Seasonal Summary

for the Canadian Arctic

Summer 2008

Produced by the Canadian Ice Service
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Hudson and Foxe

Mean air temperatures were above normal values over most locations during the month of May except near normal values over southwestern Hudson Bay. As a result, ice conditions at the end of May were 1 to 2 weeks earlier than normal everywhere except near normal over southwestern Hudson Bay; this meant much less ice concentration along the Labrador Coast as well as along the eastern, northern and northwestern portions of Hudson Bay. Many regions of Foxe Basin already showed small areas of open water.

June 2008

Normal temperatures prevailed over most east coast locations during the month of June except for above normal temperatures over Hudson Bay, Hudson Strait and Foxe Basin as indicated in Table 1. Light to moderate southeasterly winds dominated along the east coast regions while light and variable winds prevailed over Hudson Bay and Foxe Basin as indicated in Figure 31. As a result, ice melted at a moderate pace along most coastal areas.

At the beginning of June, the moderate southeasterly winds pushed the ice northward along the Labrador Coast and created a large ice concentration anomaly in the area. The ice in Goose Bay had already melted. Further north, the ice moved into Frobisher Bay giving rise to more ice than normal in that region. Meanwhile, in Hudson Strait, several opening were showing along the southern shore; this situation was quite unusual since historically, the ice clears from the northern shore first. Over Hudson Bay, the eastern, northern and northwestern sectors were all subjected to rapid melt. In Foxe Basin, several unusual thaw holes also developed. With the ice melting rapidly during the month, ice concentrations decrease significantly over most areas. During the later part of June, moderate easterly winds in the eastern half of the region reinforced the earlier anomaly. Along the Labrador Coast, much of the ice was gone while Frobisher Bay was still having problem clearing the ice under persisting onshore winds. In Hudson Strait, the ice concentrations were looser in the southern half of the strait and tighter in the northern half. Over Hudson Bay, an unusual open water route developed quickly along the eastern shore while the pack ice remained in the southwestern section of the bay. Several large opening were also showing in the northwestern portion of the bay. The Foxe Basin situation was similar with lower ice concentrations in the eastern sectors and higher ice concentration in the western region. During the month, the old ice had continued to move southward and lied in the entrance of Hudson Strait around mid-June; a trace of old ice did move into the eastern portion of the strait but remained east of 70°W. Concentrations of 2 to 3 tenths of old ice were present along eastern Baffin Island but mainly north of 63°N. At the end of June the breakup pattern was 1 to 2 weeks ahead of normal south of 62°N and showed many areas 1 to 2 weeks behind normal further north. The breakup pattern resembled very much the earlier trend seen early in the month and near mid month.

Ice conditions as well as departure from normal ice concentration for mid-June are shown in Figure 3 and Figure 4, respectively.

July 2008

Above normal temperatures persisted over all locations during the month of July except for normal temperatures over southern James Bay and northern Foxe Basin as indicated in Table 1. During the first half of the month, moderate east to southeasterly winds dominated the north Labrador Coast and Hudson Strait, while moderate northeasterly winds prevailed over Hudson Bay and Foxe Basin. During the last two weeks of July, a light cyclonic circulation prevailed along the east coast while light anti-cyclonic winds persisted over Hudson Bay as seen in Figure 32.

During the first two weeks of July, the prevailing winds continued to clear the northern and eastern portion of Hudson Bay while maintaining more ice than normal in the southwestern portion of the bay. These winds also helped the development of leads along the eastern shore of Foxe Basin and maintained more ice than normal in the western half of the basin. Similarly, prevailing easterly winds in Hudson Strait helped keep the ice in the northern half of the strait and favored a bergy water corridor in the southern half. Along the east coast of Baffin Island, easterly winds pushed the ice into Frobisher Bay and Cumberland Sound; this created abnormal ice situations in those areas and drove some old ice into Frobisher Bay and Cumberland Sound. With the wind pattern shifting direction during the last half of July, warm southwesterly winds helped melt the pack ice in the southwestern portion of Hudson Bay and loosen the ice in the western portion of Foxe Basin. Prevailing northerly winds in Hudson Strait spread the ice across the strait delaying slightly the open water route to Churchill. The ice continued to melt along the east coast of Baffin Island despite the fact that more ice was seen compared to normal in many bays. By the end of July, the ice had cleared from most of Frobisher Bay and all of Hudson Strait but heavier ice concentrations than normal persisted in southwestern Hudson Bay and Cumberland Sound. These unusual conditions did not affect normal traffic into Churchill.

Ice conditions as well as departure from normal ice concentration for mid-July are shown in Figure 5 and Figure 6, respectively.

August 2008

Near normal temperatures persisted over most locations during the month of August except for above normal temperatures along the southern and eastern coast of Hudson Bay and southern shore of Hudson Strait as indicated in Table 1. Light and variable wind conditions prevailed over the entire region and can be seen in Figure 33.

The remaining ice in Frobisher Bay quickly melted early in the month but other areas were not as lucky. By mid-August, small areas of heavy ice concentrations were still showing in the southwestern portion of Hudson Bay and into Cumberland Sound. Despite these anomalies, the southeast coast of Baffin Island cleared of ice during the third week of August but southwestern Hudson Bay only cleared during the last week of

the month. By then, ice was still present in western Foxe Basin and the breakup pattern appeared to be 7 to 10 days behind normal in that region.

Ice conditions as well as departure from normal ice concentration for mid-August are shown in Figure 7 and Figure 8, respectively.

September 2008

Near normal temperatures were observed everywhere except above normal temperatures along the east shore of Hudson Bay as can be seen in Table 1. Moderate winds from the northwest prevailed over Foxe Basin throughout September as can be seen in Figure 34.

While most regions were cleared of ice, some ice persisted in the southwestern portion of Foxe Basin through September. The open water route to Hall Beach developed one week later than normal during the first week of September. By mid-month, ice was still present in the area and the breakup pattern was about one to two weeks behind normal in this region. At the end of the September, some strips of ice continued to survive and had flushed into Foxe Channel as far south as just east of Southampton Island. Left over first-year ice, at the end of September, turned into second-year ice in October. Due to warm southwesterly winds, which persisted for about a week, the second-year ice melted completely from the southwestern portion of the basin during the second week of October. Meanwhile, new ice had already started to form in the northern portions of the basin.

Ice conditions as well as departure from normal ice concentration for mid-September are shown in Figure 9 and Figure 10, respectively.

Table 1: Temperatures and departures from normal (ºC) for Hudson Bay

	June		July		August		September	
Stations	Temp.	Depart.	Temp.	Depart.	Temp.	Depart.	Temp.	Depart.
Nain	6.0	-0.1	11.3	1.2	10.9	0.3	6.7	0.7
Iqaluit	4.0	0.5	10.3	2.8	7.0	0.2	2.2	0.3
Kuujjuaq	11.0	4.0	14.4	3.1	12.9	2.4	6.5	0.9
Cape Dorset	3.7	1.4	10.1	3.0	5.6	-0.2	1.5	0.1
Churchill	7.8	1.2	13.0	1.2	14.6	3.1	5.6	-0.1
Moosonee	12.8	0.4	15.7	0.0	15.8	0.9	10.5	0.8
Kuujjuarapik	10.4	3.5	12.4	1.8	16.6	5.3	7.3	1.2
Hall Beach	1.9	1.3	6.2	0.4	4.1	-0.4	0.0	0.5

