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BUNDESAMT FÜR SEESCHIFFFAHRT UND HYDROGRAPHIE

# Eisbericht Nr. 24

## Amtsblatt des BSH

| Jahrgang 95 | Nr. 24 | Thursday, 30.12.2021 | 1 |
|---|---|---|---|

### Übersicht

In der nördlichen Bottenwiek liegt in den Schären 15–30 cm dickes Festeis und weiter außerhalb treibt zumeist dichtes, 5–15 cm dickes Eis. In der südlichen Bottenwiek und Norra Kvarken liegt in den Schären bis zu 30 cm dickes Festeis und weiter außerhalb kommt lockeres bis dichtes Treibeis vor. Auf See treibt in Norra Kvarken sehr lockeres Eis. Entlang der Küsten der Bottensee, dem Schärenmeer und der Ålandsee liegt Festeis, dünnes ebenes Eis oder Neueis. Im Finnischen Meerbusen liegt entlang der Nordküste dünnes, ebenes Eis. Im Osten kommt bis zu 25 cm dickes Festeis und auf See bis 10 cm dickes Treibeis vor. Im Rigaischen Meerbusen befindet sich Neueis und bis zu 25 cm dickes Eis im Moonsund und in der Pärnubucht. Neueis oder dünnes, ebenes Eis kommt in der nördlichen Ostsee, den Haffgebieten der südöstlichen Ostsee und dem Vänern vor. Neueis kommt in geschützten Buchten der zentralen Ostsee, der südlichen Ostsee, der westlichen Ostsee und dem Skagerrak vor.

### Overview

In the northern Bay of Bothnia, there is 15–30 cm thick fast ice in the archipelagos, and mostly close, 5–15 cm thick drift ice further out. In the southern Bay of Bothnia and Norra Kvarken, there is up to 30 cm thick fast ice in the archipelagos and very open to open drift ice further out. There is very open drift ice at sea in Norra Kvarken. Along the coasts of the Sea of Bothnia, the Archipelago Sea and Åland Sea, there is fast ice, thin level ice or new ice. In the Gulf of Finland, thin level ice is present along the northern coast. In the eastern part, there is up to 25 cm thick fast ice and up to 10 cm thick drift ice at sea. In the Gulf of Riga, there is new ice and up to 25 cm thick ice in Moonsund and Pärnu Bay. New ice and thin level ice occurs at places in the northern Baltic, in the lagoons of the southeastern Baltic and Lake Vänern. New ice occurs in sheltered areas of the central Baltic, the southern Baltic, the western Baltic and Skagerrak.

### Bay of Bothnia

In the archipelagos of the northern Bay of Bothnia, there is 15–30 cm thick fast ice, from the Finnish coast reaching out to Hebe-3 and Kattilankalla. Off the fast ice, there is 5–15 cm thick, close drift ice to Nordströmsgrund in the west and in the east to 8 sm west of Oulu-1 – Nahkiainen. In the southern Bay of Bothnia, there is 10–25 cm thick fast ice in the archipelagos and thin open to close drift ice further out.

Some ice growth and ice drift is expected over the weekend. With changing winds, the ice drift will first be to the north, Friday/Saturday to the south and Sunday to the north.

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### Norra Kvarken

In the archipelagoes off Vaasa, there is 10–30 cm thick fast ice out to Storhästen and 5–15 cm thick, compact ice out to Ensten. Very open ice is present to Vaasa lighthouse and along the northern fast ice edge. Along the Swedish coast, there is 5-20 cm thick fast in the inner archipelagos. North of Holmöarna open or close, 5–15 cm thick drift ice. North of Nordvalen, there is open water with strings and patches of drift ice at sea.
Some ice growth and ice drift is expected over the weekend. With changing winds, the ice drift will first be to the north, Friday/Saturday to the south and Sunday to the north.

### Sea of Bothnia

On Ångermanälven, there is 10–25 cm thick fast ice in the upper part, and thin level ice and new ice in the lower part. Else, there is 10–20 cm fast ice or thin level ice in the archipelagos and bays. Further out along the Finnish coast, there is a thin belt of 3–10 cm thick, very close drift ice in the north and open drift ice in the south.
Some ice growth and ice formation are expected over the weekend.

### Archipelago and Åland Sea

Thin level ice is present in places along the eastern coast. Else, there is new ice in the archipelagos and along the western coast.

No larger changes are expected over the weekend.

