

**Seasonal Summary**  
**For The Great Lakes**  
**Winter 2005-2006**



**Produced by the Canadian Ice Service**  
**June 1<sup>st</sup>, 2006**

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## General Overview of the Past Ice Season

As another Great Lakes ice season has come and gone, we can't but think that seasons seem to take on a familiar theme; the ice extent was yet again less than normal.

The season started with enough promise. The month of December was, in fact, ahead of normal in terms of ice extent as indicated in Figure 1. The shades of blue indicate greater than normal ice concentrations in a given area while shades of red point to less than normal ice concentrations. The greater than normal ice concentrations were observed in the western end of Lake Erie, the coastal area of Lake Huron as well as the northern shore of Lake Michigan and eastern Lake Ontario.

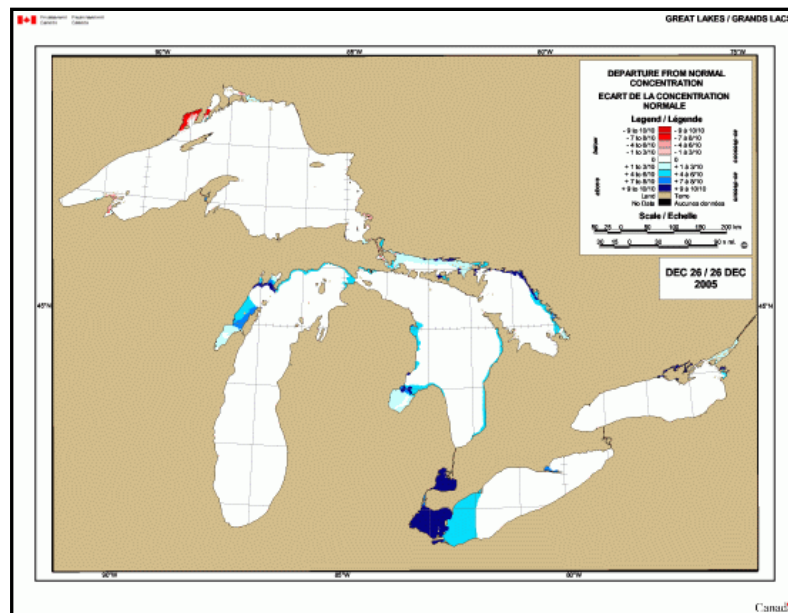


Figure 1: Departure from normal ice concentration - December 26<sup>th</sup>, 2005.

However by the last week of December the upper air flow had changed. The change in circulation permitted warm air from the Pacific to move across the continent towards the Great Lakes. The Great Lakes area was bathed with above normal temperature which persisted for a six week period running from about December 23, 2005 to February 7, 2006 (Figure 2). In fact, the temperatures for this particular period ranged from 5.5°C to 7.7°C above normal over the Great Lakes region. The ice formation that occurred during most of December was essentially obliterated during the month of January. The observed ice situation at the end of January (chart on left in Figure 3) was significantly less, in terms of extent and concentration, with regards to a normal ice season (chart on right in Figure 3).

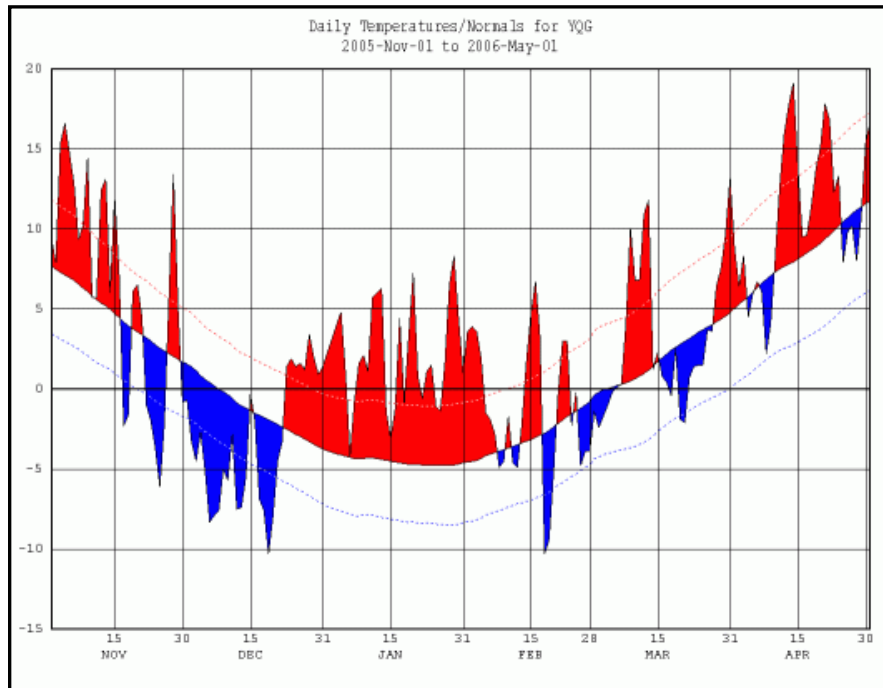


Figure 2: Temperature trend for Windsor – Nov 1, 2005 to May 1<sup>st</sup>, 2006.

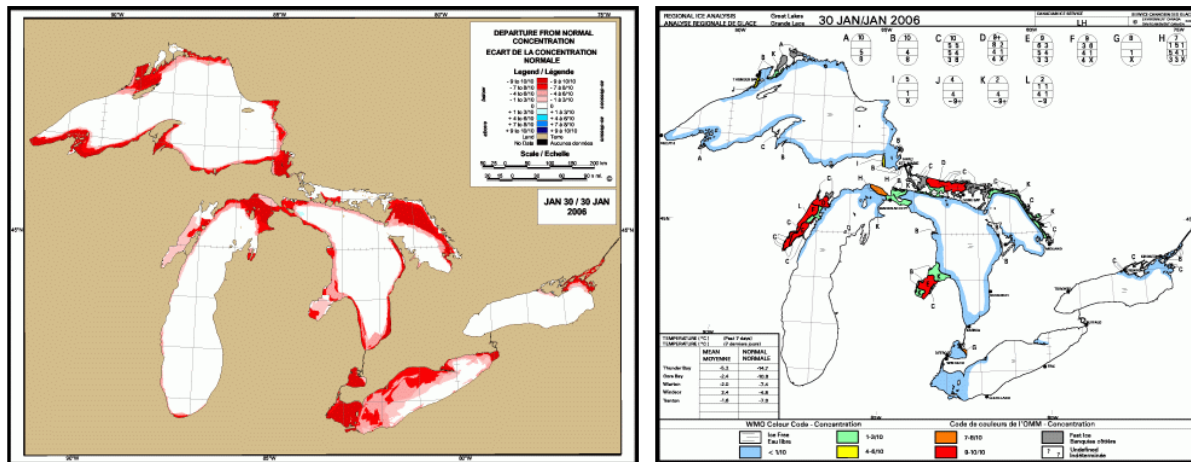


Figure 3: Departure from normal ice concentration and observed ice situation – January 30<sup>th</sup>, 2006.

As the month of February evolved, the ice conditions still remained less than normal. The monthly average air temperature over the region was near normal in the western part of Lake Superior to about 1.5°C above normal in northeastern Lake Huron and Lake Ontario. Some ice growth did occur however the above normal temperatures from the previous month slowed the growth. Also, the increased incoming radiation due to the higher sun angle during the month of February was also working against ice formation.

The normal maximum ice extent for the Great Lakes usually occurs around February 19<sup>th</sup> however the greatest ice coverage occurred on March 5<sup>th</sup> 2006. At that time only 18% of the Great Lakes were covered with ice. During a normal ice season, we could expect about 42.9% of the Great Lakes be covered with ice on March 5<sup>th</sup>. In fact, on February 19<sup>th</sup>, 2006, the lakes were covered with only 14.9% of ice where normally they would be 46.4% covered with ice. All in all, the entire season had much less than normal ice coverage (Figure 4).

