

# AAOKH NEWS

Issue 11, Summer 2024

Alaska Arctic Observatory and Knowledge Hub



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.

*Whalers at the ice edge in Tikigaq, photo taken by Observer Guy Omnik, April 4*



## **Paġlagivsi! AAOKH aitchuutsuurat qanuq Inupiat uqausigigai qanuq siġa allanġuqtuq.**

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

Welcome to the eleventh AAOKH news! We are excited to highlight local observations from winter and spring 2024 and their connection to notable wind and temperature events. In this issue we highlight several of AAOKH's ongoing research efforts, including whaling trail mapping efforts that have become a long-term record of local sea ice thickness in Utqiaġvik and gathering ocean data to understand timing of breakup in Qikiqtaġruk. We highlight new research that will explore climate driven changes to seal haulouts, and are excited to introduce AAOKH's summer intern Lease Paton.



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# Tusaayugaat - Recent observations



Strong north winds, warm temperatures, & delayed ice formation in Point Hope



North ocean currents in Utqiagvik keeping pack-ice in



Blizzard and whiteout conditions in Kaktovik



Storms and surges in Kotzebue Sound



Successful spring whaling



## Qikiqtaġruk (Kotzebue)

*Bobby Schaeffer, AOKH observer*

**January 23** With all the wind and storm surge during the month, the tomcod and smelt left the Sound as I didn't catch a single tomcod the entire three weeks. Usually the cod are everywhere this time of the year. Obviously, the weather had a lot to do with their disappearance. They usually spawn in the Kotzebue lagoon and in the shallow waters around the Baldwin Peninsula and in and around the Noatak River Delta. The question I have is where did they go to lay their eggs? This is a first for me.

**March 18** Shee fishers were out catching nice fish the entire week. Three small herds of caribou crossed the Kobuk Lake heading North to the Brooks Range. Elders knew that this meant the weather is going to warm as the caribou sense this and start their long trek to their summer range.

**April 17** There are fishermen out every day but all have not landed a single Shee. All the storms the last three weeks have come from the Southeast and brought in the ocean surge. The salt water usually chase the Shee Fish up into Kobuk Lake. This year, the Shee have been feeding on tomcod. Those at the Mouth of the Noatak had both tomcod and white fish in their stomachs. No herring since late last Fall. The smelt usually winter in the Kotzebue area. This year there were none the entire winter.

**April 27** The caribou have been on their NW migration. Yesterday I sat and watched two nice herds of about 500 caribou slowly make their way through snowless tundra. What a sight. One small herd of about 50 crossed Kobuk Lake on the ice about a quarter mile from the shore. It's easier walking as most of the snow cover on the lake is gone. All the rivers and streams still have a lot of snow on them and it makes for tough crossing as the herds venture Northwest.

Tikiġaq  
Point Hope

Qikiqtaġruk  
Kotzebue



January 8, Carla SimsKayotuk



January 8, Carla SimsKayotuk

**Where do AAOKH observations go?** AAOKH observations focus on sea ice, wildlife and coastal waters. They contribute to, and are stored in, a National Science Foundation-funded database housed by the Exchange for Local Observations & Knowledge of the Arctic database ([eloka-arctic.org/sizonet](http://eloka-arctic.org/sizonet)). Since 2016, AAOKH observers have contributed almost **6,000** community-based observations. These are combined with the historic [Seasonal Ice Zone Observing Network](#) database (2006–2016) for a total of over **11,000** local observations.

Kaktovik



## Tikiġaq (Point Hope)

*Guy Omnik, AAOKH observer*

**January 13** Unusually warm weather for the month of January, 31° above , mostly cloudy. Went out fishing after work today and caught 5 tomcods.

**February 19** 5° north winds 40-45mph mostly clear. Open water right off the south beach due to the high north winds. We usually have ice this time of year, with recent high north winds it all blew away.

**March 9** -12° north winds 15-20mph clear skies 10 mile visibility. Whaling crews are getting ready for the upcoming season, like cleaning *sigluaqs* (ice cellars), working on gear and cleaning equipment.