Figure 1: Temperature trend for Churchill from June 1st to September 30th

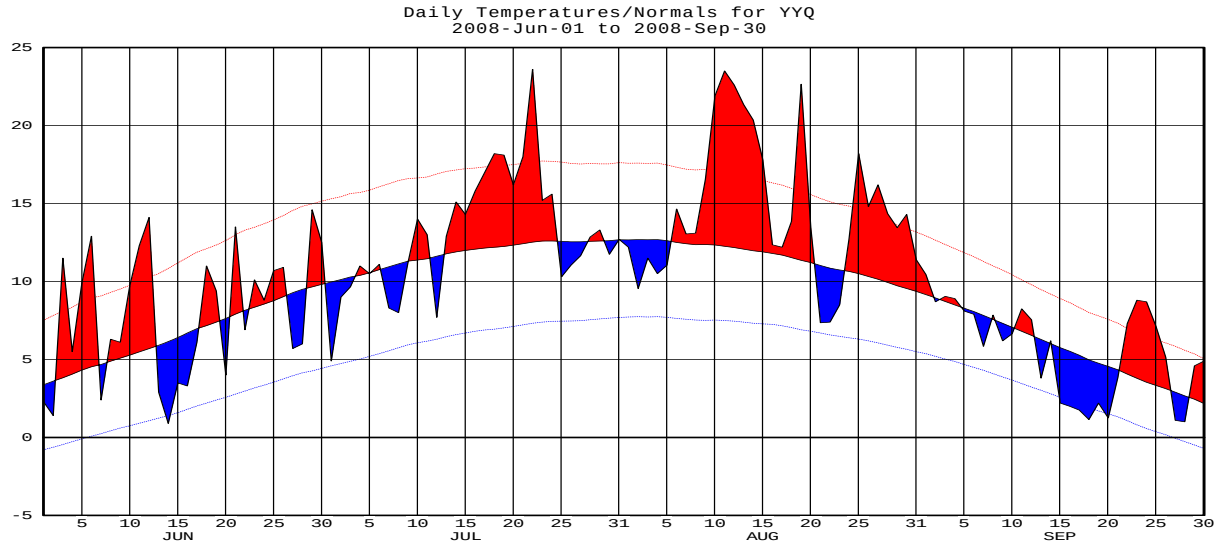


Figure 2: Temperature trend for Iqaluit from June 1st to September 30th

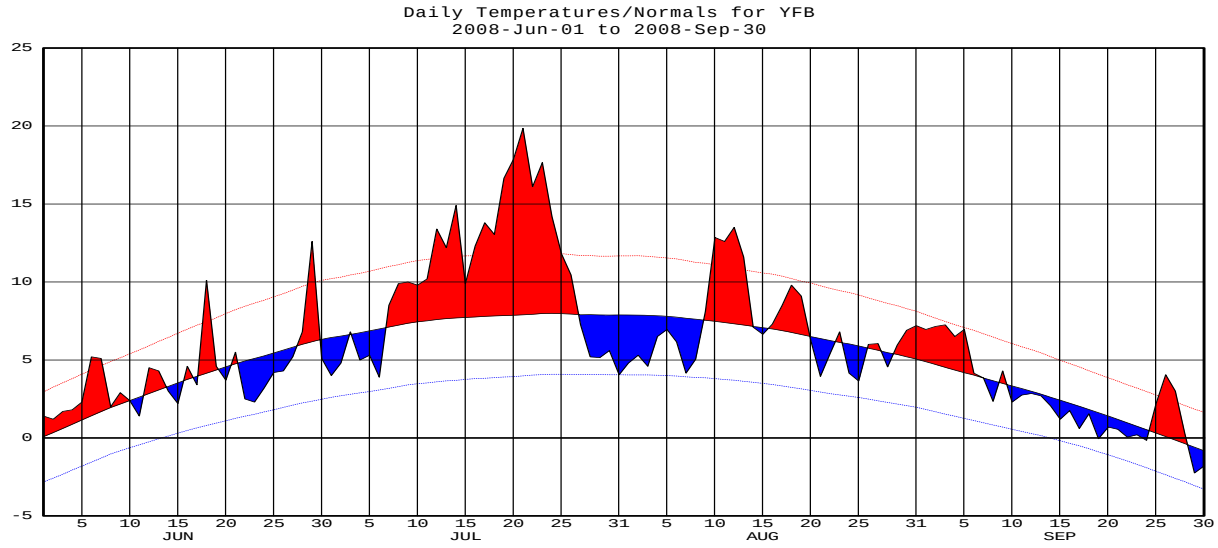


Figure 3: Hudson Bay Regional chart - June 16th

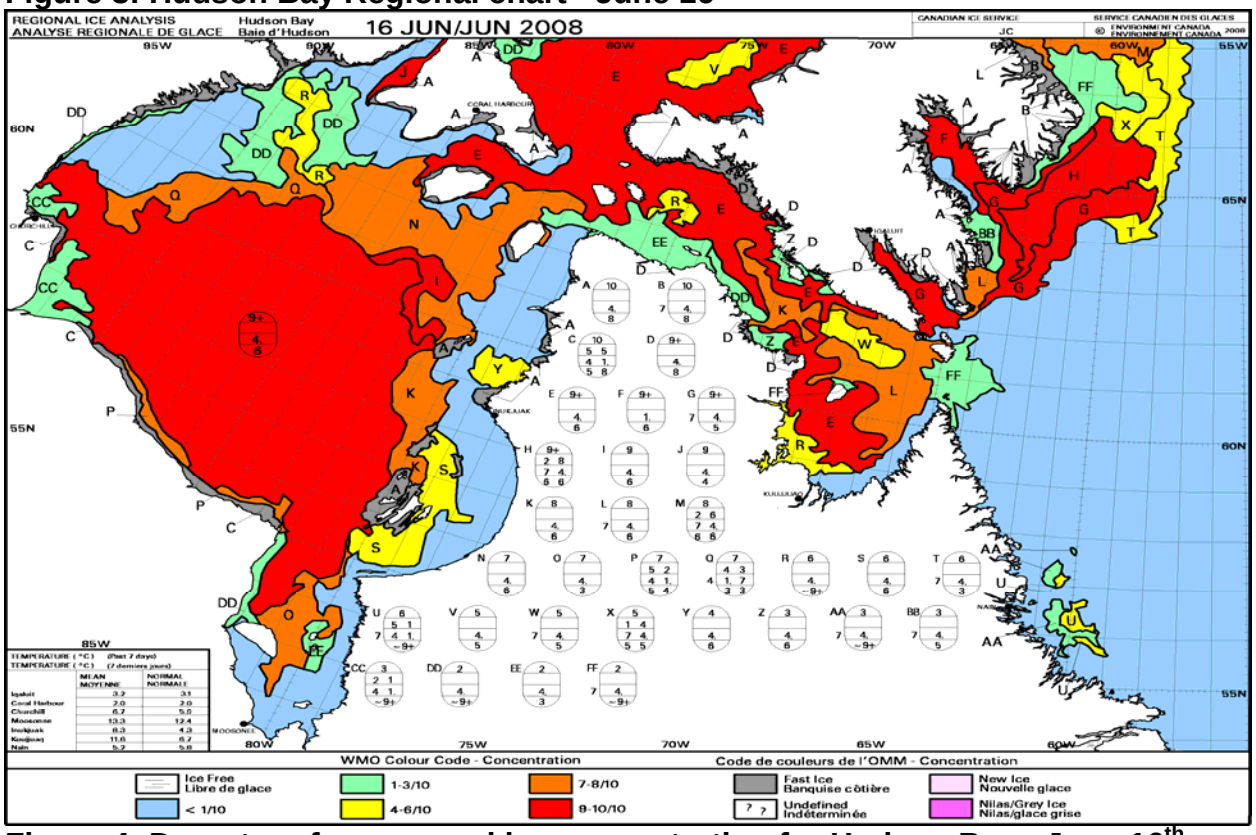


Figure 4: Departure from normal ice concentration for Hudson Bay - June 16th

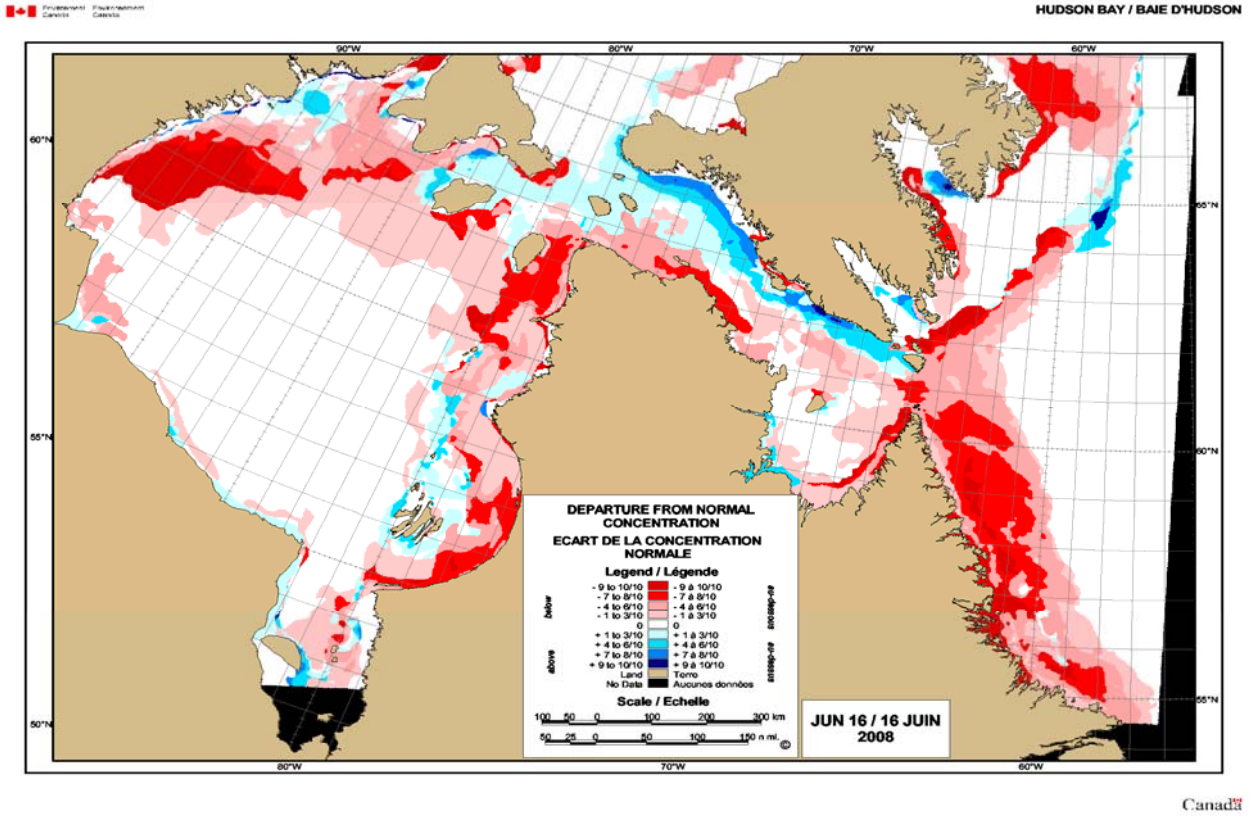


Figure 5: Hudson Bay Regional chart - July 14th

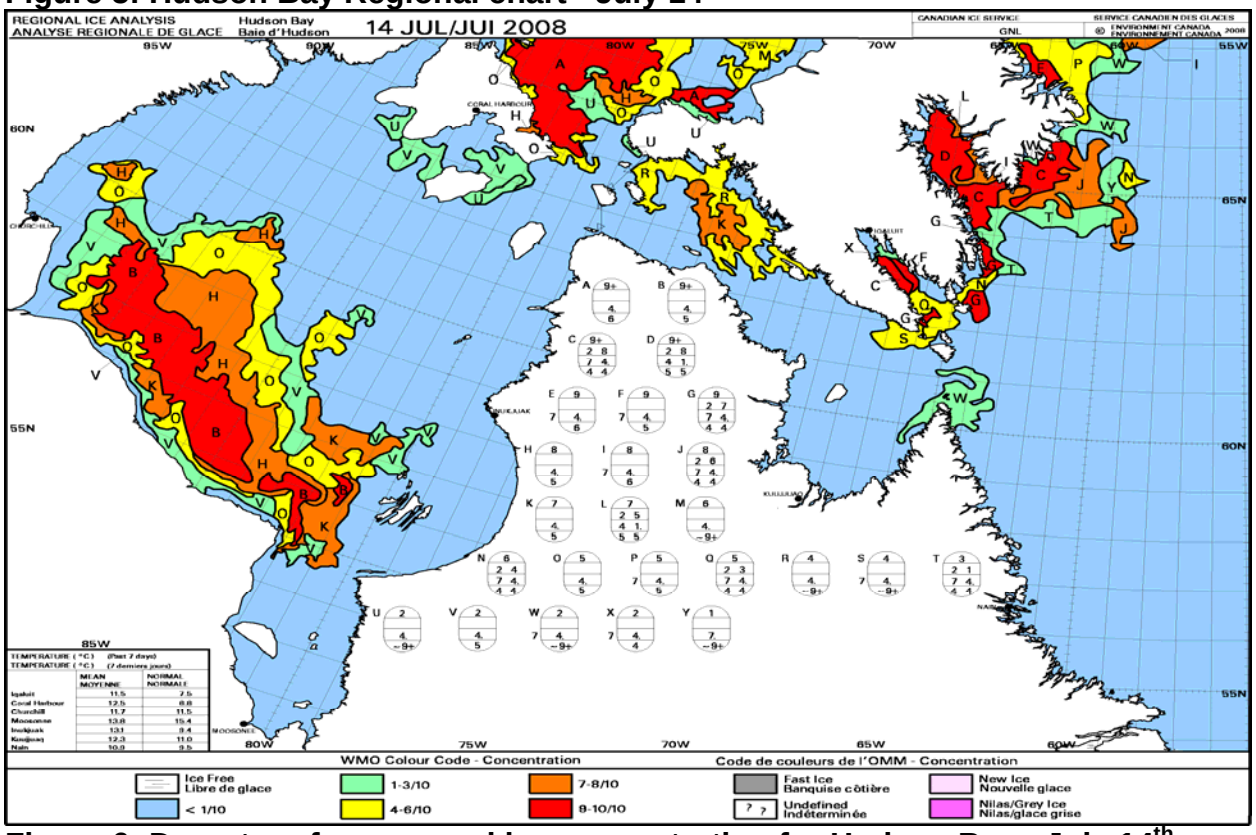


Figure 6: Departure from normal ice concentration for Hudson Bay - July 14th

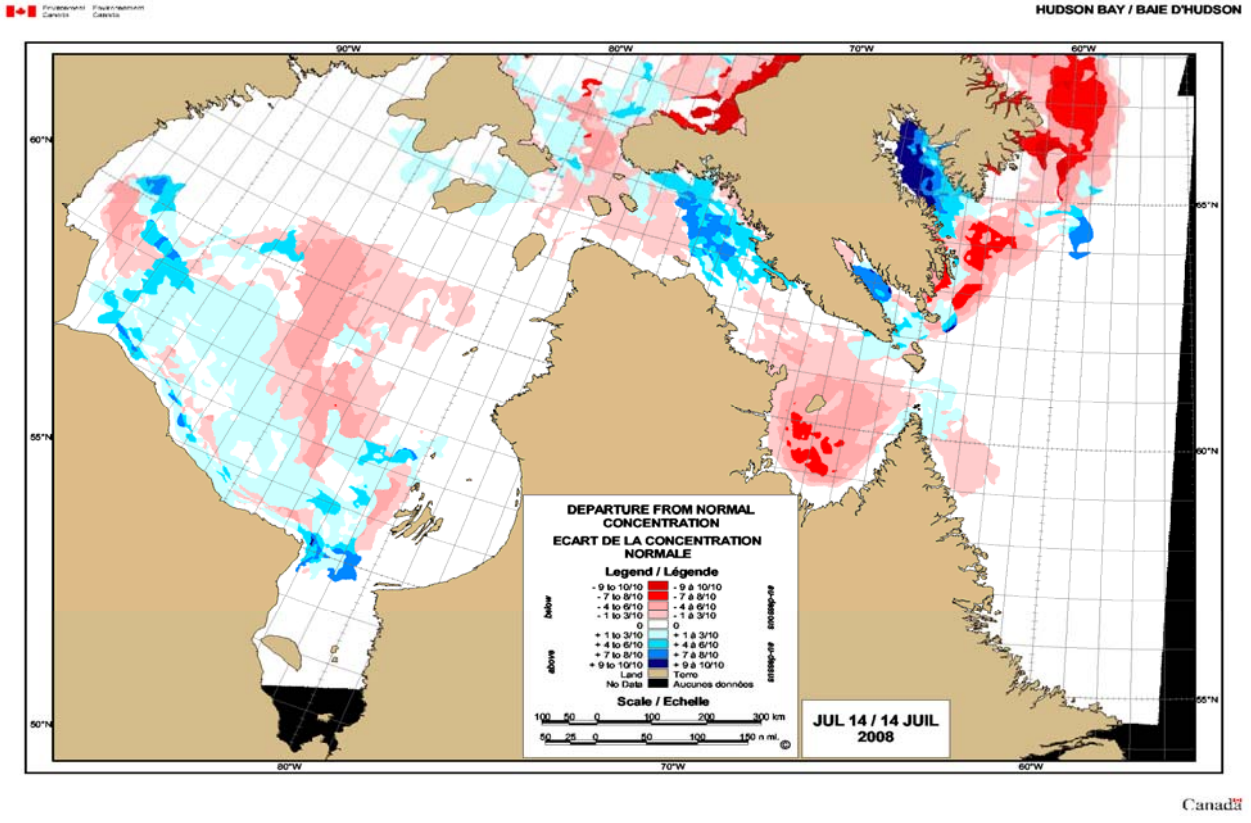


Figure 7: Hudson Bay Regional chart - August 11th

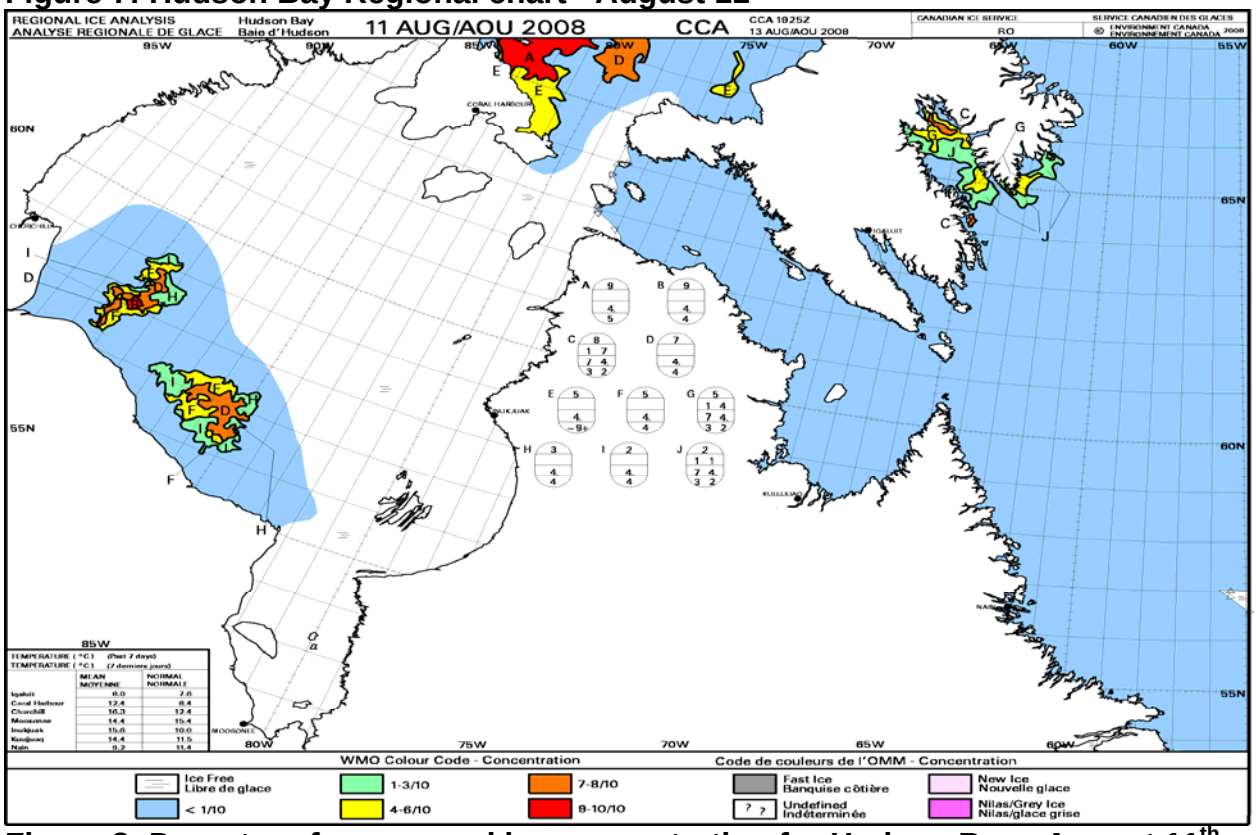


Figure 8: Departure from normal ice concentration for Hudson Bay - August 11th

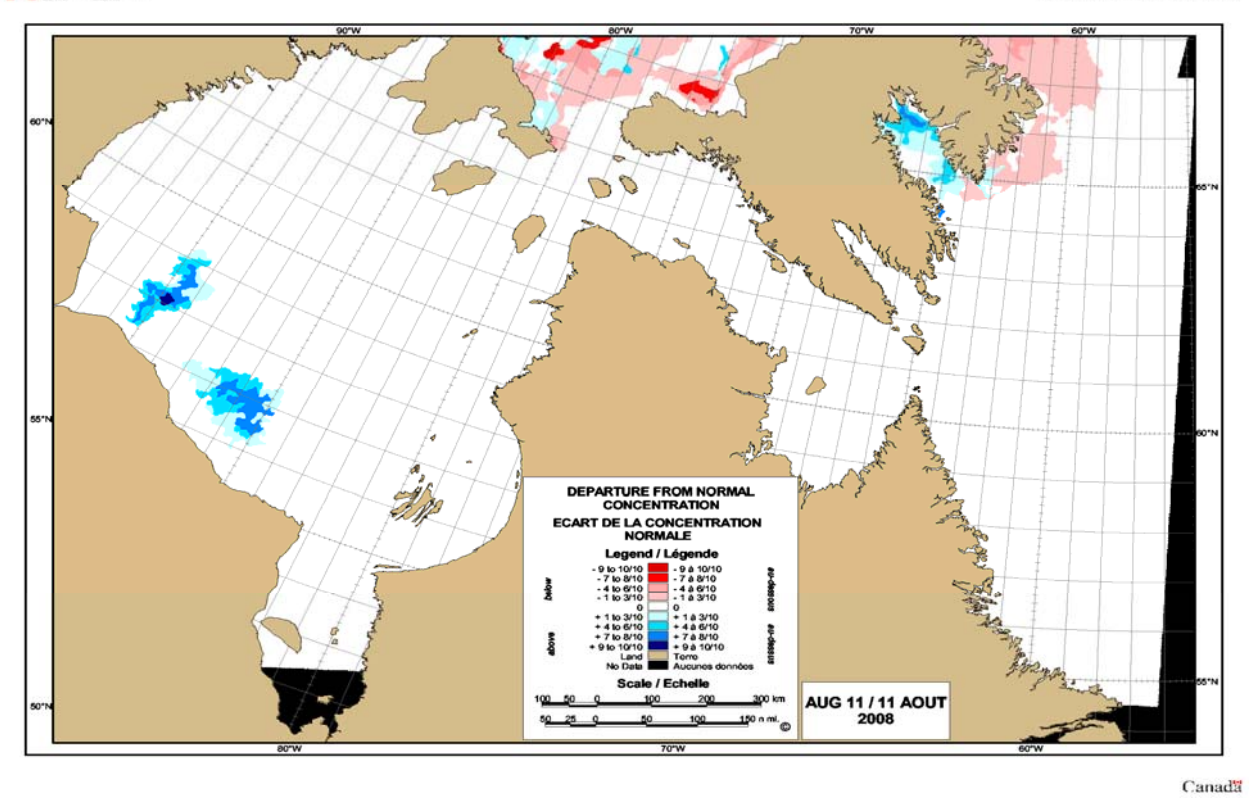


Figure 9: Hudson Bay Regional chart - September 15th

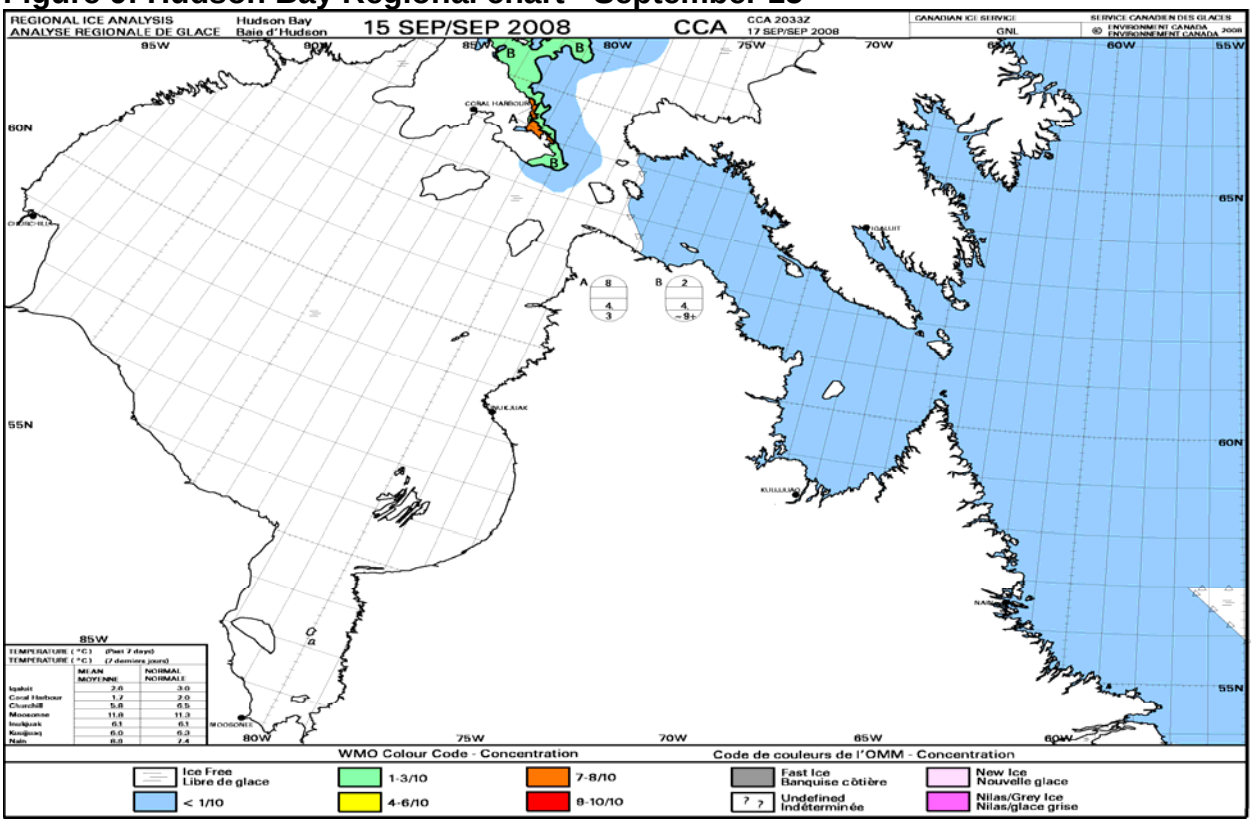
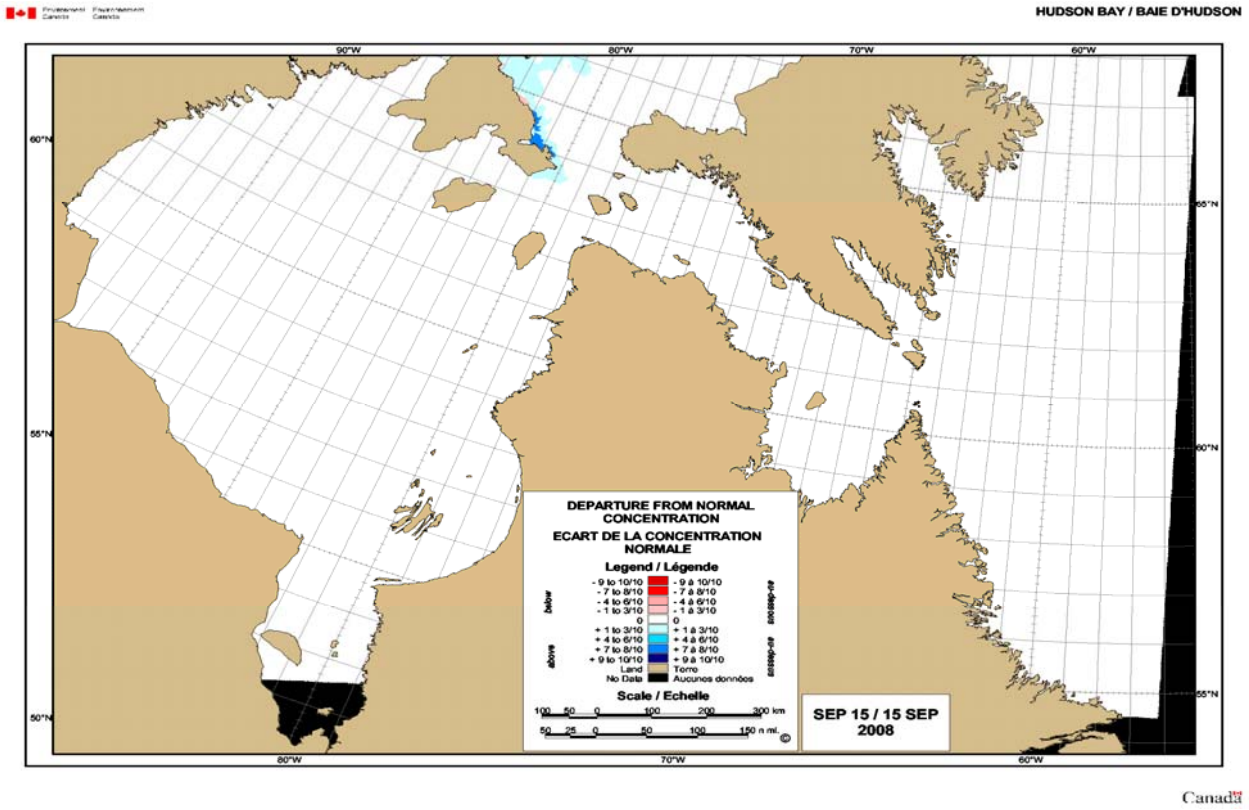


Figure 10: Departure from normal ice concentration for Hudson Bay - September 15th



Eastern and High Arctic

Mean air temperatures in May were above normal over the entire area. As a result, ice conditions at the end of May were near normal over most locations except up to 2 weeks earlier than normal over northern Baffin Bay due to the Nares Strait Bridge forming by mid-April. With prevailing easterly winds during the month, large areas of bergy water developed along the west Greenland coast and ice concentrations in Melville Bay indicated a breakup pattern about 1 week earlier than normal. The only region showing a delayed breakup pattern was Cumberland Sound where onshore winds had forced some ice back into the sound. Because the ice bridge formed late this winter, old ice concentrations in the eastern half of Baffin Bay was greater than normal, while only trace of old ice was found in Lancaster Sound, Barrow Strait and the northern part of Prince Regent Inlet. There was no old ice presence in southern Prince Regent Inlet and the Gulf of Boothia regions.

June 2008

Above normal temperatures prevailed over most locations during the month of June except for near normal temperatures near Clyde as indicated in Table 2. During the first half of June, moderate southerly winds dominated the Davis Strait and Baffin Bay areas whereas the Lancaster Sounds region was subjected to moderate easterly winds. The last half of June was similar except winds were light southerly over all regions as seen in Figure 31. The ice melted at a moderate pace over most areas during the period but significantly faster along the west Greenland Coast where the breakup pattern was already 2 weeks earlier than normal in that region.

Early in the month, the bergy water lead along the west Greenland coast extended to 74°N and spread northward to create an open drift or less route into Thule by mid-June and a bergy water route developed during the last week of June. Meanwhile, the Nares Strait Bridge collapsed during the first week of June; old ice started to trickle southward and the large bergy water region over northwestern Baffin Bay started to shrink. North of 74°N, the prevailing easterly winds maintained close pack ice conditions throughout Lancaster Sound during the first half of the month, and help dispersed some of the heavier ice concentrations in the Baffin Bay region. While ice concentrations remained relatively unchanged in the central portion of the Arctic, the ice situation was different in Davis Strait where the pack ice started to thin near 67°N with heavier concentrations to the north and south of this point. By mid-June, the thinner ice concentrations had spread northward between 67°and 68°30'N with areas of 2 tenths old ice south of this region and areas of up to 4 tenths old ice in the central portion of Baffin Bay. By the end of June, the ice concentrations in Baffin Bay had diminished significantly so that one could almost circumnavigate the area of first-year ice including smaller areas containing up to 4 tenths of old ice remaining in central portion of the bay. At the end of June, the breakup pattern was 2 to 3 weeks ahead of normal along the coastal sections of Baffin Bay, except 1 to 2 weeks behind normal in Cumberland Sound, Lancaster Sound and northwestern Baffin Bay regions. Some

fractures were already showing in the southern portion of Norwegian Bay, which is also 3 weeks ahead of the normal breakup pattern. Elsewhere, the ice situation was near normal.

Ice conditions as well as departure from normal ice concentration for mid-June are shown in Figure 13 and Figure 14, respectively.

July 2008

Above normal temperatures prevailed over most locations during the month of July except for near normal temperatures over northern Foxe Basin as indicated in Table 2. Light east to southeasterly winds developed over the Eastern Arctic region during the first half of July while light to moderate northeast winds prevailed over the High Arctic regions. During the second half of July, light southerly winds dominated the region as indicated in Figure 32. The ice melted at a moderate pace over most areas during the period.

