

**Seasonal Outlook  
Great Lakes  
Winter 2012-2013**



**Issued by the North American Ice Service**

**3 December 2012**

# North American Ice Service

Figure 01 and 02 show ice conditions forecast for January 1<sup>st</sup> 2013.  
 Figure 03 and 04 show ice conditions forecast for February 1<sup>st</sup> 2013.  
 Figure 05 and 06 show ice conditions forecast for March 1<sup>st</sup> 2013.

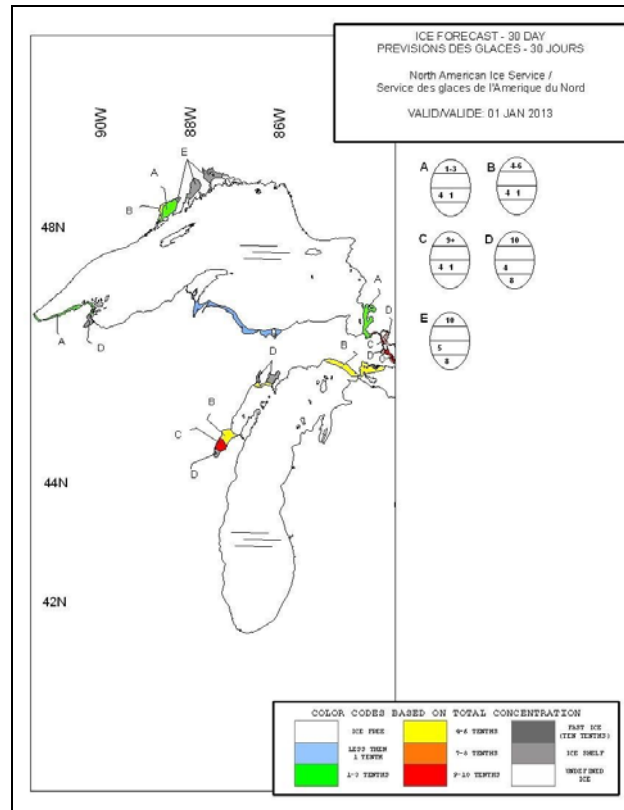


Figure 1: Expected ice conditions - western Great Lakes - 1 January 2013

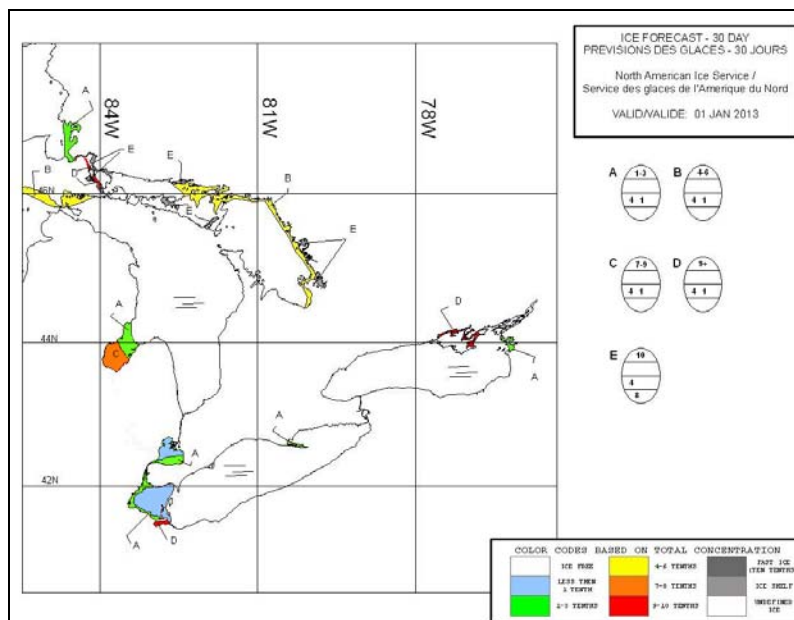


Figure 2: Expected ice conditions - eastern Great Lakes - 1 January 2013

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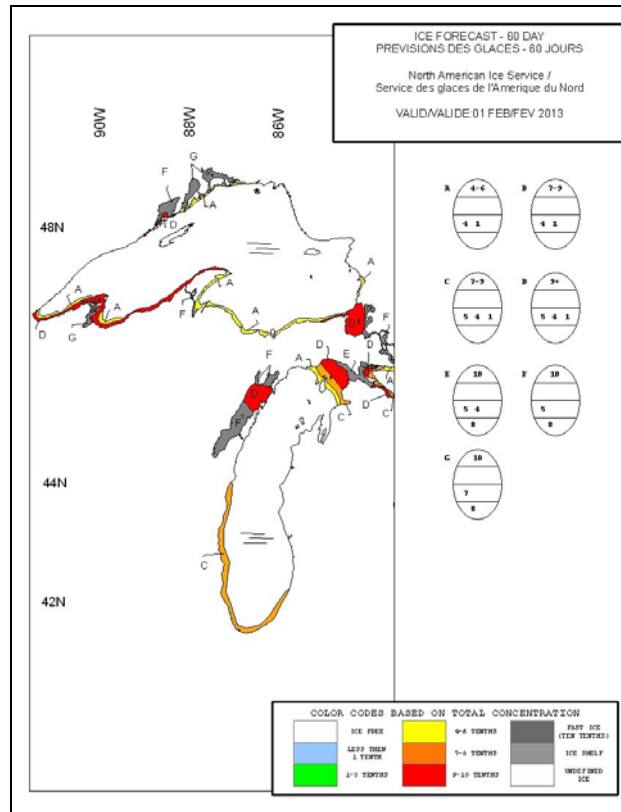


