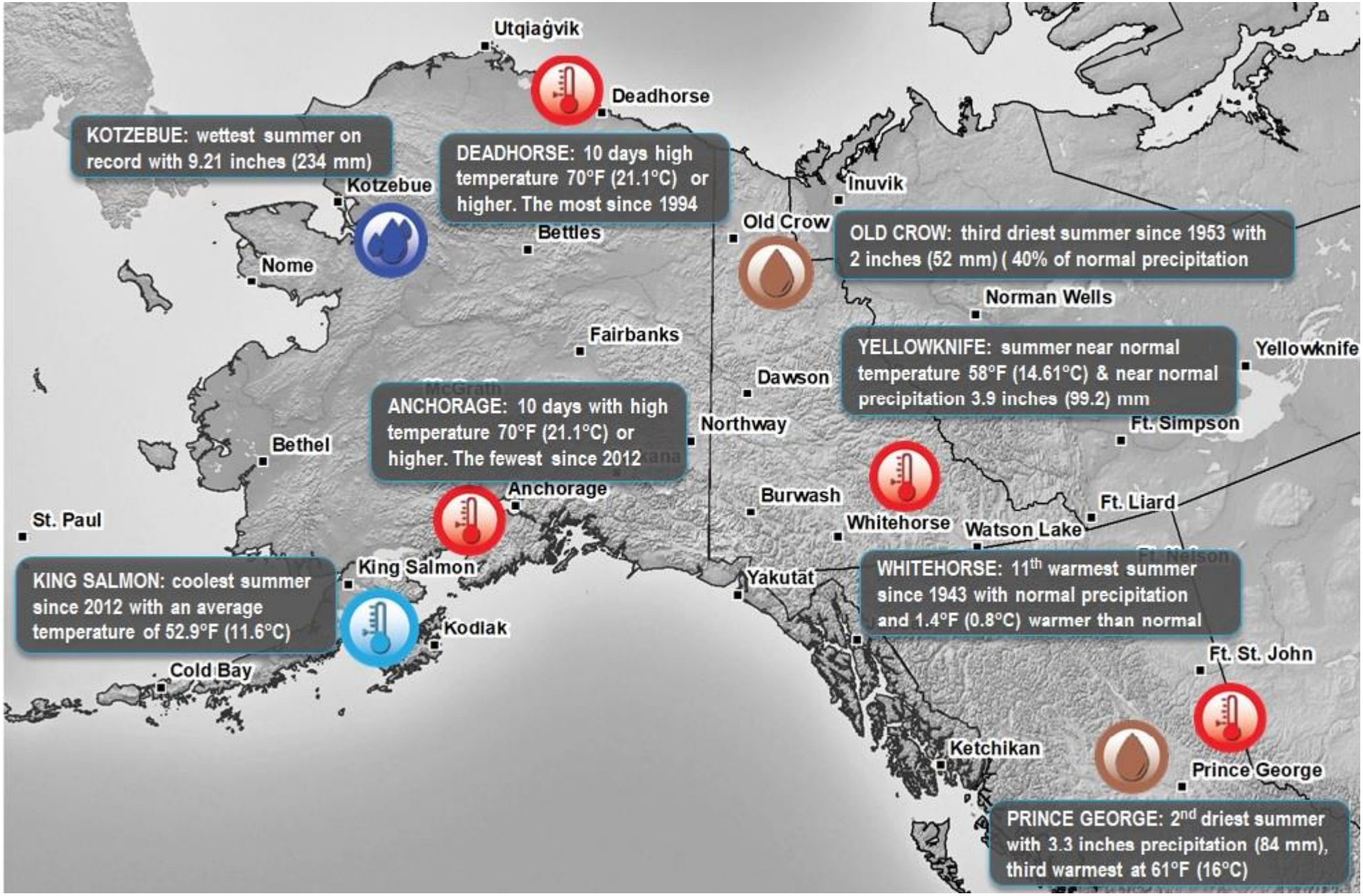
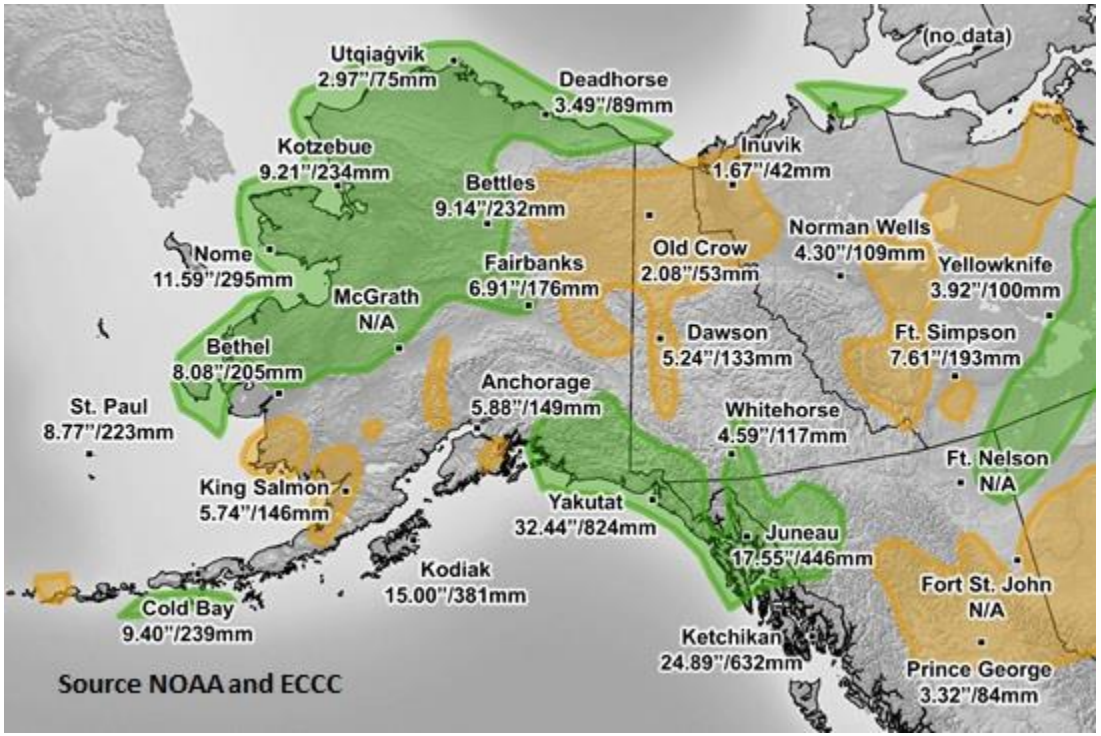
ALASKA and NORTHWESTERN CANADA

