



Fairbanks North Star Borough Comprehensive Economic Development Strategy (CEDS)

Research and Innovation Roundtable

January 25, 2022

Participants

Name	Affiliation (alphabetical)	Role	Status
Mindy O'Neill	Cold Climate Housing Research Center (CCHRC)	Executive Director	Attended
Jack Hebert	Cold Climate Housing Research Center (CCHRC)	Former Director	Attended
Mark Billingsley	UA Center for Innovation, Commercialization, and Entrepreneurship	Director	Attended
Peter Webley	UA Center for Innovation, Commercialization, and Entrepreneurship	Project Manager: Seed Fund, Students2Startups, and I-Corps	Attended
Catherine Cahill	UAF Alaska Center for Unmanned Aircraft Systems Integration (ACUASI), Geophysical Institute	Director	Attended
Cameron Wohlford	UAF Campus Design and Construction	Director	Attended
Cam Carlson	UAF College of Business and Security Management	Associate Dean and HSEM Program Director	Attended
Justin Sternberg	UAF College of Fisheries and Ocean Sciences, Alaska Blue Economy Center	Director	Attended
Bill Schnabel	UAF College of Engineering and Mines	Dean	Attended
Bradley Moran	UAF College of Fisheries and Ocean Sciences	Dean	Attended
Robert McCoy	UAF Geophysical Institute	Director	Attended
Dr. Rich Collins	UAF Geophysical Institute	Poker Flat Research Chief Scientist	Attended
Jeremy Kasper	UAF Institute of Northern Engineering	Research Associate Professor	Attended
Hajo Eicken	UAF International Arctic Research Center	Director	Attended
Col. Benjamin "Bach" Bishop, Dr. Anne Cheever, Defense Advanced Research Projects Agency; Erik O'Brien, Denali Commission; Brenda Konar, Established Program to Stimulate Competitive Research (EPSCoR); Diane O'Brien, Institute for Arctic Biology; Bruno Grunau, National Renewable Energy Laboratory/CCHRC; Chris Rose, Renewable Energy Alaska Project; Jon Bitner, UA Small Business Development Center; Julie Queen, UAF Admin Services; Gwen Holdmann, UAF Alaska Center for Energy and Power; Briana Walters, UAF Office of Management and Budget, Dr. Nettie La Belle-Hamer, UAF Office of the Vice Chancellor for Research			Invited

The Project Team

Project Steering Committee: the **FNSB Economic Development Commission**

Mayor Bryce Ward | Abigail Riggs | Frank Tomaszewski | Kristan Kelly | Mark Billingsley | Paul Robinson | Russell Talvi



FNSB Project Manager:
Brittany Smart



Contracting Team:
Shelly Wade, AICP
Molly Mylius

Supporting team
members:



Project Purpose

To develop an updated Five-Year FNSB Comprehensive Economic Development Strategy (CEDS).

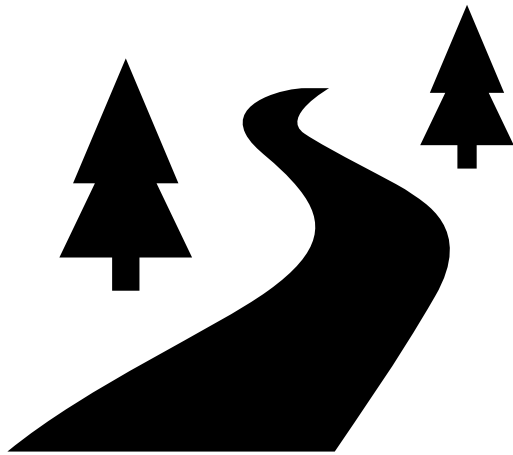


CEDS must go through a robust update every five years, with shorter, less intensive updates annually.



CEDS Purpose

A CEDS is a locally-based, regionally-driven economic development planning document that guides local government and community action.



It serves as a road map to economy resilience and prosperity.

What does a CEDS do?