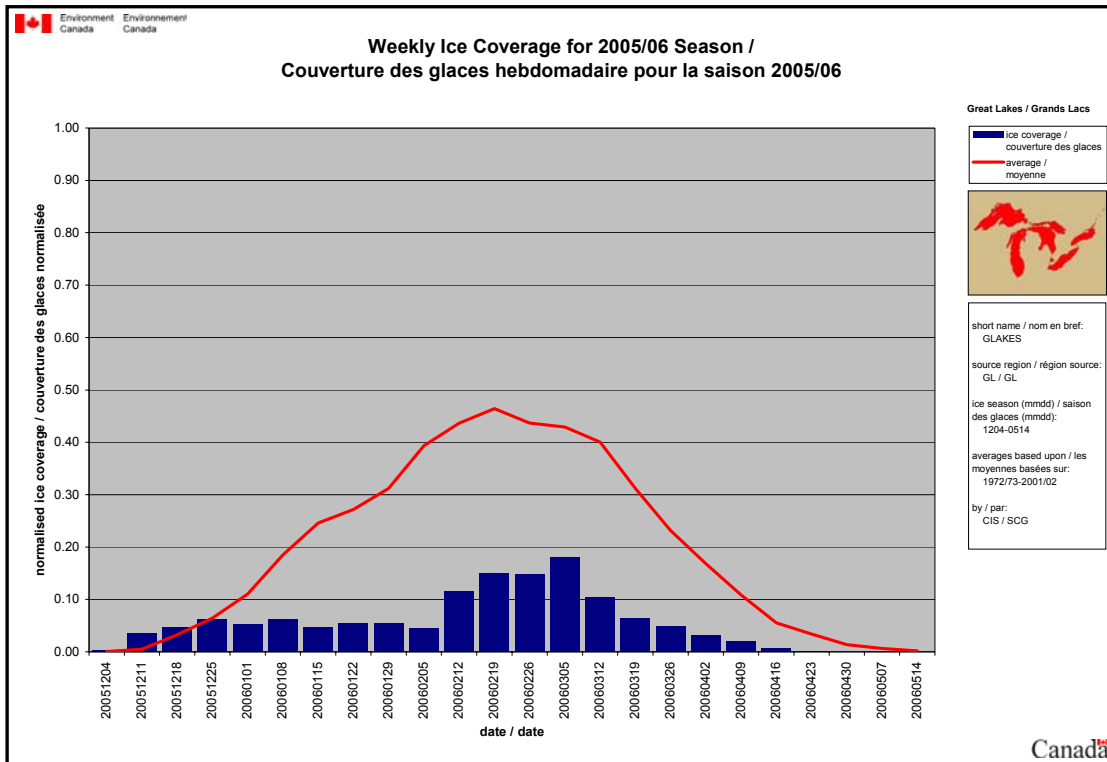


Figure 4: Weekly ice coverage for the Great Lakes - 2005-06 season.

Hence, with less than normal ice extent at the peak of the season, the break-up had a running start. Normally the end of the season would arrive around May 15. This year, the end of the ice season had arrived at the end of April.

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## **Lake Superior**

The temperature trend over Lake Superior during the month of November started with above normal values and persisted until the middle of the month. For the balance of the month, temperatures cooled off to near or slightly below normal. The cooler trend continued into the first half of December; however, by the second half, temperatures jumped up to above or much above normal. New and thin lake ice began to form in Black and Nipigon Bays during the latter part of November and the first few days of December. By the second week some new lake ice formed in the western shore of Whitefish Bay while the ice in Black and Nipigon Bays continued to spread and thicken somewhat. However, with the milder temperatures during the latter part of December, the formation of new lake ice had ceased over the lake (Figure 11).

January continued the mild trend that began during the last 10 days of December. In fact, the temperatures were between 6.1°C to 8.6°C above normal for the entire month. Very little in the way of ice growth occurred during the period except for some new and thin lake ice in some sections of Thunder Bay as well as the coastal area of Whitefish Bay. The ice in Black and Nipigon Bays had thickened to medium lake ice by the end of January. As a consequence of the milder conditions over the lake, the ice extent was less than normal at the end of the month (Figure 13).

The month of February started off the same way the month of January ended. The first week of the month had temperatures that were much above normal while the second week saw temperatures cool off to near or slightly above normal. As for the balance of the month, temperatures were characterised by below or much below normal values. Ice continued to form in Thunder Bay while some new and thin lake ice began to form along the southern shore during the first week. By the middle of February, all of Thunder Bay was covered with mostly thin and medium lake ice. In the mean time, a narrow band of thin and new lake ice covered the coastal area running from Nipigon Bay to Grand Marais as well as the coast along the southern shore of Lake Superior. The eastern and southern portion of Whitefish Bay had thin and medium with some new lake ice while the rest of the bay had open water. The coastal zone around the rest of the lake had open water with ice free conditions further offshore. With the colder than normal temperatures during the second half of February, ice growth continued. By the end of the month most of Thunder Bay was covered with consolidated medium and thin lake ice while Black and Nipigon Bays had consolidated thick and medium lake ice. The zone running from the entrance to Nipigon Bay to Grand Marais and extending about 15 to 20 miles from the shore had areas of new and thin lake ice. Intermittent bands of thin and medium lake ice extended about 10 miles from the southern shore of Lake Superior especially west of the Keweenaw Peninsula. Some consolidated thin lake ice had formed around the Apostle Islands during the last week of February. Whitefish Bay had medium and thin lake ice in the eastern and southern portion of the bay while the rest of the area had thin and new lake ice. A few patches of thin and new lake ice had formed along the shore between Whitefish and Michipicoten Bays (Figure 15).

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Cooler temperatures persisted during the first few days of March however the mercury moved to above normal values until the middle of the month. The third week had below normal readings, but had rebounded to much above normal for the last week of the month. The ice along the coast continued to expand offshore especially along the southern and eastern shores as well as the coastal area of north-western Lake Superior during the first week. By the middle of March, the milder temperatures and strong winds caused the ice extent to decrease somewhat. The portion of the consolidated ice in the southern part of Thunder Bay had fractured while the remainder of Thunder Bay remained covered with consolidated medium lake ice. No change to the consolidated thick and medium lake ice was observed in Black and Nipigon Bays. The ice from the entrance of Nipigon Bay to Grand Marais had retreated to about 3 to 10 miles from the shore. Most of the ice along the southern shore had melted except the area near and just east of the Apostle Islands as well as near Duluth. In these areas mostly strips of thin and medium lake ice had remained. The ice in Whitefish Bay had loosened significantly so that at mid-month the higher concentration of medium and thin lake ice was located in the south-eastern part of the bay with strips of medium and thin lake ice over the rest of the bay. Elsewhere, conditions were open water near the shore and along the ice edge and ice free further offshore. After the middle of March, more of the consolidated ice in Thunder Bay had fractured. By the end of the month, the north-eastern part of the bay had remained consolidated while the rest of the bay had strips of medium and thick lake ice. The coastal area between the entrance to Nipigon Bay and Grand Marais became open water during the latter part of the fourth week of March. The southern shore of Lake Superior was generally open water except for some strips of medium and thick lake ice around the Apostle Islands. No significant change occurred in Whitefish Bay where the south-eastern part of the bay was covered with thick and medium lake ice and the rest of the bay had strips of medium and thick lake ice. Elsewhere, mainly ice free conditions prevailed (Figure 17).

During the first week of April, temperatures were much above normal over the western section of the lake while the eastern section had near normal values. The second and third weeks saw temperatures climb to much or very much above normal over the entire area. And finally, the last week had temperatures fall back to near normal. The consolidated ice in Thunder Bay continued to fracture so that by the middle of April only a small patch of consolidated ice remained in the extreme north-eastern part of the bay. Some signs of fracture appeared in southern Nipigon Bay during the first part of April while the consolidated ice in Black Bay remained unchanged. All the remaining ice around the Apostle Islands had melted during the latter part of the second week. The rest of the southern shore of Lake Superior was ice free at mid-month. Whitefish Bay began to clear from northwest to southeast so that by the middle of April only a small patch of thick and medium lake ice remained. During the third week, Thunder Bay had become ice free while most of the consolidated ice in Nipigon and Black Bays had fractured. By the end of the month all the bays were ice free with Black Bay being open water. The ice in extreme south-eastern Whitefish Bay had melted and gave way to ice free conditions during the third week. The rest of the lake was also ice free at the end of April (Figure 19).

