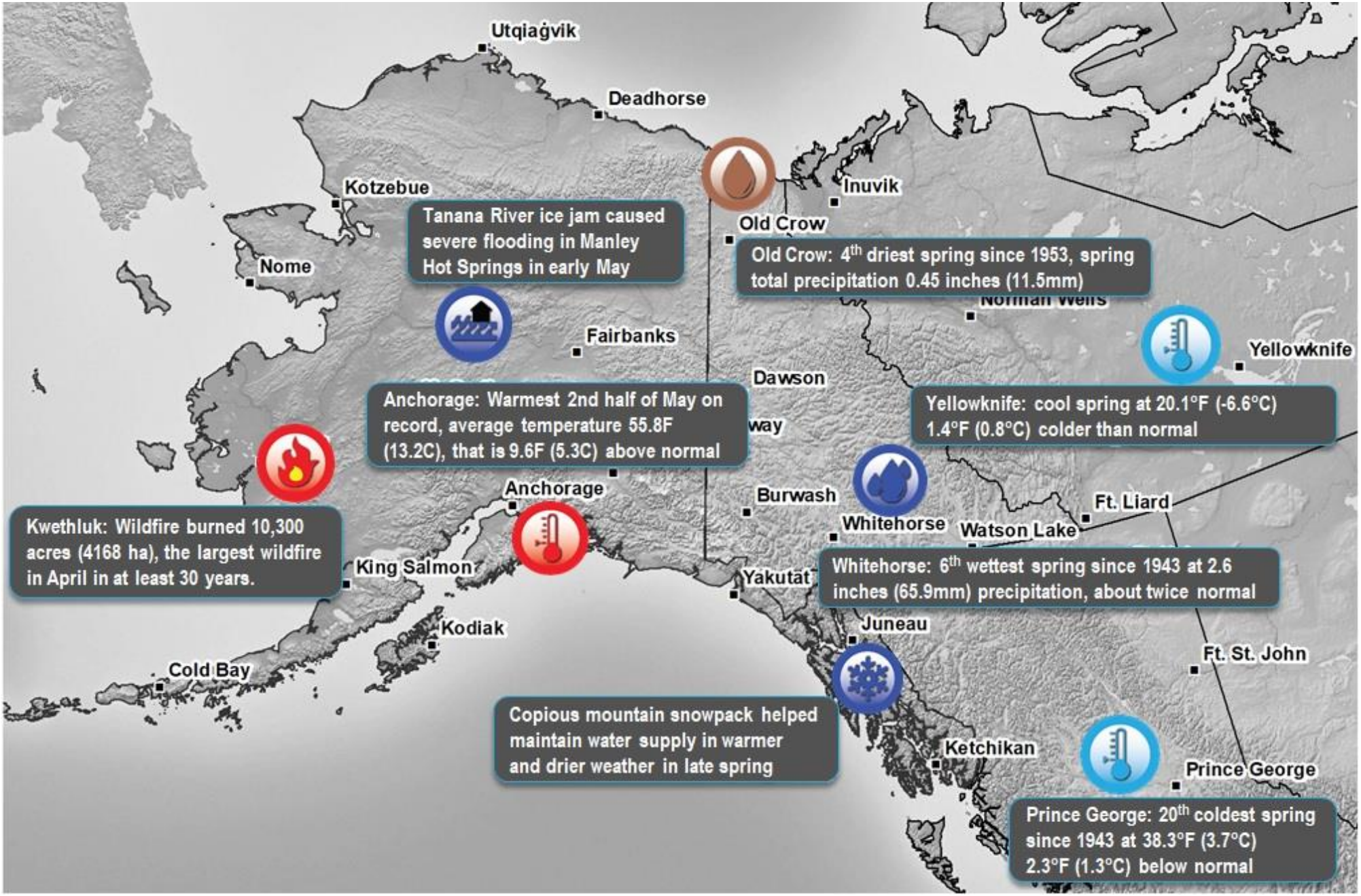
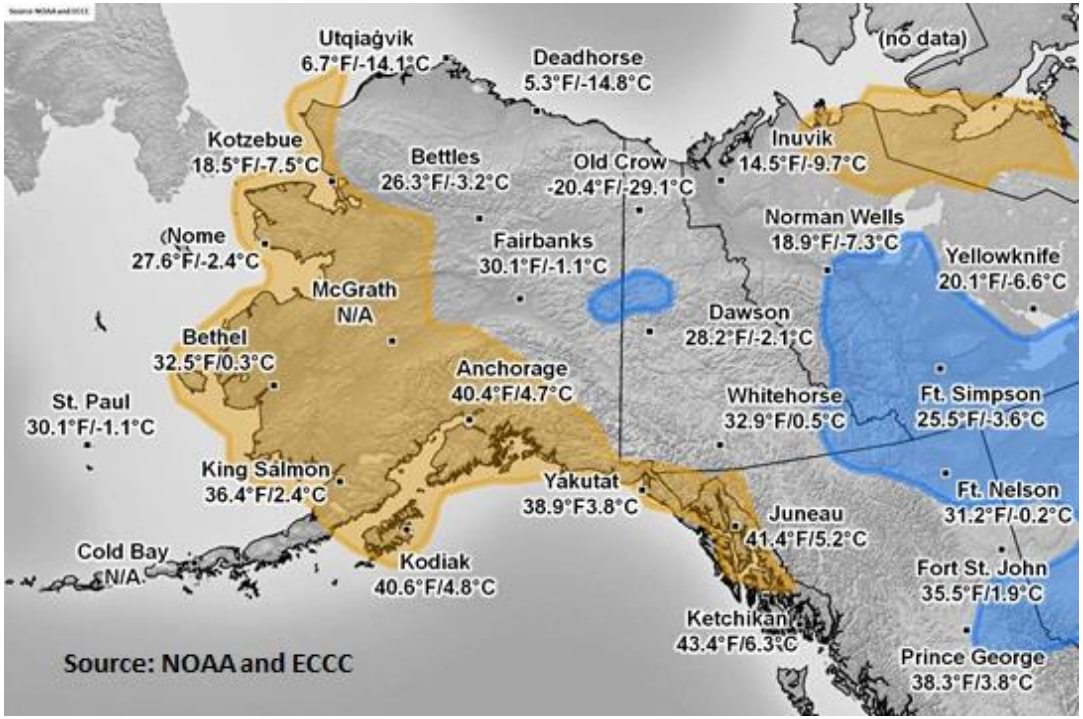
ALASKA and NORTHWESTERN CANADA

