



# LEO Alaska Webinar

## Winter 2023-24 Climate Review and Spring 2024 Outlook

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# Winter 2023-24

## Alaska weather & climate highlights

**Utqiagvik** Dec-Feb average temperature -3.5°F: 4<sup>th</sup> highest

**Kotzebue** February average temperature 6°F above normal

**Bethel** Christmas Day low temperature -30°F: lowest since 1957

**Bristol Bay** February 14-15 Chignik to Togiak: 12 to 24 inches snow

**Bering Sea** End of February sea ice extent close to average

**Kodiak** Dec-Feb average temperature 29.7°F: lowest in El Niño winter since 2006-07

**Fairbanks** 10 days -40°F or lower: most since winter 2012-13

**Chicken** February 3 -62°F: lowest community temperature in the state

**Richardson Hwy Trims Camp** January 28 freezing rain with temperature -25°F

**Juneau** January 13-23 snowed 68 inches: highest 11-day total ever

**Anchorage** Dec-Feb snowfall 78.6 inches: 5<sup>th</sup> highest

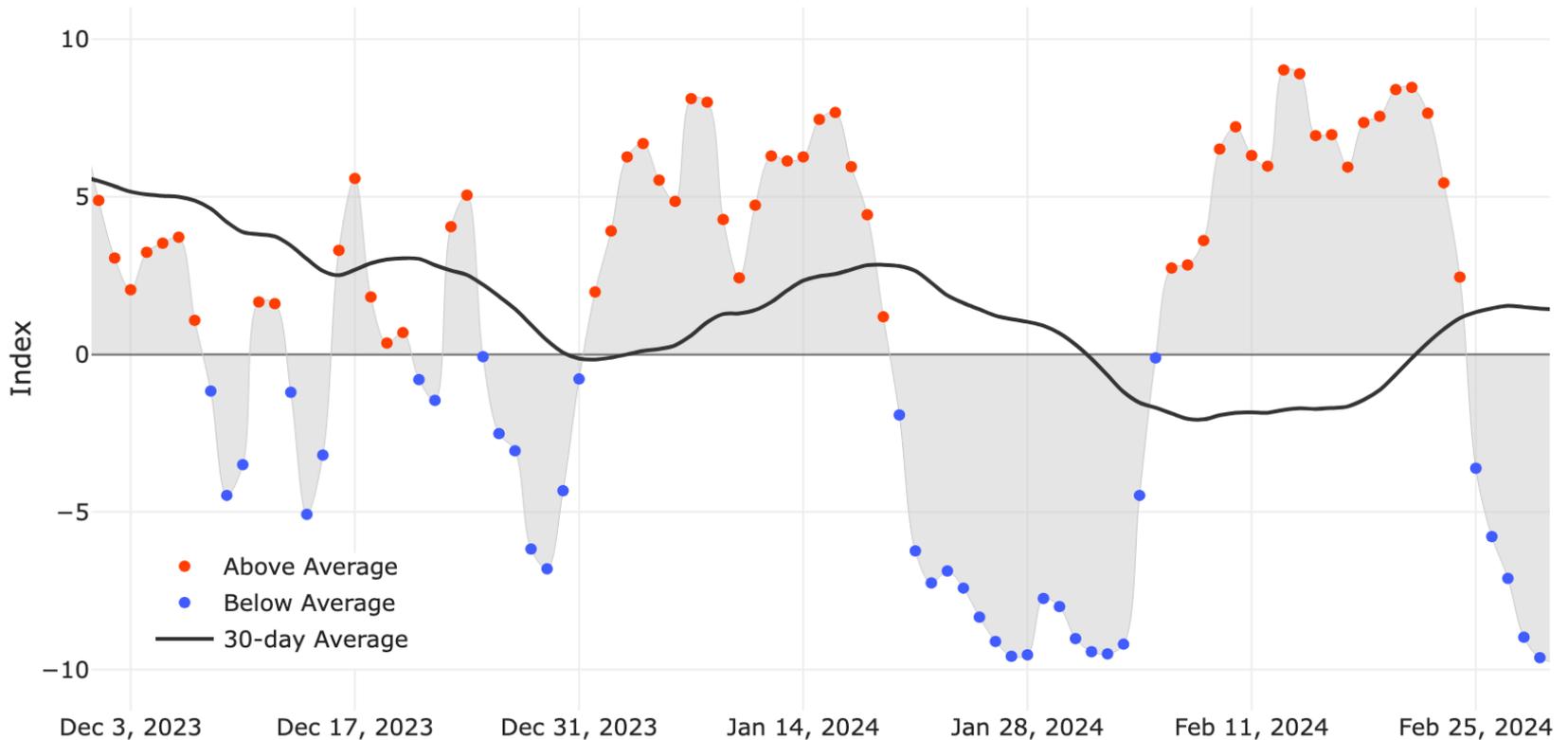
**Prince of Wales Island** December 23: winds to 85 mph at Hydaburg, 63 mph at Craig

