

Seasonal Summary
For Eastern Canadian Waters
Winter 2004-2005



Produced by the Canadian Ice Service
June 3rd, 2005

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Gulf of St. Lawrence

Freeze up

Overall, the region was cleaved in an east-west split in terms of temperatures for the entire month of December. The Estuary and the western portion of the Gulf were near to below normal for the month while the central and eastern sections were above normal. During the first week of December, temperatures were much below normal however bounced back to above normal for the second and third week. By the last week of the month, temperatures plunged back to below in the eastern part of the Gulf and much below normal values in the west. A general light to moderate northwest circulation covered the area during the first week with a weakened circulation during the second and third week. The last week of the month had winds from the north over the area. No significant ice grew over the first two weeks of December however after mid-month, ice began to grow near Quebec City and spread down the St Lawrence River. During the third week, ice had drifted along the shore of the river to about Pointe des Monts. In the meantime, ice began to form along the New Brunswick and Prince Edward Island coasts. The rest of the Gulf remained open water to ice free. By the end of the month, most of the Estuary was covered with grey and new with some greywhite ice to about Sept Isles. A narrow band of new ice extended along the northern Gaspé Peninsula coast to about 15 miles north of Gaspé. The southern portion of Chaleur Bay had new and grey ice while the northern portion had open water. The New Brunswick coast from Miscou Island southward to the entrance to the Northumberland Strait had an area of new and grey ice about 10 miles wide. The Northumberland Strait was covered with new and grey ice while the north shore of Prince Edward Island had a narrow band of new ice. In the meantime, the North Shore of Quebec had some patches of new ice. The remainder of the Gulf was basically open water to ice free. Ice conditions at the end of the December were slightly later than normal except in the Estuary west of the entrance to the Saguenay River where ice concentrations were greater than normal (Figure 5).

The overall temperature profile for the month of January was characterized by below normal values however the latter part of the month had the strongest negative bias. During the first week of January, temperatures were below normal over the Northeast Arm but warmed up to above normal values in the southwestern part of the Gulf. By the second week, milder temperatures invaded the area. Above normal values blanketed the eastern portion of the Gulf while the west and Estuary had much above normal temperatures. During the second half of the month, temperatures plunged to colder than normal values. The eastern part of the Gulf was below normal while the western portion was much below or very much below normal. The circulation during the first week was light to moderate from the northwest then shifted to a more moderate westerly flow by the second week. The last half of the month, winds were moderate from the north. The ice from the Estuary continued to spill out into the Gaspé Passage

while other areas had some expansion along the coast. By the middle of January, the entire Estuary was covered with ice with patches of greywhite and thin first year ice hugging the southern shore. Most of the Gaspé Passage was incased in grey and greywhite ice. The ice along the New Brunswick coast north of the Northumberland Strait expanded eastward to about 40 miles from the coast with mostly grey and new with some greywhite ice. The entire Northumberland Strait had mostly grey and greywhite with some bands of thin first year ice. The north shore of Prince Edward Island as well as the area around the Magdalen Islands had some new and grey ice. The smaller bays along the western shore of Newfoundland had some patches of new and grey ice while the Belle Isle Strait was completely covered with grey and greywhite ice. The North Shore of Quebec had patches of new and grey. The rest of the Gulf was open water to ice free. With the onset of very cold temperatures during the last two week of the month, significant ice growth occurred. By the end of the month, the northern part of the Estuary was covered with grey and new ice while the south had mostly greywhite and thin first year ice. Some patches of medium first year ice was present at that time along the southern shore. The Gaspé Passage was mostly covered with grey and greywhite ice except for thin and medium first year ice along the Gaspé Peninsula. The western portion of the Gulf west of a line from near Heath Point on Anticosti Island to Cape North on Cape Breton Island had mostly grey, greywhite with some thin first year ice. Chaleur Bay and the Northumberland Strait had thin first year and greywhite ice with some medium first year ice while the northern portion of Chaleur Bay had grey and new ice. The eastern coast of Cape Breton Island and the south shore of Nova Scotia had a narrow band of new and grey ice. The ice edge along the western Newfoundland coast drifted southward to about the Bay of Islands area and extended westward just southeast of Heath Point. The ice in the Northeast Arm and along the North Shore of Quebec was mostly grey and new. The southern portion of Belle Isle Strait had thin first year and greywhite ice while the north had new and grey ice. Most of Cabot Strait and the southeastern portion of the Gulf were open water to ice free. Ice extent and concentrations were greater than normal along the western coast of Newfoundland and the south shore of Nova Scotia while the south-central portion of the Gulf had less than normal concentration and extent at the end of January (Figure 6).

The temperature profile for the month of February began with above normal temperatures over the southern section of the Gulf to much or very much above normal over the northern section as well as the Estuary. The first two weeks of the month had very much above normal temperatures over the entire area. A shift in temperature regime was observed during the third and fourth week. The southwestern part of the Gulf and Estuary were near to below normal while the central and northeastern sections were above normal. The circulation pattern during the first week of the month was light and variable over the entire area while the second week was characterized by a light cyclonic flow. By the third week the flow became light from the west however the last week of the month a moderate northwesterly circulation had buffeted the entire area. The overall ice

