water accumulates on top of Saltwater, which undergoes Freezing to form Cikullaq. Cikullaq undergoes Thickening to become Tuaq, which extends only to Iginiq. Cikullaq is also associated with Nutoqerrun and Cikullat. A note indicates that Cikullaq is defined as the Edge of deep water. On the right is a screenshot of a web browser showing search results for "sikuliaq". The results list several observations from November 13, 2008, to November 11, 2008, made by Joe Leavitt. A callout box highlights a specific observation from November 13, 2008, with the text: "You have found a recent observation containing 'sikuliaq'. This is young ice and may be close to or become 'sikuag', thin ice that is dangerous to walk on."



©photo Shari Gearheard



©photo Shari Gearheard



©photo Shari Gearheard



©photo Shari Gearheard

# Yup'ik Environmental Knowledge Project



National Snow and Ice Data Center  
*Supporting Cryospheric Research Since 1976*



# Calista Elders Council (CEC)

- Yukon-Kuskokwim delta in southwest Alaska
- Led (dirigée par) by **Mark John** and **Board of Elders** from the region
- **Alice Aluskak Rearden**
- **Ann Fienup-Riordan**
- Partnered directly with communities (activities):
  - Elders and youth conventions;
  - camps;
  - region wide festivals;
  - small, topic-specific gatherings (réunions);
  - coproduction of books and publications



# Calista Elders Council (CEC)



Group photo taken at Manriq during our circumnavigation of Nelson Island, July 2007. Photo Credit: Ann Fienup-Riordan



Community Data   Current Projects   Resources   News & Events   About ELOKA

## Yup'ik Environmental Knowledge Project

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The coastal plain of the Yukon-Kuskokwim delta, south of Scammon Bay, 2003. Photo Credit: Jeff Foley

### Nunangualiput / Our Maps



Ekneraqaput makut kinguqiput  
makut atirneq. /We must teach  
our young people their [place]  
names.

### Nunavut / Our Land



Nunamok yuungqortukut. /Our  
wellhood is provided by the land.

### Qanruyeteput / Our Values



Takuquchiaraq.  
/Showing Respect.

### Yegtuu Qaneryeruput / Our Yup'ik Language



Qaneryeruput una power-  
arapakarput. /Our language is a  
great power to us.

## Nunamta Ellamta-Ilu Ayuqucia/What Our Land & World are Like

This website is part of a four-year project (2011 to 2014), funded by the National Science Foundation, Polar Programs to document Indigenous place names and environmental knowledge in four Yup'ik communities (Kotlik, Emmonak, Alakanuk, and Nunam Iqua) on the Bering Sea Coast. These coastal communities initiated the project in collaboration with Claita Elders Council (CEC) and anthropologist Ann Fienup-Riordan. As the major research organization for the Yukon-Kuskokwim delta in southwest Alaska, the CEC—a non-profit representing 1,300 Yup'ik tradition bearers—actively documents traditional knowledge of the Yup'ik people. The Yup'ik Environmental Knowledge Project, partnered with ELOKA, aims to help develop a data



# Yup'ik Environmental Knowledge Project

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[View Media](#)



Tununak dancers (movie small)



## Yup'ik Atlas

[Search the atlas](#)

[More Info](#)

Tununak Dancers  
Tununak, AK

From the film "Once Our Way"  
by Andrew Chikoyak  
c. 1970s

[Download](#)

