AAOKH NEWS

Issue 12, Winter 2025

Alaska Arctic Observatory and Knowledge Hub

Aaaluk, Pamiilaq, and Anagi crews' Nalukataq. Many happy Inupiat! Photo: Billy Adams, June 25.

AAOKH is part of the University of Alaska Fairbanks Troth Yeddha' Campus, on the traditional lands of the Tanana Dene People. We are part of the International Arctic Research Center.

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Paġlagivsi! AAOKH aitchuutsuurat qanuq Inupiat uqausiġigai qanuq siḷa allaŋŋuqtuq.

In English: Welcome! AAOKH shares how Iñupiat observers describe rapid environmental changes. Iñupiaq translation by AAOKH program coordinator Roberta Tuurraq Glenn-Borade.

This past winter observers had a lot to share about wind. Kotzebue Sound experienced one of the windiest fall seasons on record while Utqiaġvik experienced relative calm, and often westerly winds. We are excited to announce Kimberly Kivvaq Pikok's successful defense of her MS thesis and the release of her and Lloyd Pikok Jr.'s film titled, "All about the happy people: A tale of joy and life around the sea". AAOKH Staff and Observers have been busy these past few months and here we share updates ranging from conference presentations, national awards, and a book release!

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Tusaayugaat Recent Observations

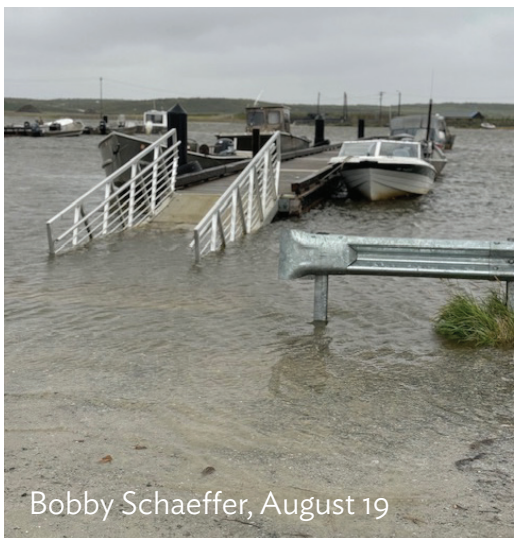
1 • Qikiqtaġruk

Bobby Schaeffer, AAOKH observer in Kotzebue

Poor Fishing

August 14 ► I went out and set a salmon net to get some salmon for my freezer. I set one 50 fathom net for 4 hours and didn't get a single salmon. August 12 is usually the high point for the Noatak mega run. No fish.

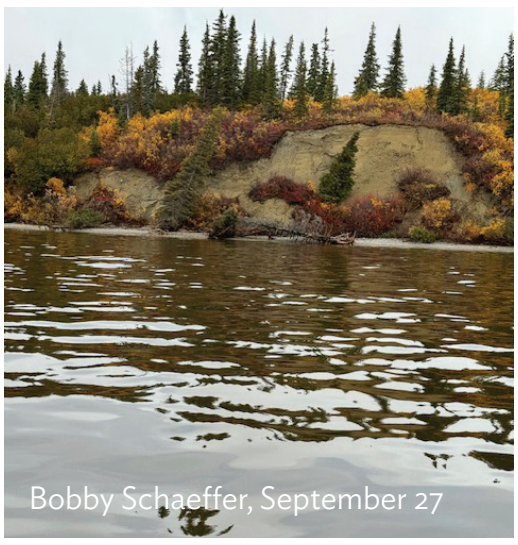
November 12 ► The storm did affect the tomcod and smelt. Locals report that the larger tomcod have not arrived yet. They are catching some in the Kotzebue lagoon but they are small. No one has caught any smelt to date. I did see a few fishermen with a few herring so the herring are still around. But, I think this storm was so strong and violent that it may have done some damage to these fish species out in the ocean just as Merbok did two years ago.


