

# LEO Alaska Webinar

## Summer 2024 Climate Review

## Fall 2024 Climate Outlook

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# Summer 2024 Alaska Highlights

- Western Alaska
  - Excessive storminess in July & August
  - Severe coast flooding Kukso coast Aug 16-19, ex-typhoon Ampil Aug 21
- North Slope
  - All-time record high temperatures central North Slope coast early August
- Interior
  - Early summer wildfire and smoke
- Southcentral
  - Rainy, especially July



August 19 Tuntutuliak Flooding

Credit: C. Ondola and KYUK

# Summer 2024 Alaska Highlights

- Southeast
  - Record high July rainfall Juneau
  - Mendenhall River flooding early August
  - Ketchikan landslide
  - Moderate drought southern Southeast since early July



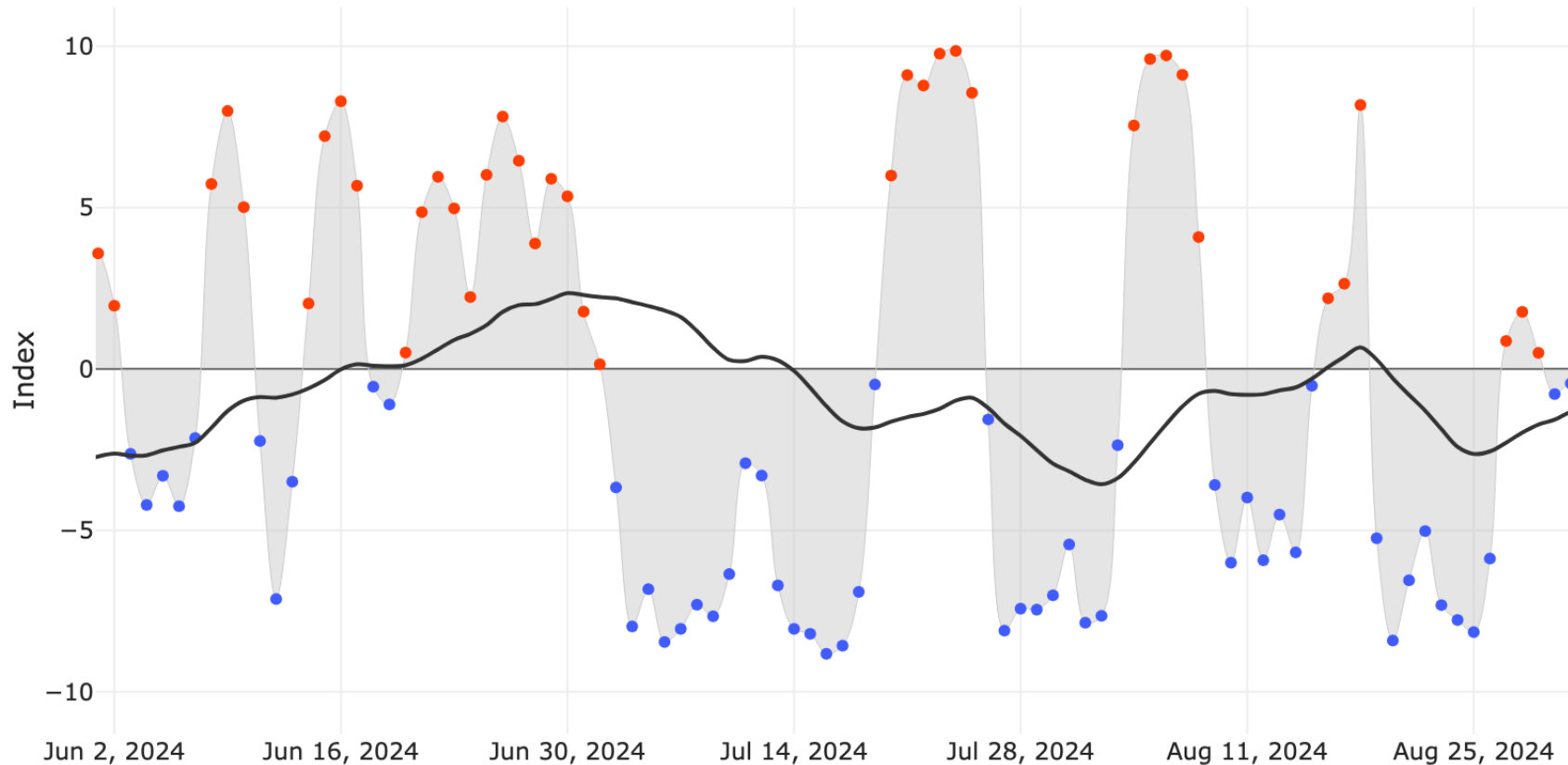
Image credit:

Alaska Division of Homeland Security and Emergency Management

# Alaska Daily Temperature Index

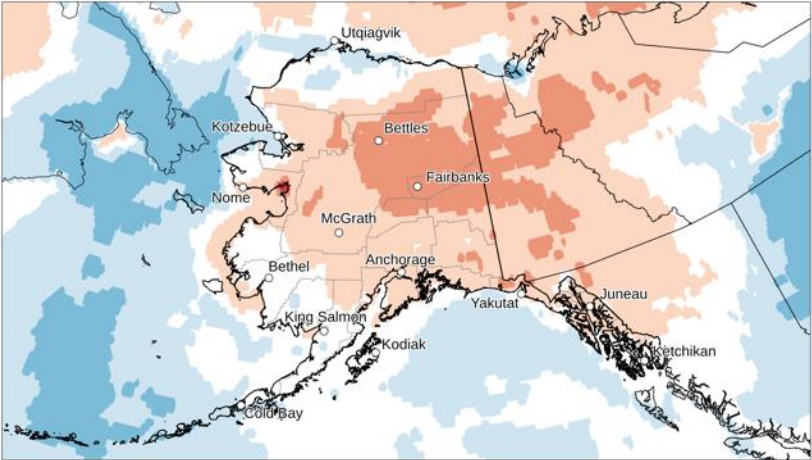
Alaska Statewide Temperature Index  
June 1-August 31, 2024

- Above Average
- Below Average
- 30-day Average



# Summer 2024 Temperature

Temperature Classification for Jun 2024

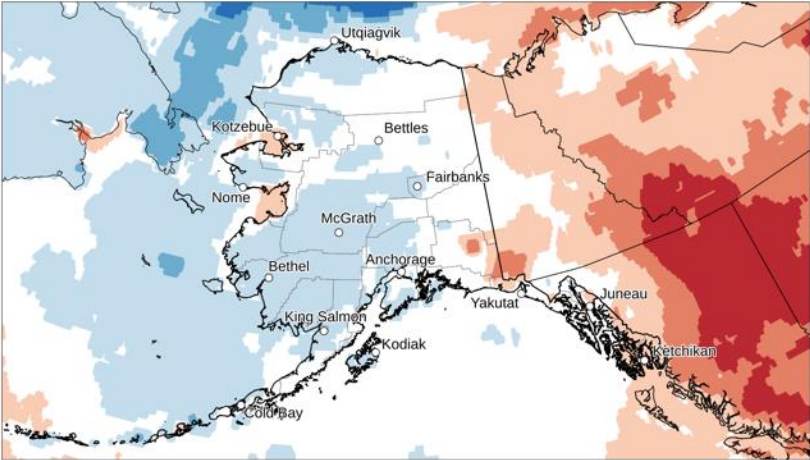


Source: ERA5 Reanalysis Map by: Brian Brettschneider



Compared to 1991-2020 Base Period (Records Since 1950)