- Brings the private and public sector together to develop a regional strategy and action plan.
- Serves as a road map to economic resilience and prosperity.
- Identifies projects and makes recommendations to:

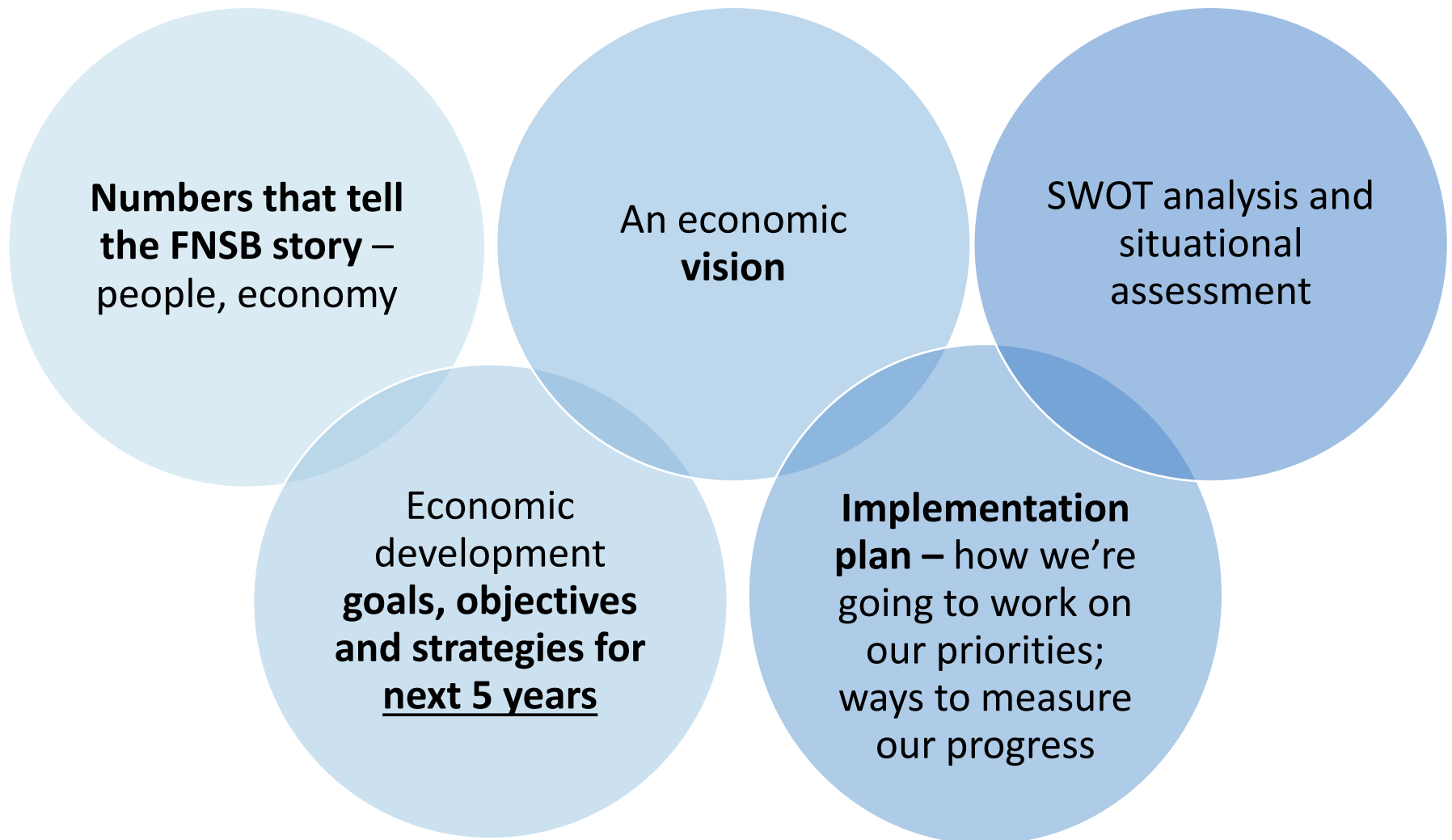
Secure and
support
businesses

Create more
and better
paying jobs

Improve
quality of life

Increase
resilience to
changes,
threats

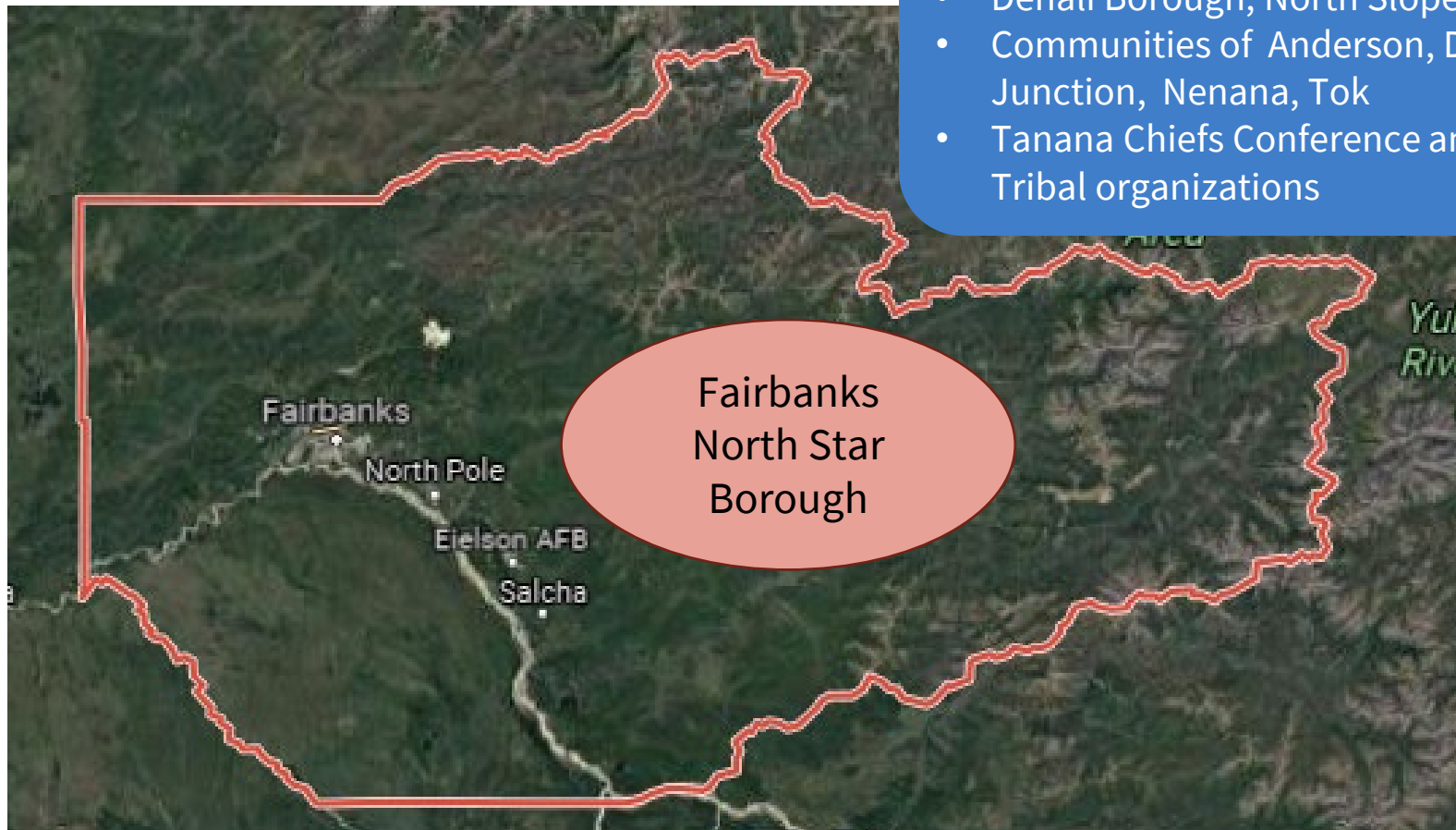
What does a CEDS include?



Project Area: FNSB

Key regional partners beyond FNSB boundaries include:

- Denali Borough, North Slope Borough
- Communities of Anderson, Delta Junction, Nenana, Tok
- Tanana Chiefs Conference and other Tribal organizations




CEDS Update Timeline

	2021									2022						
	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	→
Project Website	•	← ongoing website updates →														Adoption
Stakeholder Interviews	•	•	•	•	•	•	•	•	•	•						
Interactive Discussions	•	•	•	•	•	•	•	•	•	•						
Community Events			Midnight Sun, Golden Days, Fair													
Economic Summit											•					
E-Newsletters, <u>Social Media</u>, Public Notices, News, Radio										•	•		•		•	
Key Phases	<i>Project Kickoff</i>		<i>Research & Events, Interviews</i>				<i>Draft Vision & Goals</i>			<i>Economic Summit</i>		<i>Public Review Draft</i>			<i>Final CEDS</i>	→

We are here

Community Events



A photograph of a booth at the Midnight Sun Festival. A white sign on a clipboard asks, "What do you find the most challenging about living in Fairbanks?" and instructs visitors to "Write it on a Post-It!". Several colorful Post-It notes are pinned to the sign and the background, with examples like "lack of teenager activities", "unexpected weather", "Winters", "costs (e.g. shopping)", "cost of emergency", "-40 days", "cost of living", "cost of health care", "public transportation", "supplies and services for outdoor recreation", and "cost of housing".