Bobby Schaeffer, August 19

Wet and windy

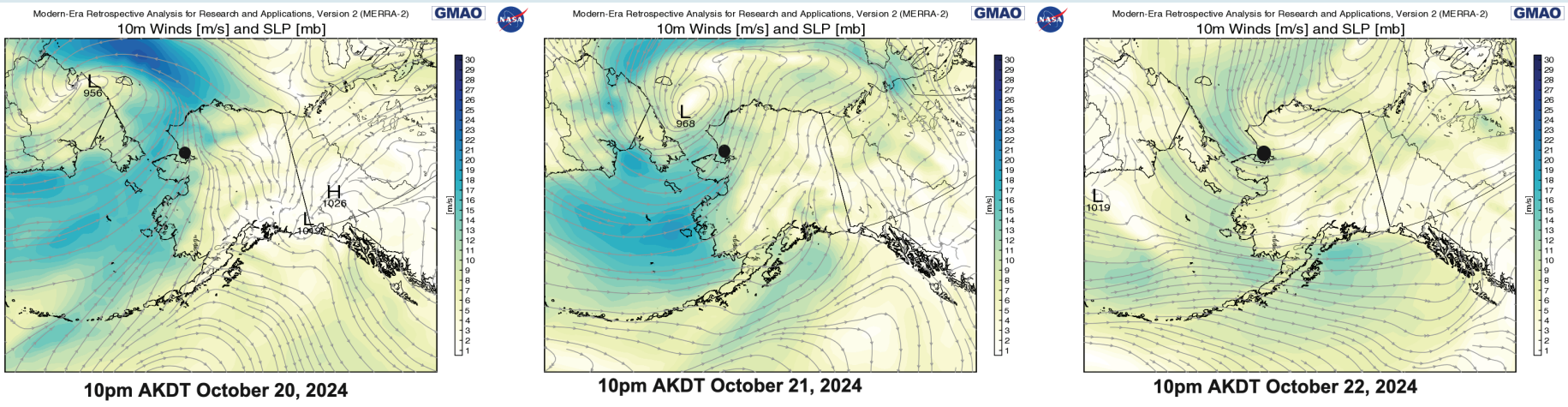
August 5 ► The storm surge has brought in high tides to the entire Northwest part of Alaska. With an additional 2 inches of rain, all rivers and streams are at flood stage. In addition, high surf is battering the permafrost hills along the Kotzebue Sound and Chukchi coast line.

August 28 ► August has been a windy wet month. The Noatak and Kobuk rivers are still draining from the 4 inches of rain that fell on the South slopes of the Brooks Range the past three weeks. There was a lot of beach erosion throughout the entire Northwest Alaska this summer.


Bobby Schaeffer, September 27

"Well, we've weathered the storm"

October 28 ► We all survived the October 20-22 super storm. I've been through a lot of strong fall storms and have never seen a more destructive slow moving 960mb storm as this one. The storm hit us on October 20 with South winds blowing to 40 mph. The next day, the storm intensified and we experienced gusts to 54 mph with rain. NWS forecasted the winds to change direction to the west on the evening of the 21st. Sure enough, it changed to the west and blew to 44 mph. Huge ocean waves came and the storm surge intensified. By late afternoon, the water level reached the height of the seawall and started to flow over the road toward the homes. What a storm. Never seen the water this high in my 75 years in Kotzebue.



10pm AKDT October 20, 2024

10pm AKDT October 21, 2024

10pm AKDT October 22, 2024

Kotzebue Storm

The storm of October 20-22 produced the worst flooding in living memory in Kotzebue. This was a very unusual situation, as most autumn storms that impact the southern Chukchi Sea originate in the Bering Sea and then cross into the Chukchi near or just west of the Bering Strait. Not this time. The main storm was quite strong as it tracked very far west: from the Sea of Okhotsk northward through the Russian Far east before dissipating in the East Siberian Sea. Usually a storm so far west of Alaska would have little impact on weather east of the Bering Strait. But because the original storm was so strong, south to southeast winds occurred much farther east. And then, a new storm rapidly intensified in the western Chukchi Sea and moved quickly eastward to north of Point Hope. This resulted in a shift in wind direction over the Chukchi Sea from south to west, and elevated ocean water levels were quickly pushed into Kotzebue Sound. *-Rick Thoman*


Guy Omnik, December 2


Guy Omnik, November 6

2 • Tikiġaq

Guy Omnik, AAOKH observer in Point Hope

Fish are back

October 15 ► 33’ north west winds 30-35mph. Overcast with some snow. Got to do some ice fishing also was able to cast in the open water. Fishing is off to a great start this year, good to see the fish back after a three year absence.

