

**Seasonal Outlook
Great Lakes
Winter 2021-2022**



Issued by the North American Ice Service

1 December 2021

Lake Superior

Winter temperature and ice forecasts.

Above normal temperatures are forecast for December and January, while near normal temperatures are expected for February 2022. Below normal ice conditions are forecast.

Thunder Bay.

Outlook for December...

December 1-20: Open water.

December 21-31: 1-3 tenths new and thin lake ice along the western and northeastern shores.

Outlook for January...

January 1-10: 4-6 tenths new and thin lake ice along the shore.

January 11-20: 4-6 tenths new and thin lake ice.

January 21-31: 9-9+ tenths new and thin lake ice including consolidated thin and medium lake ice along the shore.

Outlook for February...

February 1-20: Consolidated medium lake ice.

February 21-28: Consolidated thick lake ice.

Nipigon and Black Bays.

Outlook for December...

December 1-10: 7-8 tenths new and thin lake ice in northern Black Bay and 1-3 tenths new and thin lake ice in western Nipigon Bay.

December 11-20: 4-6 tenths new and thin lake ice except 9-9+ tenths thin lake ice in northern Black Bay. 7-8 tenths new and thin lake ice in western Nipigon Bay.

December 21-31: 9-9+ tenths thin and medium lake ice in Black Bay. 4-6 tenths new and thin lake ice except 9-9+ tenths medium lake ice in western Nipigon Bay

Outlook for January...

January 1-20: Consolidated medium lake ice.

January 21-31: Consolidated thick lake ice.

Outlook for February...

February 1-28: Consolidated thick lake ice.

From Grand Marais Minnesota to the entrance to Nipigon Bay.

Outlook for December...

December 1-31: Open water.

Outlook for January...

January 1-10: Open water except occasional patches of 1-3 tenths new and thin lake ice from Black Bay to Nipigon Bay.

January 11-31: 1-3 tenths new and thin lake ice from Thunder Bay to Nipigon Bay.

Outlook for February...

February 1-10: 4-6 tenths thin and medium lake ice along the shore.

February 11-20: 7-8 tenths thin and medium lake ice along the shore except 1-3 tenths thin and medium lake ice extending to the northern shore of Isle Royale.

February 21-28: 7-8 tenths thin and medium lake ice.

From Grand Marais to Duluth.

Outlook for December...

December 1-31: Open water.

Outlook for January...

January 1-14: Open water.

January 15-22: Open water except 4-6 tenths new and thin lake ice near Duluth.

January 23-31: Open water except 7-8 tenths thin and medium lake ice near Duluth.

Outlook for February...

February 1-10: Open water except 9-9+ tenths thin and medium lake ice near Duluth.

February 11-20: 4-6 tenths new and thin lake ice except 9-9+ tenths thin and medium lake ice near Duluth.

February 21-28: 7-8 tenths thin and medium lake ice except 9-9+ tenths thin and medium lake ice near Duluth.

Southern Lake Superior west of Keweenaw Peninsula.

Outlook for December...

December 1-15: Open water.

December 16-22: Open water except 4-6 tenths new and thin lake ice in Chequamegon Bay.

December 23-31: Open water except 9-9+ tenths thin lake ice in Chequamegon Bay.

Outlook for January...

January 1-14: 1-3 tenths new and thin lake ice along the shore and near the Apostle Islands except consolidated medium lake ice in Chequamegon Bay.

January 15-25: 7-8 tenths new and thin lake ice along the shore except consolidated medium lake ice in Chequamegon Bay.

January 26-31: 7-8 tenths new and thin lake ice along the shore except consolidated medium lake ice in Chequamegon Bay and the Apostle islands.

Outlook for February...

February 1-14: 9-9+ tenths thin and medium lake ice along the shore except consolidated medium lake ice in Chequamegon Bay and the Apostle Islands.

February 15-28: 9-9+ thin and medium lake ice along the shore except consolidated thick lake ice in Chequamegon Bay. Consolidate medium lake ice near the Apostle Islands.

Southern Lake Superior east of the Keweenaw Peninsula.

Outlook for December...

December 1-31: Open water.

Outlook for January...

January 1-20: Open water.

January 21-31: Open water except 4-6 tenths new and thin lake ice along parts of the shore.

Outlook for February...

February 1-14: Open water except 7-8 tenths new and thin lake ice along parts of the southern shore and east of the Keweenaw Peninsula.

February 15-28: Open water except 9-9+ tenths thin and medium lake ice along the southern shore and east of the Keweenaw Peninsula. Consolidated medium lake ice in sheltered bays.

Whitefish Bay.

Outlook for December...

December 1-10: Open water.

December 11-31: Open water except 1-3 tenths new and thin lake ice in sheltered bays.

Outlook for January...

January 1-15: Open water except 1-3 tenths new and thin lake ice along the shore.

January 16-22: 4-6 tenths new and thin lake ice except consolidated thin lake ice in sheltered bays.

January 23-31: 7-8 tenths new and thin lake ice except consolidated thin lake ice in the eastern section.

Outlook for February...

February 1-15: 7-8 tenths thin and medium lake ice except consolidated medium lake ice in the eastern section.