**April 13** *Agvaqpanguu!!!* Point Hope landed its first whale!

**May 2** While at the ice edge I got to take pictures of belugas. While waiting by the water I seen my first goose (speckle) of the season here



April 13, Guy Omnik



## Kaktovik

*Carla SimsKayotuk, AAOKH observer*

**January 10** Hardly any wind and a nice bright day. Some of the caribou came to our lagoon and more at the mainland south side of the island. Several hunters went out while there is a break in the strong winds to harvest some caribou. We can see a big open lead about 7 plus miles out in the ocean. This evening the temp is -4F feeling like -23F. The wind is 13 mph gusting to 18, so quiet. ESE closer to E winds.

**January 30** Blizzard day again, work and school has been called off. Gusting to 50 f2/from the west. Wind chill -42. Lots of snow drifting and blocking doors.

**March 17** It has been super cold wind chills for a while now, ranging from -30 to - high 60's . Today it is feeling like -53. A blizzard is predicted to start this afternoon and last until Monday late evening. The caribou is still on the island and even getting on the runway when planes are trying to land.

**May 15** Most of today was beautiful and sunny, it is now misty and foggy. Visibility is less than couple blocks. Geese were flying every which way.



May 2, Guy Omnik



January 20, Carla SimsKayotuk

## Utqiagvik



Joe Leavitt & Billy Adams, AAOKH observers



**January 10** Easterly winds 20-30 mph continue keep an open lead but the winds keep hunters off the ice for the past 3-4 weeks. The east winds keeps the water level down and it has been that way for about a month now, this prolonged event does have its effects on how the ice will act after the wind subsides and water levels come back up. *Katanga* meaning it has remained down for a good period of time from sustained winds and temperatures. *Kivviktit* meaning being lifted. So the actions will be seen later from ashore where it is safe then we may be permitted to go look about on the ice.

**January 30** Ice came in Thursday. Young ice has been lifted by tide and wind. Shorefast was still on west side of town.

**February 16** The winds have calmed down and with light westerly winds bears will come ashore to the shorefast ice and hunt seals where the seals make lairs in drifted areas and will come to the sea shore to find carcasses that were blown ashore in the fall this includes various ringed, bearded, and spotted seals, whales include bowhead and gray, and walrus. Many of these carcasses have perished from old age and storms. The change in climate has also brought on other animals that come from warmer areas like humpback, minke, and fin whales which is not their normal range.

**February 28** No sign of water, more (ice) piling up to the SW side. But further out can see high ridges.

**March 5** Bears have been going north and stopping by to have lunch with us. There have been many mothers with cubs this winter and are looking very healthy.

**April 4** New added on ice called *iiguaq*, this *iiguaq* should harden up in a few days or can be taken off by getting hit from the pack ice either from the south or north, by wave action, or high winds.

**April 25** Barrow has landed their first whale of the 2024 season by Aaluk crew. Beautiful ice formation like a wall which is constructed by currents from the south when the pack ice continually rubs the shorefast ice we call this type of ice *aggiupak* and they can be higher ones that can be 20 feet or higher we call *aggiupagruaq*.



April 29, Billy Adams



March 5, Billy Adams

## Research Corner



Maeghan Connor is a Master's student pursuing a Biology and Wildlife degree at the University of Alaska Fairbanks. Originally from New Hampshire, Maeghan has spent the past four summers working in Alaska. Her time in Alaska and various experiences working with marine mammals have shaped her research interests, which include further understanding the impacts of climate-induced ecological change on marine mammals in the Arctic.

For her Master's project funded by Alaska Sea Grant, Maeghan will be continuing previous research on spotted seal ecology in the Chukchi and Beaufort Seas with Donna Hauser, Andrew Von Duyke, and others from the North Slope Borough