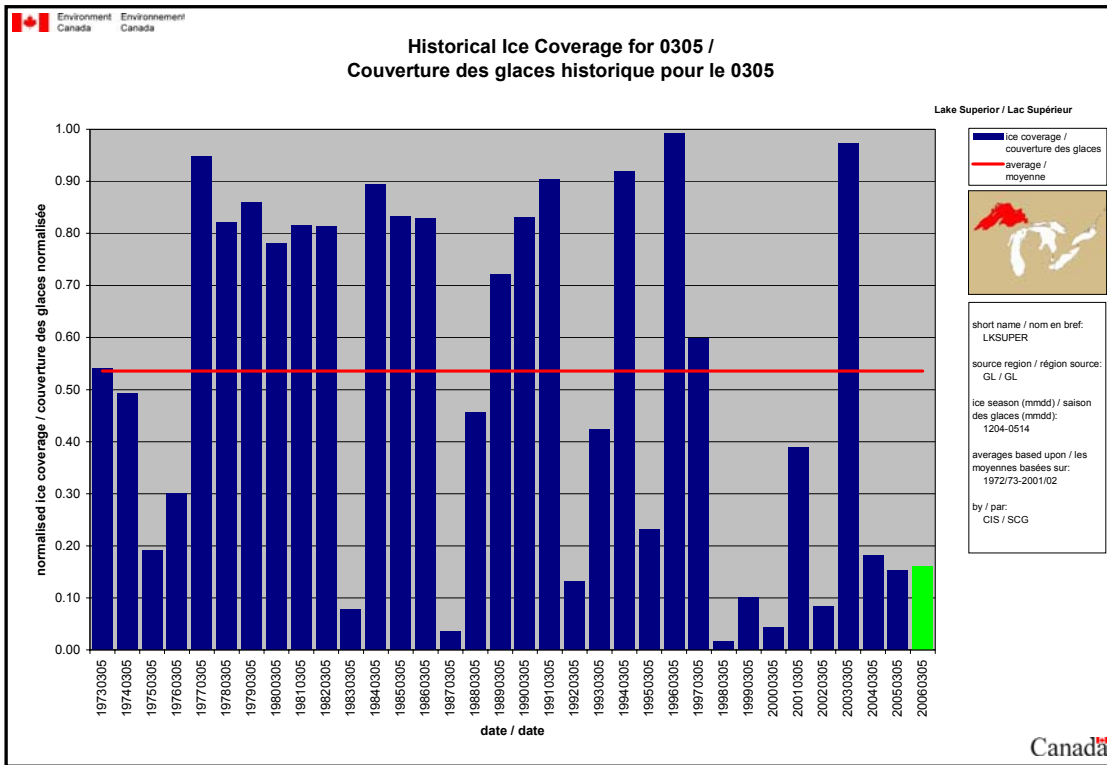


Figure 5: Historical Ice Coverage for Lake Superior for March 5<sup>th</sup>.



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## **Lake Michigan**

Temperatures during the first two weeks of November were above normal; however, they had cooled off to near normal for the latter half of November. No significant ice began to form during the last few days of November. Moving into December, a colder than normal temperature trend ran from the beginning of the month until the start of the last week. At that point, the mercury climbed into much above values until the end of December. New lake ice began to form in the Little and Big Bay de Noc as well as in the extreme southern portion of Green Bay during the first week of December. By the middle of the month, the southern third of Green Bay had mostly thin and new lake ice with some consolidated thin lake ice along the shore. The ice in the Little and Big Bay de Noc had become consolidated with thin lake ice at mid-month as well. The northward expansion of ice in Green Bay had covered the southern two-thirds of the bay by the end of the third week. Mostly thin and new lake ice had covered this area of the bay. No significant change to the ice was observed in the Little and Big Bay de Noc. Some coastal new and thin lake ice had formed from the northern entrance to Green Bay northeastward to the approaches to the Straits of Mackinaw. At the end of the month of December, the ice in Green Bay had retreated somewhat southward while the ice in the approaches to the Straits of Mackinaw had expanded south-westward to near Beaver Island. The ice was mostly new and thin lake ice. Elsewhere over Lake Michigan, conditions were mainly ice free (Figure 11).

The above or much above normal temperatures recorded during the last week of December continue into January. In fact the entire month had very much above normal values. A significant deterioration of the ice cover began early in the month, so that by the middle of January only loose ice conditions prevailed in the southern portion of Green Bay. The consolidated thin lake ice in Little and Big Bay de Noc still remained intact at that time. The ice in northern Lake Michigan had melted during the first week of January. Some new and thin lake ice had formed during the second week along the northern shore just west of the straits but never extended further than 10 miles from the shore. During the second half of January, ice growth had filled the Green Bay area with mostly thin and new with some medium lake ice. The extreme southern part of Green Bay as well as the Little and Big Bay de Noc had remained consolidated with medium and thin lake ice. During the last two weeks of January, the coastal ice along the north shore of Lake Superior had expanded south-westward toward Beaver Island but had retreated back towards the Straits of Mackinaw near the end of the month. Elsewhere in Lake Michigan, conditions were ice free (Figure 13).

The very much above normal temperatures from the previous month continued into the first week of February. The second week cooled off to above normal ;however, the second half of February saw the mercury plunge to below or much below normal values. At the middle of the month, the ice had thickened somewhat in Green Bay so that most of the bay was covered with thin lake ice. A narrow band of medium lake ice was present along the eastern portion of the bay. During the same period, a narrow band of new and thin lake ice had formed along

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the western shore of Lake Superior. The ice in the northern portion of the lake had again expanded to cover the area between the Straits of Mackinaw and Beaver Island with thin and new with some medium lake ice. During the third week, some new and thin lake ice began to form along the eastern shore of the lake; however, most of the new and thin lake ice had melted during the last week of the month. At the end of February, the southern third of Green Bay became consolidated with medium lake ice. The central and northern portion of the bay remained mobile with thin and medium lake ice. No change was observed with the consolidated ice in the Little and Big Bay de Noc. Most of the ice along the western shore south of the entrance to Green Bay had melted except for isolated patches of new lake ice. Up north, the region between the Straits of Mackinaw and Beaver Island remained covered, for the most part, with ice that had thickened to medium and some thick lake ice. The remainder of the lake was mostly open water with ice free conditions in the central part of Lake Superior (Figure 15).

The first week of March was characterised by below normal temperatures; however, by the second week the mercury bounced back to above normal. The third week saw the temperatures slip back to below normal, but rebounded back to above or much above normal values for the last week of the month. The consolidated medium and thick lake ice in the southern portion of Green Bay had crept up further north during the first two weeks of March leaving only the northern half of the bay with mobile medium and thin lake ice at mid-month. No change was observed to the consolidated medium and thick lake ice in Little and Big Bay de Noc. Areas of consolidated medium lake ice had formed along both shores of the approaches to the Straits of Mackinaw at the beginning of March. The thicker ice in the northern part of the lake had retreated towards the straits and along the north shore so that only strips of thin and medium lake ice remained southward to Beaver Island by mid-March. Some new lake ice had formed along the south-eastern shore of Lake Michigan; however, the area of new lake ice had melted during the second week. Soon after the middle of March, the consolidated ice in the southern portion of Green Bay had fractured and became progressively looser until the end of the month. At the end of the month, only the south-central portion of Green Bay had high concentrations of medium and thick lake ice; the southern part of the bay had lower concentrations with some small areas of open water. The northern part of the bay was open water except for some strips of medium and thick lake ice at the entrance to the bay. The Little and Big Bay de Noc were still consolidated at the end of March. The ice in the northern part of the Lake Superior had begun to decrease after the middle of the month, so by the end of the month, only the approaches to the Straits of Mackinaw had some medium and thick lake ice. The consolidated ice along the shore of the approaches to the Straits of Mackinaw had fractured during the third week. Elsewhere over Lake Michigan, conditions were generally ice free (Figure 17).

Temperatures for the first week of April were near normal; however, the mercury had jumped up to very much above normal values during the second week. By the third week, the temperatures had cooled off to much above normal and near normal for the last week of the month. The clearing of Green Bay had continued during the first week, so that midway through the second week, conditions were

generally ice free. The consolidated ice in Little and Big Bay de Noc fractured late in the first week and became ice free in the middle part of the second week. The ice in the approaches to the Straits of Mackinaw had clear entirely by the second week of April. At mid-month, the entire Lake Michigan area was ice free (Figure 18).