Qinu - the day the ice freezes

November 6 ► 25’ east winds 20-25mph. Went to check nets this morning, our lagoon and river has froze over enough for my 4 wheeler to make it to my nets. Then this afternoon I got word that a pod of belugas were passing through right on the edge of the beach towards nuvuk. A friend of mine got this one and I hooked it with my *niksik*. Lot of hunters were lined up on the beach and I got to help them out with this one. Also today is the day the ocean ice had its first freeze up with ice showing. It’s called *Qinu*, the day the ocean ice freezes. It’s a custom to pull out the whales tail after it *Qinu*, we call the tail *aniruq*. When a whaling captain catches more then 5 whales they wait until spring (march)or before our next whaling season with it aging more so to say. Another saying is, when it *Qinu* on the south beach side first, it’s a saying that the next whaling season will be a good one, now if it freezes on the north side first, it is said that the next whaling season will be a hard/challenging one. This year it froze on the south beach first. So over the next few days we will be having *aniruq*, after a captain announced place and time, “We bring over our bowls”.

South wind

December 2 ► Here’s some pictures from the south beach. You can see the waves made an ice wall like from the last south wind storm over a week ago.

Far Travelers

Decmeber 9 ► I followed my friend check his traps and we came across some wolf tracks. We got one each. I got a black and he got a grey. Now the interesting part is, look at the ear tag, was tagged in the Yukon. Far travelers. Today 32’ southeast at 30-35mph blowing snow cloudy.


Guy Omnik, October 15


Billy Adams, September 23


Carla SimsKayotuk, November 1


Carla SimsKayotuk, August 31

3 · Utqiaġvik

Billy Adams and Joe Leavitt, AAOKH observer in Utqiaġvik

Cold, wet summer

July 8 ▶ The start of July has been cold and packed in ice near Utqiaġvik. Our temperatures have been 30-35f, areas of fog, rainy wet weather and a few snow flurries. Hunting of *ugruk* has been stopped by ice, only a few handful of hunters have taken a few *ugruk* here in Utqiaġvik.

Times of change

September 5 ▶ The weekend has brought warmth and the sun back. Here is Nuvuk a place which has such great history of cultural customary practices where generations of families have lived through the times. As we experience a period in time of change in weather which has brought coastal erosion, change in freeze up and ice break up, migratory patterns in animals and birds, arrival of different species of whales not normally known to be here, parasites to whales that were not present in the past, and an important issue for indigenous arctic people who depend on the sea ice, land, and the animals is SAFETY when hunting. The animals have shown to adapt to this change which is a good thing.

September 23 ▶ Humpback whales 6 miles north east of Nuvuk. We have much to learn how humpback whales and bowheads will interact in the same feeding areas.

North west winds

October 7 ▶ The winds have been mainly from the west by northwest, this being said the whales have been north west of Pt. Barrow and not to the east near the barrier islands where whalers normally would go in shallower waters.

October 17 ▶ Still NW winds 5’ at the beach. No ice on the ocean yet. The lagoons near BRW are still thin for traveling temperatures are on the warm side.

November 25 ▶ Calm, clear skies. No sign of open water, west winds later in the afternoon.

4 · Kaktovik

Carla SimsKayotuk, AAOKH observer in Kaktovik

High tides

August 31 ▶ Very windy, rough ocean causing flooding on our beaches and eroding our north side of the island. Large chunks of land are being undercut and washed away. High tide on the lagoon side causing flooding too. Counted 12 polar bears in one small section of the sandbar that is not being washed over by the ocean waves.