Data sources: NOAA/NCEI & NWS preliminary and subject to change



# Alaska Daily Temperature Index

Alaska Statewide Temperature Index  
December 1, 2023 to February 29, 2024

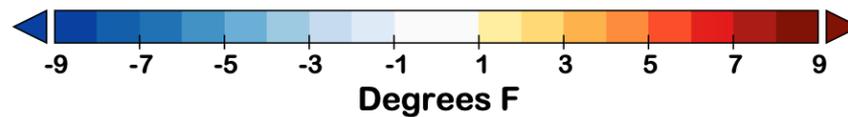
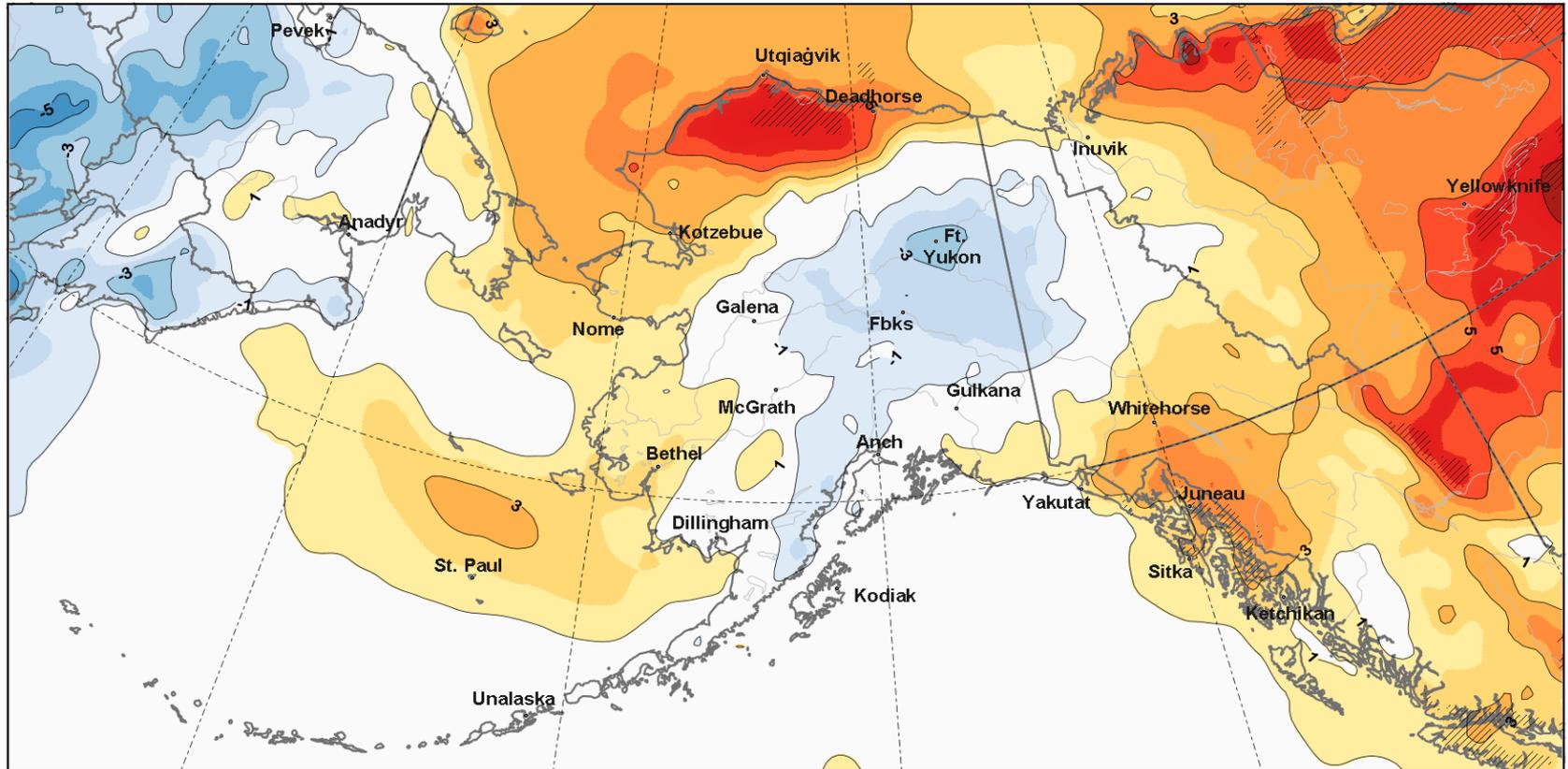


Online: <http://accap.uaf.edu/tools/statewide-temperature-index>



# Temperature Difference from Normal

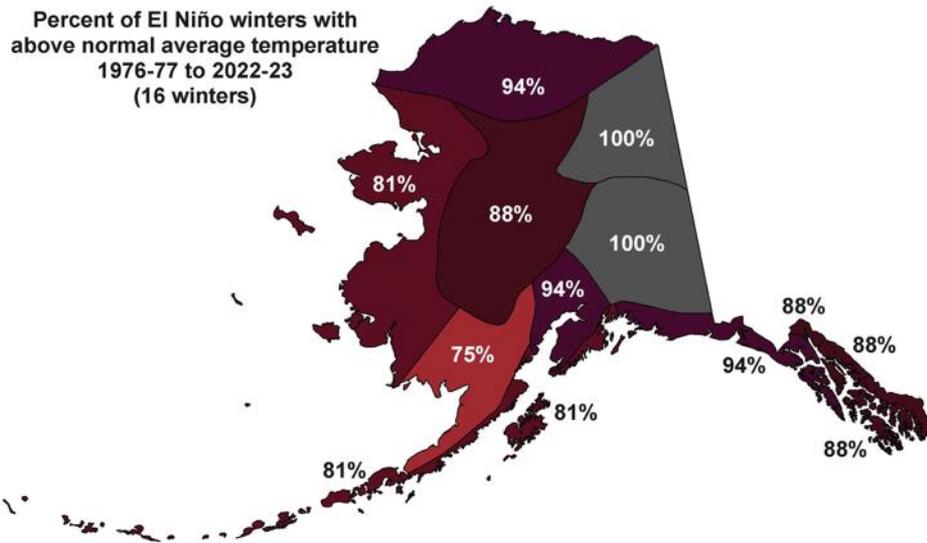
Average Temperature: Departure from Normal  
December 2023 though February 2024