Weather and Climate Highlights and Impacts, June to August 2021
Climate Outlook, October to December 2021



June-August 2021 Temperature Averages (°F/°C) & Anomalies- Below. / .Above / Normal.

June-August 2021 Precipitation Totals (inches/mm) & Anomalies- Dry / Wet / Normal.



Tent Creek Wildfire Summer 2021

Tent Creek Wildfire burned an area of more than 12 square miles (31 km^2) by late August 2021.
Photo credit: BC Wildfire Service, Dawson Creek Fire Zone

Northern BC experienced fewer wildfires this summer compared to the southern half of the province. There were some significant smoke days in July and August and some large fires that continued to burn into September in the central interior. These include the Chief Louie Lake fire near Rose Lake with an area of more than 78 square miles (200 km^2) and the Cutoff Creek fire south of Vanderhoof that had burned more than 121 square miles (310 km^2) as of early September.

July also saw active fires in northeastern BC sparked by thunderstorms associated with the June 25 to 29 heat dome, but in early August, wet weather helped supress the fires. There were fires around the areas of Tommy Lakes, Buckinghorse River and the south arm of the Williston Reservoir. There were also lighting-induced smaller fires in the Robson Valley area, followed by flooding from July to early August. Recent cooler and drier conditions have aided in managing these fires.

Credit: V. Foord, BC Ministry of Forests.

Cold Fish Lake Wildfire Summer 2021

Cold Fish Lake wildfire pyro-cumulus clouds photographed from 20 km southeast of the fire. Photo credit: A. Castellan, ECCC.