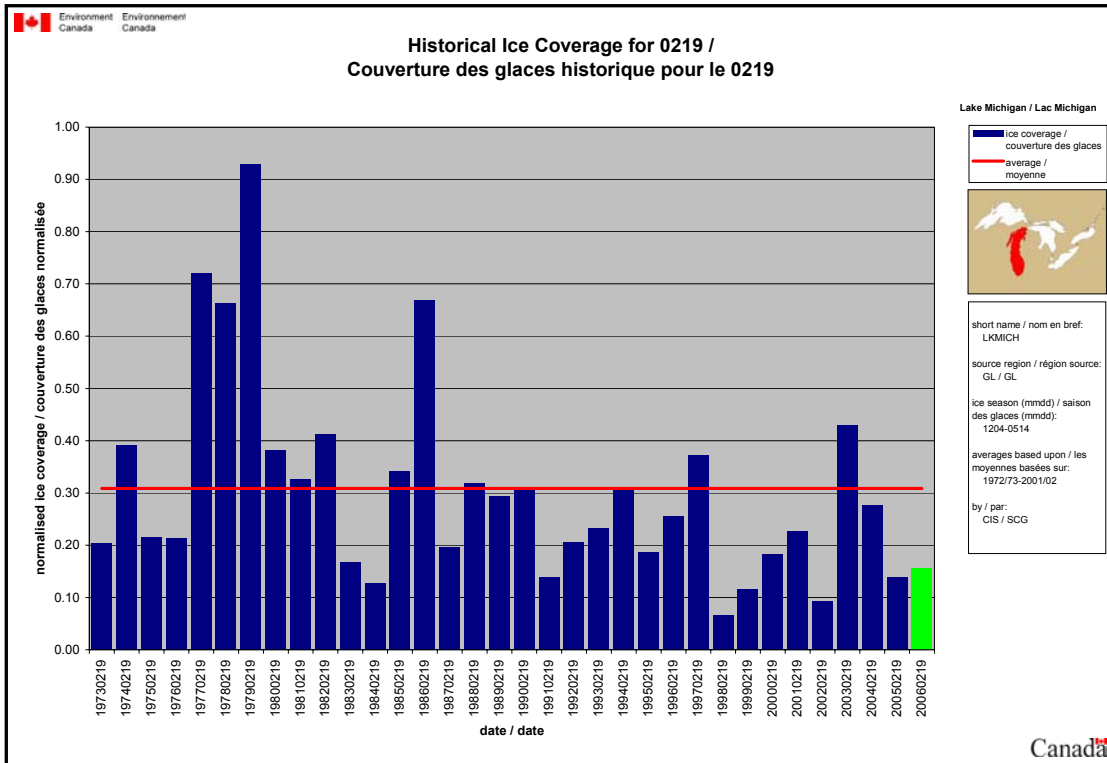


Figure 6: Historical Ice Coverage for Lake Michigan for February 19<sup>th</sup>.

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## **Lake Huron and Georgian Bay**

The air had a seasonal feel to it during the last half of November. Temperatures were generally near to slightly below normal. No significant ice growth occurred during the period. The first two weeks of December had much below normal temperatures but climbed back to near normal in the eastern part of the region and below normal in the west for the third week. By the last week of the December, temperatures had soared to very much above normal value. New and thin lake ice began to form during the second week in the northern part of the North Channel. All of Saginaw Bay was covered with thin and new lake ice while the small bays along the northeast coast of Georgian Bay became covered with new and thin lake ice. Some patches of ice had formed during the third week along the western shore of Lake Huron from Thunder Bay south to Saginaw Bay. Despite the warmer temperatures during the last week of the month, a narrow band of thin and new lake ice had formed along the eastern shore. However, near the end of the month most of the coastal ice along the eastern and western shore had melted or was destroyed. The North Channel was two thirds covered with ice, however the concentrations were low. Some ice was present along the shore just northeast of the Straits of Mackinaw. Saginaw Bay was still covered with thin and new ice. A very narrow band of consolidated thin lake ice was along the western shore of the Bruce Peninsula. The small bays along the north-eastern shore of Georgian Bay had consolidated thin lake ice while further offshore some strips of thin and new lake ice prevailed. The remainder of the bay as well as the rest of Lake Huron were open water to ice free (Figure 11).

For the month of January, very much above normal temperature prevailed over the Lake Huron area. Despite the warmer temperatures, there was very little change in the ice extent during the entire month. At the end of January, all of the North Channel was covered with thin and new lake ice with consolidated medium and thin lake ice in the eastern and western sections of the channel. The north-western part of Lake Huron near and east of the approaches to the Straits of Mackinaw had loose thin lake ice. Saginaw Bay had thin and medium lake ice with some consolidated ice along the shore. A very narrow band of consolidated thin lake ice was observed along the western shore of the Bruce Peninsula. And finally, the north-eastern shore of Georgian Bay had consolidated medium and thin lake ice in the small bays with a narrow band of loose thin lake ice along the consolidated ice edge. The rest of the region along the ice edge had open water with ice free conditions in the central part of Lake Huron and Georgian Bay (Figure 13).

Moving into February, the milder conditions continued for the first week; however, temperatures dipped to more seasonal values for the second week. For the last half of the month, the mercury was mostly below normal for the period. Ice conditions during the first part of February saw a slight expansion. At mid-month, the North Channel had been covered with mostly thin and medium lake ice. The exception was the western and eastern sections of the channel which were covered with consolidated medium lake ice. The shore south of Manitoulin Island had a narrow band of new and thin lake ice. The eastern approaches to the Straits of

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Mackinaw were also covered with new and thin lake ice except in the straits and along the northwest shore of Lake Huron, north of Thunder Bay; ice conditions were mostly thin and medium lake ice. From Thunder Bay southwards to the entrance to Saginaw Bay, a narrow band of new and thin lake ice was observed. In Saginaw Bay, the south-eastern part of the bay had medium and thin lake ice while the north-western half had thin and new. Some coastal consolidated medium lake ice was present in the south-eastern portion of the bay. The coastal area along the southern shore had a narrow band of new and thin lake ice. A tiny area of consolidated medium lake ice was present along the western side of the Bruce Peninsula. And finally, in Georgian Bay, the north-eastern portion of the bay was covered with mostly thin and new with some medium lake ice while the rest of the area had mostly open water. The smaller bays along the northeast shore of the bay had consolidated medium lake ice. The cooler than normal temperatures during the second half of the month were not enough to support any significant ice growth during the period. The North Channel had finally become completely consolidated with thick and medium lake ice. Normally the channel becomes consolidated during the third week of January. The new lake ice along the southern shore of Manitoulin Island had extended about 5 to 10 miles from the shore. The north-western part of the lake, near the Straits of Mackinaw, was covered with mostly new and thin lake ice. The exception was the area between the straits and Bois Blanc Island where mostly thick and medium lake ice was observed. Bands of thin and new lake ice were present along the north-western shore. The coastal area of Saginaw Bay had consolidated medium lake ice while the central portion of the bay had medium and thin lake ice. The southern portion of Lake Huron had bands of new and thin lake ice. A narrow strip of thin and medium lake ice was observed along the eastern shore of Lake Huron, south of Point Clark. Along the western shore of the Bruce Peninsula, a 5 mile wide band of thin and new ice with some consolidated medium was analysed along the shore. In Georgian Bay, the south-western third of the bay was open water while the balance of the bay was covered with new and thin lake ice. Some medium lake ice had covered the central part of Georgian Bay. The north-eastern shore of the bay was still covered with consolidated thick and medium lake ice (Figure 15).

Temperatures during the first week of March were below normal but shot up to much above normal during the second week. The third week saw a return to below normal values but bounced back to above normal for the last week of March. No change was observed to the consolidated ice in the North Channel. The ice along the south shore of Manitoulin Island had melted during the second week while the area near the Straits of Mackinaw still had some thin lake ice. Areas of consolidated medium lake ice along the coast near the Straits of Mackinaw remained unchanged during the first half of March. The north-western shore of Lake Huron, south of Bois Blanc Island, was open water while Saginaw Bay was mostly thin and medium lake ice. Some consolidated medium lake ice along the eastern shore of the bay was still present. The southern and eastern shores of Lake Huron were covered with thin and medium lake ice with some bands of consolidated medium and thin lake ice. The thin and medium lake ice in Georgian Bay had retreated to the north-eastern third of the bay during the first two weeks of March while the rest of the bay was open water. The smaller bays along the north-eastern shore of Georgian Bay remained

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consolidated with thick and medium lake ice. The coastal area or along the ice edge in Lake Huron was mainly open water while the central part of the lake was ice free. Soon after the middle of March, the consolidated ice in central part of the North Channel had fractured and remained that way until the end of the month. The ice in the north-western part of the lake had drifted as a narrow strip of ice along the north-western shore and had reached the Thunder Bay area near the end of the month. The ice in Saginaw Bay had shifted towards the south-eastern shore and had deteriorated during the last two weeks of March. Mainly open water with only a few patches of rotten medium lake ice was left in the bay at the end of the month. The ice in the southern and eastern part of the lake had drifted eastward and was compressed so that only very narrow bands of medium lake ice were left at the end of March. In Georgian Bay, the medium and thick lake ice had remained along the north-eastern shore with most of the consolidated ice was still intact at the end of the month. Elsewhere, open water was observed near the shore or along the ice edge with ice free conditions towards the middle of Lake Huron and Georgian Bay (Figure 17).

