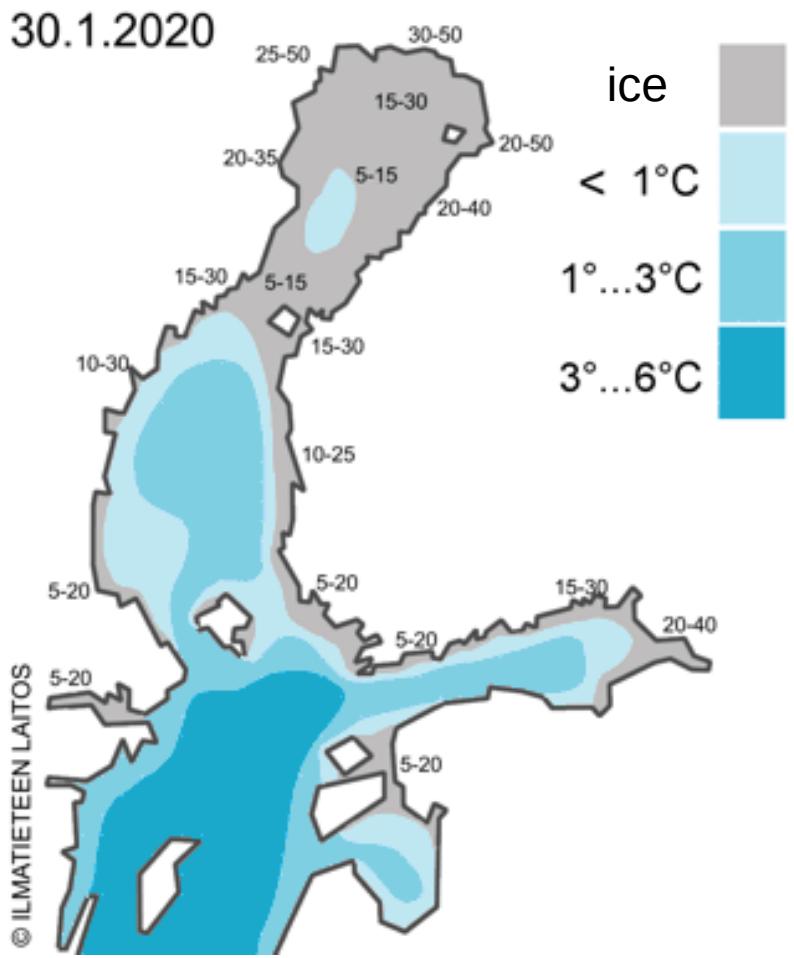
Seasonal Baltic Sea ice forecast for ArcRCC

- Up to 3 months outlook of Baltic Sea ice conditions
- Updated every second month:
  - Nov: XI - XII - I
  - Jan: I - II - III
  - Mar: III - IV - (V)
- Map of ice extent and basin wise description of basic ice conditions



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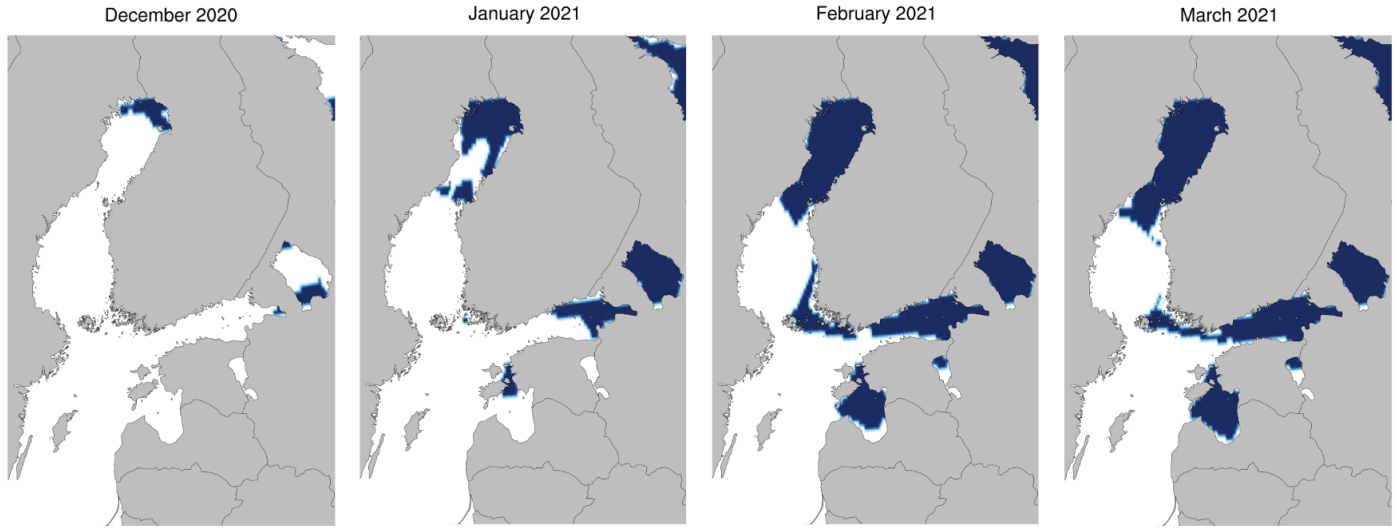
Data sources