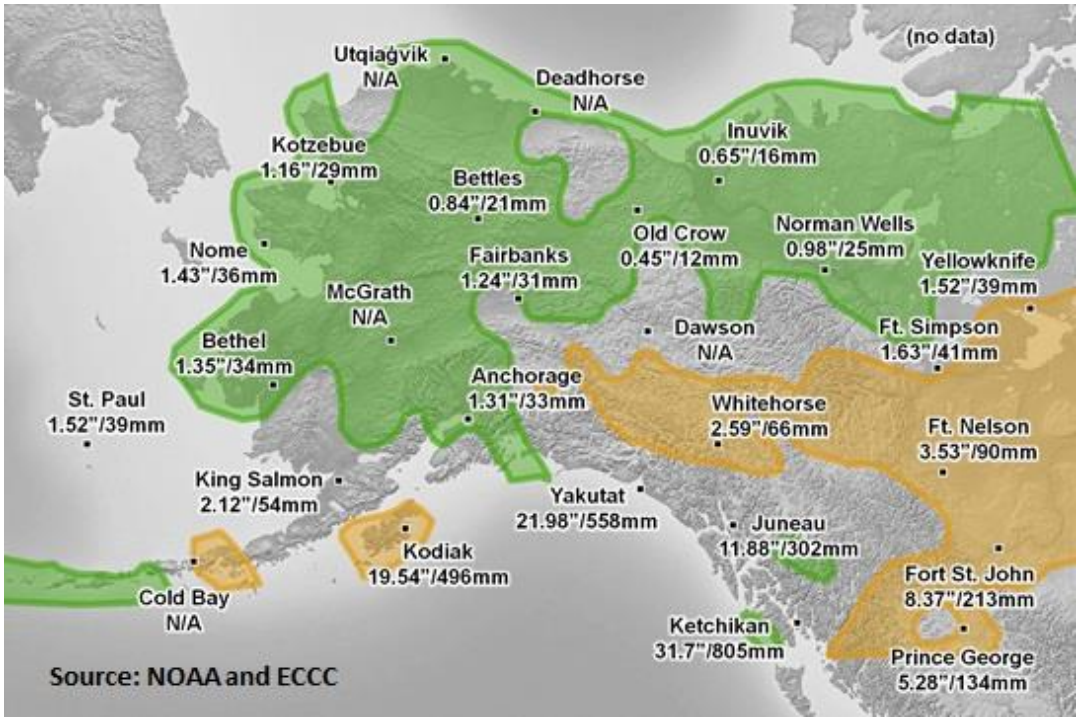
Weather and Climate Highlights and Impacts, March to May 2022
Climate Outlook, July to September 2022