Temperatures were near to slightly above normal during the first week of April; however, the mercury jumped up to above or much above normal values during the second and third weeks. The last week of the month saw a return to near normal values. The consolidated ice continued to fracture in the North Channel so that near the middle of April mostly open water covered most of the area. Only a few patches of thick lake ice with some consolidated ice in the small bays of the eastern end of the channel remained at mid-month. The north-western part of the lake was open water to ice free. Very early in April, Saginaw Bay became open water to ice free. The narrow bands of ice along the southern and eastern shore were gone by the middle of the second week of April. Significant fracturing of the consolidated occurred along the northeast shore of Georgian Bay during the first half of April so that at mid month mainly open water conditions prevailed except for a few strips of rotten thick lake ice along the shore. The central and south-western part of Georgian Bay was ice free. Elsewhere over the region conditions were ice free. During the third week of April, the remainder of the ice in the North Channel as well as the north-western part of Georgian Bay had melted. At the beginning of the last week of April, the entire Lake Huron region was ice free (Figure 19).

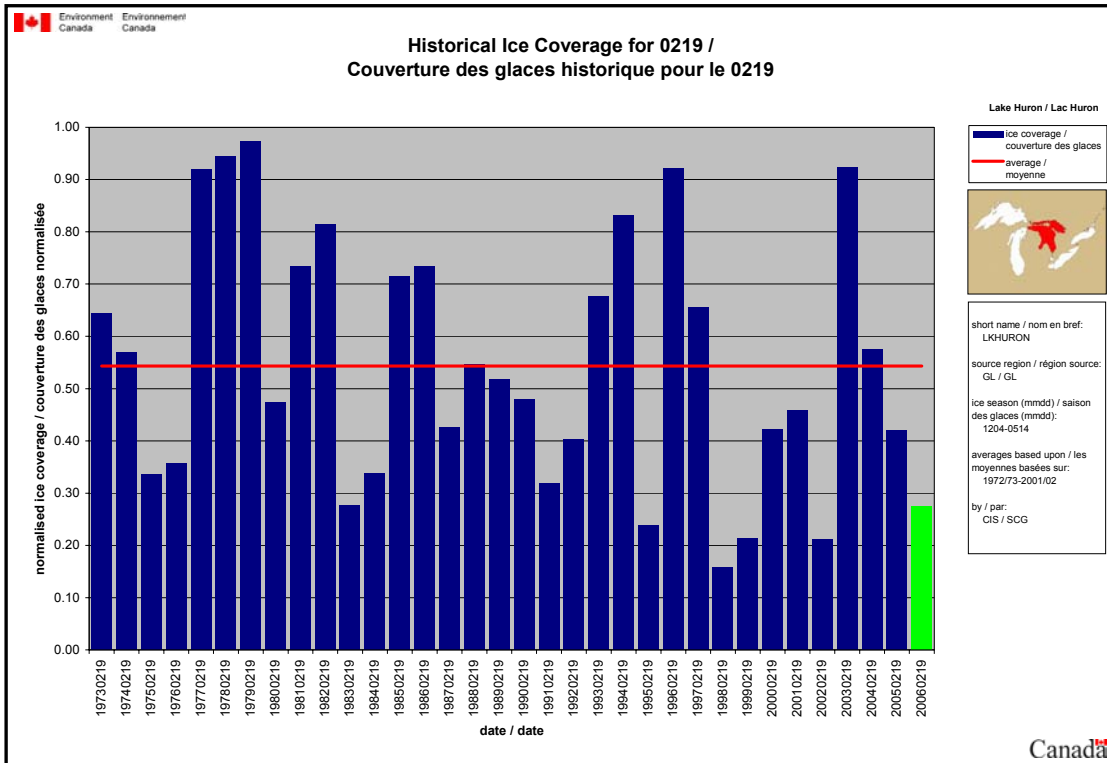


Figure 7: Historical Ice Coverage for Lake Huron for February 19<sup>th</sup>.

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## **Lake Erie and Lake St. Clair**

Near to below normal temperatures characterised the last two weeks of November. Temperatures had become much below normal for the first three weeks of December before they climbed back up to very much above normal during the last week. No ice had begun to form until the second week. By the end of the second week of December, all of Lake St Clair and the Western Basin were covered with thin and new lake ice. The remainder of Lake Erie was open water. During the third week, some new and thin lake ice began to appear in Long Point and Sandusky Bays. By the end of the month of December, new lake ice extended out of the Western Basin to about 20 miles east of the basin. The Western Basin and Lake St Clair were covered with thin and new lake ice with some medium lake ice in the Western Basin (Figure 11).

The temperature trend for January picked up from the last week of December. Much to very much above normal temperatures prevailed during the entire month. Both Lake St Clair and the Western Basin began to clear from the west during the first two weeks of January. By mid-month, all of Lake St Clair was open water. The Western Basin was mostly open water except for an area of thin and medium lake ice in the north-eastern corner of the basin. Long Point Bay cleared during the second week. By the end of the month, all of Lake Erie was open water to ice free. As for Lake St Clair, most was open water except for a small patch of new lake ice in the extreme north-eastern portion of the lake (Figure 13).

Very much above normal temperatures observed for all of January continued into the first week of February; however, for the balance of the month, temperatures were generally near to below normal. At the end of the first week, no significant ice was observed over the entire area. With a return to more normal temperatures during the second week, some ice began to grow in Lake St Clair, the Western Basin and the smaller bays in the rest of Lake Erie. By the middle of the month, all of Lake St Clair and the northern portion of the Western Basin had new lake ice. Some new and thin lake ice had formed in Long Point Bay. The ice formation continued into the second half of the month, so that by the end of February, the eastern half of Lake St Clair had thin and new lake ice. The north-eastern part of the Western Basin had loose thin and new lake ice. Along the northern coast of Lake Erie, east of Port Stanley and within 10 miles of the shore, mostly loose thin and new lake ice prevailed. The exception was the very close pack thin lake ice in the extreme eastern portion of the lake near Buffalo (Figure 15).

Temperatures were below normal during the first week of March, but climbed to very much above normal in the second week. Soon after the middle of the month, temperatures dove to below normal values for most of the remainder of the month. Ice growth continued during the first week of March; however, leading up to the middle of the month, significant ice melt and destruction had occurred. At mid-March, most of the ice in Lake St Clair had melted except for some strips of medium lake ice. The Western Basin became open water during the second week while most of Lake Erie was open water. The exception was a small patch of medium and thin



lake ice in the east central part as well as the extreme eastern end of the lake. The patch of ice in east-central Lake Erie had melted during the third week while the area in the extreme eastern part of the lake had melted near the end of the month. By the end of the month all of Lake Erie and Lake St Claire were ice free (Figure 17).

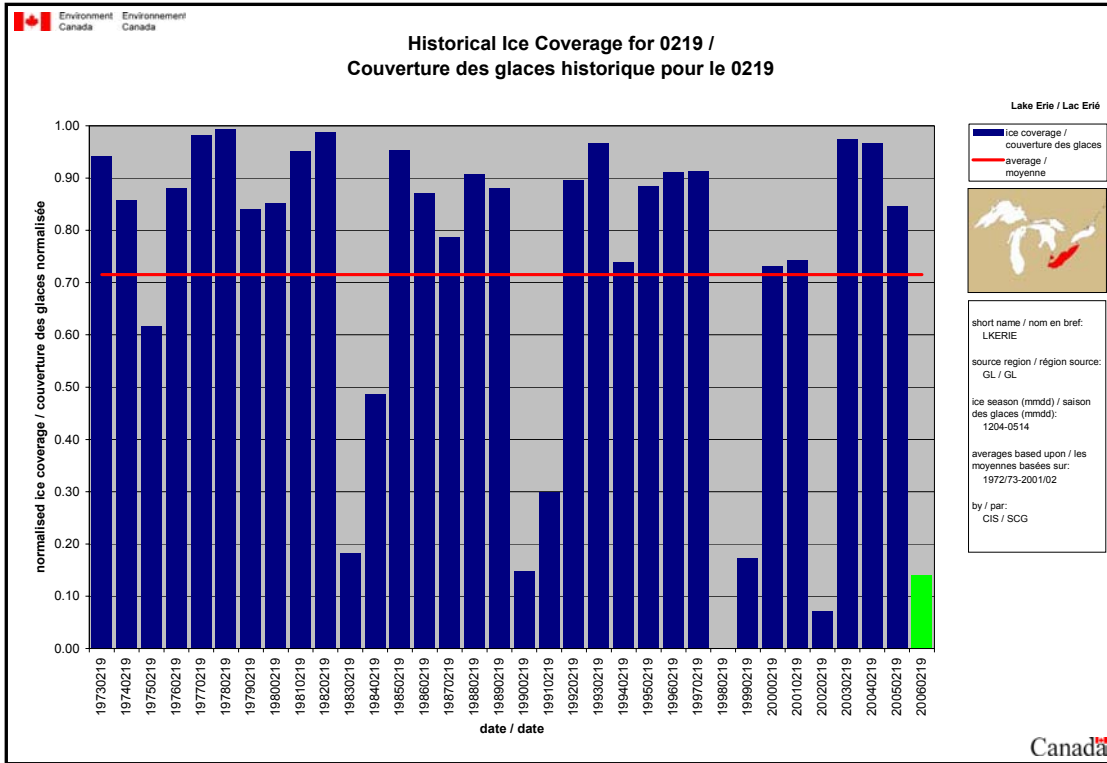


Figure 8: Historical Ice Coverage for Lake Erie for February 12<sup>th</sup>.