Temperature Classification for Jul 2024

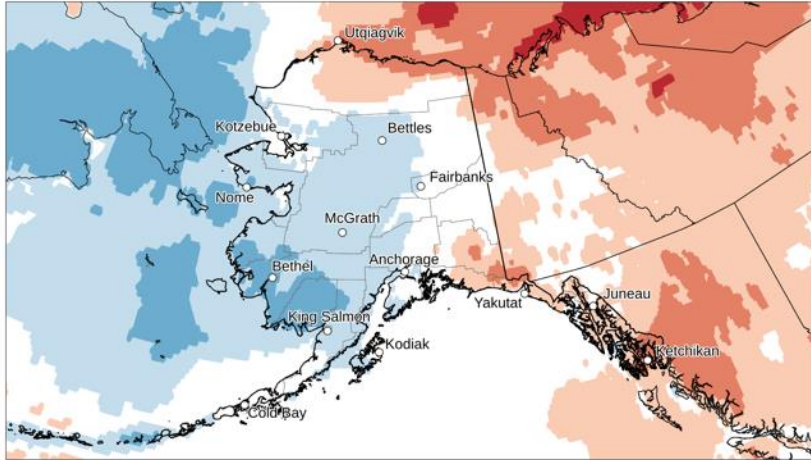


Source: ERA5 Reanalysis Map by: Brian Brettschneider



Compared to 1991-2020 Base Period (Records Since 1950)

Temperature Classification for Aug 2024



Source: ERA5 Reanalysis Map by: Brian Brettschneider

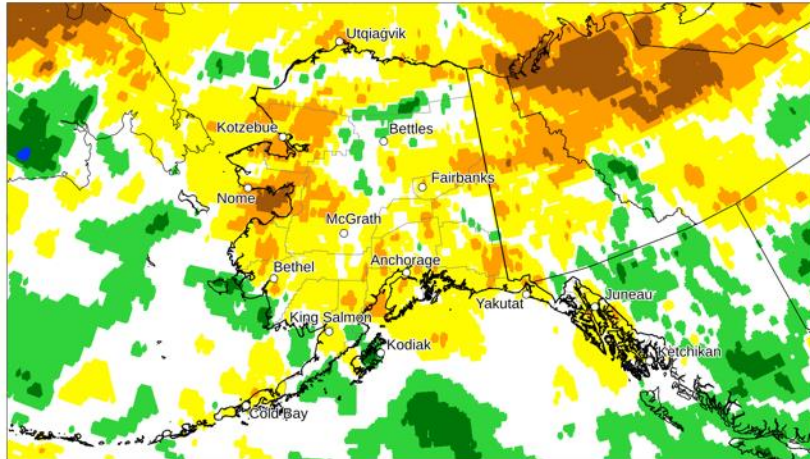


Compared to 1991-2020 Base Period (Records Since 1940)

Data: ERA5 courtesy of EMCWF/Copernicus  
1991-2020 Baseline

# Summer 2024 Precipitation

Precipitation Classification for Jun 2024

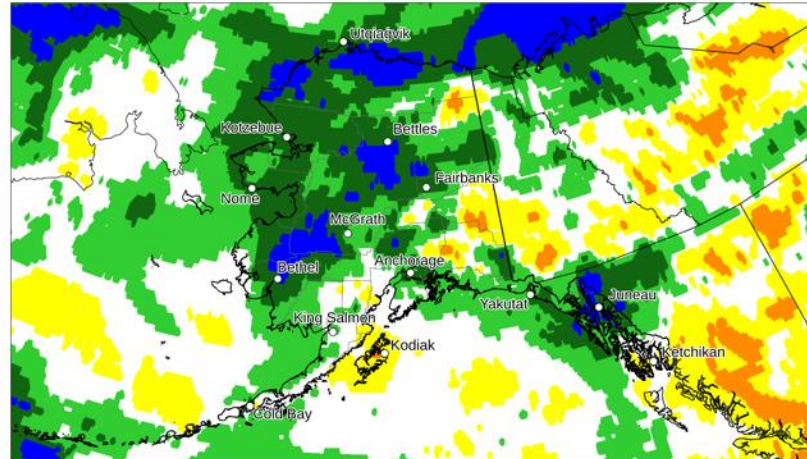


Source: ERA5 Reanalysis Map by: Brian Brettschneider



Compared to 1991-2020 Base Period (Records Since 1950)

Precipitation Classification for Jul 2024

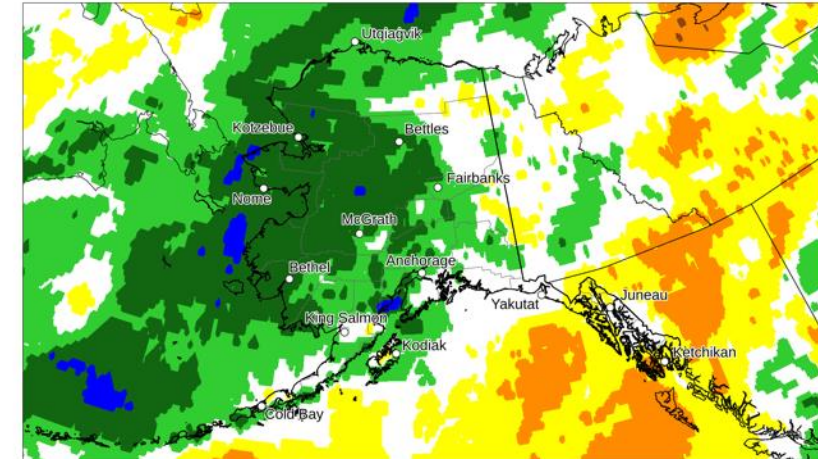


Source: ERA5 Reanalysis Map by: Brian Brettschneider



Compared to 1991-2020 Base Period (Records Since 1950)

Precipitation Classification for Aug 2024



Source: ERA5 Reanalysis Map by: Brian Brettschneider

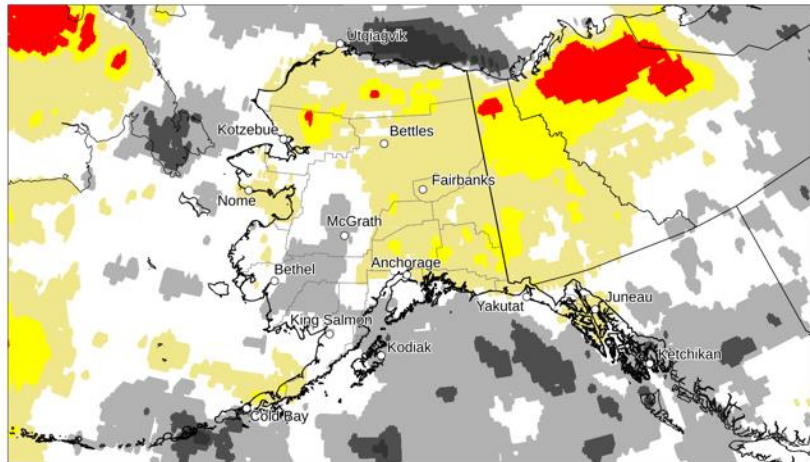


Compared to 1991-2020 Base Period (Records Since 1940)