February 16-28: 9-9+ tenths thin and medium lake ice except consolidated thick lake ice in the eastern section.

From Whitefish Bay northwards to Michipicoten Bay.

Outlook for December...

December 1-31: Open water.

Outlook for January...

January 1-31: Open water.

Outlook for February...

February 1-10: Open water except 4-6 tenths new and thin lake ice along parts the shore south of Michipicoten Bay.

February 11-20: Open water except 7-8 tenths thin and medium lake ice along the shore.

February 21-28: Open water except 9-9+ tenths medium lake ice along the shore.

From Michipicoten Bay to the entrance to Nipigon Bay.

Outlook for December...

December 1-31: Open water.

Outlook for January...

January 1-20: Open water.

January 21-31: Open water except occasional patches of 1-3 tenths new lake ice along parts of the shore from Marathon to Nipigon Bay.

Outlook for February...

February 1-28: Open water except occasional patches of 4-6 tenths new and thin lake ice along parts of the shore from Marathon to Nipigon Bay.

Elsewhere in Lake Superior.

Outlook for December...

December 1-31: Ice free.

Outlook for January...

January 1-31: Ice free to open water.

Outlook for February...

February 1-15: Ice free to open water.

February 16-28: Ice free to open water. Up to 1-3 tenths new and thin lake ice in patches.

Lake Michigan.

Winter temperature and ice forecasts.

Above normal temperatures are expected from December to February. Below normal ice conditions are forecast.

Green Bay.

Outlook for December...

December 1-15: Open water.

December 16-23: Open water except 1-3 tenths new and thin lake ice in the southern section and in the Bays de Noc.

December 24-31: Open water except 7-8 tenths thin lake ice in the southern section and in the Bays de Noc.

Outlook for January...

January 1-10: Open water except 7-8 tenths thin and medium lake ice in the southern section. Consolidated thin and medium lake ice in the Bays de Noc.

January 11-20: 1-3 tenths new and thin lake ice except 9-9+ tenths thin and medium lake ice in the southern section. Consolidated medium lake ice in the extreme southern section and in the Bays de Noc.

January 21-31: 7-8 tenths thin and medium lake ice except consolidated medium lake ice in the southern section and the Bays de Noc.

Outlook for February...

February 1-13: 9-9+ tenths thin and medium lake ice except consolidated medium lake ice in the southern and northern sections.

February 14-28: 9-9+ tenths medium lake ice except consolidated thick lake ice in the southern and northern sections.

Northeastern Lake Michigan.

Outlook for December...

December 1-31: Open water.

Outlook for January...

January 1-10: Open water except 1-3 tenths new and thin lake ice along parts of the northern shore and near the Straits of Mackinac.

January 11-20: Open water except 1-3 tenths new and thin lake ice along the northern shore and ice northeast of Beaver Island.

January 21-31: Open water except 4-6 tenths new and thin lake ice along the northern shore and near Beaver Island. 7-8 tenths thin and medium lake ice north and east of Beaver Island.

Outlook for February...

February 1-14: 1-3 tenths new and thin lake ice except 7-8 tenths thin and medium lake ice north and east of Beaver Island. 9-9+ tenths medium lake ice in the Straits of Mackinac.

February 15-28: 1-3 tenths new and thin lake ice except 9-9+ tenths thin and medium lake ice north and east of Beaver Island. Consolidated medium lake ice along the northeastern shore and in the Straits of Mackinac.

Elsewhere in Lake Michigan.

Outlook for December...

December 1-31: Ice free to open water.

Outlook for January...

January 1-20: Ice free to open water.

January 21-31: Open water except 1-3 tenths new and thin lake ice along parts of the southern and western shores.

Outlook for February...

February 1-10: Open water except 4-6 tenths new and thin lake ice along parts of the shore.

February 11-20: Open water except 7-8 tenths new and thin lake ice along parts of the shore.

February 21-28: Open water except 1-3 tenths thin and medium lake ice along parts of the shore.

Lake Huron and Georgian Bay.

Winter temperature and ice forecasts.

Above normal temperatures are expected over Lake Huron and Georgian Bay from December to February. Below normal ice conditions are forecast.

North Channel.

Outlook for December...

December 1-15: Open water.

December 16-25: Open water except 1-3 tenths new and thin lake ice in sheltered bays.

December 26-31: Open water except 1-3 tenths new and thin lake ice in the eastern and western sections. 7-8 tenths new and thin lake ice in sheltered bays.

Outlook for January...

January 1-14: Open water except 4-6 tenths new and thin lake ice in the eastern and western sections. Consolidated thin lake ice in sheltered bays.

January 15-25: 1-3 tenths new and thin lake ice except 7-8 tenths thin and medium lake ice in the eastern and western sections.

January 26-31: 7-8 tenths thin and medium lake ice except consolidated medium lake ice in the eastern and western sections.

Outlook for February...

February 1-14: 9-9+ tenths medium lake ice except consolidated medium lake ice in the eastern and western sections.

February 15-28: Consolidated medium lake ice except thick lake ice in the eastern and western sections.

St Mary's River.

Outlook for December...

December 1-10: Open water except 1-3 tenths new and thin lake ice in sheltered bays.

December 11-20: 1-3 tenths new and thin lake ice.

