ISSN 0013-2705

BUNDESAMT FÜR SEESCHIFFFAHRT UND HYDROGRAPHIE

# Eisbericht Nr. 28

## Amtsblatt des BSH

| Jahrgang 96 | Nr. 28 | Thursday, 05.01.2023 | 1 |
|---|---|---|---|

### Übersicht

In den Schären der Bottenwiek befindet sich bis 30 cm dickes Festeis. Weiter außerhalb treibt im Nordosten 5–20 cm dickes, sehr dichtes Eis und im Westen dünnes Eis. In Norra Kvarken liegt bei Vaasa bis 20 cm dickes Festeis, ansonsten kommt an den Küsten Neueis oder dünnes ebenes Eis vor. In der Bottensee, dem Schärenmeer und dem Mälarsee kommt entlang der Küsten dünnes, ebenes Eis oder Neueis vor. Im Finnischen Meerbusen kommt in den östlichsten Buchten bis 30 cm dickes Festeis sowie zumeist dünnes Treibeis weiter außerhalb vor. In geschützten Buchten entlang der Küsten kommt Neueis und dünnes ebenes Eis vor. Im Nordosten des Rigaischen Meerbusen befindet sich 10–20 cm dickes ebenes Eis oder Festeis entlang der Küsten. In der Bucht von Pärnu treibt sehr dichtes Eis im westlichen Teil. Im Kurischen Haff befindet sich sehr dichtes Treibeis.

### Overview

In the archipelagos of the Bay of Bothnia there is up to 30 cm thick fast ice. Further out, there is 5–20 cm thick, very close ice in the northeast and in the west, there is thin ice. In the Quark there is up to 20 cm thick fast ice near Vaasa and else new ice or thin level ice along the coasts. In the Sea of Bothnia, the Archipelago Sea and Lake Mälaren, there is thin level ice und new ice along the coasts. In the Gulf of Finland, there is up to 30 cm thick fast ice in the easternmost bays and mostly thin drifting ice further out. In sheltered places along the coasts, there is new ice and thin level ice. In the northeastern Gulf of Riga, there is 10–20 cm thick level ice or fast ice along the coasts. In the Bay of Pärnu, there is very close drift ice in the western part. In the Curonian lagoon there is very close drift ice.

### Bay of Bothnia

In the archipelagos of the northern Bay of Bothnia, there is 10–30 cm thick fast ice. Further out in the northeast, there is 5–20 cm thick and rafted very close ice to about Malören–Inakari–Lallinmöyly followed by new ice to 5 nm south of Kemi-1. Further out from Farstugrunden to Oulun portti, there is 5–20 cm thick, very close drift ice. Further south to Merikallat and Nahkiainen, there is new ice and thin drifting ice. Off the fast ice in the west, there is new ice or thin drifting ice to about Farstugrunden–Norströmsgrund–Nygrån. In the southern Bay of Bothnia, there is thin level ice or in places 5–15 cm thick fast ice in the inner bays. Further out, there is new ice and new ice formation.
Ice formation and ice growth is expected the coming day. The ice drifts to the southwest.

**Herstellung und Vertrieb**
Bundesamt für Seeschifffahrt und Hydrographie (BSH)
www.bsh.de/eis
www.bsh.de/ice

**Eisauskünfte / Ice Information**
Telefon: +49 (0) 381 4563 -780
Telefax: +49 (0) 381 4563 -949
E-Mail: ice@bsh.de

**The Quark**
There is up to 20 cm thick fast or level ice in the Vaasa archipelago and thin drift ice and new ice further out to west of Vaasa lighthouse. On the Swedish side, there is thin level ice in sheltered regions and new ice further out.
New ice formation and ice growth is expected the coming day. The ice drifts slightly in westerly directions.

**Sea of Bothnia**
In the archipelagos along the coasts there is mostly thin level ice und new ice further out on the Finnish side. On the Swedish side, there is thin level ice the archipelagos in the north and new ice or thin level ice in the south. On the Ångermanälven, there is 5–15 cm thick fast or level ice.
Some new ice formation is expected the coming day. Ice may drift westward.

**Archipelago Sea**
New ice is present in sheltered inner bays.
Some new ice formation is expected in sheltered places.

**Northern Baltic**
In Lake Mälaren, 2–10 cm thick level ice is present in the western part. New ice occurs in sheltered places. New ice is present in sheltered places along the coast.
Some new ice formation is expected the coming day.

