

## **SEARCH Regional Sea Ice Outlook 2010 August Update**

### **Region of Interest: Western Parry Channel region of the Northwest Passage**

By: Stephen Howell ([Stephen.Howell@ec.gc.ca](mailto:Stephen.Howell@ec.gc.ca)) and Tom Agnew ([Tom.Agnew@ec.gc.ca](mailto:Tom.Agnew@ec.gc.ca))

Climate Research Division, Environment Canada

#### Update:

At the end of the first week of August, sea ice conditions within the Western Parry Channel region of the Northwest Passage are extremely light with sea ice mostly present at the mouth of the M'Clure Strait and in central Viscount-Melville Sound (Figure 1). Sea ice conditions in the Western Parry Channel are well below the historical 1968-2000 climatology and at least a month ahead of the clearing year of 2007 (Figure 2). These extremely low ice conditions reflect preconditioning of the ice cover due to record warm spring temperatures for the Western Canadian Arctic (Figure 3). As the mean temperature departures map shows, some Arctic areas are more than 6°C above normal, the warmest spring in the Western Canadian Arctic since 1948. These extremely warm conditions produced very early breakup in the M'Clure Strait region which was almost entirely all open water by the first week of June. As the September minimum approaches, complete clearing of the Western Parry Channel in 2010 will now hinge on a sea level pressure pattern that advects the remainder of sea ice out of the entrance to the M'Clure Strait and also prevents the southward flushing of multi-year ice from the Queen Elizabeth Islands