Hatching = average temperature in top 3 highest or lowest for Feb since 1950

# Temperatures

## El Niño and Winter 2023-24



Based on El Niños since mid-1970s

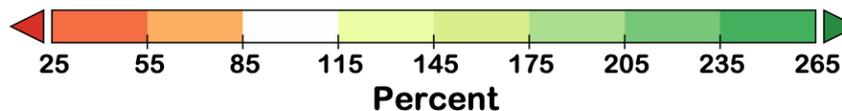
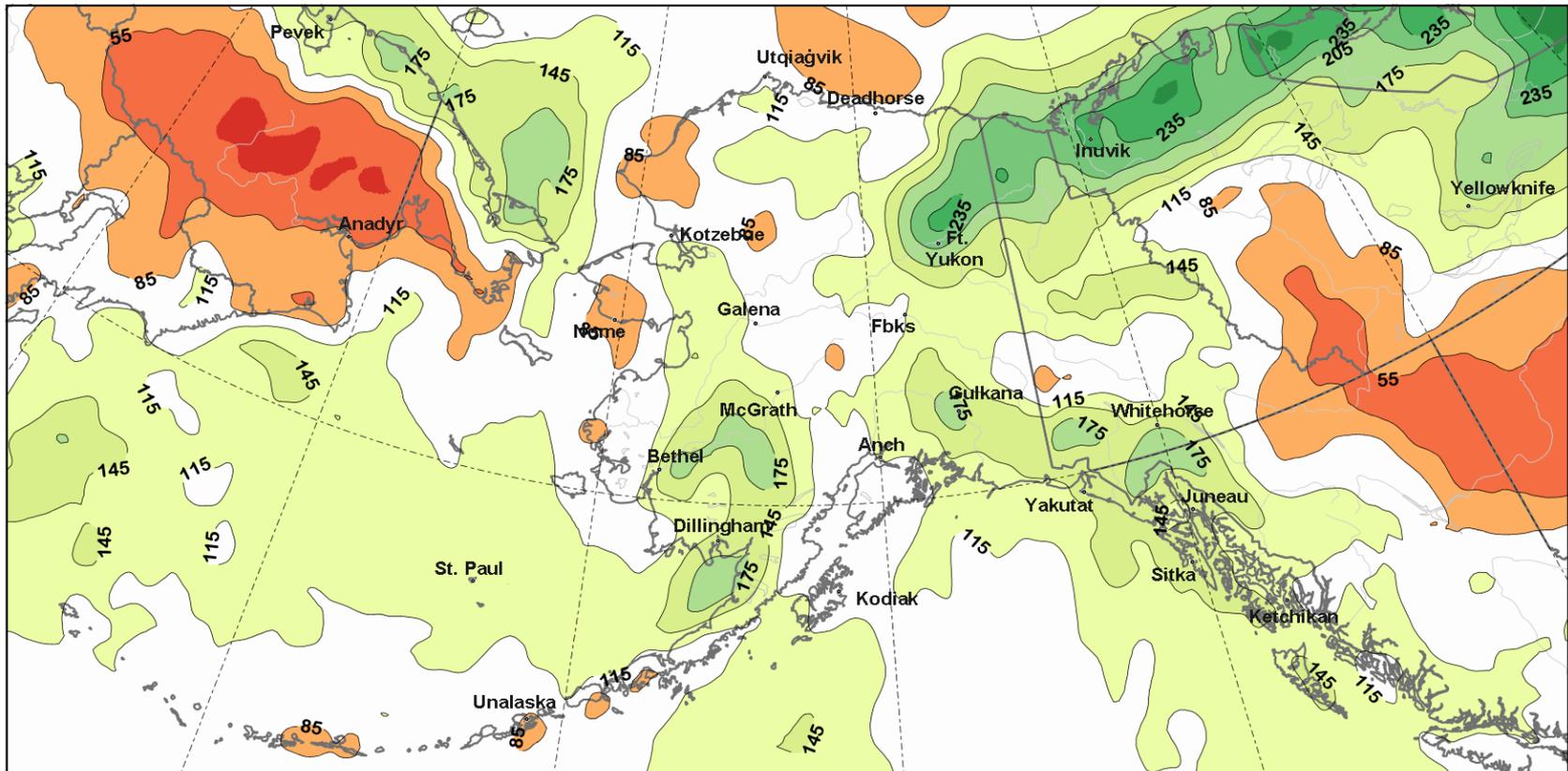