Data: ERA5 courtesy of EMCWF/Copernicus  
1991-2020 Baseline

# Summer 2024 Cloudiness

Clouds Classification for Jun 2024

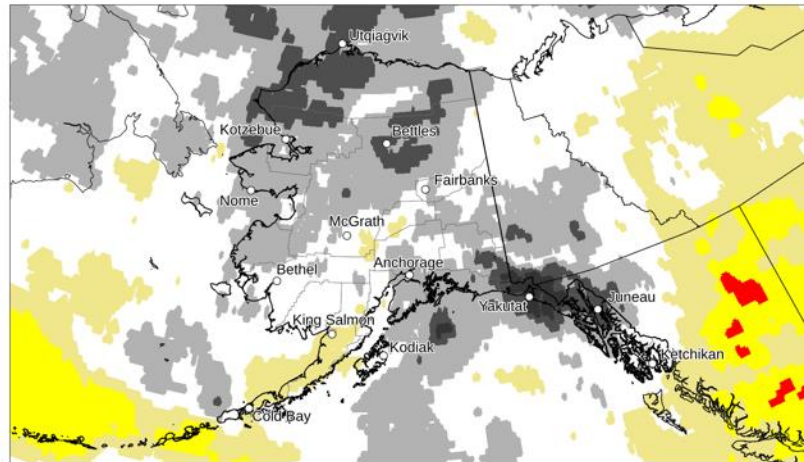


Source: ERA5 Reanalysis Map by: Brian Brettschneider



Compared to 1991-2020 Base Period (Records Since 1979)

Clouds Classification for Jul 2024

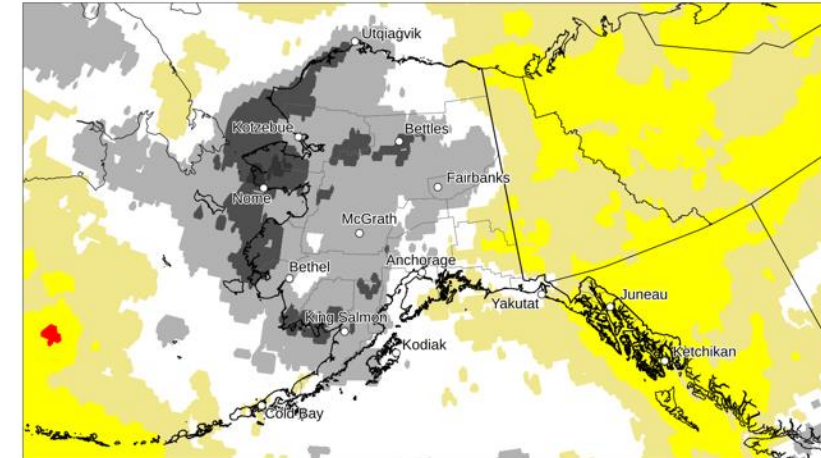


Source: ERA5 Reanalysis Map by: Brian Brettschneider



Compared to 1991-2020 Base Period (Records Since 1940)

Clouds Classification for Aug 2024



Source: ERA5 Reanalysis Map by: Brian Brettschneider

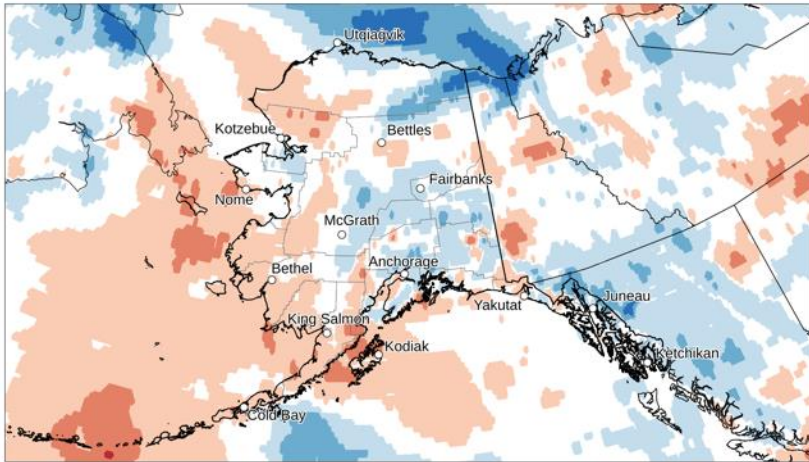


Compared to 1991-2020 Base Period (Records Since 1940)

Data: ERA5 courtesy of EMCWF/Copernicus  
1991-2020 Baseline

# Summer 2024 Wind

Wind Classification for Jun 2024



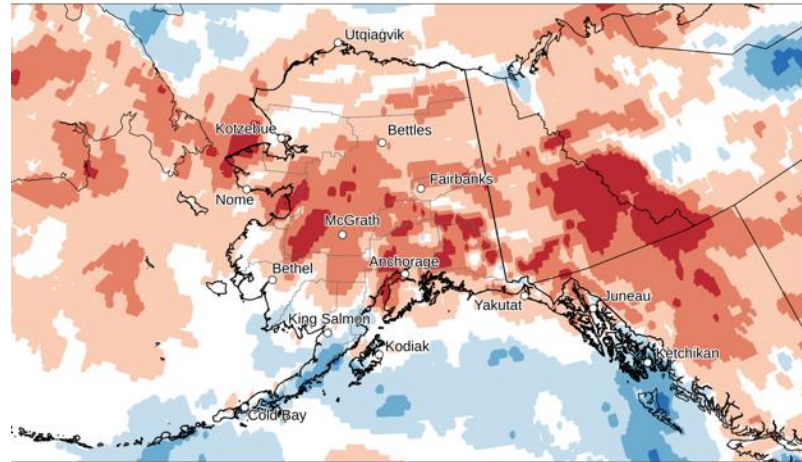
Source: ERA5 Reanalysis

Map by: Brian Brettschneider



Compared to 1991-2020 Base Period (Records Since 1979)

Wind Classification for Jul 2024



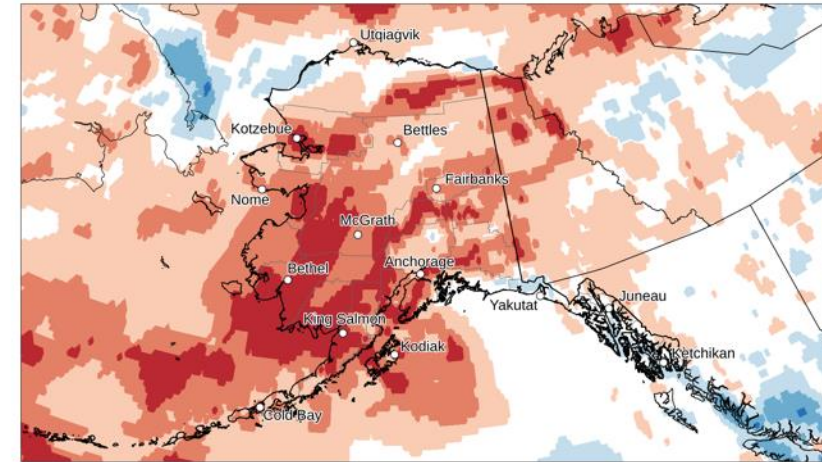
Source: ERA5 Reanalysis

Map by: Brian Brettschneider



Compared to 1991-2020 Base Period (Records Since 1979)

