

Western Arctic

At the end of May the ice situation in the western Arctic was near normal except in southeastern Beaufort Sea and western Amundsen Gulf areas where large areas of open water had already developed. Areas of open water had also developed along the Alaskan coast southwest of Point Barrow which is not normally the case so early into the melting season.

June 2005

Winds were generally light to moderate easterly over the Beaufort Sea area during June. East of Amundsen Gulf light and variable winds were generally reported during the first half of June but increasing to moderate northwesterly during the second half. (Figure 29, page 25). Temperatures were in general close to normal (Table 3, page 20).

The lead along the Alaskan coast west of Point Barrow persisted throughout the month but did narrow somewhat late in the month. The open water area in southeast Beaufort Sea did expand slightly during June. The Mackenzie Delta and Kugmalit Bay fractured and then melted during the third week in June which is near normal events. Franklin Bay and Darnley Bay also fractured near their normal date that is to say during the last week in June. At that time the consolidated ice along the Tuktoyaktuk Peninsula started to fracture.

Ice conditions and the departure from normal ice concentration chart, at mid-June, are shown on page 21, figure 21 and 22 respectively.

July 2005

A Light and variable flow prevailed over the area during the first half of July. The second half of the month was characterized by a moderate northwesterly flow except for a moderate southeasterly flow over the western section of the Beaufort Sea (Figure 30, page 25). As a consequence temperatures were in general below normal over all areas (Table 3, page 20).

The consolidated ice in eastern Amundsen Gulf fractured by the end of the first week of July which is close to two weeks later than normal. The rest of the consolidated ice along the Tuktoyaktuk Peninsula fractured within a week into July and melted by mid-month. However the prevailing northwesterly winds during the second half of July caused loose ice to drift from the main pack towards the Tuktoyaktuk Peninsula and as a result the open water route from Mackenzie Bay to Cape Bathurst was yet to be established at the end of July. The ice west of Mackenzie Bay to Barter Island gradually melted during the period but the coastal area further west to Point Barrow remained ice covered. The open water route along the coast southwest of point Barrow persisted throughout July.

The Waterways fractured by mid-July which is normal and most of the ice in its eastern section had melted by month's end. Parts of Queen Maud Gulf fractured early in the second week of July but the section of the gulf with the highest concentration of old ice

fractured only during the last week which is week or so later than normal. Dolphin and Union Strait which is normally open water was still covered with very close pack first year ice at the end of July. At that time Larsen Sound and Peel Sound were still consolidated which is normally the case.

Ice conditions and the departure from normal ice concentration chart, at mid-July, can be seen on page 22, figure 23 and 24 respectively.

August 2005

A return to near normal temperatures was reported over the western Arctic area in August (Table 3, page 20). Winds were generally light to moderate and variable over all areas. (Figure 31, page 26).

In early August an open water route from Mackenzie Bay to Cape Bathurst established itself. However as the main pack of old slowly edged southward, loose ice was back to the Tuktoyaktuk Peninsula coast by the last week of the month. The ice along the Alaskan coast west of Barter Island melted at a slower pace than normal and as a result an area of close pack first year ice was still lying in the Approaches to Prudhoe Bay at the end of August. At that time the main pack was somewhat closer from the shore than normal.

More old ice than normal and slightly colder than normal temperatures delayed the fracture in Peel Sound and Larsen Sound by about two weeks. The fractures in those areas occurred during the second week in August. Queen Maud Gulf and Rasmussen Basin melted at a slower pace than normal and became mainly open water in late August, close to two weeks later than normal. Some ice lingered in Dolphin and Union strait and in extreme Coronation Gulf until the last week of August which is significantly later than normal. Amundsen Gulf was generally open water in August except for occasional intrusions of old ice into its western section.

Ice conditions and the departure from normal ice concentration chart, at mid-August, can be seen on page 23, figure 25 and 26 respectively.

September 2005

Slightly below normal temperatures were reported over the western Arctic area (Table 3, page 20). Winds were generally light and variable during the first half of September but moderate occasionally strong over the Beaufort Sea during the second half. Light to moderate northerly flow generally prevailed east of the waterways during the last two weeks of September. (Figure 32, page 26).

Most of the first year and old ice in Peel Sound melted during the first half of September. Larsen Sound remained covered with old and first year ice throughout September except for the northern section which, by mid-September, was mostly open water. However new ice developed rapidly during the third week of the month in Peel

Sound and in northern Larsen Sound. Queen Maud Gulf remained open water for the first half of September but prevailing northerly winds during the second half resulted in a significant amount of old ice drifting into the northwestern section of the Gulf. Ice free or open water persisted in the Waterways and eastern Amundsen Gulf but areas of loose ice continued to intrude in the western section of the gulf. The loose ice areas which were found close to the Tuktoyaktuk Peninsula coast and along parts of the Alaskan coast melted during the first half of September. At the end of September the main ice pack along the Alaskan coast was farther offshore than normal. At that time new ice was starting to develop along the ice edge in Beaufort Sea. The start of the freeze up in the western Arctic occurred near its normal date.

Ice conditions and the departure from normal ice concentration chart, at mid-September, can be seen on page 24, figure 27 and 28 respectively.

