

OARR

Observation Array, Alaska Region Newsletter

Issue: 3, July 2021

Summer Hazards in Alaska Can Be More Than Mosquitos



Links to additional information available at all the underlined text below



Lightning

Compared to some of our Lower 48 friends, lightning and convection is pretty tame. The Panhandle averages 1 thunderstorm around every 2 years, with more active weather in the Interior.

The dangers are NOT any less. Forecast Offices will issue statements and warning for land and over the water. You can also find data at: [National Centers for Environmental Information](#).



Fire

Wildfires are started by lightning and humans in Alaska.

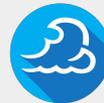
There are 129 million acres of forested land covering the Last Frontier. Even the temporal rain forests of SE Alaska have had a rare fire.

Fire weather maps and other information can be found on the [National Fire Program](#) page.



Flood

Rivers, streams and drainages can become overwhelmed causing flooding ranging from nuisance to dangerous. The [Alaska-Pacific River Forecast Center](#) works hand in hand with the local Forecast Offices in the process of issuing statements on hydrologic events.



Tsunami

Alaska is an active seismic area with over 33,000 miles of shoreline. The [Pacific Warning Center](#) in Palmer monitors seismic activities and issues statements as needed.



Tides and Currents

The tides can range up to 40 feet. With dramatic coastline geometry, bore tides pose hazards, as do rip currents. You can find more information on tides and current forecasts at: [National Ocean Service](#)

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CoCoRaHS

Shraddha Pingali and Doug Wesley

- The Community Collaborative Rain, Hail and Snow Network is a volunteer precipitation measuring network that is user-friendly and is open to anyone who lives in Alaska to participate.
- It requires a plastic rain gauge, measuring about 15" tall by 4" wide, which you mount on a wooden stake, and install in your yard or other measuring location.
- Website: Cocorahs.org