extent did not change significantly after the first week of February compared to conditions at the end of January. The ice along the south shore of Nova Scotia and Cape Breton Island did melt since the end of the previous month. By the middle of February, the ice edge in the southeastern part of the Gulf had retreated north and west. The ice edge ran from Cape North on Cape Breton Island to Heath Point on Anticosti Island and from Heath Point to about St John Bay on the western Newfoundland shore. The ice in the Estuary was mostly grey and new with a narrow band of thin first year and greywhite ice with some medium first year ice along the Gaspé Peninsula coast. The Gaspé Passage, Chaleur Bay and the area along the northern New Brunswick coast were covered with greywhite and thin first year ice. Areas of mostly new and grey ice covered the southern shore of Anticosti Island and the northern portion of Chaleur Bay. Northumberland Strait and the southwestern portion of the Gulf were blanketed with thin and medium first year ice. The Belle Isle Strait and the North Shore of Quebec had mostly grey and new ice. A narrow band of greywhite and thin first year ice from the southern portion of the strait extended southwestward to about Cape Whittle just off the North Shore of Quebec. The second half of February heralded the return to cooler than normal temperatures especially over the western portion of the Gulf. An eastward expansion of the edge was observed during this period. By the end of the month most of the Estuary was covered with new and grey ice with some open water areas especially near the entrance to the Saguenay River. The southern portion of the Estuary was still covered with thin and medium first year ice. The Gaspé Passage had mostly greywhite and grey with some thin first year ice. Some medium first year ice was located along the Gaspé Peninsula. A narrow open water area had developed along the southern shore of Anticosti Island. Chaleur Bay and the northern New Brunswick coast including the northern portion of the Northumberland Strait had mostly new and grey ice. Some thin and medium first year ice was in the southeastern part of Chaleur Bay and the northern part of the Northumberland Strait. The southern part of the Northumberland Strait and the central part of the Gulf was covered with thin and medium first year with some thick first year ice. The exception was along the ice edge where greywhite and thin first year ice prevailed. Greywhite and thin first year with some medium first year ice from the southern part of the Gulf spilled into the western portion of Cabot Strait. The southern reach of the ice was about 60 miles southeast of Cape Breton Island. The ice edge along the western Newfoundland coast was located about 15 to 20 miles offshore. Ice elsewhere in the Northeast Arm and along the North Shore was mostly greywhite and thin first year ice. The exception was a band of new and grey ice within 10 to 15 miles of the North Shore. For the most part, the Gulf had less than normal ice concentration and extent in the central and eastern portion of the region. The exceptions were along the eastern shore of Cape Breton Island and parts of the Estuary where concentrations were somewhat greater than normal (Figure 7).

During the first two weeks of March, the temperature pattern continued from the end of the previous month. The Estuary and the western portion of the Gulf were below normal while the central and eastern sections were above normal. The

wind pattern during the first week was light to moderate from the northwest over the Estuary and the western Gulf and light to moderate southerly over the central and eastern section. The second week had generally light easterly winds over the entire area. The northern Estuary was covered with areas of grey and new ice while mostly grey and thin first year ice with patches of medium first year ice prevailed over the southern portion during the first two weeks of March. The Gaspé Passage continued to have a mix of greywhite and thin first year ice in most of the passage with thinner new and grey ice along the southern shore of Anticosti Island. During the second week of March an easterly circulation pushed thin and medium first year ice into the Chaleur Bay area. The central and southern portion of the Gulf including the Northumberland Strait changed little in terms of ice type. Mostly thin and medium first year ice prevailed in these areas with some patches of thick first year ice. The ice in Cabot Strait retreated northward during the first week of March so that by the end of the second week only a few patches of ice remained. The eastern and southern ice edges drifted west and north during the first two weeks of the month. By the middle of March, the ice along the North Shore of Quebec stretched about 40 miles south with mostly greywhite and thin first year ice. The Belle Isle Strait had a narrow band of greywhite and thin first year ice along the southern portion while the rest of the strait had mainly new ice. The remainder of the Gulf was open water to ice free.

Break-Up

By the third week the entire Gulf region was above normal however the last week had below normal temperatures over the Northeast Arm with mostly near normal for the rest of the Gulf. The Estuary had above normal temperatures during the last week of March. Third week had a moderate northerly circulation over the entire area. By the last week of the month a light circulation from the east was established. The break-up of the ice began in earnest as a northerly circulation pushed the ice offshore and caused significant destruction. Most of the new and grey ice was gone at the end of March which left only ice of greywhite or thicker in the Gulf. The ice in the Estuary and the Gaspé Passage began to clear from west to east. By the end of the month only a few patches of ice remained with some fast ice along the shore. Areas of open water began to appear in the western portion of Chaleur Bay near the end of the month while the rest of the bay continued to have thin and medium first year ice with some patches of thick first year ice. Areas of open water also developed along the New Brunswick coast. The central portion of the Gulf cleared from north to south. At the end of the month, most of the ice was located from the Magdalen Island southward with only a few patches further north. Ice spilled from the southern portion of the Gulf into the western portion of Cabot Strait along the Cape Breton Island coast. In fact some of the ice drifted along the southern shore of the island and the mainland of Nova Scotia. During the two week period, concentrations were quite high causing some problems in the Sydney Bight area. The western coast of Newfoundland had a narrow band of thin and medium first year ice. The Northeast Arm had patches of first year ice with the North Shore of Quebec still

had fast ice. At the end of March, ice concentration and extent were much less than normal over the eastern half of the gulf while the west were slightly greater than normal (Figure 8).

Overall temperatures were above normal during the month of April over the entire Gulf region. Temperatures during the first week of April were above or much above normal over the entire area but cooled off to near normal during the second week over most of the area. The exception was the northwestern part of the Gulf where below normal temperatures prevailed. The third week was characterized with above normal temperatures not including the northern section of the area where near normal values dominated. During the last week, temperatures were generally near to below normal values. The winds were light to moderate from the south during the first week but veered northwest during the second and third week. During the last week of the month the winds switched from the southeast and were moderate in intensity. The fast ice in the Estuary and the Gaspé Passage cleared during the second week. Significant open water areas developed in the ice pack in the southwestern part of the Gulf as well as the Northeast Arm. By the middle of April, most of the ice in Chaleur Bay and Northumberland Strait had melted except for the southern and western section of the bay where mostly rotten medium and thick first year ice still prevailed. Some areas of fast ice were still present in the bays in New Brunswick, Prince Edward Island and Nova Scotia. The pack ice in the Gulf was located northeast of Prince Edward Island, south of Magdalen Islands and edged into the western part of Cabot Strait. In the Northeast Arm, mostly medium first year ice was located along the shore with fast ice still present in the small bays of the Quebec North Shore. The Belle Isle Strait had a few strips of medium and thick first year ice. The remainder of the Gulf was open water to ice free. The third week saw a significant reduction in the size of the ice pack in the southwestern part of the Gulf however some of the ice continued to drift into the Cabot Strait. The floating ice in the Northeast Arm as well as Northumberland melted at the end of the third week. By the end of the month of April, all of the drifting ice had melted. The only ice that remained was the rotten fast ice in the smaller bays around the Gulf. The rest of the Gulf was mainly ice free with open water near the shore (Figure 9).