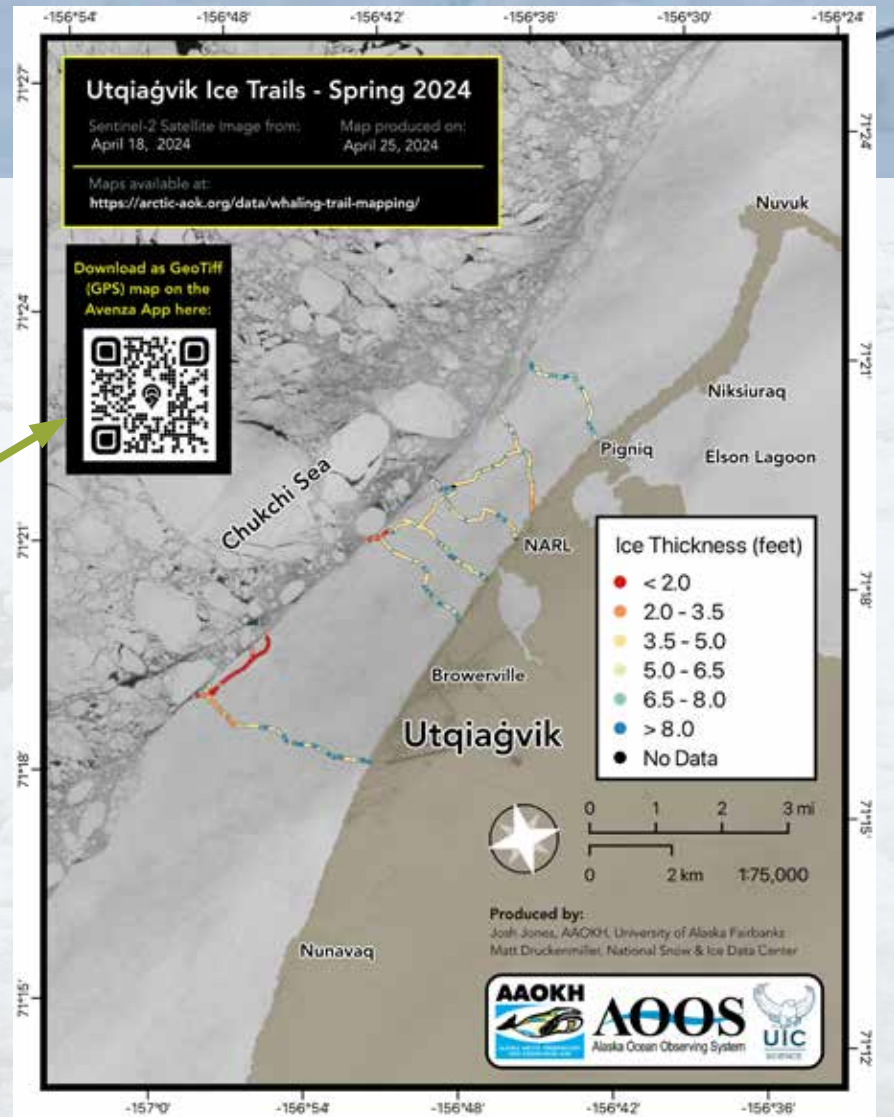
Department of Wildlife Management. Her work will assess how environmental conditions impact spotted seal terrestrial haulout behavior and test the feasibility of small drones to survey seals. To contextualize and broaden our understanding of spotted seal haulout behavior, Maeghan plans to weave results with local environmental observations from Utqiagvik AAOKH observers Billy Adams and Joe Leavitt. Updates on this project will be shared through future editions of the AAOKH newsletter. Maeghan is beyond excited to be part of this project and is looking forward to spending this summer and fall in Utqiagvik. Come meet Maeghan at the BARC Science Fair in Utqiagvik in August!

# Utqiagvik Whaling Trails

Aaluk crew breaking trail in preparation for the upcoming whaling season. April 22, Billy Adams