**Gulf of Finland**
15–30 cm thick compact ice is present east of the island Kotlin. Westward of Kotlin, there is drifting very close ice and new ice to about Šepelevskij. New ice is present further out to about the island Seskar. In the top of Vyborg Bay, there is 15–25 cm thick fast ice and new ice or very open drift ice further out. Along the northern coast and in some sheltered places along the southern coast, there is thin level ice and new ice. Further out in the northeastern part, there is new ice formation. On Lake Saimaa, there is 5–20 cm thick ice and new ice, in the southern part also places with open water.
New ice formation is expected the coming day. The ice drifts to the southwest/south.

**Gulf of Riga**
In Väinameri, there is 10–20 cm thick fast ice in sheltered bays and open to very close ice between Hiiumaa and Saaremaa. The fairway is ice free. In the Bay of Pärnu, there is 10–20 cm thick fast ice out to the line Valgeranna–Tahku Nina. Further out in the western part of the bay to the north tip of the island Kihnu, there is 10–20 cm thick, close to very close drift ice. The central part of Pärnu bay is open water. Latvian fairways are ice free.
Some new ice formation is expected the coming day. The ice drifts to the west/southwest.

**Central Baltic**
The area is mostly ice free.

**Southeastern Baltic**
In the Curonian lagoon, there is very close ice and Vistula lagoon is mostly ice free.
No major changes are expected the coming day.

**Western and Southern Baltic**
The area is ice free.

**Skagerrak and Kattegat**
Up to 10 cm thick ice or new ice is present in some Norwegian Fjords.
Some new ice formation in sheltered places is expected the coming day.

**Swedish Lakes**
New ice and thin level ice is present in some sheltered bays of Lake Vänern.
Some new ice formation is possible in the northern part but else no larger changes.

Dr. W. Aldenhoff

## Restrictions to Navigation

| | Harbour/District | At least dwt/hp/kW | Ice Class | Begin |
|---|---|---|---|---|
| **Estonia** | Pärnu | 1600 kW | 1 C | 23.12. |
| **Finland** | Tornio, Kemi and Oulu | 2000 dwt | I | 24.12. |
| | **Tornio, Kemi and Oulu** | **2000 dwt** | **IB** | **07.01.** |
| | Raahe and Vaasa | 2000 dwt | II | 24.12. |
| | Kalajoki, Kokkola and Pietarsaari | 2000 dwt | II | 01.01. |
| | **Raahe, Kalajoki, Kokkola, Pietarsaari and Vaasa** | **2000 dwt** | **I** | **07.01.** |
| | **Kaskinen, Inkoo, Kantvik, Helsinki, Sköldvik and Mussalo** | **2000 dwt** | **II** | **07.01.** |
| | Loviisa, Kotka and Hamina | 2000 dwt | II | 24.12. |
| | **Lake Saimaa and Saimaa Canal** | **2000 dwt** | **IA** | **05.01.** |
| **Sweden** | Karlsborg and Lulea | 2000 dwt | IC | 25.12. |
| | **Karlsborg and Lulea** | **2000 dwt** | **IB** | **08.01.** |
| | Haraholmen and Skelleftehamn | 2000 dwt | IC | 25.12. |
| | Holmsund, Rundvik, Husum and Örnsköldvik | 2000 dwt | II | 21.12. |
| | Angermanälven | 2000 dwt | IC | 21.12. |
| | **Angermanälven** | **2000 dwt** | **IB** | **07.01.** |
| | Köping | 1300/2000 dwt | IC/II | 17.12. |
| | **Köping** | **2000 dwt** | **IC** | **07.01.** |
| | Västeras and Balsta | 1300/2000 dwt | IC/II | 22.12. |
| | **Västeras** | **2000 dwt** | **IC** | **07.01.** |

### Estonia

**Icebreakers:**
EVA-316 assists in the port of Pärnu.

### Finland/Sweden

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:**
KONTIO, ATLE, OTSO, FREJ and ALE assist in the Bay of Bothnia. TYRSKY assists in the Lake Saimaa.

### Russia

There are restrictions for small crafts going to Vysotsk, Vyborg, St. Petersburg, Ust-Luga and Primorsk.

