ISSN 0013-2705

BUNDESAMT FÜR SEESCHIFFFAHRT UND HYDROGRAPHIE

Eisbericht Nr. 73

Amtsblatt des BSH

Jahrgang 96	Nr. 73	Friday, 10.03.2023	1

Übersicht

In den Schären der Bottenwiek befindet sich im Norden bis 60 cm dickes Festeis und im Süden bis 35 cm dickes Festeis. Auf das Festeis folgt im Norden und Westen eine breite Rinne mit Neueis oder dünnem meist ebenen Eis bis Kvarken. Ansonsten treibt auf See im Norden bis 45 cm dickes und im Süden bis 25 cm dickes, teilweise aufgepresstes und aufgeschobenes Eis mit Rinnen und Rissen. In Kvarken liegt bis 35 cm dickes Festeis in den Schären und Buchten und auf See kommt dichtes, dünnes Eis oder Neueis vor. In der Bottensee und dem Schärenmeer kommt entlang der Küsten 5–40 cm dickes, ebenes Eis oder Festeis vor; weiter außerhalb zumeist Neueis. Im Mälarsee liegt 5–15 cm dickes Eis oder Neueis. Im Finnischen Meerbusen liegt in den östlichsten Buchten bis 40 cm dickes Festeis. Auf See treibt im Südosten dichtes bis sehr dichtes Eis und im Norden treibt zumeist Neueis. In den Schären und Buchten entlang der nördlichen Küste kommt Festeis vor sowie Neueis weiter außerhalb. Im Nordosten des Rigaischen Meerbusen befindet sich 10–20 cm dickes Festeis Eis in geschützten Gebieten und Neueis etwas weiter außerhalb.

Overview

In the archipelagos of the Bay of Bothnia, there is up to 60 cm thick fast ice in the north and up to 35 cm thick fast ice in the south. Off the fast ice in the north and west, there is a wide lead with new ice or thin mostly level ice to the Quark. Else at sea, there is very close ice that is up to 45 cm thick in the north and up 25 cm thick in the south. The ice field is partly ridged and rafted but also cracks and leads occur. In the Quark, there is up to 35 cm thick fast ice in the archipelagos and bays and at sea, there is new ice or thin close ice. In the Sea of Bothnia and the Archipelago Sea, 5–40 cm thick fast ice or level ice is present along the coasts and further out new ice in places. In Lake Mälaren, there is 5–15 cm thick ice and new ice. In the Gulf of Finland, up to 40 cm thick fast ice is present in the easternmost bays. At sea there is close to very close ice in the southeast and mostly new ice in the northeast. In the archipelagos and bays along the northern coast, there is fast ice and new ice further out. In the northeastern Gulf of Riga, there is 10–20 cm thick fast ice in sheltered bays and new ice somewhat further out.

Bay of Bothnia

In the archipelagos of the northern Bay of Bothnia, there is 30–60 cm thick fast ice and compact ice, out to Malören, Kemi-3 and Kattilankalla. Further out in the northeast, there is 20–45 cm thick, ridged and very close ice to Kemi-2 and Oulu-1. Southeast of about the line Simpgrund – Nortrömsgrund – Kemi-1, there is very close, 20–45 cm thick and partly ridged ice with cracks at places. Further south at sea, there is very close, 10–25 cm thick ice, rafted and ridged in places, but also with new ice covered leads and cracks. In the southern Bay of Bothnia, there is 15–35 cm thick

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fast ice in the archipelagos, further out in the east there is 10–25 cm thick very close ice, rafted in places and new ice covered cracks and smaller leads are present. Outside the Swedish coast, west of about Malören – Norströmsgrund – Valassaaret there is a mix of new ice, thin close ice and level ice.
With moderate to severe frost ice growth and ice formation continues over the weekend. The ice will first drift to the northeast/north and from Sunday to the south/southeast.

The Quark

There is 15–40 cm thick fast ice in the Vaasa archipelago out to Ensten. Further out, there is very close, 5–25 cm thick ice to Norra Gloppsten. On the Swedish side, there is mostly up to 35 cm thick fast ice in inner bays. At sea, there is 3–10 cm thick, close ice in the central part north of about Norrskär and new ice elsewhere.
Ice growth and ice formation will continue over the weekend. The ice will first drift in northeasterly directions and from Sunday to the south/southeast.

Sea of Bothnia

In the archipelagos along the eastern coast, there is 15–25 cm thick fast ice and new ice further out. Along the western coast, there is thin level ice or new ice in sheltered bays in the south and up to 40 cm thick fast ice in inner bays in the north. Slightly off the western coast, there is new ice. On Ångermanälven, there is 20–40 cm thick fast or level ice.
With mostly moderate frost and at places severe frost, ice formation and ice growth will continue along the coasts over the weekend.

Archipelago Sea and Åland Sea

At the eastern coast, there is 5–15 cm fast or level ice in the inner bays and new ice further out. In the western and central part new ice is present along the coasts.
With mostly light frost, some ice formation and ice growth is expected over the weekend.