Freeze up

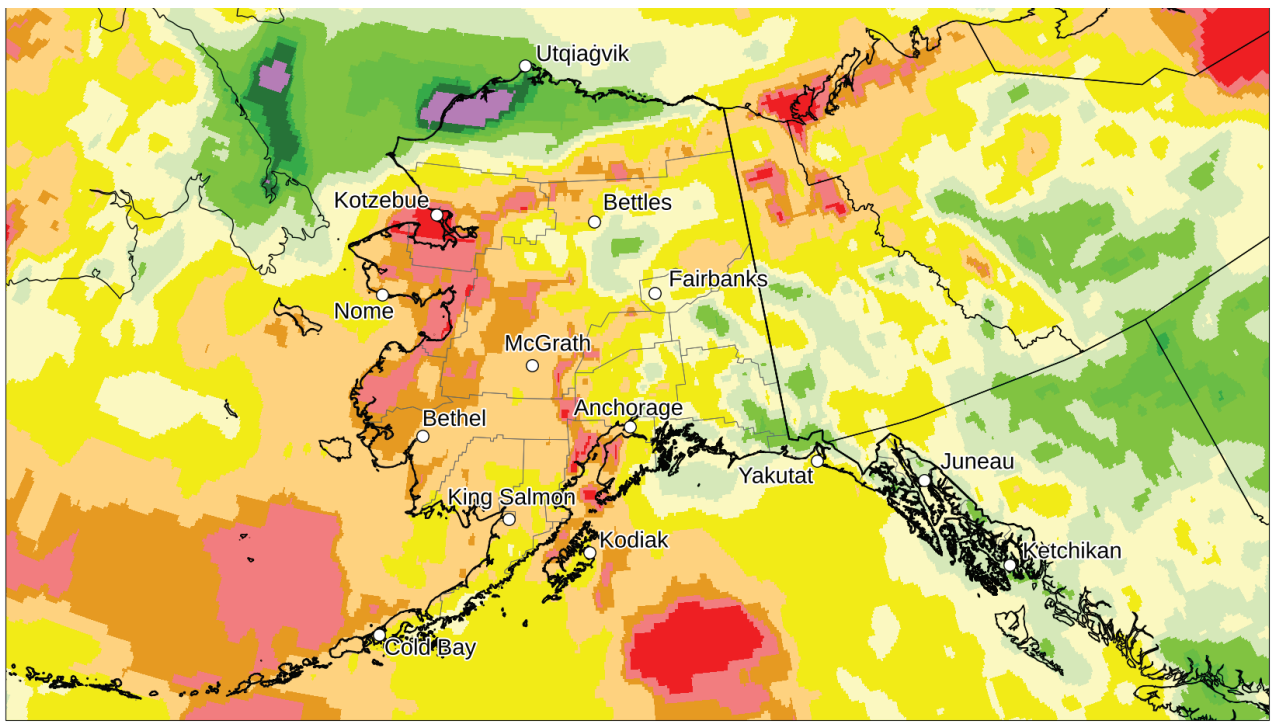
October 29 ▶ Today was a bright beautiful day with all the fresh white snow from this weekend. Couple of the hunters have been crossing the channel and one made it as far as first fish hole on the Hula Hula River. I saw a flock of about 10 ducks, possibly eiders, in the ocean which is still not completely frozen. Can see chunks of ice (pancake ice) out in the ocean.

Windy

November 4 ▶ Another windy snowy day. In the morning it was snowing thick wet snow causing drifting and very poor visibility, by lunch it had cleared up but is still blowing. Gusting to 27 and feels like 4. Could not make it out of town due to drifted roads other than to the new airport. The ocean is still open.

Climate Trends

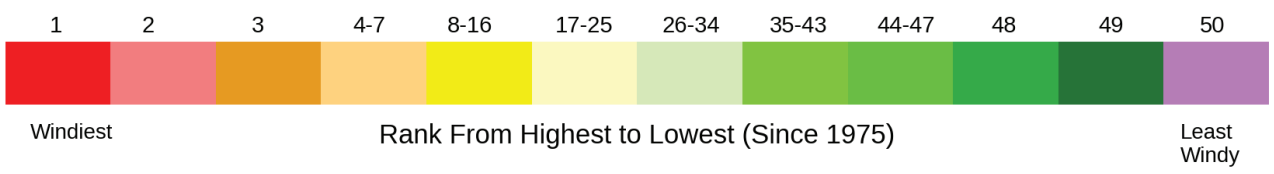
Records for highest and lowest average wind speeds for fall