Temperatures were near normal over the Estuary however the Gulf of St Lawrence had above or much above normal values during the first week of May. During the second week of the month temperatures cooled off to below normal values over most of the Gulf with the exception of the Northeast Arm area and the Estuary where temperatures were near to above normal over the period. Winds were light from the southwest during the first week but switch to light or moderate from the northeast during the second week. A few strips of medium and thick first year ice drifted into the Strait of Belle Isle from the southern Labrador coast during the first few days however by the end of the first week of May only bergy water prevailed in the strait. The fast ice in the smaller bays fractured during the first two weeks of May so that by the middle of May most of the Gulf was ice free while the Northeast Arm had bergy water.

Generally speaking, the ice extent for the 2004-05 season was less than normal. The exception was on January 29th and March 5th where greater than normal ice extent was registered (Figure 1). After March 12th the ice extent decreased significantly until the end of the ice season. Normally the maximum ice extent is usually achieved around February 19th. This year the ice extent was less than normal. In fact, less than normal ice extent has been registered 9 times during the last 10 years on February 19th. The only year where the ice extent was greater than normal was in 2002-03 (Figure 2).

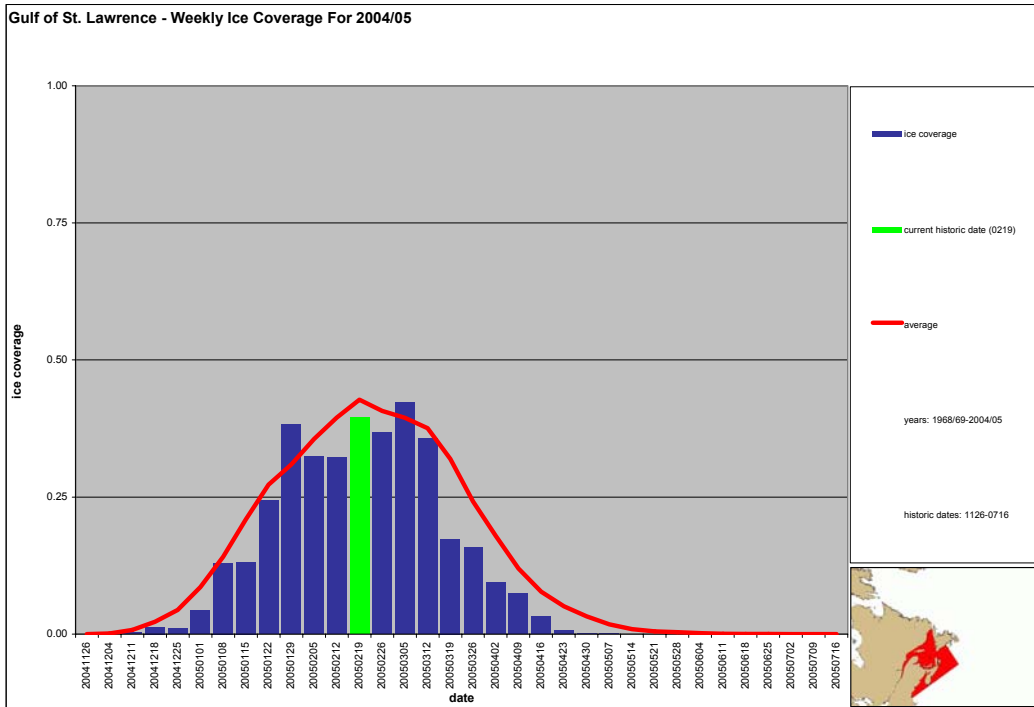


Figure 1: Weekly Ice coverage for the Gulf of St Lawrence – 2004-05 ice season.

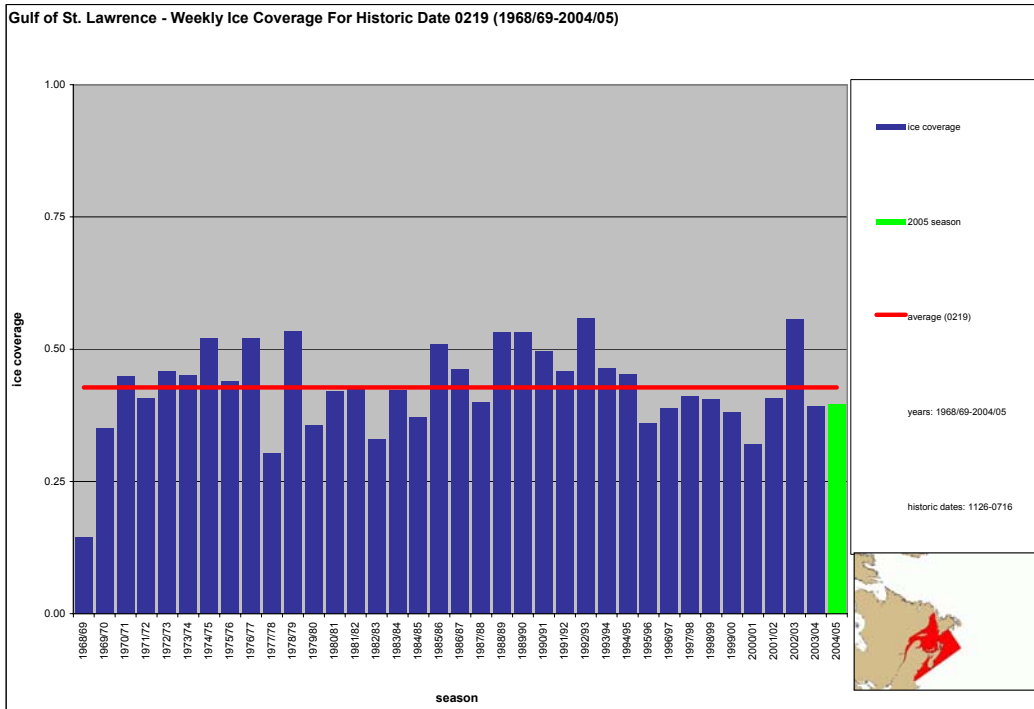


Figure 2: Normalized ice coverage for the Gulf of St Lawrence for February 19.