Figure 3: Expected ice conditions - western Great Lakes - 1 February 2013

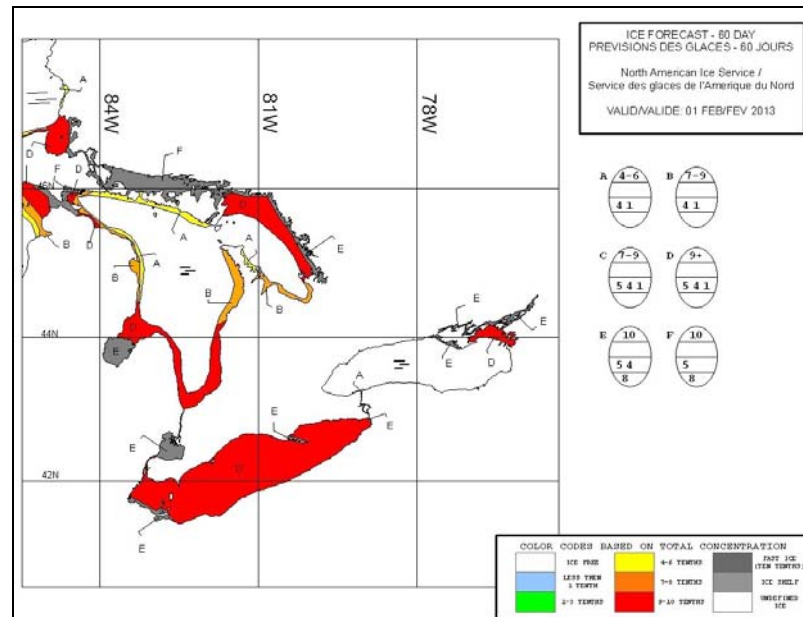


Figure 4: Expected ice conditions - eastern Great Lakes - 1 February 2013

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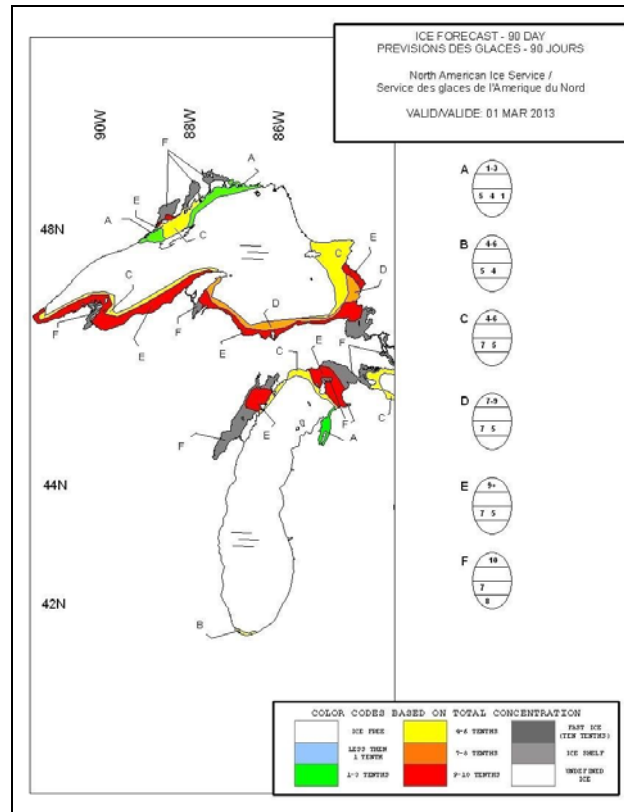


Figure 5: Expected ice conditions - western Great Lakes - 1 March 2013

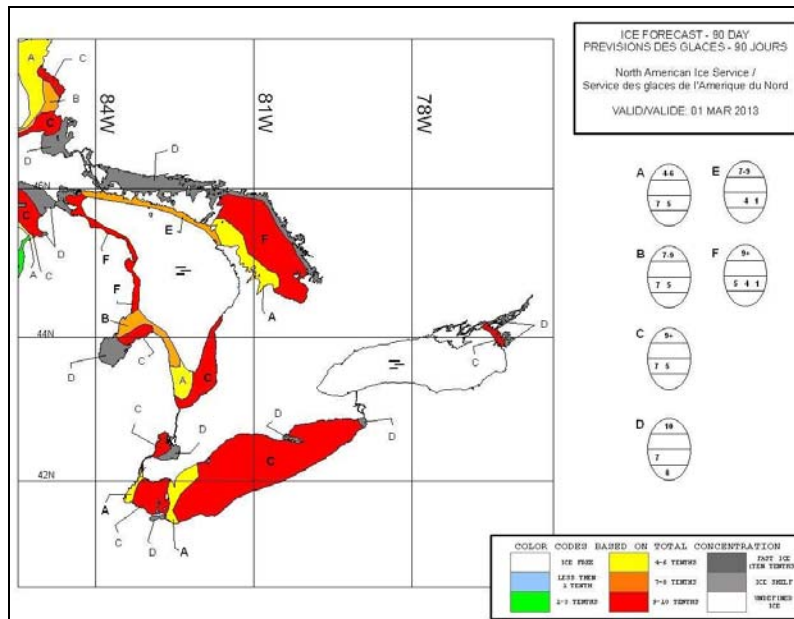


Figure 6: Expected ice conditions - eastern Great Lakes - 1 March 2013

## **Lake Superior**

### **Winter temperature and ice forecasts.**

Average air temperatures will be near normal during the winter. Below normal ice coverage is expected.

### **Thunder Bay.**

Open water.

Outlook for December...At the end of the month, a narrow band of open drift to close pack new and thin lake ice will be present along the shores.

Outlook for January...In the second week, close to very close pack new and thin with some medium lake ice. At the end of January, consolidated medium lake ice except for a small area of mobile ice northeast of Pie Island.

Outlook for February...Consolidated ice will reach the thick lake ice stage in the first week.

### **Nipigon and Black Bays.**

New and thin lake ice in Black and Nipigon Bays.