Northern Baltic

In Lake Mälaren, there is 5–15 cm thick fast ice or thin level ice in the western part. Else, there is thin level ice or new ice with some open water areas in the central part. New ice occurs in sheltered places along the outer coast.
With light, but in Lake Mälaren also moderate frost, some ice formation and ice growth is expected at sheltered places over the weekend.

Gulf of Finland

From St. Petersburg out to Kotlin and in the bay north of Kotlin, there is 30–50 cm thick fast ice and 20–35 cm thick compact ice in the fairway. In the Bay of Vyborg, there is 20–35 cm thick fast ice and in the Bjerkesund, there is 10–20 cm thick fast ice At sea south of Sommers and east of about 27°15'E, there is 10–25 cm thick, very close ice that is partly ridged and rafted and cracks and leads occur. Further east to Gogland and Rodser, there is close drift ice, 3–15 cm thick. At sea in the north, there is close to very close new ice to about the line Helsinki – Tyters. Along the northern coast, there is 15–30 cm thick fast ice in the eastern archipelagos. Further out, there is thin level ice or very close ice from Helsinki to Hamina. In the western archipelagos, there is 5–15 cm thick fast ice and new ice further out. New ice is present in bays along the southern coast.
With mostly moderate to severe frost new ice formation and ice growth is expected over the weekend. On Saturday the ice will mostly drift to the west changing to east on Sunday.

Gulf of Riga

In Väinameri, there is 10–20 cm thick fast ice near the coasts. Further out, there is new ice and on the fairway, there is open ice and new ice. In the Bay of Pärnu, there is a belt of very close ice at the eastern coast and else there is close new ice up to the line Manilaid to Kabli. In the port of Riga there is open water.
With mostly light frost some ice formation and ice growth is expected over the weekend. The ice will first drift to the west and later to the southeast.

Skagerrak and Kattegat

New ice and up to 30 cm thick fast is present in some inner Norwegian Fjords. At some places also thicker ice occurs. Close new ice is present near Oslo and in the Drammensfjord.

With light to moderate frost some ice formation is expected in sheltered places over the weekend.

Swedish Lakes

Thin level ice or new ice is present in sheltered bays of Lake Vänern.

With mostly light frost, some ice formation is ex- pected over the weekend.

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	4000 dwt	IA	22.02.
	Raahe	4000 dwt	IA	08.03.
	Kalajoki, Kokkola and Pietarsaari	2000 dwt	IA	08.03.
	Vaasa	2000 dwt	IB	08.03.
	Kristiinankaupunki, Pori, Rauma and Uusikaupunki	**2000 dwt**	**II**	**12.03.**
	Kaskinen, Inkoo, Kantvik, Helsinki, Sköldvik and Mussalo	2000 dwt	II	07.01.
	Loviisa, Kotka and Hamina	2000 dwt	I	08.03.
Russia	Vyborg and Vysotsk	-	Ice 1	08.02.
Sweden	Karlsborg	4000 dwt (2000 t)	IA	28.02.
	Lulea	4000 dwt	IA	28.02.
	Haraholmen and Skelleftehamn	4000 dwt	IA	04.03.
	Holmsund	2000 dwt	IC	07.02.
	Rundvik and Husum	2000 dwt	IC	04.03.
	Örnsköldsvik	2000 dwt	IC	13.02.
	Angermanälven	2000 dwt	IB	07.01.
	Söraker, Sundsvall and Söderhamn	2000 dwt	IC	13.02.
	Köping and Västeras	2000 dwt	IC	06.03.
	Balsta	1300/2000 dwt	IC/II	22.12.
	Härnösand, Stocka, Hudiksvall, Iggesund, Orrrskär and Norrsundet	2000 dwt	II	06.03.

Estonia

Icebreakers:
EVA-316 assists in the port of Pärnu. BOTNICA assists to the port of Sillamäe.

Finland/Sweden

The Saimaa Canal is closed for traffic since 4th January.

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.

The traffic separation schemes in the Quark are temporarily out of use from 7 February due to ice conditions.

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

Norway
Husøysund and Vestfjorden (Tønsberg): Icebreaker assistance can only be given to vessels suitable for navigation in ice and of special size. 31.01.23
Tønsberg indre havn (Tønsberg): Navigation without icebreaker assistance possible only for high-powered vessels of strong construction and suitable for navigation in ice. 31.01.23

Russia
There are restrictions for small crafts going to Vysotsk, Vyborg, St. Petersburg, Ust-Luga and Primorsk. No sailing of barge by tug to Vyborg and Vysotsk.