- ECMWF Extended-Range Forecast (6 weeks, weekly steps)
  Weekly mean calculated from EC's ensemble
- ECMWF Long-Range Forecast (6 months, monthly means)
- Weather forecasters analysis based on seasonal forecasts from
  - ECMWF (SEAS5)
  - UK Met Office (GloSea5)
  - NOAA (CFSv2)
- FMI Baltic Sea ice statistics
  - Ice climatology
  - Ice condition development in different years



Output from ECMWF Long-Range Forecast

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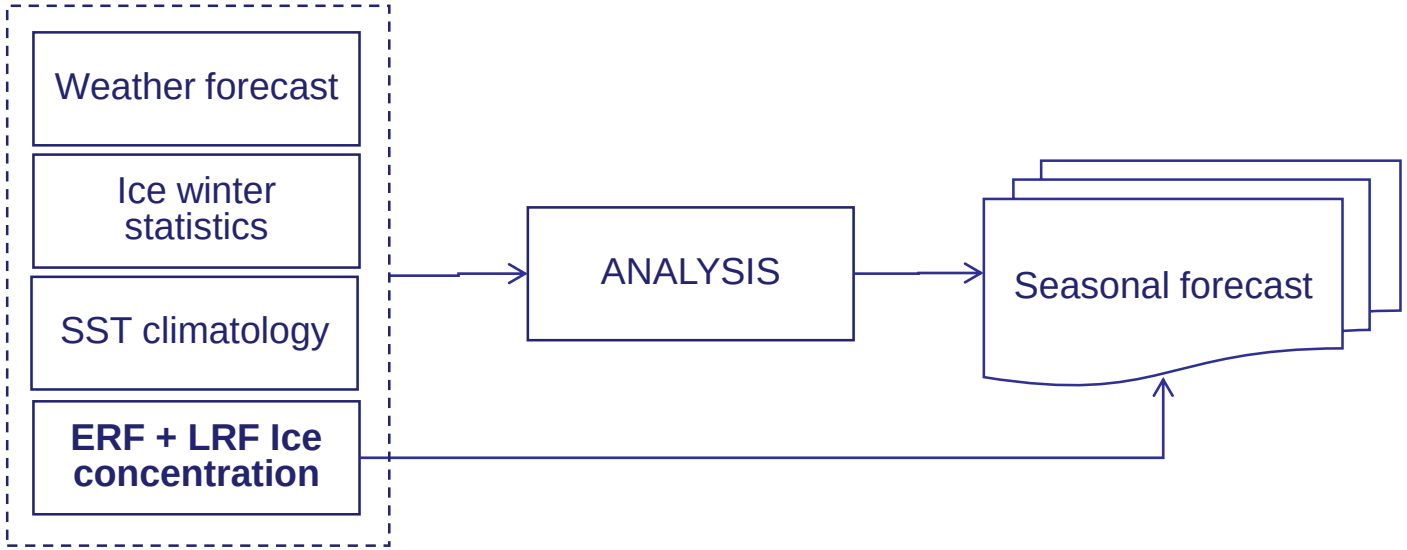
Method

