

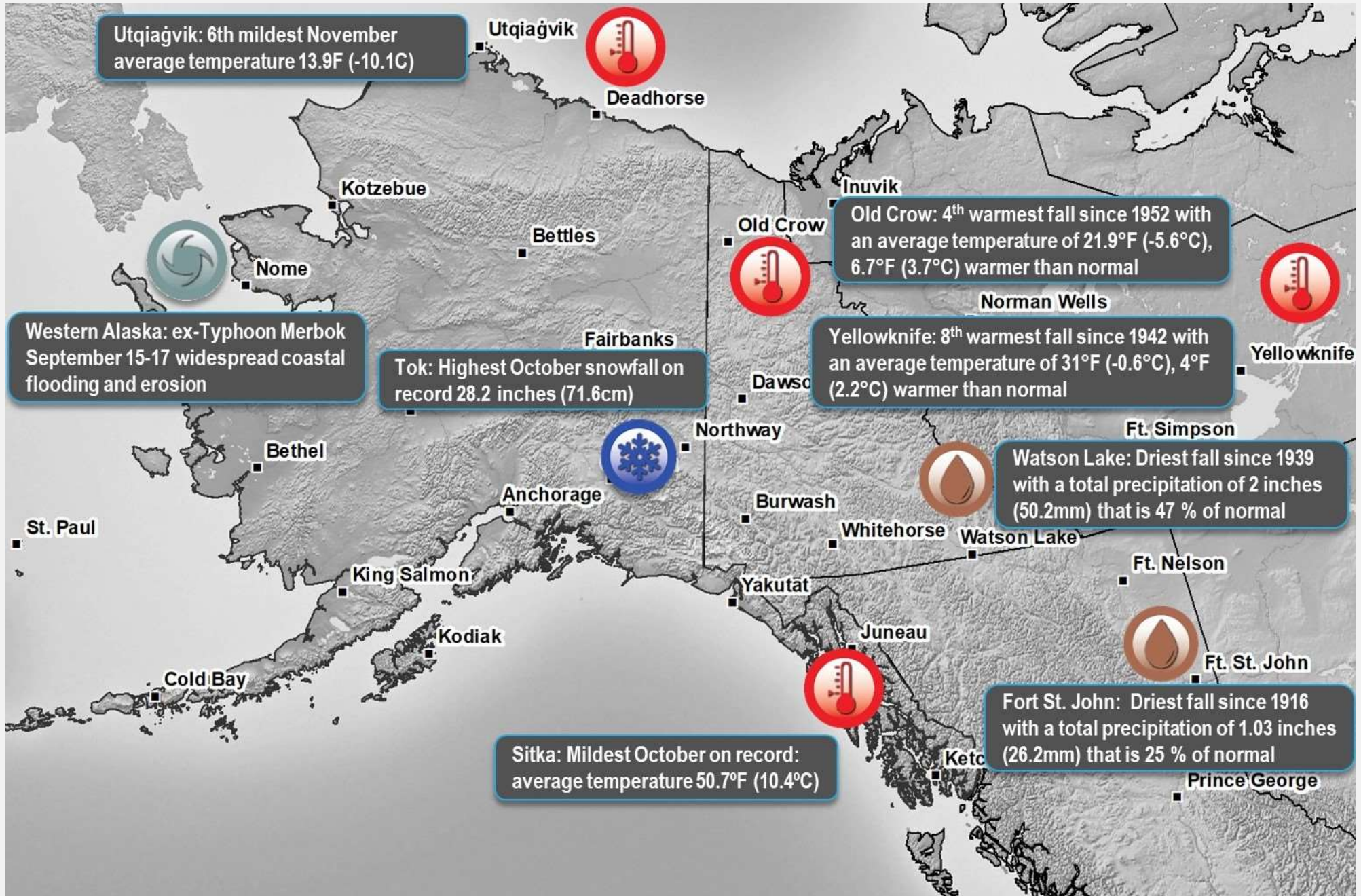
# ALASKA and NORTHWESTERN CANADA

Weather and Climate Highlights and Impacts, September to November 2022  
Climate Outlook, January to March 2023