### Gulf of Finland

From St. Petersburg up to the dike, there is 15–25 cm thick fast ice. Farther out, there is very close, 5–20 cm thick ice to Šepelevskij. In the Bay of Vyborg, there is 15–25 cm fast ice. 15–25 cm very close ice or fast ice is present in the Bjerkesund. In the archipelagoes of the northern coast, there is 5-20 cm thick level ice or fast ice. Further out in the east, there is very open, 3–10 cm thick drift ice. East of about the longitude of the island Moščnyj, there is very open, 3-10 cm drift ice. At the southern coast, new ice is present in places near the shore. In Lake Saimaa and the Saimaa Canal, there is 10–25 cm thick ice.
Over the weekend, some new ice formation and ice growth is expected over the weekend. The ice will first drift to the north and later mostly to the east/southeast.

### Gulf of Riga

In Moonsund, there is very close, 10–25 cm thick ice and new ice on the fairways. In the northeastern part, there is thin level or very close ice along the coast and new ice further out. In Pärnu Bay, there is 10–25 cm thick very close ice or thin level ice and some new ice to Kihnu. In the port of Riga, there is open water with some drift ice.
Over the weekend, no major changes are expected. Changing winds cause some ice drift mostly to the north and south.

### Northern Baltic

In Lake Mälaren, there is 5–20 cm thick fast ice or level ice in the western part. In sheltered bays further east, there is thin level or new ice. Along the Swedish coast, there is new ice or shuga in some sheltered bays.
With temperatures mostly around the freezing, no larger changes are expected over the weekend.

### Central Baltic

New ice occurs in sheltered bays along the Swedish coast. In Kalmarsund, there are strings with shuga.

Over the weekend, ice melt is expected especially along the Swedish coast.

### Southeastern Baltic

The Curonian Lagoon is covered by new ice and in the Vistula Lagoon, there is up to 7 cm thick ice.

Some ice melt occurs over the weekend.

### Southern Baltic

New ice occurs in the Szczecin Lagoon, along the river Peene and in sheltered bays of the Bay of Greifswald. New ice is also present along the Swedish coast off Karlshamn.
Over the weekend, the ice will be melting.

**Western Baltic**
New ice occurs in some shelters areas, inside the Darss-Zingst Bodden Chain and the Bodden waters around Rügen.

Over the weekend, ice melt continues with temperatures up to 10 °C. Most of the ice will be gone after the weekend.

**Belts and Sound**
Mostly ice free.

Ice melt continues over the weekend.

**Skagerrak und Kattegat**
In some inner fjords of the Skagerrak, there is fast ice up to 30 cm thick. Else, new ice occurs in a few sheltered places. The Kattegat is mostly ice free. Over the weekend some ice formation and growth is expected in sheltered places in the Oslofjord. Else, ice melt continues in Kattegat and the southern Skagerrak.

**Swedish Lakes**
New ice as well as thin level ice is present in sheltered bays of Lake Vänern. Along the northern coast, there is 5–20 cm thick, level ice and new ice further out.
Over the weekend, some ice melt is expected.

Dr. W. Aldenhoff

***The ice service wishes all its readers a happy New Year!***
***Next report will be issued on Monday 03.01.2022***

## Restrictions to Navigation

| | Harbour/District | At least dwt/hp/kW | Ice Class | Begin |
|---|---|---|---|---|
| **Estonia** | Pärnu | 1600 kW | 1C | 17.12. |
| **Finland** | Tornio, Kemi, Oulu and Raahe | 2000 dwt | IB | 25.12. |
| | Kokkola and Vaasa | 2000 dwt | I | 22.12. |
| | Kalajoki and Pietarsaari | 2000 dwt | I | 25.12. |
| | Loviisa, Kotka and Hamina | 2000 dwt | II | 22.12. |
| | Mussalo | 2000 dwt | II | 25.12. |
| | Lake Saimaa and Saimaa Canal | 2000 dwt | I | 22.12. |
| | **Kaskinen, Kristinnankaupunki, Pori, Rauma, Uusikaupunki, Naantali, Turku, Taalintehdas, Förby, Koverhar, Lappohja, Inkoo, Kantvik, Helsinki, Sköldvik** | **2000 dwt** | **II** | **01.01.** |
| | **Hamina** | **2000 dwt** | **I** | **01.01.** |
| | **Kotka, Loviisa** | **2000 dwt** | **I** | **04.01.** |
| **Sweden** | Karlsborg and Luleå | 2000 dwt | IC | 11.12. |
| | Haraholmen and Skelleftehamn | 2000 dwt | IC | 22.12. |
| | Holmsund, Rundvik and Husum | 2000 dwt | II | 22.12. |
| | Örnsköldsvik | 2000 dwt | II | 22.12. |
| | Ångermanälven | 2000 dwt | IC | 22.12. |
| | Härnösand- Skutskär | 2000 dwt | II | 22.12. |
| | Köping and Västerås | 2000 dwt | IC | 27.12. |
| | Bålsta | 1300/2000 dwt | IC/II | 27.12. |
| | **Trollhätte Canal and Göta Älv** | **1300/2000 dwt** | **IC/II** | **03.01.** |
| | **Vänern** | **1300/2000 dwt** | **IC/II** | **03.01.** |