Table 3: Temperatures and departures from normal (°C)

Stations	June		July		August		September	
	Temp.	Depart.	Temp.	Depart.	Temp.	Depart.	Temp.	Depart.
Gjoa Haven	0.7	-0.8	6.1	-1.4	6.5	0.9	-1.0	-0.7
Cambridge Bay	2.8	0.6	7.0	-1.1	7.7	1.5	-0.7	-0.1
Kugluktuk	5.2	0.3	8.5	-1.9	8.7	0.1	1.5	-1.1
Tuktoyaktuk	5.4	-0.8	7.6	-3.4	8.7	-0.4	2.7	0.0
Point Barrow	1.1	-1.2	4.0	-0.3	5.9	2.8	0.9	1.6

Figure 19: Temperature trend at Tuktoyaktuk, June – September 2005

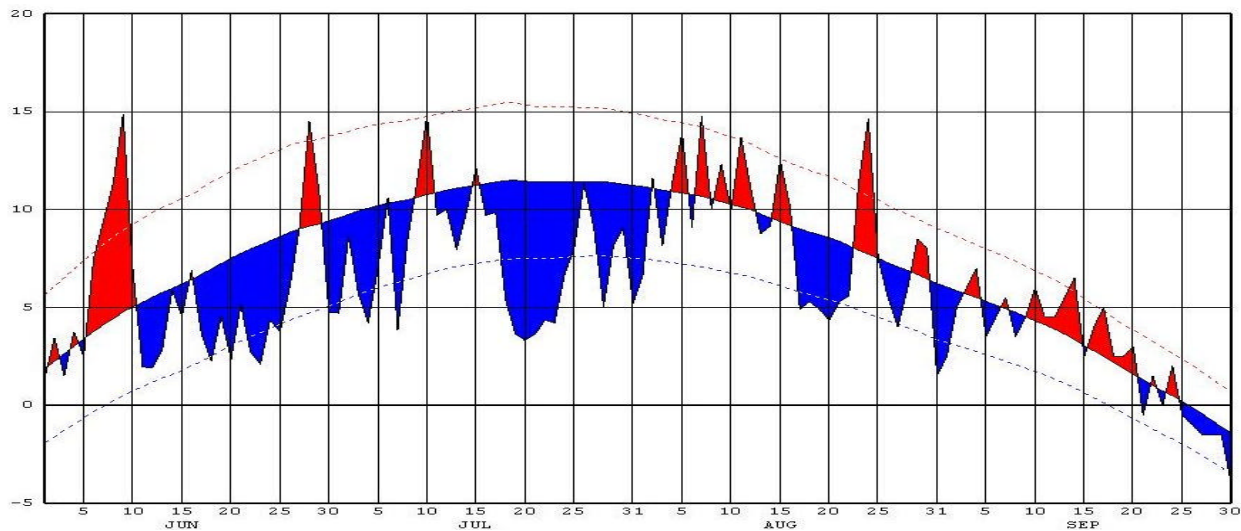


Figure 20: Temperature trend at Cambridge Bay, June – September 2005

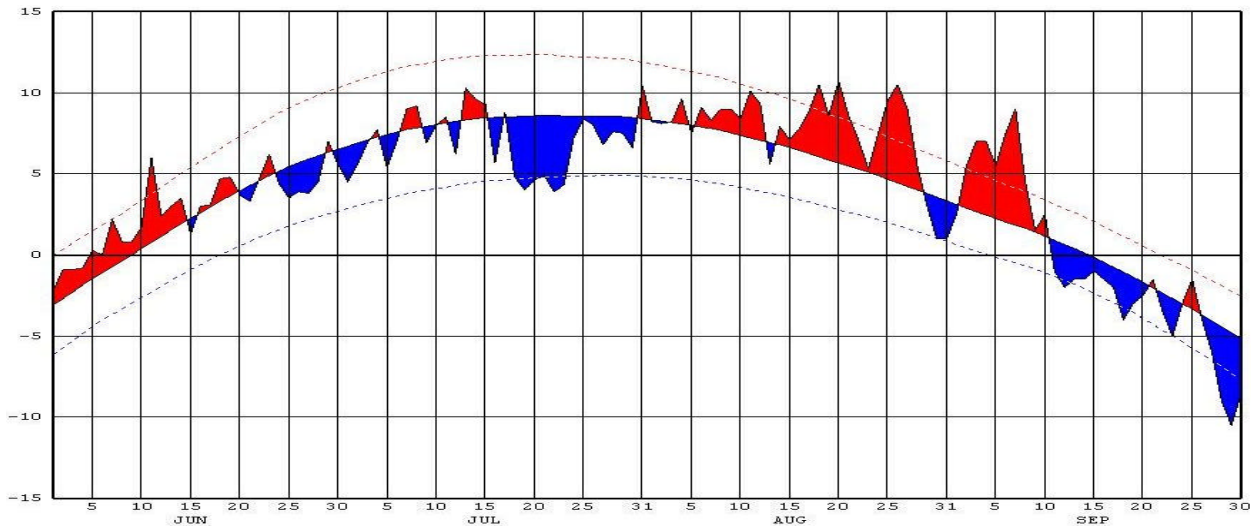


Figure 21: Western Arctic regional chart - 13 June 2005

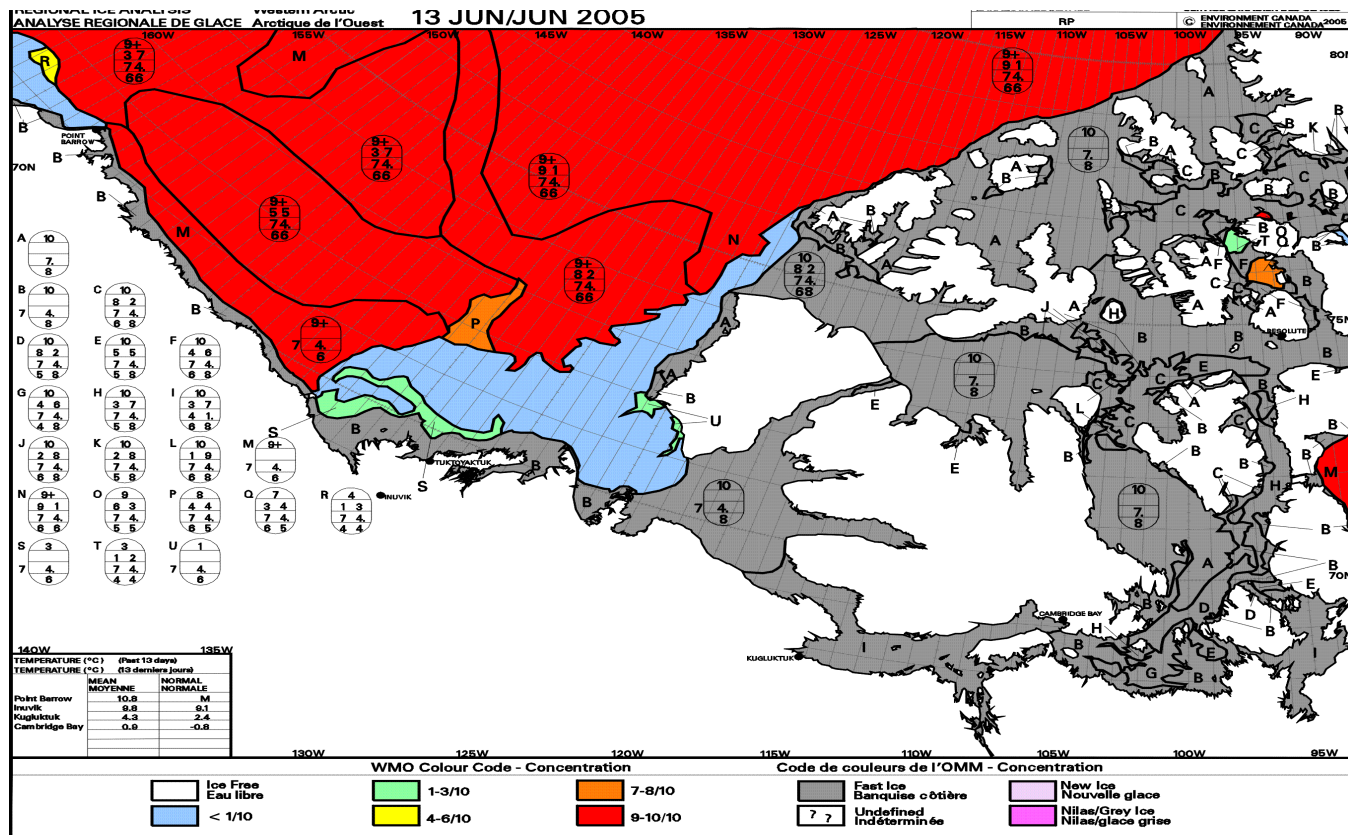


Figure 22: Departure from normal ice concentration, western Arctic – 13 June 2005