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

## 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

**Estonia, 05.01.2023**

| | |
|---|---|
| Paernu, port and bay | 7235 |

**Finland, 04.01.2023**

| | |
|---|---|
| Röyttä – Etukari | 8346 |
| Etukari – Ristinmatala | 7756 |
| Ajos – Ristinmatala | 7756 |
| Ristinmatala – Kemi 2 | 5756 |
| Kemi 2 – Kemi 1 | 5756 |
| Sea area SW of Kemi 1 | 5756 |
| Kemi 2 – Ulkokrunni – Virpiniemi | 7756 |
| Oulu harbours – Kattilankalla | 8746 |
| Kattilankalla – Oulu 1 | 4146 |
| Sea area SW of Oulu 1 | 2006 |
| High Sea N of the latitude of Marjaniemi | 3006 |
| Raahe harbour – Heikinkari | 3005 |
| Heikinkari – Raahe lighthouse | 2005 |
| Rahja harbour – Välimatala | 3025 |
| Ykspihlaja – Repskär | 5145 |
| Repskär – Kokkola lighthouse | 2005 |
| Pietarsaari – Kallan | 5145 |
| Sea area off Kallan | 2005 |
| Vaskiluoto – Ensten | 5745 |
| Ensten – Vaasa lighthouse | 3125 |
| Vaasa lighthouse – Norrskär | 2005 |
| Kaskinen – Sälgrund | 3001 |
| Sea area off Sälgrund | 2000 |
| Naantali and Turku – Rajakari | 3001 |
| Inkoo a. Kantvik – sea area Porkkala | 3001 |
| Helsinki harbours – Harmaja | 1000 |
| Valko Harbour – Täktarn | 5145 |
| Kotka – Viikari | 3105 |
| Viikari – Orrengrund | 1000 |
| Hamina – Suurmusta | 3115 |
| Suurmusta – Merikari | 1005 |

**Latvia, 05.01.2023**

| | |
|---|---|
| Mersrags to Irben Strait, fairway | 1000 |

**Norway, 05.01.2023**

| | |
|---|---|
| Svinesund – Halden | 31// |
| Mossesund | 9223 |
| Drammensfjord | 4234 |
| Tønsberg, inner harbour | 8101 |
| Langårsund (Kragerø) | 8144 |

**Russian Federation, 05.01.2023**

| | |
|---|---|
| Port of St. Petersburg | 63/3 |
| St. Petersburg – E-point island Kotlin | 53/2 |
| E-point Kotlin – long. lighth. Tolbuhkin | 4101 |
| Lighth. Tolbuhkin – lighth. –Šepelevskij | 4001 |
| Vyborg, port and bay | 83/3 |
| Island Vichrevoj – Island Sommers | /001 |
| Strait Bjerkesund | 50/2 |
| E-point Bol'šoj Ber'ozovyj – Šepelevskij | 50/2 |
| Luga bay | 1000 |

**Sweden, 05.01.2023**

| | |
|---|---|
| Karlsborg – Malören | 8346 |
| Sea area off Malören | 5336 |
| Luleå – Björnklack | 8346 |
| Björnklack – Farstugrunden | 4146 |
| E and SE of Farstugrunden | 4146 |
| Sandgrönn fairway | 8346 |
| Rödkallen – Norströmsgrund | 4146 |
| Haraholmen – Nygrån | 8246 |
| Sea area off Nygrån | 4146 |
| Skelleftehamn – Gåsören | 5246 |
| Sea area off Bjuröklubb | 5246 |
| Umeå – Väktaren | 4046 |
| Fairway to Husum | 4046 |
| Örnsköldsvik – Hörnskaten | 5146 |
| Ångermanälven north Sandö Bridge | 8244 |
| Ångermanälven south Sandö Bridge | 8244 |
| Sundsvall – Draghällan | 5041 |
| Hudiksvallfjärden | 5142 |
| Iggesund – Agö | 5142 |
| Sandarne – Hällgrund | 4041 |
| Ljusnefjärden – Storjungfrun | 4041 |
| Gävle – Eggegrund | 5142 |
| Hallstavik – Svartklubben | 4041 |
| Köping – Kvicksund | 5144 |
| Västerås – Grönsö | 5144 |
| Grönsö – Södertälje | 2024 |
| Stockholm – Södertälje | 4044 |
| Fairway to Karlstad | 5142 |
| Fairway to Kristinehamn | 4041 |