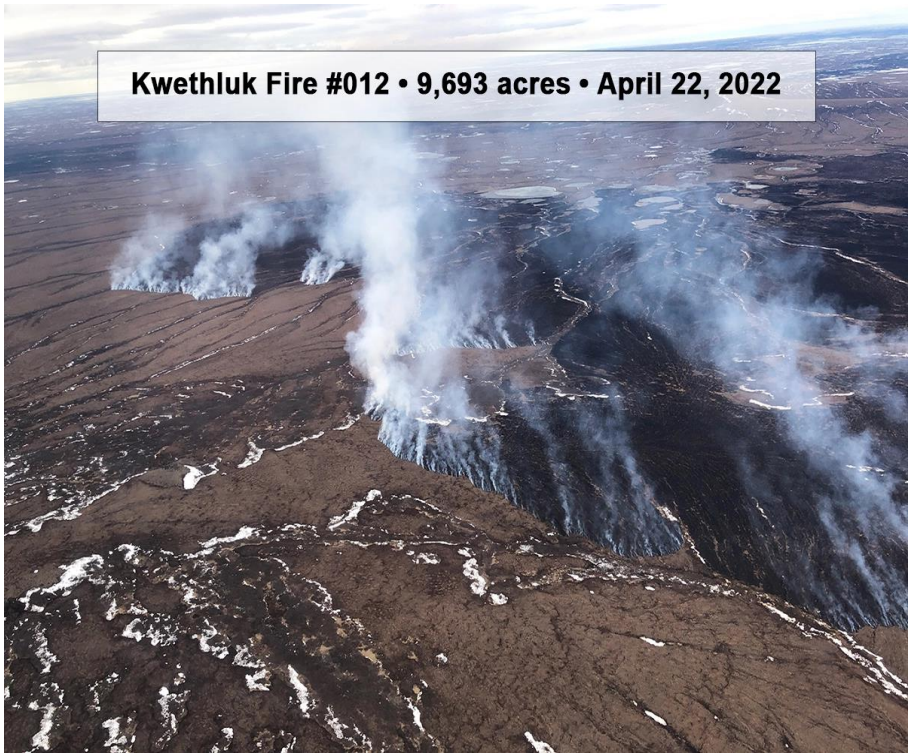
March-May 2022 Temperature Averages (°F/°C) & Anomalies- Below. / .Above / Normal.



March-May 2022 Precipitation Totals (inches/mm) & Anomalies- Dry / Wet / Normal.



Large Early Season Wildfire in Alaska



Kwethluk Fire on April 22, 2022
Photo credit: State of Alaska Division of Forestry

Wildfire in Alaska is not unheard of in April, but when it occurs it is usually confined to suburban areas of Southcentral Alaska where snowmelt can occur early and the burn areas are usually very small. However, in mid-April 2022 a wildfire on the tundra southeast of Bethel broke out.