Outlook for December... In the second week, the northern portion of Black Bay will consolidate with thin lake ice. Close to very close pack new and thin lake ice will cover the western third of Nipigon Bay. Around mid-month, most of Black Bay will be consolidated with thin lake ice. Nipigon Bay will be covered with new and thin lake ice and the north-western portion of the bay will be consolidated. In the last week, fast ice will thicken to medium lake ice in both bays.

Outlook for January...by mid-month, both bays will be consolidated with thick lake ice.

Outlook for February...Consolidated with thick lake ice.

### **From Grand Marais Minnesota to the entrance to Nipigon Bay.**

Open water.

Outlook for December...Open water.

Outlook for January...After mid-month strips and patches of new lake ice with some medium lake ice will develop.

Outlook for February...By mid-month, becoming open drift to close pack medium with some thick lake ice north of Isle Royale. Otherwise, very open to open drift thin and medium lake ice within 15 nautical miles of the shore.

### **From Grand Marais to Duluth.**

Ice free.

Outlook for December...Open water.

Outlook for January...Generally open water.

Outlook for February...occasionally open drift to close pack new and thin lake ice.

**Southern Lake Superior west of Keweenaw Peninsula.**

Ice free to open water.

Outlook for December...New and thin lake ice will develop in Chequamegon Bay in the second week. Chequamegon Bay will consolidate with thin lake ice in the last week. A narrow band of new and thin lake ice will develop near the shore from near Chequamegon Bay and westward near the end of the month.

Outlook for January...Fast ice in Chequamegon Bay will thicken to medium lake ice around the end of the first week. By mid-month, a narrow band of new and thin lake ice will be found from the Keweenaw Peninsula to Duluth. Additionally, some medium lake ice will be present near the Apostle Islands. In the third week, new and thin lake ice with some medium lake ice will extend up to 15 miles offshore from the Keweenaw Peninsula to Duluth. Near the end of the month, consolidated medium lake ice will be found around the Apostle Islands. Fast ice in Chequamegon Bay will thicken to the thick lake ice stage. Outlook for February...Fast ice around the Apostle Islands will thicken to the thick lake ice stage. By mid-month, a band of thin and medium lake ice will extend up to 20 miles offshore. At the end of the month, the ice will extend up to 30 miles offshore and some thick lake ice will be present in the pack.

**Southern Lake Superior east of the Keweenaw Peninsula.**

Ice free.

Outlook for December...Ice free to open water.

Outlook for January...A narrow band of new and thin lake ice will develop along the shore in the last week.

Outlook for February...A narrow band of new and thin with some medium lake ice will be present along the shore. Strips and patches of thin and medium lake ice will at times extend to about 30 nautical miles eastward of the Keweenaw Peninsula. After mid-month, close to very close pack thin and medium lake ice will extend 20 to 30 miles offshore. Consolidated thick lake ice will be present along portions of the shore.

**Whitefish Bay.**

Open water with a few strips of new lake ice near the shore.

Outlook for December...Patches of new and thin lake ice will develop along the shore by mid-month.

Outlook for January...Consolidated medium lake will form in shallower coastal areas in the first week. After mid-month, strips and patches of new and thin lake ice will be present in most of the bay. At the end of the month, becoming very close pack medium lake ice except for consolidated medium lake ice in shallower coastal waters.

Outlook for February...By mid-month, fast ice in shallow coastal waters will reach the thick lake ice stage. Some thick lake ice will be present in the rest of the bay. By the end of the month, a large portion of the bay will be consolidated with thick lake ice, with very close pack medium and thick lake ice in the rest of the bay.

**From Whitefish Bay northwards to Michipicoten Bay.**

Ice free.

Outlook for December...Open water.

Outlook for January...A narrow band of new and thin lake ice will develop along the shore south of Michipicoten Bay in the last week of the month.

Outlook for February...By mid-month, new and thin with some medium lake ice will extend up to 15 nautical miles offshore. At the end of the month, ice will extend up to 30 nautical miles offshore. Some thick lake ice will be present in the pack.