June 2021: Booth at Midnight Sun Festival



A photograph of a booth at the Golden Days event. A large white sign asks, "What do you value most about living (or visiting) in Fairbanks?" and instructs visitors to "Write it on a Post-It!". The sign is covered with numerous colorful Post-It notes. A person is visible in the foreground, looking at the sign.

July 2021: Booth at Golden Days



A photograph of a booth at the Tanana Valley State Fair. A white sign asks, "What do you... VALUE MOST OR Find the MOST CHALLENGING about LIVING (or visiting!) Fairbanks?" and instructs visitors to "WRITE IT ON A POST-IT!". The sign is covered with numerous colorful Post-It notes. A person is visible in the foreground, looking at the sign.

August 2021: Booth at Tanana Valley State Fair

Proposed FNSB CEDS Topics/Sectors

Industry Clusters

key sectors that drive the FNSB economy

Energy

Health Care

Military

Natural Resources
(Agriculture, Forestry, Mining)

Research & Innovation

Visitation

Community Influencers

supportive foundations that clusters rely on to grow and flourish

Communications

Education & Workforce Development

Government

Housing and Land Use

Quality of Life

Transportation

Utilities

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- Include a **dedicated “1-Pager” for each industry cluster** – tailored snapshot, SWOT, goals, strategies and implementation actions.

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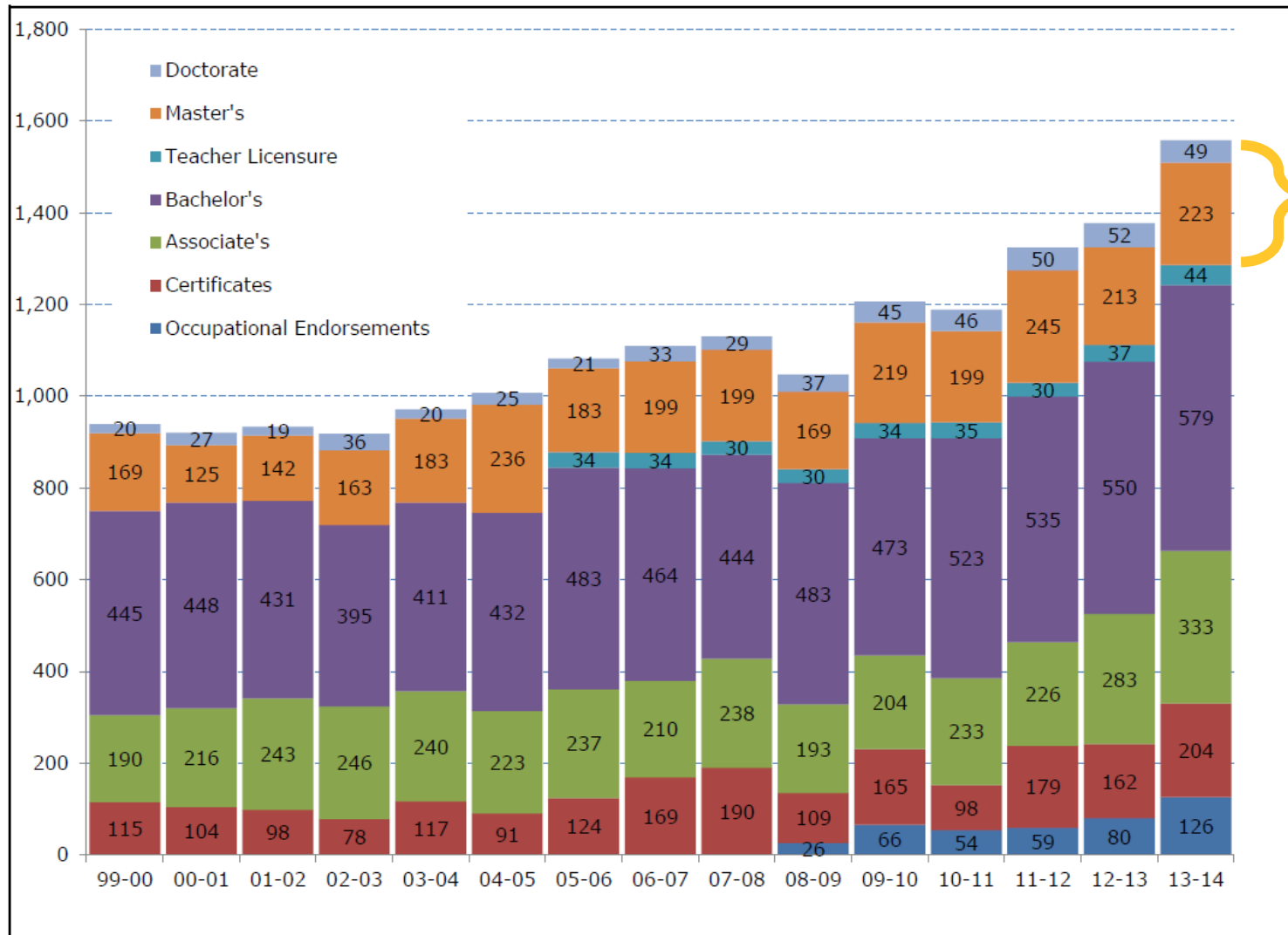
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- Articulate a **shared economic development vision and goals** for industry, consumers, government.
- Position the community/industry for **funding and investment opportunities**.
- Hold everyone accountable with **measurable short and longer-term targets** and **ways to track and communicate progress**.