What happened this winter



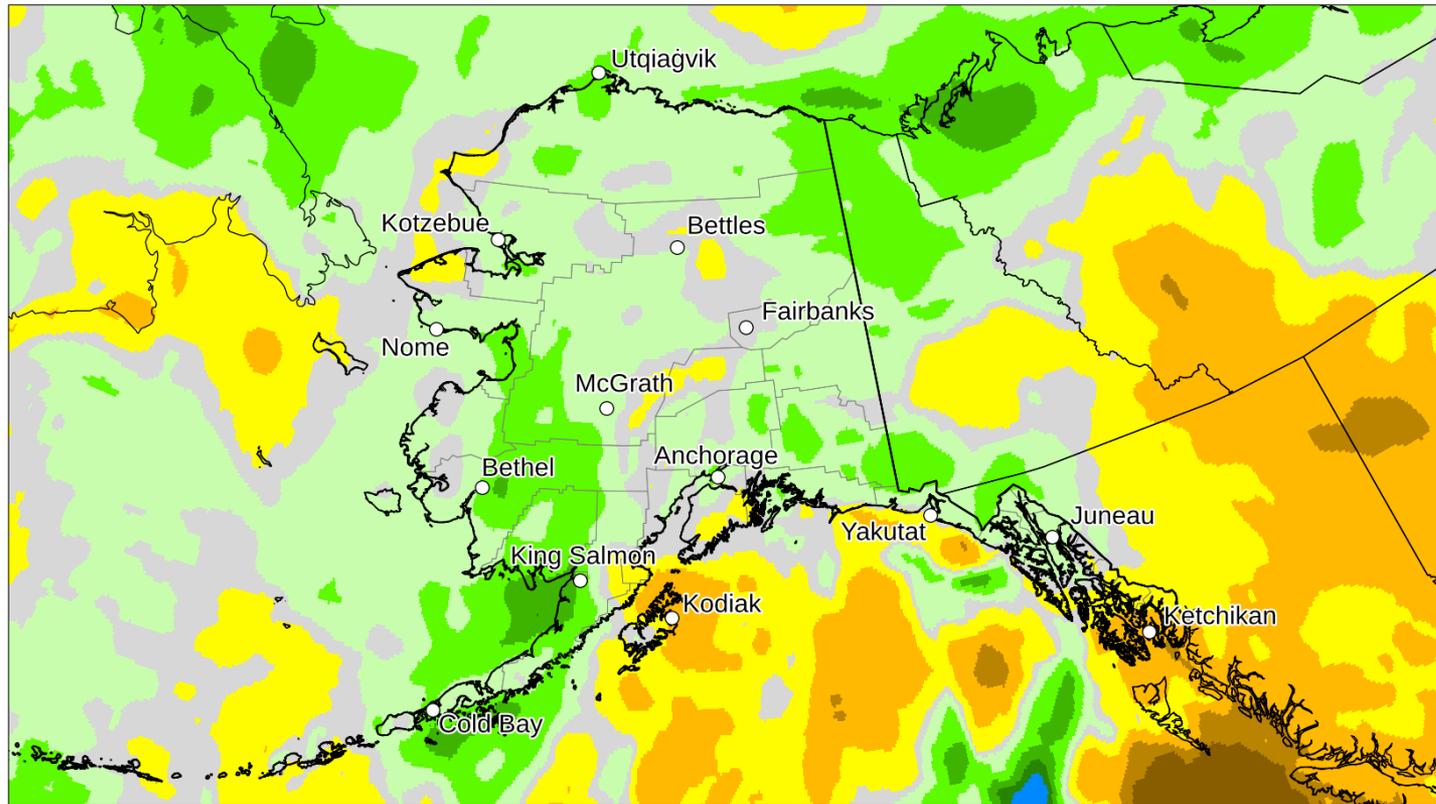
# Precipitation Difference from Normal

Total Precipitation: Percent of Normal  
December-February, 2023-24



# 2023-24 Snowfall

## Snowfall Departure for Sep-Feb 2023-24

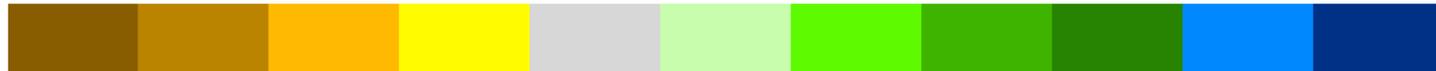


Source: ERA5 Reanalysis

Alaska value for Sep-Feb 2023-24 is: 113%

Map by: Brian Brettschneider

25% 50% 75% 95% 105% 125% 150% 175% 200% 250%

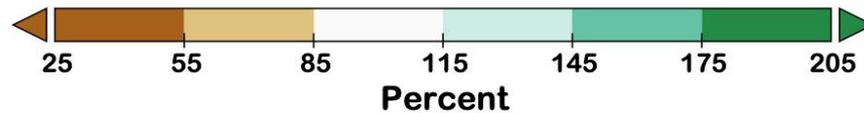
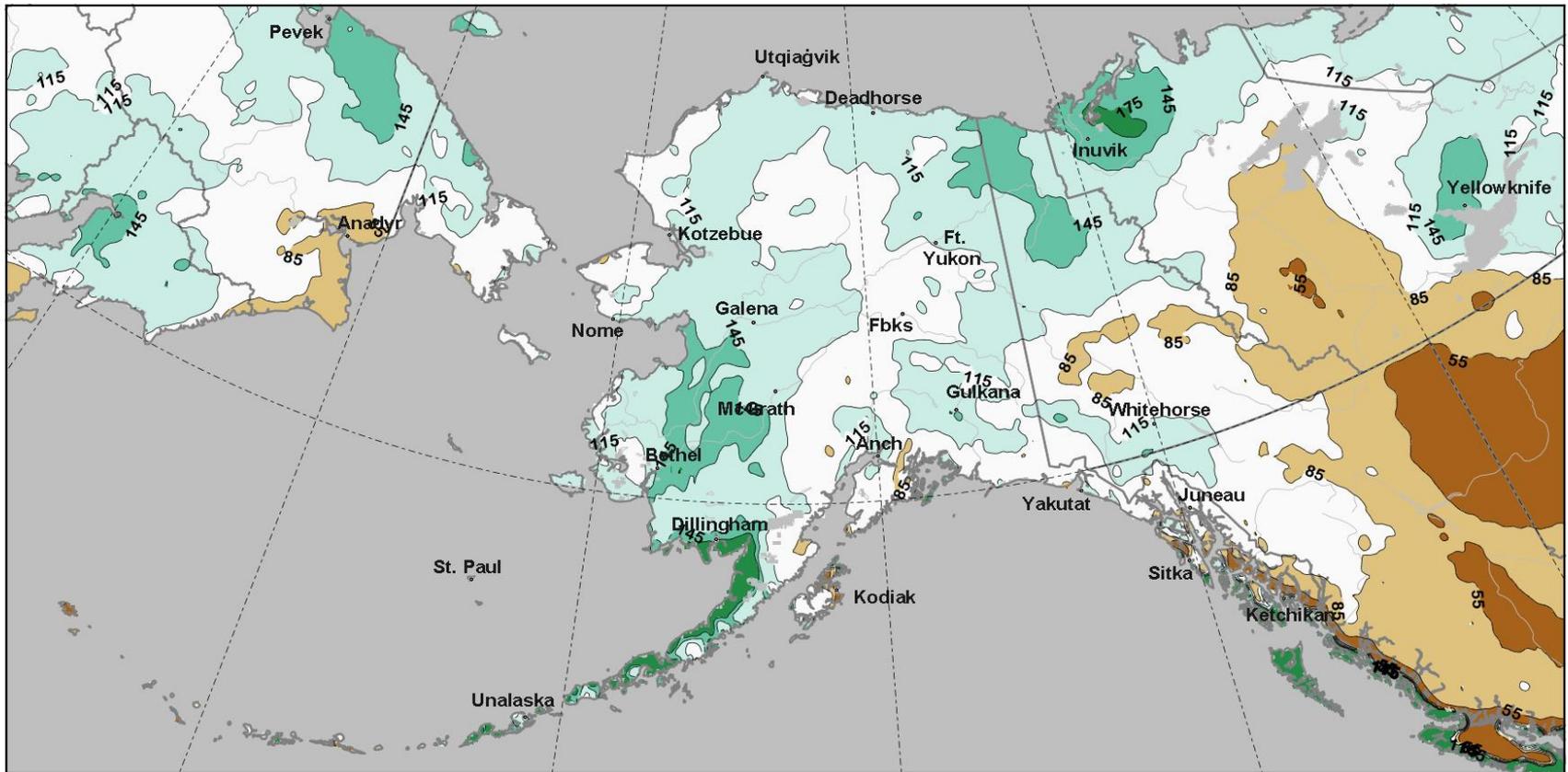