During the first week of July, the central portion of Baffin Bay was covered with very close pack first-year ice including 1 to 3 tenths concentrations of old ice. Smaller ice concentrations were found around the pack ice. Cumberland Sound was still affected by more ice than usual, and some old ice was showing in the eastern portion of the sound. The ice situation in Lancaster Sound also remained unusual with very close pack first-year ice persisting along the northern and western regions. Many thaw holes were appearing in the fast ice in sheltered coastal regions. By mid-July, the Eastern portion of Barrow Strait fractured along with the Norwegian Bay and Eureka Sound. The old ice from Nares Strait had moved southward and lied just north of the entrance to Jones Sound and a bergy water route into Lancaster Sound developed. Shortly thereafter, the ice fractured in western Barrow Strait, Jones Sound. And Wellington Channel. By the end of the month, the remaining fast ice had fractured in McDougall Sound, Admiralty Inlet and Eclipse Sound regions. In central Baffin Bay and Cumberland Sound, close pack first-year ice including 1 to 3 tenths of old ice prevails with looser ice conditions along the Baffin Island coast. Most of Eureka Sound was very open drift old ice except for heavier ice concentration north of Eureka. The Gulf of Boothia was showing signs of advance melt compared to normal mainly due to the absence of old ice in the region. At that time, the breakup pattern was 2 to 3 weeks ahead of normal along the Baffin Island Coast near Brighton Island, in the southern portion of the Gulf of Boothia, in Jones Sound and the Eureka Sound regions. An open drift or less route developed towards Home Bay during the last week of July. Conversely, the pattern was 1 to 2 weeks behind normal in Cumberland Sound, Southern Smith Sound, northern Prince regent Inlet and Penny Strait.

Ice conditions as well as departure from normal ice concentration for mid-July are shown in Figure 15 and Figure 16, respectively.

August 2008

Above normal temperatures prevailed over most locations during the month of August except for near normal temperatures over northern Foxe Basin and near Resolute as indicated in Table 2. Light and variable winds prevailed over the entire region during the first half of the month while light to moderate southeast winds prevailed east of Baffin Island and light to moderate northeast winds dominated north and west of Baffin Island during the second half of August as indicated in Figure 33. The ice melted at a moderate pace over most areas during the period but at a slower pace over northern Foxe Basin.

In early August, very open to open drift ice conditions with 1 to 2 tenths of old ice dominated the central Baffin Bay and Cumberland Sound areas. The ice melted completely in Pond Inlet, Admiralty Inlet, Barrow Strait and Lancaster Sound during the first week of August providing bergy water conditions across the eastern portion of the Northwest Passage. Jones Sounds was almost bergy water except for a few patches of ice in the western end of the sound and some in the northeastern entrance. A very open drift old ice route existed across eastern Norwegian Bay all the way to Eureka. Heavier ice concentrations existed in Nansen Sound and the fast ice plug in the western section of Nansen Sound broke off for a second year in a row. The northern half of Prince Regent Inlet showed more ice than normal in early August, and some of the ice gradually trickled eastward along the Brodeur Peninsula and invaded to Admiralty Inlet region during the second week of the month. The Gulf of Boothia showed less ice concentrations than normal and similar conditions were also seen in Nares Strait and Kane Basin where open drift old ice prevailed. The ice melted completely from Davis Strait during the third week of the month. At the end of August, Baffin Bay finally cleared of ice and bergy water conditions prevailed south of 75°N. Very open to open drift ice concentrations were present in Prince Regent Inlet and even Admiralty inlet despite the fact that this area had cleared of ice earlier in the month. Jones Sound and Norwegian Bay had very open drift old ice conditions while Eureka Sound and the northern part of Nares Strait were flooded with more old ice originating from the Arctic Ocean; this situation affected to re-supply mission to Eureka.

Ice conditions as well as departure from normal ice concentration for mid-August are shown in Figure 17 and Figure 18, respectively.

September 2008

Near normal temperatures prevailed over most locations during the month of September except for above normal temperatures over the High Arctic as indicated in Table 2. Light to moderate east to northeast winds dominated over the entire region during the first half of September while moderate northerly winds prevailed during the last half of the month as indicated in Figure 34. Freeze-up over the High Arctic was delayed by 2 to 3 weeks while in the areas south of 75°N, the freeze up was delayed by almost one whole month.

At the beginning of September, bergy water dominated the Arctic south of Jones Sound's latitude with very open to open drift concentrations of old ice north of 76°N.

There was one exception to this rule; Penny Strait saw an increase concentration of mainly old ice originating from the central portion of the Archipelago. Some of this old ice found its way south of Cornwallis Island via Wellington Channel and McDougall Sound. The ice melted from the Prince Regent Inlet and Gulf of Boothia regions during the third week of September; the clearing was expected sooner this year since no old ice was in the region, but local wind events and water currents kept the ice in the region longer. Although new ice formation started in the High Arctic region in the first week of September, wind events destroyed much of the ice as it was forming. The net effect yielded a delayed freeze up as stated in the paragraph above.

Ice conditions as well as departure from the normal ice concentration for mid-September are shown in Figure 19 and Figure 20, respectively.

Table 2: Temperatures and departures from normal (ºC) for Eastern Arctic

	June		July		August		September	
Stations	Temp.	Depart.	Temp.	Depart.	Temp.	Depart.	Temp.	Depart.
Eureka	5.1	3.4	7.1	1.6	3.8	1.4	-4.6	3.3
Resolute	2.1	2.5	5.2	1.2	2.3	0.9	-5.0	0.0
Pond Inlet	4.0	2.4	7.6	1.8	5.4	1.4	-1.3	0.5
Clyde	1.0	0.5	6.7	2.5	5.3	1.5	-0.1	0.2
Hall Beach	1.9	1.3	6.2	0.4	4.1	-0.4	0.0	0.5
Kugaaruk	5.3	2.4	12.5	3.8	8.5	2.1	0.1	0.0