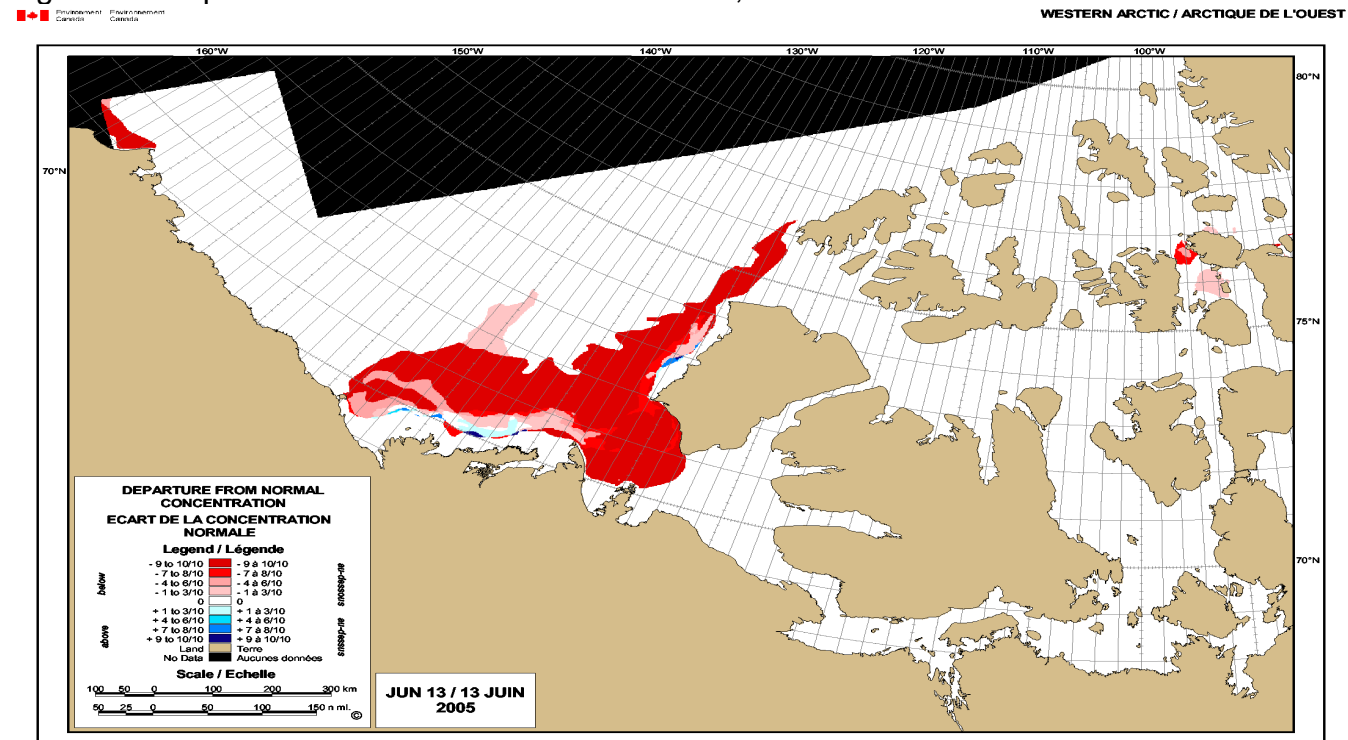


Figure 23: Western Arctic regional – 18 July 2005

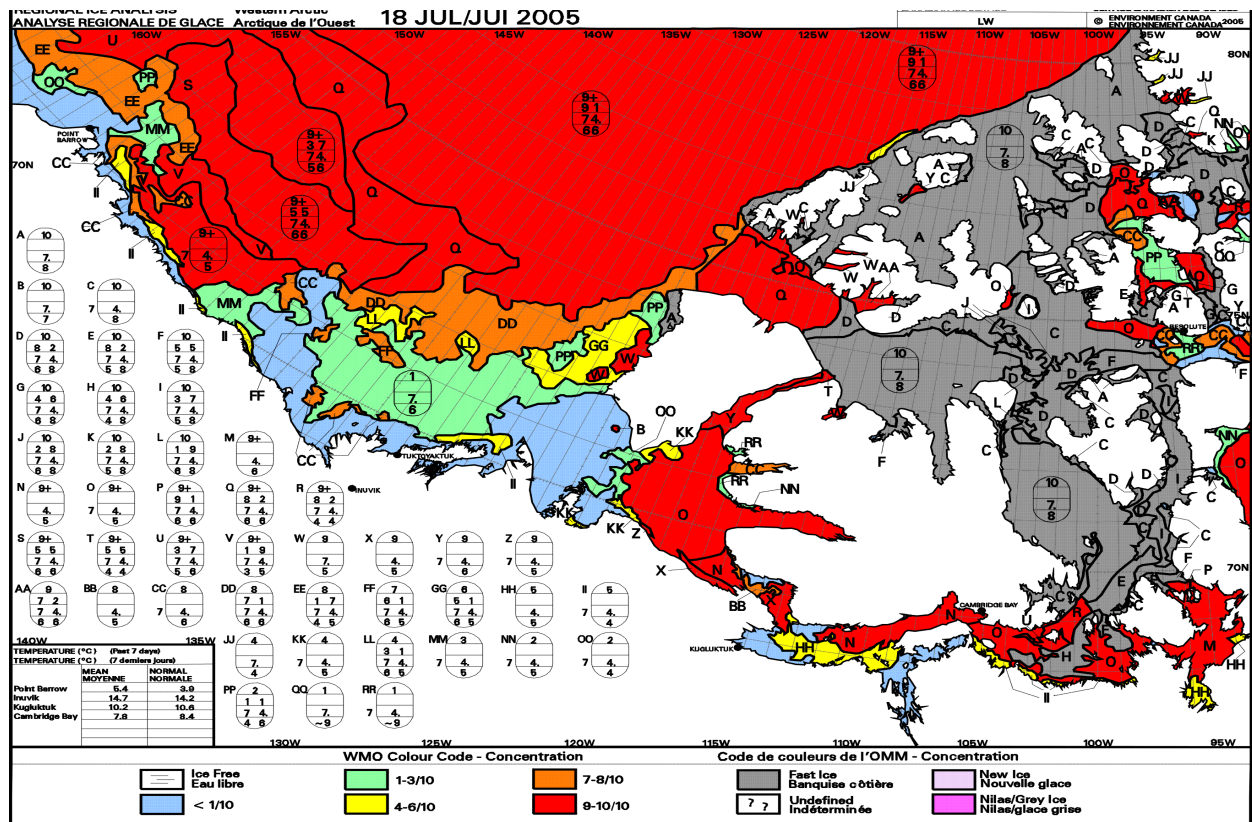


Figure 24: Departure from normal ice concentration, Western Arctic – 18 July 2005