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## **Lake Ontario**

Temperatures during the last two weeks of November were near normal over Lake Ontario. No ice had begun to form during this period. However, by December the mercury had edged towards below normal values. In fact, the first three weeks of the month were characterised by below or much below normal temperatures. The last week of December saw the mercury climb back to much above normal values. During the first two weeks of the month, only the Bay of Quinte had thin and new lake ice form during the second week. The rest of the lake remained open water to ice free. During the third week, new lake ice formed along the shore of Prince Edward County while the ice in the Bay of Quinte had become consolidated. Some new lake ice had begun to form in the St Lawrence River while the small bays along the eastern Lake Ontario shore had new and thin lake ice. By the end of the month, the smaller bays along Prince Edward County and eastern Lake Ontario shores were covered with consolidated thin lake ice (Figure 11).

Very much above normal temperatures blanketed the entire Lake Ontario region during the month of January. Little change occurred in the ice coverage despite the warmer than normal temperatures. The consolidated ice in the small bays remained intact during the entire month. In fact, the ice had thickened to thin and medium lake ice. For the most part, the St Lawrence River was open water except for some patches of consolidated thin lake ice along the shore during the last week of the month. Elsewhere mainly open water to ice free conditions prevailed (Figure 13).

February started with above normal temperatures during the first two weeks of the month. Hence, little ice formation occurred during this period over the entire lake region. After the middle of the month, temperatures dropped to near or below normal for the balance of the month. Some new and thin lake ice had formed along the southern shore during the third week but melted before the end of the month. At the same time, some new lake ice had formed during the third week around the Prince Edward County coast, in the northeastern part of Lake Ontario as well as the St Lawrence River. By the end of the month, the thin and new with some medium lake ice had remained in these areas. In fact, some consolidated ice had formed during the last week in the smaller bays in northeastern Lake Ontario as well as in most of the St Lawrence River. The rest of the lake continued to be ice free with some coastal open water (Figure 15).

The cooler temperatures observed during the latter part of February continued into the first few days of March; however, the air warmed up to above normal values until the middle of March. The second half of March started with below normal temperatures but rebounded back to above normal for the last week of the month. Little change was observed in the ice extent except for some ice motion due to winds. Mostly thin and medium lake ice was observed in the north-eastern part of Lake Ontario east of the Prince Edward County peninsula while the St Lawrence River remained consolidated during the first two weeks of March. By the end of the third week, the ice in the north-eastern part of Lake Ontario was mostly

melted except for some patches of medium lake ice in the smaller bays. Signs of break-up had begun to appear in the consolidated ice in the St Lawrence River. By the end of the month, all of the ice in the small bays in the northeastern part of the lake had melted including the bays along the Prince Edward County peninsula. The consolidated ice in the Bay of Quinte as well as the St Lawrence River was also fractured and completely melted by the end of the month. During the first week of April, generally ice free conditions prevailed over the entire Lake Ontario region (Figure 17).

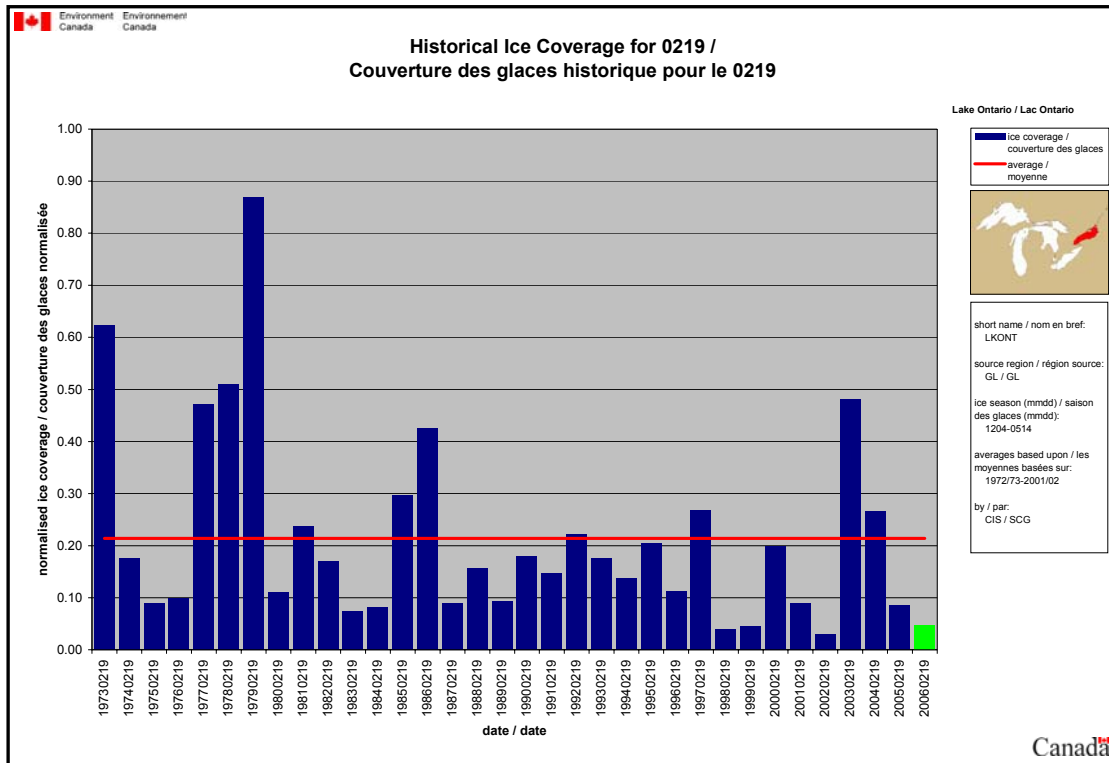


Figure 9: Historical Ice Coverage for Lake Ontario for February 19<sup>th</sup>.

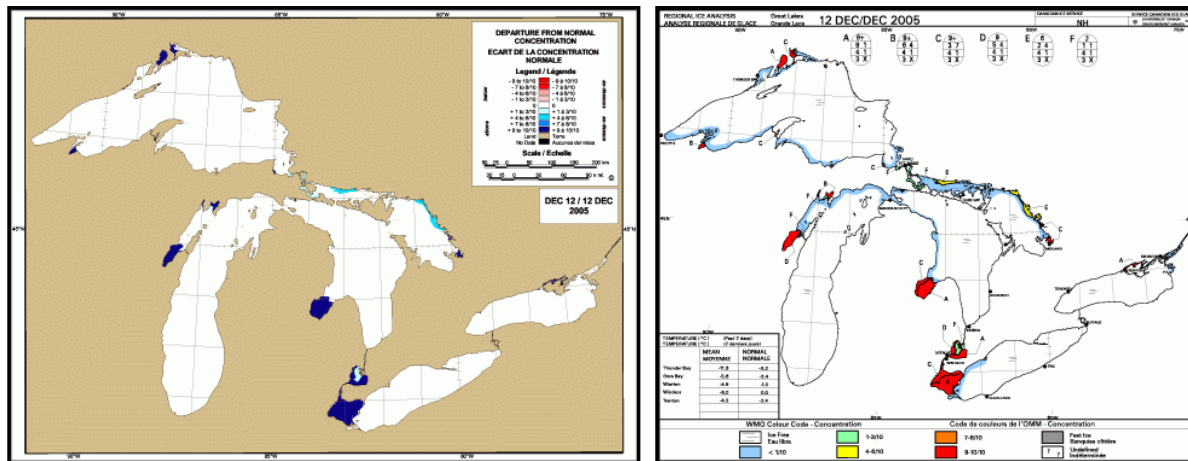


Figure 10: Departure from normal concentration and observed ice situation – December 12<sup>th</sup>, 2005.