Source: ERA5 Reanalysis

Alaska Rank for Aug-Oct 2024 is: 4 out of 50

Map by: Brian Brettschneider

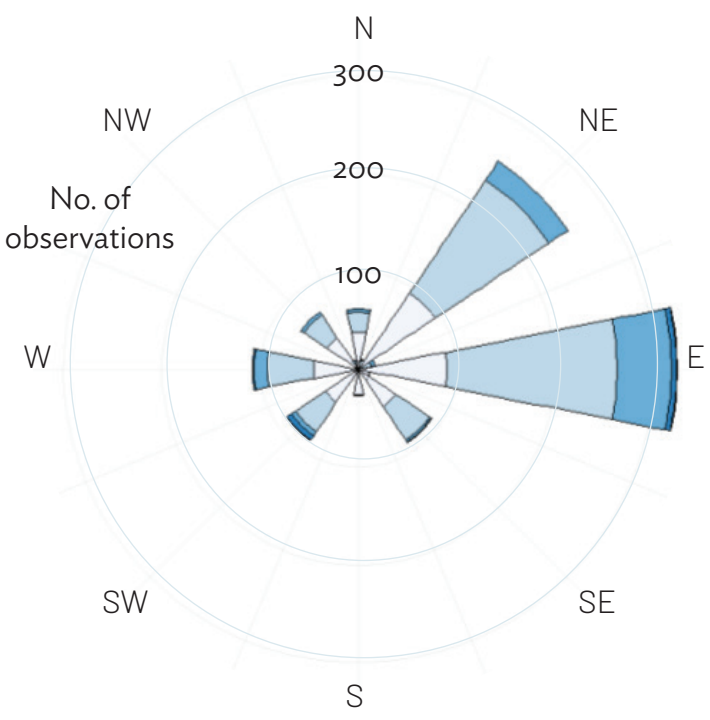


Prevailing wind is a common observing theme shared by all of the AAOKH boservers. Wind direction and intensity can significantly influence daily ocean conditions, wildlife behavior, weather, and community activities. From August to October, Kotzebue Sound experienced average wind speeds that were the highest ever recorded in the past 50 years. At the same time, Utqiaġvik had the lowest average wind speed ever recroded in the past 50 years. Northwest winds were consistent in Utqiaġvik, contributing to higher water levels and increased wave action during the fall.

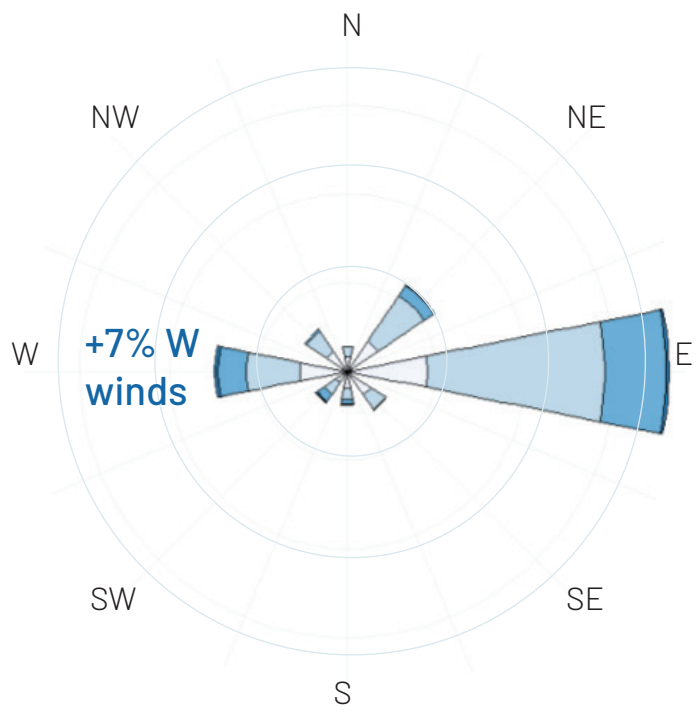
Shifting winds in Utqiaġvik (2006-2024)

Over the summer, AAOKH worked with Alaska Ocean Observing System-funded intern Lease Paton to do a historical wind analysis with observations made by Billy Adams and Joe Mello Leavitt in Utqiaġvik. Observations reporting both wind speed and direction were compiled and used to create wind roses for the 2006-2014 and 2015-2024 time periods. The wind roses show the prevailing east winds around Utqiaġvik were present in both time periods. The number of west wind observations increased while the number of northeast wind observations decreased between the two time periods, highlighting a shift in prevailing wind patterns.

2006-2014 Observations



2015-2024 Observations



A total of 2,2611 wind observations were reported by Joe Mello Leavitt and Billy Adams between 2006 and 2024 compiled by Lease Paton. Between the two observing periods, observations of west winds increased by 7%.

What do changing wind conditions mean for communities and people?

- During summer and fall, west winds in northwest Alaska bring high water and rough waves. A recent west-wind fall storm in Point Hope had waves big enough to get into the old town site, damaging several *siġluat* (ice cellars).
- During the winter, wind greatly influences how sea ice forms. In Utqiaġvik, west winds create ridges for shorefast ice to anchor onto, making stronger and safer ice to travel on.
- Wind moves smaller animals in the water, like krill and clams, also changing the distribution of other animals and their accessibility to hunters.