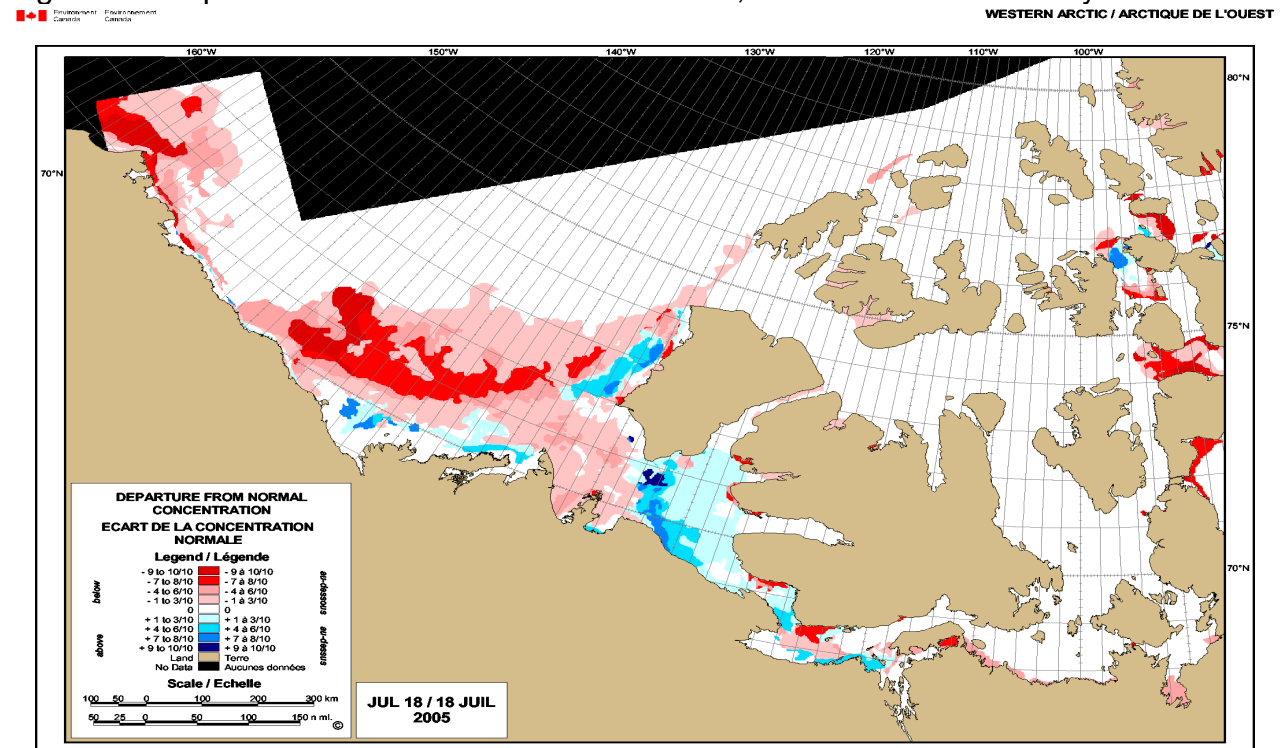


Figure 25: Western Arctic regional chart – 15 August 2005

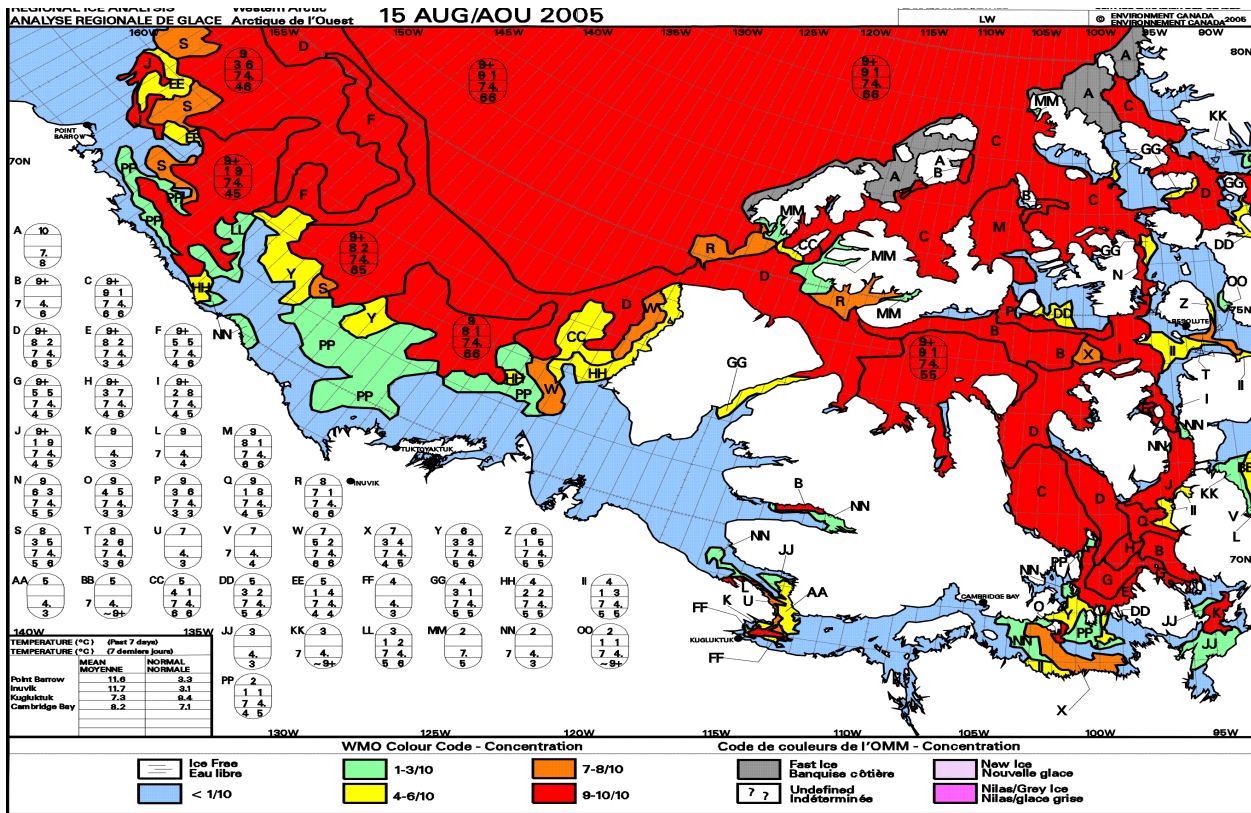


Figure 26: Departure from normal ice concentration, Western Arctic – 15 August 2005