Percent of 1991-2020 Normal



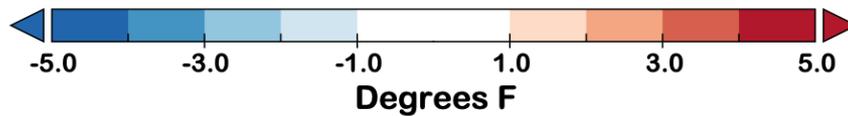
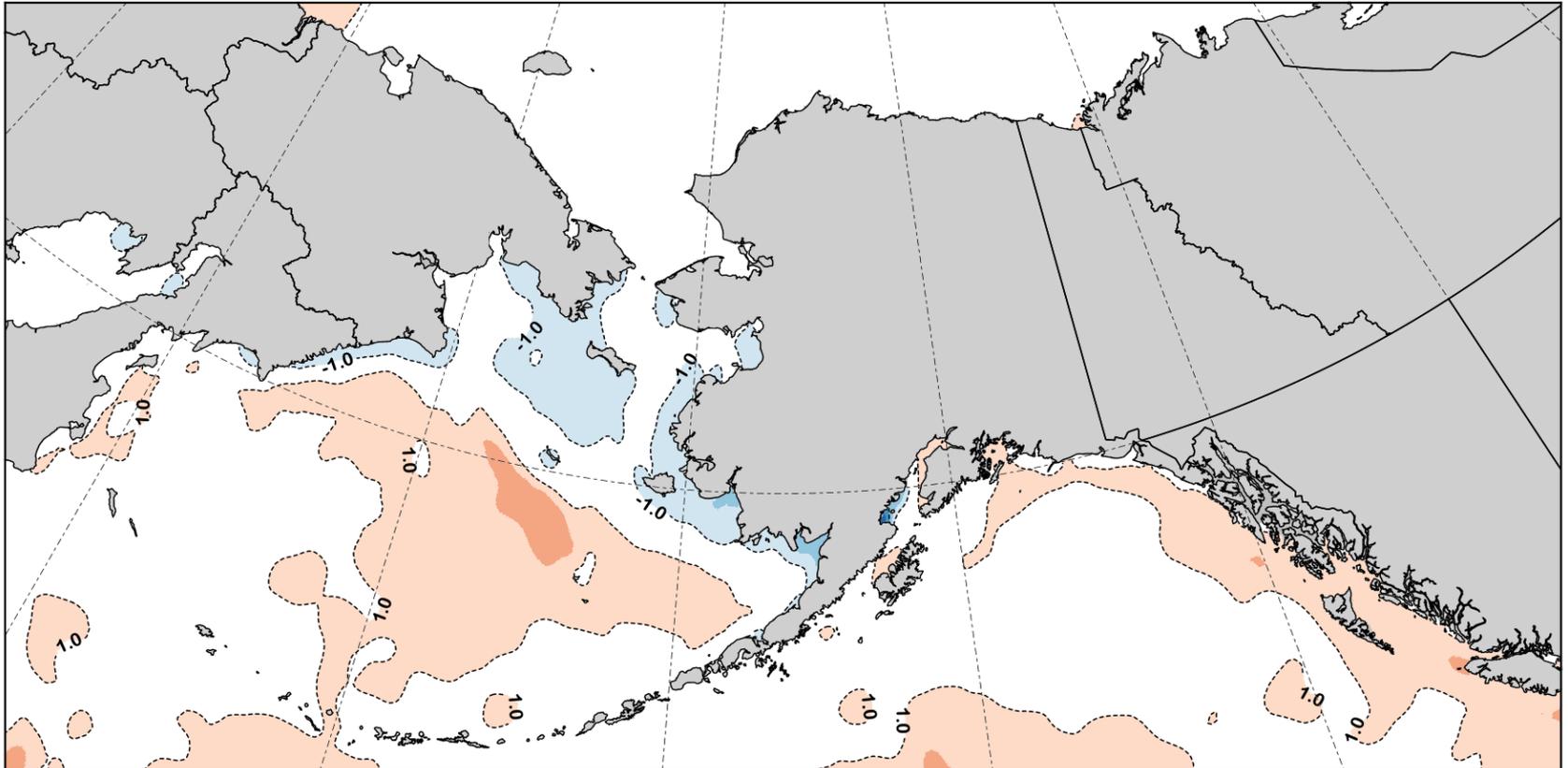
# Snowpack analysis

