

# ALASKA and NORTHWESTERN CANADA

Weather and Climate Highlights and Impacts, June to August 2022  
Climate Outlook, October to December 2022



Environment and  
Climate Change Canada

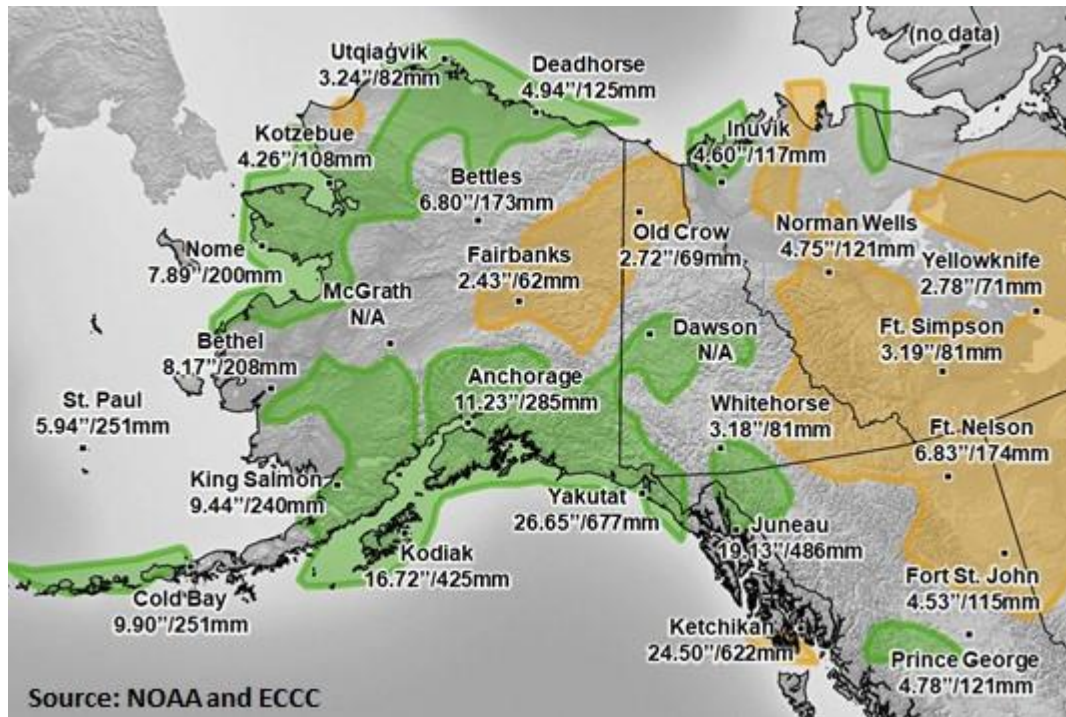
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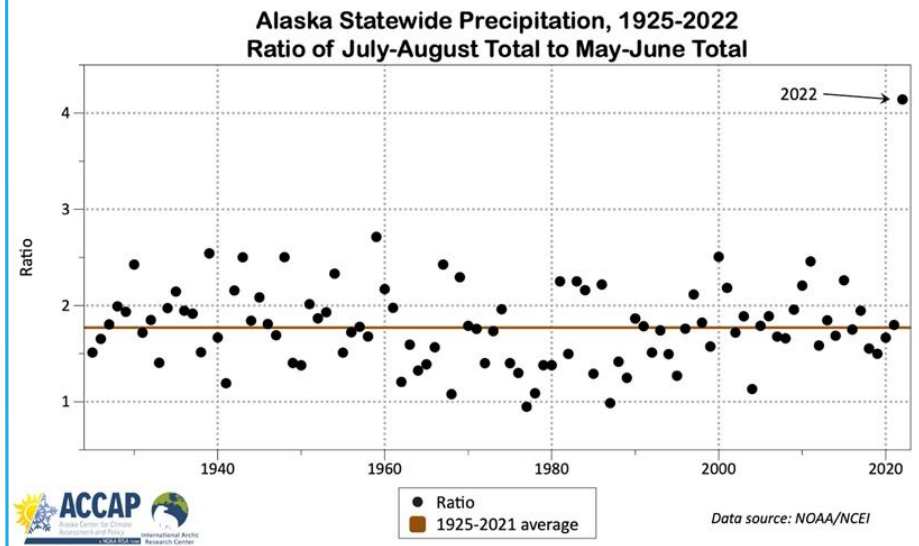
June to August 2022 Temperature Averages (°F/°C) & Anomalies- **Below** / **Above** / Normal.



June to August 2022 Precipitation Totals (inches/mm) & Anomalies- **Dry** / **Wet** / Normal.