CoCoRaHS rain and snow gauges in use



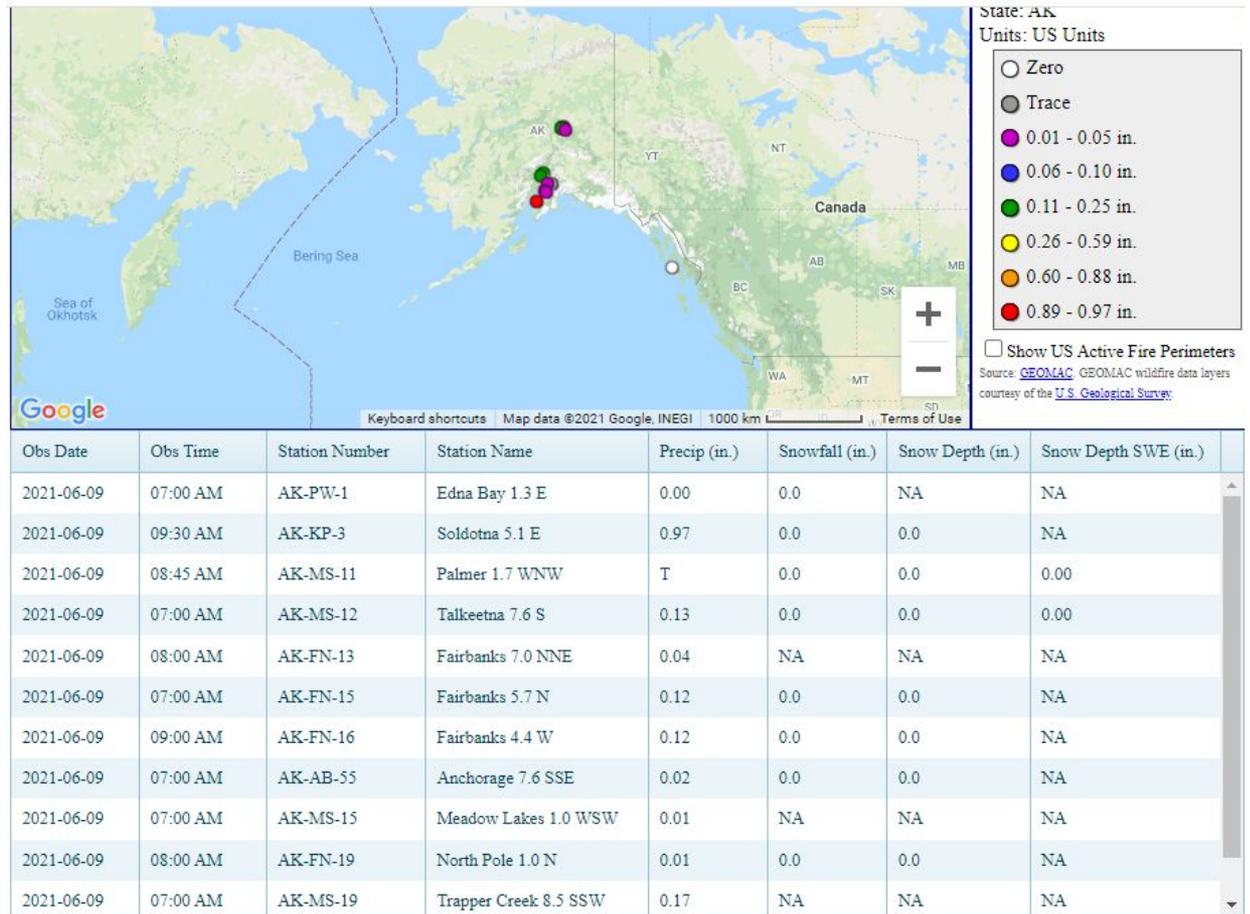
CoCoRaHS

Shraddha Pingali and Doug Wesley

Daily measurements are immediately plotted on a map, which is available on the internet at cocorahs.org.

You can also submit Significant Weather reports at any time for your location.

This information assists NWS forecasters, hydrologists, emergency managers, and communities in dealing with floods, heavy snowstorms, droughts, and other problems that involve precipitation.

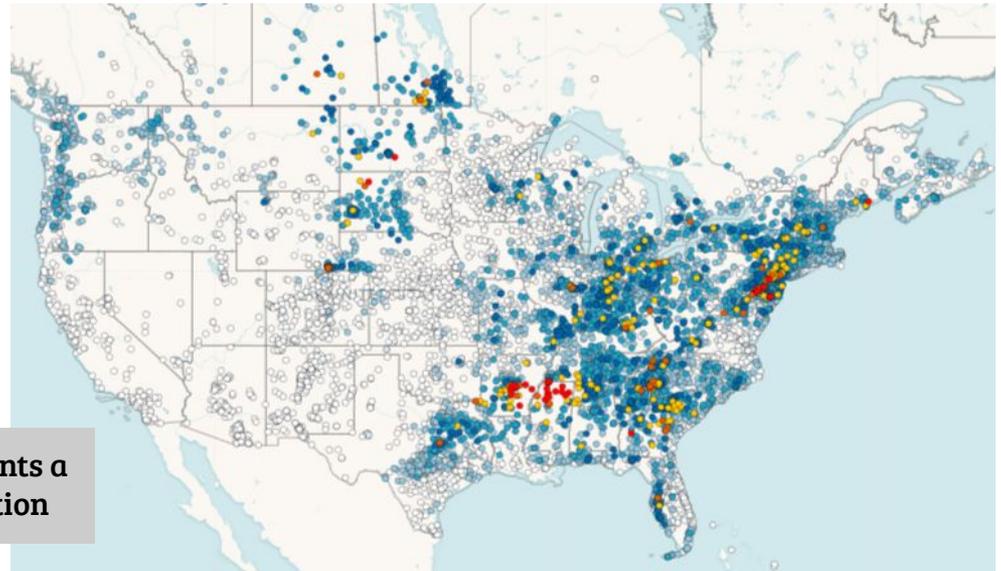


CoCoRaHS precipitation map. Measurements are available below the map section

CoCoRaHS

Shraddha Pingali and Doug Wesley

- CoCoRaHS is currently engaged in enhancing participation in Alaska.
- Alaska is the nation's largest state by area, yet it only gets around 15 observations per day.
- There are many challenges involved with monitoring snow, but with hands-on training in schools and communities as well as increased outreach, CoCoRaHS hopes to get more weather-monitoring stations in the state.
- Interested in joining CoCoRaHS and taking rain and snow measurements? Please reach out!
 - douglas.wesley@noaa.gov
 - shraddha.pingali@noaa.gov



Each dot represents a monitoring station

National Tsunami Warning Center

Dave Snyder/Scott Langley

There is a small office in Alaska that has a very large job: The National Tsunami Warning Center (NTWC) in Palmer.