December 21-31: 7-8 tenths new and thin lake ice except consolidated thin and medium lake ice in sheltered bays.

Outlook for January...

January 1-20: 9-9+ tenths thin and medium lake ice except consolidated thin and medium lake ice in sheltered bays.

January 21-31: Consolidated medium lake ice.

Outlook for February...

February 1-20: Consolidated medium lake ice.

February 21-28: Consolidated thick lake ice.

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

Outlook for December...

December 1-31: Open water.

Outlook for January...

January 1-20: Open water.

January 21-31: Open water except 1-3 tenths new and thin lake ice in the northwestern section.

Outlook for February...

February 1-15: Open water except 1-3 tenths new and thin lake ice south of Manitoulin Island. 4-6 tenths new and thin lake ice in the northwestern section.

February 16-28: Open water except 4-6 tenths new and thin lake ice south of Manitoulin Island. 7-8 tenths thin and medium lake ice in the northwestern section.

North-western Lake Huron near the Straits of Mackinac.

Outlook for December...

December 1-31: Open water.

Outlook for January...

January 1-20: Open water except 1-3 tenths new and thin lake ice in sheltered bays.

January 21-31: 4-6 tenths new and thin lake ice except 7-8 tenths thin and medium lake ice in the southern section and in the Straits of Mackinac.

Outlook for February...

February 1-14: 7-8 tenths thin and medium lake ice except 9-9+ tenths medium lake ice in the Straits of Mackinac. Consolidated medium lake ice in the northern section.

February 15-28: 7-8 tenths thin and medium lake ice except consolidated medium lake ice in the western section.

From north-western Lake Huron to Saginaw Bay.

Outlook for December...

December 1-31: Open water.

Outlook for January...

January 1-10: Open water except patches of 1-3 tenths new and thin lake ice along the shore south of Alpena.

January 11-20: Open water except 1-3 tenths new and thin lake ice along parts of the shore.

January 21-31: Open water except 4-6 tenths new and thin lake ice along the shore.

Outlook for February...

February 1-10: Open water except 4-6 tenths new and thin lake ice along the shore.

February 11-20: Open water except 4-6 tenths thin and medium lake ice. 7-8 tenths new and thin lake ice along the shore south of Alpena.

February 21-28: Open water except 7-8 tenths thin and medium lake ice along the shore.

Saginaw Bay.

Outlook for December...

December 1-20: Open water.

December 21-26: Open water except 1-3 tenths new and thin lake ice along the shore.

December 27-31: 1-3 tenths new and thin lake ice except 7-8 tenths new and thin lake ice along the shore.

Outlook for January...

January 1-7: 7-8 tenths new and thin lake ice.

January 8-15: 9-9+ tenths new and thin lake ice.

January 16-23: 9-9+ tenths thin and medium lake ice.

January 24-31: Consolidated thin and medium lake ice.

Outlook for February...

February 1-28: Consolidated medium lake ice.

The southern and eastern shore of Lake Huron.

Outlook for December...

December 1-25: Open water.

December 26-31: Open water except occasional patches of 1-3 tenths new lake ice along the shore north of Goderich.

Outlook for January...

January 1-10: Open water except occasional patches of 1-3 tenths new and thin lake ice along the shore.

January 11-21: Open water except 4-6 tenths new and thin lake ice along parts of the shore.

January 22-31: Open water except 7-8 tenths thin lake ice along the shore.

Outlook for February...

February 1-10: Open water except 7-8 tenths thin and medium lake ice along the southern shore. 9-9+ tenths thin and medium lake ice along the eastern shore.

February 11-20: 7-8 tenths thin and medium lake ice except 9-9+ tenths thin and medium lake ice along the eastern shore. Consolidated medium lake ice along the Bruce Peninsula.

February 21-28: 7-8 tenths thin and medium lake ice in the southern sections and along the eastern shore. Consolidated medium lake ice along the Bruce Peninsula.

Georgian Bay.

Outlook for December...

December 1-15: Open water.

December 16-31: Open water except 1-3 tenths new and thin lake ice along parts of the northeastern shore.

Outlook for January...

January 1-10: Open water except 1-3 tenths new and thin lake ice along the northeastern shore. Consolidated thin lake ice in sheltered bays.

January 11-20: Open water except 4-6 tenths new and thin lake ice along the northeastern shore. Consolidated medium lake ice in sheltered bays.

January 21-31: Open water except 7-8 tenths new and thin lake ice near the northeastern shore. Consolidated medium lake ice along the northeastern shore.

Outlook for February...

February 1-20: 4-6 tenths new and thin lake ice except 9-9+ tenths thin and medium lake ice in the northeastern section. Consolidated medium lake ice along the shore.

February 21-28: 4-6 tenths medium lake ice except 9-9+ tenths medium lake ice in the northeastern section. Consolidated medium and thick lake ice along the shore.

Elsewhere in Lake Huron.

Outlook for December...

December 1-31: Ice free.

Outlook for January...

January 1-31: Open water to ice free.

Outlook for February...

February 1-28: Open water to ice free.

Lake Erie and Lake St. Clair

Winter temperature and ice forecasts.

Above normal temperatures are expected from December to February. Below normal ice conditions are forecast.