Two Halves of Summer Precipitation in Alaska



Ratio of wettest late to early summers in Alaska

This summer of 2022 will long be remembered for the Jekyll and Hyde nature of precipitation in Alaska. The early part of the summer saw record dry conditions that led to numerous and extensive wildfires. The second half of the summer saw excessive rainfall in many parts of the state.

The May to June precipitation total statewide was only 2.48" (63 mm). This was the driest on record. Only small portions of the state observed normal precipitation, while most areas were exceptionally dry. The statewide average was only 55% of the long term average. The largest rainfall departures were in the southwest portion of the state.

During the first week of July everything changed. Low pressure over the Bering Sea initiated the seasonal shift of winds that brings the rainy season to Alaska. This year, this wet pattern became established several weeks early, dropping large amounts of precipitation during July-August. During these months, the statewide precipitation was 10.27" (261 mm), corresponding to the third largest on record and only 0.17" (4 mm) below the record wettest value.

The figure above shows the ratio of precipitation during the second half of summer precipitation relative to the first half for all years on record. No other year compares with 2022 for the dichotomy between the two halves. It was a summer to remember.

## Winter Snow and Late Spring Lead to High Water in the Yukon



**11 June 2022 High water on the Pelly River at Ross River  
Photo credit: Yukon Government**

Most Yukon watersheds saw record snowpack in this past winter. This was followed by a colder than average spring, which signaled increased potential for flooding during the spring snowmelt season. Flooding, landslides and highway washouts occurred across the territory from localized runoff-driven floods in the early spring. Mid-summer floods resulted from high ground saturation, peak snowmelt and beaver dam releases.

The communities impacted included: Dawson and Mayo (high flows); Ross River, Pelly Crossing and Upper Liard (minor flooding); and Teslin and Carmacks (flooding, close to exceeding past record high water set in 1962 for both communities).

The well above average snowpack in the Upper Yukon River Basin resulted in higher than average water levels in the Southern Lakes and Lake Laberge. Although water levels are currently declining, they are still high for this time of year. The high water was caused by a record high snowpack with a late freshet.

Credit: Yukon Government

## 2022 Wildfire Season

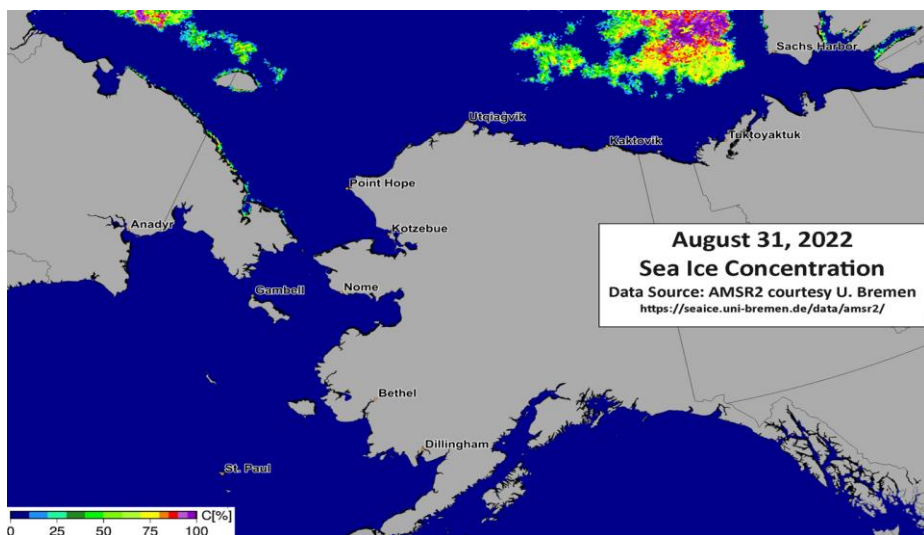


**12 June 2022: East Fork Fire burning near St. Mary's, Alaska  
Photo credit: Alaska Wildland Fire Information/John Kent**

Wildfires across Alaska, Yukon Territory and Northwest Territories during summer 2022 burned 4.80 million acres (1.94 million hectares), the highest total since 2015. Most unusually, a significant portion of this total occurred in fires in southwest Alaska, where wildfire is uncommon and nearly always very limited in extent. However, early snowmelt and a warm dry spring set the stage for lightning started fires in early June. The East Fork fire which threatened several communities near St. Mary's in the Yukon River delta and the nearby Apoon Pass fire are now the two largest wildfires on record in the Yukon-Kuskokwim Delta region since at least the 1940s. Further south in the Bristol Bay region, more land burned this summer than in all years 1950-2021 combined.