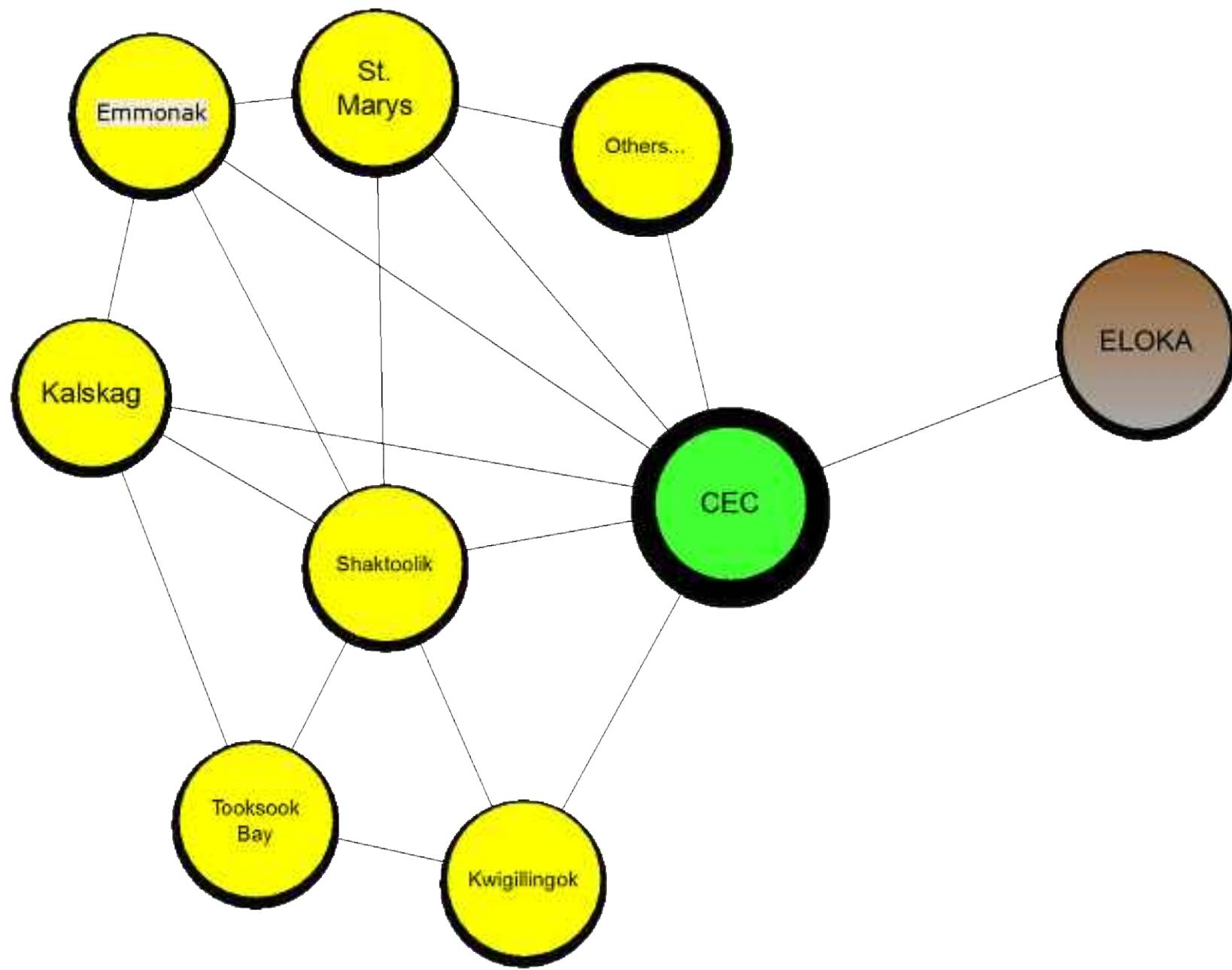
Title

Tununak dancers (movie small)

# Développements récents

- Réseau en expansion
- Formation (Septembre 2013, Février 2014)
- Les contributions directes des membres de la communauté
- Développer un modèle de gouvernance de la communauté
- Connexion à d'autres projets
- Ajout d'informations supplémentaires (e.g. histoire de la guerre)

# L'évolution du réseau





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©photo Shari Gearheard

# Atlas of Community Based Monitoring in Changing Arctic



National Snow and Ice Data Center  
*Supporting Cryospheric Research Since 1976*



# Atlas of Community-Based Monitoring

- Project led by Inuit Circumpolar Council (Canada) and Noor Johnson, Brown University
- Designed to showcase the many community-based monitoring (CBM) projects and initiatives across the circumpolar world
- Help with coordination at circumpolar level
- Primary aim is to use as a networking tool between communities
- Help others to better understand the role and potential of CBM

# <http://www.arcticcbm.org>

Atlas of Community-Based Monitoring in a Changing Arctic

Views   About   Welcome   Login   Help

search the atlas

Welcome to the Atlas of Community-Based Monitoring in a Changing Arctic. Arctic communities are actively involved with observing social and environmental change; this atlas was designed to showcase the many community-based monitoring (CBM) projects and initiatives across the circumpolar world.

If you are involved with a CBM project, we hope you will consider joining the atlas. Select the Help link above to learn how to join and contribute.