East Newfoundland Waters

Freeze-up

During the month of November, temperatures were generally above normal over the entire area except for Goose Bay where below normal values were observed. The circulation was light and variable during the third week but became moderate from the west for the last week of the month. Some new and grey ice began to form along the Labrador coast while the southern portion of Lake Melville was covered with the same type of ice after the mid point of the month. With much above normal temperature values and moderate westerly circulation observed during the last week of November, the areas of new and grey ice had melted back or were destroyed.

The entire month of December was above normal over most of the region except the northern portion of the Labrador Coast where temperatures were below normal. The first week started off with temperatures near to slightly below normal while the second and third weeks had temperatures which were much or very much above normal. The last week of December the Newfoundland area had above normal temperatures while Labrador had below to much below normal values. The circulation pattern for the first week was light to moderate from the northwest while the second and third week was characterized by a light and variable flow. The last week was moderate from the west. The onset of freeze-up was somewhat slower than normal for the beginning of December. Areas of new and grey ice began to form again along the entire length of the Labrador coast. At the middle of December, all of Lake Melville was covered with grey and new with some fast ice in the western and southern section of the lake. Elsewhere mainly open water conditions prevailed with bergy water north of 5630N. The trend of slower than normal ice growth continued for the second half of December. Ice along the Labrador Coast continued to expand seaward and reached about 30 miles from the southern shore and 120 miles in the north by the end of the month. The ice was mostly grey and new in the south with greywhite in the north. Ice in Lake Melville thickened to greywhite and thin first year. No significant ice began to form along the Newfoundland coast. Ice extent and concentrations were less than normal for the end of December along the Labrador Coast (Figure 5).

For the month of January, the temperature regime was split on a north-south pattern. The southern section from Northern Newfoundland southwards was generally near normal while the northern tip of Newfoundland northwards was below to much below normal during the period. The intense cold was confined to the north and occurred during the last week of the month. The first two weeks of January, the entire area was buffeted by a moderate northwesterly circulation. This same pattern persisted until the end of the month for the Labrador area. In the meantime, the south had a lighter and more variable flow during the third

week while the last week had a more northerly flow. During the first week, new and grey ice began to form in the Strait of Belle Isle as well as the coastal area of Newfoundland west and north of Fogo Island. At the beginning of the second week, fast ice had formed in the Bay of Exploits, the area south of New World Island as well as the smaller bays along the shore north of Cape Freels. By the end of the second week mostly greywhite and grey ice covered the southern portion of the strait while the north had new and grey ice. Significant expansion of the ice pack along the Labrador Coast occurred during the first two weeks of January however it was still less than normal for the middle of the month. The ice edge was located about 140 miles east of the northern shore of Labrador while the edge was about 80 miles east along the southern shore. Mostly grey and greywhite ice covered the area with some thin first year ice north of 5700N. The remainder of the area was open water except north of 5700N where mostly bergy water prevailed. The southern ice edge continued to push southward during the second half of January. By the end of the month, the ice had drifted into Notre Dame Bay, slipped by Cape Freels and entered the southern portion of Bonavista Bay. The eastern ice edge was located about 40 miles east of Cape Freels, 80 miles east of St Anthony, 110 miles east of Cartwright and 120 miles east of the northern tip of Labrador. The southern edge of the old ice was located at 5520N along the Labrador Coast. Most of the ice in Newfoundland and Labrador was greywhite and grey with thin first year ice. Areas of thinner ice were located along the Northern Peninsula, White Bay, the western side of Notre Dame and Bonavista Bays. Conditions at the end of January continued the trend from the end of December in terms of concentrations and extent. The area along the Labrador Coast as well as the northern part of Newfoundland had less than normal concentrations and extent. The exception was the area along the northern shore in Notre Dame Bay as well as around Cape Freels where greater than normal concentration and extent prevailed (Figure 6),

The month of February was generally above normal for the entire area. During the first week, Newfoundland was above normal however Labrador had very much above normal temperatures. By the second and third week of February, the entire area had much above or very much above normal temperatures. The last week of the month, temperatures moderated somewhat but still remained in the above normal range for the entire area. The first week of February was marked by a moderate westerly circulation over most of the area except Newfoundland where winds were light and variable. The second week saw a light northerly flow over the entire area before switching to a light westerly flow during the third week. For the final week, a light to moderate northeasterly flow had established itself. With a more westerly circulation over the Labrador area, the eastward expansion was about 40 miles during the first week of the month. Very little expansion seaward occurred over the Newfoundland region during the same period. By the middle of February, the gains in terms of expansion during the first week were mostly negated by the northerly flow during the second week. The ice was within 40 to 70 miles of the Labrador and northern Newfoundland coast and was comprised of mostly thin first year and greywhite ice with some medium first

year ice. Near the ice edge, the ice was looser and contained some new and grey ice. The southern ice extent was around Cape Bonavista with a few strips of ice further south however most of Bonavista Bay was open water. The southern limit of the old ice was located around 5440N while the southern iceberg limit was at 4900N. During the second half of the month, the southern ice edge continued its slow march southwards. By the end of February, the limit was located just north of Cape St Francis on the Avalon Peninsula. The eastward ice extent was 120 miles east of Cape Bonavista and St Anthony, 150 miles from Cartwright and 140 miles east of the northern tip of Labrador. Conception Bay remained open water however some strips of ice had drifted into the northern portion of Trinity Bay. The ice in Bonavista Bay northward to around Fogo Island and into Notre Dame and White Bays was looser and mostly new ice with a trace of thin first year ice. North of Notre Dame and White Bays, the ice was mostly thin and medium first year with mostly medium first year ice north of 5300N. The old ice edge at the end of the month had not drifted significantly south during the last half of February. It was located near 5430N while the iceberg limit was located around 4740N. At the end of February, almost the entire ice edge was less than normal except for a few patches over the Labrador area (Figure 7).