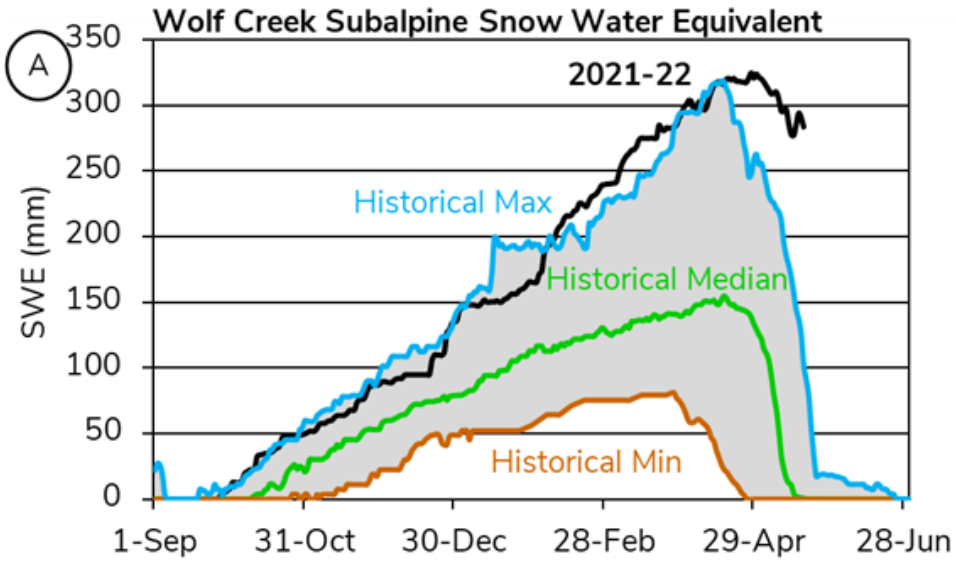
The cause of the fire was undetermined, and the fire was able to spread because a lower than average winter snowpack had melted early due to warm and dry weather. This exposed brown, dried tundra vegetation that had not greened up for the 2022 season and was highly flammable

The fire eventually burned about 10,300 acres (4168 ha), making it not only one of the larger fires on record in the Kuskokwim delta region but also the largest April wildfire anywhere in Alaska in at least the last 30 years.

Record Snowfall in most of Yukon (Credit: Yukon Water Resources)

Withers Lake (Stewart River) Snow measurement 28 April 2022

The current snowpack in the Yukon is largely unprecedented, with many sites close to meeting or exceeding their historical monthly records.
The higher than normal snowpack and cool spring temperatures may contribute to flooding. This will be especially true if warmer than average temperatures occur in the early summer and lead to rapid melt.