**From Michipicoten Bay to the entrance to Nipigon Bay.**

Ice free.

Outlook for December...Ice free to open water.

Outlook for January...Ice free to open water.

Outlook for February...Open water.

**Elsewhere in Lake Superior.**

Ice free.

Outlook for December...Ice free to open water.

Outlook for January...Ice free to open water.

Outlook for February...Ice free to open water.

**Lake Michigan.**

**Winter temperature and ice forecasts.**

Near to above normal temperatures are expected over Lake Michigan from December to February. Near normal ice conditions are forecast.

**Green Bay.**

Ice free.

Outlook for December...In the second week, close pack new and thin lake ice will develop in the southern third of the bay and the northern portion of the Bays de Noc. Around mid-month, the northern portion of the Bays de Noc will consolidate with thin lake ice. In the last week, consolidated thin lake ice will form along portions of the shore in the southern third of Green Bay.

Outlook for January...By the end of the first week, consolidated medium lake ice will cover the Bays de Noc and some medium lake ice will be present in the southern third of Green Bay. The rest of Green Bay will be covered with thin lake ice except for a large area of open water in the northern portion of the bay. By mid-month, most of Green Bay will be covered with thin and medium lake ice. Near the end of the third week, two thirds of Green Bay will become consolidated with medium lake ice, with very close pack medium lake ice in the rest of the bay.

Outlook for February...In the first week, the fast ice in Green Bay and the Bays de Noc will reach the thick lake ice stage. Close pack medium and thick lake ice will be present in upper third of Green Bay.

### **Northeastern Lake Michigan.**

Ice free.

Outlook for December...After mid-month, a narrow band of new and thin lake ice will develop along portions of the northern shore of the lake.

Outlook for January...In the first week, very close pack thin lake ice will extend to up to 20 nautical miles off the north shore of the lake north of Beaver Island, and strips and patches of new and thin lake ice will spread from the north shore of the lake to Beaver Island and into the Straits of Mackinac. By mid-month, a 20 miles wide band of close to very close pack thin with some medium lake ice will be present along the northeast shore of the lake and into the Straits of Mackinac. At the end of the month very close pack thin and medium lake ice will extend from the northeast shore to Beaver Island and a narrow band of new and thin lake ice will spread westward to the entrance to Green Bay. At that time, consolidated medium lake ice will form within 15 miles of the northeast shore and into the Straits of Mackinac. Thin and medium lake ice will drift into Little Traverse Bay.

Outlook for February...In the first week of the month the fast ice will thicken to the thick lake ice stage. A portion of Little Traverse Bay will consolidate with medium lake ice. By mid-month consolidated thick lake ice will extend to Beaver Island. After mid-month, medium and thick lake ice will be present at times in Grand Traverse Bay.

### **Elsewhere in Lake Michigan.**

Ice free.

Outlook for December...Ice free to open water.

Outlook for January...From about mid-month and onward, a 5 to 15 nautical miles wide band of new and thin lake ice will be present at times along the western, southern and southeastern shores of the lake.

Outlook for February...Some of the ice along the southern and southeastern shore of the lake will thicken to the medium lake ice stage in the first half of the month. Ice destruction will occur in the second half of February. Only a few isolated patches of ice are expected to be present along the southern and southeastern shores at the end of the month.

### **Lake Huron and Georgian Bay.**

#### **Winter temperature and ice forecasts.**

Near to above normal temperatures are expected over Lake Huron from December to February. Near normal ice conditions are forecast.

#### **North Channel.**

Open water with a few strips of new lake ice near the shore.

Outlook for December... After mid-month, consolidated thin lake ice in the shallower coastal areas.

Outlook for January...In the first week, very close pack new and thin with some medium lake ice will develop except for an area of open water in its western end. By mid-month, the western and eastern end of the channel will be consolidated with medium lake ice. The channel will be completely ice covered in the third week and almost completely consolidated with medium lake ice by month's end.

Outlook for February...Consolidated thick lake ice.