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, 10.03.2023

Shipping route from Narva-Jõssuu	52/2
Kunda, port and bay	51/1
Paernu, port and bay	51/5
Moonsund	3//0

Finland, 10.03.2023

Röyttä – Etukari	8446
Etukari – Ristinmatala	6456
Ajos – Ristinmatala	6456
Ristinmatala – Kemi 2	5876
Kemi 2 – Kemi 1	5246
Sea area SW of Kemi 1	5876
Kemi 2 – Ulkokrunni – Virpiniemi	6456
Oulu harbours – Kattilankalla	7456
Kattilankalla – Oulu 1	6456
Sea area SW of Oulu 1	5356
High Sea N of the latitude of Marjaniemi	5876
Raahe harbour – Heikinkari	8346
Heikinkari – Raahe lighthouse	7756
Raahe lighthouse – Nahkiainen	5756
Latitude Marjaniemi – Ulkokalla, Sea	5856
Rahja harbour – Välimatala	7756
Vaelimatala to line Ulkokalla – Ykskivi	5756
Sea betw. lat. of Ulkokalla –Pietarsaari	5756
Ykspihlaja – Repskär	7756
Repskär – Kokkola lighthouse	5756
Sea area off Kokkola lighthouse	5756

Pietarsaari – Kallan	8346
Sea area off Kallan	5756
Sea lat. Pietarsaari – NE Nordvalen	5756
Sea area ENE of Nordvalen	4756
Sea area Nordvalen to W of Norrskär	4146
Vaskiluoto – Ensten	7756
Ensten – Vaasa lighthouse	5756
Vaasa lighthouse – Norrskär	3026
Sea area SW of Norrskär	2006
Kaskinen – Sälgrund	4045
Sea area off Sälgrund	4045
Pori harb. to line Pori lighth. – Säppi	8742
Sea W of line Pori lighthouse – Säppi	2000
Rauma, Harbour – Kylmäpihlaja	3000
Kylmäpihlaja – Rauma lighthouse	3000
Uusikaupunki harbour – Kirsta	8142
Naantali and Turku – Rajakari	5142
Rajakari – Lövskär	2000
Lövskär – Korra	3000
Lövskär – Berghamn	2000
Hanko – Vitgrund	2000
Koverhar – Hästö Busö	4041
Inkoo a. Kantvik – sea area Porkkala	8145
Helsinki harbours – Harmaja	3005
Vuosaari harbour – Eestiluoto	3005
Porvoo harbours – Varlax	5145
Varlax – Porvoo lighthouse	5145
Porvoo lighthouse – Kalbådagrund	1005
Valko Harbour – Täktarn	5146
Archipelago fairway Boistö – Glosholm	5146
Archipelago fairway Glosholm–Helsinki	4145
Kotka – Viikari	8345
Viikari – Orrengrund	4145
Orrengrund – Tiiskeri	3006
Tiiskeri – Kalbådagrund	3006
Hamina – Suurmusta	5246
Suurmusta – Merikari	5146
Merikari – Kaunissaari	5146

Latvia, 10.03.2023

Port of Riga	1000

Norway, 10.03.2023

Svinesund – Halden	31//
Drammensfjord	4011
Husøysund – Tønsberg channel	8345
Tønsberg, inner harbour	8353
Vestfjord (Tønsberg)	8555
Langårsund (Kragerø)	8144

Russian Federation, 10.03.2023

Port of St. Petersburg	84/3
St. Petersburg – E-point island Kotlin	54/3
E-point Kotlin – long. lighth. Tolbuhkin	5303
Lighth. Tolbuhkin – lighth. –Šepelevskij	52/2
Lighthouse Šepelevskij – island Sescar	42/2
Island Sescar – Island Sommers	42/2
Island Sommers– S-point island Gogland	40/1
S-point isl. Gogland – long. p. Kunda	30/1
Vyborg, port and bay	83/3
Island Vichrevoj – Island Sommers	31/3
Strait Bjerkesund	83/3
E-point Bol'šoj Ber'ozovyj – Šepelevskij	32/2
Luga bay	52/3
Appr. Luga bay – line Moš.-Šepel.	52/2

Sweden, 10.03.2023

Karlsborg – Malören	6456
Sea area off Malören	5356
Luleå – Björnklack	8546
Björnklack – Farstugrunden	5146
E and SE of Farstugrunden	5146
Sandgrönn fairway	8546
Rödkallen – Norströmsgrund	5146
Haraholmen – Nygrån	8346
Sea area off Nygrån	4046
Skelleftehamn – Gåsören	5336
Sea area off Gåsören	5336
Sea area off Bjuröklubb	5336
NE of Nordvalen	4046
SW of Nordvalen	4046
Western Quark (W of Holmöarna)	5236
Umeå – Väktaren	5146
SE of Väktaren	4046
NE and SE of Sydostbrotten	4046
Fairway to Husum	4046
Örnsköldsvik – Hörnskaten	8446
Hörnskaten – Skagsudde	5146
Sea area off Skagsudde	4046
Fairway W of Ulvöarna	4046
Ångermanälven north Sandö Bridge	8444
Ångermanälven south Sandö Bridge	4044
Härnösand – Härnön	4044
Sea area off Härnö	4044
Sundsvall – Draghällan	4046
Draghällan – Åstholmsudde	4046
Hudiksvallfjärden	8346
Iggesund – Agö	8346
Sandarne – Hällgrund	8346
Ljusnefjärden – Storjungfrun	8346
Gävle – Eggegrund	4046
Hallstavik – Svartklubben	5142
Köping – Kvicksund	8244
Västerås – Grönsö	4134
Grönsö – Södertälje	4044
Stockholm – Södertälje	4044
Fairway to Karlstad	4041
Fairway to Kristinehamn	5142
Fairway to Otterbäcken	4041