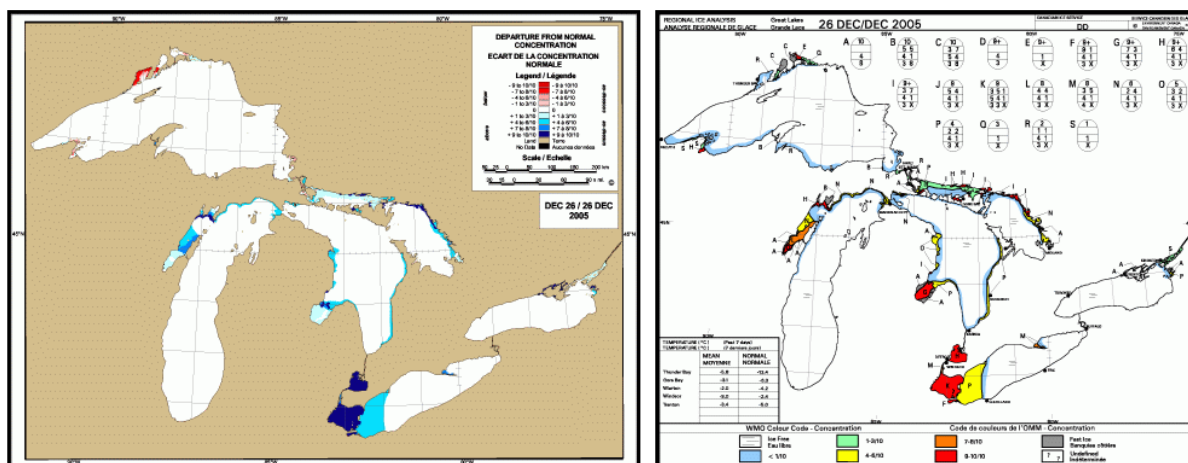


Figure 11: Departure from normal concentration and observed ice situation – December 26<sup>th</sup>, 2005.

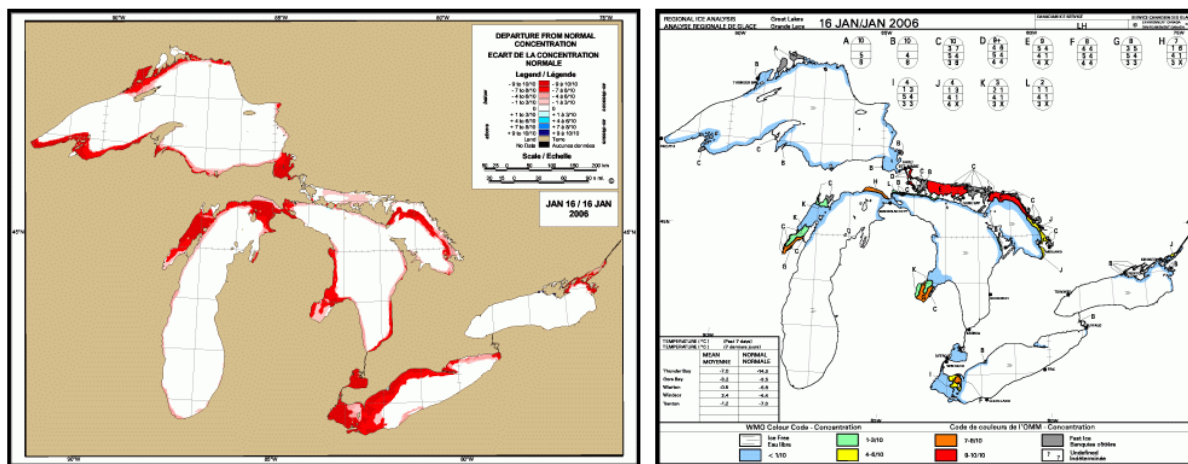


Figure 12: Departure from normal concentration and observed ice situation – January 16<sup>th</sup>, 2006.

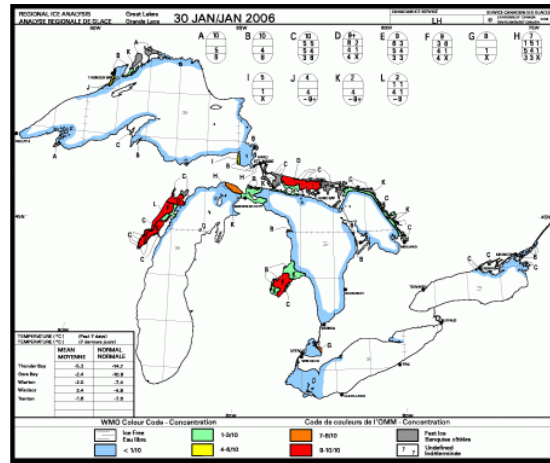
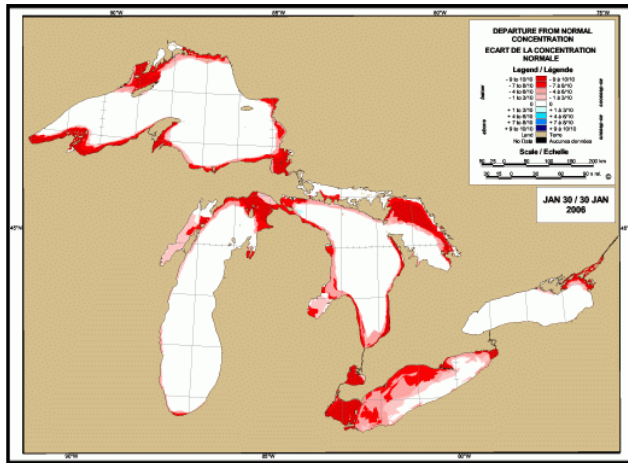


Figure 13: Departure from normal concentration and observed ice situation – January 30<sup>th</sup>, 2006.

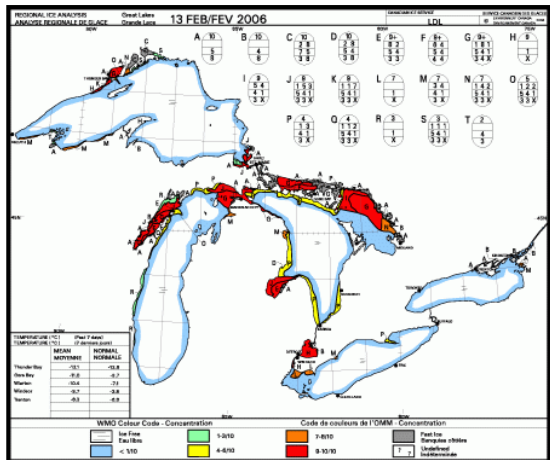
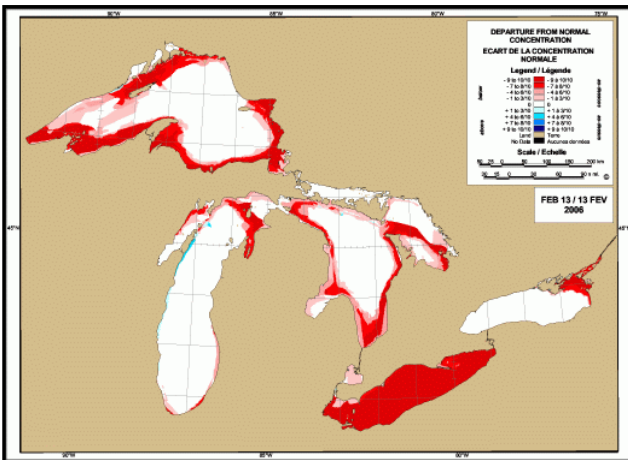


Figure 14: Departure from normal concentration and observed ice situation – February 13<sup>th</sup>, 2006.

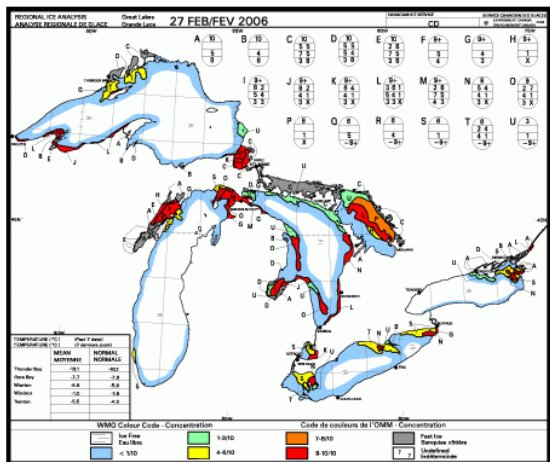
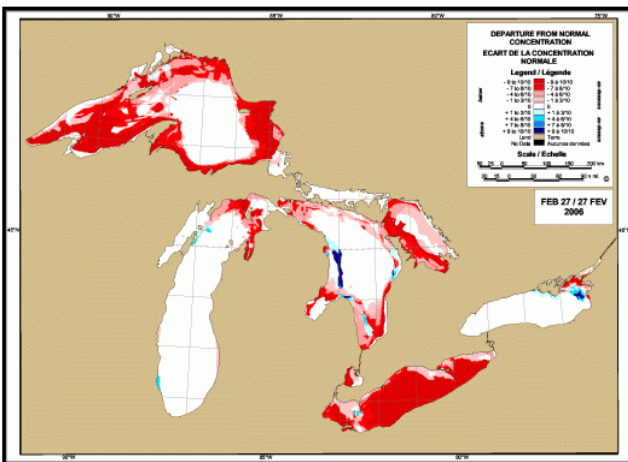


Figure 15: Departure from normal concentration and observed ice situation – February 27<sup>th</sup>, 2006.