Figure 11: Temperature trend for Resolute from June 1st to September 30th

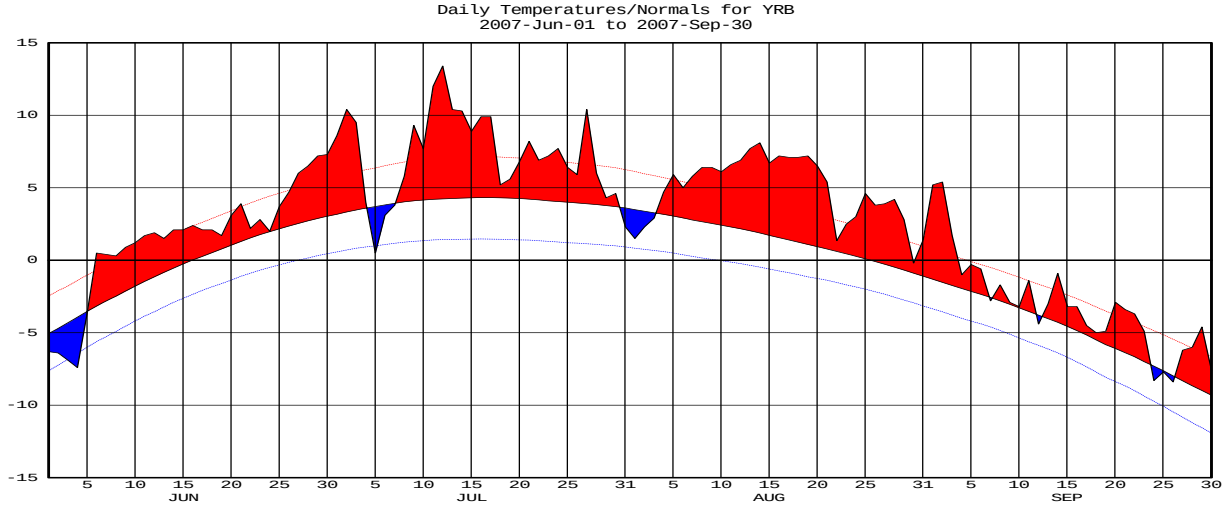


Figure 12: Temperature trend for Clyde from June 1st to September 30th

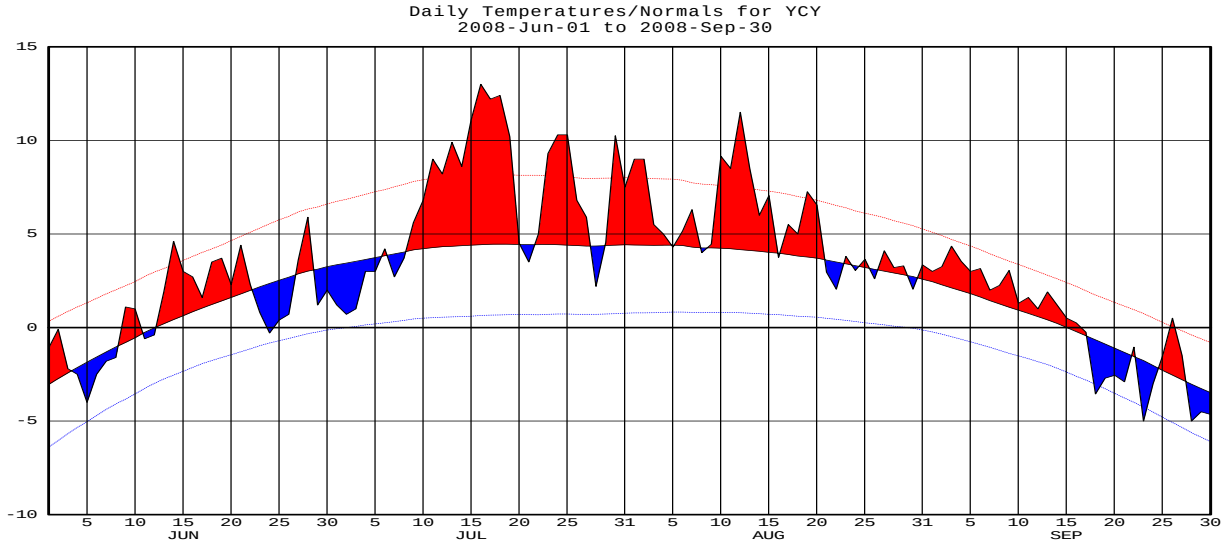


Figure 13: Eastern Arctic Regional chart - June 16th

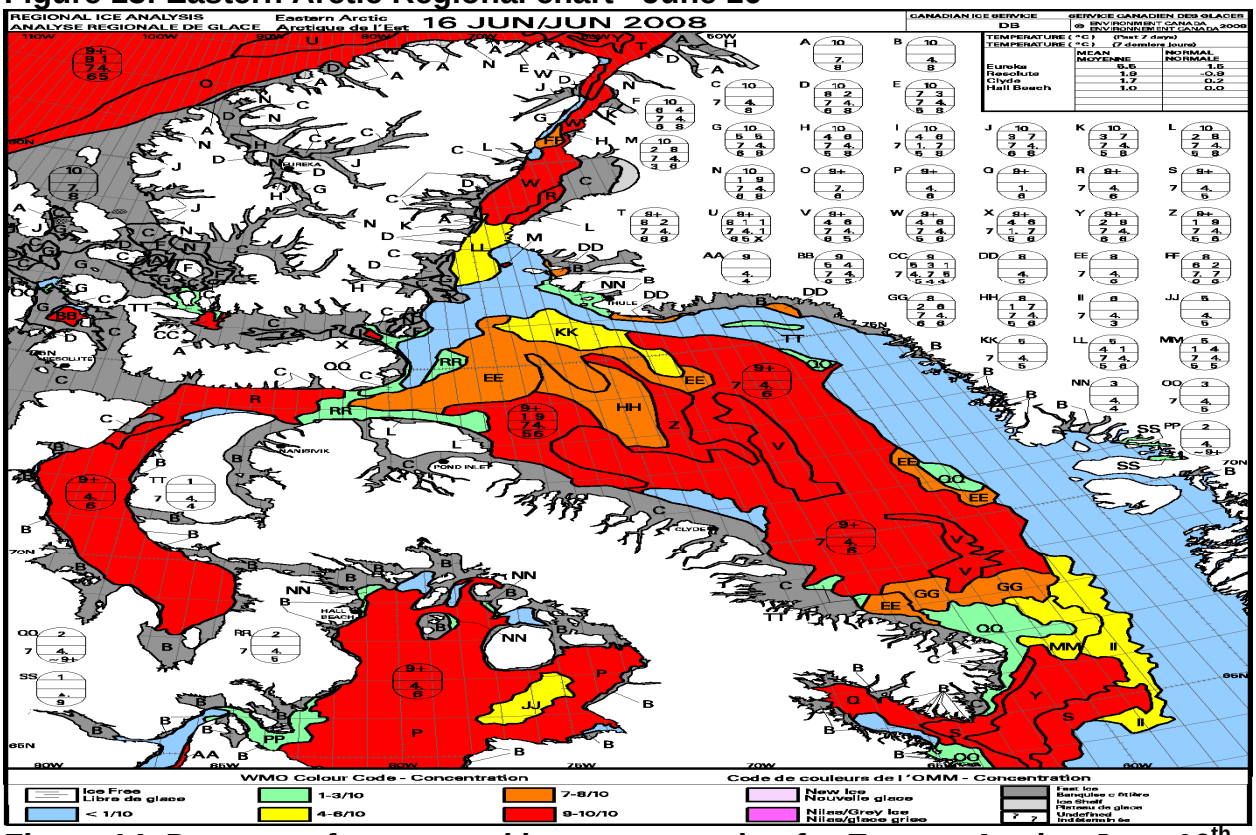


Figure 14: Departure from normal ice concentration for Eastern Arctic - June 16th

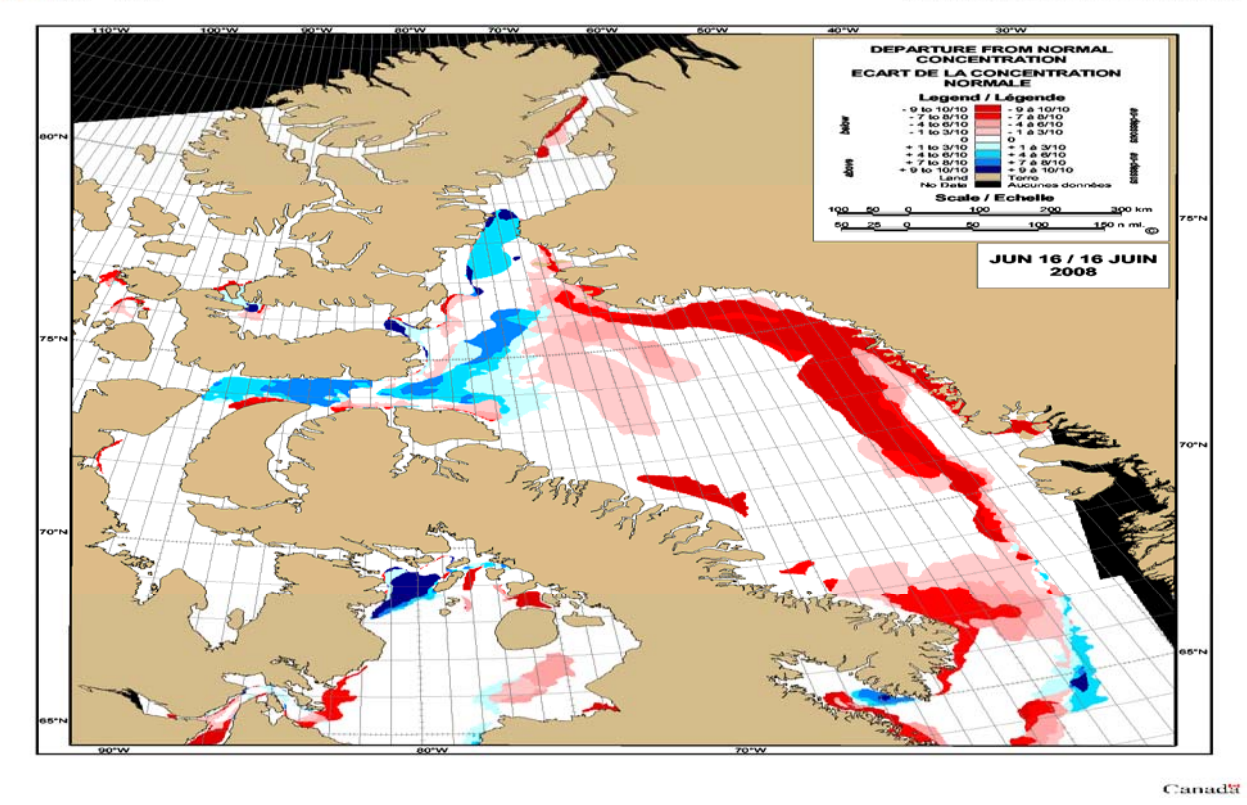


Figure 15: Eastern Arctic Regional chart - July 14th

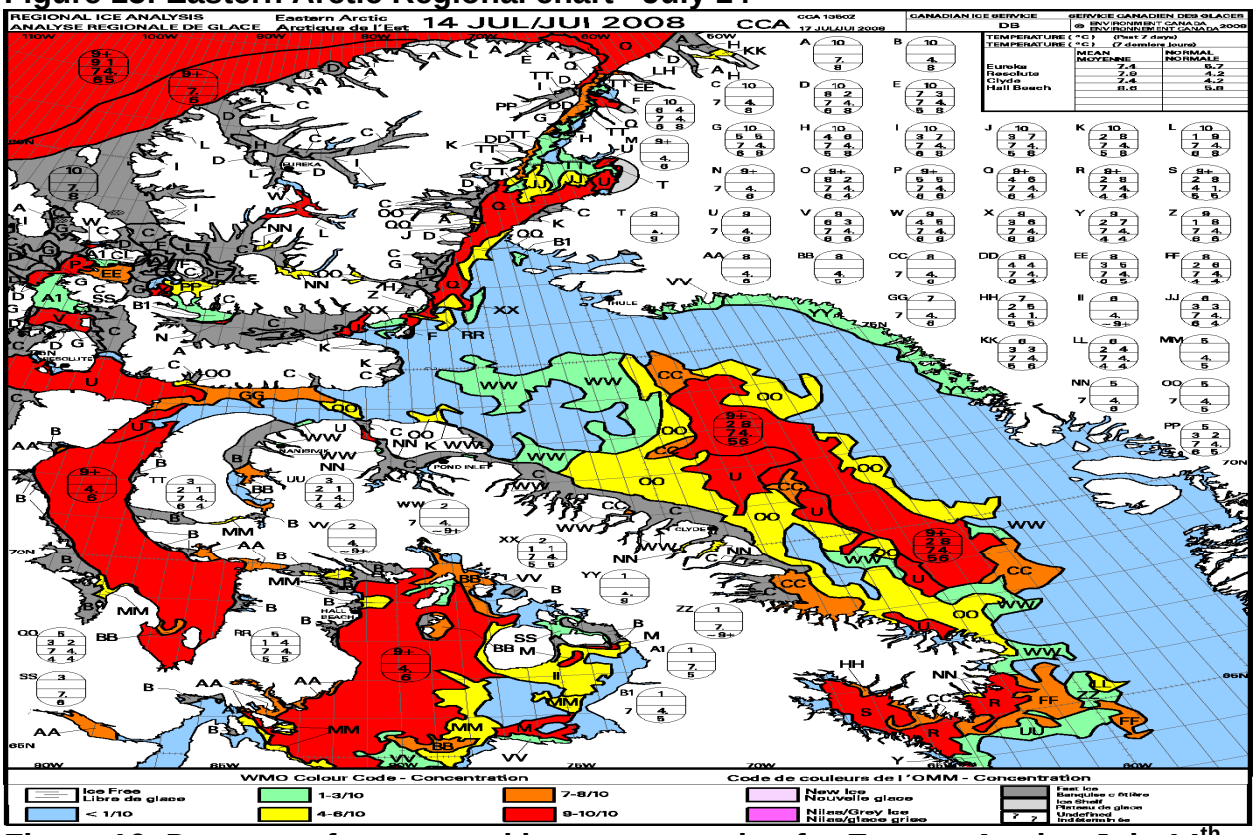


Figure 16: Departure from normal ice concentration for Eastern Arctic - July 14th

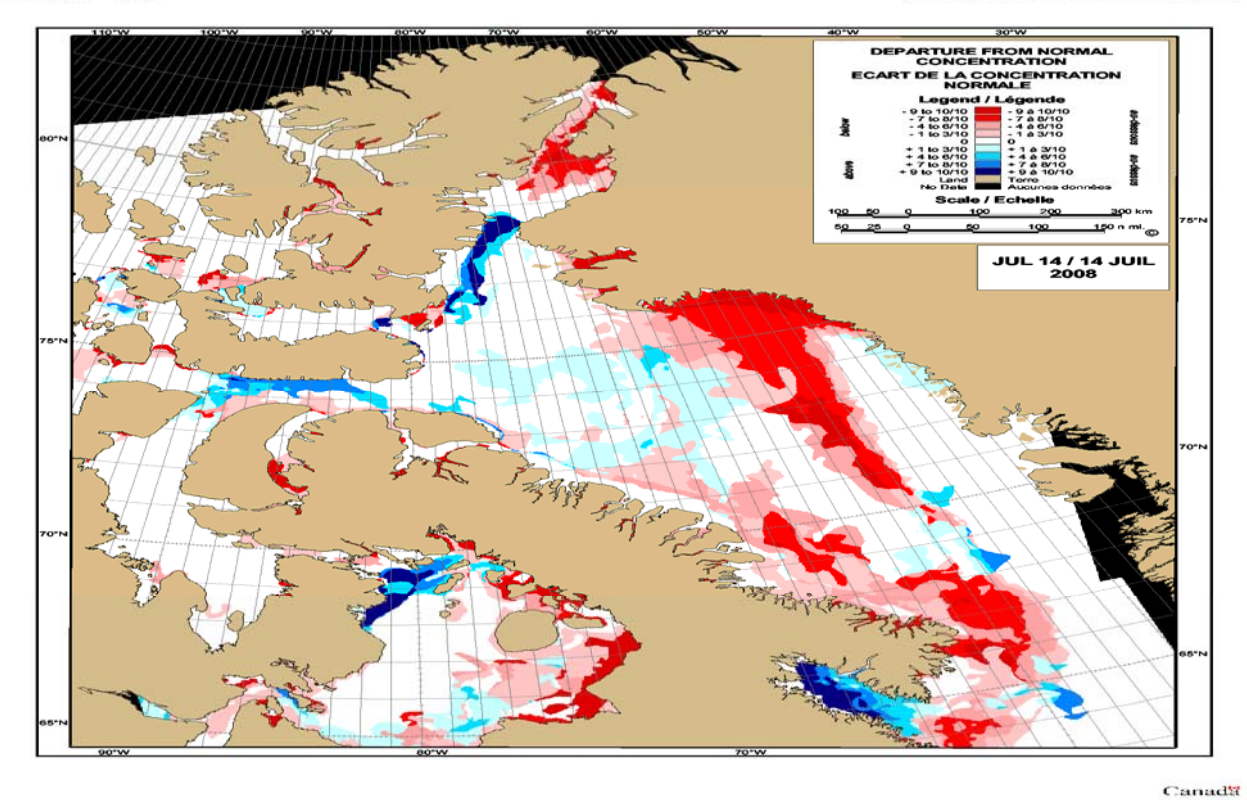


Figure 17: Eastern Arctic Regional chart - August 11th

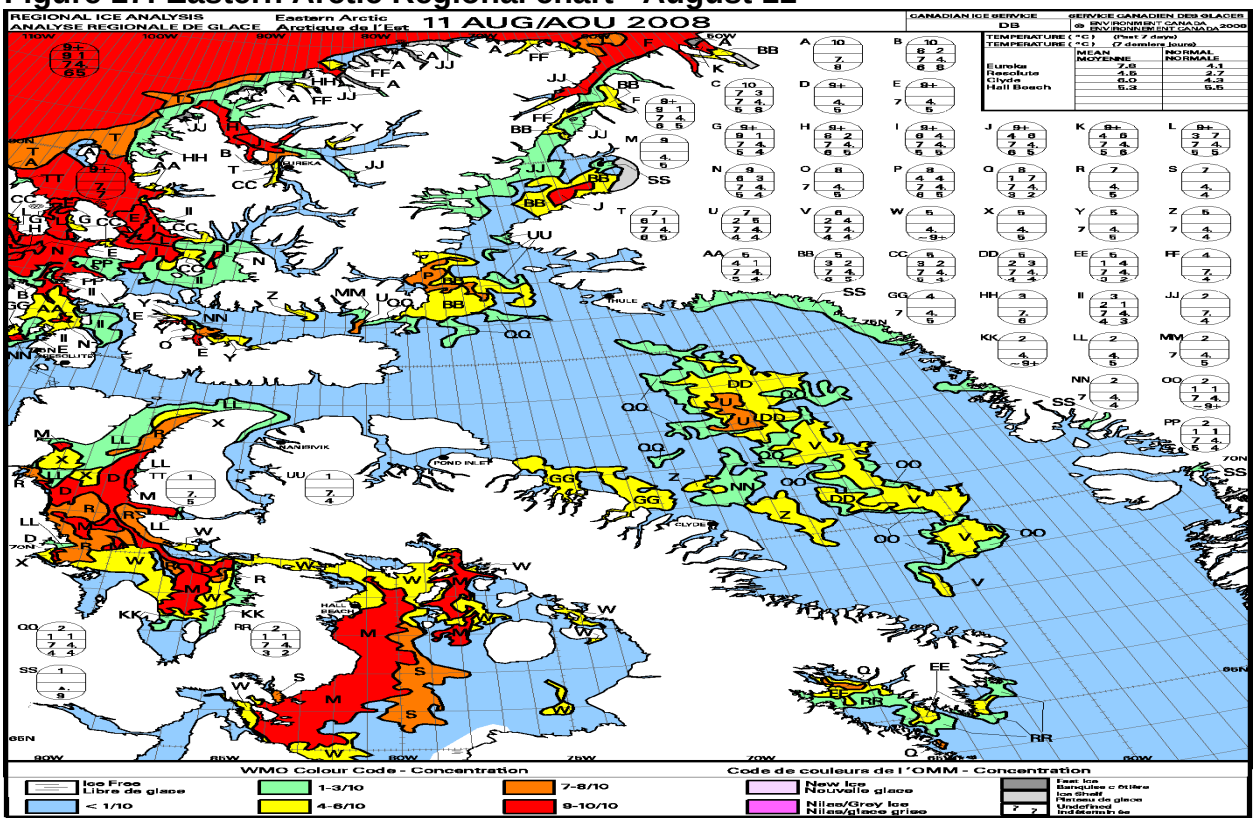


Figure 18: Departure from normal ice concentration for Eastern Arctic - August 11th