Lake St Clair and the Western Basin.

Outlook for December...

December 1-20: Open water.

December 21-31: Open water except 1-3 tenths new and thin lake ice along parts of the shore.

Outlook for January...

January 1-10: Open water except 1-3 tenths new and thin lake ice along parts of the shore. 4-6 tenths new and thin lake ice in eastern Lake St. Clair.

January 11-20: 7-8 tenths new and thin lake ice.

January 21-31: 9-9+ tenths new and thin lake ice except consolidated thin lake ice along parts of the shore.

Outlook for February...

February 1-10: 9-9+ tenths thin and medium lake ice except consolidated medium lake ice in eastern Lake St. Clair.

February 11-20: 9-9+ tenths medium lake ice except consolidated medium lake ice in Lake St. Clair.

February 21-28: 7-8 tenths medium lake ice except consolidated lake ice in eastern Lake St. Clair.

The rest of Lake Erie.

Outlook for December...

December 1-20: Open water.

December 21-31: Open water except 1-3 tenths new and thin lake ice in Long Point Bay.

Outlook for January...

January 1-10: Open water except 7-8 tenths new and thin lake ice in Long Point Bay.

January 11-20: Open water except 1-3 tenths new and thin lake ice in the western section and along the north shore. 9-9+ tenths new and thin lake ice in Long Point Bay.

January 21-31: Open water except 7-8 tenths thin and medium lake ice in the western and northern sections.

Outlook for February...

February 1-10: 4-6 thin and medium lake ice except 9-9+ tenths thin and medium lake ice in the western and northern sections.

February 11-20: 7-8 tenths new and thin lake ice except 9-9+ tenths thin and medium lake ice in the western half.

February 21-28: 4-6 tenths thin and medium lake ice in the western section and along the northern shore except 7-8 tenths thin and medium lake ice in the southern and eastern sections.

Lake Ontario.

Winter temperature and ice forecasts.

Above normal temperatures are expected from December to February. Below normal ice conditions are forecast.

Northeastern Lake Ontario.

Outlook for December...

December 1-31: Open water.

Outlook for January...

January 1-10: Open water except occasional patches of 1-3 tenths new and thin lake ice in sheltered bays.

January 11-20: Open water except 4-6 tenths new and thin lake ice in sheltered bays.

January 21-31: Open water except 4-6 tenths new and thin lake ice along the shore. Consolidated thin lake ice in sheltered bays.

Outlook for February...

February 1-10: 4-6 tenths new and thin lake ice except 9-9+ tenths thin and medium lake ice near the shore. Consolidated medium lake ice in sheltered bays.

February 11-20: 7-8 tenths thin and medium lake ice except 9-9+ tenths thin and medium lake ice along the shore. Consolidated medium lake ice in bays.

February 21-28: 4-6 tenths thin and medium lake ice except 7-8 tenths thin and medium lake ice along the shore. Consolidated medium lake ice in bays.

Bay of Quinte.

Outlook for December...

December 1-20: Open water.

December 21-26: 7-8 tenths new and thin lake ice.

December 27-31: 9-9+ tenths new and thin lake ice.

Outlook for January...

January 1-8: 9-9+ tenths thin lake ice

January 9-20: Consolidated thin lake ice.

January 21-31: Consolidated medium lake ice.

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Outlook for February...

February 1-20: Consolidated medium lake ice.

February 21-28: Consolidated medium and thick lake ice

Elsewhere in Lake Ontario.

Outlook for December...

December 1-31: Ice free to open water.

Outlook for January...

January 1-31: Open water.

Outlook for February...

February 1-20: Open water except occasional patches of 4-6 tenths new and thin lake ice along the south shore and the north shore between Toronto and the Bay of Quinte.

February 21-28: Open water.

