NATIONAL SCIENCE FOUNDATION
LTER NETWORK
LONG TERM ECOLOGICAL RESEARCH

Site and Information Management 2023

BONANZA CREEK LTER
Boreal Forest Ecology

Jason Downing

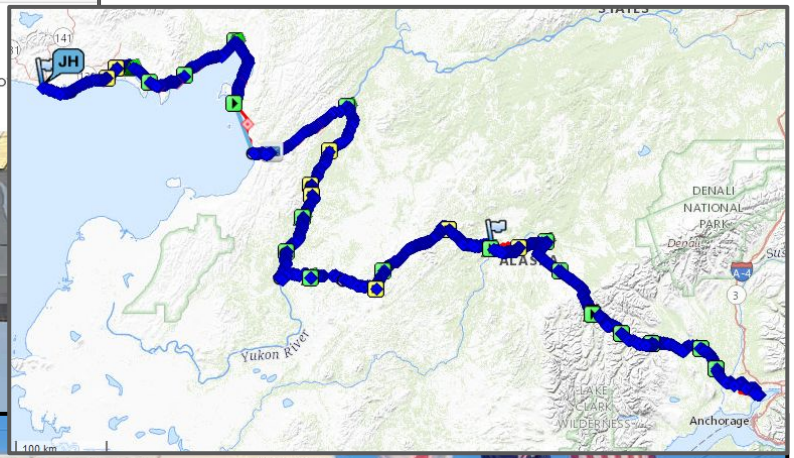
Jamie Hollingsworth

Karl Olson

Mark Winterstein

Nome, Alaska Web Cam

Welcome to the Nome Web Cam! Located approximately 540 miles from Anchorage, 160 miles from Russia, and 102 miles south o
Arctic Circle, Nome is a unique and remote destination that's worth visiting.



18 days
04 hours **967.8 mi**
44 minutes

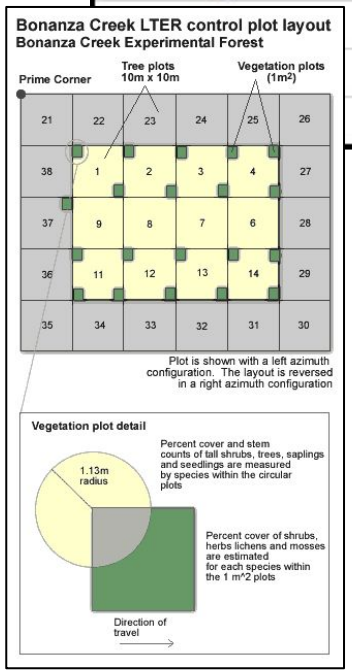
Elevation Gain 18588 ft

Site Management

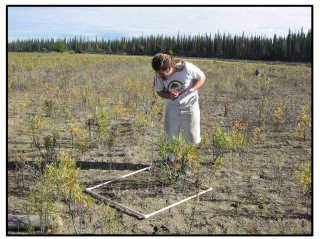
- Site Management Crew is here to HELP
- BNZ LTER Research Request Form
  - https://forms.gle/XvPTWQAWrcfGkQTJ6
- Summer Orientation
- Safety Equipment and Training

Core Data Collections 2023

Veg Plots	DBH	Litter Tray	Seed Tray	Tree Bands	Tree Map	Frost Probes	MetStation
Percent cover, shrub and seedling transect	5 yr interval	Leaf Weight and Wood Weight	Count and Gremination	10 trees per species per plot	Azimuth and Distance	Active Layer Depth	Hourly Climate Measurements
	Fall	Spring	Spring	Fall	Once	Fall	Constant
		6 at each site	6 at each site				

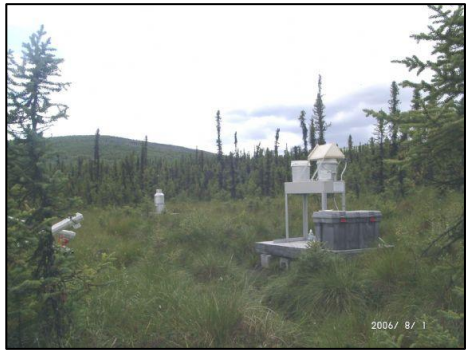


- Veg Plots - Over 35 sites every 1-5yrs
- Tree Inventory - All sites every 5 years
- Tree Bands - 18 sites every year
- Litter & Seed Trays - Over 30 sites every year
- Frost Probing - 59 sites every year