**St Mary's River.**

A few strips of new lake ice in the shallower areas of the river.

Outlook for December...By the second week of December strips and patches of new and thin lake ice will be present in the river with open drift to close pack new and thin lake ice developing in its shallower portions. Around mid-month, consolidated thin lake ice will start forming in the shallower portions and close pack thin lake ice will cover the greater part of the rest of the river.

Outlook for January...Most of the river will be consolidated with medium lake ice at the end of the first week. It will be completely consolidated with medium lake ice by mid-month.

Outlook for February...Consolidated thick lake ice.

**South of Manitoulin Island westward to North-western Lake Huron.**

Ice free.

Outlook for December...Open water.

Outlook for January...A narrow band of new and thin lake ice will develop along the shore in the third week.

Outlook for February...A narrow band of new and thin lake ice will be present at times along the shore.

**North-western Lake Huron near the Straits of Mackinac.**

Ice free.

Outlook for December...By mid-month, new and thin ice will develop in the shallower areas of the north shore. Isolated areas of consolidated thin lake ice will appear at the end of the month.

Outlook for January...By the end of the first week, consolidated thin lake ice will be present along the north shore. Strips and patches of new and thin lake ice will drift into the Straits of Mackinac. By mid-month, very close pack thin with some medium lake ice will be present from Bois Blanc Island westward into the Straits of Mackinac. In the third week of January, consolidated thin and medium lake ice will form south of Bois Blanc island. In the last week, consolidated medium lake ice will be present along the north shore and south and west of Bois Blanc Island into the Straits of Mackinac.

Outlook for February...Consolidated thick lake ice along the north shore and south and west of Bois Blanc Island into the Straits of Mackinac. Strips and patches of thin with some medium lake ice to the north and to the east of Bois Blanc Island.

**From north-western Lake Huron to Saginaw Bay.**

Ice free.

Outlook for December...Isolated patches of new lake ice will be present along the shore after mid-month.

Outlook for January...After mid-January a 10 to 15 nautical miles wide area of new and thin lake ice will be present along the shore.

Outlook for February...An area of new and thin with some medium lake ice will be present within 10 to 20 nautical miles of the shore.

**Saginaw Bay.**

Ice free.

Outlook for December...Close pack new and thin lake ice will develop in the last week.

Outlook for January...Thin and medium lake ice will cover the bay by mid-January. Consolidated medium lake ice will be present along portions of the shore. The bay will be consolidated with medium lake ice in the third week.  
Outlook for February...Consolidated with thick lake ice.

### **The southern and eastern shore of Lake Huron.**

Ice free.

Outlook for December...Isolated areas of new lake ice will at times be present along the Bruce Peninsula after mid-month.

Outlook for January...Narrow areas of consolidated thin lake ice will form along the Bruce Peninsula in the first week. At that time, narrow areas of new and thin lake ice will develop along the south-eastern shore. In the third week, open drift to close pack new and thin lake ice will extend 10 to 15 nautical miles of the southern and eastern shores of the lake. Some medium lake ice will be present in the pack along the eastern shore. The ice will extend about 20 to 25 nautical miles offshore by the end of the month.

Outlook for February...Medium lake ice will prevail along the eastern shore of the lake in the first week. Thick lake ice will be present mostly in narrow bands along portions of the shore from about mid-February onward.

### **Georgian Bay.**

Ice free.

Outlook for December...Narrow areas of new and thin lake ice will develop along portions of the shore in the second week. Shallower coastal areas of the eastern shore will become consolidated with thin lake ice in the last week.

Outlook for January...Consolidated medium lake ice will be present along the northeast shore in the first week. By mid-month, a narrow band of new and thin lake ice will be present along the northern and eastern shores. At the end of January, new and thin lake ice will cover the north-eastern portion and will be present at times along the shores in the rest of Georgian Bay.