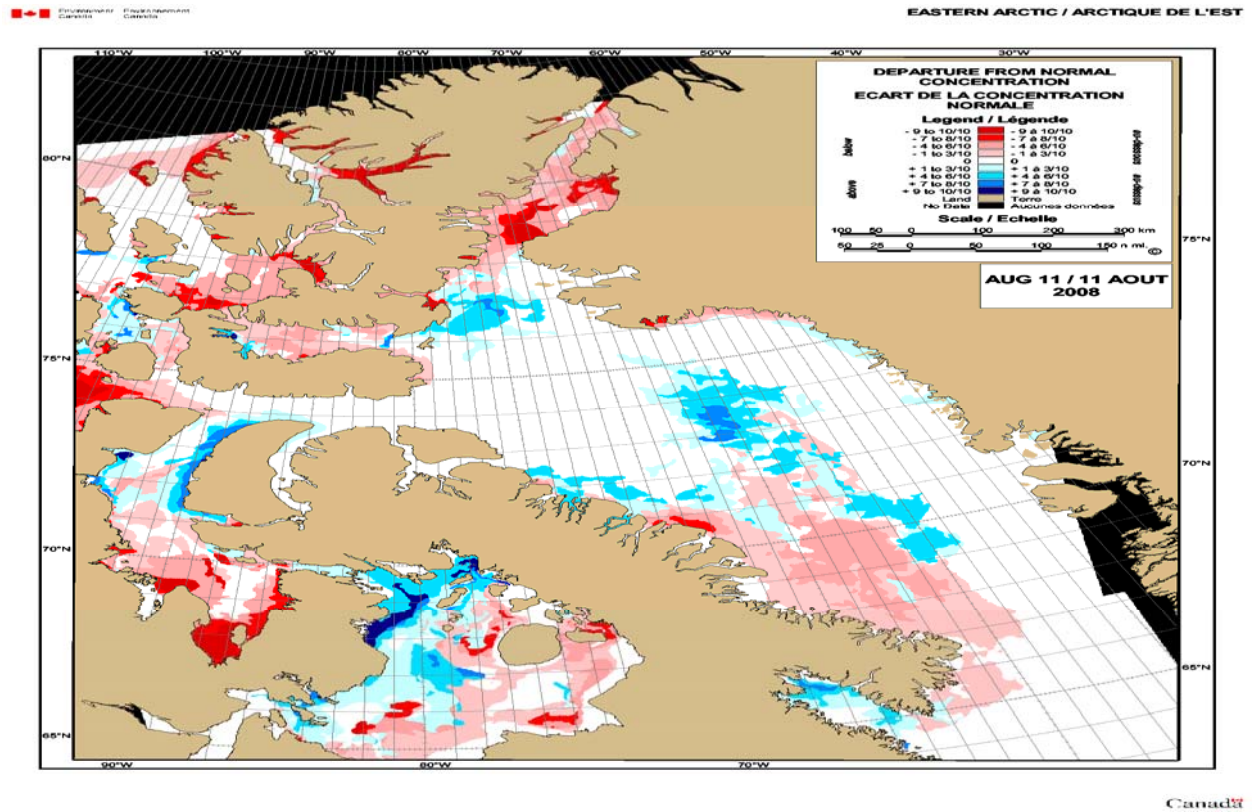


Figure 19: Eastern Arctic Regional chart - September 15th

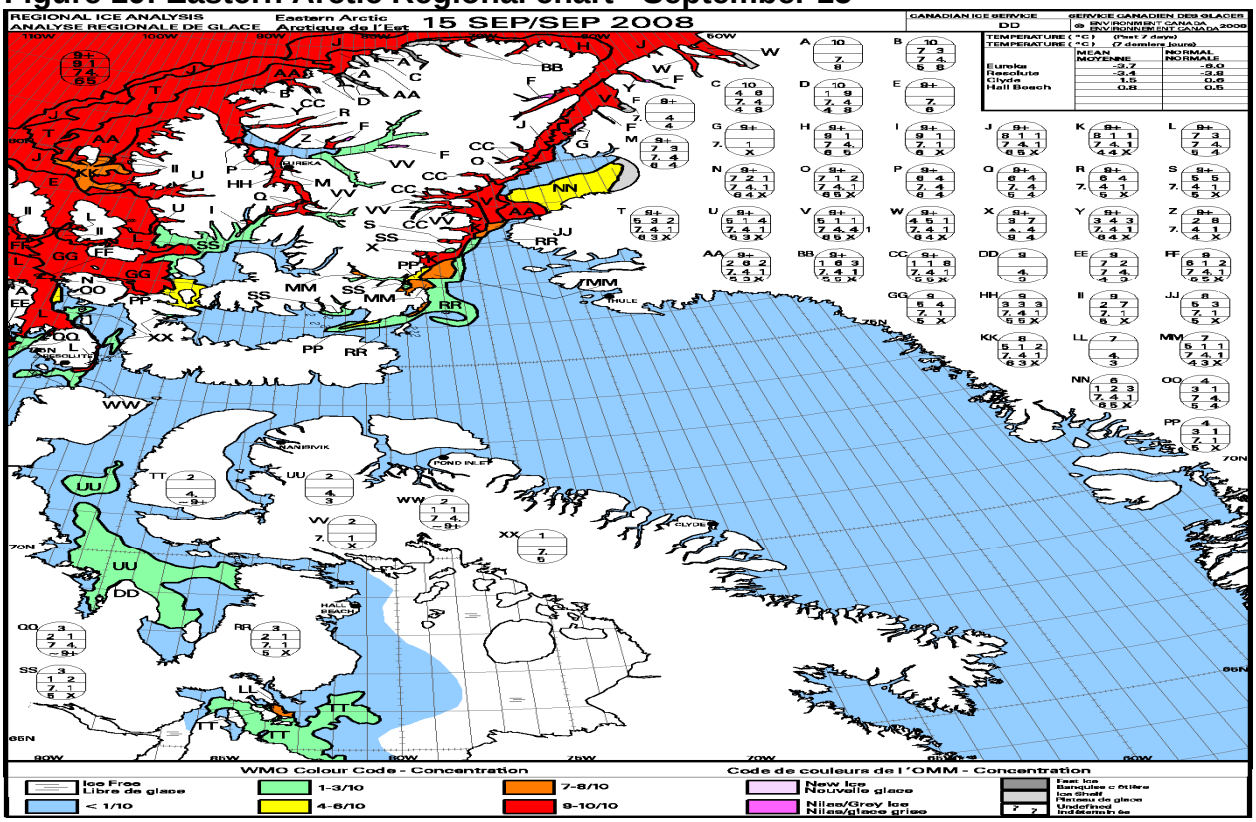
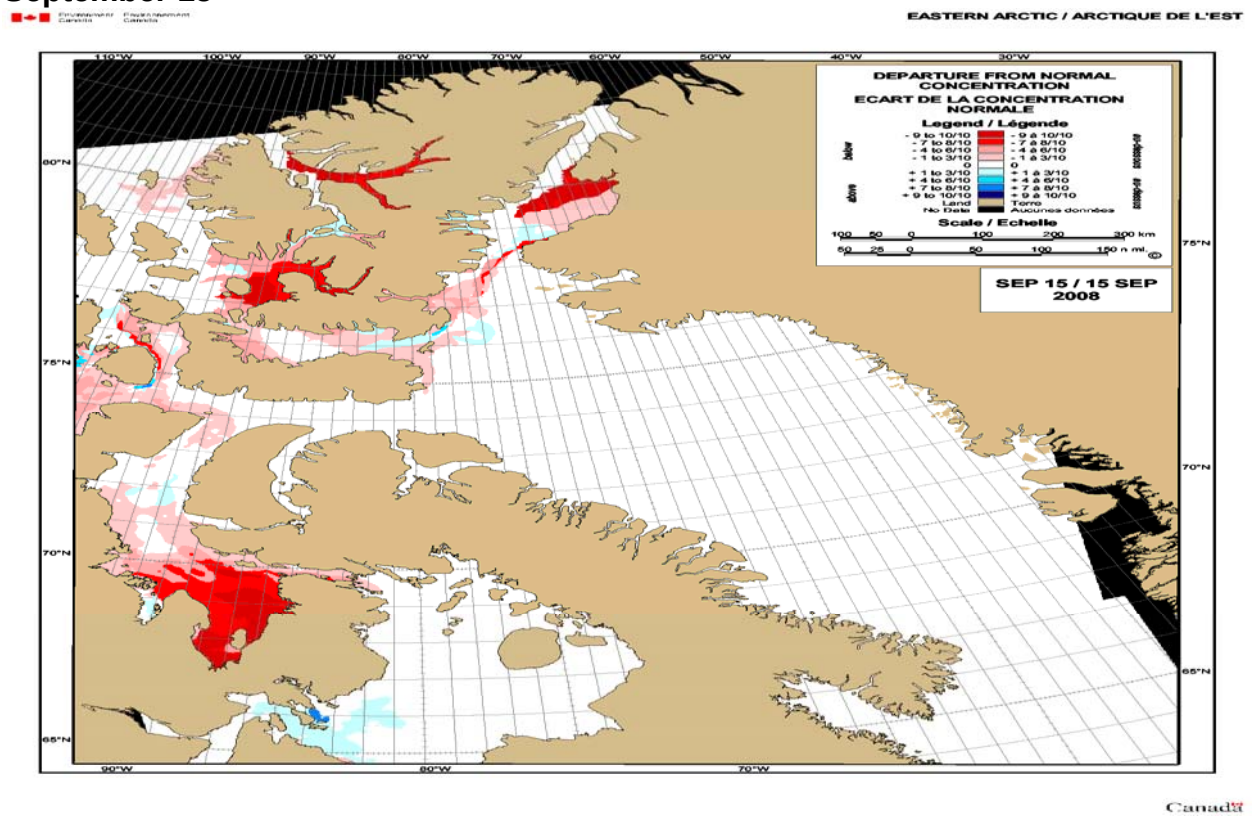


Figure 20: Departure from normal ice concentration for Eastern Arctic - September 15th



Western and Central Arctic

Mean air temperatures during the month of May were near normal values over most areas except warmer than normal along the Tuktoyaktuk Peninsula. At the end of May, the breakup pattern was already 2 to 3 weeks earlier than normal from Amundsen Gulf westward to just north of the Tuktoyaktuk Peninsula; significant leads had already formed in Amundsen Gulf and west of Banks Island. The breakup pattern was normal over the rest of the Western Arctic. The extent of the old ice pack was roughly in its normal position over the Beaufort Sea but the concentrations of old ice was less than normal south of 76°N. In the Central Arctic region, the old ice concentrations were much less than normal in the western half of the Parry Channel and in M'Clintock Channel due to record melt in 2007 but only less than normal in Victoria Strait.

June 2008

Near normal temperatures prevailed over most locations during the month of June except for above normal temperatures over the southeastern Beaufort Sea as indicated in Table 3. Moderate northeasterly winds developed over the Central Arctic during the first half of June, while moderate easterly winds prevailed over the Beaufort Sea and along the Alaskan Coast. The wind diminished during the last two weeks of June but remained from the east in the southern Beaufort Sea region as indicated in Figure 31. The ice melted at a rapid pace during the period as the air temperature rose above the freezing mark early in the month.

The Central Arctic portion remained consolidated throughout June except for local thaw holes developing in isolated areas towards the end of the month. The situation was quite different in the Western Arctic region; the leads observed in Amundsen Gulf and West of Banks Island widened during the month under prevailing easterly winds. The edge of the old ice lay 100 miles north of the coast and the old ice concentrations in the southern Beaufort Sea ranged between open drift and close pack. During the last week of June, the ice cleared in Mackenzie Bay and Kugmallit Bay and the fast ice fractured along the Tuktoyaktuk Peninsula. At the end of June, only a few areas of very open drift ice remained within 100 miles of the coast from Amundsen Gulf to Barter Island. Similar ice concentrations were seen west of Banks Island within 60 miles of the coast. Further west along the Alaskan coast, ice concentrations increased gradually to very close pack first-year ice with a trace of old ice near Prudhoe Bay. Ice conditions were 3 to 4 weeks earlier than normal in the southeastern Beaufort Sea region and near normal elsewhere.

Ice conditions as well as departure from normal ice concentration for mid-June are shown in Figure 23 and Figure 24, respectively.

July 2008

Above normal temperatures prevailed over the whole area during the month of July except for near normal temperature near both eastern and western extremities as indicated in Table 3. Moderate northeasterly winds developed over the Central Arctic during July, while moderate easterly winds persisted over the southern Beaufort Sea and along the Alaskan Coast. The mean isobaric field and associated wind pattern diminished during the later part of July as indicated in Figure 32. The ice melted at a moderate to rapid pace during the period.

The July situation is best described as two separate event regions. The ice in the Central Arctic remained mostly consolidated at the beginning of the month with some ice fractures beginning to show towards mid-month in the Dolphin and Union Strait region. The southern route of the Northwest Passage truly began to fracture in the third week of July and was completely fractured by the end of the month. The last areas to fracture were the Larsen Sound and the Queen Maud Gulf regions. These events constituted normal breakup conditions for the region although some ice persisted longer than normal in the Coronation Gulf area. Meanwhile, the Western Arctic region was already exhibiting breakup conditions up to 4 weeks earlier than normal in some areas. In early July, the southern Beaufort Sea was mostly open water from east of Barter Island all the way to Amundsen Gulf. Elsewhere along the Alaskan coast, areas of close to very close pack first-year ice prevailed primarily west of Prudhoe Bay. The old ice pack remained very loose south of 74°N for this time of year and one could see a widespread lack of old ice concentration across the entire region caused primarily by the record minimum sea ice extent seen in 2007. The open water route to Cape Bathurst developed early in July while some coastal routes along the Alaskan coast did not develop until the second week of July. By the third week of July, all coastal routes along the Alaskan coast were navigable. With the edge of the pack ice remaining just a few miles offshore in the vicinity of Point Barrow, these routes were constantly threatened to close under local and sudden onshore wind events.

Ice conditions as well as departure from normal ice concentration for mid-July are shown in Figure 25 and Figure 26, respectively.

August 2008

Near normal temperatures prevailed over most locations during the month of August; however, above normal temperatures were observed over the eastern portion of the waterways while below normal temperatures persisted over the Tuktoyaktuk region as indicated in Table 3. Light southerly winds developed over the Central Arctic region during the first half of the month while light northerly winds prevailed over the Western Arctic. Light to moderate northeasterly winds dominated the entire region during the last half of August as indicated in Figure 33. The ice melted at a moderate pace during the period.

Now that the ice was mobile everywhere, the melt and deterioration continued its course but accelerated over certain areas of the Northwest Passage such as Peel Sound, Queen Maud Gulf and the Coronation Gulf regions. The open water route to Taloyoak developed during the second week of August, which is one week earlier than normal. The southern route of the Northwest Passage became open water for a third year in row during the third week of August. The true Northwest Passage across Parry Channel did not open as much as in 2007, but was navigable during the later part of August. In the Western Arctic, some ice managed to linger near the Point Barrow region during the first half of the month, and briefly affected the coastal routes in that region. By the third week of August, the entire southern Beaufort Sea south of 75°N was nearly depleted of ice except for an ice tongue, consisting of open drift old ice, protruding southward from the main old ice pack just west of Banks Island.

Ice conditions as well as departure from normal ice concentration for mid-August are shown in Figure 27 and Figure 28, respectively.

September 2008

Near normal temperatures prevailed over most areas during the month of September except for above normal temperatures along the Alaskan Coast as indicated in Table 3. Moderate northerly winds developed over the Central Arctic during September, while light to moderate easterly winds prevailed over the Beaufort Sea and along the Alaskan Coast as indicated in Figure 34. The ice continued to melt over the Western Arctic during the first week of September, and this year, the seas ice minimum was achieved during the second week of September despite the fact that ice had already started to form in the higher latitudes. The onset of the freeze-up period over the Beaufort Sea was near normal but a 1 to 2 week delay was noted in the southern regions of the Central Arctic.

During early September, Victoria Strait was invaded by ice originating from the M'Clintock Channel and old ice originating from Penny Strait and McDougall Sound poured into the western portion of Barrow Strait. The prevailing winds over the entire area also helped spread the ice southward in the Beaufort Sea where the ice tongue of mostly old ice was caught in the Beaufort Gyre. By mid-month, the old ice edge lay as close as 30 miles from the Alaskan coast near Barter Island. During the second half of the September, the wind over the Beaufort Sea help destroyed the looser ice concentrations approaching the shore. By the third week of September, new ice had started to form in vicinity of the remaining ice and thickened to grey ice north of 71°N by the end of September. At that time, there was no new ice formation south of 71°N along the southern coastal routes. A new record of minimum old ice extent was achieved in the Beaufort Sea area this past summer; this lead to a new minimum old ice record for the entire Western and Central Arctic region.

Ice conditions as well as departure from normal ice concentration for mid-September are shown in Figure 29 and Figure 30, respectively.