The atlas was brought to you by these partner institutions:

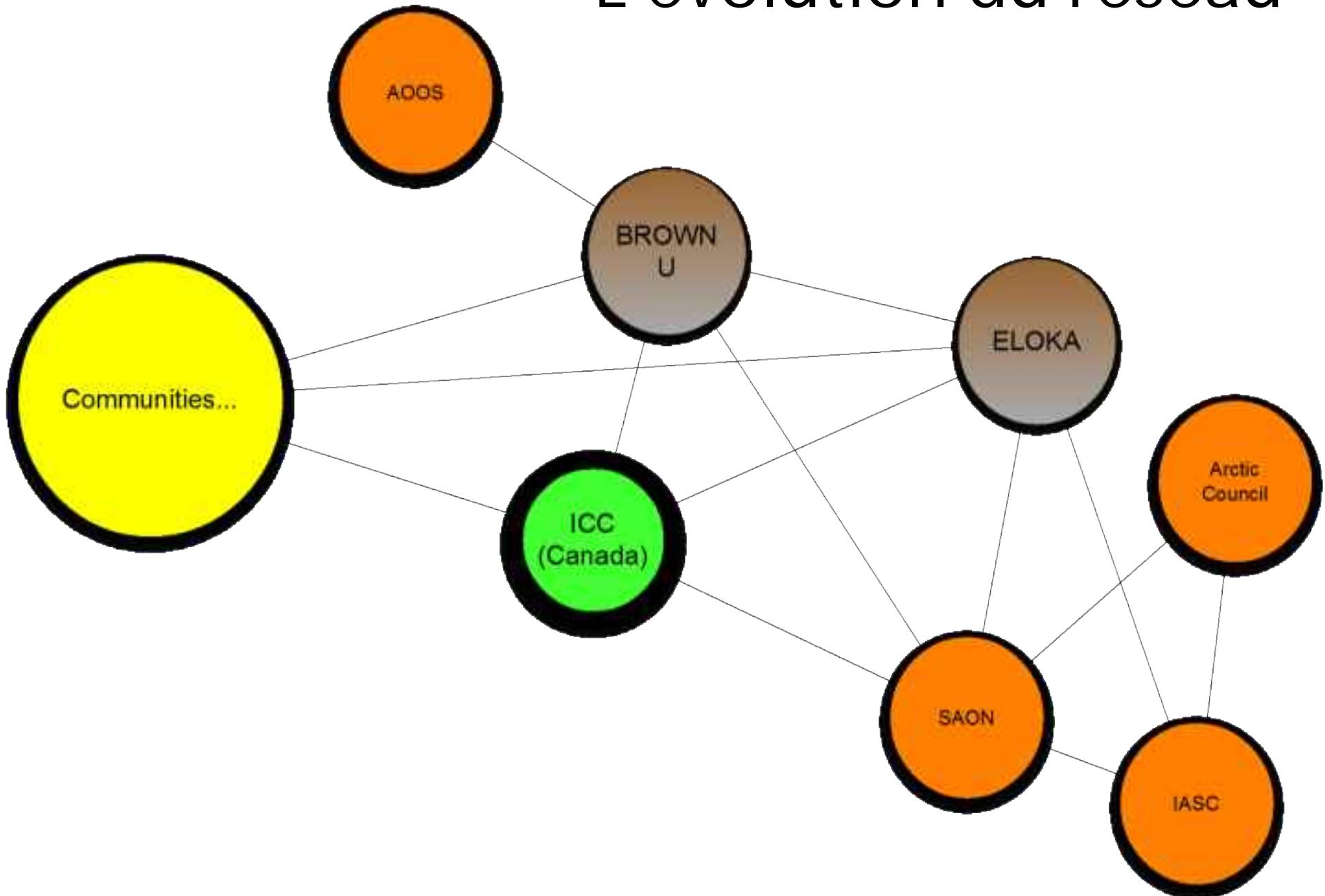
INUIT EDUARCTIC BROWN

Inuit Tapiriit Kanatami knowledge centre SAON Geomatics and Cartographic Research Centre

Carleton UNIVERSITY

Made with MapServer

# L'évolution du réseau





## Lessons Learned



National Snow and Ice Data Center  
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# Enseignements

- Ce n'est pas tout à votre sujet
- Respect
- Soyez authentique!
- Construire un réseau demande du temps et de l'énergie
- Action! Travailler avec un objectif commun



# Ethics and “Intellectual Property”

- Ethical dimensions and ‘intellectual property’ are critically important)
- **Historical context**
- Local research and knowledge sharing protocols)
- License?
- Ownership, control, access

