ISSN 0013-2705

BUNDESAMT FÜR SEESCHIFFFAHRT UND HYDROGRAPHIE

# Eisbericht Nr. 98

## Amtsblatt des BSH

| Jahrgang 97 | Nr. 98 | Monday, 08.04.2024 | 1 |
|---|---|---|---|

### Übersicht

In der Bottenwiek befindet sich in den nördlichen Schären bis 80 cm dickes, in den südlichen bis 70 cm dickes Festeis. Im Osten verläuft außerhalb des Festeises eine Rinne mit meist dünnem Eis und örtlich etwas dickerem Treibeis. Auf See treibt im Nordwesten zumeist 40–70 cm dickes, sehr dichtes, örtlich aufgepresstes und übereinandergeschobenes Eis, das teilweise schwer zu passieren ist. Weiter südlich treibt auf See im Westen bis 40 cm dickes, sehr dichtes oder dichtes Eis, um im Osten kommt offenes Wasser vor. An den Küsten von Norra Kvarken liegt bis 60 cm dickes Festeis. Auf See treibt im Norden dichtes bis sehr dichtes, 10-40 cm dickes Eis und im Süden sehr lockeres bis lockeres Eis. An den Küsten der Bottensee kommt im Osten bis 55 cm und im Westen bis 40 cm dickes Festeis vor und im Nordwesten treibt vor der Küste 10–35 cm dickes, sehr dichtes Eis. Im Schärenmeer kommt morsches Festeis und offenes Wasser vor. Im Norden des Finnischen Meerbusens liegt meist morsches Festeis entlang der Küste. Östlich von Hamina treibt lockeres bis dichtes Eis etwas weiter außerhalb. Im Mälaren kommt offenes Waser vor und Väinameri ist eisfrei.

### Overview

In the Bay of Bothnia there is fast ice in the archipelagos, up to 80 cm thick in the north and up to 70 cm thick in the south. Outside the fast ice in the east there is a lead with mostly thin ice and some thicker drift ice at places. At sea in the northwest, there is mostly 40–70 cm thick, very close, ridged and rafted ice that is difficult to force at places. Further south there is up to 40 cm thick very close and close ice in the west and open water in the east. In the Quark there is up to 60 cm thick fast ice at the coasts. At sea there is 10–40 cm thick, close to very close ice in the north and very open to open ice in the south. At the coasts of the Sea of Bothnia there is fast ice, up to 55 cm thick in the east and up to 40 cm thick in the west. In the northwest 10–35 cm thick, very close ice is present outside the coast. Rotten fast ice and open water is present in the Archipelago Sea. There is fast ice, mostly rotten, at the northern coast of the Gulf of Finland. East of about Hamina there is open to close drift ice off the coast. In Mälaren is open water and Väinameri is ice-free.

### Bay of Bothnia

In the archipelagos of the Bay of Bothnia there is fast ice; 50–80 cm thick in the north and 40–70 cm thick in the south. In the northeast the fast ice stretches out to Malören, Kemi-3, Oulu-3 and Raahe lighthouse. West of about 23°20'E, there is 30–70 cm thick, ridged and rafted, very close ice between about 65°10'N and 64°10'N. The ice field is difficult to force at places. In the eastern part north of about Nahkiainen is mostly thin level ice with thicker floes at places. Further south is mostly open water with some drifting floes. In the south western part is close to very close, 10–40 cm thick

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drift ice.
With temperatures around 0°C no larger changes are expected but some northeasterly ice drift.

**The Quark**
There is 35–60 cm thick fast ice in the Vaasa archipelago out to Ensten. Along the Swedish coast there is up to 40 cm thick fast ice. At sea there is 10–40 cm thick, close to very close ice east of Holmöarna, South of Holmögadd to about Norrskär there is very open to open, 5–35 cm thick drift ice.
With temperatures slightly above or around 0°C no larger changes are expected. The ice will slightly drift to the northeast.

**Sea of Bothnia**
Along the coasts there is mostly fast ice in the inner bays; 20–55 cm thick in the east and 5–40 cm thick in the west. The fast ice in the south is rotten. On Ångermanälven, there is 15–40 cm thick fast ice. Off the Swedish coast north of about Sundsvall, there is very close, 10–35 cm thick ice, partly ridged. Further out and along the coast in the south is open water. Off the coast in the east there is open water.
The coming day ice melt is expected in the southern part and some ice melt is possible in the northern part.