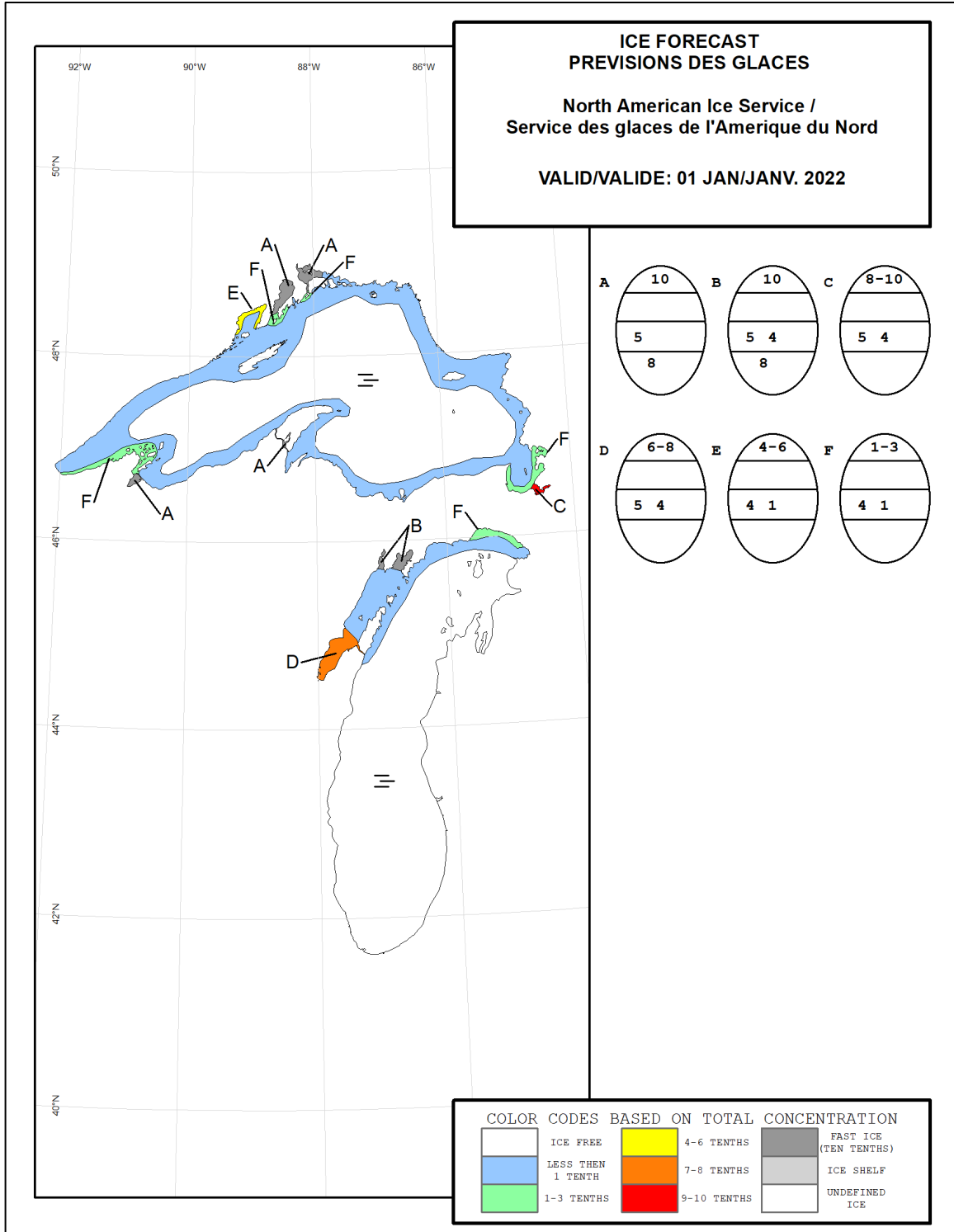


Figure 1: Expected ice conditions – western Great Lakes – 1 January 2022

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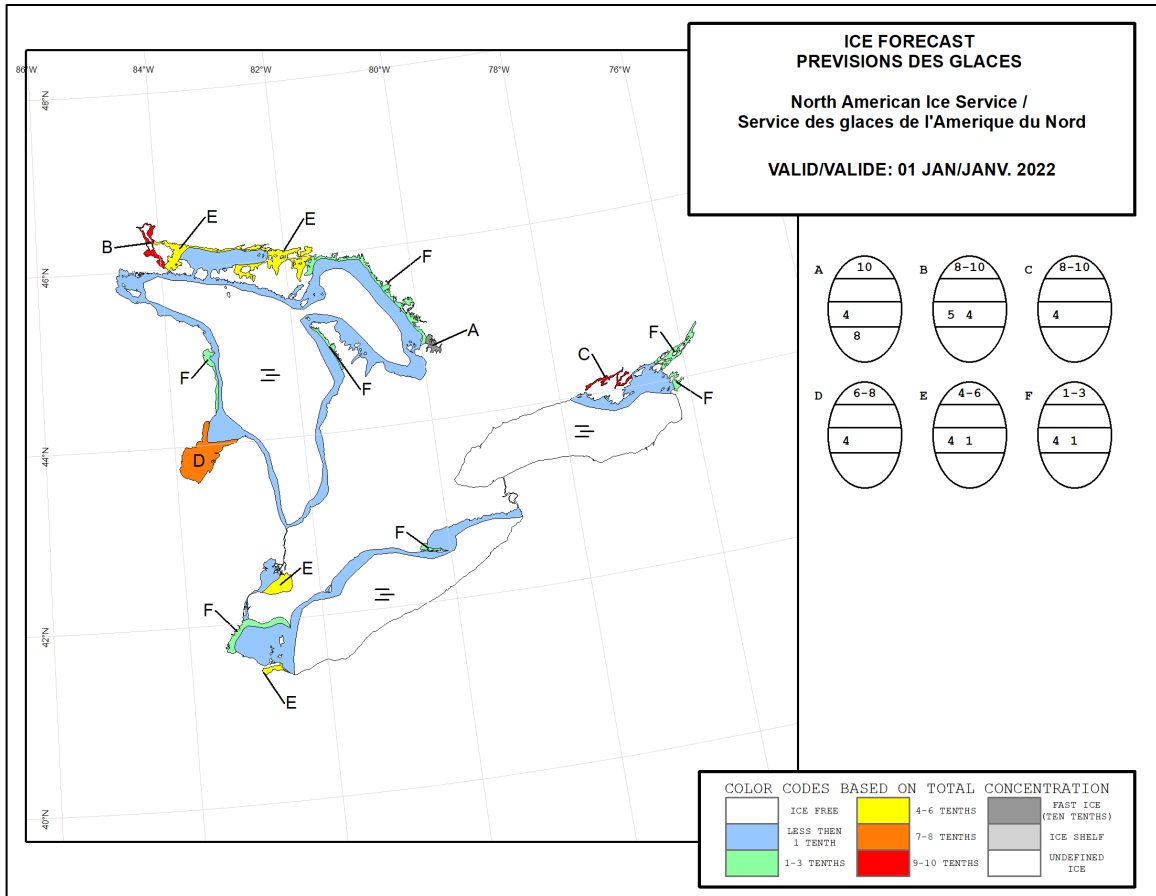