Student Corner

Kimberly Kivvaq Pikok
Thesis Defense and Film Release

We are so proud of Kimberly Kivvaq Pikok, who defended her Master of Science Thesis in Interdisciplinary Studies at the University of Alaska Fairbanks on October 1, 2024. Kim delivered her defense titled "Centering community and joy through co-production: Tracking the seasonal changes of Utqiaġvik's spring whaling" from her Iñupiaq homelands in Utqiaġvik, Alaska with an audience online and in person.

Aarigga and congratulations Kimberly, we're certain you will go on to great things, always centering joy and your community values in all you do!

It's All About the Happy People:
A Tale of Joy and Life Around the Sea Ice

This is a short film that Lloyd Pikok Jr. and I made for my Master's thesis research. Lloyd Jr. is a homegrown and self-taught Iñupiaq photographer and videographer, specializing in sports photography and landscape imagery. We interviewed Alex Kaleak Sr. and his wife Diedre, Joe Mello Leavitt, and the late Craig George about their experiences and relationships with sea ice and spring whaling. Lloyd Jr. filmed spring whaling events such as sea ice trail breaking, *Nalukataq* (blanket toss). In this film, we center local voices and highlight their experiences and livelihoods around the Arctic sea ice and whaling. Here, we emphasize the beauty of subsistence whaling and community by uplifting joy and knowledge exchange.

- Kimberly Kivvaq Pikok, November 2024

TOP: Kimberly present's the film debut at the Sitka WhaleFest. MIDDLE AND BOTTOM: Kimberly at her thesis defense in Utqiaġvik with committee co-chairs Donna Hauser and Courtney Carothers.

You can view Kim's full thesis presentation, shared with her permission here:

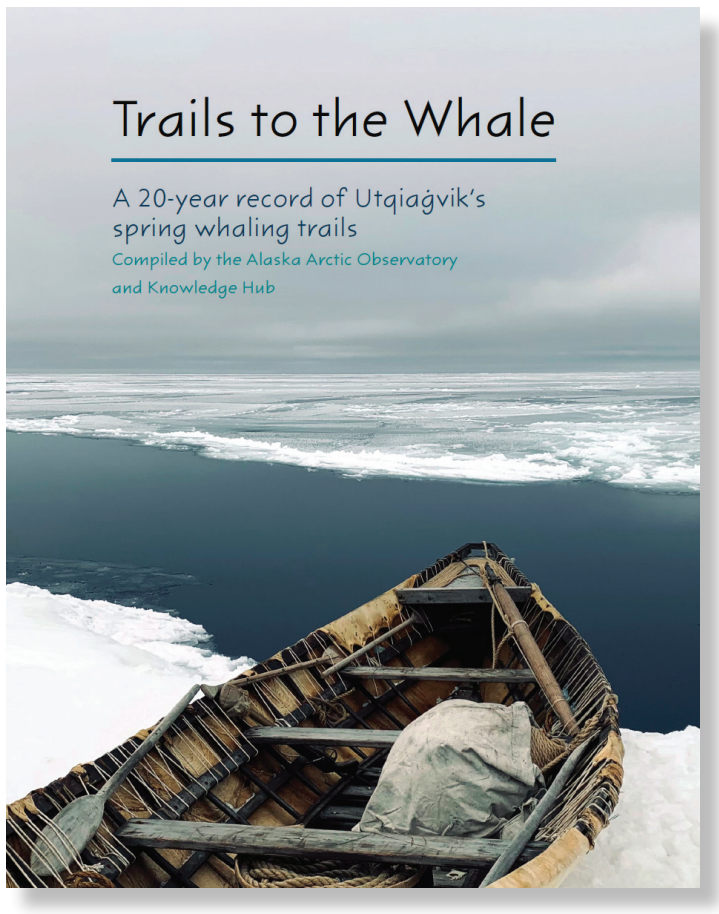
You can view Lloyd and Kimberly's full film here:

AAOKH Updates

Book Release!

Each spring, Iñupiat hunters route and build trails across the shorefast sea ice off Utqiaġvik to access hunting sites along the lead edge as they pursue the bowhead whale during its spring migration to the Beaufort Sea. Since 2007, an ongoing collaboration between whalers, scientists, and local organizations have worked together to map and survey the community's spring whaling sea ice trails and measure the average thickness of the ice. We are excited to announce a new book describing our collaborations and summarizing spring whaling and maps from 2008-2024! Thanks to the Alaska Ocean Observing System (AOOS) for supporting book design and printing!