## NON-EXCLUSIVE LICENSE AGREEMENT FOR COPYRIGHTED MATERIALS

This Agreement is made and entered into 20th September, 2010 ("Effective Date"), by and between the Snowchange Cooperative, Finland (Address: Havukkavaarantie 29, FIN 81235 Lehto, Finland. Telephone: + 358 407372424. Email: [tero@snowchange.org](mailto:tero@snowchange.org)) (hereinafter "Licensor") and the Regents Of the University Of Colorado, a body corporate, on behalf of the National Snow and Ice Data Center ("NSIDC") concerning the following identifiers for local and traditional knowledge and observation materials including text, images, audio files, video files and other related content to be used in the development of a Web site: *Text files explaining the history, culture and contemporary situation of the Chukchi Indigenous communities of Turvaurgin and Nutendil of Republic of Sakha-Yakutia, Russia ("Indigenous Communities") as well as a limited set of photos and audio files related to the oral tradition of the communities ("Materials")*.



# Rendre

- Projets conduits par la communauté
  - Le développement des compétences?
  - Activism?

[Data Management Learning Resources](#)

This document is part of a toolkit developed by the Emerging Leaders program that has helped to develop a community-wide understanding of what data means, why data is important and its importance of maintaining their data resources. The toolkit currently consists of six online modules and is continually increasing its number of modules.

**Contents**

- 1 Introduction
- 2 What is Data?
- 3 Data
- 4 What Does Data Mean? (Part 1) - Data Definitions
- 5 Data Definitions
- 6 What is Data? (Part 2)
- 7 Data and Managing Processes
- 8 Managing Data for the Organization (Part 1) - Legal
- 9 Managing Data for the Organization (Part 2) - Security
- 10 Data Privacy
- 11 Data Privacy (Part 2)
- 12 Privacy Basics
- 13 Privacy Protection
- 14 Data Privacy

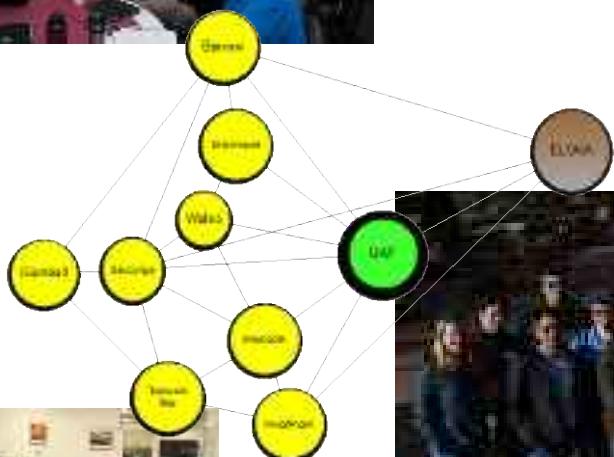
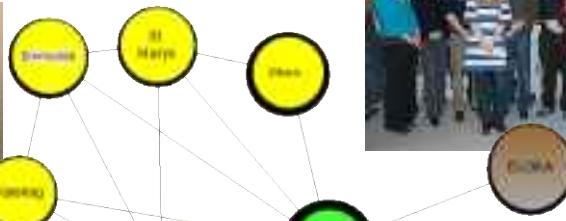
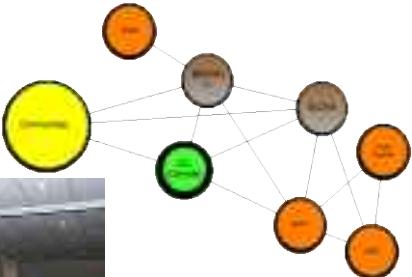
**What is Data?**

Developing Financials Overview

The EIP Foundation, the organization behind MDM2, seeks to develop an industry standard governance model for enterprise master data management, as well as to support needs for implementation of the new standard among management professionals. Over the next several years, the EIP Foundation expects to develop tools and services which will be designed to facilitate creation of an optimal data management architecture, including standards, and guidelines for the use of MDM.

Please see information on participating in the EIP at <http://www.eipfoundation.org>.