Figure 2: Expected ice conditions – eastern Great Lakes – 1 January 2022

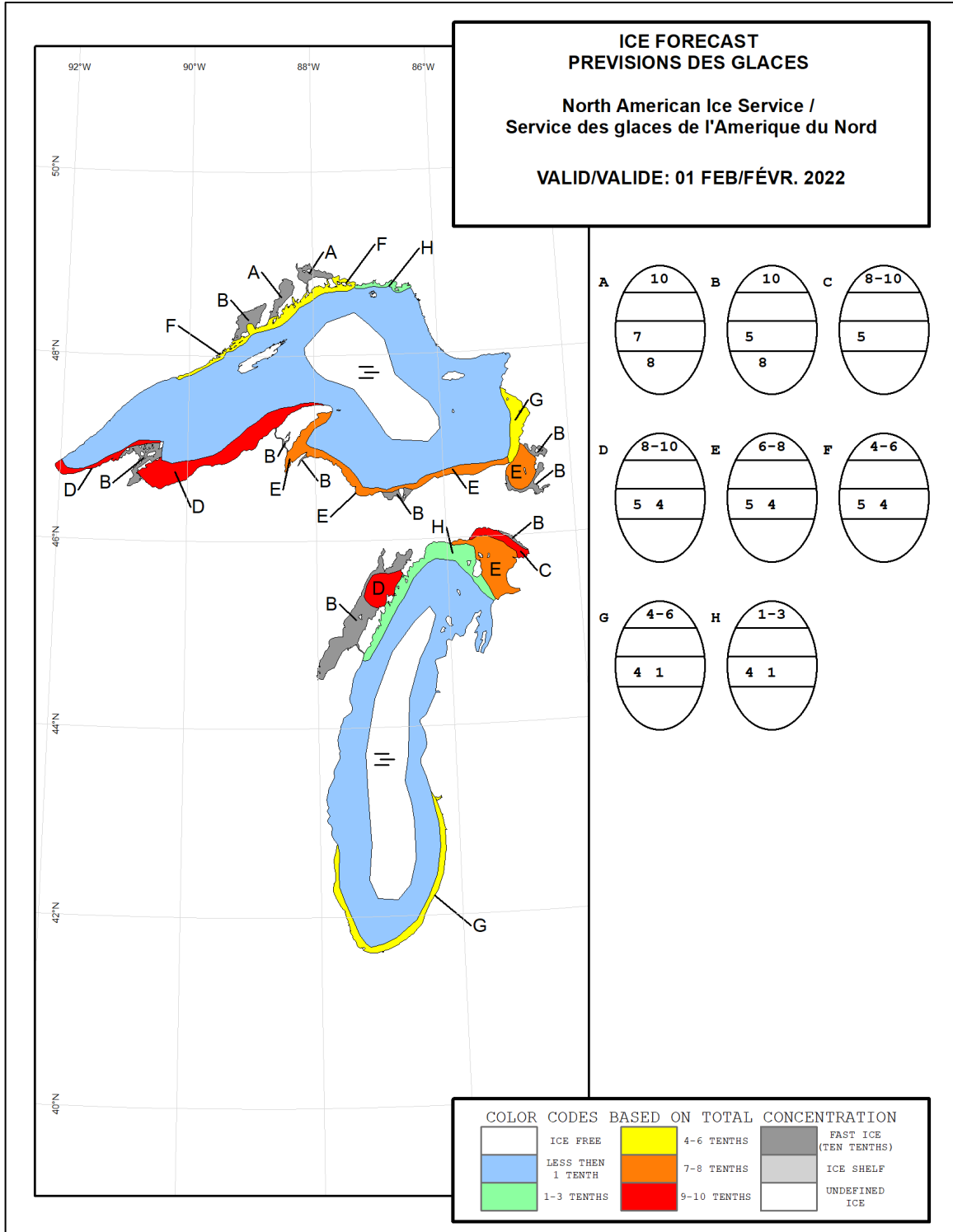


Figure 3: Expected ice conditions – western Great Lakes – 1 February 2022

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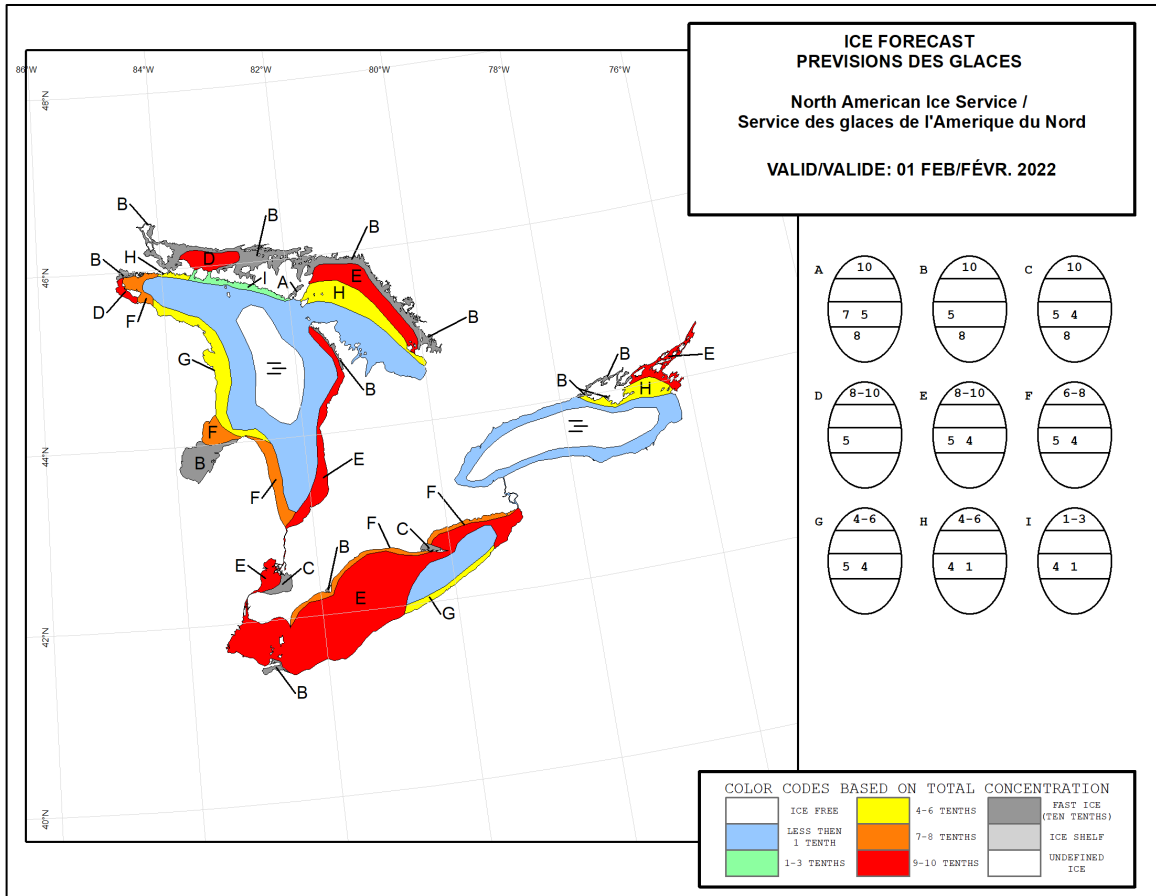