The book is also available online here:



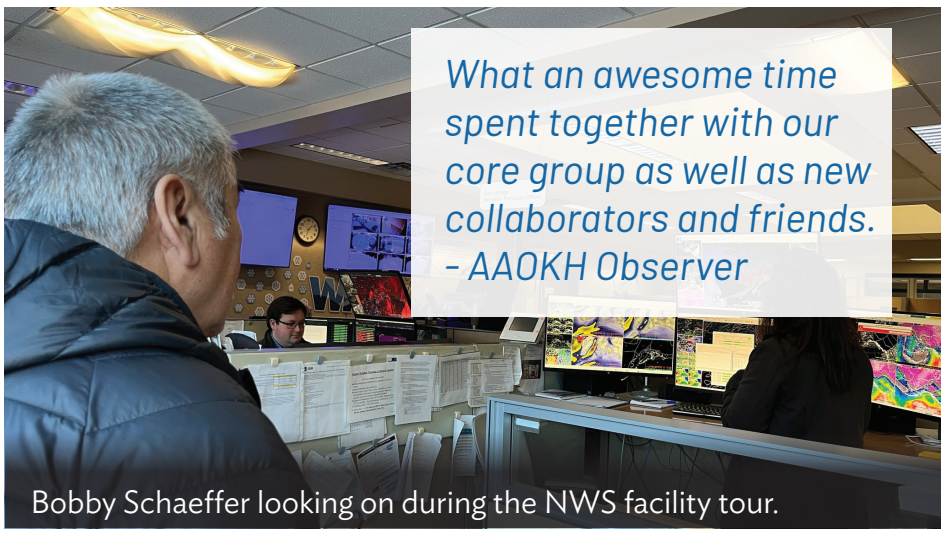
ELOKA White House Award

Roberta and Noor accepting their award at the reception held at the White House.

AAOKH's long standing partner, Exchange for Local Observations and Knowledge of the Arctic (ELOKA) was announced as the winner of the "Science to Serve Communities" award from the White House Office of Science and Technology Policy. This recognition is a reflection of all of our amazing partners and collaborators. Noor Johnson from ELOKA and Roberta Glenn-Borade received this honor from the White House in September 2024. At this reception, Noor and Roberta presented flash talks sharing about AAOKH and ELOKA.

Workshop with the National Weather Service

As part of an ongoing collaboration with the Alaska Center for Climate Assessment and Policy (ACCAP), AAOKH met with National Weather Service (NWS) forecasters in Anchorage to discuss opportunities for new and improved forecasting products and how Indigenous observations may help advance NWS forecasts. This workshop included a tour of NWS facilities, where Observers learned about how forecasts are put together. Both AAOKH observers and NWS staff both expressed interest in continuing these conversations.


What an awesome time spent together with our core group as well as new collaborators and friends. - AAOKH Observer

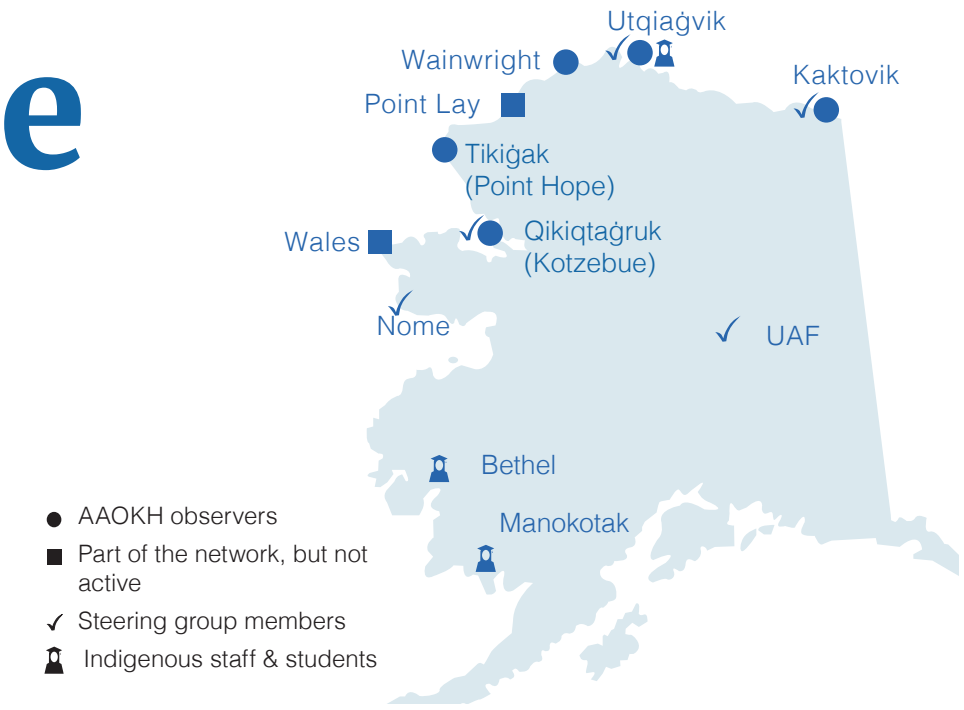
Bobby Schaeffer looking on during the NWS facility tour.