Outlook for February...The fast ice will thicken to the thick lake ice stage in the first week. From about mid-February onward, thin and medium lake ice will be present in most of Georgian Bay except for some areas of open water generally in the south-western portion.

### **Elsewhere in Lake Huron.**

Ice free.

Outlook for December...Ice free.

Outlook for January...Ice free to open water.

Outlook for February...A few transient patches of thin and medium lake ice mostly in the southern portion of the lake.

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

### **Winter temperature and ice forecasts.**

Near to above normal temperatures are expected from December to February. Near normal ice conditions are forecast.

### **Lake St Clair and the Western Basin.**

Ice free.

Outlook for December...New and thin lake ice will start developing in the eastern portion of Lake St. Clair and in the western portion of the Western Basin in the last week. By then, Sandusky Bay will be at times covered with new and thin lake ice.

Outlook for January...In the second week, close to very close pack new and thin lake ice in the Western Basin and in Lake St. Clair. Some of the ice will thicken to the medium lake ice stage and Sandusky Bay will be consolidated with thin lake ice by mid-month. In the third week the northern and eastern portion of Lake St. Clair will become consolidated with medium lake ice as well as narrow areas along the western and southern shores of the Western Basin. Sandusky Bay will become consolidated with medium lake ice. In the last week of the month most of Lake St. Clair will be consolidated with medium lake ice. Very close pack medium lake ice will cover the Western Basin.

Outlook for February...In the second week the fast ice in Lake St. Clair will thicken to the thick lake ice stage. Large areas of thick lake ice will be present in the eastern portion of the Western Basin. The ice around Pelee Island and south of Pelee Island to the southern shore of the Basin will at times be consolidated with thick lake ice. Late in the month, open water leads will start opening more frequently in the Western Basin and the fast ice in Lake St. Clair will fracture.

### **The rest of Lake Erie.**

Ice free to open water.

Outlook for December...New and thin lake ice will develop in Long Point Bay in the last week.

Outlook for January...New and thin lake ice will drift into the western portion in the second week. Consolidated thin lake ice will form in Long Point Bay by mid-month. At that time, strips and patches of thin and medium lake ice will be present in the western areas. New and thin lake ice will develop rapidly along the shores, including near Buffalo, in the third week. In the last week most of the lake will be covered with thin and medium lake ice. Consolidated medium lake ice will be present near Buffalo.

Outlook for February...Some thick lake ice will be present in the eastern half of the region, near portions of the shores, from about mid-February onward. Consolidated medium and thick lake ice will extend to about 10 nautical miles off the eastern end of the lake.

## **Lake Ontario.**

### **Winter temperature and ice forecasts.**

Near to above normal temperatures are expected from December to February. Near normal ice conditions are forecast.

### **Northeastern Lake Ontario.**

Ice free to open water.

Outlook for December...Isolated areas of new and thin lake ice will develop in shallow coastal waters in the last week.

Outlook for January...In the first week, isolated areas of consolidated thin lake ice in shallow coastal waters. In the third week a 10 nautical miles wide band of new and thin lake ice will develop along the shore. Fast ice will thicken to the medium lake ice stage. In the last week of January, open drift to close pack thin and medium lake ice will be present east of Prince Edward Point.

Outlook for February...By mid- month, close to very close pack thin and medium lake ice will be found east of Prince Edward Point. The fast ice will thicken to the thick lake ice stage. Ice destruction will start occurring after mid-February and pieces of broken fast ice will be found in the pack.

### **Bay of Quinte.**

Open water.

Outlook for December...New and thin lake ice will develop near mid-month.

Outlook for January...Consolidated with thin lake ice in the first week. Fast ice thickening to medium lake ice by mid-month.

Outlook for February...Consolidated ice will thicken to the thick lake ice stage around mid-month.

### **Elsewhere in Lake Ontario.**

Ice free.

Outlook for December...Ice free to open water.

Outlook for January...Isolated areas of new lake ice will at times along the south-western shore.

Outlook for February... Isolated areas of new lake ice will at times along the southern shore.