For the first half of March, temperatures were generally near normal over Newfoundland and above normal for Labrador. In fact the area with the greatest anomalies was located in the northern portion of Labrador. A light southerly circulation prevailed over the region during the first week but shifted to an easterly wind during the second week. As was the case in the first week of February, the first week of March had the ice edge move eastward by about 40 miles over the entire length of the eastern ice edge however very little movement occurred in terms of the southern ice edge. By the middle of March, the ice edge had retreated towards the coast between 50 to 90 miles. The southern extent of the ice was located around 4730N and about 120 miles east of Cape St Francis. Trinity, Conception and Bonavista Bay were all bergy water while Notre Dame and White Bays had weaker concentrations of thin first year and greywhite ice. Further north mostly thin and medium first year ice prevailed with thick first year ice north of 5300N. The old ice edge was located near 5240N.

Break-up

Temperatures were near normal over Newfoundland and above normal for Labrador during the third week however the last week of March had below normal temperatures over the entire region. The third week of March saw a moderate to occasionally strong northerly flow over the entire area. By the last week, winds were light to moderate from the west over Labrador and light easterly over Newfoundland. A significant change in ice coverage occurred during the third week as the eastward ice extent shrunk by about 60 to 120 miles during this period. However the westerly circulation over Labrador during the last week of March loosened the ice pack by the end of the month. The ice over Newfoundland area drifted somewhat towards the shore during the same

timeframe. This signaled a return of ice into Bonavista, Trinity and Conception Bays. Concentrations in the bays were weak with mostly thin and medium first year ice. The eastward ice extent at the end of the month was 45 miles east of Cape Bonavista, 30 miles from St Anthony, 40 miles from Cartwright, and 120 miles from the northern tip of Labrador. Just north of Cartwright, the ice pack flared out to about 160 miles east of the Groswater Bay. At this point in the season, most of the ice was thin and medium first year ice. North of 5420N, the dominate ice type was thick first year ice. The old ice edge had finally drifted south of Belle Isle Strait to be located at around 5045N. The iceberg limit was at 4700N. Some bergy water developed on the north side of Belle Isle Strait during the last week of March while the fast ice south of New World Island fractured near the end of the month. At the end of the month, the ice extent and concentration was significantly less than normal over the entire area (Figure 8).

Temperatures for the month of April were near normal over Newfoundland and above normal over Labrador. During the first week of April, temperatures were above normal over Newfoundland and much or very much above normal over Labrador. From the second week until the end of the month temperatures were generally near or below normal over Newfoundland and southern Labrador while the central and northern regions of Labrador were above or much above normal. A light southwesterly circulation prevailed over the entire area during the first week however a northerly to northwesterly flow covered the region during the second and third week. The last week of April had a light and variable circulation. The general deterioration of the ice pack over Newfoundland continued during the first two weeks of April however not before a significant amount of thin, medium and thick first year ice drifted into Bonavista and northern Trinity Bays. During the second week, the ice in the bays was flushed out and melted offshore. By the middle of April, no floating ice was observed south of Fogo Island. The fast ice in the Bay of Exploits and in the smaller bays in Notre Dame Bay remained intact during the two week period. The southern portion of Notre Dame Bay was covered with medium and thick first year ice with some brash ice. Within 30 to 60 miles of the Northern Peninsula, a variety of concentration of medium and thick first year ice was still present at mid-month. Most of the Belle Isle Strait was bergy water except for a narrow band of brash ice along the southern portion of the strait. The ice edge along the southern Labrador coast extended about 150 miles from the shore where the ice pack was somewhat loose with thick first year ice. Further north along the Labrador shore the thick first year with a trace of old ice was within 70 to 120 miles of the shore. During the third week, the ice pack east of the Northern Peninsula continued to drift east and south to lie about 60 miles east of the peninsula at the end of the third week. The fast ice in the smaller bays in Notre Dame Bay area as well as in Lake Melville fractured during the third week. A general decrease of the concentration of the ice pack occurred over the last two weeks of April. At the end of the month, some patches of medium first year ice was still present in the southern portion of Notre Dame Bay. The area near and just east of Fogo Island had some medium and thick first year ice with a trace of old ice. The southern ice edge was located at 5010N about 30

miles north of Fogo Island. The eastward extent of the ice pack was 55 miles east of St Anthony, 65 miles east of Cartwright, 90 miles east of Nain and 110 miles east of Cape Chidley (Figure 9).

Temperatures were much above normal for the first week of May but cooled off to near or above normal during the second and third week. By the last week of the month temperatures soared to above or much above normal. Winds were generally light from the southwest over Newfoundland and Labrador during the first and second week. The third week was characterized by light to moderate northeasterly winds over Newfoundland and southern Labrador while the rest of the Labrador area had light variable winds. As for the last week, only light variable winds prevailed over the entire area. Early in the first week of May ice in the southern part of Notre Dame Bay and around Fogo Island melted. The southern ice edge continued to retreat quickly northward and was located just north of Groswater Bay at mid-May. Only a few strips of rotten ice were located further south. A general loosening of the ice pack continued during the first two weeks of the month along the Labrador Coast. An open water area developed in the western portion of Lake Melville. By the end of the third week, bergy water was located along the southern Labrador Coast with only a few strips of medium and thick first year ice with a trace of old ice in Groswater Bay. Most of Lake Melville was open water except for some patches of fast ice in the eastern and western section of the lake. Early in the fourth week all of Lake Melville was open water while Groswater Bay was bergy water. At the end of the month, the southern ice edge was located at 5500N. From 5500N to about 5720N the ice pack extended seaward by only 5 to 15 miles. Further north the ice pack flared out to about 90 miles from the shore. Significant deterioration of the ice pack continued and reflected an accelerated melt season relative to normal (Figure 10).

The 2004-05 season for Newfoundland and Labrador was near to slightly less than normal in terms of ice extent during freeze-up period. However a significant departure from normal was observed soon after the normal maximum seasonal ice extent was achieved (March 5th). This gap was maintained until the end of the break-up and melt season (Figure 3). Overall, this years' maximum ice extent (usually observed on March 5th) was slightly less than normal and was certainly greater than the minimum recorded last year (Figure 4).