Environment and  
Climate Change Canada

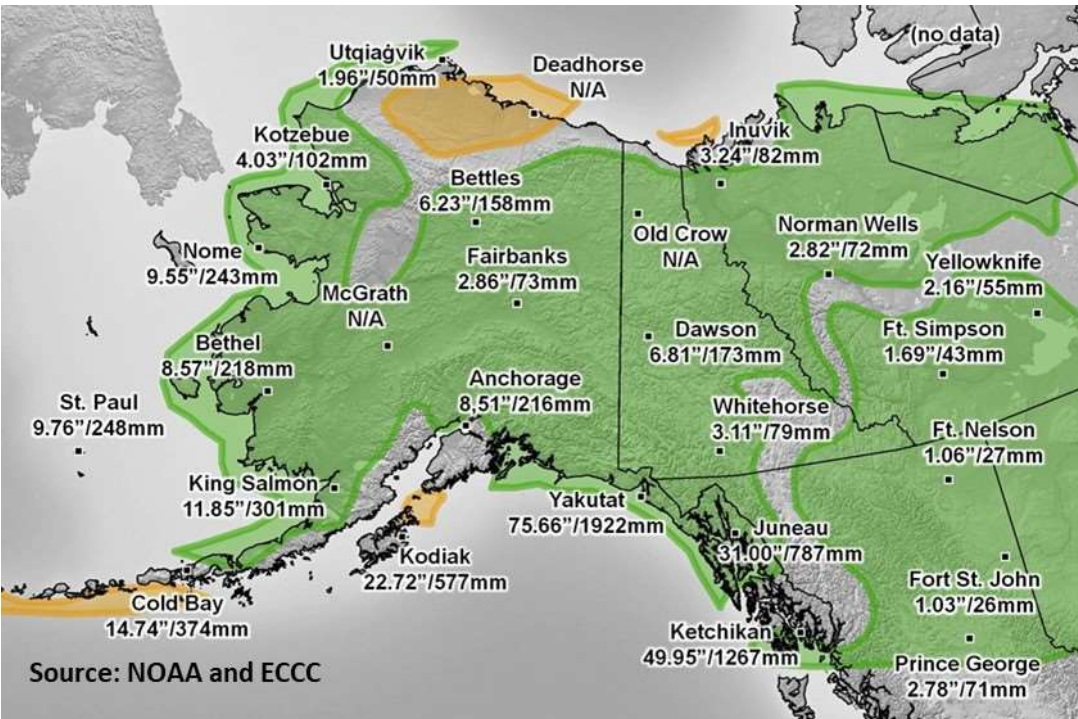
Environnement et  
Changement climatique Canada



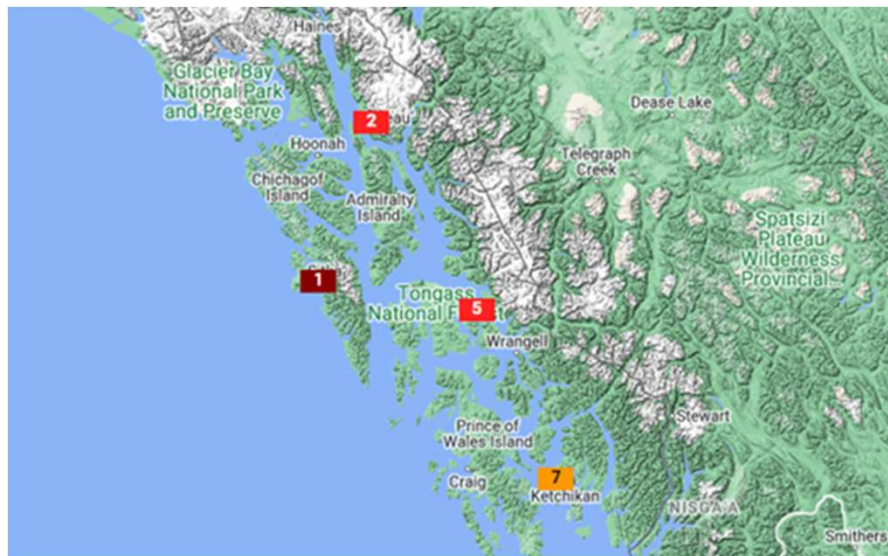
Sept to Nov 2022 Temperature Averages (°F/°C) & Anomalies- **Below** / **Above** / Normal.



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



Record October Warmth in Southeast Alaska



October Temperature Ranking (Source: Southeast RCC)

October is the heart of Fall for Southeast Alaska – typically cool and very wet, but October 2022 didn't feel very fall-like for most areas. In fact, October was the warmest on record for a number of locations and within the top five warmest for many other places.