Wind Classification for Aug 2024



Source: ERA5 Reanalysis

Map by: Brian Brettschneider



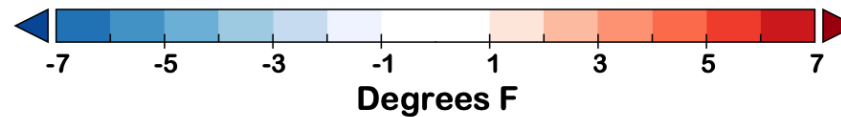
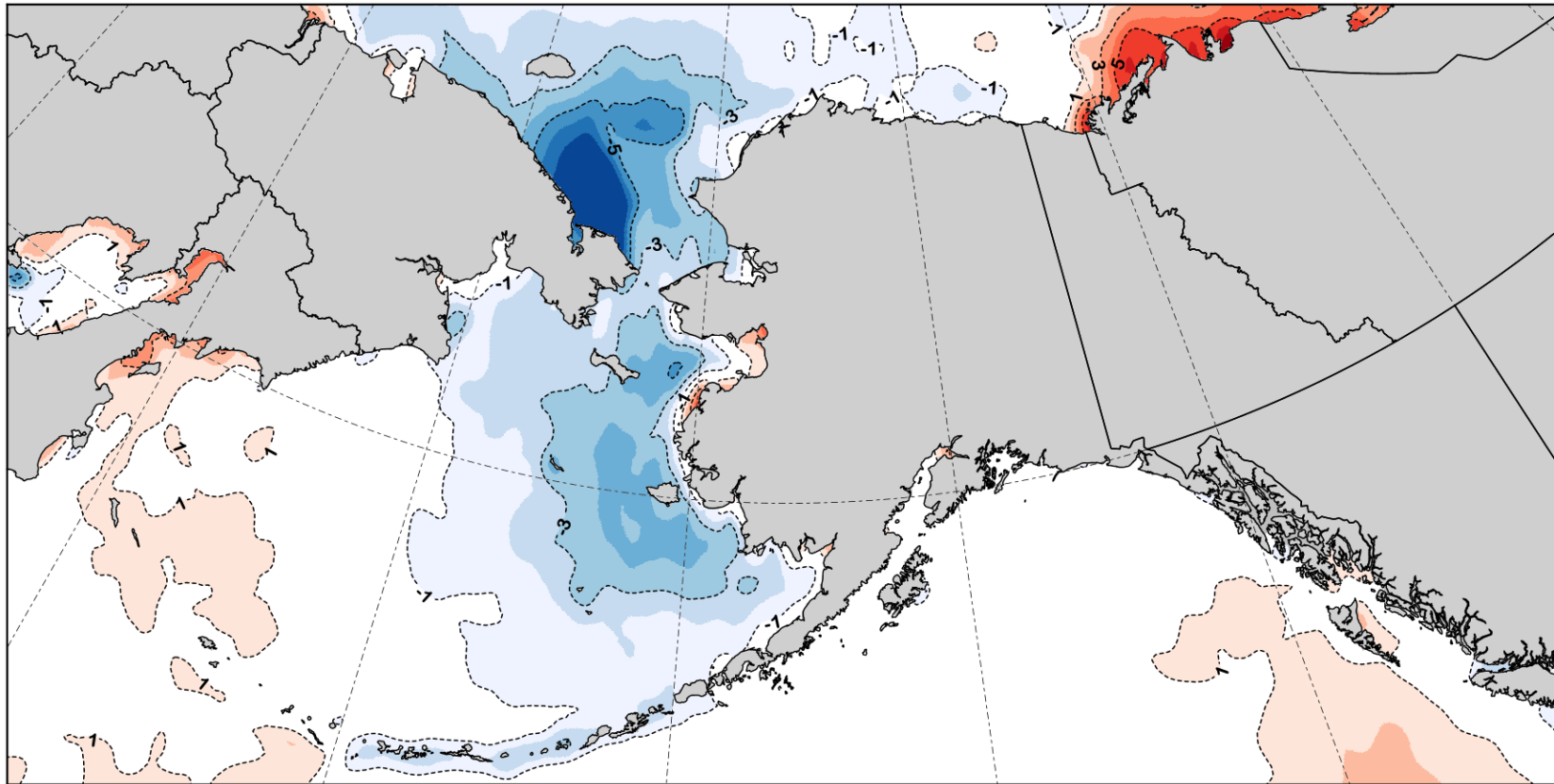
Compared to 1991-2020 Base Period (Records Since 1979)