# Résultats: les réseaux



# Example LTK/CBM Organizations



ELOKA Exchange for Local Observations and Knowledge of the Arctic

ACADIS



Inuit qaujisiarvingat  
knowledge centre



POLAR DATA  
CATALOGUE  
CENTRE D'ÉTUDES NORDIQUES  
CEN Centre for Northern Studies



PEOPLE  
Project



Polar View  
Earth Observation for Polar Monitoring



United Nations  
Educational, Scientific and  
Cultural Organization

Carleton  
UNIVERSITY

Geomatics and Cartographic  
Research Centre



AOOS



B A I D

Arctic SDI

Arctic Spatial Data Infrastructure

Arctic Observing Viewer



SAON  
SUSTAINING ARCTIC  
OBSERVING NETWORKS



# ELOKA – Priority Areas



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- Community building
- Skills development and knowledge transfer
- Ethical and legal (e.g. sharing agreements)
- Curation & preservation (“living” resources)
- Technical systems
- **Arctic social sciences**

# Data Management for Arctic Social Sciences



ACADIS



- Il existe d'autres sciences sociales arctiques Santé, politique, économie
- Association **postdoctoral (deux ans)**
- En se concentrant sur les besoins de gestion des données de sciences sociales
- Dr. Colleen Strawhacker: sciences sociales avec compétence de gestion des données



# Acknowledgements

- ELOKA acknowledges the valuable contributions of all partners and particular the Indigenous knowledge holders and community members who have generously donated their time and knowledge
- This material is based in part upon work supported by the National Science Foundation under Grant Numbers ARC 0856634 and ARC 1231638
  - Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the National Science Foundation.
- The Arctic Social Sciences Postdoctoral Fellowship is funded in part by the Council on Library and Information Resources

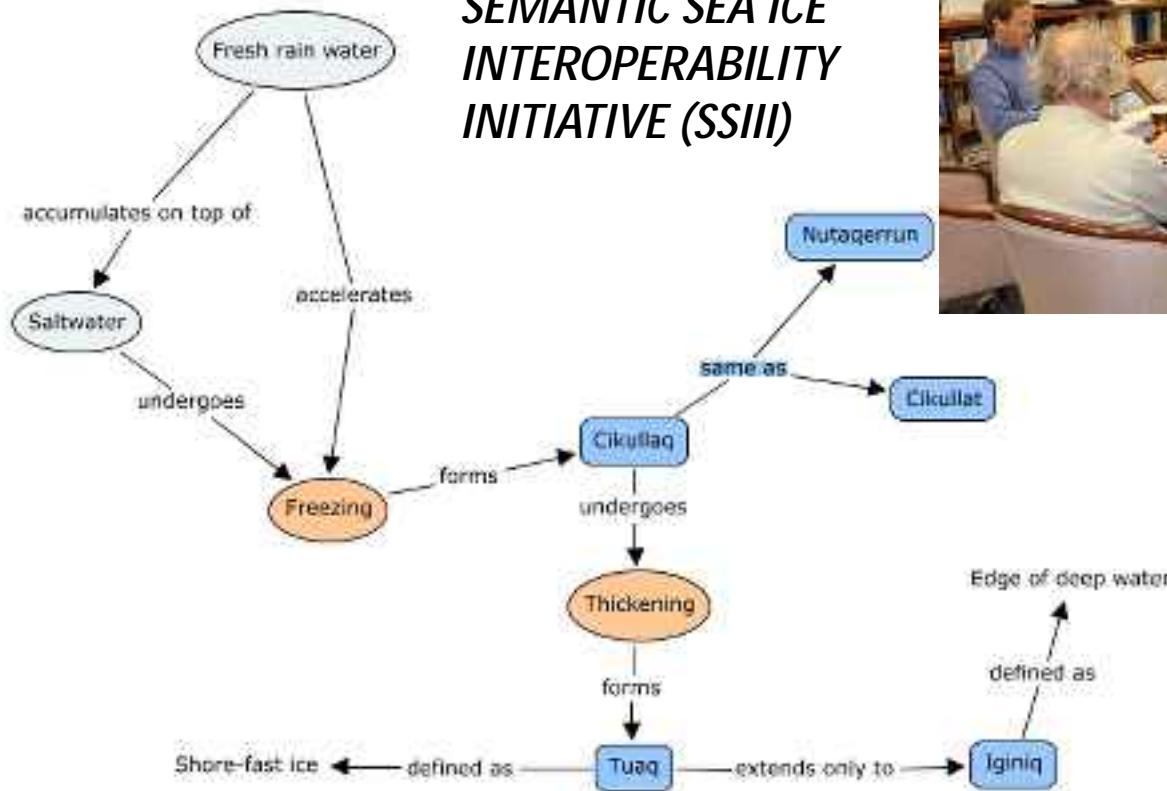
# Merci!