Snowpack Snow Water Equivalent: Percent of Median  
March 1, 2024

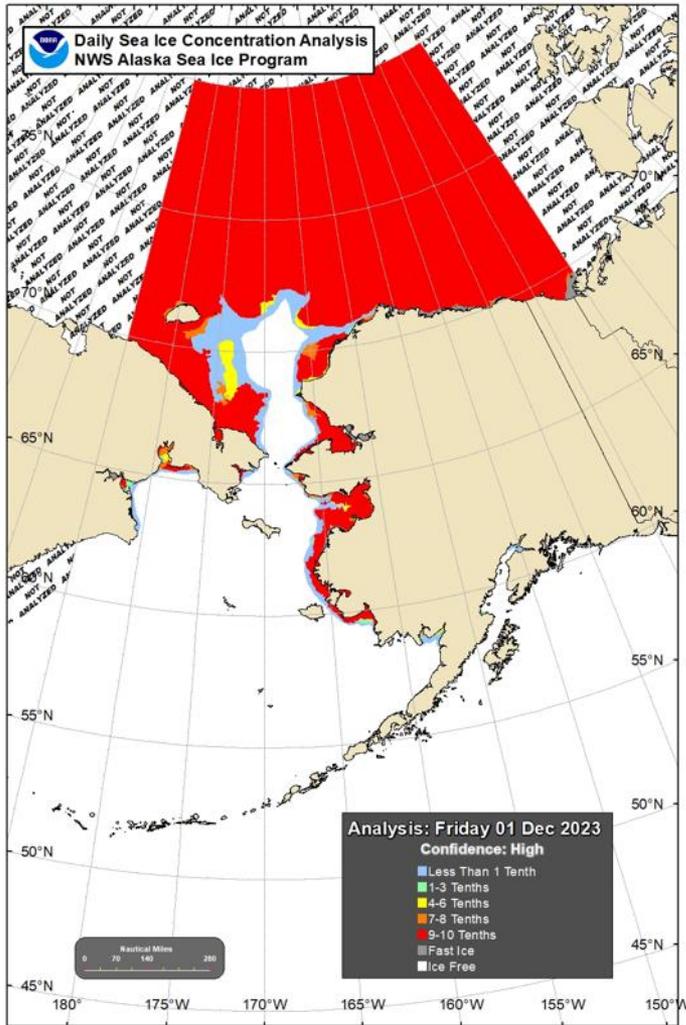


# Winter 2023-24 Ocean Temperatures

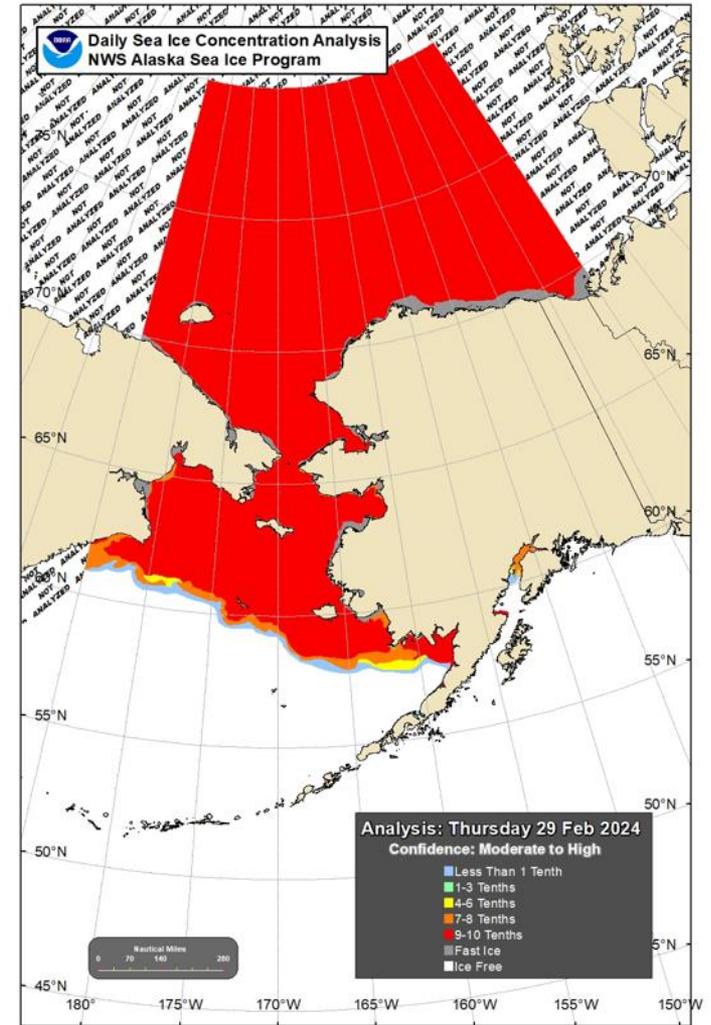
Average Sea Surface Temperature Departure from Normal  
December through February, 2023-24