	Site Inception	Method	Air Temp /Rel Hum	Soil Temp	Organic Soil Temp	Soil Moisture	Summe r Precip	Winter Precip (Snow Bucket)	Snow Pillow	Evapo ration	PAR	TUVR	Pyrano meter	Sun Photo meter	BP	Wind	LW/SW Radiation	Net Radio meter	Precip Chemi stry
			Height (m)	Depths (cm)	Height (cm)	Depths (cm)													
Main Climate Stations:																			
LTER1 - BCEF Upland	1988	Streaming	.5, 1.5	Surface, 0,5,10, 20,50, 100,200		5,10,20,50	X	X	X	X	X	X	X	X	X	X			
LTER2 - BCEF Floodplain	1988	Streaming	.5, 1.5	Surface, 0,5,10, 20,50, 100,200		5,10,20,50	X	X	X	X	X	X	X			X			
CRREL	1992 ?	Streaming	1,3,10,12	0-3.5m		Organic (5,5,10)	X								X	X	X	X	

- Three Primary Weather Stations
- Seven Additional Weather Stations
- Two Repeater Stations
- Sensor Network Server

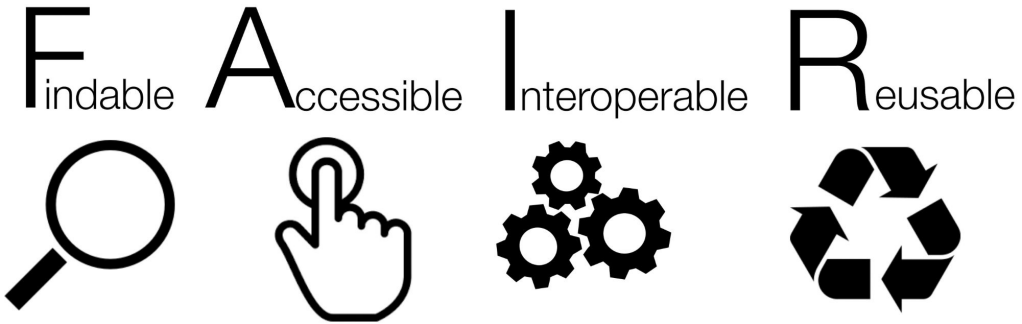


And not to forget some upcoming social events for 2023!!!

Data Management

- Data Management Crew is here to HELP
- Publication Updates & Publicity
- Data Submissions Promo
- ORCID’s & LTER Hub

- We started with something FAIR



- **Findable**
  - unique and persistent IDs
  - rich metadata
  - metadata specify the data ID
  - Registered, indexed, easy to find
- **Accessible**
  - retrieved by ID, read and accessed via standardised protocols
  - open, free communications protocol
  - Protocol allows for authentication
  - metadata are accessible even if data are no longer available
- **Interoperable**
  - Use standardised, documented, and accessible semantic descriptions
  - vocabularies follow FAIR principles
  - Qualified references
- **Reusable**
  - Plurality of relevant attributes
  - there are clear conditions for data usage
  - detailed provenance information
  - Meet domain-relevant standards

- Then we added TRUST

Transparency	To be transparent about specific repository services and data holdings that are verifiable by publicly accessible evidence.
Responsibility	To be responsible for ensuring the authenticity and integrity of data holdings and for the reliability and persistence of its service.
User Focus	To ensure that the data management norms and expectations of target user communities are met.
Sustainability	To sustain services and preserve data holdings for the long-term.
Technology	To provide infrastructure and capabilities to support secure, persistent, and reliable services.

- Now it is time to CARE

CARE Principles for Indigenous Data Governance

Collective Benefit.

Data ecosystems shall be designed and function in ways that enable Indigenous Peoples to derive benefit from the data.

C1. For inclusive development and innovation
C2. For improved governance and citizen engagement
C3. For equitable outcomes

Authority to Control.