Table 3: Temperatures and departures from normal (ºC) for Western Arctic

	June		July		August		September	
Stations	Temp.	Depart.	Temp.	Depart.	Temp.	Depart.	Temp.	Depart.
Gjoa Haven	2.1	0.6	9.1	1.6	6.8	1.2	-0.6	-0.3
Cambridge Bay	2.3	0.1	9.5	1.4	7.4	1.2	-0.8	-0.2
Kugluktuk	4.2	-0.7	10.4	0.0	7.9	-0.7	2.1	-0.5
Tuktoyaktuk	9.7	3.5	13.0	2.0	6.7	-2.4	2.0	-0.7
Point Barrow	2.9	0.6	4.6	0.3	3.2	0.1	1.4	2.1

Figure 21: Temperature trend for Tuktoyaktuk from June 1st to September 30th

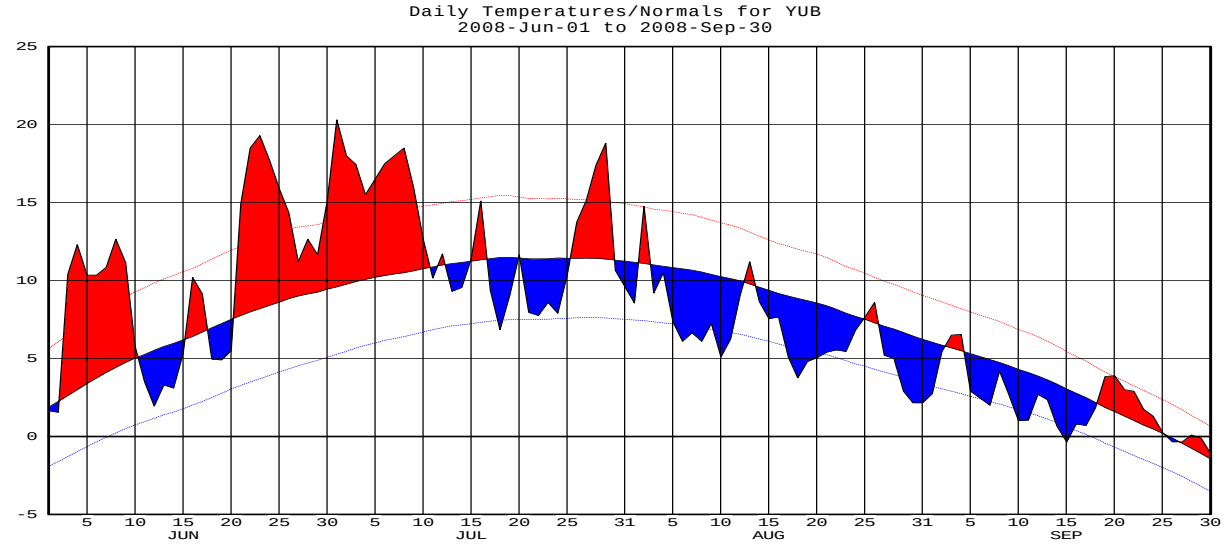


Figure 22: Temperature trend for Cambridge Bay from June 1st to September 30th

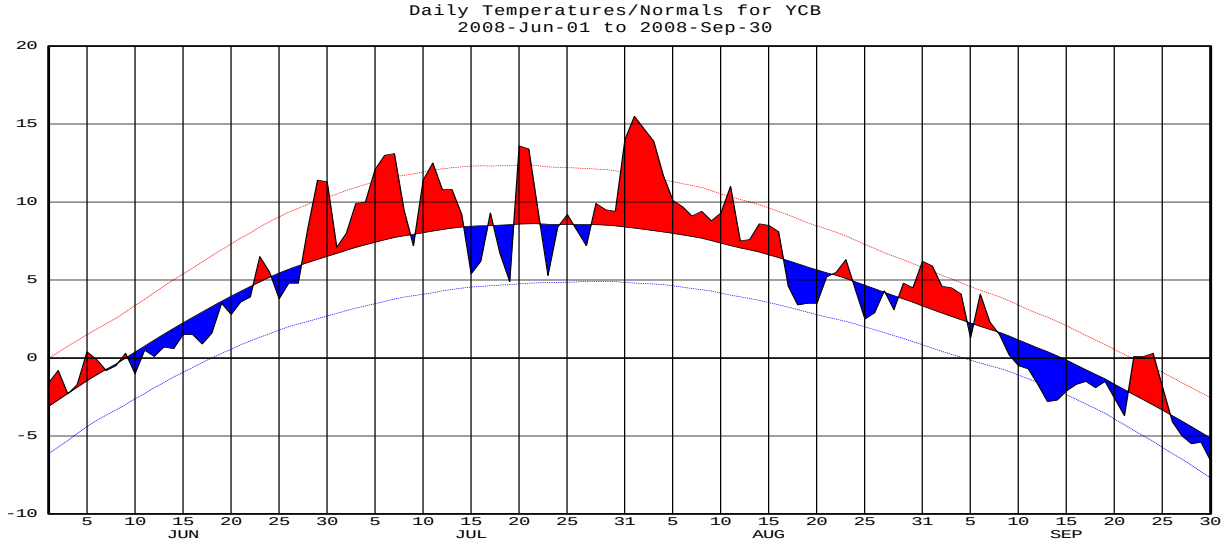


Figure 23: Western Arctic Regional chart - June 16th

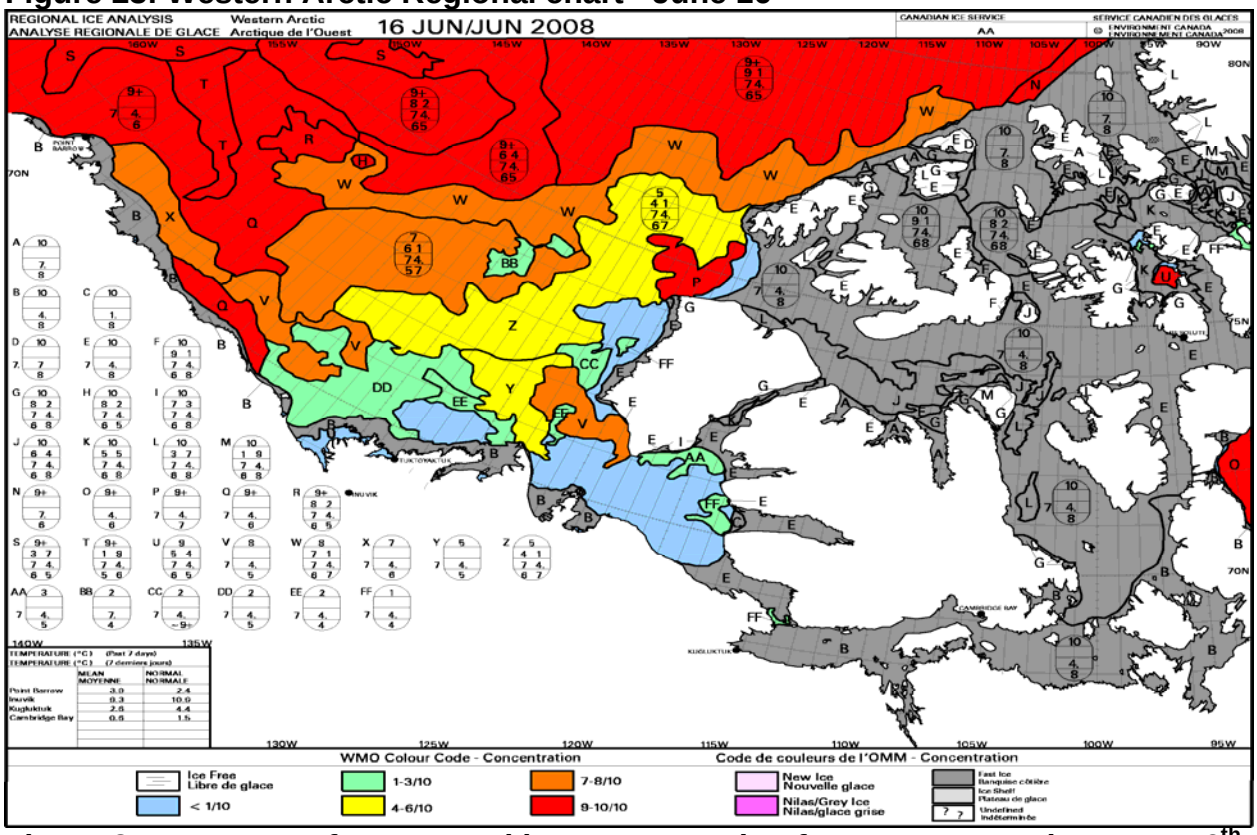


Figure 24: Departure from normal ice concentration for Western Arctic - June 16th

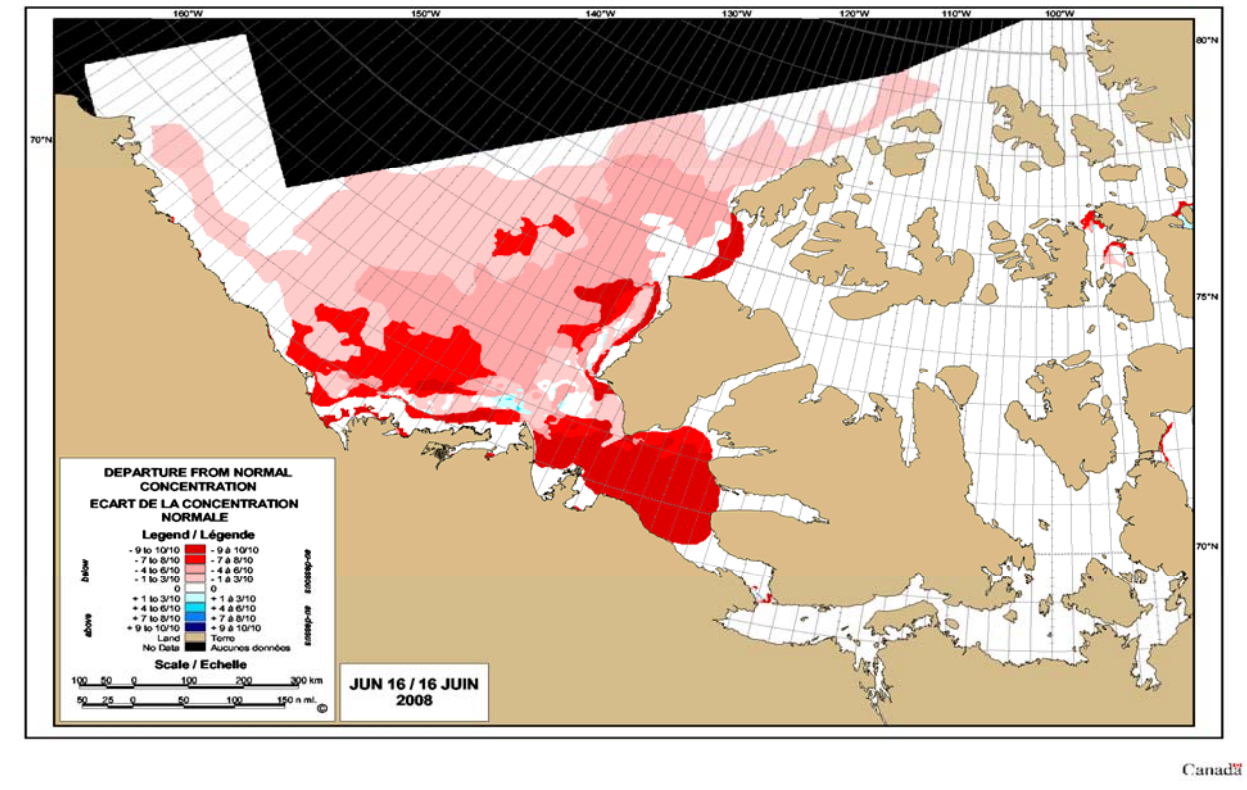


Figure 25: Western Arctic Regional chart - July 14th

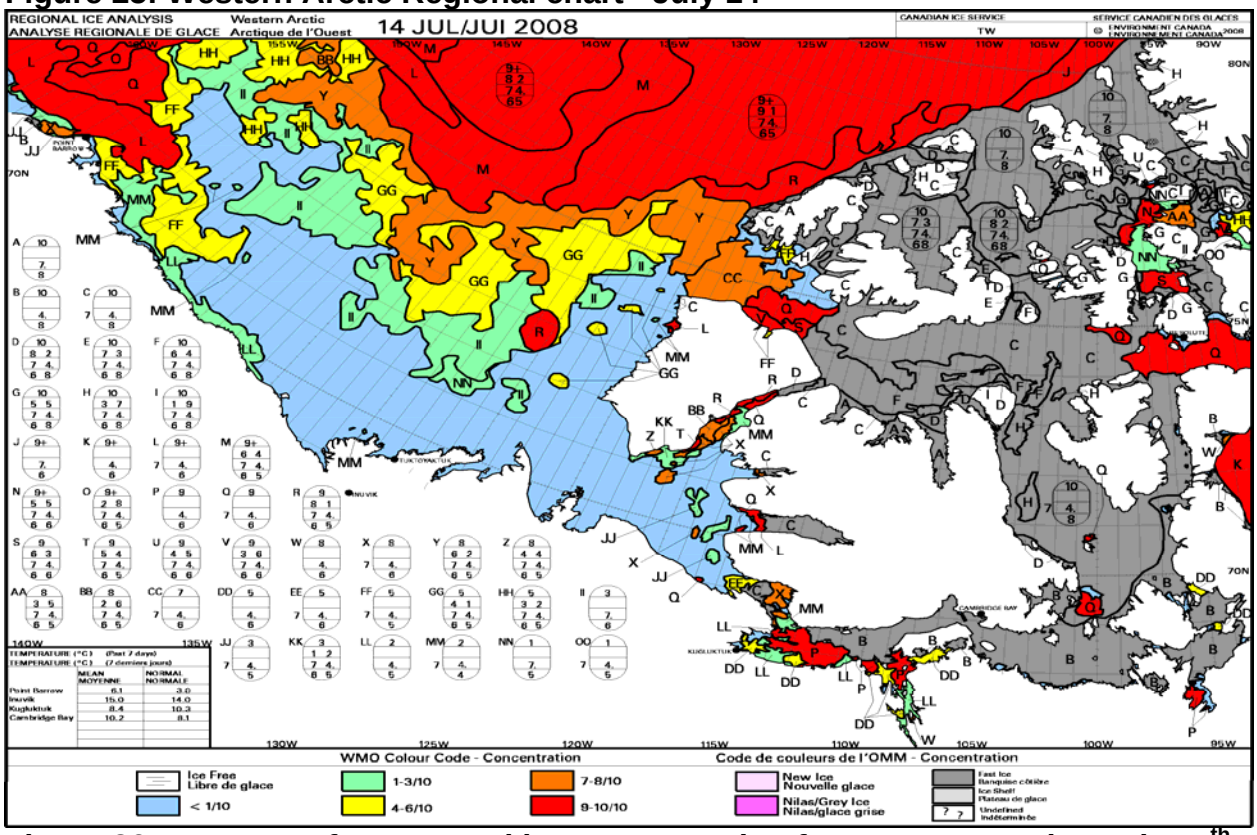


Figure 26: Departure from normal ice concentration for Western Arctic - July 14th