Figure 4: Expected ice conditions – eastern Great Lakes – 1 February 2022

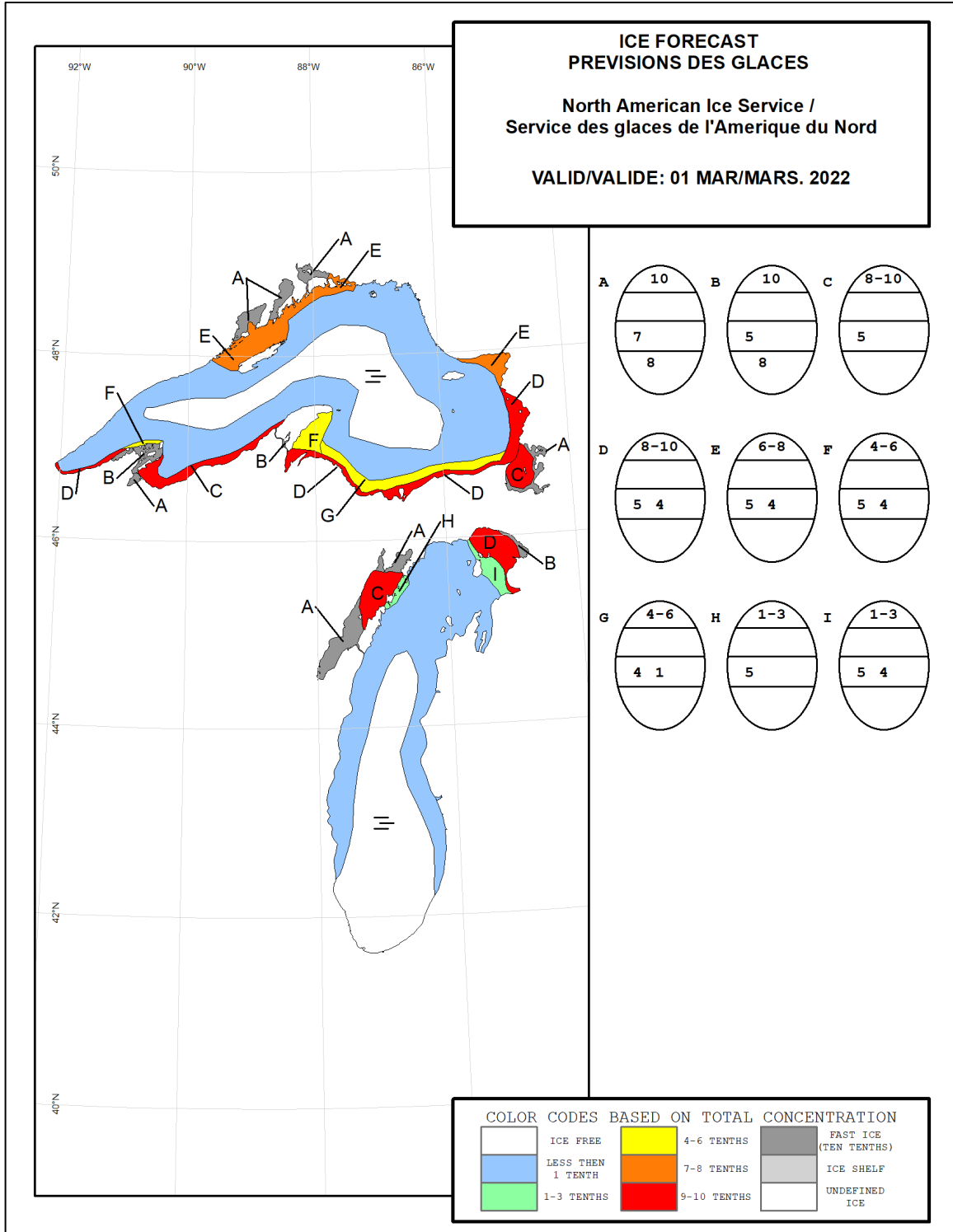


Figure 5: Expected ice conditions – western Great Lakes – 1 March 2022