## Information of the Icebreaker Services

### Estonia

**Icebreaker:** EVA-316 assists to 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 78. 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:**
OTSO, KONTIO, FREJ, ALE and YMER assist in the Bay of Bothnia. VOIMA assists in the eastern Gulf of Finland. PROTECTOR and CALYPSO assist in the northern Lake Saimaa. METEOR assists in the southern Lake Saimaa and the Saimaa Canal.

### Russia

There are restrictions for small crafts going to Vysotsk, Vyborg, St. Petersburg, Ust-Luga and Primorsk.
**There is a requirement of ice class Ice 1 or icebreaker assistance to Vyborg from 30.12., Ust-Luga from 04.01.2022 and Primorsk from 12.01.2022. Icebreaker assistance is required for vessels without ice reinforcement to St. Petersburg from 31.12.**

**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

**Germany, 30.12.2021**

| | |
|---|---|
| Anklam, Hafen – Peenestrom | 1001 |
| Rankwitz, Peenestrom | 6041 |
| Wismar, Hafen | 2000 |
| Schlei, Schleswig – Kappeln | 2000 |

**Estonia, 30.12.2021**

| | |
|---|---|
| Shipping route from Narva-Jõssuu | 3000 |
| Kunda, port and bay | 2000 |
| Muuga, port and bay | 2000 |
| Tallinn, port and bay | 2000 |
| Paernu, port and bay | 53/5 |
| Moonsund | 41/2 |

**Finland, 30.12.2021**

| | |
|---|---|
| Roeyttae – Etukari | 8346 |
| Etukari – Ristinmatala | 7346 |
| Ajos – Ristinmatala | 7346 |
| Ristinmatala – Kemi 2 | 5246 |
| Kemi 2 – Kemi 1 | 5246 |
| Sea area SW of Kemi 1 | 4046 |
| Kemi 2 – Ulkokrunni – Virpiniemi | 7346 |
| Oulu harbours – Kattilankalla | 8346 |
| Kattilankalla – Oulu 1 | 5346 |
| Sea area SW of Oulu 1 | 5246 |
| High Sea N of the latitude of Marjaniemi | 1026 |
| Raahe harbour – Heikinkari | 7746 |
| Heikinkari – Raahe lighthouse | 5766 |
| Raahe lighthouse – Nahkiainen | 4246 |
| Latitude Marjaniemi – Ulkokalla, Sea | 3126 |
| Rahja harbour – Välimatala | 5746 |
| Vaelimatala to line Ulkokalla – Ykskivi | 3226 |
| Sea betw. lat. of Ulkokalla –Pietarsaari | 1006 |
| Ykspihlaja – Repsaer | 7766 |
| Repskaer – Kokkola lighthouse | 5146 |
| Sea area off Kokkola lighthouse | 3106 |
| Pietarsaari – Kallan | 5746 |
| Sea area off Kallan | 3026 |
| Sea lat. Pietarsaari – NE Nordvalen | 2006 |
| Sea area ENE of Nordvalen | 1006 |
| Vaskiluoto – Ensten | 7346 |
| Ensten – Vaasa lighthouse | 5246 |
| Vaasa lighthouse – Norrskaer | 1006 |
| Kaskinen – Sälgrund | 5145 |
| Sea area off Sälgrund | 5145 |
| Pori harb. to line Pori lighth. – Säppi | 2015 |
| Rauma, Harbour – Kylmäpihlaja | 5145 |
| Kylmäpihlaja – Rauma lighthouse | 1005 |
| Uusikaupunki harbour – Kirsta | 5245 |
| Kirsta – Isokari | 4145 |
| Naantali and Turku – Rajakari | 2001 |
| Koverhar – Hästö Busö | 3005 |
| Inkoo a. Kantvik – sea area Porkkala | 4145 |
| Helsinki harbours – Harmaja | 4145 |
| Harmaja – Helsinki lighthouse | 1005 |
| Fairway Helsinki – Porkkala – Rönnskär | 1005 |
| Vuosaari harbour – Eestiluoto | 4045 |
| Porvoo harbours – Varlax | 4145 |