©photo Shari Gearheard

# Building Knowledge Models to Facilitate Re-use and Preservation

Concept Map based on interpretation of  
"Ellavut: Our Yup'ik World and Weather"  
Anne Fienup-Riordan & Alice Rearden, 2012

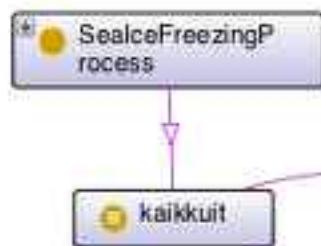


*RESEARCH CARRIED OUT UNDER THE SEMANTIC SEA ICE INTEROPERABILITY INITIATIVE (SSIII)*

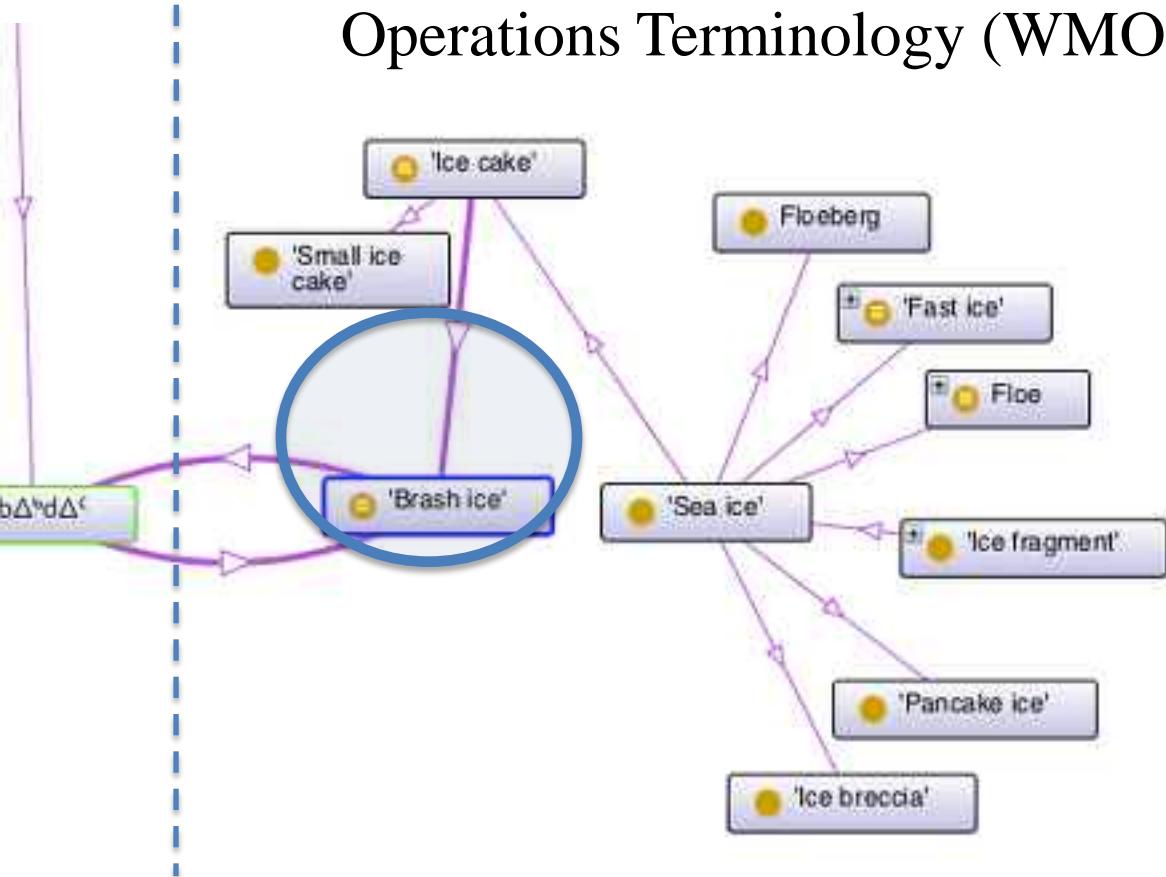


# Linking Through the Knowledge Model

Local Terminology



Operations Terminology (WMO)



# Technical and Academic Partnerships:

## *Data Conservancy*