**Archipelago Sea and Åland Sea**
In the Archipelago Sea there is rotten fast ice in sheltered parts of the archipelago and mainly open water on the larger fairways. In the Åland Sea there are remnants of rotten fast ice in inner bays.
Ice melt will continue the coming day.

**Northern Baltic**
In Lake Mälaren and the outer archipelago there is open water or it is ice-free.
With day temperatures well above 10°C, the remaining ice will vanish the coming days.

**Gulf of Finland**
Along the northern coast there is fast ice in the archipelago, rotten in the west and partly rotten in the east. On the fairways in the west there is mainly open water. Outside the archipelagos is mainly open water and east of Hamina, there is some open to close drift ice. In the Vyborg Bay and in the Bjerkesund there is fast ice along the coast and else mostly open water with some drift ice at places. From St. Petersburg westwards there is open water or it is ice-free. In Lake Saimaa is 25–50 cm thick ice with open areas.
Ice melt will continue the coming day.

**Gulf of Riga**
The Gulf of Riga is ice-free.

Dr. W. Aldenhoff

## Restrictions to Navigation

| | Harbour/District | At least dwt/hp/kW | Ice Class | Begin |
|---|---|---|---|---|
| **Finland** | Tornio, Kemi and Oulu | 4000 dwt | IA | 02.04. |
| | Raahe, Kalajoki, Kokkola and Pietarsaari | 4000 dwt | IA | 13.01. |
| | Vaasa | 2000 dwt | IB | 02.04. |
| | **Mussalo, Loviisa and Kotka** | **-** | **cancelled** | **08.04.** |
| | **Hamina** | **2000 dwt** | **II** | **08.04.** |
| | Lake Saimaa | 2000 dwt | IA | 08.01. |
| | Saimaa Canal | 2000 dwt | IA | 08.01. |
| **Russia** | Vyborg | - | Ice 1 | 28.03. |
| | Vysotsk | - | Ice 1 | 28.03. |
| | Primorsk | - | Ice 1 | 25.03. |
| **Sweden** | Karlsborg | 4000 dwt | IA (2000 t) | 14.01. |
| | Lulea, Haraholmen and Skelleftehamn | 4000 dwt | IA | 14.01. |
| | Rundvik, Husum and Örnsköldsvik | 2000 dwt | IA | 19.02. |
| | Holmsund | 2000 dwt | IA | 17.02. |
| | Angermanälven | 2000 dwt | IB | 27.03. |
| | Stocka, Hudiksvall, Iggesund, Söderhamn | 2000 dwt | II | 05.04. |
| | Härnösand | 2000 dwt | IB | 26.02. |
| | Söråker and Sundsvall | 2000 dwt | IC | 22.03. |

### Finland/Sweden

The transit traffic west of Holmöarna is temporarily prohibited.
The traffic separation schemes in the Quark are temporarily out of use from 20 December due to ice conditions.
Vessels bound for Gulf of Bothnia ports in which assistance restrictions apply, shall when passing latitude 60° 00' N report their nationality, name, destination, ETA and speed to ICE INFO on VHF channel 82. This report can also be given directly by telephone to +46 10 492 7600.
Vessels bound for Finnish or Swedish ports with assistance restrictions in the Quark or the Bay of Bothnia shall, 20 nautical miles before Nordvalen Lighthouse (63° 32.15' N 20° 46.60' E), report in accordance with the instructions for winter navigation to Bothnia VTS on VHF channel 67.

**Icebreakers:** YMER, ODEN, FREJ, ATLE, POLARIS and URHO assist in the Bay of Bothnia. OTSO and **KONTIO** assist in the southern Bay of Bothnia. ZEUS and ALE assist in the Quark. CALYPSO assists the Gulf of Finland.

### Russia

There are restrictions for small crafts going to St. Petersburg, Vyborg, Vysotsk and Primorsk. Barge towed by tug not allowed to navigate in ice. Vessels without ice class to Vyborg, Vysotsk and Primorsk are only allowed with icebreaker assistance, with ice class Ice 1 or higher according to instructions.