Observation are an important part of the tools that the NTWC uses to do their job.

Just like weather observations, the more - the better! A new station has been installed at Barry Arm. The sensor is still in the implementation phase, and will be made operational as soon as possible.

The Electronic Technicians have been busy working on equipment, not only building and installation at Barry Arm but also:

- Tatalina data - Restored
- Amchitka Tide data - Restored
- Shemya - Future trip

You can learn more about Landslide-Generated Tsunami risk in Prince William Sound [HERE](#)

NOAA's Tsunami Program goes beyond just Alaska, you can check it out [HERE](#)



National Tsunami Warning Center

Dave Snyder/Scott Langley

View of the new Barry Arm equipment



Southcentral

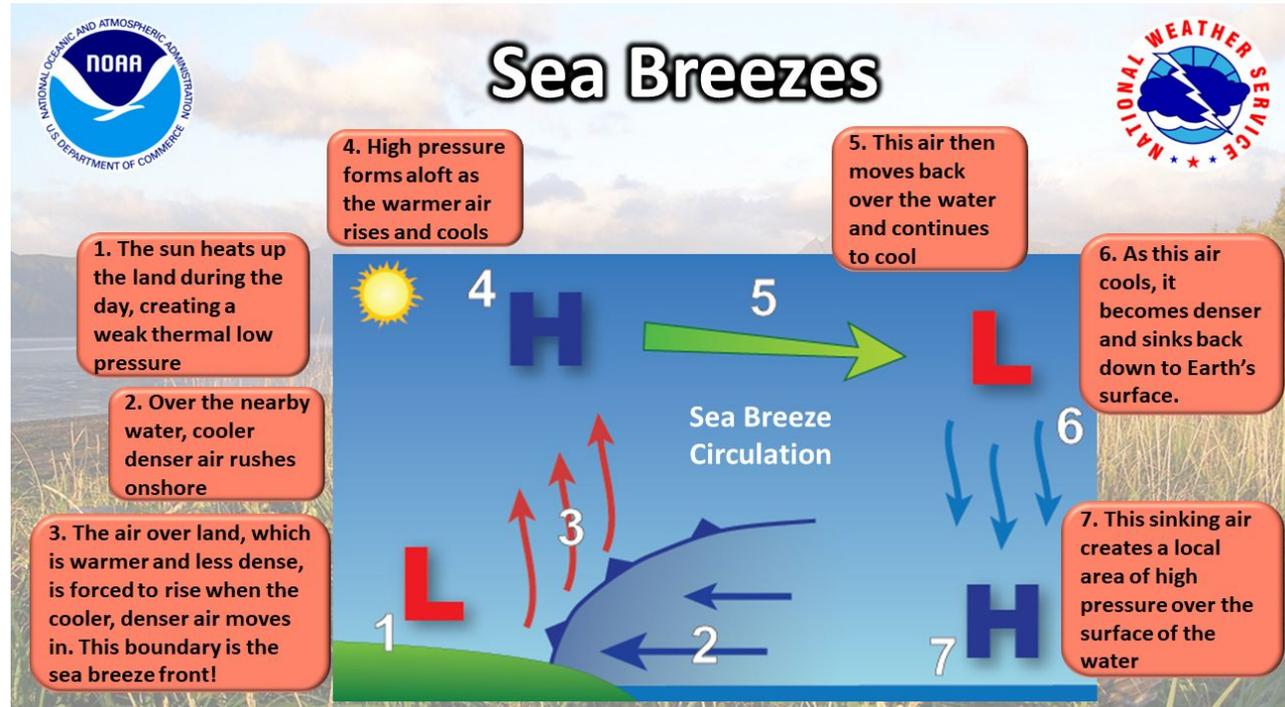
Kaitlyn O'Brien

Sea Breezes

What are they and how do they form?