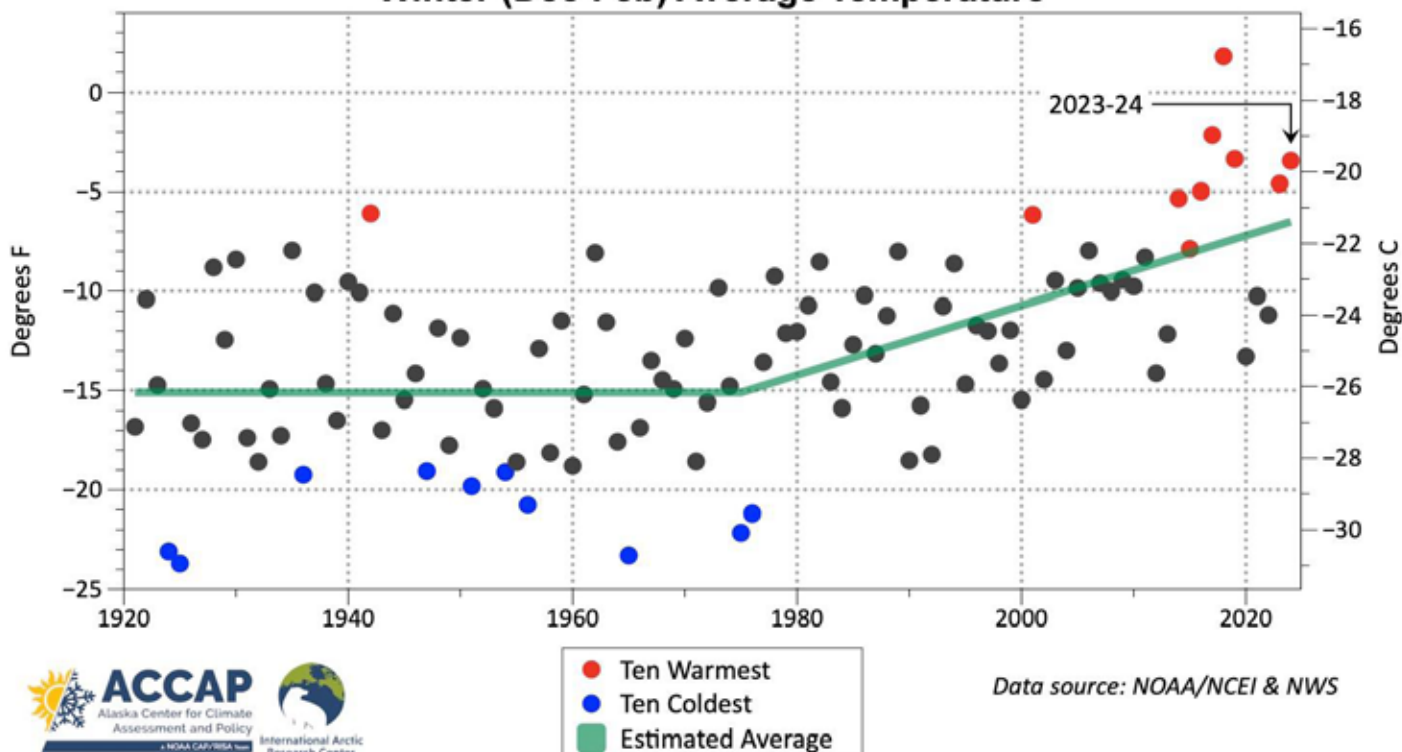
The shorefast ice around Utqiagvik this year was weakly anchored due to a lack of large grounded pressure ridges, essential for keeping the ice in place. Trails crossed light rubble fields without clear grounded ridges, with no apparent ones near the ice edge indicating the ice was very weakly grounded, perhaps the weakest it has ever been observed over the course of this project. On May 15, a section of shorefast ice broke off in a relatively small area due to ocean currents and interactions with mobile pack ice. All those on the ice that broke off were safely rescued. This occurred in the really thin ice area at the end of the runway/gravel pit trail, where there were no big ridges.

QR codes can load these maps onto your phone or mobile device using the Avenza App.



Since 2008 AAOKH scientists have mapped the trails Utqiagvik hunters build each spring to access bowhead hunting areas in collaboration with the North Slope Borough. This year's mapping was funded by the Alaska Ocean Observing System (AOOS), and carried out with support from the Barrow Whaling Captains Association, UIC Science, and UAF Sea Ice Group.

Utqiagvik, Alaska, 1920-21 to 2023-24 Winter (Dec-Feb) Average Temperature



## Weather & Climate Highlights

Utqiagvik experienced a very windy and mild first half of January, including a blustery day with average wind speeds of 35 mph and a peak of 61mph on January 16. Three daily records for high temperatures were set in March, April, and May. The coldest weather of the winter was in the second week

# Wind & Ocean Conditions



Photo Caption: Ty Kramer taking the first sea ice measurements February 15 with Alex Whiting and Bobby Schaeffer. The final sea ice thickness measured ~3.25 ft (99 cm) thick.

## Ocean monitoring

Since 2019, AAOXH has collaborated with Native Village of Kotzebue to monitor ice and snow thickness and deploy under-ice oceanographic instruments (called a CTD) that measure salinity and sea surface temperature (SST). These measurements can help us understand the seasonal ice cycle and the timing of breakup, which can help local residents assess the safety of sea ice conditions as they change through the spring hunting and fishing season. There is a high correlation between high wind events and change in salinity and SST.