Northern BC experienced near normal temperature and precipitation conditions until the onset of the heat dome in late June. Weather stations across northern BC recorded 34 broken temperature records during the June 25 to June 29 heat dome, with some, such as burns Lake and Mackenzie, exceeding previous records by over 14 deg F (8 deg C). In Prince George, the extreme heat caused road melting and tree scorching (unconfirmed) primarily affecting the current year's growth of spruce and fir across the north. Many young subalpine firs have completely turned red.

The most significant weather event during the summer was a strong windstorm accompanied by the severe thunderstorms that occurred at the end of the heat dome on June 30. Several areas in the Peace region, including Prespatou, Blueberry River, Buick, and the area around mile 63 of the Alaska Hwy were affected. In the Peace area, extensive damage to the forest was reported, with trees blown in multiple directions and reports of one tree found on top of a 50 foot (15 m) tall metal structure. In addition, there were reports of grain bins tipped over, damaged new home construction and farm buildings blown over. Credit: V. Foord, BC Ministry of Forests.

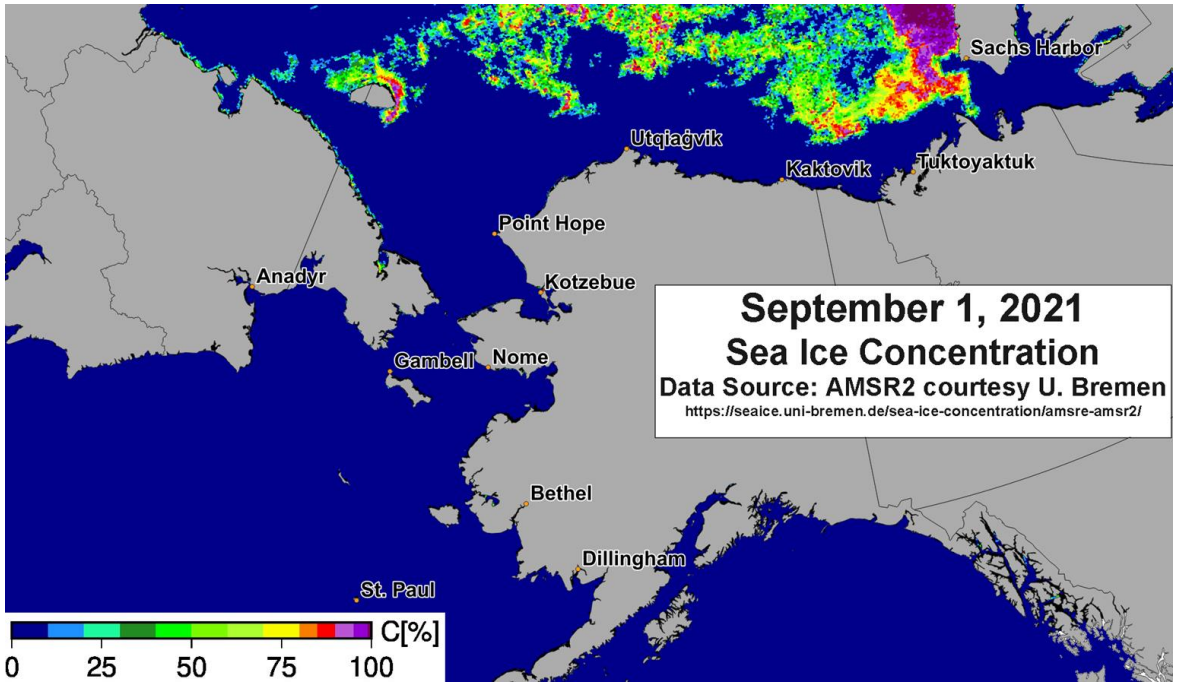
Alaska, Noatak High Water Summer 2021…

River bank erosion near Noatak, Alaska. Notice the ice rich permafrost that has been exposed by the erosion. Photo credit: J. Luther and LEO Network

The summer of 2021 was the wettest on record in northwest Alaska, with excessive rains in June and July. As a result, not only was there storm-related flooding in some communities, but the sustained high water levels of rivers produced dramatically increased permafrost thaw, river bank erosion and river channel changes.