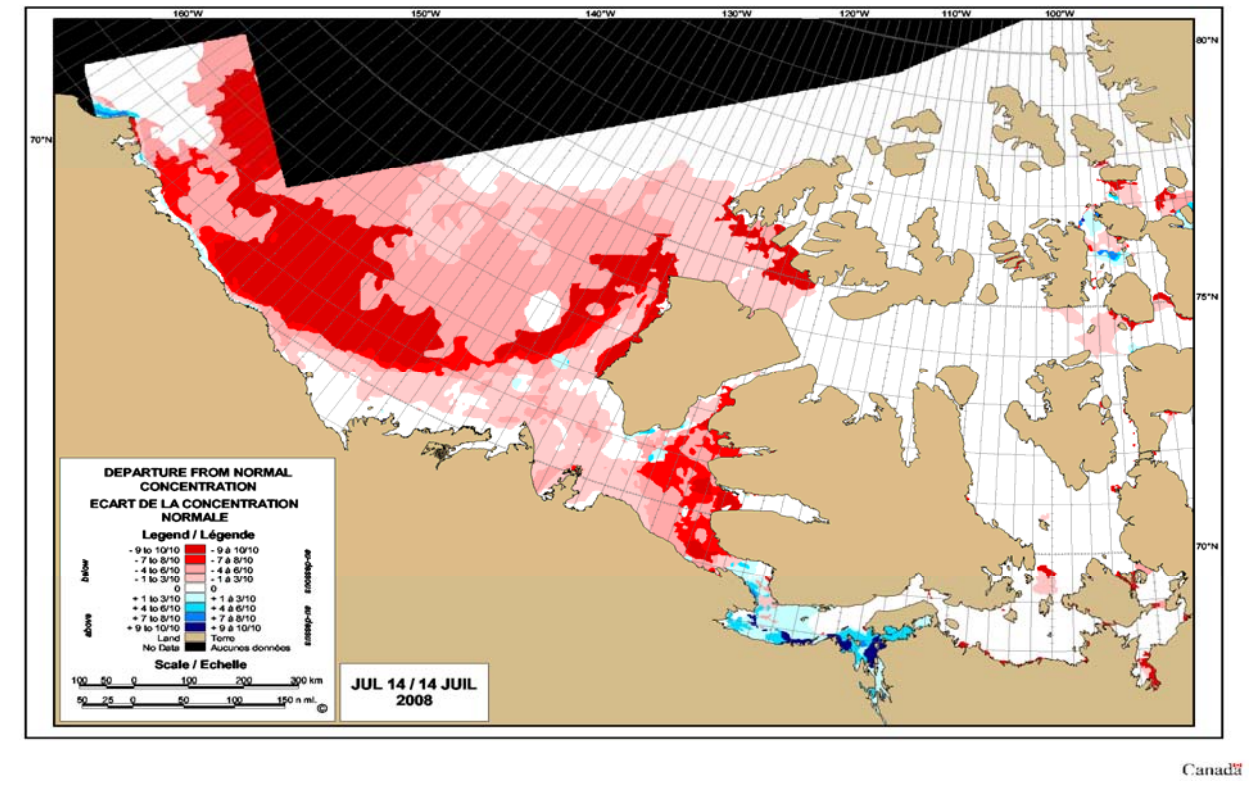


Figure 27: Western Arctic Regional chart - August 11th

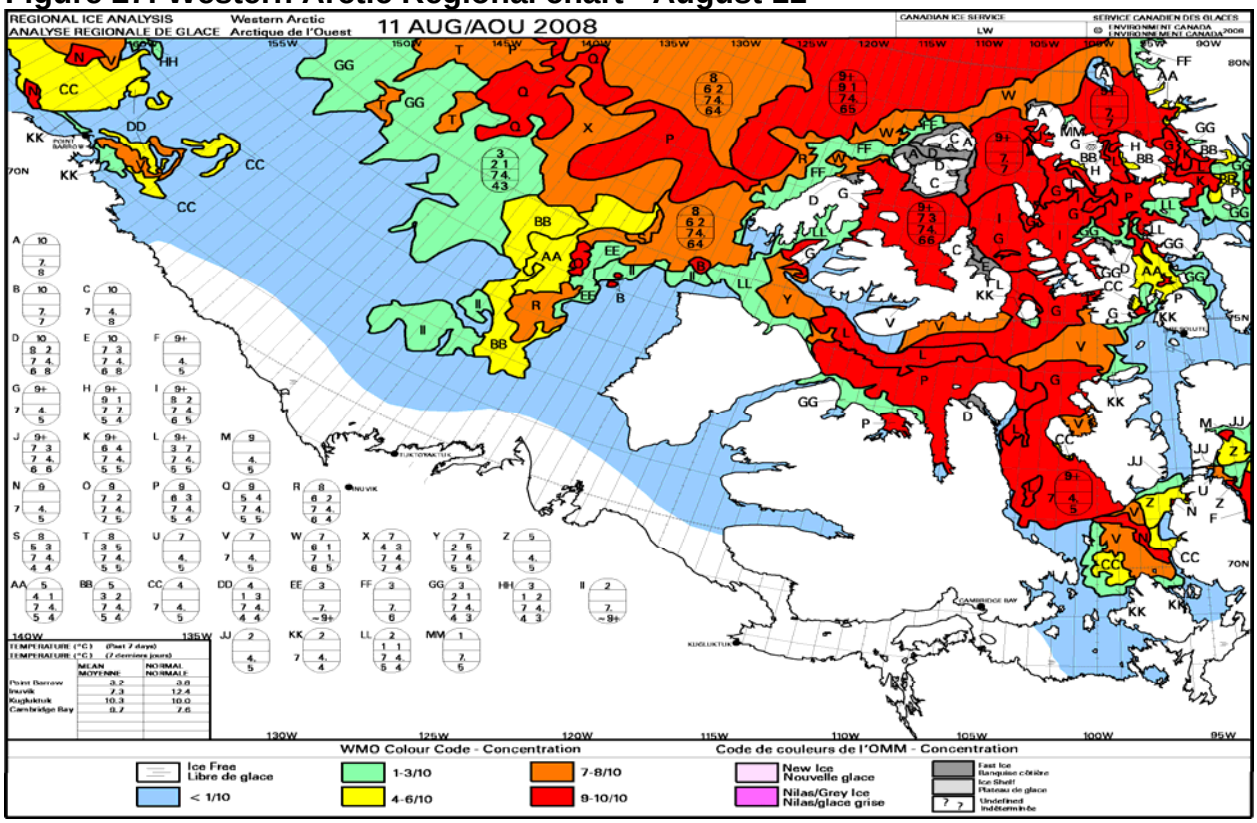


Figure 28: Departure from normal ice concentration for Western Arctic - August 11th

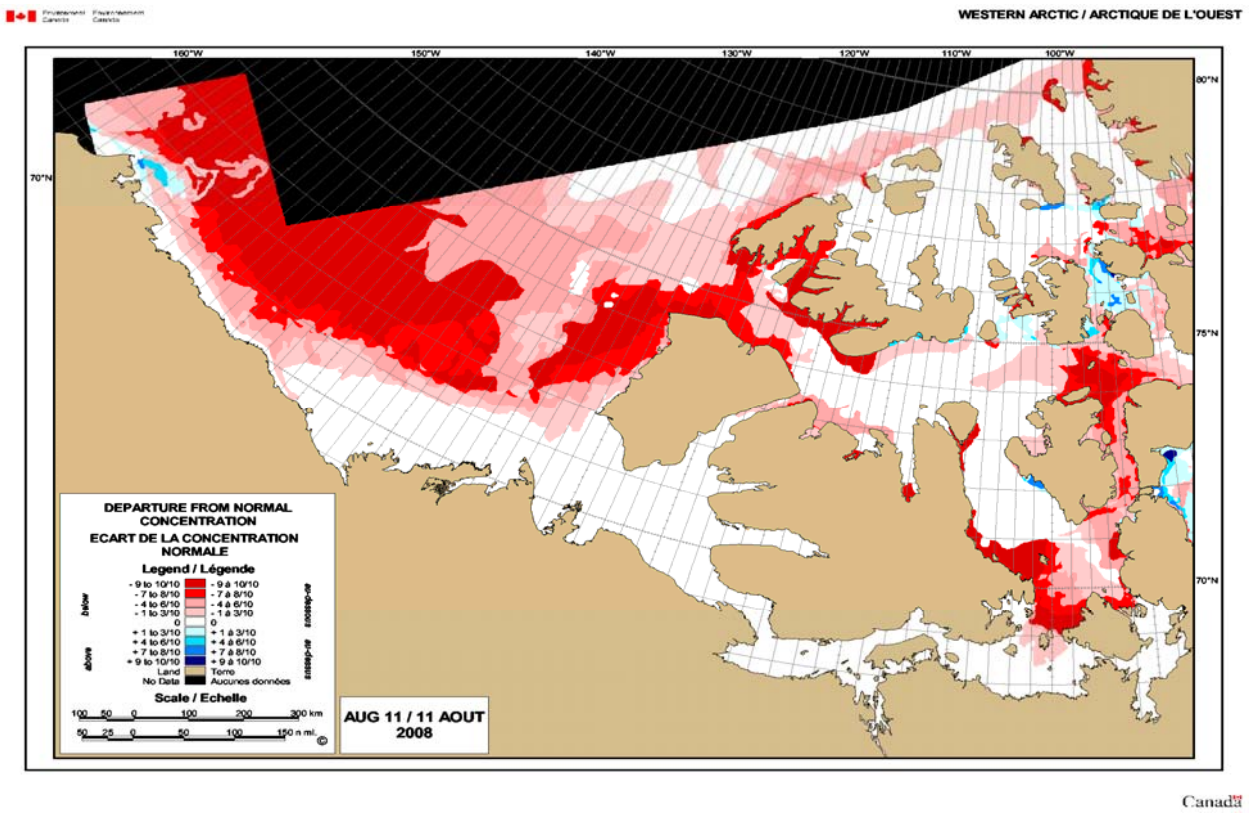


Figure 29: Western Arctic Regional chart - September 15th

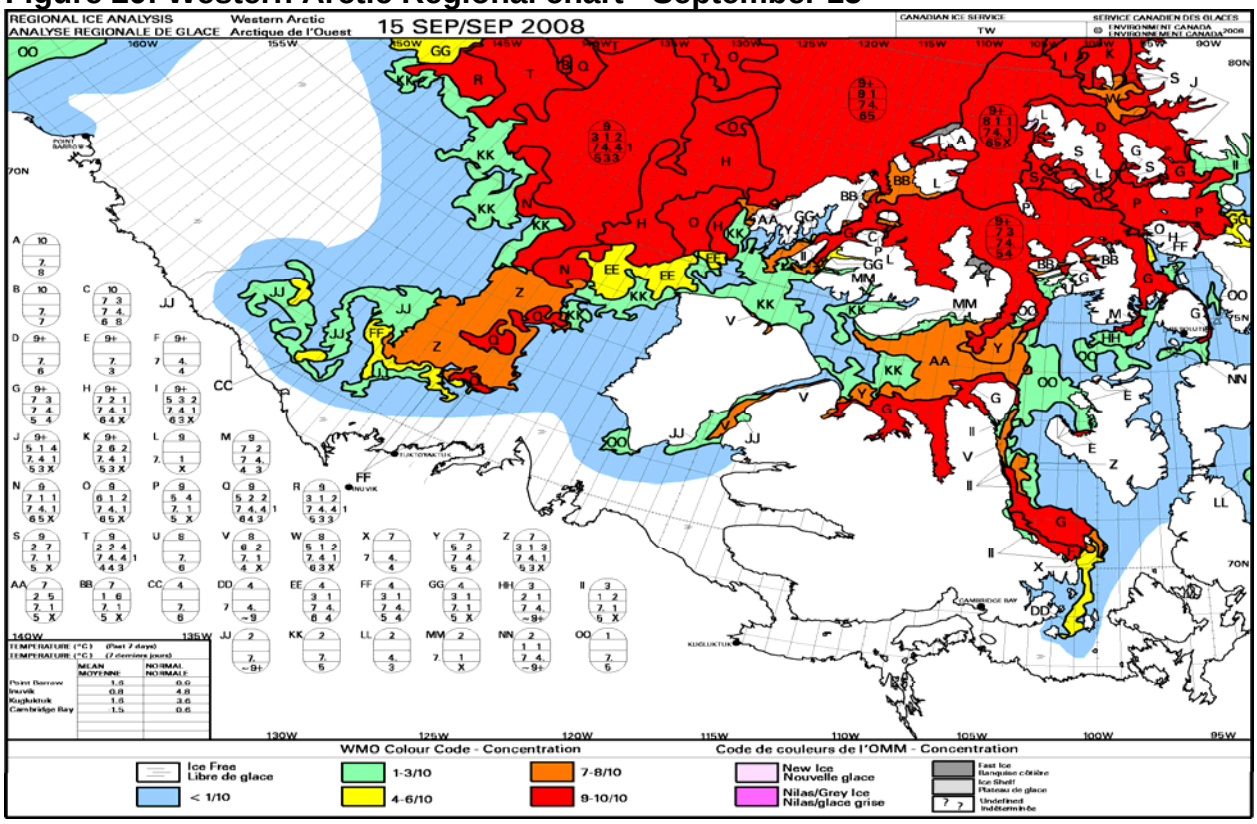


Figure 30: Departure from normal ice concentration for Western Arctic - September 15th

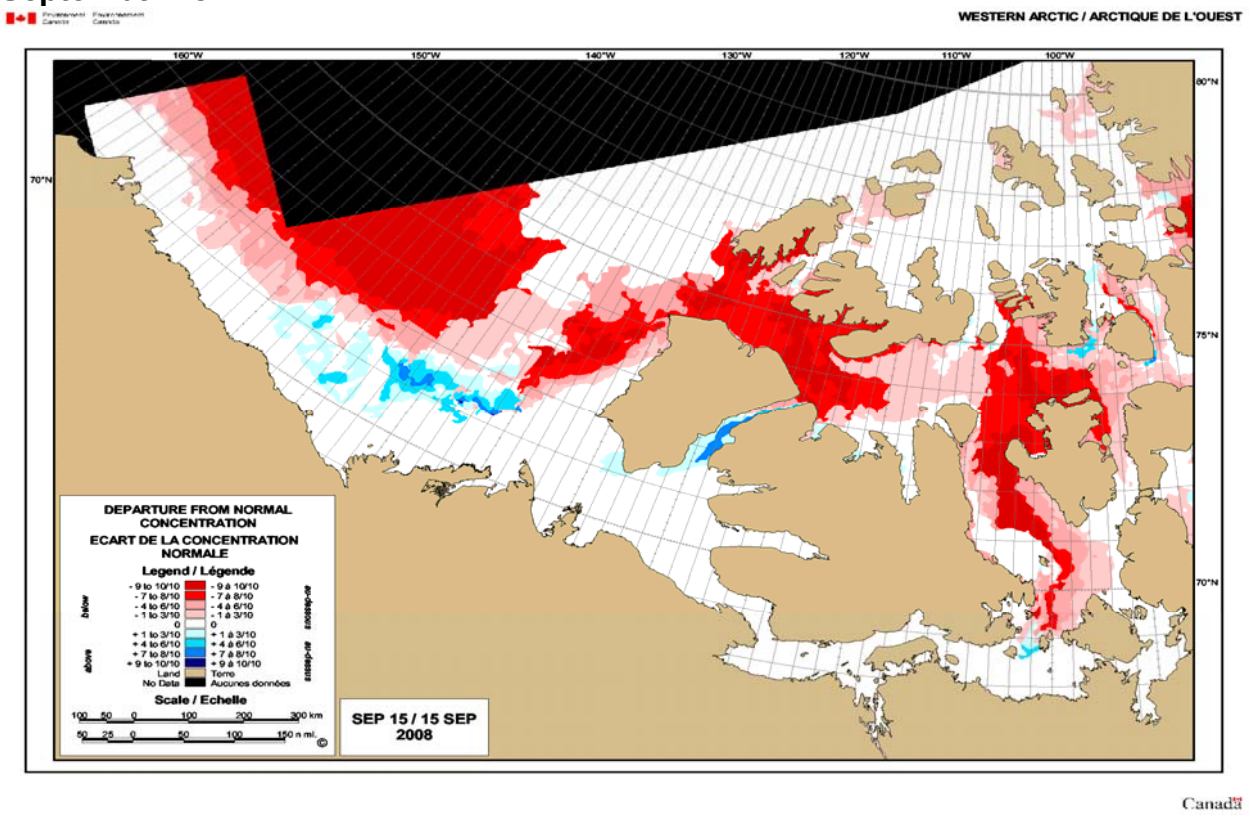
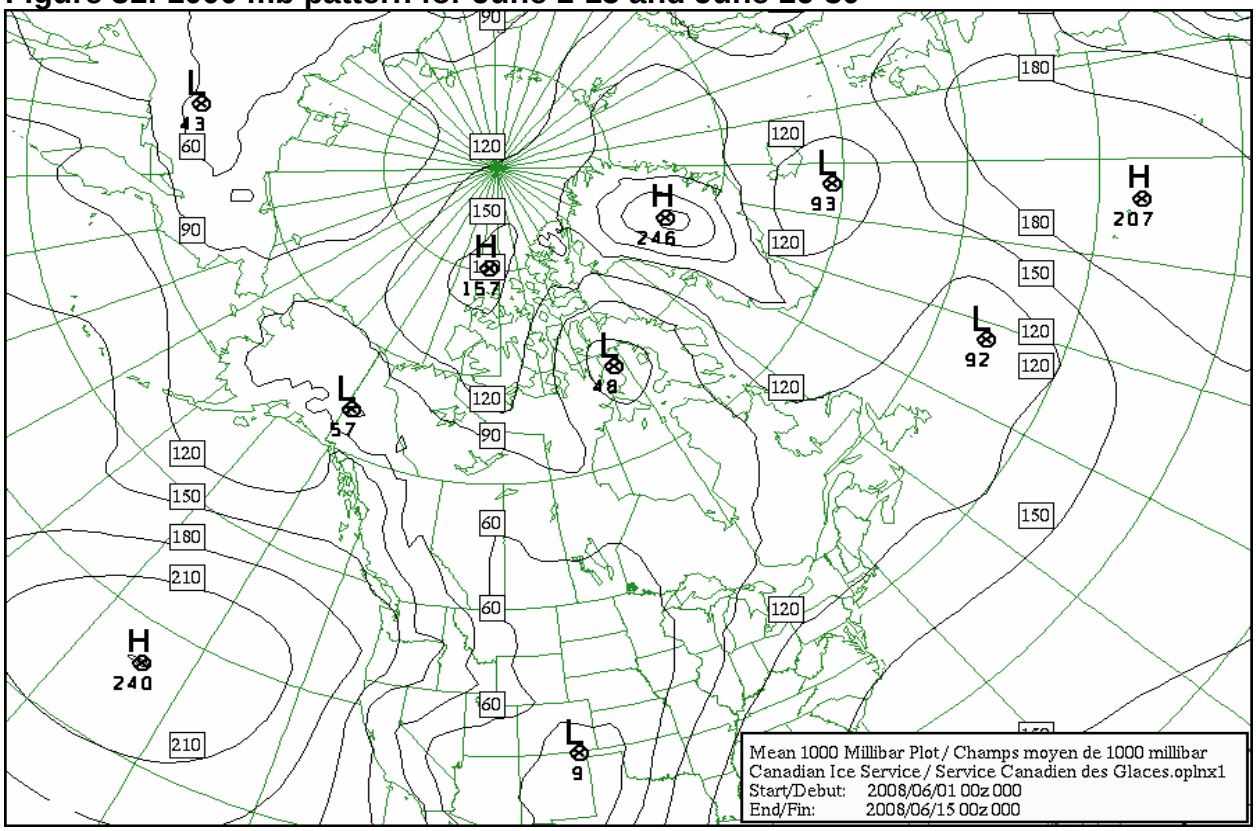