- The ECMWF seasonal ice forecast works as starting point
- Meteorologist investigates available long-term forecasts and makes assessments of development
  - If the initial state differs from modelled forecasts, the analysis is focusing on historical climate data with similar observed ice stages
- Ice forecaster compiles above results by fitting them to ice stage development and ice climatology with ice analyst's experience



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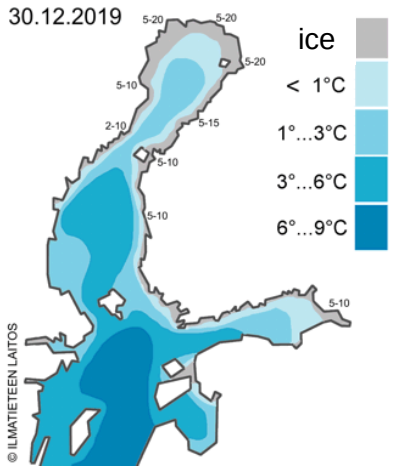
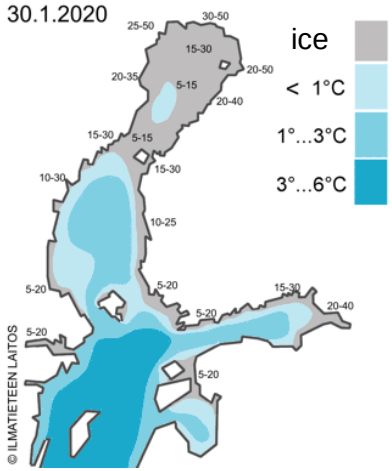
End of December



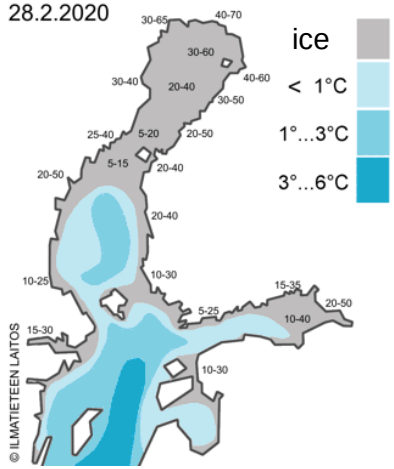
- Along the coasts of the Bay of Bothnia there is 20-40 cm thick fast ice.
- In the open sea of Bay of Bothnia there is 5-30 cm thick ice. Central parts are open.
- In the Quark archipelagos 10-30 cm thick fast ice.
- Along the coasts of Sea of Bothnia there is 5-20 cm thick ice. Open sea is warmer than 2°C.
- Mälaren 5-15 cm thick ice.
- Along coast of Gulf of Finland 5-20 cm thick fast ice. Eastern parts 20-35 cm thick ice. Open sea 5-25 cm thick. Surface water in the open sea varies in the range 1°-5°C.
- In the Northern Baltic Proper the sea surface temperatures are higher than 3°C.

End of January



- Ice occurs along all the coasts of the northern Baltic Sea.
- In the Bay of Bothnia there is 20-60 cm thick fast ice. Out at sea the thickness is 10-50 cm.
- In the Quark archipelagos there is 20-45 cm thick ice.
- In the central Quark there is thin ice.
- Along the coasts of the Sea of Bothnia there is 10-50 cm thick ice.
- In the western Gulf of Finland (Finnish side) there is 10-25 cm thick fast ice.
- In the open Sea of Bothnia and the western Gulf of Finland the surface water varies in the range 1°-3°C.
- In the Northern Baltic Proper the sea surface temperatures are higher than 3°C
- In the eastern Gulf of Finland the fast ice is 15-50 cm thick, in the open sea 15-30 cm

End of February



- The Bay of Bothnia is completely ice-covered and the field is ridged. Ice is 35-75 cm thick at the coasts and 20-60 cm thick out at sea.
- The Quark is ice covered. The thickness in the archipelagos is 20-55 cm.
- Sea of Bothnia coasts: 20-50 cm thick ice, in the open sea: 5-30 cm.
- Archipelago Sea: 10-30 cm, and Mälaren: 20-35 cm thick ice.
- In the Northern Baltic Proper the sea surface temperatures are higher than +1°C.
- In the Gulf of Finland the coastal ice is 15-70 cm thick, in central parts 20-50 cm thick ice and water of appr. 1°C.
- In the Gulf of Riga 15-50 cm thick ice.

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