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## MACKENZIE DELTA AND BEAUFORT COAST SPRING BREAKUP NEWSLETTER

Report **2017-020**

June 26, 2017 at 19:00 UTC

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### Welcome to Breakup 2017

You may also want to check out the Mackenzie-Beaufort Breakup group on Facebook (<https://www.facebook.com/groups/1745524288993851/>).

This year, in addition to sharing the newsletter to our mailing list of >370 addresses, we are posting the newsletters on the CACCON (Circum-Arctic Coastal Communities Knowledge Network) website. You can find them at <https://www.caccon.org/mackenzie-beaufort-break-up-newsletter/>

Funding for our current breakup monitoring activity is from the Climate Change Geoscience Program of the Geological Survey of Canada, Natural Resources Canada.

Please let us know if you do not wish to receive these reports (contact info above) and we will take you off the list. For those of you living in the north, we welcome any observations of timing of events, extent of flooding, evidence of breakup, or anything out of the ordinary, and we thank you for all of the feedback received so far.

For those interested in conditions further south, we recommend that you contact Angus Pippy (Water Survey of Canada) in order to receive his very useful High Water Report: contact Angus at 867-669-4774 or [angus.pippy@ec.gc.ca](mailto:angus.pippy@ec.gc.ca).

Water level data presented in our newsletters are courtesy of Environment Canada (Water Survey of Canada) and are derived from their real-time hydrometric data website at [http://www.wateroffice.ec.gc.ca/index\\_e.html](http://www.wateroffice.ec.gc.ca/index_e.html), which we acknowledge with thanks. Particular thanks to colleagues in Inuvik for keeping so many of the delta gauges operating through the difficult breakup season. Weather reports and forecasts are also from Environment Canada (Meteorological Service of Canada) at <http://weather.gc.ca>. Ice road conditions are from the GNWT Department of Transportation road reports and travel alerts (@GNWT\_DOT). Daily MODIS imagery is courtesy of NASA Worldview at <https://worldview.earthdata.nasa.gov/>.

### ***Current conditions***

Today's marine forecast for the region includes strong wind warnings for the Mackenzie River from Tulita to Kittigazuit Bay. In the delta, a few showers are forecast for Inuvik and Aklavik with high temperatures of 11°C and winds N 20km/h gusting to 40 km/h. Tuktoyaktuk has a chance of showers, a high of 10°C and wind N 30 km/h gusting to 50 km/h. Paulatuk a mix of sun and cloud with a high of 16°C. Sachs Harbour has a high of 13°C, a sun/cloud mix and SW 20 km/h wind becoming NW 20km/h this afternoon. Ulukhaktok has sun, a high of 17°C and wind SE 40km/h gusting to 60.

An update from Noel Gordon indicates that Yaya Lakes are now completely ice free. Thanks for the information Noel.

### ***Satellite imagery***

A regional MODIS image from June 25 (Figure 1) shows the breakup of remaining ice off the northern portion of the Mackenzie Delta and Richards Island. Kugmallit Bay is now completely open and the Tuktoyaktuk Peninsula is now primarily clear of ice to beyond Mckinley Bay, while the remaining ice around Cape Dalhousie is broken. The ice across the mouth of Liverpool Bay is now broken with open water along both its Cape Dalhousie and Ballie Island coasts.

Along the Yukon Coast, ice is moving out of Herschel Basin between Herschel Island and Kay Point (Figure 2). Some ice remains in Workboat Passage and along the coast west of Komakuk (extreme NW of image – Figure 2). Also, a narrow band of ice remains along the NW Herschel Island coast.