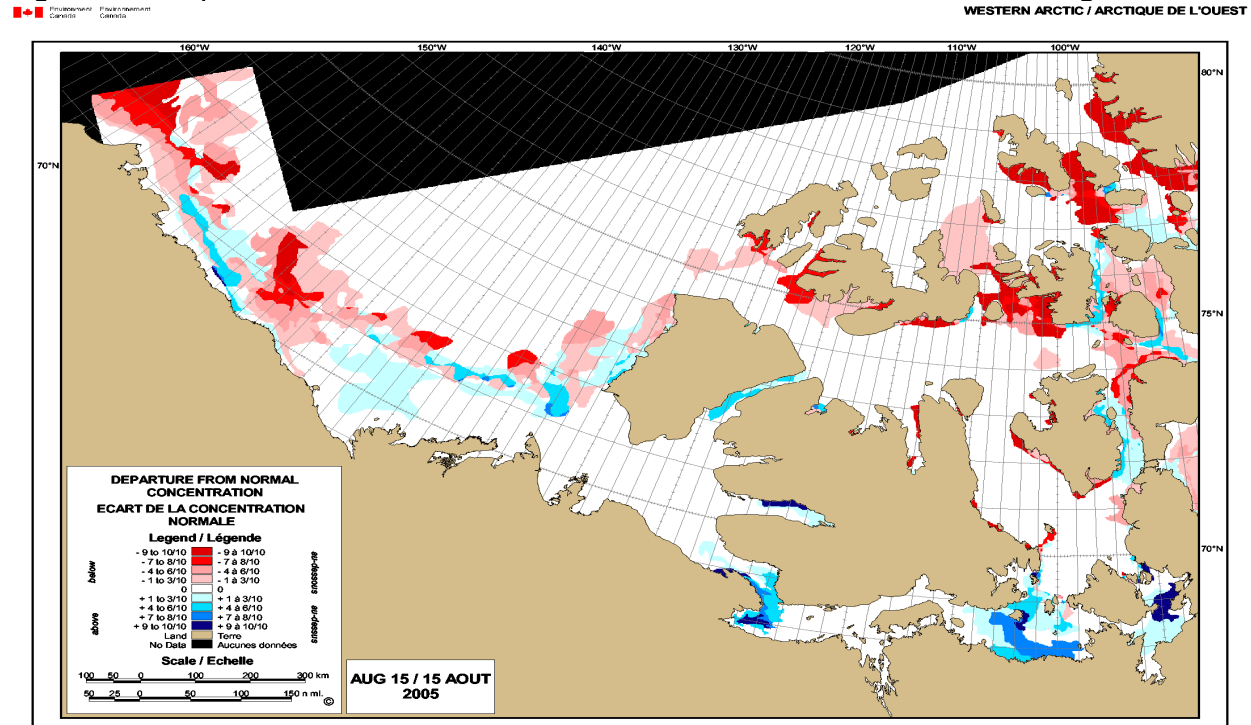


Figure 27: Western Arctic regional chart – 19 September 2005

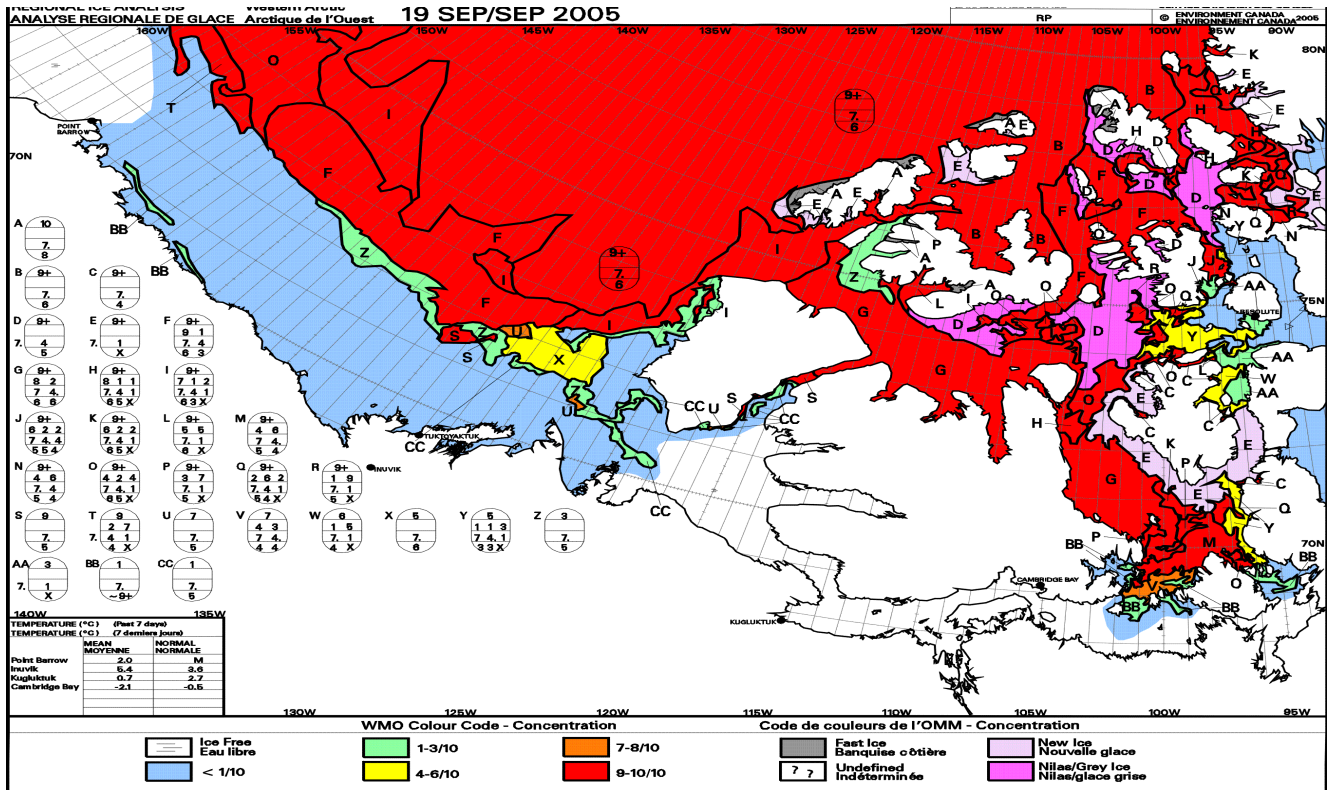


Figure 28: Departure from normal ice concentration Western Arctic–19 September 2005

