

Sea Ice Summary Barrow – Spring (April-June) 2008

Spring temperatures were mostly in the normal range. In April and May two major snowfall episodes more than doubled the comparatively thin snow cover on sea ice. On the tundra, snowfall had been roughly twice as high as normal, but most of that snow fell before the first sea ice had formed. Snow melt proceeded very rapidly, with complete removal of snow on or before the normal date in early June.

Ice thickness surveys and ice coring showed that thick ice, roughly 12 feet thick and 5-7 years old, had drifted from the high Canadian Arctic to within 70 miles north of Barrow by early April. South of this old ice, thin (roughly 1 foot thick) first-year ice prevailed over large areas. At Barrow, level shorefast ice thicknesses in early April were at the low end of the normal range (4 to 5 feet), despite very late landfast ice formation in the fall (last week of December). Recovery from late ice formation was helped along by well-below normal snow depth (less than 4 inches) into early April. Local ice observers and thickness surveys indicate a near-complete lack of grounded ridges and absence of multiyear ice inshore. As a result, the landfast ice was unstable in some places.

In early to mid-May, fresh insulating snow along with warm coastal currents helped to melt the landfast ice from beneath along many of the ice trails used for whaling south of NARL, causing many of the whaling crews to shift their efforts to the trails north of NARL (See the Barrow ice trail map at www.sizonet.org/barrowicetrails). Whaling ceased by the last week of May, at least in part as a result of lack of stable ice (reported by local ice experts and evident from ice thickness surveys) at the landfast ice edge.

Surface melt started with rain on May 24 and then proceeded in leaps and bounds with episodes of snowfall and freeze-back. Lack of grounded ridges resulted in repeated loss of landfast ice at its outer edge, with a significant breakout on June 27. On July 2, level ice had melted all the way through in larger stretches alongshore near town.

The presence of thick ice likely helped keep ice around town into July, whereas the ice edge was further north than normal by July in the Beaufort Sea. This old ice will likely survive further into the melt season and provide a platform for walrus and other animals, but can also present a hazard to coastal boat and ship traffic.

Sea ice summary provided as a service of the University of Alaska Fairbanks (SIZONet Project), with support from the National Science Foundation and input from Alaska Ocean Observing System, Alaska Climate Research Center and local Barrow sea-ice observers. Contact: Hajo Eicken (e-mail: hajo.eicken@gi.alaska.edu, phone: 907-474-7280). For more information visit <http://ak.aos.org/barrow> or <http://www.sizonet.org>.



UAF is an AA/EEO employer and educational institution.