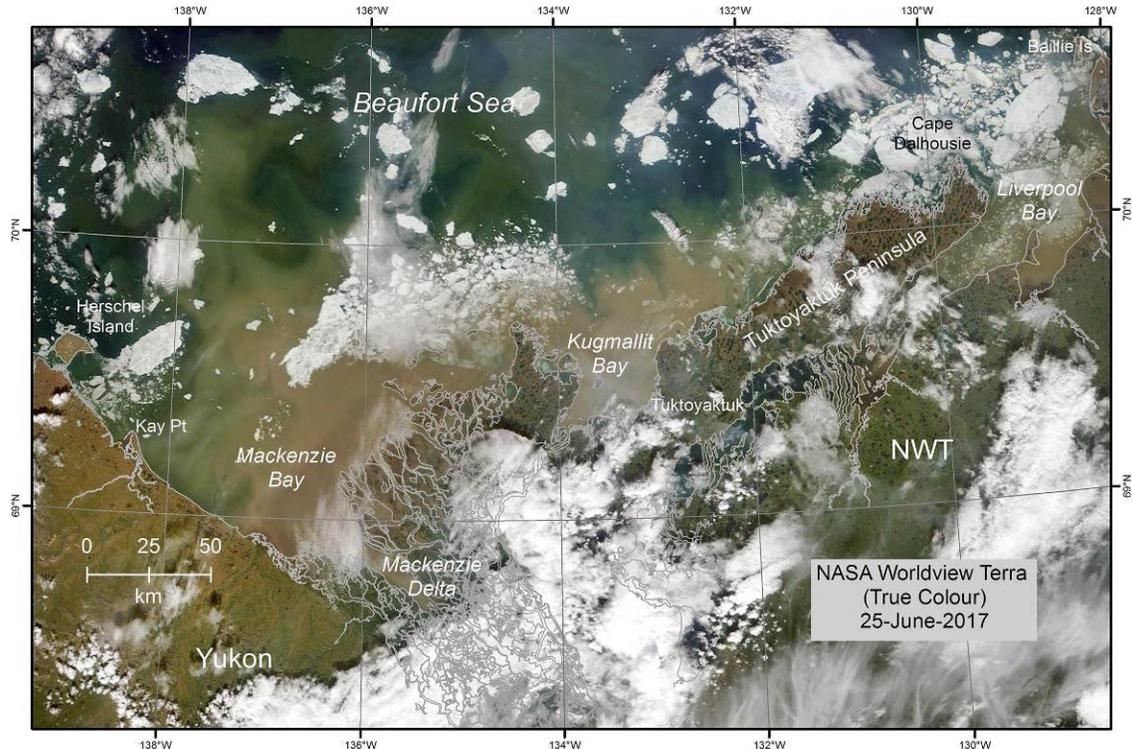


Figure 1. NASA Worldview Corrected Reflectance from the Terra satellite for 25 June 2017, showing the mainland coast west of Herschel Island to Liverpool Bay.

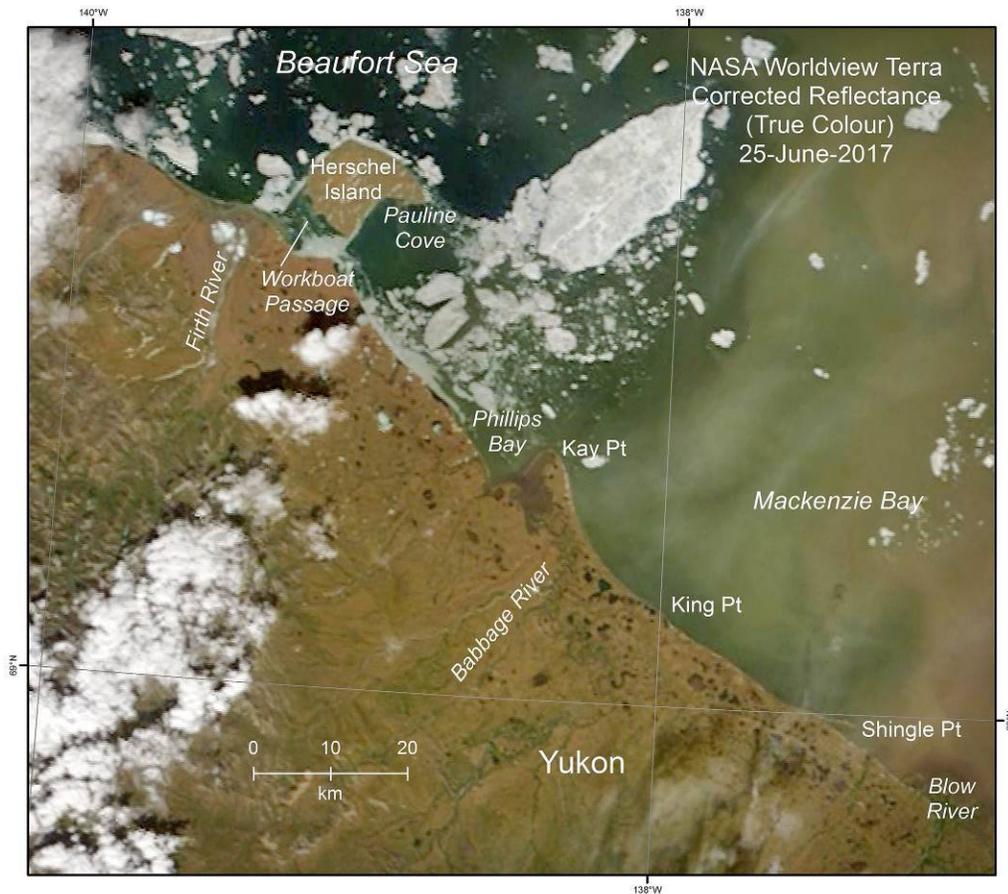


Figure 2. NASA Worldview Corrected Reflectance from the Terra satellite for 25 June 2017, showing the Yukon Coast from west of Herschel Island to the Blow River Delta.

In Amundsen Gulf imagery (Figure 3), we see that the harbour at Sachs Harbour is now clear and although landfast ice remains in place west of Banks Island, there is open water along the coast at Big River, Lennie Harbour, and Blue Fox Harbour (N to S). Ice continues to break in Dolphin and Union Strait and the ice at the mouths of Minto Inlet and Prince Albert Sound is visibly fractured. Local ice remains at Ulukhaktok (Figure 3). Ice is also clearing from both Franklin and Darnley Bays (Figures 3 and 4) with some residual, but shrinking ice remaining in Franklin. The inner half of Darnley Bay is mostly clear with primarily small floes remaining in the outer portion of the Bay. Landfast ice remains in place around Cape Perry (Figure 4).