Research and Innovation Context

Research and Innovation in the 2016 CEDS

NUMBER OF GRADUATES RECEIVING DEGREES AND CERTIFICATES: UNIVERSITY OF ALASKA AT FAIRBANKS



Enrollment grew over the 15-year period;

during the '13-'14 academic year, advanced degrees (PhD, MA) made up 17% of all degrees/certificates

Source: UAF, as reported in the 2016 FNSB CEDS

Research and Innovation in the 2016 CEDS: Relevant Objectives

- **Energy**

- Support University of Alaska Fairbanks research to find **new ways to provide affordable clean energy** in the FNSB and surrounding regions.
- Position the **Interior as an energy research and development hub.**
- Find **ways to recover and use waste heat** to heat buildings and greenhouses in the FNSB.

- **Agriculture**

- Support **new product research to find agricultural niches** for the Borough.

- **Economic Foundations**

- Coordinate industry cluster strategies and projects to promote **export of FNSB products and technologies, particularly in areas of energy micro-grids, mining and unique agricultural products.**
- Promote **community access to venture capital.**
- Develop a **community of entrepreneurs.**

2016 CEDS – Research and Innovation Projects

- **Energy**

- Microgrid energy technology development – market analysis for ancillary business development in FNSB.

- **Economic Foundations**

- Prepare feasibility study for a technology business park to support commercial enterprises in Unmanned Aircraft Systems (UAS) and other technologies.

Innovation in the News



UAF scientists help rural students do science with tiny drones

Rod Boyce Jan 22, 2022 Updated Jan 22, 2022



Fairbanks designers testing shipping container kitchen-bathroom module for rural Alaska

By Dan Bross, KUAC - Fairbanks - February 20, 2021

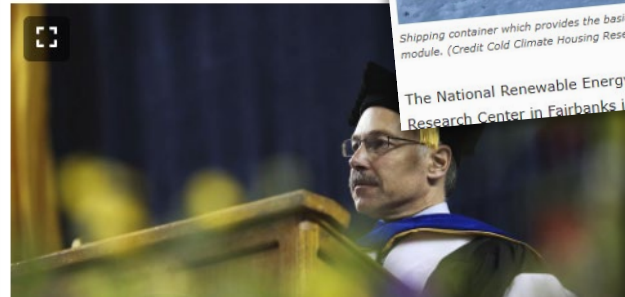


Shipping container which provides the basic structure for the kitchen bathroom module. (Credit Cold Climate Housing Research Center)

The National Renewable Energy Lab's Cold Climate Housing Research Center in Fairbanks is working with the Native village