Figure 31: 1000 mb pattern for June 1-15 and June 16-30



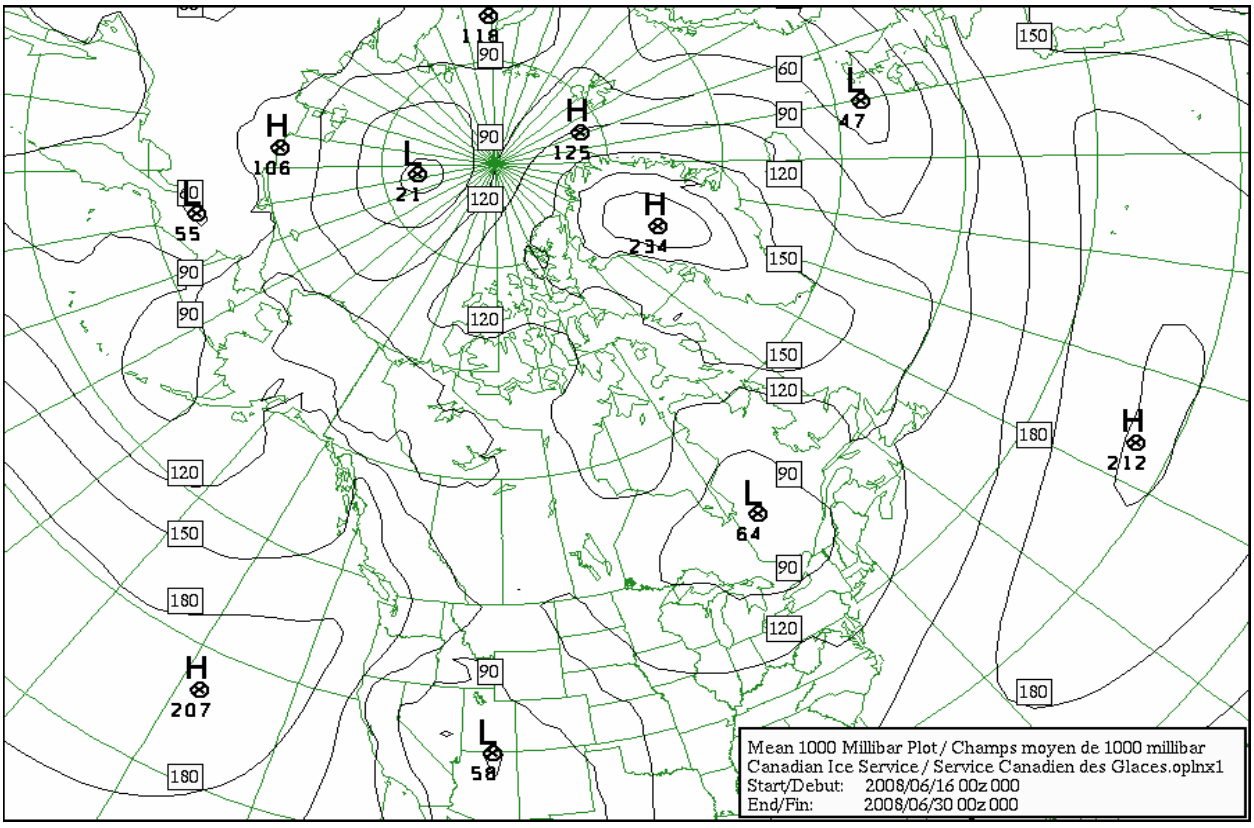
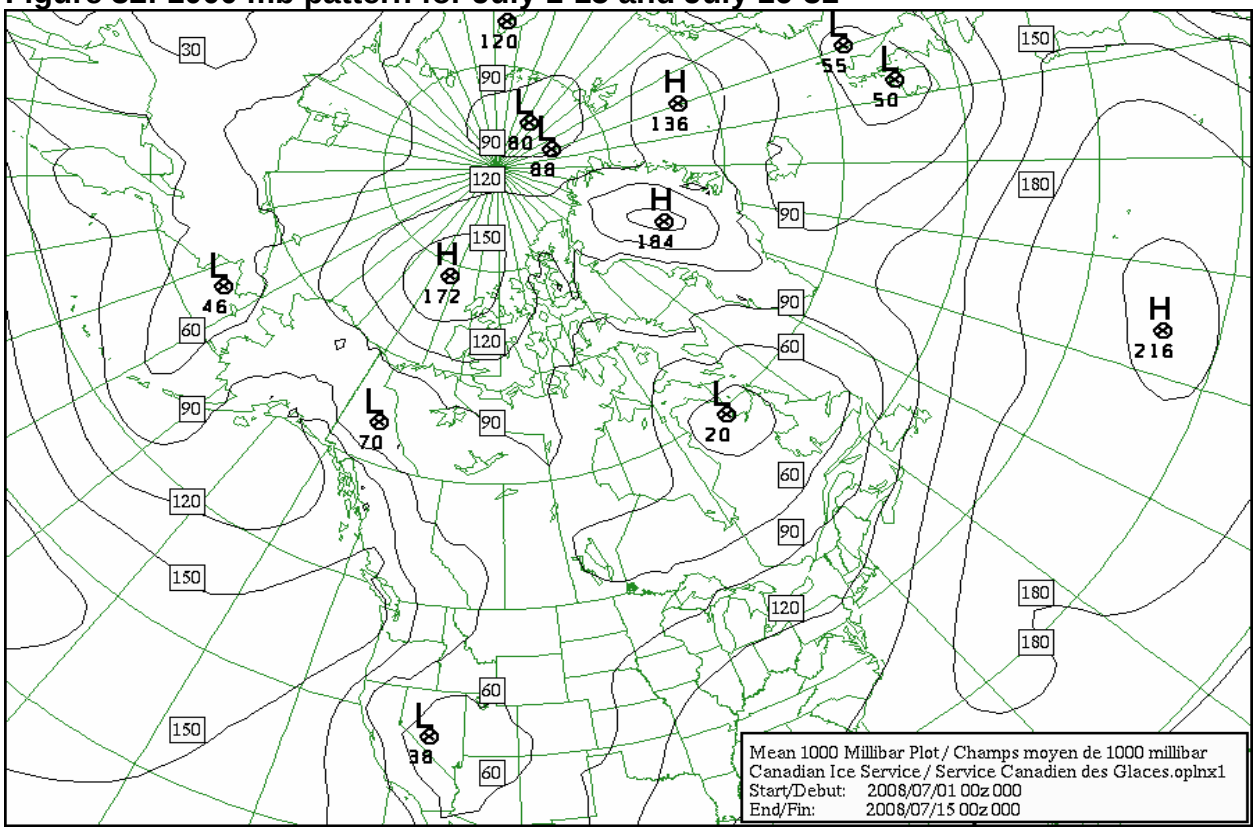


Figure 32: 1000 mb pattern for July 1-15 and July 16-31



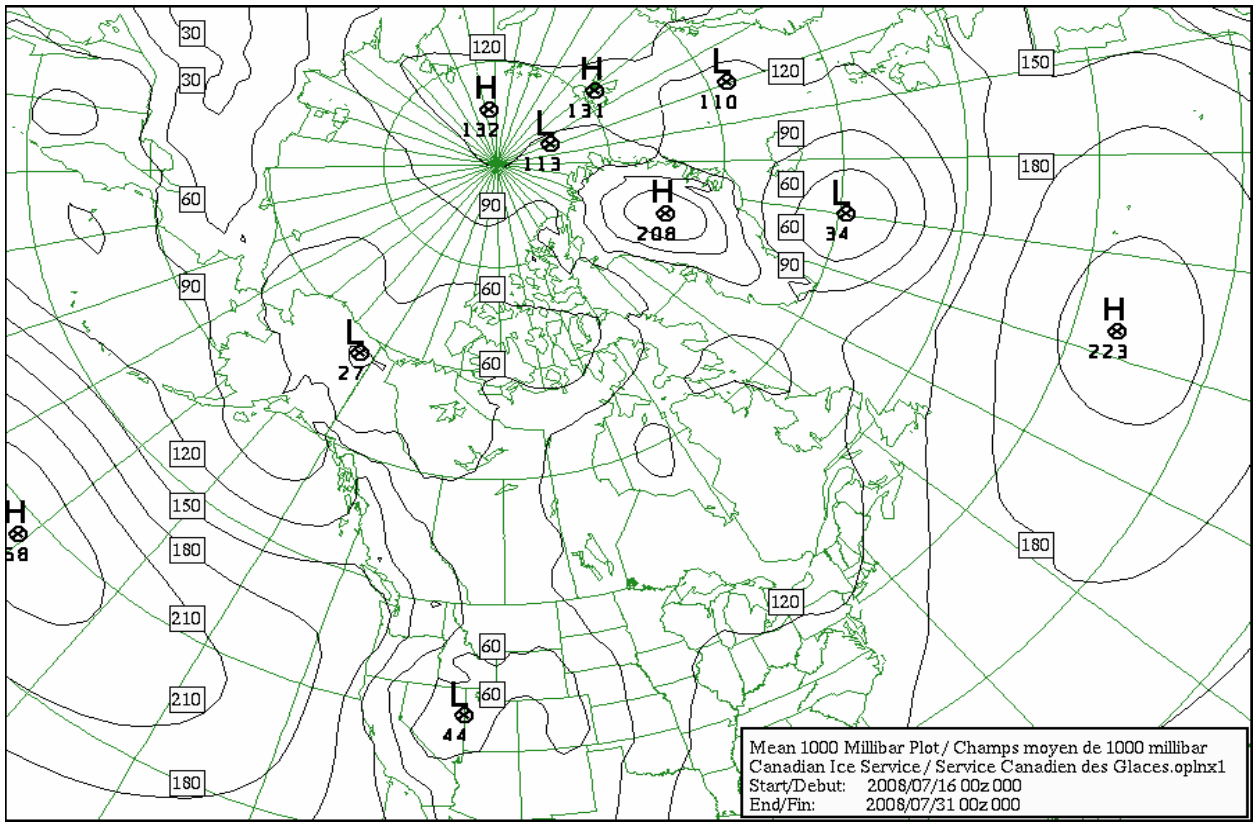
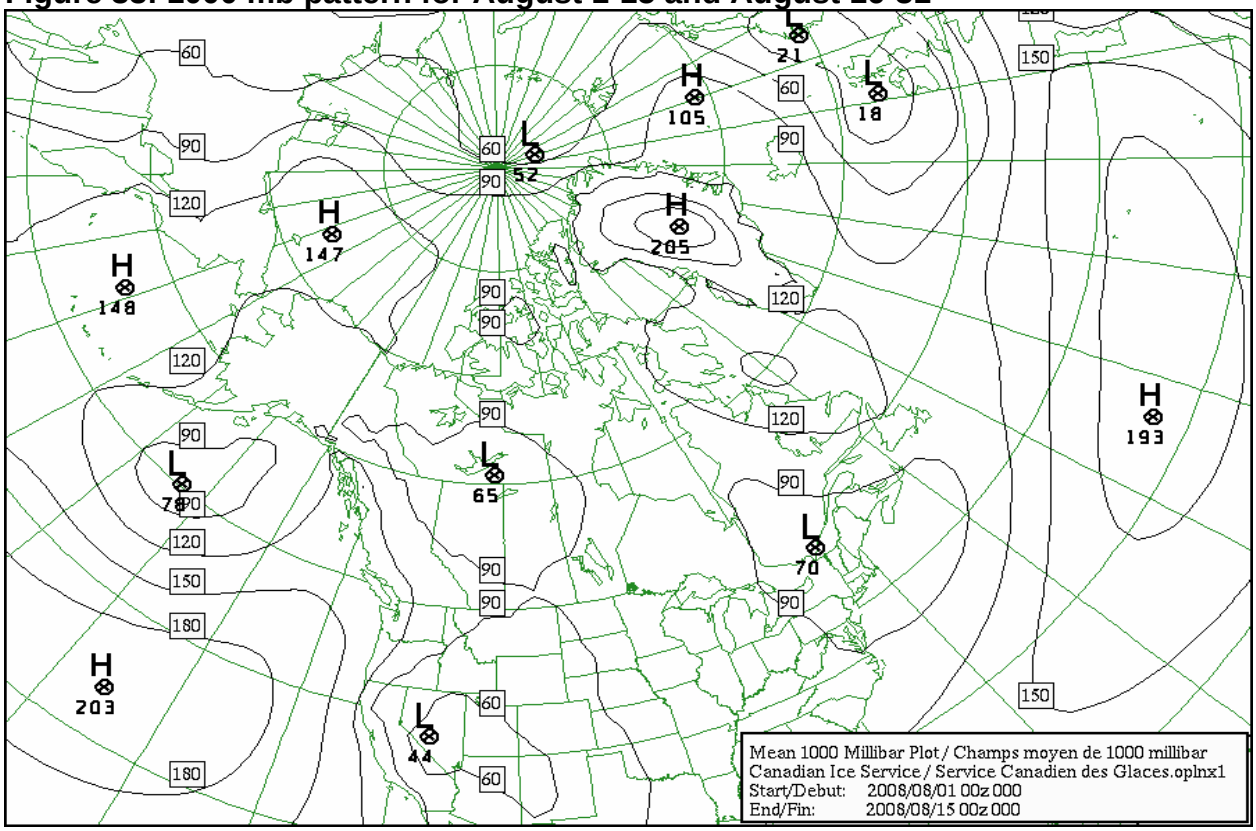


Figure 33: 1000 mb pattern for August 1-15 and August 16-31



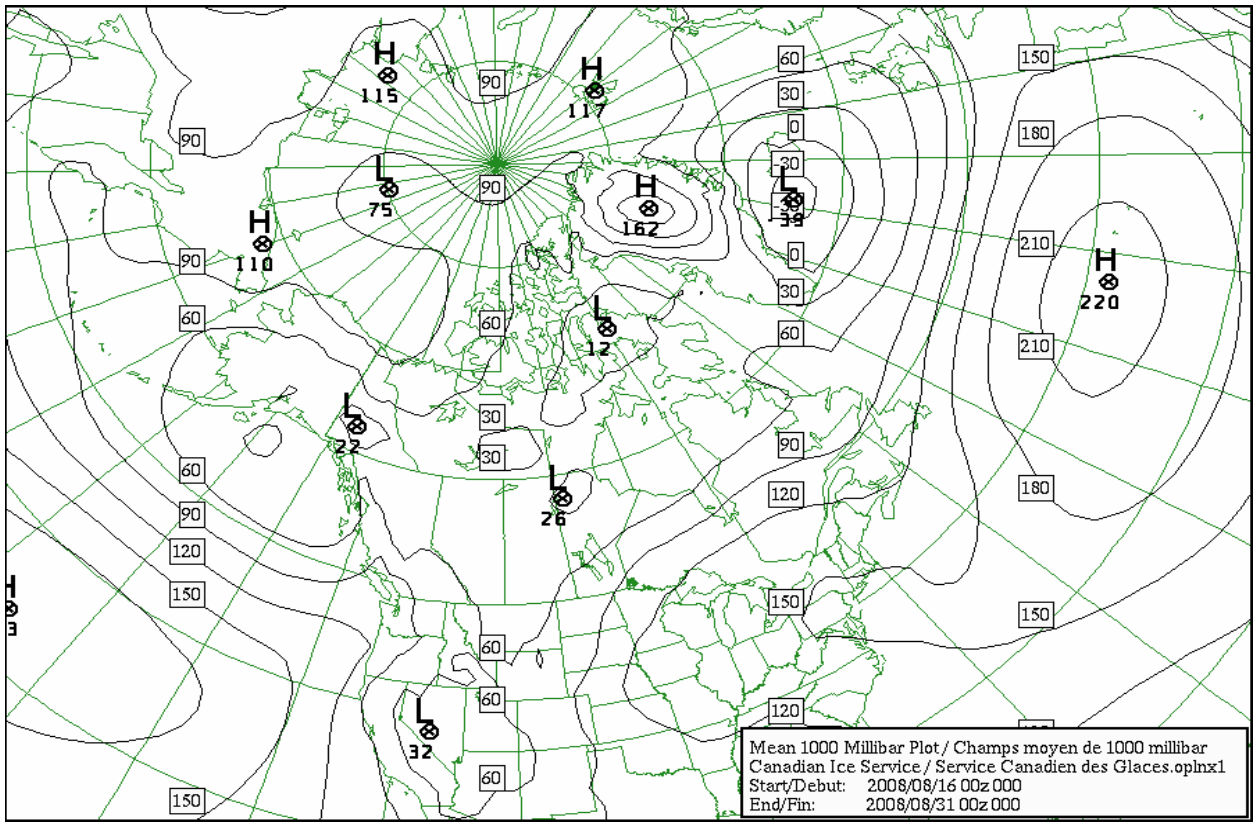


Figure 34: 1000 mb pattern for September 1-15 and September 16-30