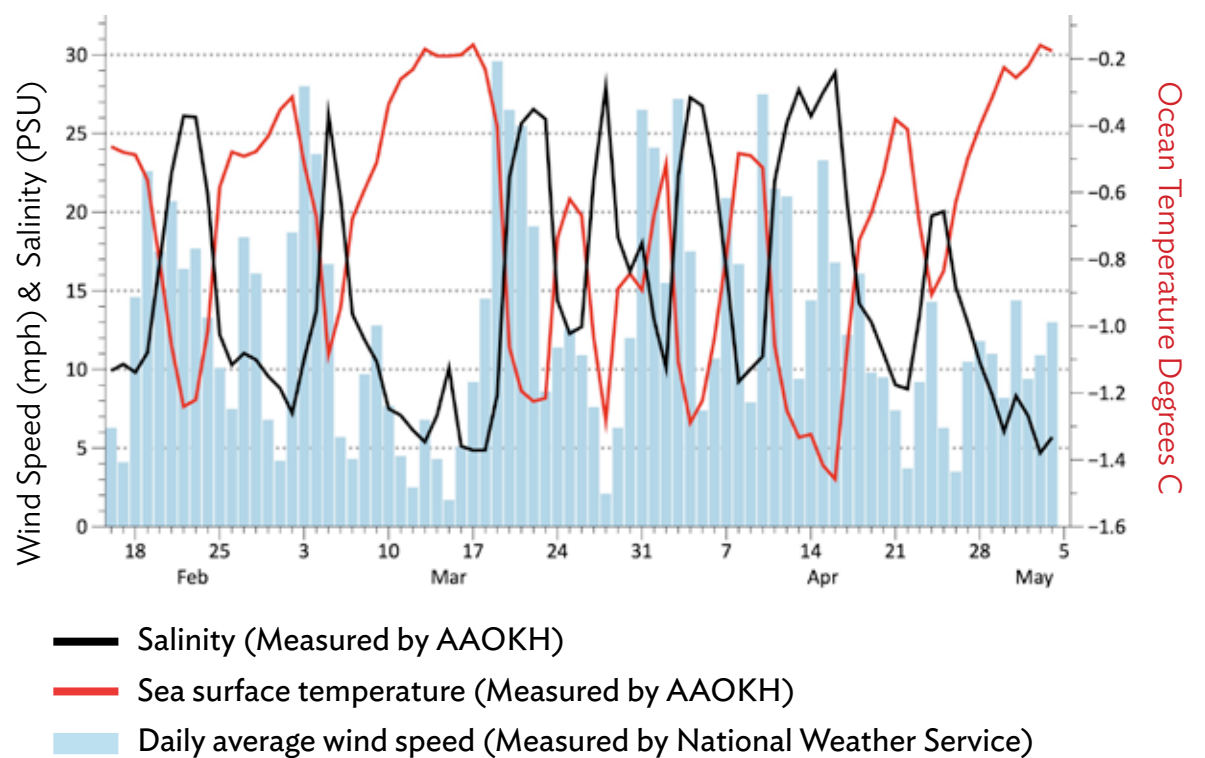
## High Wind Events

In Qikiqtaġruk, the first half of January 2024 was exceptionally windy with average wind speed of 28 mph January 1-15, with a peak of 67 mph on the 11th, the windiest month since February 2019! During the cold season nearly all high winds come from the east to southeast, the February 27-28 winds out of the west to northwest were notable for winter and important for ice dynamics. For areas south of Tikigaq (Point Hope), this was one of the windiest springs recorded since 1980. For areas on the North Slope, this spring had less wind relative to the past 45 years. AAOXH observer Bobby Schaeffer noted significant windy events this past season.