# Alaska Sea Ice Extent: Winter 2023-24



December 1<sup>st</sup>

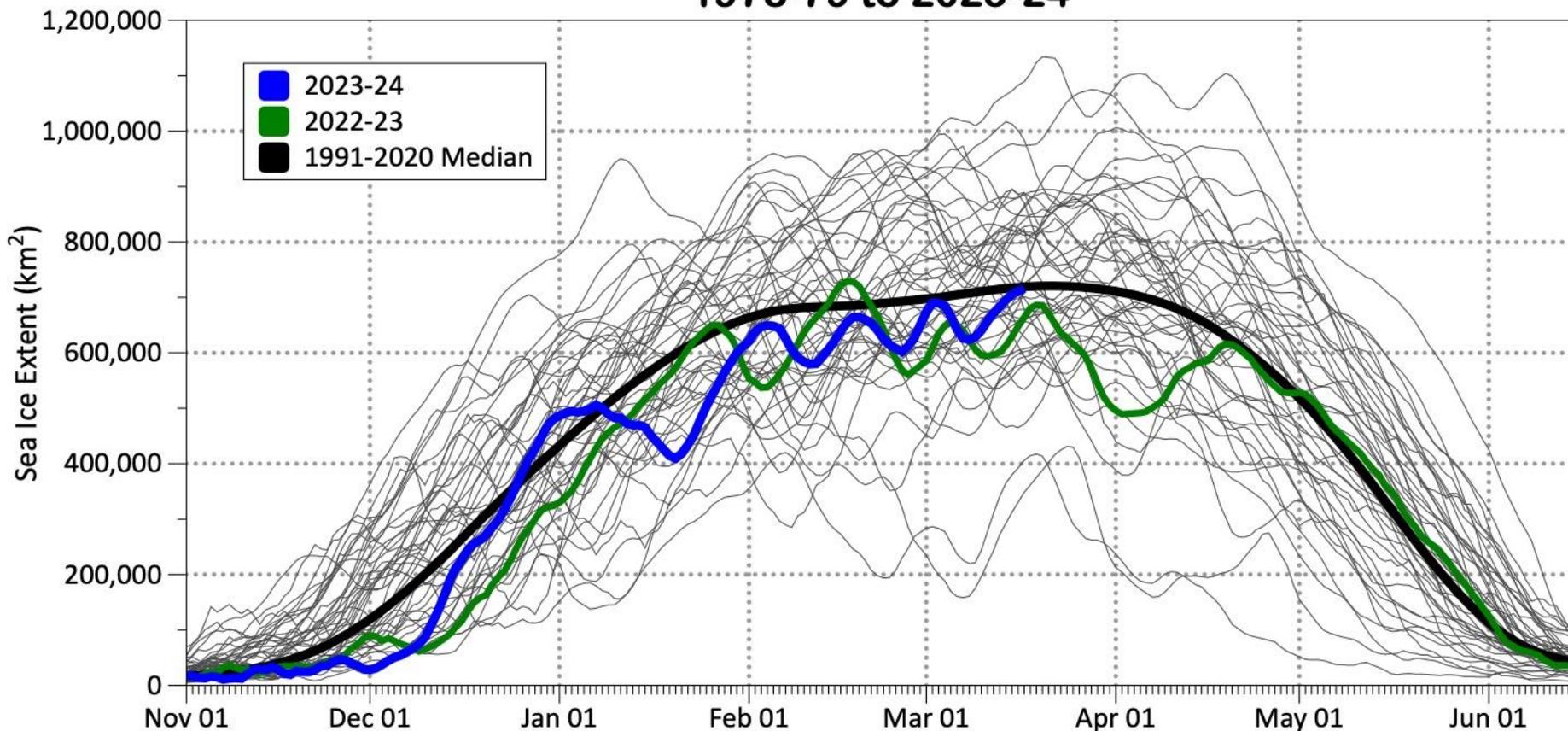


February 29<sup>th</sup>



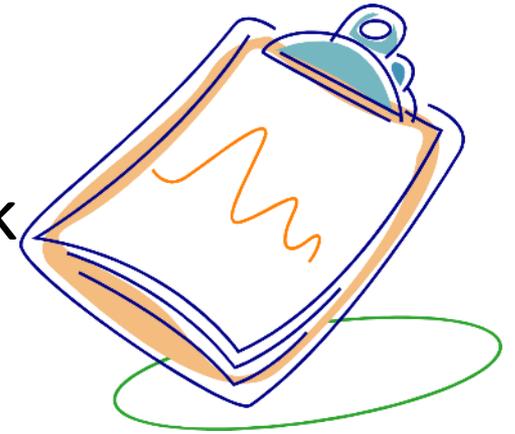
# Bering Sea Ice Extent in Context

## Bering Sea Daily Ice Extent 1978-79 to 2023-24



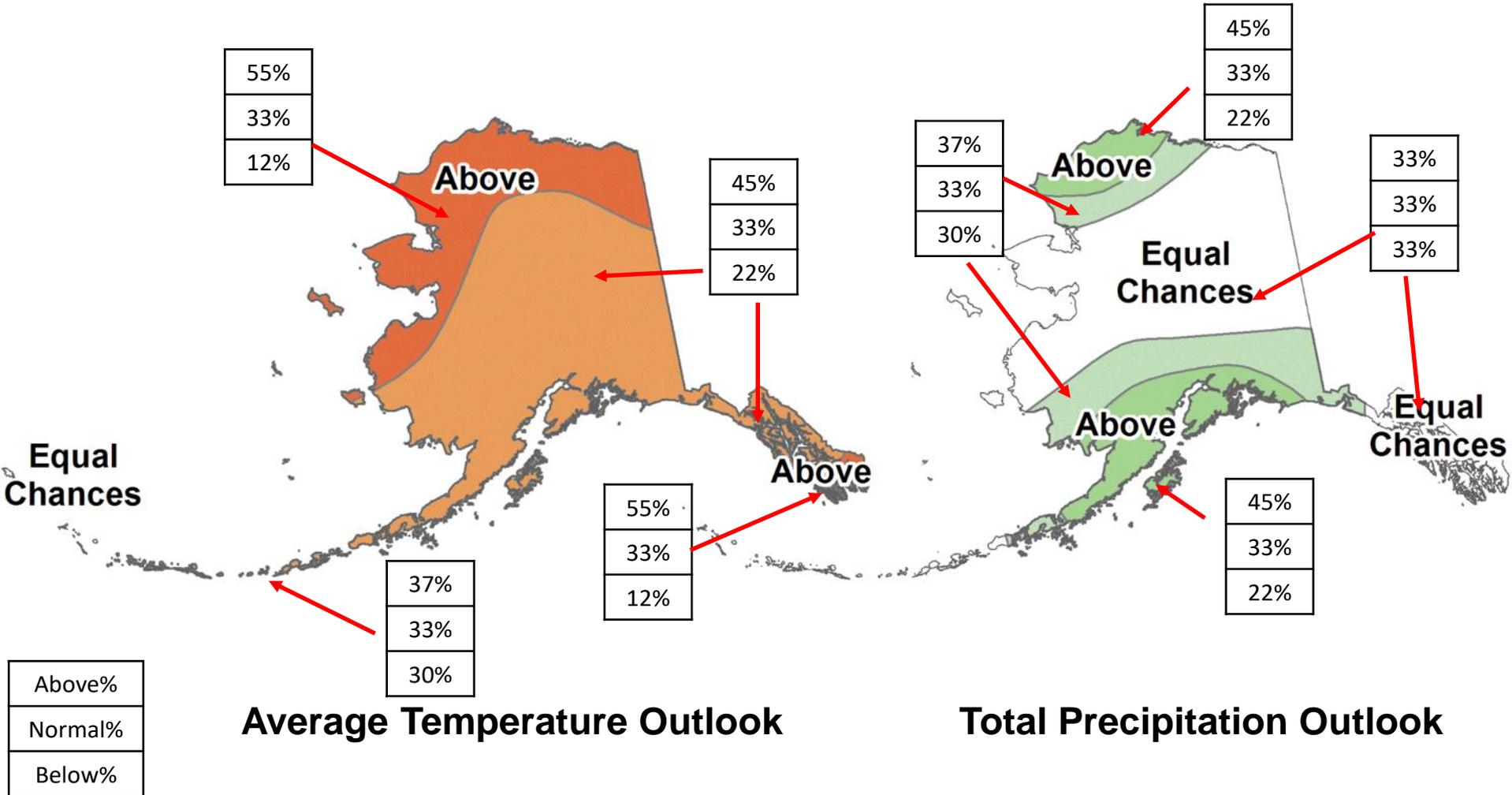
# Spring 2024 Outlooks

- Alaska Outlooks
  - NOAA/Climate Prediction Center
- Arctic Sea Ice Experimental Outlook