Have you ever stood along a shoreline of a large body of water and felt a strong breeze rushing inland? Was it summertime and during the afternoon hours, perhaps? If so, you may have observed a sea breeze!

A sea breeze is a thermally produced wind, blowing inland from a cool ocean surface onto nearby warm land. Land masses heat up more quickly than large bodies of water, and these differences in temperature are what allow for sea breezes to form. Typically it takes some time for the land to heat up during the day, which is why sea breezes are most common during the afternoon hours.

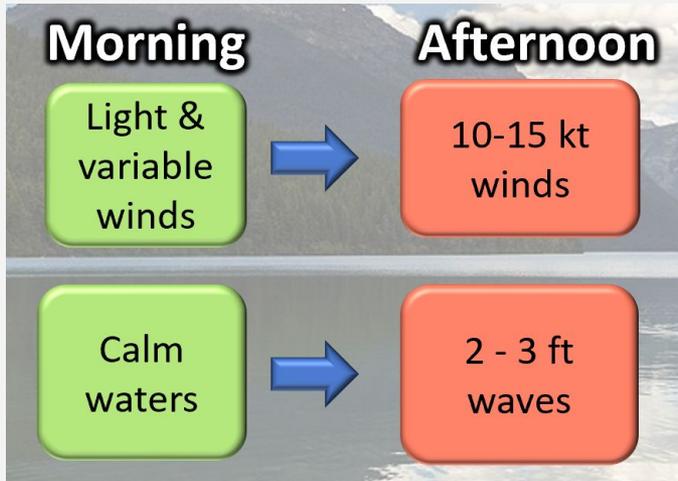


Let's take a closer look at the details of sea breeze formation. First, the sun heats up the land during the day, creating weak thermal low pressure. Meanwhile over the nearby water, cooler, denser air rushes onshore. The air over the land (which is warmer and less dense) is forced to rise when the cooler, denser air moves inland. This boundary is the sea breeze front. Over land, high pressure forms aloft as the warmer air at the surface rises and cools. This cooler air aloft is then transported back over the water and continues to cool. As it cools, it becomes denser, and sinks back down to Earth's surface, creating a local area of high pressure over the water.

Southcentral

Kaitlyn O'Brien

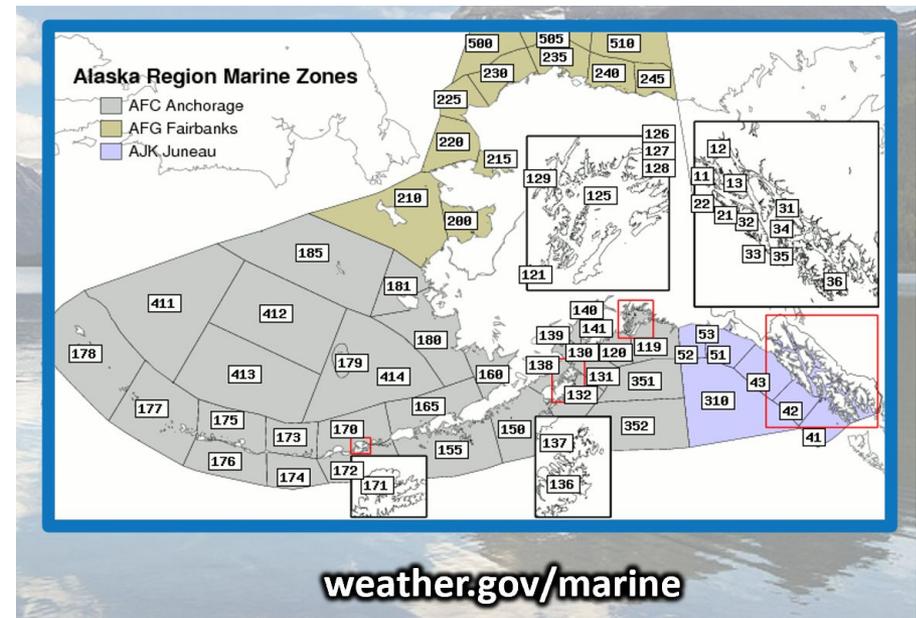
In Southcentral Alaska, sea breezes form almost daily at many locations; most notably Anchorage, Seward, Kenai, Homer/Kachemak Bay, and Valdez. Sea breezes have also been observed in Whittier and Cordova.