Erosion was especially severe at Noatak, north of Kotzebue. Here, erosion on the right bank of the Noatak River has been encroaching on community infrastructure for years, but this summer the problem was greatly accelerated due to sustained high water. Over the past two years, 24-28 feet (7-8 meters) of land has been lost between the Noatak River, the airport and an old, disused landfill. The erosion was threatened to expose the landfill, raising the prospect of the release of potentially toxic material into the river.

Sea Ice Concentration Conditions End of Summer 2021 in the Bering, Chukchi and Beaufort Seas

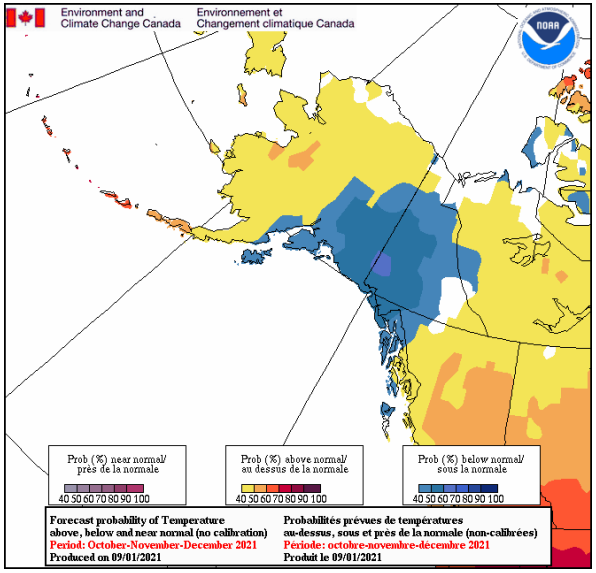


Sea ice retreat was slower this summer than in most recent years. The last of the ice in the northwest Bering Sea and southern Chukchi Sea did not melt until early July.

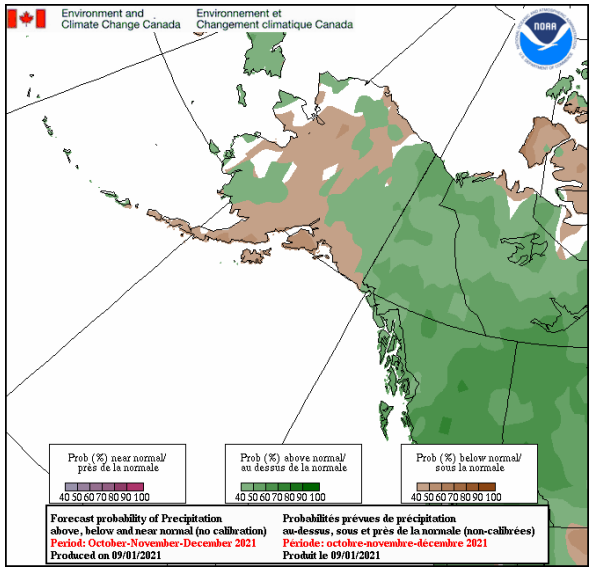
Ice conditions were variable along the Alaska Chukchi Sea coast from Wainwright northward. At Utqiaġvik, for the first time in years, there were repeated pushes of ice to shore as late as mid-August. By the end of August, ice had completely melted along the Alaska coast, making open water near shore marine activities possible.

The Beaufort summer melt season has been remarkably consistent. Overall, ice melt was slightly greater than normal, although temperatures were near to slightly below normal. During the month of August, the average wind direction over the southern part of the Beaufort Sea was from the west, causing a greater than normal ice concentration over the southeastern Beaufort Sea areas, as well as over the southwestern section of the Amundsen Gulf at the end of month.

Temperature Outlook: Oct - Dec 2021



Precipitation Outlook: Oct - Dec 2021



A combined Canada - USA forecast model was used to provide a temperature and precipitation outlook for October to December 2021.

The temperature outlook map shows that all of Alaska (except central southern and southeast) and Northwest Canada (except most of Yukon) have a 40 to 70% chance of above average temperature (yellow to orange colors), with the highest probabilities found in the northern arctic islands of Canada and the western Aleutian islands of Alaska.

The precipitation outlook map shows that central western, eastern and northwestern Alaska and all but the arctic islands of northwest Canada have a 40 to 70% chance of above average precipitation (green colors). Most of western Alaska and northern coastal Northwest Territories have a 40 to 60% chance of below average precipitation (brown colors).

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