**Icebreakers:** Several icebreakers assist vessels to the port of St. Petersburg, Vyborg, Vysotsk and Primorsk.

## Baltic Sea Ice Code

First number:
**$A_B$ Amount and arrangements of sea ice**
0 Ice free
1 Open water – concentration less than 1/10
2 Very open ice - concentration 1/10 to 3/10
3 Open ice – concentration 4/10 to 6/10
4 Close ice – concentration 7/10 to 8/10
5 Very close ice – concentration 9/10 to 9+/10
6 Compact ice, including consolidated ice – concentration 10/10
7 Fast ice with drift ice outside
8 Fast ice
9 Lead in very close or compact drift ice or along the fast Ice edge
/ Unable to report

Second number:
**$S_B$** Stage of ice development
0 New ice or dark nilas (less than 5 cm thick)
1 Light nilas (5 - 10 cm thick) or ice rind
2 Grey ice (10 - 15 cm thick)
3 Grey-white ice (15 - 30 cm thick)
4 White ice, first stage (30 - 50 cm thick)
5 White ice, second stage (50 - 70 cm thick)
6 Medium first year ice (70 - 120 cm thick)
7 Ice predominantly thinner than 15 cm with some thicker ice
8 Ice predominantly grey-white ice (15 – 30 cm) with some thicker ice
9 Ice predominantly thicker than 30 cm with some thinner ice
/ No information or unable to report

Third number:
**$T_B$ Topography or form of ice**
0 Pancake ice, ice cakes, brash ice – less than 20 m across
1 Small ice floes – 20 to 100 m across
2 Medium ice floes – 100 to 500 m
3 Big ice foes – 500 to 2000 m across
4 Vast or giant ice floes – more than 2000 m across – or level ice
5 Rafted ice
6 Compact slush or shuga, or compacted brash ice
7 Hummocked or ridged ice
8 Thaw holes or many puddles on the ice
9 Rotten ice
/ No information or unable to report

Fourth number:
**$K_B$ Navigation conditions in ice**
0 Navigation unobscured
1 Navigation difficult or dangerous for wooden vessels without ice sheathing
2 Navigation difficult for unstrengthened or low-powered vessels built of iron or steel. Navigation for wooden vessels even with ice sheathing not advisable
3 Navigation without icebreaker assistance possible only for high-powered vessels of strong construction and suitable for navigation in ice
4 Navigation proceeds in lead or broken ice-channel without the assistance of an icebreaker
5 Icebreaker assistance can only be given to vessels suitable for navigation in ice and of special size
6 Icebreaker assistance can only be given to vessels of special ice class and of special size
7 Icebreaker assistance can only be given to vessels after after special permission
8 Navigation temporarily closed
9 Navigation has ceased
/ Unknown

**Finland, 07.04.2024**

| | |
|---|---|
| Röyttä – Etukari | 8546 |
| Etukari – Ristinmatala | 8546 |
| Ajos – Ristinmatala | 8546 |
| Ristinmatala – Kemi 2 | 7476 |
| Kemi 2 – Kemi 1 | 6676 |
| Sea area SW of Kemi 1 | 6676 |
| Kemi 2 – Ulkokrunni – Virpiniemi | 8576 |
| Oulu harbours – Kattilankalla | 8546 |
| Kattilankalla – Oulu 1 | 6476 |
| Sea area SW of Oulu 1 | 6676 |
| High Sea N of the latitude of Marjaniemi | 9006 |
| Raahe harbour – Heikinkari | 8546 |
| Heikinkari – Raahe lighthouse | 6476 |
| Raahe lighthouse – Nahkiainen | 4046 |
| Latitude Marjaniemi – Ulkokalla, Sea | 9416 |
| Rahja harbour – Välimatala | 8446 |
| Vaelimatala to line Ulkokalla – Ykskivi | 2016 |
| Sea betw. lat. of Ulkokalla –Pietarsaari | 9326 |
| Ykspihlaja – Repskär | 8446 |
| Repskär – Kokkola lighthouse | 5476 |
| Sea area off Kokkola lighthouse | 2006 |
| Pietarsaari – Kallan | 8446 |
| Sea area off Kallan | 1006 |
| Sea lat. Pietarsaari – NE Nordvalen | 4356 |
| Sea area ENE of Nordvalen | 5356 |
| Sea area Nordvalen to W of Norrskär | 2316 |
| Vaskiluoto – Ensten | 8446 |
| Ensten – Vaasa lighthouse | 4356 |
| Vaasa lighthouse – Norrskär | 2756 |
| Sea area SW of Norrskär | 2756 |
| Kaskinen – Sälgrund | 8442 |
| Sea area off Sälgrund | 1302 |
| High sea from N to latitude Yttergrund | 1302 |
| Pori harb. to line Pori lighth. – Säppi | 1302 |
| Rauma, Harbour – Kylmäpihlaja | 1302 |
| Uusikaupunki harbour – Kirsta | 1302 |
| Naantali and Turku – Rajakari | 5392 |
| Rajakari – Lövskär | 1302 |
| Lövskär – Korra | 8392 |
| Korra – Isokari | 1302 |
| Lövskär – Berghamn | 1302 |
| Berghamn – Stora Sottunga | 1302 |
| Stora Sottunga – Ledskär | 1302 |
| Lövskär – Grisselborg | 1302 |
| Grisselborg – Norparskär | 1302 |
| Hanko – Vitgrund | 1302 |
| Vitgrund – Utö | 1302 |
| Koverhar – Hästö Busö | 1702 |
| Inkoo a. Kantvik – sea area Porkkala | 1302 |
| Helsinki harbours – Harmaja | 1302 |
| Harmaja – Helsinki lighthouse | 1702 |
| Fairway Helsinki – Porkkala – Rönnskär | 1702 |
| Vuosaari harbour – Eestiluoto | 1702 |
| Eestiluoto – Helsinki lighthouse | 1702 |
| Porvoo harbours – Varlax | 1702 |