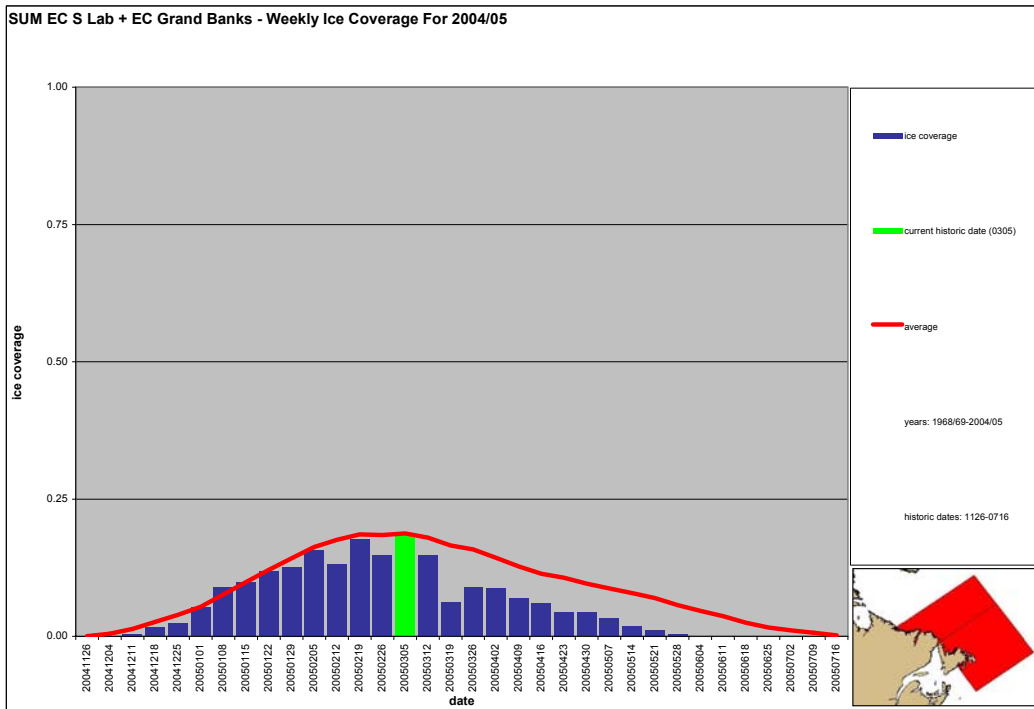


Figure 3: Weekly ice coverage for Newfoundland and Labrador – 2004-05 ice season.

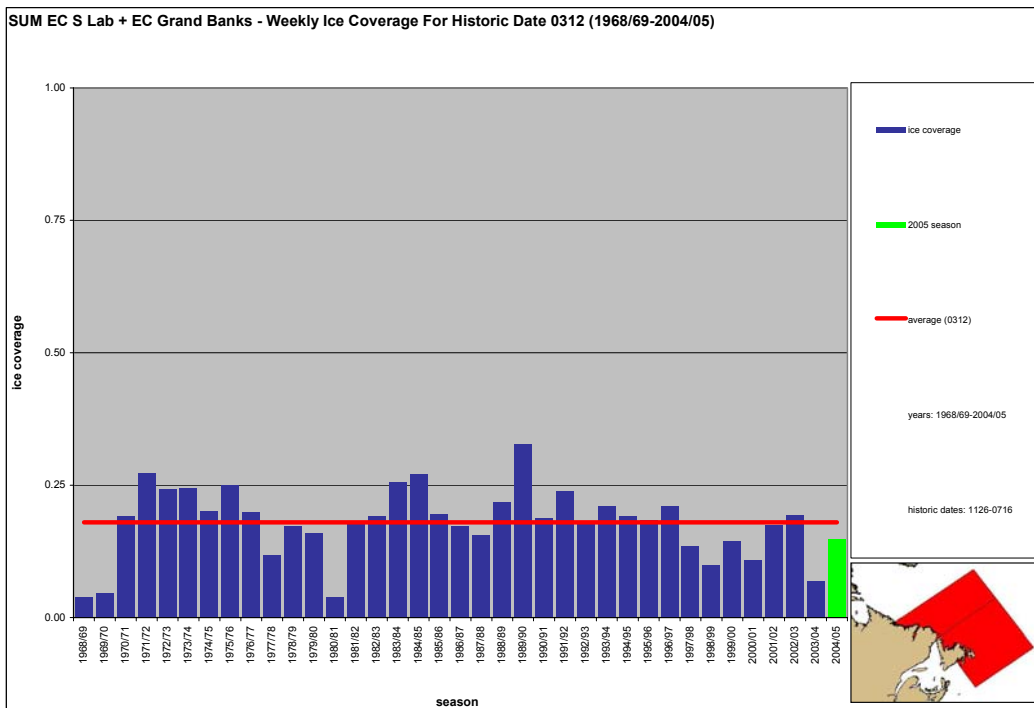


Figure 4: Normalized ice coverage for Newfoundland and Labrador for March 12.

