MACKENZIE DELTA AND BEAUFORT COAST SPRING BREAKUP NEWSLETTER

Report 2020-18
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Current conditions

Much of yesterday’s imagery is masked by cloud but portions of the outer Mackenzie Delta, Kugmallit Bay, and southern Amundsen Gulf are visible. Due to the cloud cover, Shingle Point, along with much of the Yukon Coast, was not visible on multispectral imagery, but was captured on Sentinel 1 Synthetic Aperture Radar (SAR) imagery.

In the outer Mackenzie Delta, most lakes are ice-free. The larger and deeper delta lakes, along with the more northerly lakes in the vicinity of Taglu, remain ice-covered. Most lakes on Richards Island and those east of East Channel are also ice covered. The Mackenzie Bay ice bridge is largely obscured by cloud on the MODIS imagery but is visible and intact on yesterday’s Sentinel 1 SAR imagery.

On the Yukon Coast, the SAR imagery shows landfast ice remaining in place on both sides of Herschel Island. Open water off the Firth River can be seen reaching beyond Nunaluk Spit and is also expanding in Workboat Passage, between Herschel Island and the mainland. There is little change at Shingle Point, where ice remains in place behind and partly in front of the spit.

In Kugmallit Bay, open water along the west side of the bay extends well beyond the north coast of Hendrickson Island, to at least as far north as Crumbling Point on Summer Island. At Tuktoyaktuk, open water has reached the west coast of the community and extends north to a point off Topkak Point. Tuktoyaktuk Harbour remained covered by thin and rotting ice at the time of imaging yesterday. Just west of Tuktoyaktuk, some bays and lakes remain ice covered, but there is open water around Split Pingo and Ibyuk in the Pingo Canadian Landmark.

In southern Darnley Bay, turbid water extends well beyond the spits fronting both the Hornaday and Brock River Deltas. There is some clear open water immediately along the shore west of the hamlet of Paulatuk along with some open water at the entrance to the harbour, otherwise most ice surrounding the community remained in place at the time of image acquisition.

In the last report, two large fractures were visible across the mouth of Dolphin & Union Strait in Sunday’s imagery. One was opening up, the other further back had not yet opened. By Tuesday, when we still had a clear view (last page of this report), the ice had drifted away from both, still recognizable, but further broken up. We can also see that the ice edge in the mouth of Prince Albert Sound has been fraying, losing smaller (but still large) pieces. Ice is still in at Ulukhaktok.
The cloud obscured, outer delta yesterday (17 June 2020), Terra MODIS corrected reflectance “true colour” imagery (courtesy NASA Worldview).
Sentinel 1 SAR imagery (VV polarization) of the Yukon Coast yesterday (17 June 2020), showing the intact ‘bridge’ of landfast ice spanning Mackenzie Bay. SAR data courtesy of ESA and Copernicus Sentinel Hub.
Kugmallit Bay yesterday (17 June 2020) from Terra MODIS corrected reflectance, “true colour” imagery courtesy NASA Worldview.
Tuktoyaktuk yesterday, (17 June 2020) on Sentinel 2 “true colour” imagery courtesy of ESA and Copernicus Sentinel Hub.
A partly cloud obscured look at Franklin Bay and Darnley Bay yesterday, (17 June 2020) from Terra MODIS corrected reflectance, “true colour” imagery courtesy NASA Worldview.
A closer look at southern Darnley Bay yesterday, (17 June 2020) on Sentinel 2 "true colour" imagery courtesy of ESA and Copernicus Sentinel Hub
Overview of eastern Amundsen Gulf on Tuesday (16 June 2020), from Terra MODIS corrected reflectance, “true colour” imagery (courtesy NASA Worldview).