UAF affiliate to lead national Arctic research and policy

Alena Naiden Oct 4, 2021 Updated Oct 9, 2021



RADIO NEWS EDUCATION SUPPORT ABOUT DON

Alaska Native graduate program to elevate Indigenous knowledge in fisheries research

Alaska Public Media - Anchorage - September 23, 2021



one of the students in UAF's Tamamta program, which brings Western sciences to transform graduate education and

Spotlight: Dr. John Walsh

UAF researcher becomes first American scientist to win prestigious Arctic research award

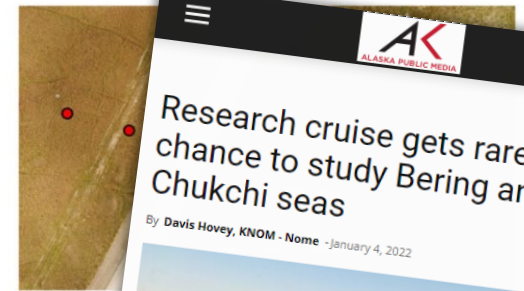
Liv Clifford Nov 22, 2021 Updated Nov 23, 2021



RADIO NEWS EDUCATION SUPPORT ABOUT DON

LISTEN: Alaska research shows permafrost melting is affecting infrastructure faster than expected

By Casey Grove, Alaska Public Media - Anchorage - July 2, 2021



Drone photo of terrain

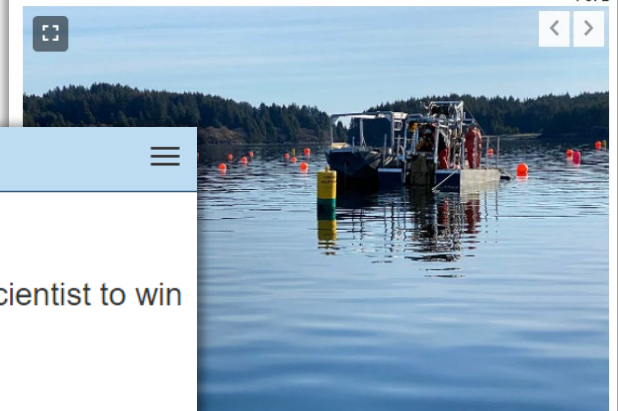
Research cruise gets rare chance to study Bering and Chukchi seas

By Davis Hovey, KNOM - Nome - January 4, 2022



Kelp farming shows promise as new industry

Alice Bailey Dec 19, 2021 Updated Dec 20, 2021



Kodiak: Michael Stekoll

Michael Stekoll

UAF's 2027 Strategic Plan

Goal 1

Modernize the student experience

Goal 2

Strengthen our position as global leaders in Alaska Native and Indigenous programs

Goal 3

Achieve Tier 1 research status

Goal 4

Transform UAF's intellectual property development and commercialization enterprise

Goal 5

Embrace and grow a culture of respect, diversity, inclusion and caring

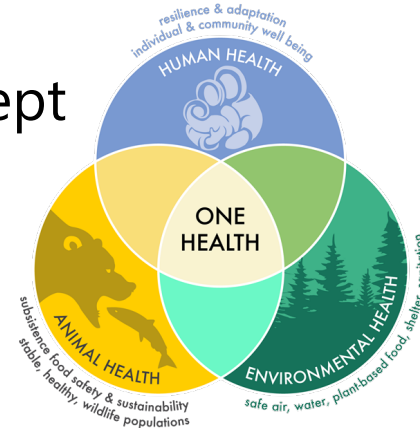
Goal 6

Revitalize key academic programs

Source: <https://uaf.edu/strategic/goals.php>

Existing and Emerging Research Topics

- Agriculture and mariculture (including overlap w/climate adaptation)
- Arctic: economic opportunities, military defense, social and environmental research
- Climate change and climate adaptation
- Energy: renewable energy, microgrids, energy efficient construction
- Military: cold weather testing, Permafrost Research Laboratory, etc.
- Public Health, e.g., One Health concept
- Unmanned aircraft systems
- **What else?**