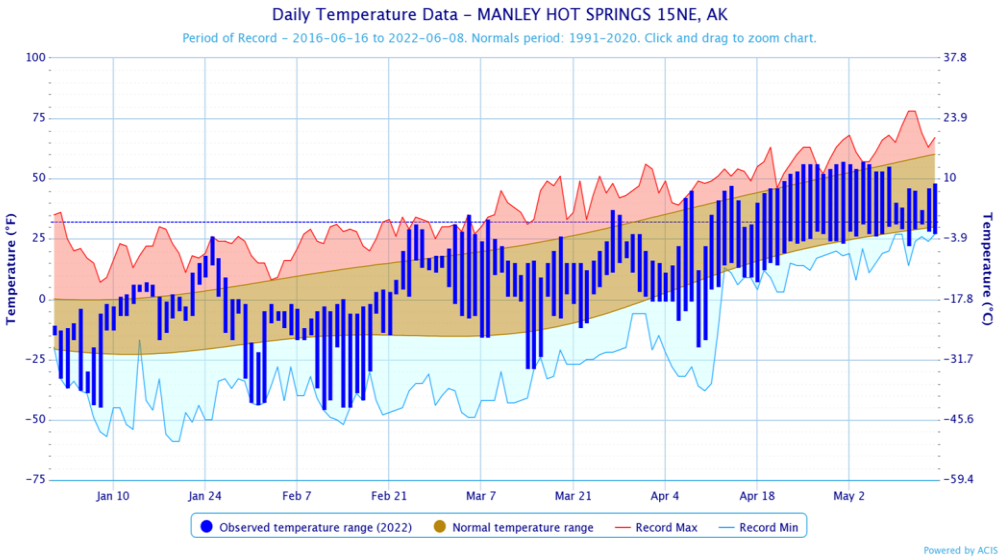


(SWE) Snow Water Equivalent is the depth of water you get from melting the snow

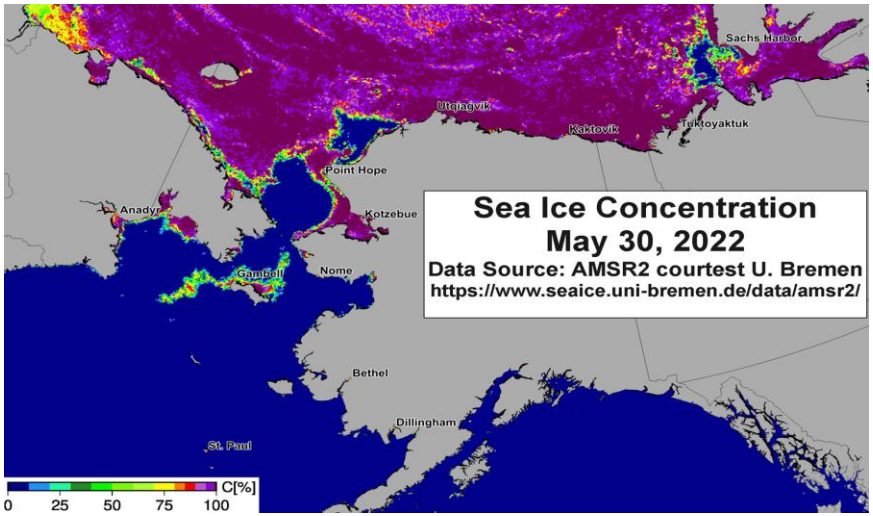
Most Impactful Breakup in Alaska in Nearly a Decade

Manley Hot Springs Runway surrounded by ice jam flooding. Photo: Civil Air Patrol

During breakup, dozens of structures flooded in Manley Hot Springs in Alaska's Interior, leading the Governor to declare a state disaster. Numerous other communities experienced ice jam flooding as well, with impacts ranging from washed out roads, airports and other infrastructure, to water inside homes and commercial properties. While snowpacks upwards of 200% of normal in the Interior and Copper River Basins were expected to cause snowmelt flooding, the main driver of this year's ice jam flooding was likely the prolonged period of below normal temperatures this spring. This had two confounding effects: the ice did not degrade in place, as it has in recent years, and little of the low-level snowpack had melted before river breakup began. That led to the lifting of large, intact sheets of ice which became jammed where the river turns, the channels split, or where other physical forcing took place. In fact the severe flooding in 2013, most significantly in the city of Galena, was preceded by similarly prolonged cool temperatures.



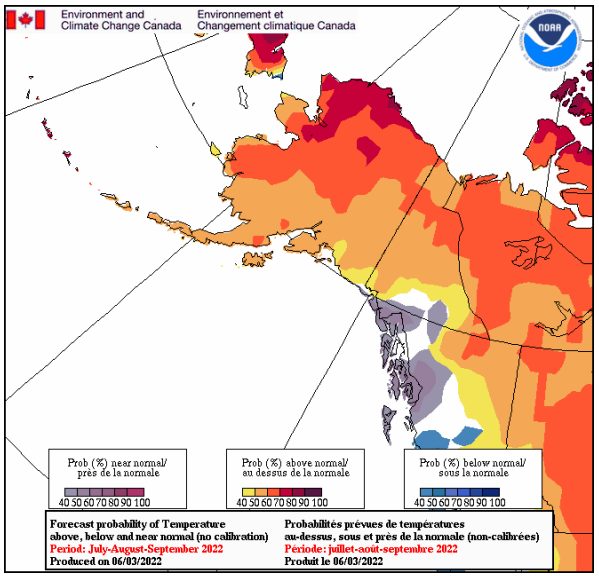
Sea Ice Concentration Conditions at the end of Spring 2022 in the Bering, Chukchi and Beaufort Seas