Among the stations with long periods of record, Sitka (50.7F/10.4C), Skagway (47.5F/8.6C), and Haines (46.6F/8.1C) all recorded their warmest October on record. Other places that set a record warm October include Hoonah (56.7F/13.7C), Klawock (49.6F/9.8C), Snettisham Power Plant (45.3F/7.4C), and Thorne Bay (48.4F/9.1C). Across the border in the Yukon Territory, Whitehorse (38.1F/3.4C) and Watson Lake (38.5F/3.6C) had their warmest October mean temperatures on record. As frequently occurs, many stations just missed out on record temperatures. For example, Juneau Airport (46.6F/8.1C) and Craig (50.6F/10.3C), Alaska, both had their second warmest Octobers.

This warm regime was an extension of record warm anomalies that enveloped the northwestern corner of the conterminous U.S. (Washington and Oregon).

## North Klondike Land Slides in the Yukon



**Landslides on North Klondike Highway**  
**Photo credit: Yukon Government**

At 3pm on 22 September, the North Klondike highway, between km 666 to km 674 and km 693 to km 696 at Rock Creek, was blocked by landslides. Heavy rain had saturated the steep slopes above the highway, with underlying permafrost triggering the slides. Rain started in the area at about 4 am, and it continued until early evening with a daily total of 34.9 mm reported in Dawson and likely heavier amounts in the landslide areas. The Dawson rainfall was quite intense with 9.8 mm falling between 6 am and 7am.

There was a significant impact on travelers driving the North Klondike and Dempster highways, as the blockage lasted for several days cutting off access to the Dempster highway. Stranded travelers were transported by helicopter between Henderson corner and Dawson airport. Good communication between the Yukon Emergency Management Organization and its counterpart in the Northwest Territories informed travelers planning to drive south on the Dempster highway.

Environment and Climate Change Canada provided extra forecasts for the Dawson area throughout the cleanup and site assessment period.

Credit: Yukon Government

## Ex-Typhoon Merbok Hits Western Alaska



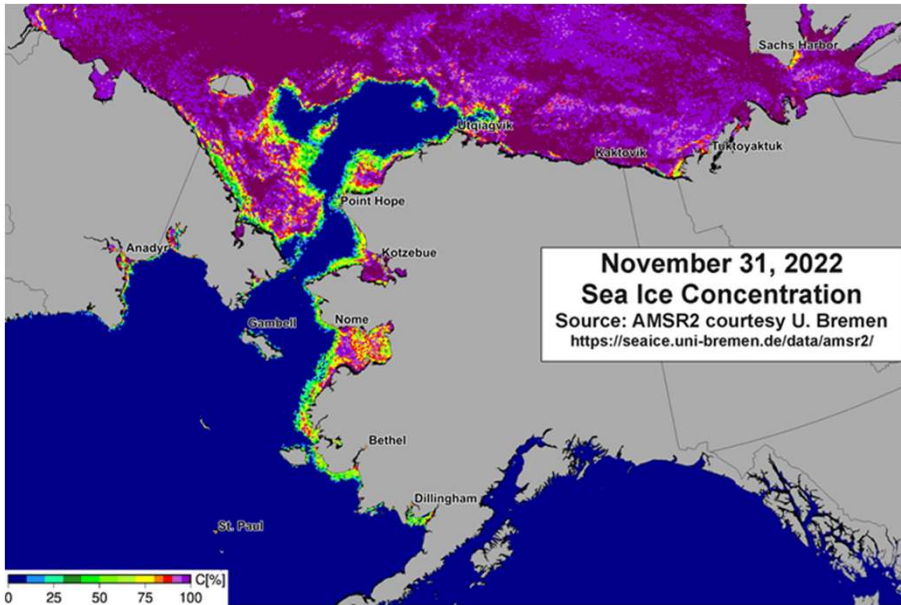
**Photo credit: Nils Hahn**

Tropical Storm Merbok formed in the subtropical North Pacific west of Wake Island on September 11 and strengthened to a Typhoon two days later. Within a week, it became the strongest storm on record so early in the season in the Bering Sea.

Although no longer a typhoon when the storm crossed into the Bering Sea on September 15, ex-typhoon Merbok brought widespread and severe damage and erosion along 1000 miles (1600 km) of coastline from Kuskokwim Bay to the Bering Strait over the following two days. In some communities, ocean water levels were the highest on record. Homes in Golovin and Hooper Bay were floated off their foundations and left uninhabitable when waters receded. There was severe erosion to the Nome-Council Road and much loss of subsistence camp infrastructure, while at Shaktoolik the berm used to protect the freshwater supply was eroded away by waves and high water.

Damage also occurred away from the immediate coast, as Bering Sea waters backed up into rivers. Many buildings were damaged at Newtok, as high water on the Ninglick River caused dramatic river bank erosion, and at Chevak, where water backed up the Ninglikfak River, swamping many moored boats.