Wildfires in the Alaska Interior were more typical. The Clear fire burned very close to the community of Anderson and prompted evacuations. Smoke from wildfires was widespread across the region but was especially persistent in the Alaska Interior. From mid-June through mid-July, Fairbanks experienced more than 400 hours with visibility restricting smoke, roughly corresponding to air quality "unhealthy for sensitive groups". It is the second highest seasonal total since 1950 (only 2004 had more).

# Sea Ice Concentration Conditions End of Summer 2022 in the Bering, Chukchi and Beaufort Seas

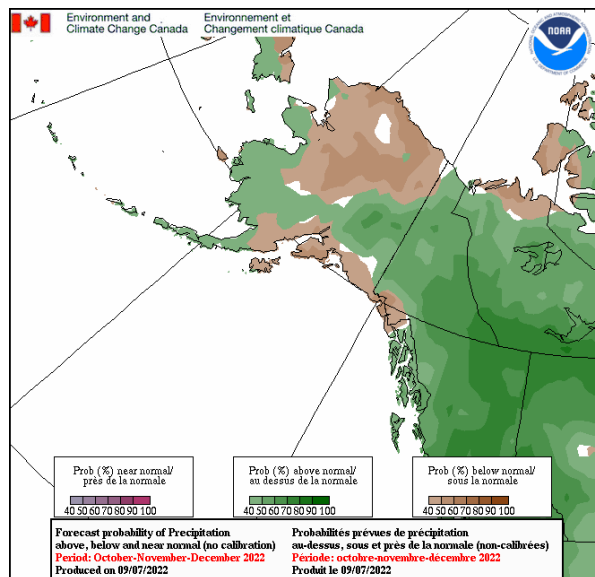
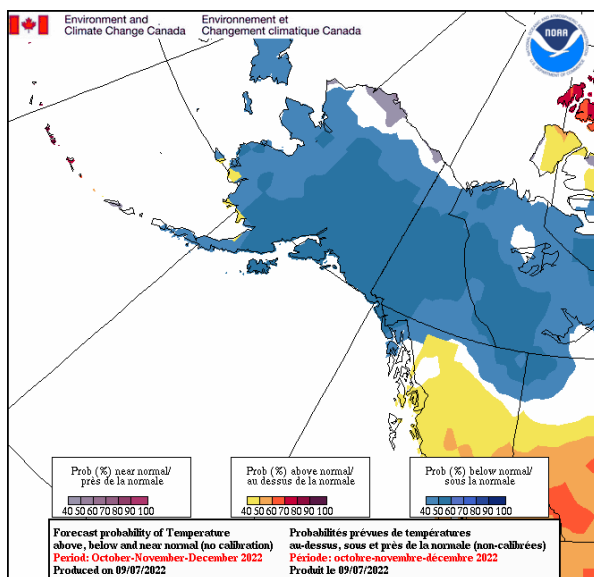


Sea ice melt in the Chukchi Sea was close to the long term average during the early summer. Melt accelerated in August. For the first time in many years, sea ice was observed in the Bering Sea in early August as ice along the northern Chukotka coast was moved by winds and currents into the Bering Strait before melting away a couple of weeks later.

Total ice coverage in the western Canadian Arctic was above the climatological median throughout the month of June due to the later than normal ice melt in the southeastern Beaufort Sea. The first half of July saw above normal temperatures for most of the western Arctic, which sped up the melting process along the Alaskan coast and over eastern regions. However, in the southeastern Beaufort Sea and Amundsen Gulf, ice melt remained later than normal due to the combined effect of greater than normal old ice in the southeastern Beaufort Sea and the lag in ice melt in the Amundsen Gulf due to the longer than normal presence of consolidated ice. Total ice coverage remained near the climatological median throughout the first half of August but dipped below the median by the end of the month. This was largely due to the generally earlier than normal ice melt over most eastern regions, resulting from a combination of continued above normal temperatures and later than normal freeze up of ice last winter.

## Temperature Outlook: Oct - Dec 2022

## Precipitation Outlook: Oct - Dec 2022



A combined Canada - USA weather forecast model is used to provide a temperature and a precipitation outlook for October to December 2022.

The temperature outlook map shows that all of Alaska except the north slope (normal) have a 40% to 60% chance of below average temperature (blue colors), with the highest probabilities found throughout the center of this region. South of this area there is a 40% to 70% chance of above average temperatures.

The precipitation outlook map shows that all of the region except northern and southern Alaska (40% to 60% chance of below normal) have a 40 to 80% chance of above average precipitation with the highest probabilities found in central British Columbia and along the Northwest Territories border with British Columbia and Alberta (medium green color).

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.

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