Sea breezes can have a big impact on the marine community, especially those who may be recreating in small boats and kayaks. While the day may start with light and variable winds in the morning, a strong sea breeze can develop by the afternoon hours, producing sustained winds of 10-15 knots. This wind can also increase the waves, producing 2-3 ft waves that develop quickly and may seem to come out of nowhere.

With Alaska having so much coastal area, sea breezes can occur in other areas around the state. If you are heading out on the water, be sure to always check the forecast so you know what to expect!

You can find your marine forecast at [weather.gov/marine](https://www.weather.gov/marine).



Northern and Interior Alaska

Craig Eckert

In 2017 the WMO began recognizing “Centennial Station,” sites where weather data has been collected for over 100 years with little or no change in observing location. For Alaska, this recognition goes to observers who began recording daily, on-site weather data on the Fairbanks Experiment Farm location on July 1, 1911. This site is also the longest continuously running weather observation station in Alaska in the same location, which even predates the Weather Bureau in Fairbank. This volunteer weather station was the only weather observation site in the Fairbanks area until the Fairbanks Weather Bureau office opened on July 15, 1929.



110 Years July 1, 2021
AWESOME DEDICATION

Picture Left: Historic Photo from Nov 2018. **Melissa Kreller**, WFO Fairbanks Meteorologist-in-Charge, presented an award from the [World Meteorological Organization \(WMO\)](#) to the [University of Alaska Fairbanks \(UAF\) Agricultural and Forestry Experiment Station \(AFES\)](#), recognizing more than a century of weather observations. The weather station is located on the AFES' [Fairbanks Experiment Farm](#). Full article was published in the NWS Insider Nov 2018.

Southeast

Kimberly Vaughan

Summer finally arrives in SE Alaska!

A wet and gray spring took, not just a turn to more summer time weather, but more like an abrupt about face. On June 24th, record rainfall was recorded, then just days later, record high temperatures.

Here is a list of all-time record temperatures around the Panhandle:

Station	Type	Record High Temperature	Last Set Date	Station	Type	Record High Temperature	Last Set Date
Haines Airport	ASOS	98°	July 31, 1976	Haines #2	COOP	89°	July 7, 2019
Ketchikan Airport	ASOS	96°	June 25, 1913	Craig	COOP	88°	June 19, 2004
Hyder	COOP	94°	June 20, 2018	Sitka Airport	ASOS	88°	July 31, 2020
Skagway Airport	ASOS	93°	August 5, 2017	Yakutat Airport	ASOS	88°	August 15, 2004
Skagway	COOP	92°	July 7, 2019	Gustavus	COOP	88°	June 20, 2004
Thorne Bay	COOP	90°	August 1, 2020	Hoonah	COOP	86°	July 8, 2019
Juneau Airport	ASOS	90°	July 7, 1975	Petersburg	COOP	84°	July 31, 1933
Pelican	COOP	89°	August 17, 2004	Elfin Cove	COOP	80°	June 18, 2004

COOP - Cooperative Observer Program, ASOS - Automated Surface Observing System (manual observations prior to ASOS)



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Resources



Cooperative Observer Program: <https://www.weather.gov/coop/>



CoCoRaHS: <https://www.cocorahs.org/state.aspx?state=ak>



Voluntary Observing Ship Program: <https://www.vos.noaa.gov/>

Weather Forecast Offices

Alaska Region: <https://www.weather.gov/alaska/>

WFO Anchorage: <https://www.weather.gov/anchorage/>

Sea Ice Program: <https://www.weather.gov/afc/ice>

WFO Fairbanks: <https://www.weather.gov/fairbanks/>

Alaska-Pacific RFC: <https://www.weather.gov/aprfc/>

WFO Juneau: <https://www.weather.gov/juneau/>

Climate Prediction Center: <https://www.cpc.ncep.noaa.gov/>

National Centers for Environmental Information: <https://www.ncei.noaa.gov/>