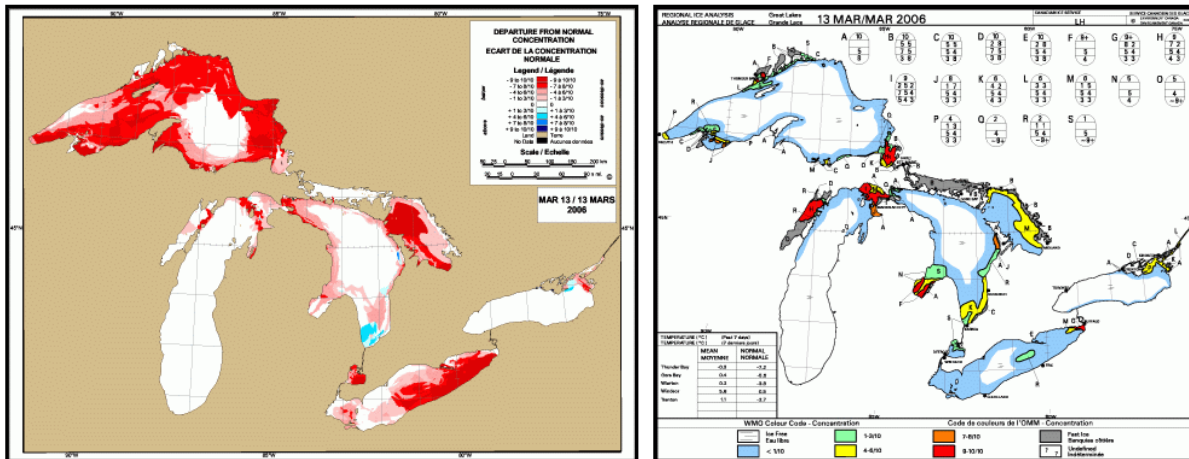


Figure 16: Departure from normal concentration and observed ice situation – March 13<sup>th</sup>, 2006.

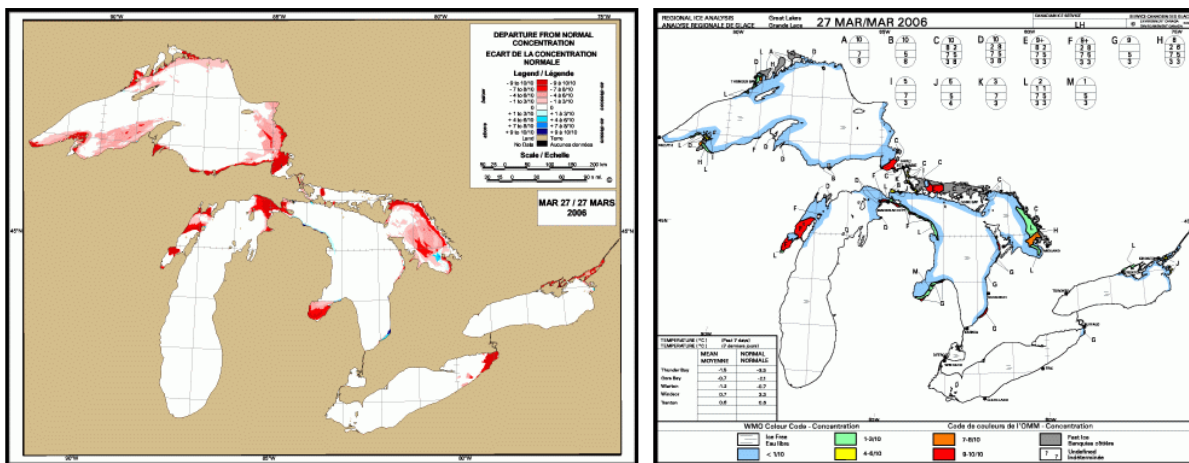


Figure 17: Departure from normal concentration and observed ice situation – March 27<sup>th</sup>, 2006.

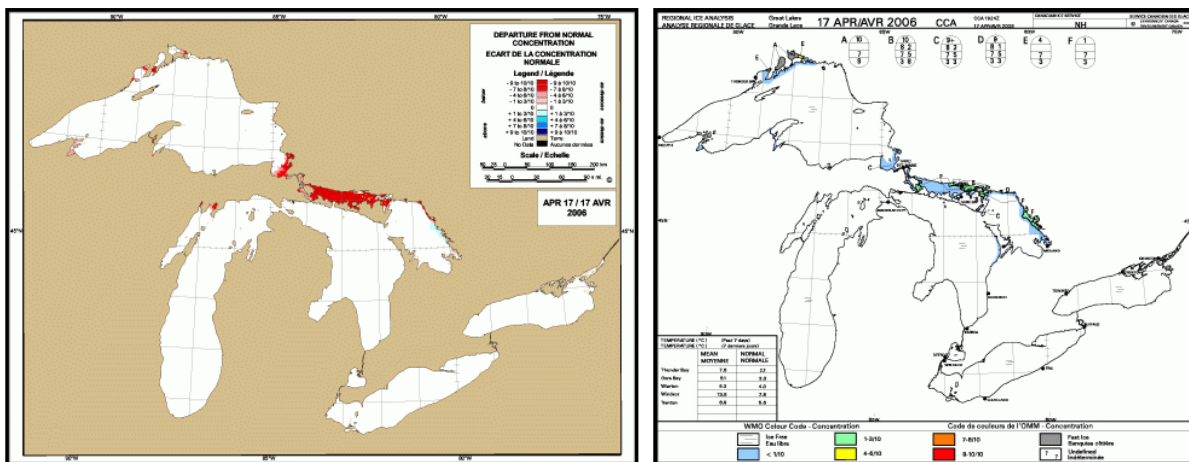


Figure 18: Departure from normal concentration and observed ice situation – April 17<sup>th</sup>, 2006.

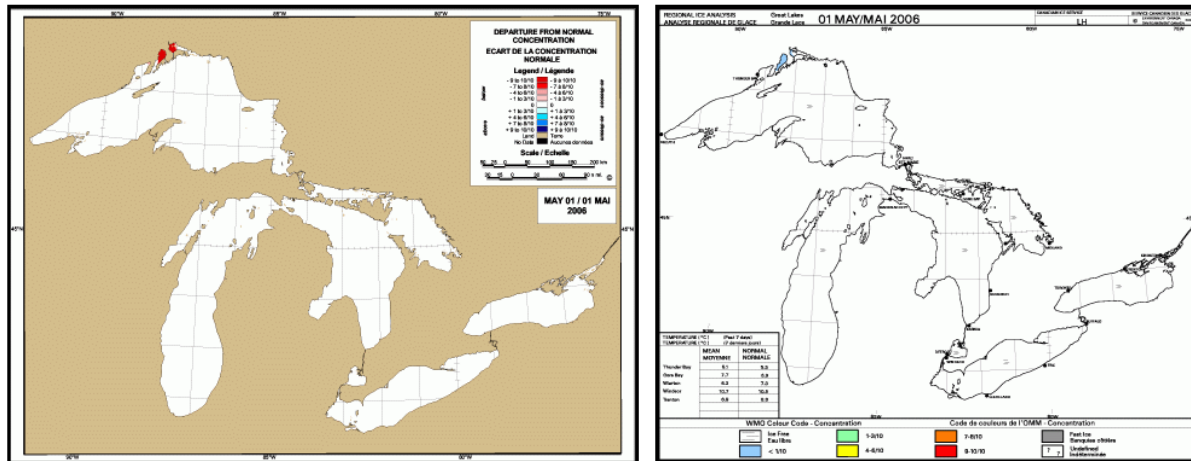


Figure 19: Departure from normal concentration and observed ice situation – May 1<sup>st</sup>, 2006.