AAOKH contributed to:

- The annual ***Utqiaġvik BARC Science and Cultural Fair*** in August with demonstrations led by Donna Hauser, Maeghan Connor, Roberta Glenn-Borade, Josh Jones and Lease Paton.
- The ***National Tribal Indigenous Climate Conference*** in September with presentations by Billy Adams, Glenn-Borade and Nathan Kettle on our AAOKH and National Weather Service collaboration.
- The ***Sitka Whalefest*** in November with presentations from Hauser, Glenn-Borade, and Kim Kivvaq Pikok.
- The ***Alaska's Changing Environment 2.0*** report released in December which featured observations from Bobby Schaeffer, Guy Omnik, Billy Adams, Joe Leavitt, and Carla SimsKayotuk.

Who We Are

AAOKH works with 6 Iñupiat observers in four coastal Arctic Alaska communities. Observers share their knowledge and expertise related to changes in the seasonal cycle, playing an important role in understanding Alaska's changing Arctic environment. Research and observing activities are guided by a Steering Group, including Indigenous advisors from Alaska coastal communities and University of Alaska Fairbanks scientists.



5 Observers

AAOKH has five active observers in four coastal Arctic communities. They document the changing seasonal cycle. Observers: Billy Adams and Joe Leavitt, Utqiaġvik; Bobby Schaeffer, Qikiqtaġruk (Kotzebue); Carla SimsKayotuk, Kaktovik; Guy Omnik, Tikiġaq (Point Hope).

7 scientists

AAOKH's science team puts local observations in the context of scientific measurements related to ice, ocean conditions and marine mammals. Scientists: Donna Hauser, Josh Jones, Roberta Tuurraq Glenn, Alexandra (Alex) Ravelo, Rick Thoman, Krista Heeringa, Matthew Druckenmiller, Elena Sparrow, Hajo Eicken.

Students

Elizabeth Mik'aq Lindley is a PhD candidate in the College of Fisheries and Ocean Sciences at UAF. Kimberly Kivvaq Pikok just completed her thesis in Interdisciplinary Studies. Meaghan Connor is a MS candidate in Wildlife Biology & Conservation at UAF. Lease Paton is an undergraduate intern working with AAOKH in collaboration with Alaska Ocean Observing System.

Steering Group

Austin Ahmasuk (Nome), Lee Kayotuk (Kaktovik), Noah Naylor (Qikiqtaġruk), Qaiyaan Harcharek (Utqiaġvik); from UAF Hajo Eicken, Scott Rupp, Sean Asiqłuq Topkok, Terry Chapin, Todd Brinkman.

Funding

AAOKH has primarily been funded through Community Service Payments made by a corporate defendant that was convicted of federal environmental and maritime crimes in 2014. As this funding wraps up, AAOKH is increasingly relying on alternative funding opportunities. Additional funders of AAOKH activities include the National Oceanic and Atmospheric Administration (NOAA), Alaska Ocean Observing System, National Science Foundation, Alaska Sea Grant, North Pacific Research Board, and Office of Naval Research and National Aeronautic & Space Administration. Additional

support for AAOKH activities are provided by Exchange for the Local Observation and Observing of the Arctic, Native Village of Kotzebue, and UIC Science.

This Newsletter issue has been funded by the NOAA GOMO Arctic Research Program. Award number: NA20OAR4320271-T3-01S140

Photo: The AAOKH team and guests at the annual AAOKH meeting in November 2024.

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