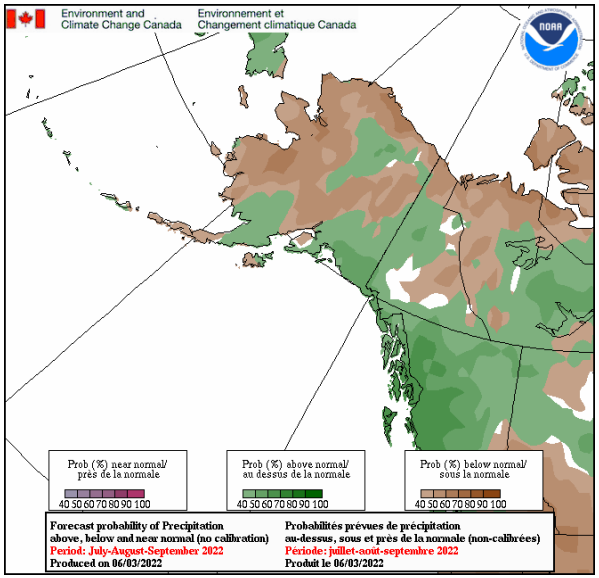
Sea ice extent in the Bering Sea was quite variable early in the spring. The last week of the month saw ice reach as far south as St. George in the Pribilof Islands. This was the first occurrence of sea ice in the area since April 2017. However at the same time, ice in the northern Bering Sea was unusually thin, and when the weather pattern changed in early April, there was very rapid loss of ice. By the end of April, sea ice extent was far below normal. There were frequent but changeable areas of open water in the Chukchi Sea off the western North Slope coast during the spring, a common occurrence which increases hunting opportunities and success for communities in the region.

Sea ice conditions in the Beaufort Sea were generally normal this spring, with the exception of unusual consolidated ice south of Banks Island in the western Amundsen Gulf. At the end of April, strong southeasterly winds resulted in the northwestward drift of pack ice and development of thin open leads in southeastern Beaufort Sea. Periodic easterly to southeasterly winds throughout the month of May allowed the leads to expand northward within 30-60 nautical miles (55-110 km) of the fast ice edge along the west coast of Banks Island to western McClure Strait. Toward the end of May, a large area of fast ice fractured on the western extent of the Amundsen Gulf and became mobile. Throughout the spring, the leading edge of old ice was situated around 71.5 degrees North. This migrated further westward throughout the month of May in a predominant southeasterly to easterly flow.

Temperature Outlook: July-Sept 2022



Precipitation Outlook: July-Sept 2022



A combined Canada - USA forecast model is used to provide a temperature and precipitation outlook for July to Sept 2022.

The temperature outlook map shows that almost all of Alaska, except the area adjacent to BC, and northwest BC and southern Yukon have a 40 to 80% chance of above average temperature (yellow to red colors), with the highest probabilities in northwest Alaska and northern arctic islands.

The precipitation outlook map shows that northern, western and central Alaska, northern YT, and northern and central part of western NWT have a 40 to 70% chance of below average precipitation (brown colors). Most of southern Alaska, western and extreme southern Yukon, northern BC and southern NWT have a 40 to 70% chance of above normal precipitation (green colors).

Content and graphics prepared by NOAA's National Weather Service and National Center for Environmental Information; the Alaska Center for Climate Assessment and Policy at the University of Alaska; and Environment and Climate Change Canada, as well as our regional partners: Alaska Climate Research Center, Alaska Climate Science Center, National Snow and Ice Data Center, and Scenarios Network for Alaska + Arctic Planning.

CONTACTS:
ALASKA CENTER FOR CLIMATE ASSESSMENT AND POLICY:
RICK THOMAN
rthoman@alaska.edu
NOAA NWS & NCEI
BRIAN BRETTSCHNEIDER:
brian.brettschneider@noaa.gov
JESSICA CHERRY:
jessica.cherry@noaa.gov
ENVIRONMENT AND CLIMATE CHANGE CANADA
MARK BARTON
mark.barton@ec.gc.ca