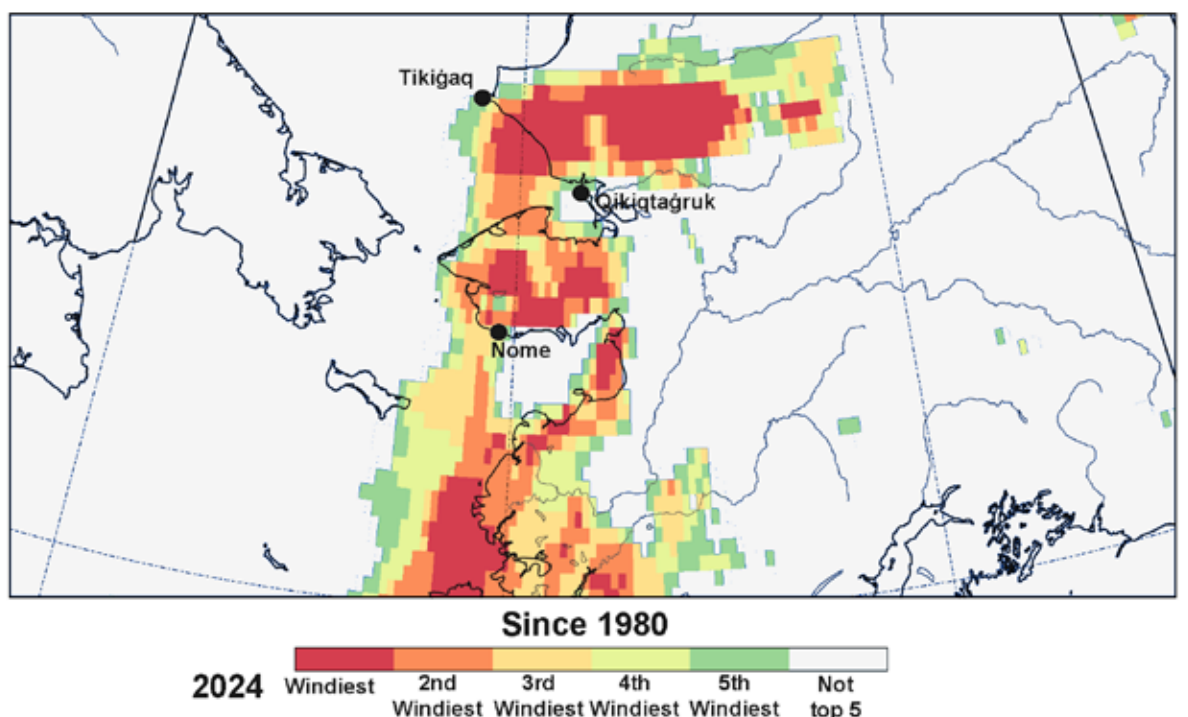
**February 27** Brrrr! With strong West winds, the ice in Kotzebue Sound will definitely blow back and fill up the leads caused when we had strong SW winds last week. It will definitely cause the ice to pile up on the Western shores of the land fast ice.

**April 7** I usually have my Spring crab pots by now but we are still experiencing storms with strong winds since the beginning of the new year. No one has gone out to the open lead to hunt this winter. Just too much wind.

February 16-May 4, 2024 in Kotzebue Sound  
Average Daily Wind Speed, Sea Surface Temperature, & Salinity



Wind ranking for March-May 2024



# Arctic Observing Summit



Several AAOKH observers have indicated how important it is to share their observations on a global stage to express the changes documented in Alaska. Many of our AAOKH team, including Donna Hauser, Alex Ravelo and Roberta Glenn-Borade, traveled to Edinburgh, Scotland in March 2024 to attend and participate in the Arctic Observing Summit (AOS). AOS is a biennial summit providing guidance for an international network of Arctic observing systems. The AOS provides a platform for fostering international communication and coordination of long-term observations aimed at improving understanding and response to Arctic change. The AOS helps minimize duplication of efforts and identify observing gaps through coordination. AAOKH participated in working groups that discussed data sharing and Indigenous data sovereignty in collaboration with our partners, such as the Exchange for Local Observations of the Arctic (ELOKA). We also participated in working groups to network with and discuss long-term priorities for community-based observing across the circumpolar Arctic.

## Student Corner

### Introducing Student Intern Lease Paton

University of Alaska Anchorage undergraduate senior Lease Paton (he/they) is working with AAOKH this summer in collaboration with Alaska Ocean Observing Systems (AOOS). Lease is pursuing a major in Mathematics and a minor in Computer Science and is part of the Alaska Native Science and Engineering University Success Program (ANSEP). Lease is Yup'ik whose family is originally from Manokotak near Bristol Bay and has interests in fisheries, ecology, knitting, and visible mending. Lease will be helping update AAOKH's database of community observations and taking part in community outreach this summer, and is excited for the opportunity to learn more about Arctic ecosystems and cultural knowledge.

"I wanted to work here because I'm interested in studying the effects of climate destabilization on Alaska Native people, especially coastal communities. When I first heard about this project, I was very excited to see climate research being done on Arctic Communities by Alaska Natives. During my childhood, I watched the rate at which the land eroded increase greatly. I remember coming back to Igushik (on Bristol Bay, 30 mi SW of Dillingham) every year and being surprised at the changes. The land was washing away and the beach was getting wider, taking its place. Each year the change was bigger, becoming significantly worse during my adolescence. Eventually the cabins around us washed away, one or two per year. I was 17 or 18 years old when my family picked up the cabin and moved it, otherwise we might have lost our cabin to the ocean".