Data: ERA5 courtesy of EMCWF/Copernicus  
1991-2020 Baseline

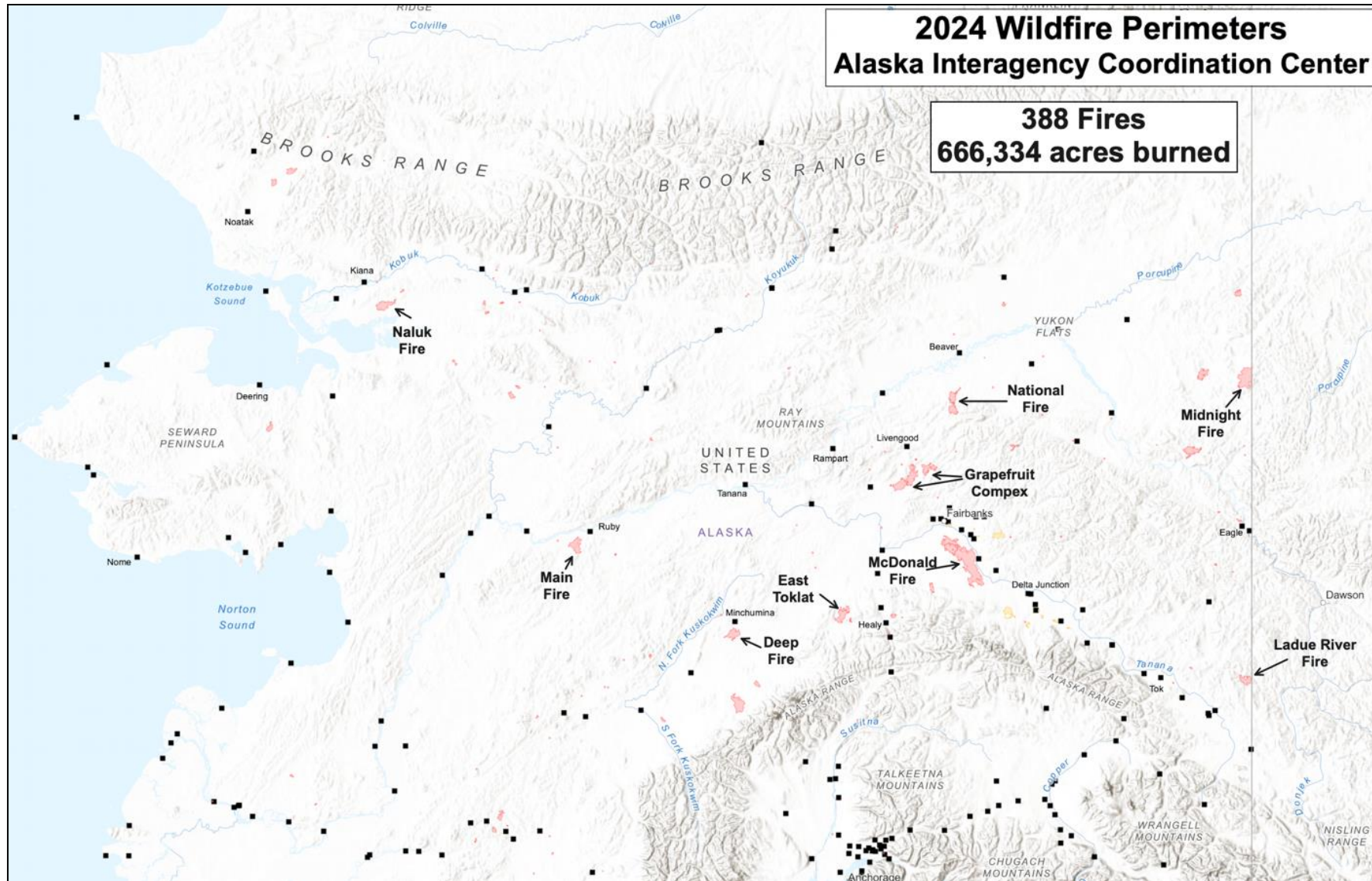


# Summer 2024 sea surface temperatures

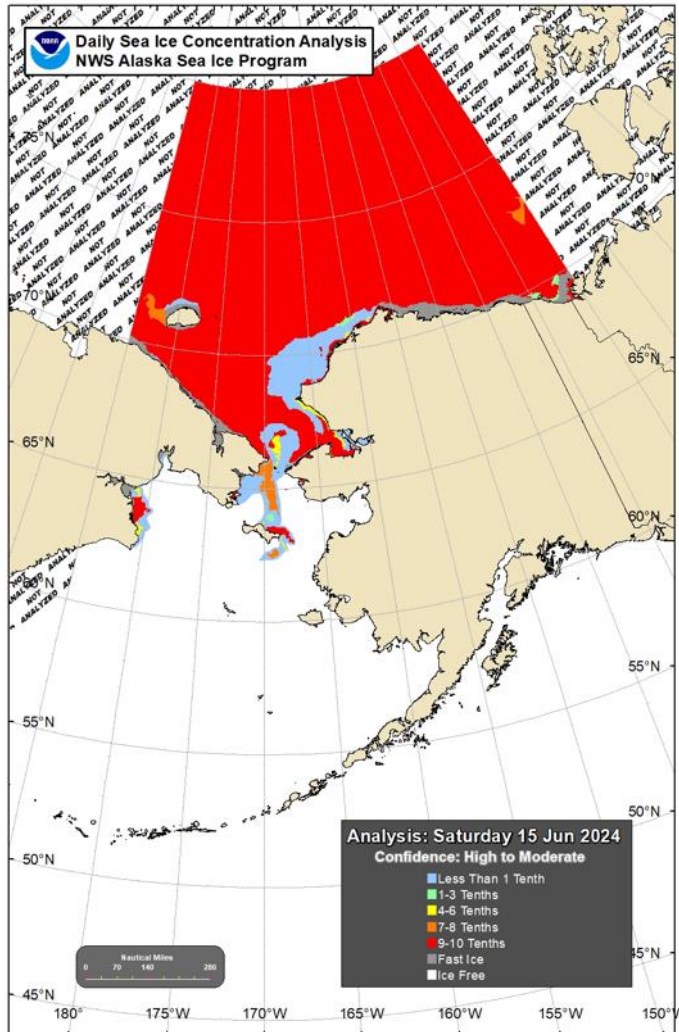
Average Sea Surface Temperature Departure from Normal  
June-August 2024