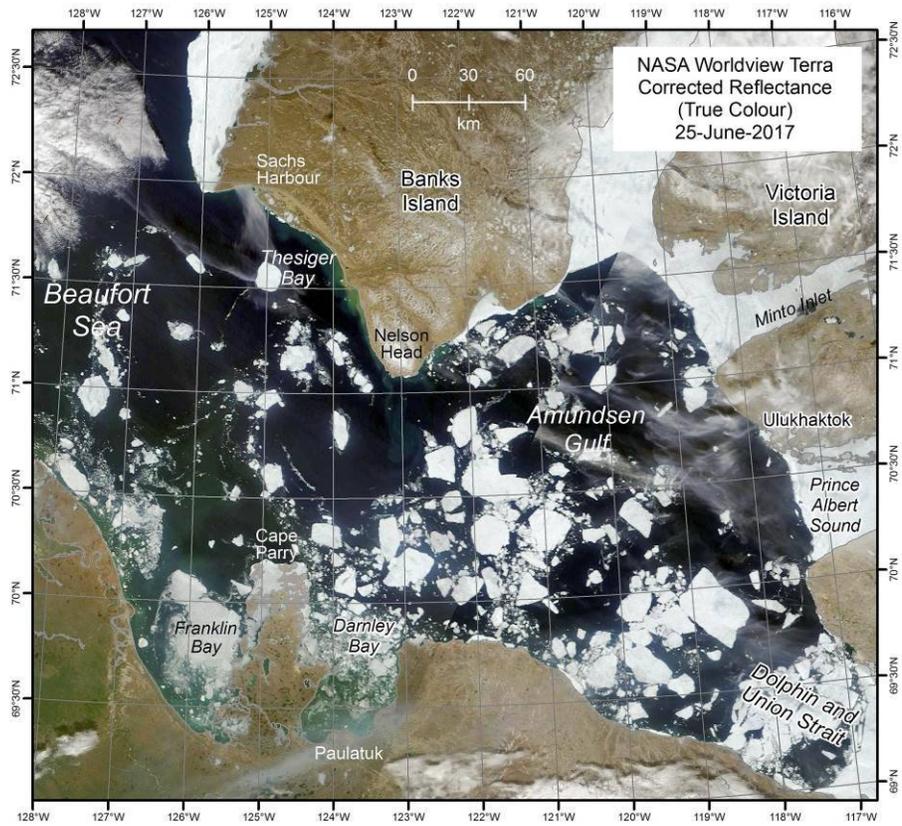


Figure 3. NASA Worldview Corrected Reflectance from the Terra satellite. Showing Amundsen Gulf on 25 June 2017.

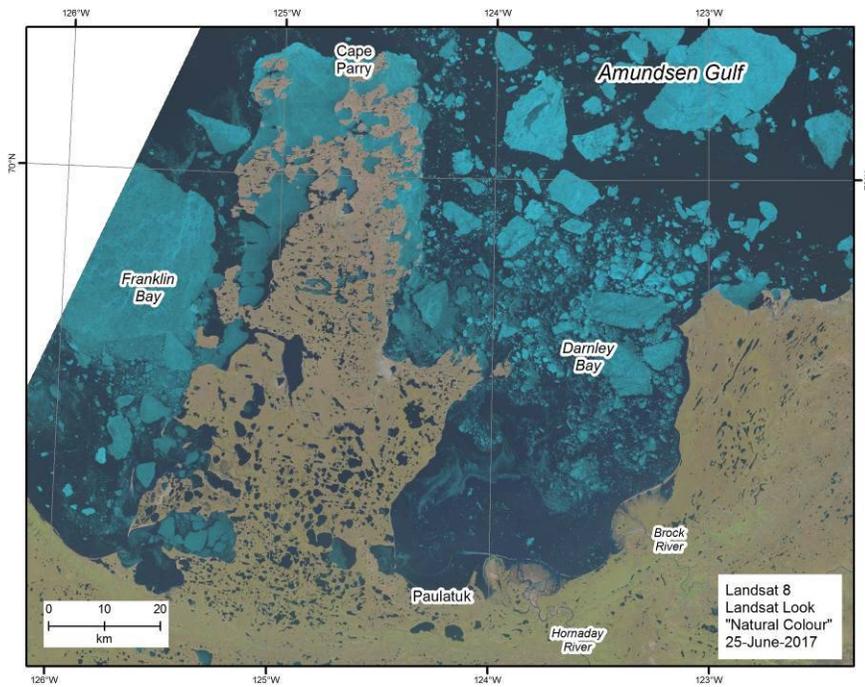


Figure 4. Landsat 8 imagery from 25 June 2017 showing ice conditions in Darnley and Franklin Bays. Landsat 8 data available from the US Geological Survey.