| | |
|---|---|
| Varlax – Porvoo lighthouse | 1702 |
| Valko Harbour – Täktarn | 2715 |
| Archipelago fairway Boistö – Glosholm | 1705 |
| Archipelago fairway Glosholm–Helsinki | 1702 |
| Kotka – Viikari | 2715 |
| Viikari – Orrengrund | 2715 |
| Orrengrund – Tiiskeri | 1705 |
| Hamina – Suurmusta | 7446 |
| Suurmusta – Merikari | 3316 |
| Merikari – Kaunissaari | 3316 |

**Russian Federation, 08.04.2024**

| | |
|---|---|
| Vyborg, port and bay | 32// |
| Island Vichrevoj – Island Sommers | 32// |

**Sweden, 08.04.2024**

| | |
|---|---|
| Karlsborg – Malören | 8646 |
| Sea area off Malören | 5676 |
| Luleå – Björnklack | 8646 |
| Björnklack – Farstugrunden | 5576 |
| E and SE of Farstugrunden | 5576 |
| Sandgrönn fairway | 6556 |
| Rödkallen – Norströmsgrund | 5576 |
| Haraholmen – Nygrån | 6556 |
| Sea area off Nygrån | 5556 |
| Skelleftehamn – Gåsören | 8446 |
| Sea area off Gåsören | 5576 |
| Sea area off Bjuröklubb | 5576 |
| NE of Nordvalen | 3426 |
| SW of Nordvalen | 3426 |
| Western Quark (W of Holmöarna) | 4456 |
| Umeå – Väktaren | 3426 |
| SE of Väktaren | 3426 |
| NE and SE of Sydostbrotten | 2426 |
| Fairway to Husum | 5456 |
| Örnsköldsvik – Hörnskaten | 8446 |
| Hörnskaten – Skagsudde | 8446 |
| Sea area off Skagsudde | 5456 |
| Fairway W of Ulvöarna | 8446 |
| Sea area E of Ulvöarna | 5456 |
| Ångermanälven north Sandö Bridge | 8444 |
| Ångermanälven south Sandö Bridge | 8444 |
| Härnösand – Härnön | 5454 |
| Sea area off Härnö | 5454 |
| Sundsvall – Draghällan | 1306 |
| Draghällan – Åstholmsudde | 1306 |
| Off Åstholmsudde and Brämön | 1306 |
| Hudiksvallfjärden | 8346 |
| Iggesund – Agö | 8346 |
| Sandarne – Hällgrund | 8346 |
| Ljusnefjärden – Storjungfrun | 8346 |
| Gävle – Eggegrund | 1302 |
| Hallstavik – Svartklubben | 8392 |
| Köping – Kvicksund | 1101 |
| Västerås – Grönsö | 1101 |
| Grönsö – Södertälje | 1101 |
| Stockholm – Södertälje | 1101 |