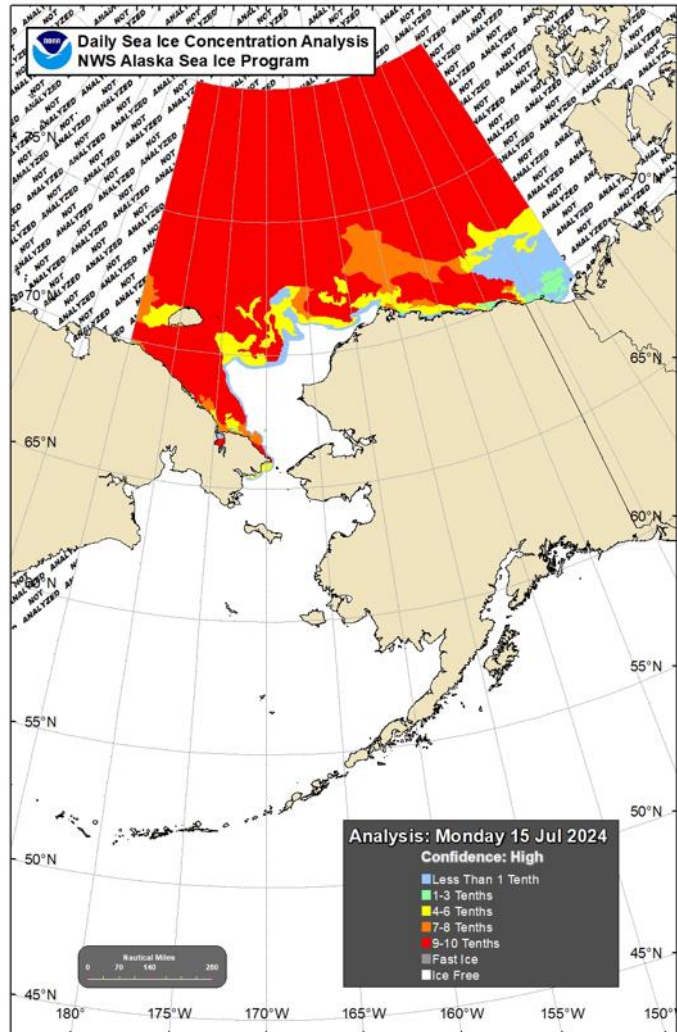
# 2024 Alaska Wildfire



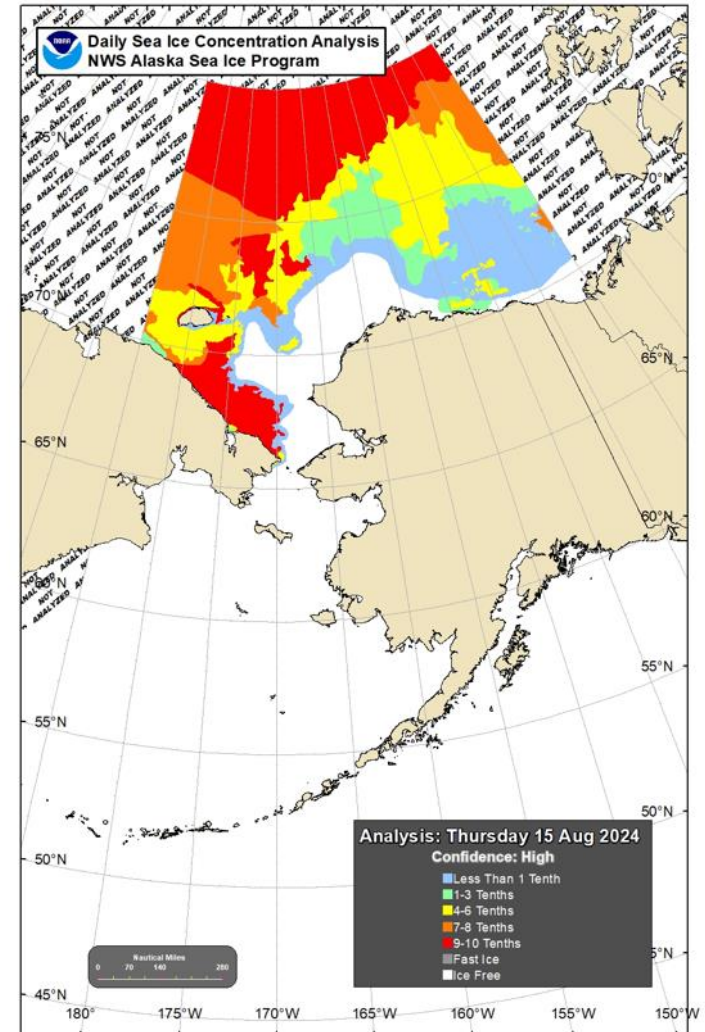
# Sea Ice Extent: Summer 2024



June 15



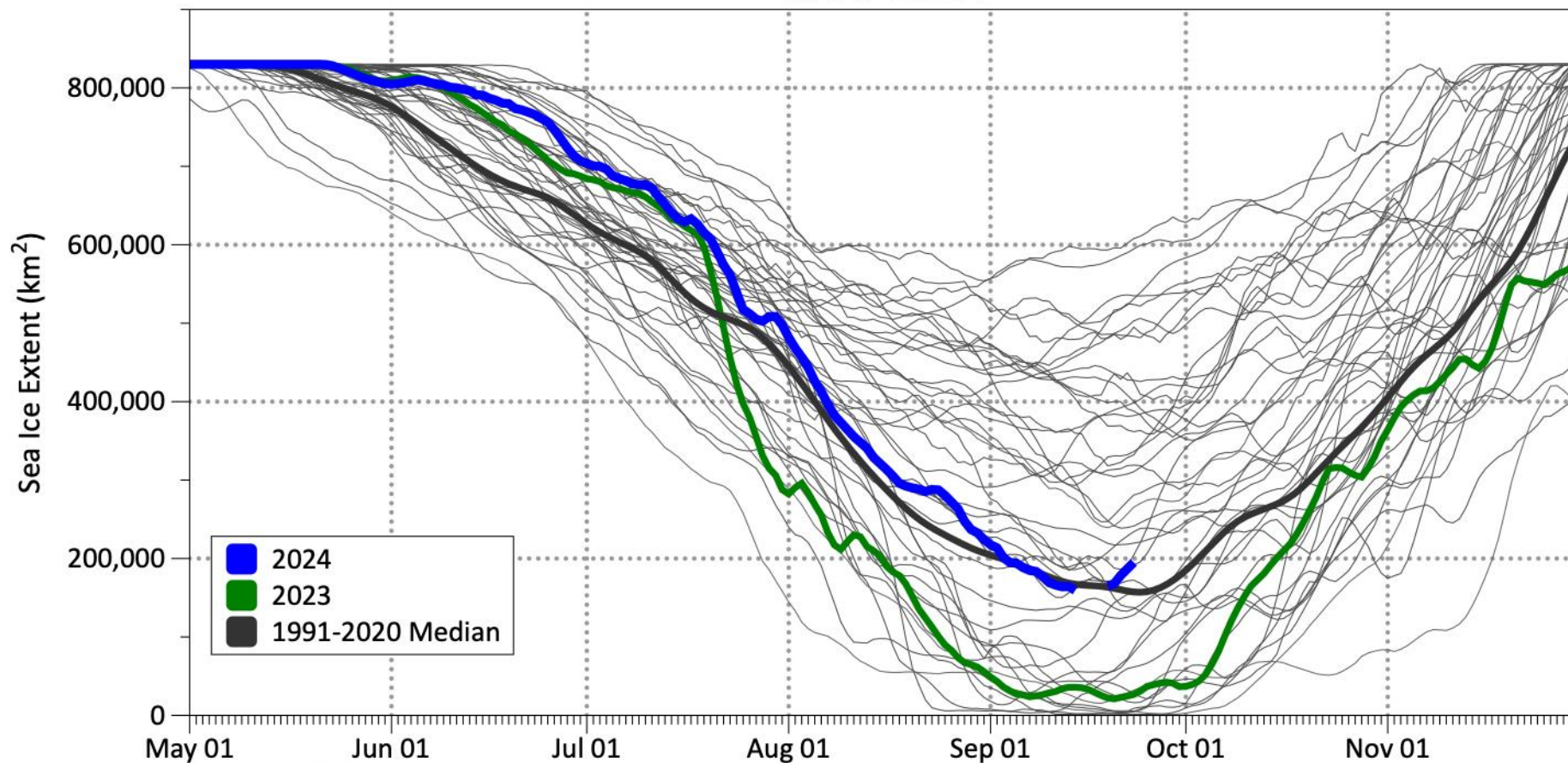
July 15



August 15

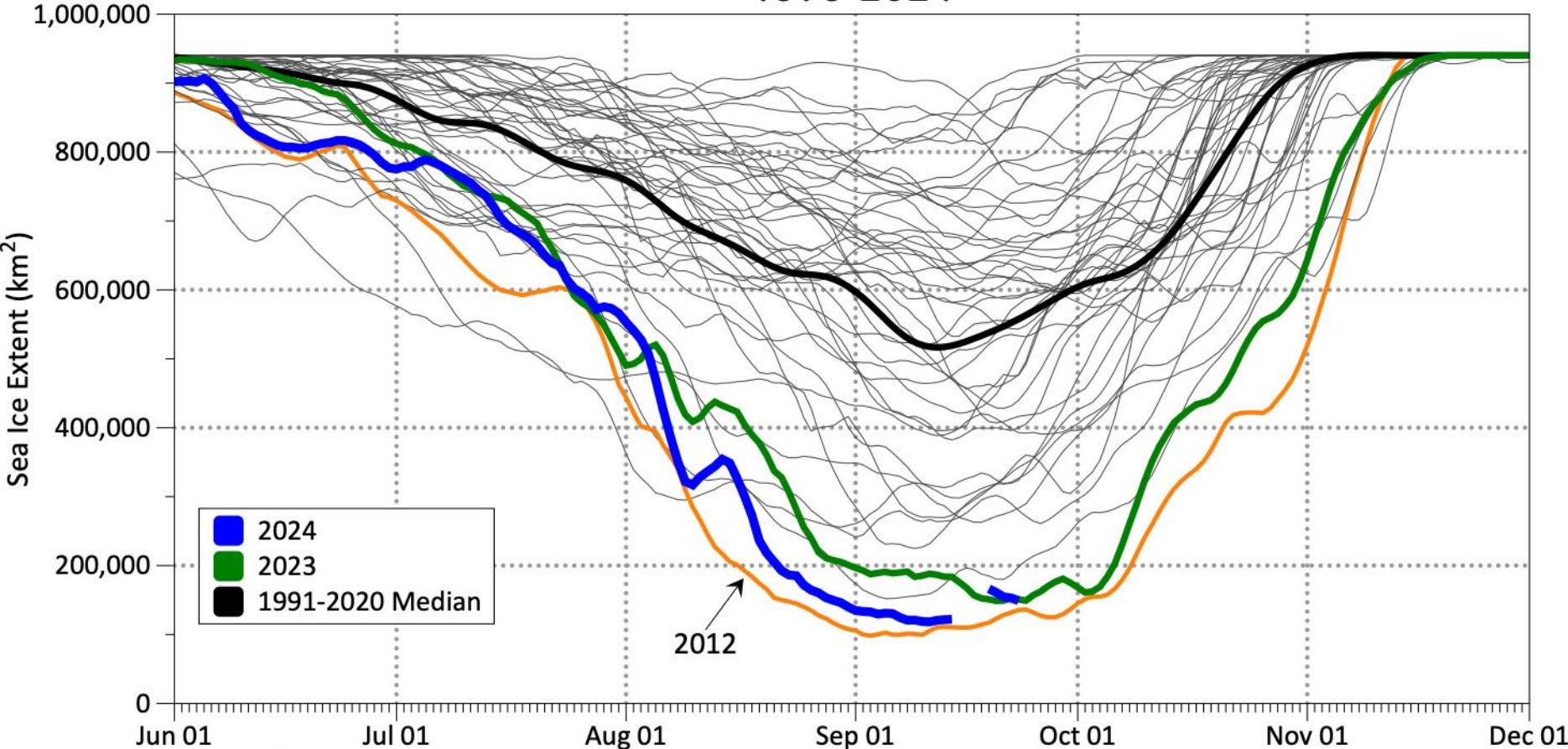
# Chukchi Sea Ice Extent

## Chukchi Sea Daily Ice Extent 1979-2024



# Beaufort Sea Ice Extent

## Beaufort Sea Daily Ice Extent 1979-2024



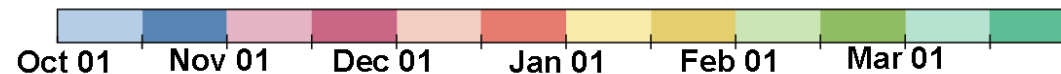