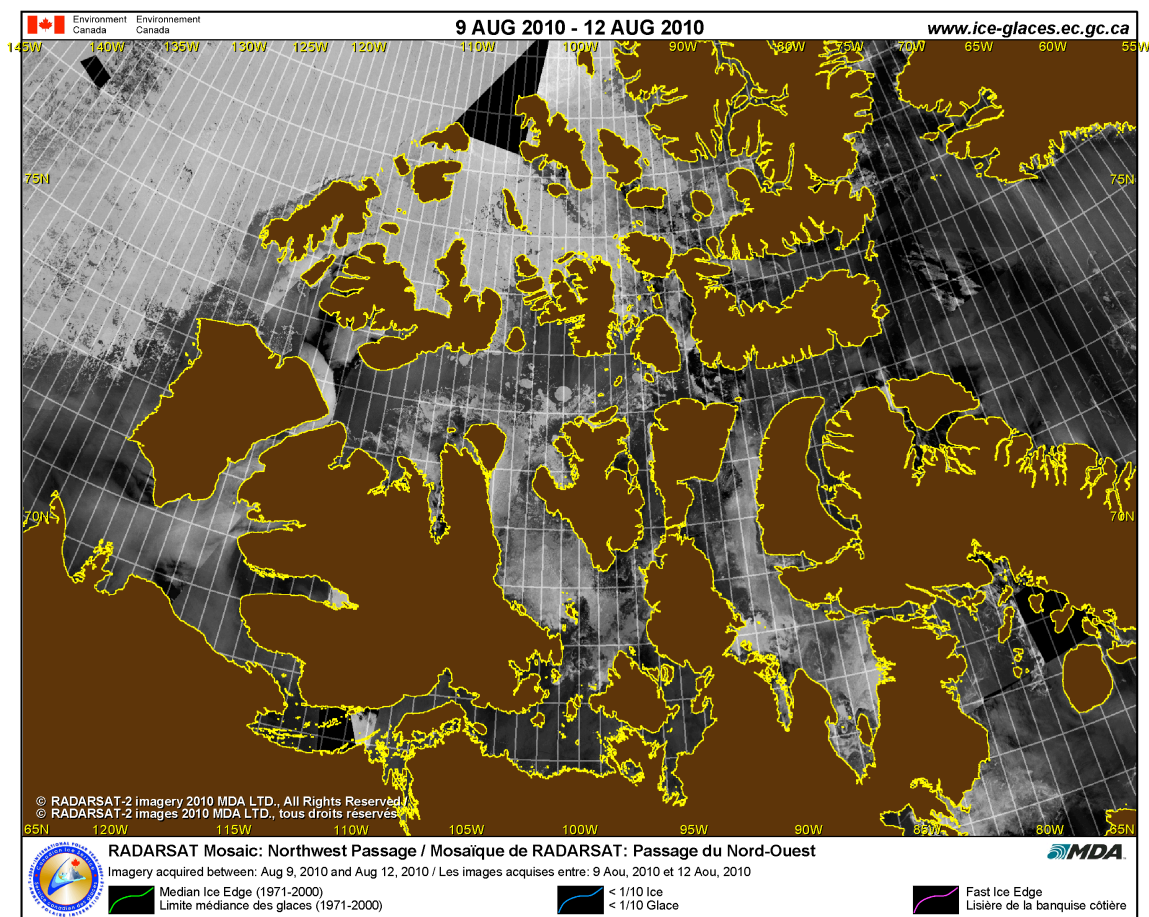


Figure 1. RADARSAT-2 composite mosaic of the Northwest Passage. Imagery acquired between August 9, 2010 and August 12, 2010.

### Sea Ice Area in the Western Parry Channel Region of the Northwest Passage

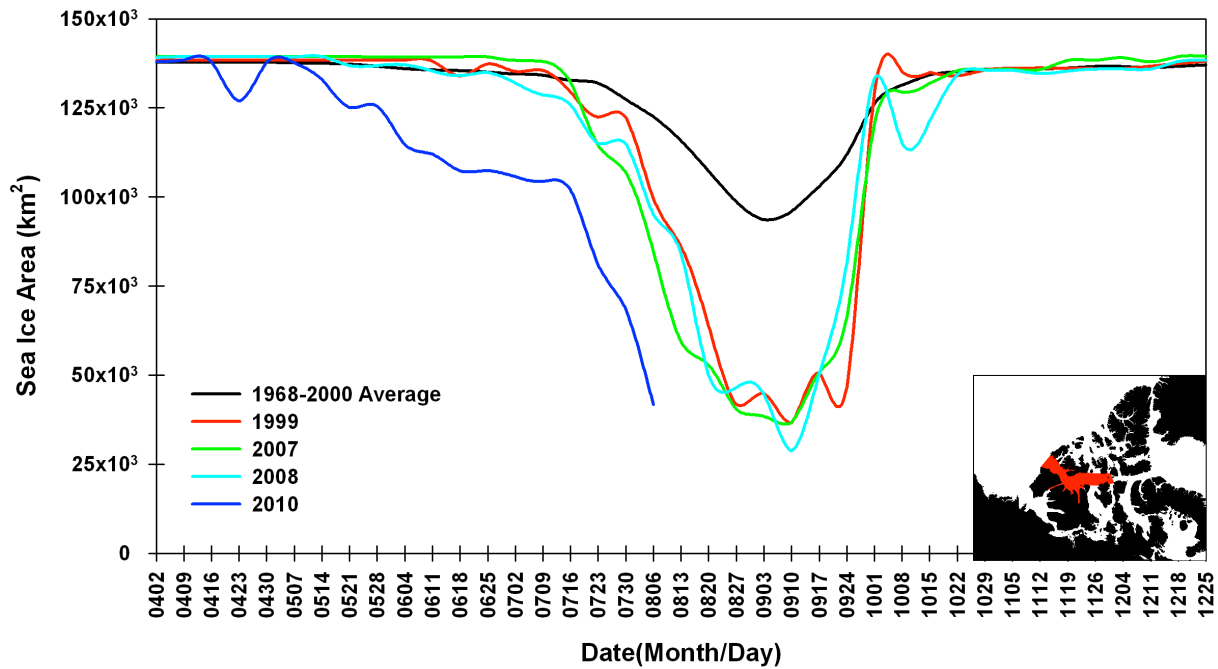


Figure 2. The graph shows the weekly sea ice area in the northern route of Northwest Passage as of August 9, 2010. The blue line indicates 2010; the green line indicates 2007; the cyan line indicates 2008; the red line indicates 1999, and the black line indicates average area from 1968-2000. The data is from the Canadian Ice Service (Environment Canada).