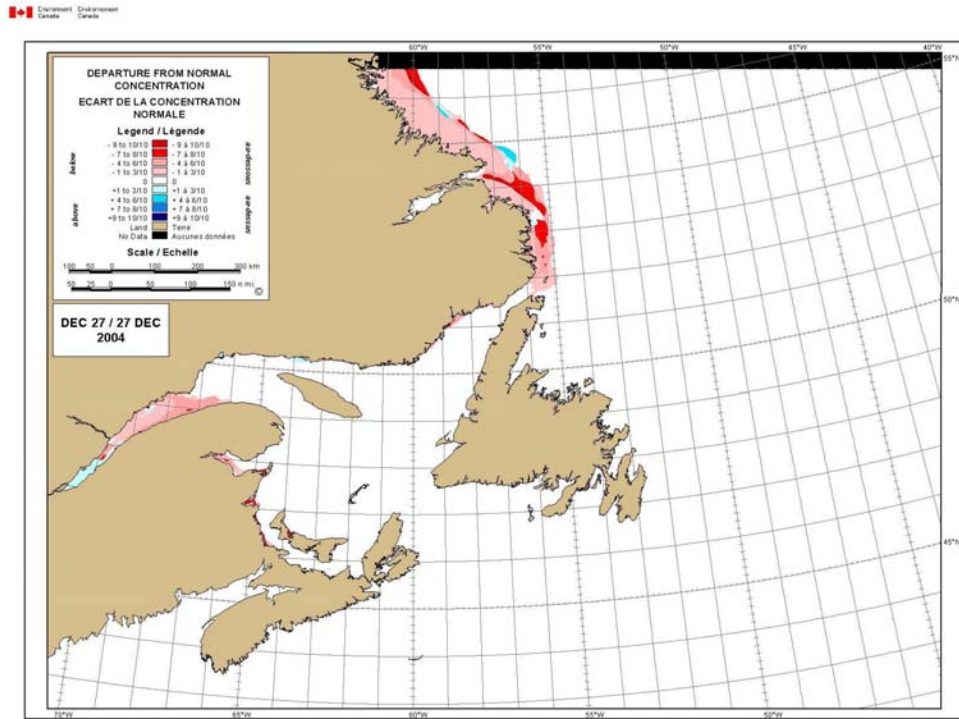


Figure 5: Departure from normal ice concentration – December 27, 2004

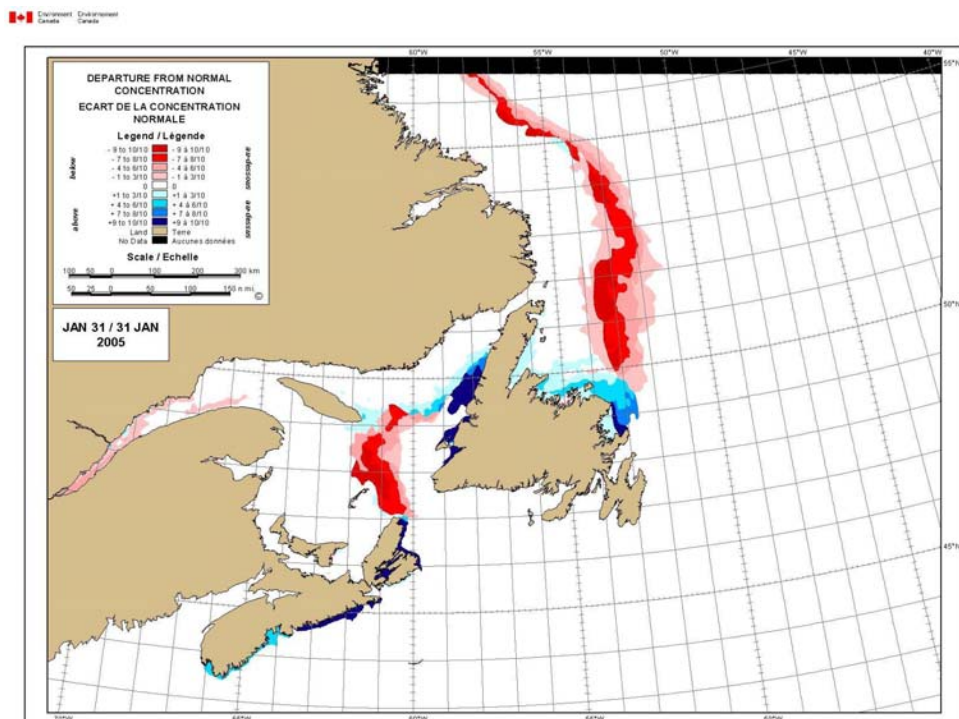


Figure 6: Departure from normal ice concentration – January 31, 2005

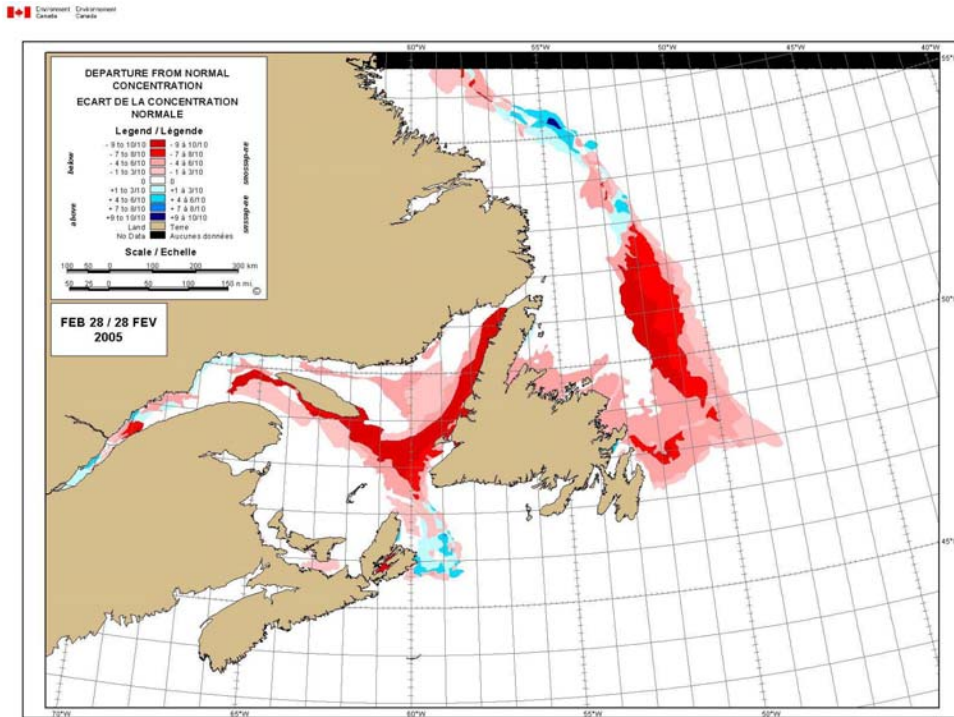


Figure 7: Departure from normal ice concentration – February 28, 2005