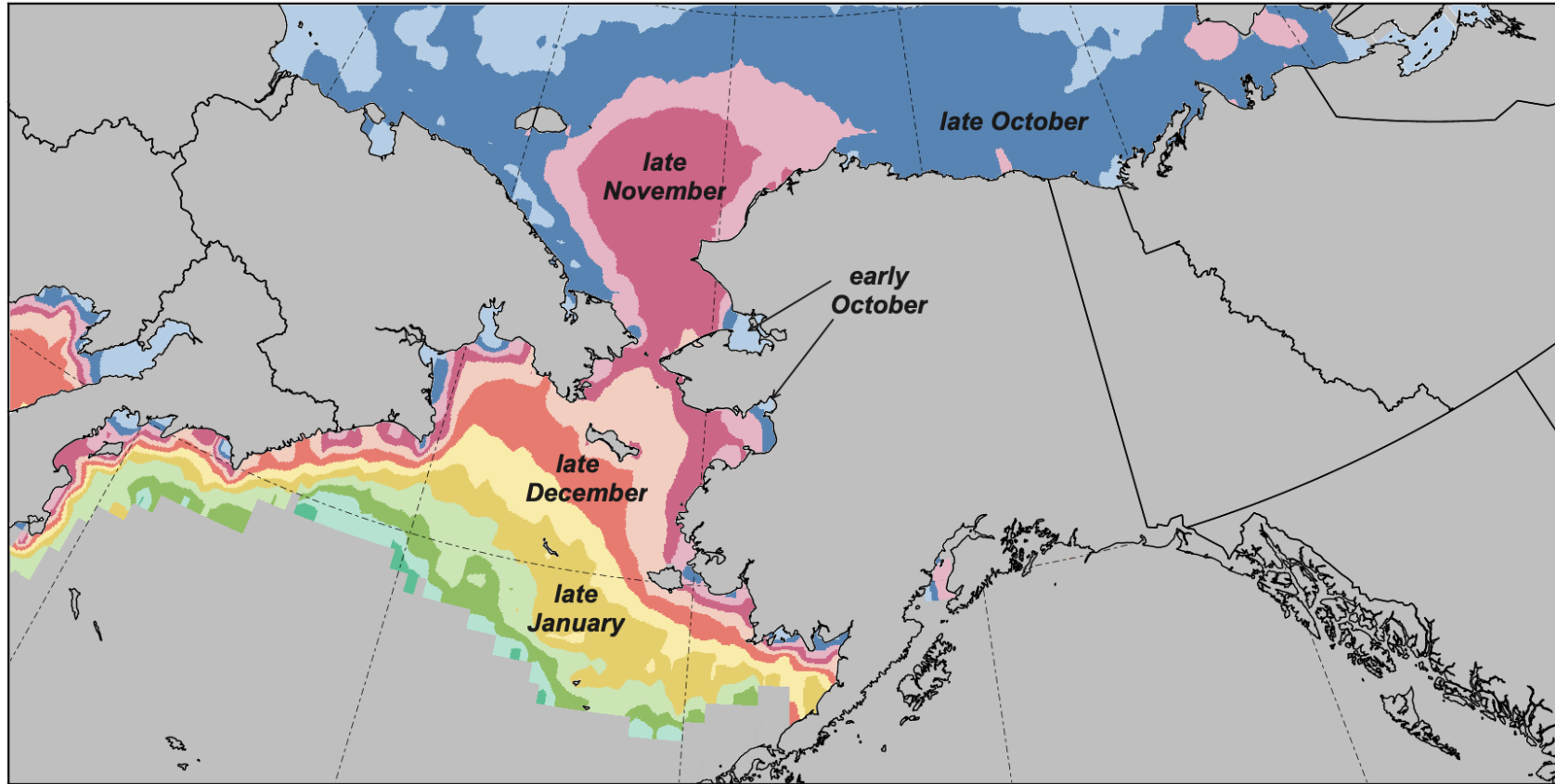
# Fall 2024 Outlooks

- Arctic Sea Ice Experimental Outlook
  - NOAA/Climate Prediction Center
- Alaska and past La Niñas
- Autumn Temperature and Precipitation



# Sea Ice Outlook: Fall/Winter 2024

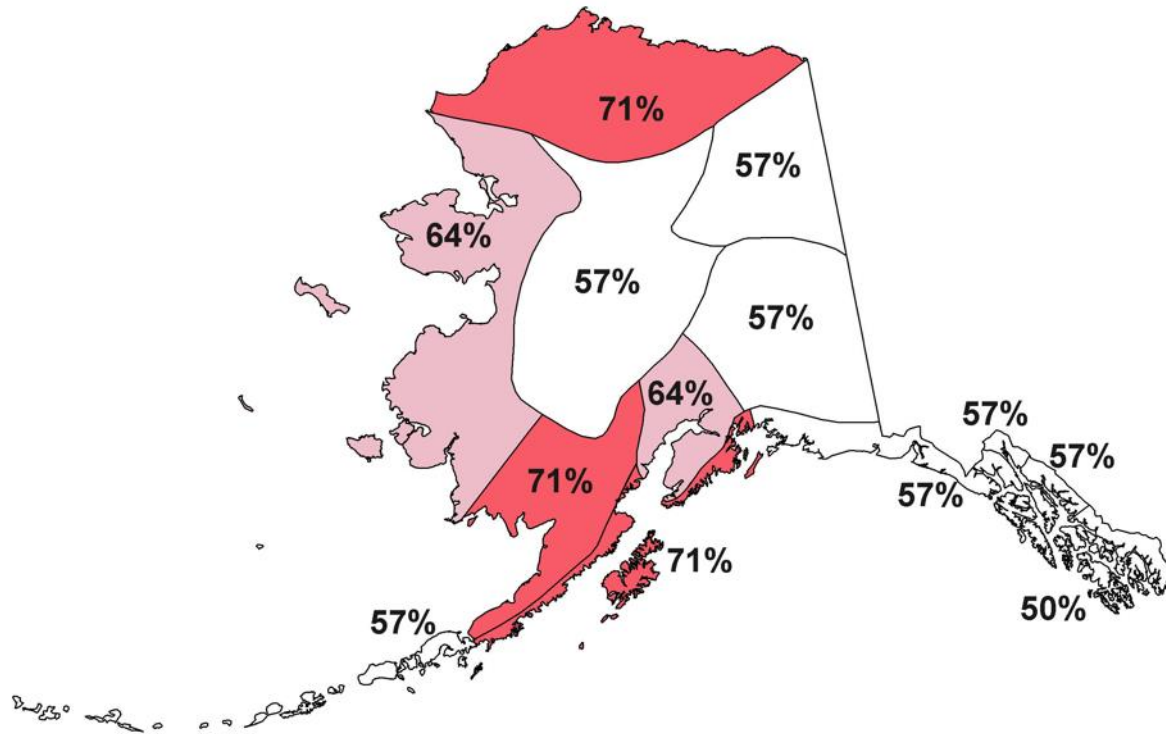
Freeze-up: first date sea ice concentration  $\geq 15$  percent  
Autumn/Winter 2024-25