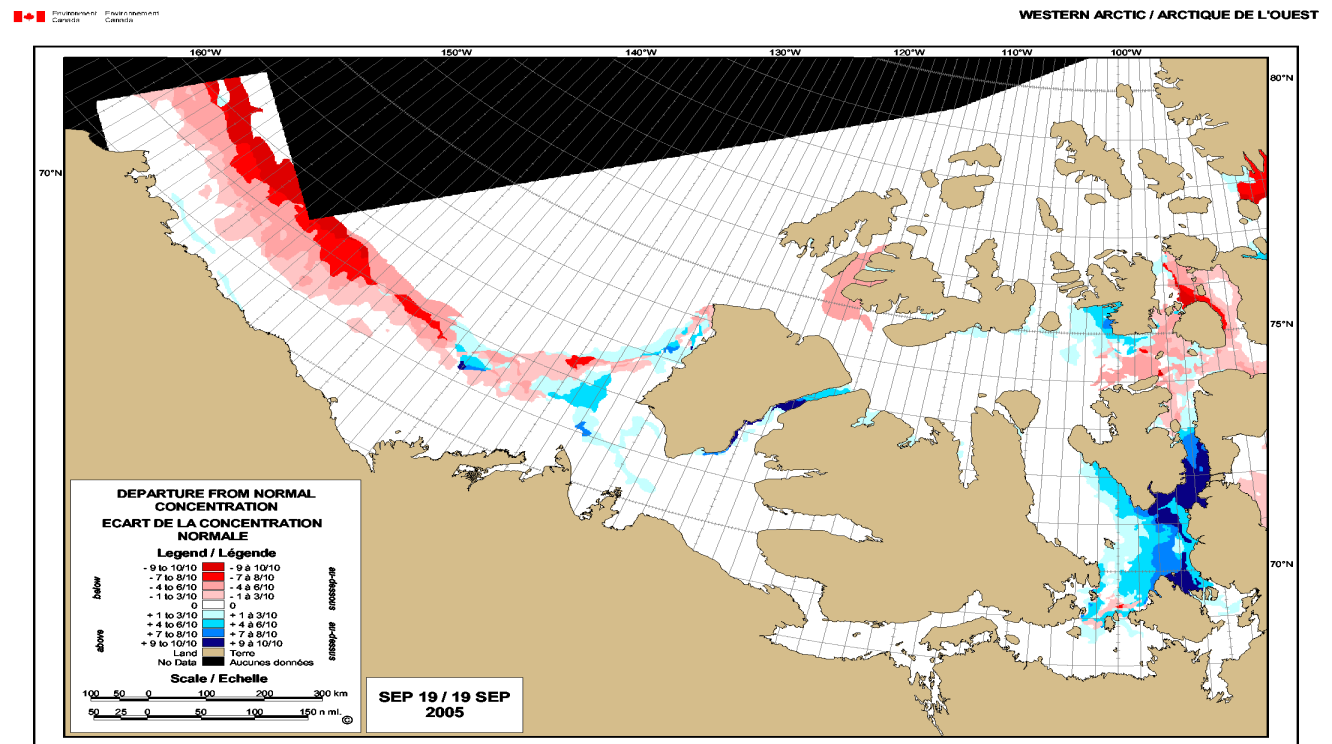


Figure 29: 1000 mb pattern for June 1-15 and 16-30

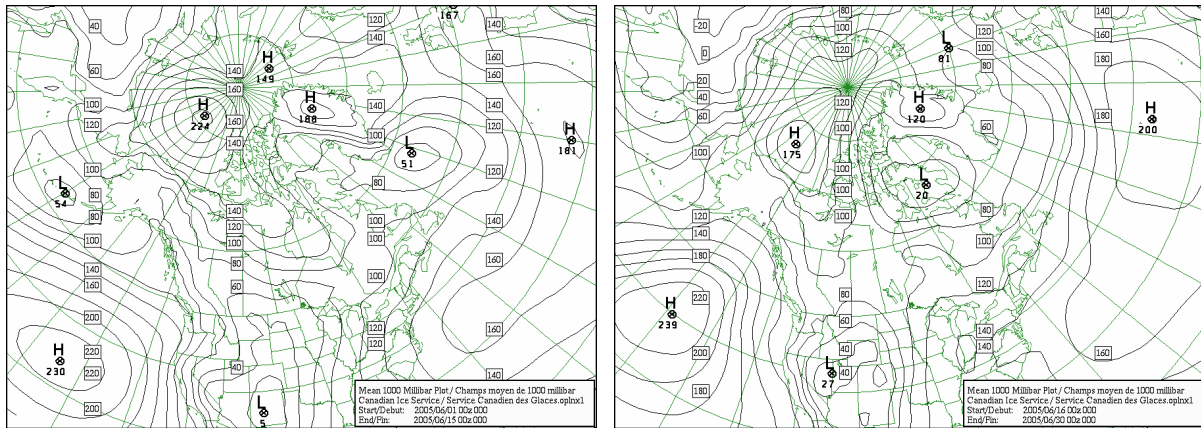


Figure 30: 1000 mb pattern for July 1-5 and July 16-31