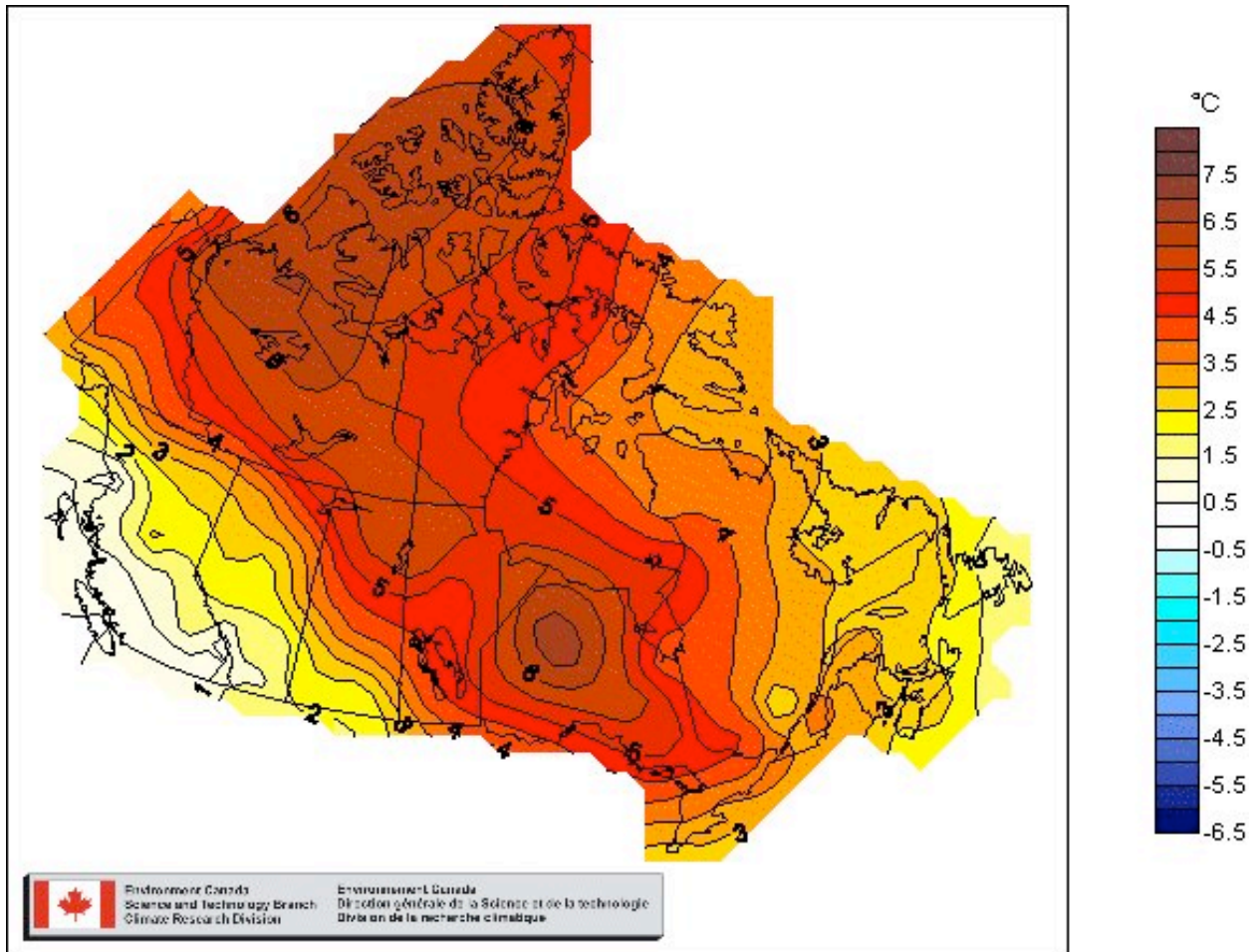


Figure 3. 2010 spring (April, May, June) surface temperature anomalies over Canada compared to the 1970-1999 average. Temperatures in the western Canadian Arctic were the warmest since records began in 1948.