  - NOAA/Climate Prediction Center



# NOAA/NWS Climate Prediction Center

## March through May 2024 Outlook

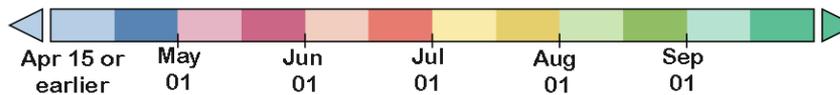
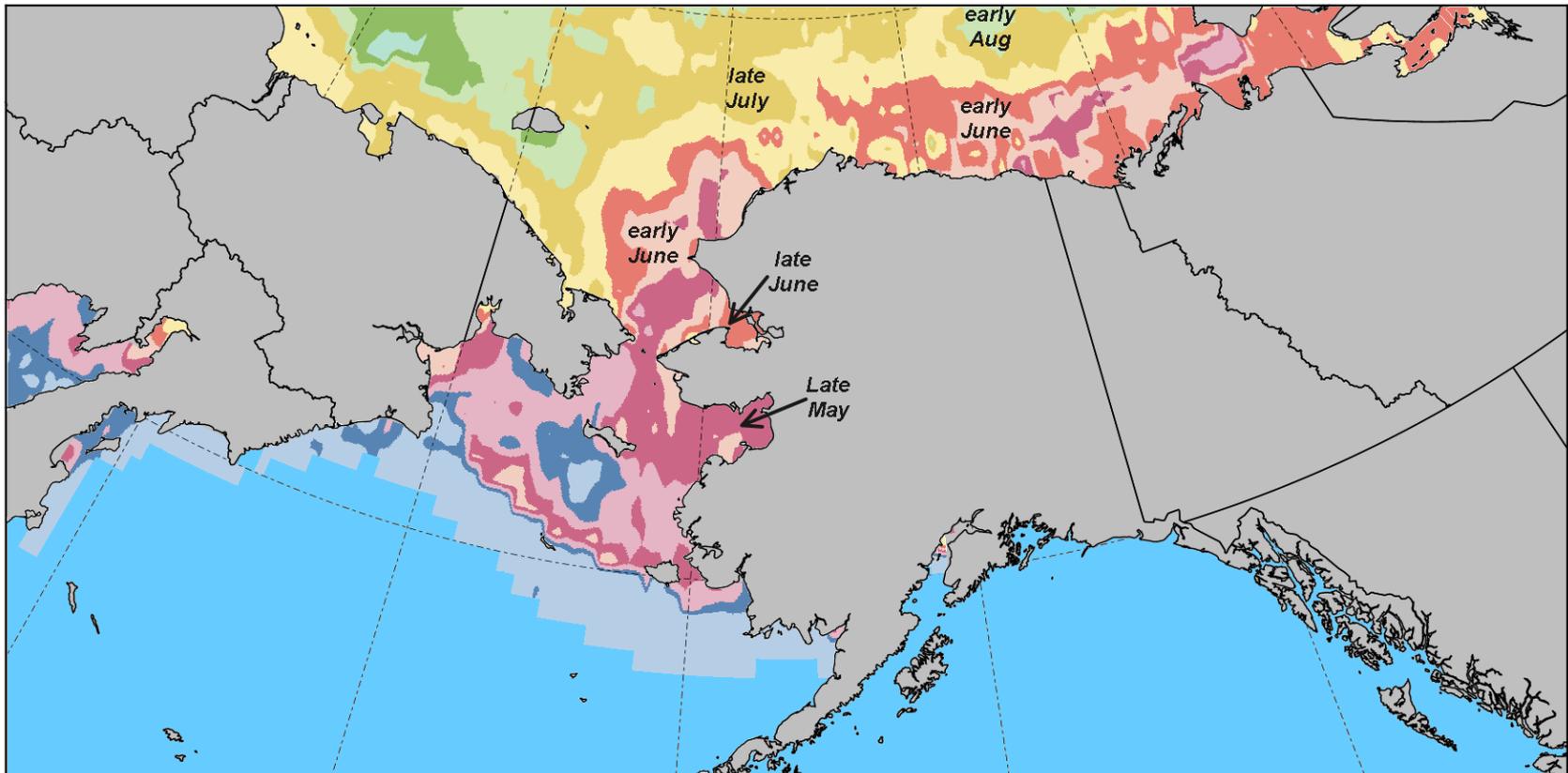


Outlook made mid-February



# Spring/Summer 2024 Sea Ice Outlook

First date with open water  
Spring/Summer 2024



# Thanks very much!



Juneau, Alaska

Jan 16, 2024

Image credit: Clarise Larson/KTOO 15