### Anticipating Documentary Film Release

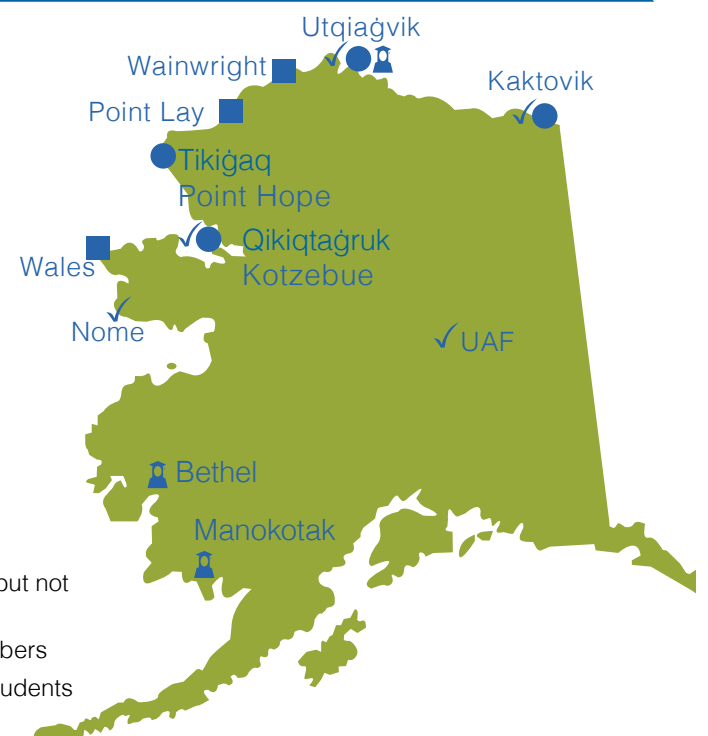
2024 is a busy year for Graduate student Kim Pikok. Kim sends a big thank you to Joe Mello Leavitt, Alex and Diedre Kaleak, the George family, and Lloyd Pikok Jr. for all their contributions and knowledge! With interviews complete, Kim is working on academic articles focused on Indigenous sea ice perspectives and a documentary. Look out for the finished documentary in August 2024. Kim is anticipating completing her Thesis and Masters by December 2024.



April 2024, Billy Adams

# Who we are

AAOKH has five active local observers in four coastal Arctic Alaska communities. These individuals share their expertise related to changes in the seasonal cycle, playing an important role in understanding Arctic Alaska's changing environment. Observer and science team activities are guided by a volunteer steering group composed of local Indigenous advisors from coastal communities and University of Alaska Fairbanks scientists. Members include: Austin Ahmasuk (Nome), Lee Kayotuk (Kaktovik), Noah Naylor (Qikiqtaġruk), Qaiyaan Harcharek (Utqiaġvik); from UAF Hajo Eicken, Scott Rupp, Sean Asiġuq Topkok, Terry Chapin, Todd Brinkman. This group ensures that AAOXH provides useful tools and resources for northern Alaska coastal communities.



## AAOKH Observers



Guy Omnik, Point Hope



Joe Leavitt, Utqiaġvik



Billy Adams, Utqiaġvik



Bobby Schaeffer, Kotzebue



Carla SimsKayotuk, Kaktovik

### AAOKH Science team

Donna Hauser, Josh Jones, Roberta Tuurraq Glenn, Alexandra (Alex) Ravelo (postdoctoral researcher), Rick Thoman, Krista Heeringa, Matthew Druckenmiller, Elena Sparrow, Hajo Eicken.

### AAOKH students

Kimberly Kivvaq Pikok and Meaghan Conner are seeking a master's degree. Elizabeth Mik'aq Lindley is seeking a PhD in Fisheries. Lease Paton is an AAOXH undergraduate intern.



## Connect with us

There are many ways to get involved in AAOXH. Whether you are a community member, local expert, teacher or student we need your help documenting the changing seasonal cycle in your community. Keep up to speed on AAOXH observations, findings, activities and events by connecting with us online or by phone!

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## AAOKH Funders

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