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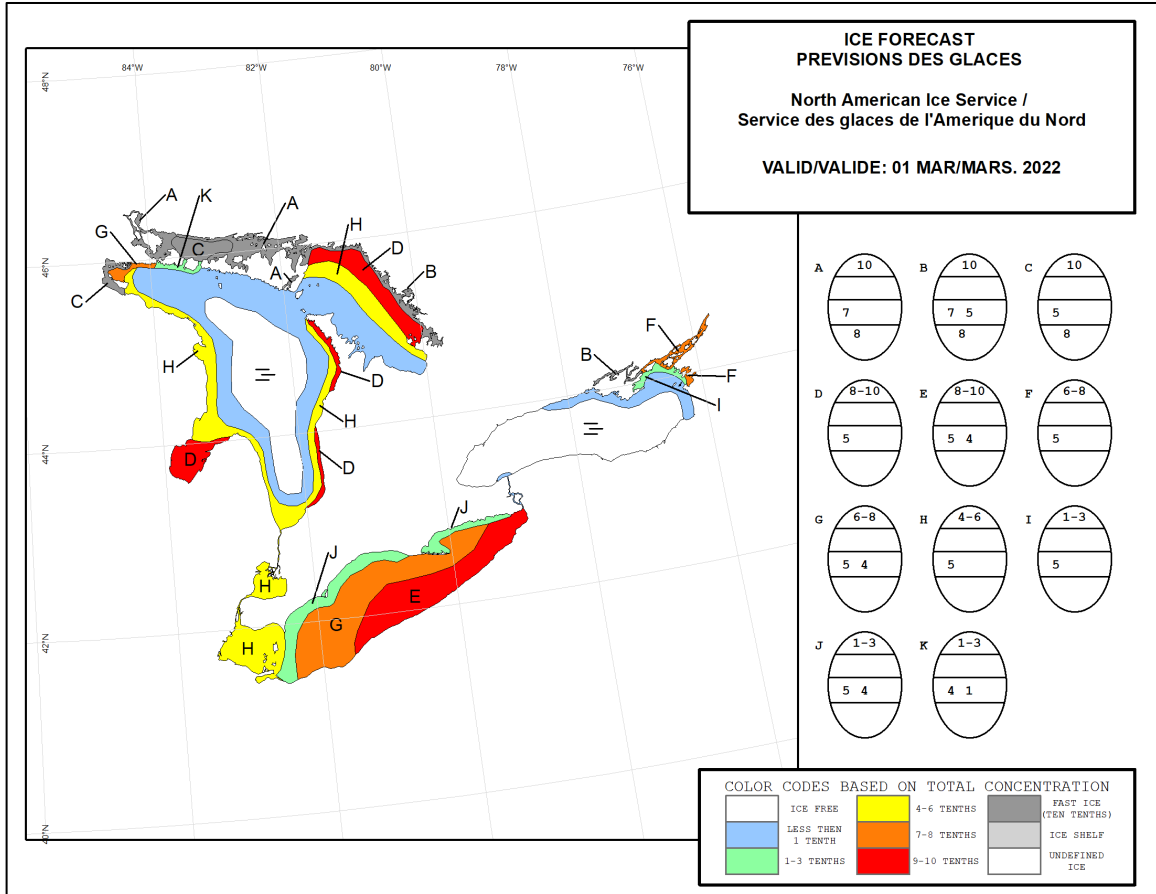


Figure 6: Expected ice conditions – eastern Great Lakes – 1 March 2022