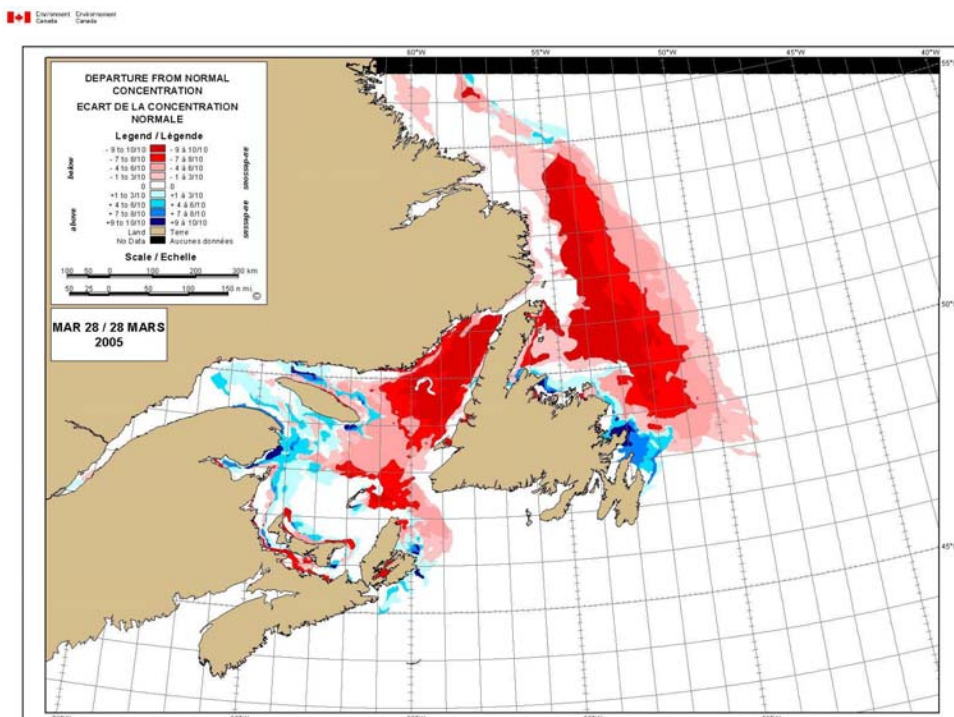
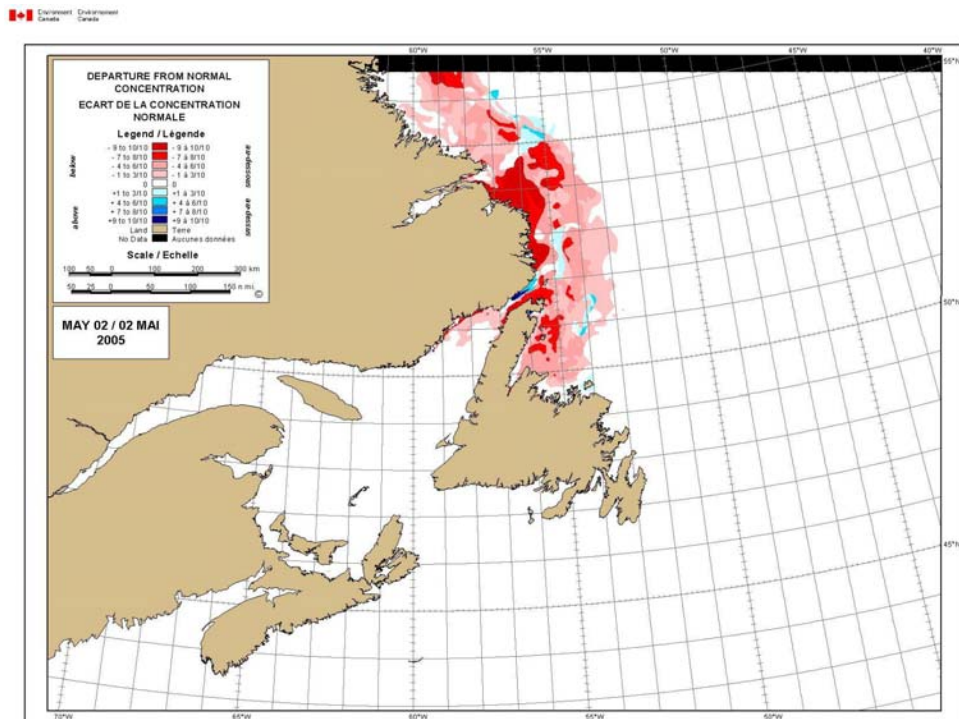
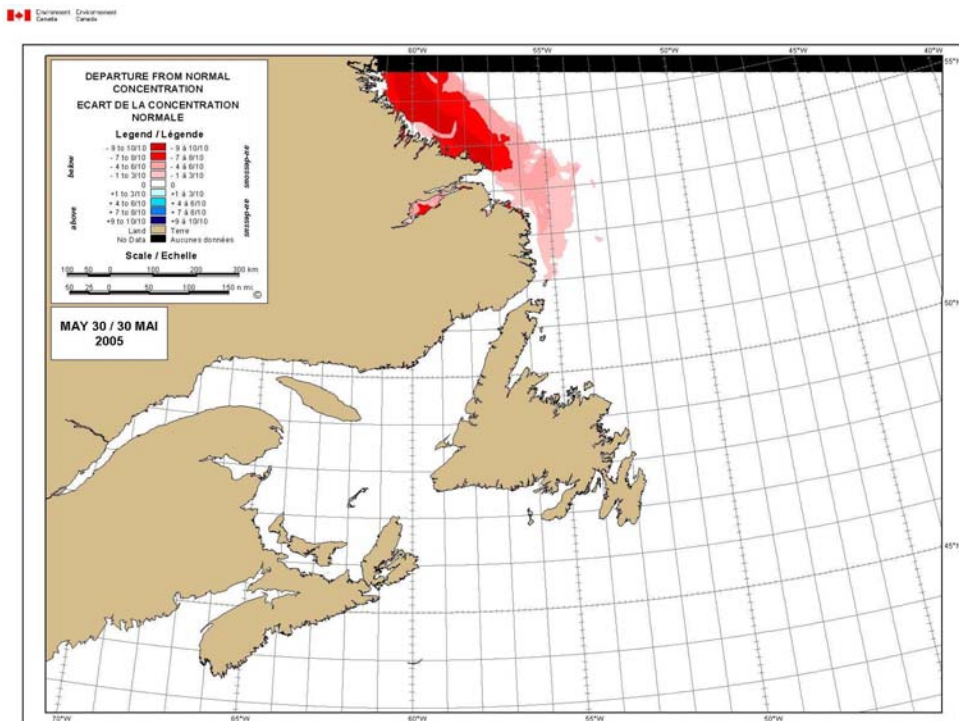


Figure 8: Departure from normal ice concentration – March 28, 2005



Canada

Figure 9: Departure from normal ice concentration – May 2, 2005



Canada

Figure 10: Departure from normal ice concentration – May 30, 2005