Indigenous Peoples' rights and interests in Indigenous data must be recognized and their authority to control such data respected.

A1. Recognizing rights and interests
A2. Data for governance
A3. Governance of data

Responsibility.

Those working with Indigenous data have a responsibility to share how those data are used to support Indigenous Peoples' self determination and collective benefit.

R1. For positive relationships
R2. For expanding capability and capacity
R3. For Indigenous languages and worldviews

Ethics.

Indigenous Peoples' rights and wellbeing should be the primary concern at all stages of the data life cycle and across the data ecosystem.

E1. For minimizing harm and maximizing benefit
E2. For justice
E3. For future use

IMC discussion on Indigenous Data Sovereignty
Free Prior Informed Consent

Credits to Vanessa Raymond

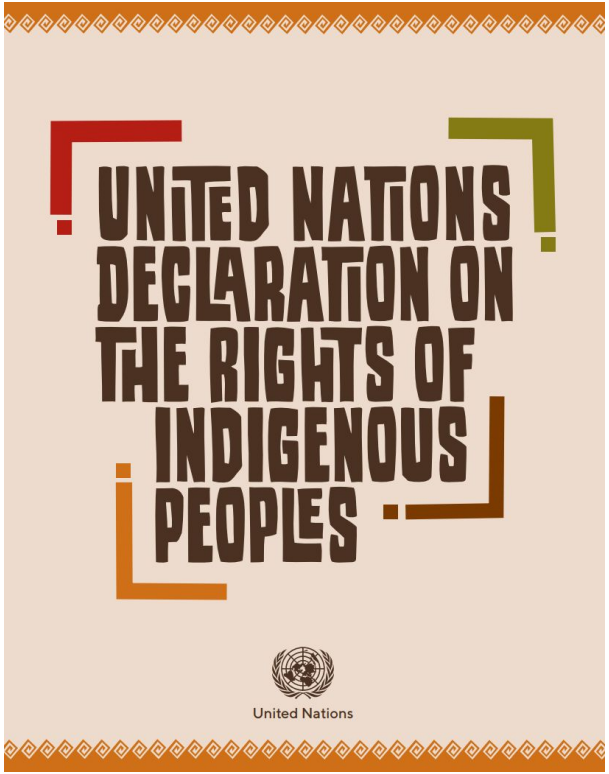
Alaska Center for Energy and Power (Data Governance Lead)
IARPC Data Management Team (non-federal co-lead)
Arctic Data Committee (co-chair elect)
US AON Expert Committee (member)

1) Read the primary sources & immerse yourself in the literature / conversation with the group you are working with

Example Primary Sources

- Indigenous Data Sovereignty and Governance 2022
- CARE Principles for Indigenous Data Sovereignty (2016)
- Operationalizing the CARE and FAIR Principles for Indigenous data futures (2021)
- Circumpolar Inuit Protocols for Ethical and Equitable Engagement (2021)
- UN Declaration on the Rights of Indigenous Peoples (2007)
- UN Expert Mechanism on the Rights of Indigenous Peoples (2007)

2) Understand the human rights framework



“Free, Prior and Informed Consent (FPIC) is one of the most important principles that Indigenous Peoples believe can protect their right to participation. It is embedded in the right to self-determination. The duty of States to obtain Indigenous Peoples’ FPIC entitles Indigenous people to effectively determine the outcome of decision-making that affects them, not merely a right to be involved.”

-UN Expert Mechanism on the Rights of Indigenous Peoples

3) Continually strive to do better

- Be the voice for FPIC during site research planning meetings
- Communicate our data, results and ideas in languages other than English.
- Think about how data is useful outside academia and manage data accordingly (with other uses in mind)
- Ensure there is an open line of communication between research groups and tribes/Indigenous communities
- Embrace University (or other) resources that are already working in this space.
- When asked to show up for community events, show up.
- memorandum of understanding ahead of time drafted together (emphasis on reciprocity)
- Share data management plans – (along with mechanisms for feedback)
- Recognize partner liaison work as important and ongoing work in the information management plans (maybe a role, in roles and responsibilities?)

Mentimeter Poll Time !!!!!

Instructions

Go to

www.menti.com

Enter the code

7355 0768