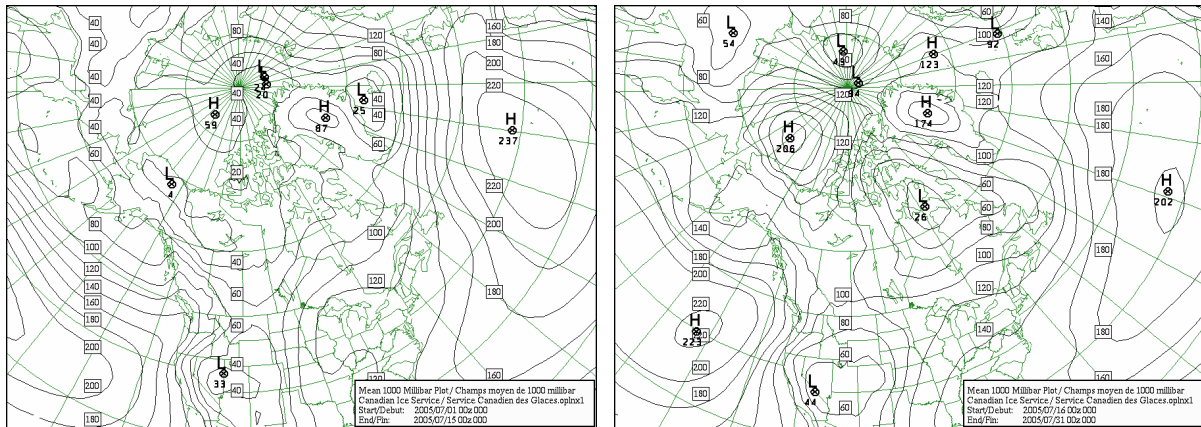


Figure 31: 1000 mb pattern for August 1-15 and 16-31

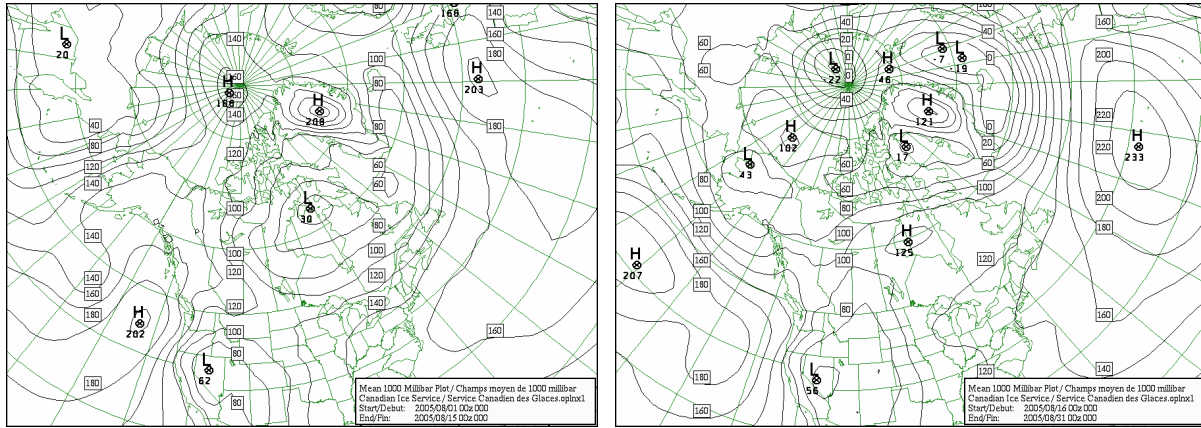


Figure 32: 1000 mb pattern for September 1-15 and 16-30