Discussion: Other Existing and Emerging Research Topics, Part 1

- View a list of additional UAF research facilities [here](#)
- View of list of UAF's DoD support portfolios [here](#); includes Aerospace, Arctic Security, Climate Change & Resilience, Energy, Hazards, and One Health
- Biomedical
- Critical minerals
- Indigenous studies
- Energy
 - Also includes nuclear, and working with DoD
 - Fairbanks is emerging as an energy research hub with national and international interest
- Autonomous systems (air, land and ocean); satellite remote sensing
 - Has relevance for transportation, community monitoring and resilience, science research
 - Working with air carriers to establish the Fairbanks International Airport as a UAS hub, including collaborating with small local carriers; lots of relevance to aviation safety and remote airport infrastructure monitoring; Fairbanks area has few ground hazards
 - Can replace or enhance aviation tasks that are more dangerous such as monitoring pipelines and interties; can do it more frequently, more safely, more repeatedly, more cost effectively

Discussion: Other Existing and Emerging Research Topics, Part 2

- Housing
 - Increasing the use of local materials and manufacturing for housing and other development
 - Bringing in money and funding for research to rural and coastal communities (e.g., mariculture) is good, but they still face a shortage of housing, including for researchers. Can't expand local employment if there's nowhere to house people. How can UAF help with housing?
- Arctic
 - Arctic infrastructure, emergency response, and safety
 - Cold weather testing for sensors and equipment
- Fisheries and Oceans
 - The Alaska Blue Economy Center is a new partnership with the UAF College of Fisheries and Ocean Sciences
 - UAF supports coastal communities through mariculture, fisheries research, ocean energy, transportation, tourism. Support fisheries industry with research; lots of opportunity for UAF engagement.
 - There are MANY funding opportunities for ocean research, and most require University partnerships

Discussion: Supporting Innovation

- Increase the transition of research into practical community applications. Small business innovation research and small business technology transfers.
- Attract small businesses, engineers, entrepreneurs to UAF – view as a supportive space for innovation, experimentation.
- What infrastructure could help support research and innovation in the region?

Discussion: General

- Why is research important in FNSB? In the CEDS?
 - Research funding brings in dollars and employs people
 - The translation of research also supports economic development by providing innovative solutions to business challenges
 - Important to identify research areas of interest for additional funding so we can advocate for them via the CEDS
 - Research also supports employment and solutions in rural communities
- Conduct Cost-Benefit Analysis to demonstrate how investment in R&D generates jobs and economic value, particularly for early-stage industries, such as mariculture. The growth in renewable energy over the past 15 years is a great example.
- Knowledge economy and remote work
 - The knowledge economy can be located anywhere. Alaska is at a disadvantage for data processing (data bottleneck), but we can offer quality of life here.
 - Large companies are coming in and hiring graduates to manage aerial and underwater autonomous equipment; those employees can stay here but support high tech jobs from a distance. Fairbanks could continue to grow as a hub for these remote, high-skilled workers.

What are the research and innovation trends and how can we measure success?

What	Source
Number of Doctorate degrees annually at UAF	UAF
Number of active U.S. patents that are University-based	Center ICE
Number of startup companies formed or co-formed by UAF personnel with assistance from CENTER ICE	Center ICE
Research funds coming to UAF	UAF Office of Management & Budget?

What other data should we consider?

What measurable progress do we want to make together over the next 5 years?

Discussion: Ideas for Measuring Progress

- How can we measure technology transfer?
 - Number of Small Business Innovation Research (SBIR) and /Small Business Technology Transfer (STTRs) to Interior Alaska companies
 - Total UAF research dollars coming in
 - Number of phase 1 or phase 2 research awards to Alaska-based businesses that move to phase 3
 - Number of businesses that select Fairbanks as their home for research development and growth
- Number of contracts/subawards on research grants that go to entities (private, government, tribal, etc.) in the region to demonstrate diversity of partnerships and connection to the private sector
- Some technologies have health outcomes, too – for example, Healthy Homes initiative results in housing with better air quality and therefore reduced illness
- Number of awards @ UAF where prime awardee is SBIR/STTR company.
- PhD graduates (this is a metric for Tier 1 establishment)
 - Connect PhD research to solving local problems of importance
- Number of businesses in the region that have experienced growth over a 3- or 5-year period
- Patents and startups are a possible metric, but niche

Next Steps and Wrap-Up

Next Steps

- January 2022 – Conclude sector outreach
- **February 22-23, 2022 – Economic Summit**
- April 2022 – Release public review draft
- June 2022 – Release final draft

