BARROW: April was exceptionally windy. Average wind speeds exceeded 20 mph on 12 straight days, resulting in much drifting snow. Wind also broke off shorefast ice and opened up huge leads more typical of June.

BERING SEA: Seasonal maximum ice cover of 5 million km², second lowest since 1979. Ice never got much south of St. Matthew Island.

DEERING: Flooding May 11–13 as an ice jam in the Innachuk River and shorefast ice in Kotzebue Sound impounded flowing water in rivers. Road to airport closed for a day with water up to 3 ft deep.

BETHEL: Earliest breakup of Kuskokwim River ice, on April 20, with raspberries blooming in mid-May, much earlier than is typical. Bethel recorded its warmest Spring in recorded history.

FAIRBANKS: Third earliest meltout of snowpack (April 8). Green-up occurred April 26, and last freezing temperature of spring (May 5) was second earliest on record. Fairbanks recorded its warmest spring in recorded history.

CIRCLE: Earliest breakup of Yukon River ice, and for the first time in memory, boats were in the water in April.

EAGLE: Second earliest breakup of Yukon River ice, April 26. Shortly thereafter, an ice jam formed downstream of Eagle and inundated low-lying areas until April 29, when the jam released.

SOUTHERN BEAUFORT: Lowest ice coverage (76.9%) ever recorded in May. This exceeds the previous record set in 1970 (81.3%), and is well below average ice coverage of 94.1% over the last 30 years.

YUKON: On the Yukon River, ice breakup at Whitehorse on April 23 was the earliest on record going back to 1896. Green-up across the territory was two weeks ahead of normal.

DAWSON: Warmest spring since 1900! Average March–May temp of 3.3°C (compared to normal of -1.3°C).

WHITEHORSE: Warmest spring on record since 1942, 3.9°C warmer than normal (4.6°C compared to normal of 0.7°C).

ANCHORAGE: Light snow after a week of mild days caused icy roads, resulting in more than 70 auto accidents on March 4. Iditarod’s ceremonial start March 5 shortened due to lack of snow. Spring kicked off with 6–11 in of snow on March 19, the biggest snow in urban Anchorage since March 2013.

YAKUTAT: Low water levels on the Situk River in April–early May forced cancellation of some steelhead sport fishing charters.

WRANGELL: Salmonberries were ripe at end of May, nearly two months earlier than is typical.

KLAWOCK: High temperature of 71°F on March 31 is the highest on record for Alaska for March.

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FORT ST-JOHN: Tied spring of 2015 for warmest spring on record, 2.5°C warmer than the normal of 3.0°C. On April 18, a vigorous cold front swept through the Peace Country, producing strong and dry winds. Wind caused rapid spread of several wildfires. On May 20, 20 cm of snow fell, setting a new daily record. Ironically, the snow was welcomed as it helped mitigate drought and forest fire conditions.

Spring 2016 was the warmest spring on record for Alaska, according to the National Centers for Environmental Information (NCEI) data since 1925. The average temperature for Alaska was 32°F, 8° warmer than the 20th century average and 2° warmer than the previous warmest spring (1998).
Spring is the driest season of the year over most of the northwestern North America. This spring brought near to significantly above normal precipitation across much of the region. The wettest areas, relative to normal, were generally in southern locations, a lingering impact of strong El Niño. There was also a belt of significantly above normal precipitation across inland areas, though total precipitation was not excessive. In contrast to winter 2015-16, only a few areas were significantly drier than normal.

Specific sites show total precipitation, in/mm, for the three months

“Wet / Dry” = within wettest/driest third of values compared to 1981–2010 reference period

Data and analyses are preliminary and subject to revision.

Temperatures were significantly above normal across all of Alaska, the Yukon, western Northwest Territories and northern British Columbia this spring. Numerous sites broke records for the warmest spring on record. The mild conditions were due to the strong El Niño and associated warm Pacific Ocean and unusually low sea ice coverage in the Bering Sea.


Data and analyses are preliminary and subject to revision.
Ice Concentration Comparison, May 31, 2015 vs 2016

Sea ice retreat patterns during the spring showed both similarities and big differences between this year (right) and 2015 (left). The seasonal sea ice maximum extent in the Bering Sea did not occur until the first days of April, but then melted rapidly. Nonetheless, by the end of May 2016 there was somewhat more remnant ice in the northern Bering Sea than the previous year. Meltout in the Chukchi Sea was, overall, similar to 2015, though with more open water farther north along the western North Slope coast at the end of this May compared to 2015. The big difference was in the Beaufort Sea, with large areas of open water beyond the shorefast ice this year, compared to much more extensive ice pack in the spring of 2015.

Rankings of Temperature Records:
A very warm spring across Alaska and Northwestern Canada

Ice melt in the southern Beaufort Sea is off to an early start in 2016. Historically (1981–2010), ice breakup in the southern Beaufort Sea begins in the first half of June. In 2016, breakup conditions began at the end of April. At the end of May 2016, ice extent in the Beaufort Sea was at a record low for this time of year. These conditions are not normally seen until the end of July or early August. This continues a trend of early breakup in the area, as observed in 2008, 2010–2012, and 2015.

Areas in red indicate below-normal ice concentration based on statistics between 1981 and 2010 (interpolated between May 15 and June 11). A large area of the southern Beaufort Sea was ice free as of June 6, 2016. (Source: ECCC)
What Effect Does El Niño/La Niña Have On Our Weather?

Sea surface temperatures over the Pacific Ocean play a significant role in characterizing temperatures over Alaska and western Canada. Given that our weather primarily arrives from the ocean, air masses passing over warmer than normal water will inherently be milder and produce milder than normal conditions. Such was the case this past spring.

The strength of sea surface temperature anomalies along the equatorial Pacific drives El Niño and the Southern Oscillation (ENSO). Temperatures in the El Niño reference region 3.4 have been anomalously warm since August 2014 and peaked this past winter to produce a record strong El Niño. This year’s incredibly mild winter and spring were a result of the warmer than normal waters. Conditions in the equatorial Pacific are finally transitioning back to near-normal or ENSO neutral conditions. Looking at long-term climate models, there is good consensus from both American and Canadian models that waters will continue to cool and that La Niña conditions will develop by this fall.

NOAA’s Climate Prediction Center is indicating a 75% chance that La Niña conditions will persist through the 2016-17 winter. La Niña is defined by five consecutive three-month periods with negative temperature anomalies of 0.5°C or more. It’s effects on weather over Alaska and western Canada are presented in the La Niña infographic.

Precipitation Outlook: Jul–Sep 2016

There is 33 to 40% chance of significantly wetter than normal conditions for northwest and western Alaska this summer. Meanwhile, for eastern Alaska and northwestern Canada, there is no clear signal indicated in the precipitation forecast. Summer time precipitation comes primarily from small scale convective clouds as oppose to large synoptic scale storms during fall and winter. Therefore, long term precipitation forecasts are challenging during the summer and have greater uncertainty than the ones for temperature.