| | |
|---|---|
| Varlax – Porvoo lighthouse | 1005 |
| Porvoo lighthouse – Kalbådagrund | 0//5 |
| Valko Harbour – Täktarn | 5265 |
| Archipelago fairway Boistö – Glosholm | 1005 |
| Archipelago fairway Glosholm–Helsinki | 4045 |
| Kotka – Viikari | 5145 |
| Viikari – Orrengrund | 4045 |
| Orrengrund – Tiiskeri | 0//5 |
| Tiiskeri – Kalbådagrund | 0//5 |
| Hamina – Suurmusta | 8745 |
| Suurmusta – Merikari | 5145 |
| Merikari – Kaunissaari | 1015 |

**Latvia, 30.12.2021**

| | |
|---|---|
| Port of Riga | 1101 |

**Poland, 30.12.2021**

| | |
|---|---|
| Zalew Szczecinski | 311/ |

**Russian Federation, 30.12.2021**

| | |
|---|---|
| Port of St. Petersburg | 63/3 |
| St. Petersburg – E-point island Kotlin | 83/3 |
| E-point Kotlin – long. lighth. Tolbuhkin | 83/3 |
| Lighth. Tolbuhkin – lighth. –Šepelevskij | 51/2 |
| Lighthouse Šepelevskij – island Sescar | 50/2 |
| Island Sescar – Island Sommers | 50/2 |
| Vyborg, port and bay | 83/3 |
| Island Vichrevoj – Island Sommers | 50/2 |
| Strait Bjerkesund | 50/2 |
| E-point Bol'šoj Ber'ozovyj – –epelevskij | 50/2 |
| Luga bay | 1000 |
| Appr. Luga bay – line Mo–.-–epel. | 1000 |

**Sweden , 30.12.2021**

| | |
|---|---|
| Karlsborg – Maloeren | 8346 |
| Luleå – Bjoernklack | 8346 |
| Bjoernklack – Farstugrunden | 4236 |
| E and SE of Farstugrunden | 4236 |
| Sandgroenn fairway | 8346 |
| Roedkallen – Norstroemsgrund | 4236 |
| Haraholmen – Nygrån | 8346 |
| Sea area off Nygrån | 4236 |
| Skelleftehamn – Gåsoeren | 5136 |
| Sea area off Gåsoeren | 5136 |
| Sea area off Bjuroeklubb | 4236 |
| NE of Nordvalen | 1106 |
| Western Quark (W of Holmoearna) | 8246 |
| Umeå – Vaektaren | 1106 |
| Fairway to Husum | 2026 |
| Oernskoeldsvik – Hoernskaten | 5246 |
| Ångermanaelven north Sandoe Bridge | 8346 |
| Ångermanaelven south Sandoe Bridge | 8346 |
| Haernoesand – Haernoen | 5246 |
| Sundsvall – Draghaellan | 8346 |
| Draghaellan – Åstholmsudde | 5146 |
| Hudiksvallfjaerden | 4136 |
| Iggesund – Agoe | 4136 |
| Sandarne – Haellgrund | 5146 |
| Gaevle – Eggegrund | 5146 |
| Oeregrundsgrepen | 5142 |
| Hallstavik – Svartklubben | 5142 |
| Koeping – Kvicksund | 8346 |
| Västerås – Grönsö | 8346 |
| Grönsö – Södertälje | 5146 |
| Stockholm – Södertälje | 5246 |
| Södertälje – Fifong | 4046 |
| Norrköping – Hargökalv | 4041 |
| Karlskrona – Aspö | 5041 |
| Fairway to Karlshamn | 4041 |
| Uddevalla – Stenungsund | 5041 |
| Vänersborgsviken | 5041 |
| Fairway to Karlstad | 5342 |
| Fairway to Kristinehamn | 5342 |
| Fairway to Otterbäcken | 5041 |