Interior Alaska Economic Summit

February
22-23, 2022

View the flyer
online [here](#)



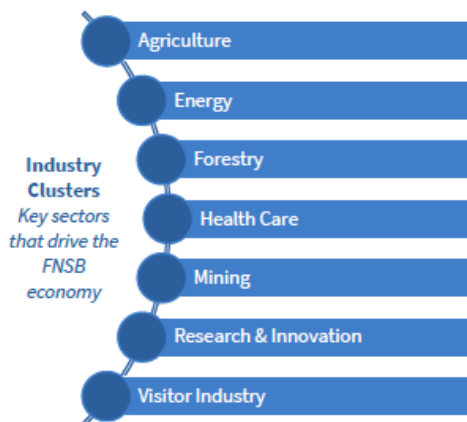
Save the Date: February 22nd -23rd 2022

2022 Interior Alaska Economic Summit

The 2022 Interior Alaska Economic Summit will bring regional community, business, and industry leaders together to collaborate on economic opportunities as we work towards a stronger, more resilient Interior Alaska economy. The Summit is free and will be held at the Westmark in Fairbanks.

Topics for Breakout Sessions

(preliminary at-a-glance agenda on reverse)



RSVP Today

More details coming soon. RSVP and stay informed: www.surveymonkey.com/r/IAEconSummit



PURPOSE & OUTCOMES

- The 2022 Interior Alaska Economic Summit will inform development of the updated 5-Year Fairbanks North Star Borough Comprehensive Economic Development Strategy (CEDS).
- Participants will review and confirm CEDS components, including a shared economic development vision, goals, and 5-year priorities.
- The updated CEDS will better position the community for funding & investment opportunities.

Interior Alaska Economic Summit

February
22-23, 2022

View the at-a-glance agenda online [here](#)

Tuesday

February 22nd – Focus on Industry Clusters

Time	Topic		Virtual Option?
9:00 – 9:45 am	Opening Plenary: Welcome and Inspiration		Yes
9:45 – 10:00 am	Break		
10:00 – 11:45 am	Industry Breakouts Round 1	Agriculture	No
		Energy	No
11:45 am – 1:00 pm	Lunch – on your own		
1:00 – 2:45 pm	Industry Breakouts Round 2	Forestry	No
		Health Care	No
2:45 – 3:00 pm	Break		
3:00 – 5:00 pm	Industry Breakouts Round 3	Mining	No
		Research and Innovation	No
		Visitor Industry	No

Wednesday

February 23rd – Focus on Community Influencers

Time	Topic		Virtual Option?
9:00 – 10:45 am	Influencer Breakouts Round 1	Small Business Development & Entrepreneurship	No
		Communications (phone, internet connectivity)	No
10:45 – 11:00 am	Break		
11:00 am – 12:45 pm	Influencer Breakouts Round 2	Land Use, Housing, & Environment (includes utilities)	No
		Indoor & Outdoor Recreation (includes entertainment, retail, parks, trails)	No
12:45 – 1:45 pm	Lunch – on your own		
1:45 – 3:30 pm	Influencer Breakouts Round 3	Education & Workforce Development	No
		Transportation (includes roads, aviation, rail, bike/pedestrian connections)	No
3:30 – 4:00 pm	Break		
4:00 – 5:00 pm	Closing Plenary: Summary of Results and Next Steps		Yes

Learn More on Our Website



2021 Fairbanks North Star Borough Comprehensive Economic Development Strategy (CEDS) Update

[PURPOSE](#)[WHAT IS INCLUDED?](#)[TOPICS](#)[PROJECT TEAM](#)[GET INVOLVED](#)[SCHEDULE](#)[RESOURCES](#)[CONTACT US](#)

A Stronger, More Resilient Economy.

www.FNSBCEDS.com

Other Relevant Planning Efforts

Tanana Chiefs Conference Comprehensive Economic Development Strategy	www.tananachiefs.org/ceds/
Comprehensive Roads Plan	fnsbroadspan.com/
Fairbanks Downtown Plan	<i>Updated website coming soon</i>
Comprehensive Recreational Trails Plan	fnsbtrailsplan.com/
Pioneer Park Master Plan	fairbankspioneerparkplan.com/

Thank you!

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Want to learn more? Visit our website: FNSBCEDS.com