# La Niña and Alaska Autumns

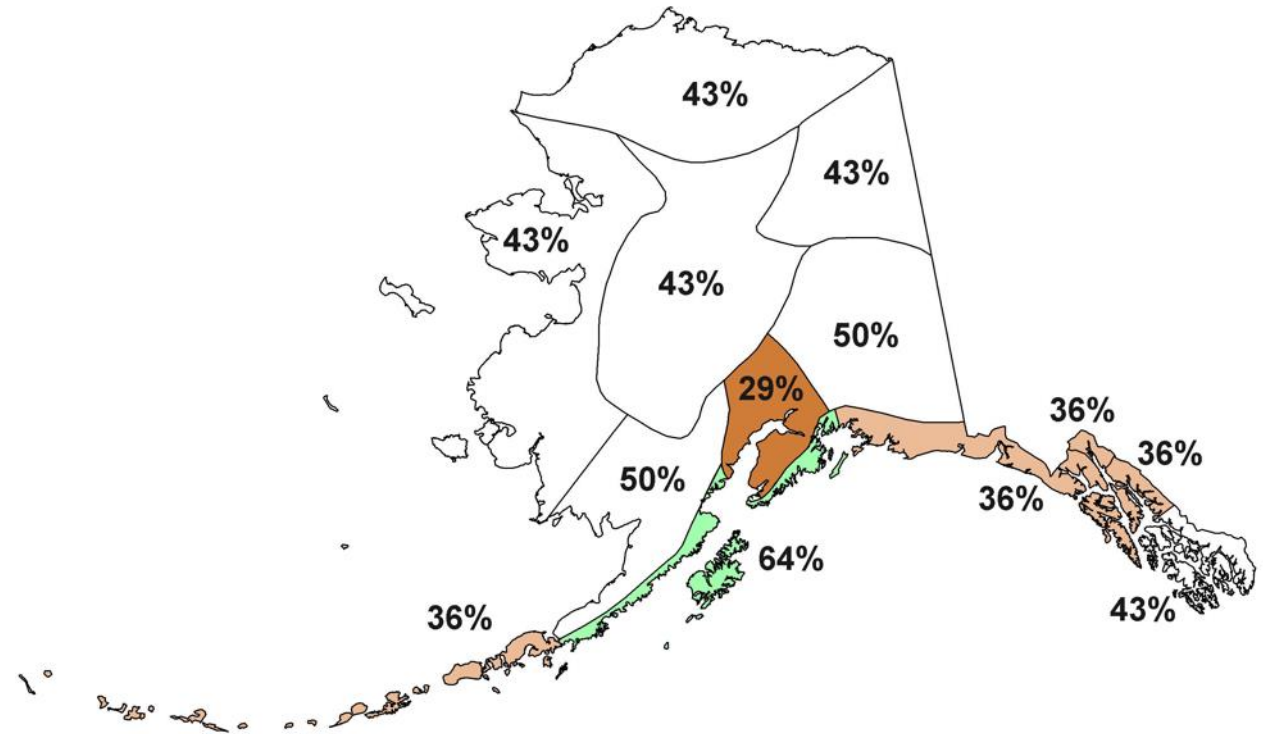
## Temperature

Percent seasons above normal



## Precipitation

Percent seasons above normal



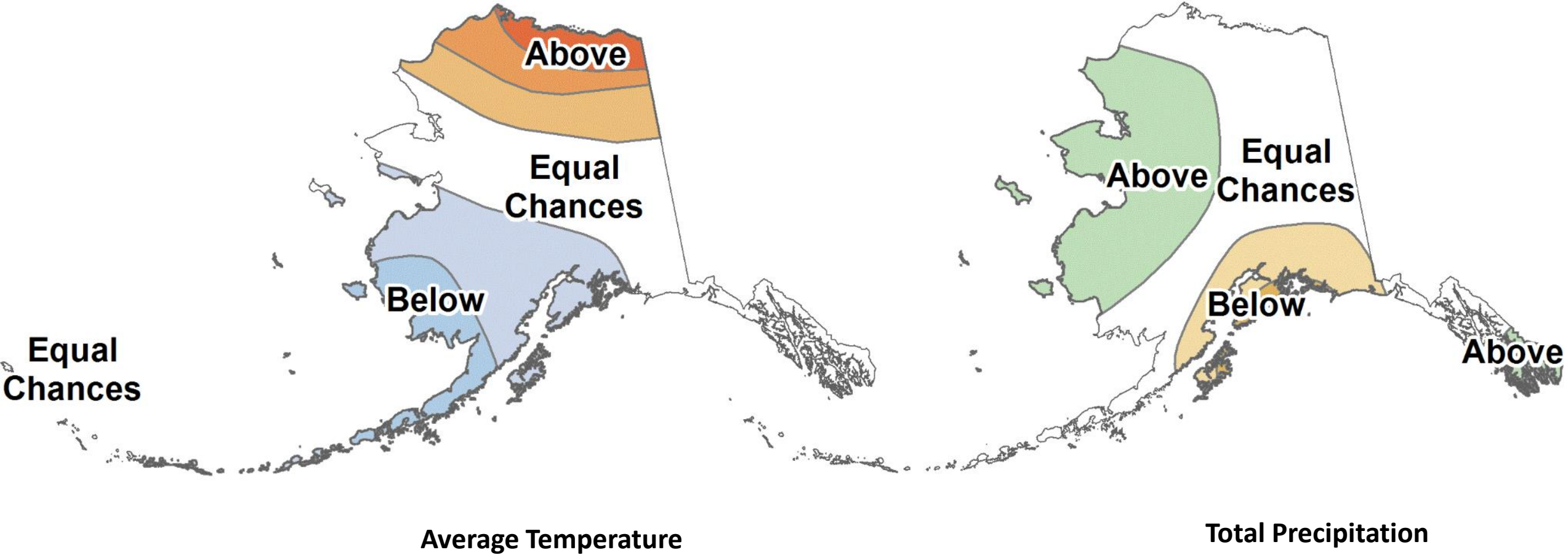
14 Weak to Moderate La Niña autumns since 1976





# Fall 2024

## NOAA Climate Prediction Center Outlooks



# Thanks very much Questions?



June 17th: McDonald Fire  
from Ft. Wainwright  
Credit: K. Hefington, BLM AFS