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

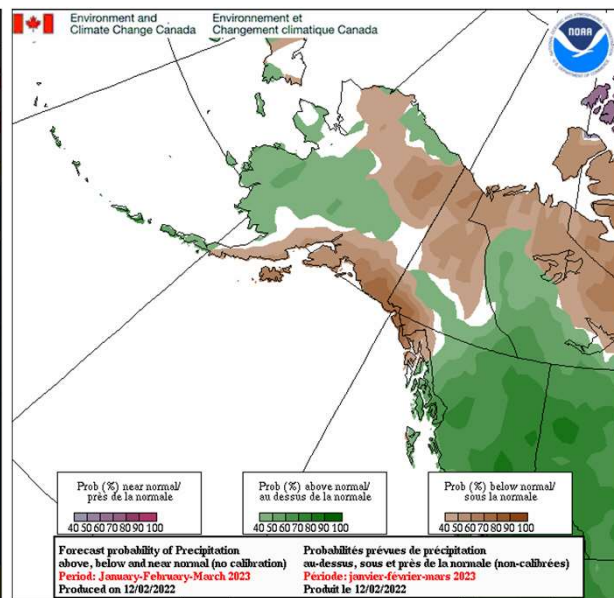
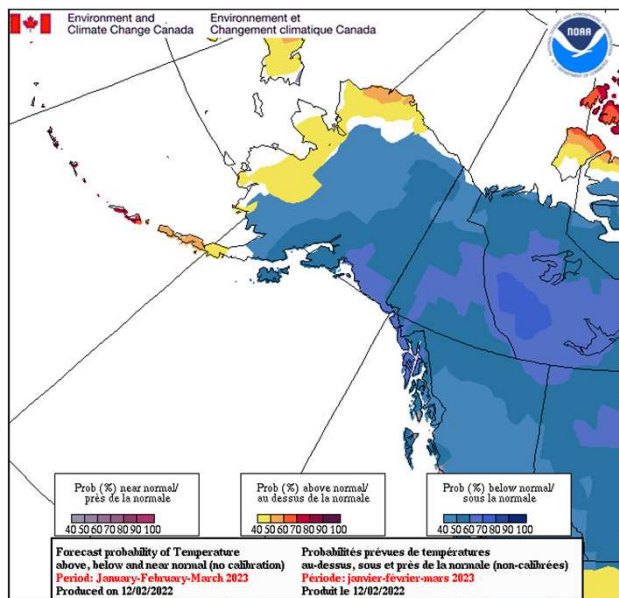


Freeze-up over the entire western Arctic, including the Beaufort Sea, began about a week later than normal this year. Freeze-up normally begins near the week of September 17, but this year, continued erosion of ice during that week in many areas, due to above normal temperatures and strong easterly winds, maintained the ice coverage at well below the historical median. Freeze-up did begin during the week of September 24, however general ice coverage remained well below the historical median (especially over many eastern regions) until mid-October. This was due to persistent strong winds and significantly above normal temperature anomalies during the first half of October. From late October and through-November, ice growth remained near normal and ice concentrations were near to slightly above the historical average.

Chukchi Sea ice extent reached in the annual minimum on September 18, although there was very little ice nearshore to Alaska until the second half of October. Ice formed in Kotzebue Sound early in November, but overall Chukchi Sea ice extent at the end of November was the seventh lowest since 1978, according to the Sea Ice Index from the National Snow and Ice Data Center. Ice growth in the Bering Sea near Alaska during late October and November was typical of recent years, but less than average along the Russian coast.

## Temperature Outlook: Jan to Mar 2023

## Precipitation Outlook: Jan to Mar 2023



A combined Canada - USA weather forecast model is used to provide a temperature and a precipitation outlook for January to March 2023.

The temperature outlook map shows that all of Alaska, except the north and west including the Aleutian Islands and northwest Canada, have a 40% to 60% chance of below average temperatures (blue colors), with the highest probabilities found in central western Northwest Territories. The arctic islands, northern and western Alaska have a 40-80% chance of above normal temperatures.

The precipitation outlook map shows that northern Alaska (except the north slope) and southern Alaska, central and southwest Yukon have a 40 to 80% chance of below average precipitation, with the highest probabilities found in southeast Alaska. Other parts of the region have a 40-80% chance of above normal precipitation.

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 & NCEL  
BRIAN BRETTSCHEIDER  
brian.brettschneider@noaa.gov  
JESSICA CHERRY  
jessica.cherry@noaa.gov

ENVIRONMENT AND CLIMATE CHANGE CANADA  
MARK BARTON  
mark.barton@ec.gc.ca