

SPRICE – crowdsourcing icing observations through the *Til Havs* app

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SPRICE



UIT The Arctic
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NORWEGIAN COASTAL ADMINISTRATION



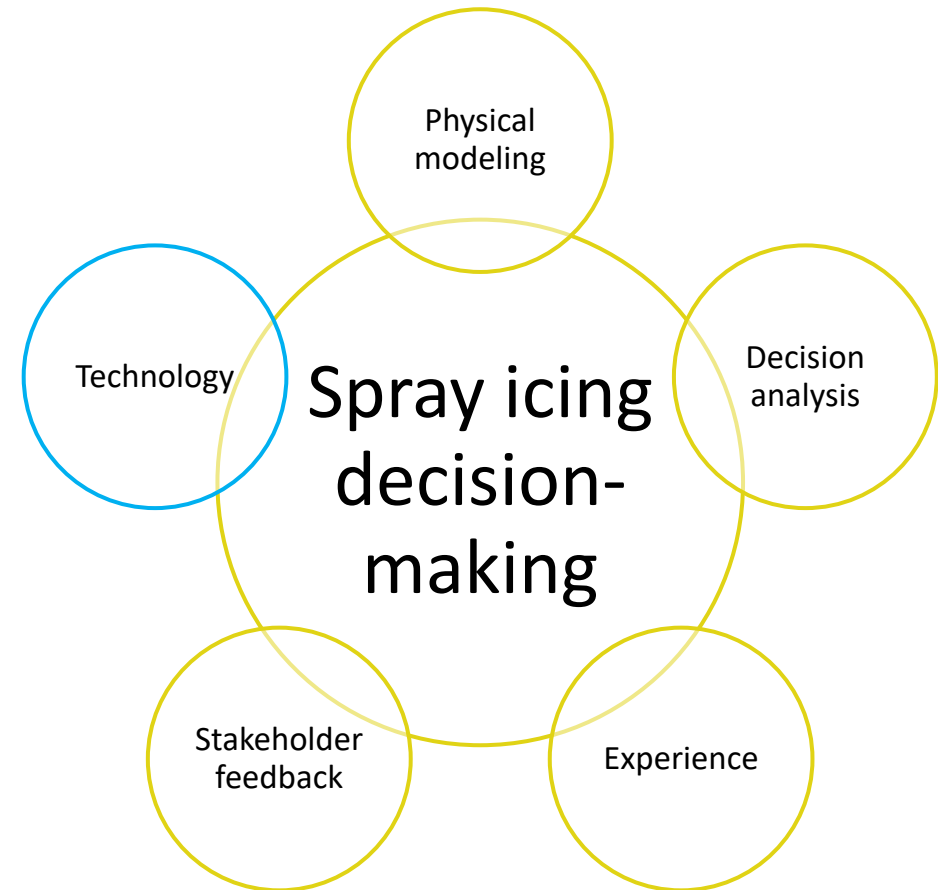
Norwegian
Meteorological
Institute



The Research Council
of Norway

A part of the SPRICE project

- Software engineering
- Requirement analysis
- Feedback and testing
- Usage analysis



Crowd-sourcing observations and needs

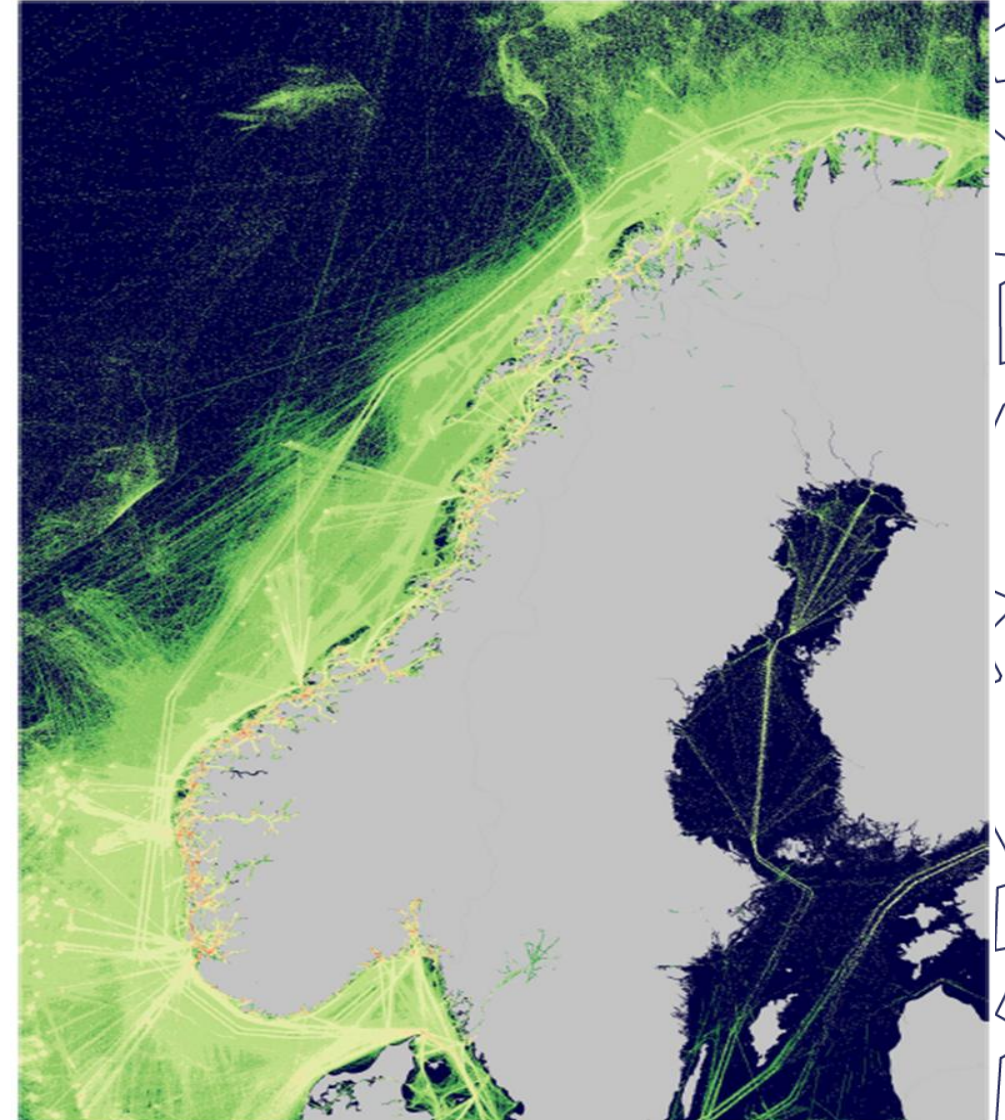
- Weather observations
- Spray icing incidents
- Accidents or near-miss accidents
- Use of sea spray icing forecasts
- Inclusion into in-use tools



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AlSyRisk and EnviRisk?

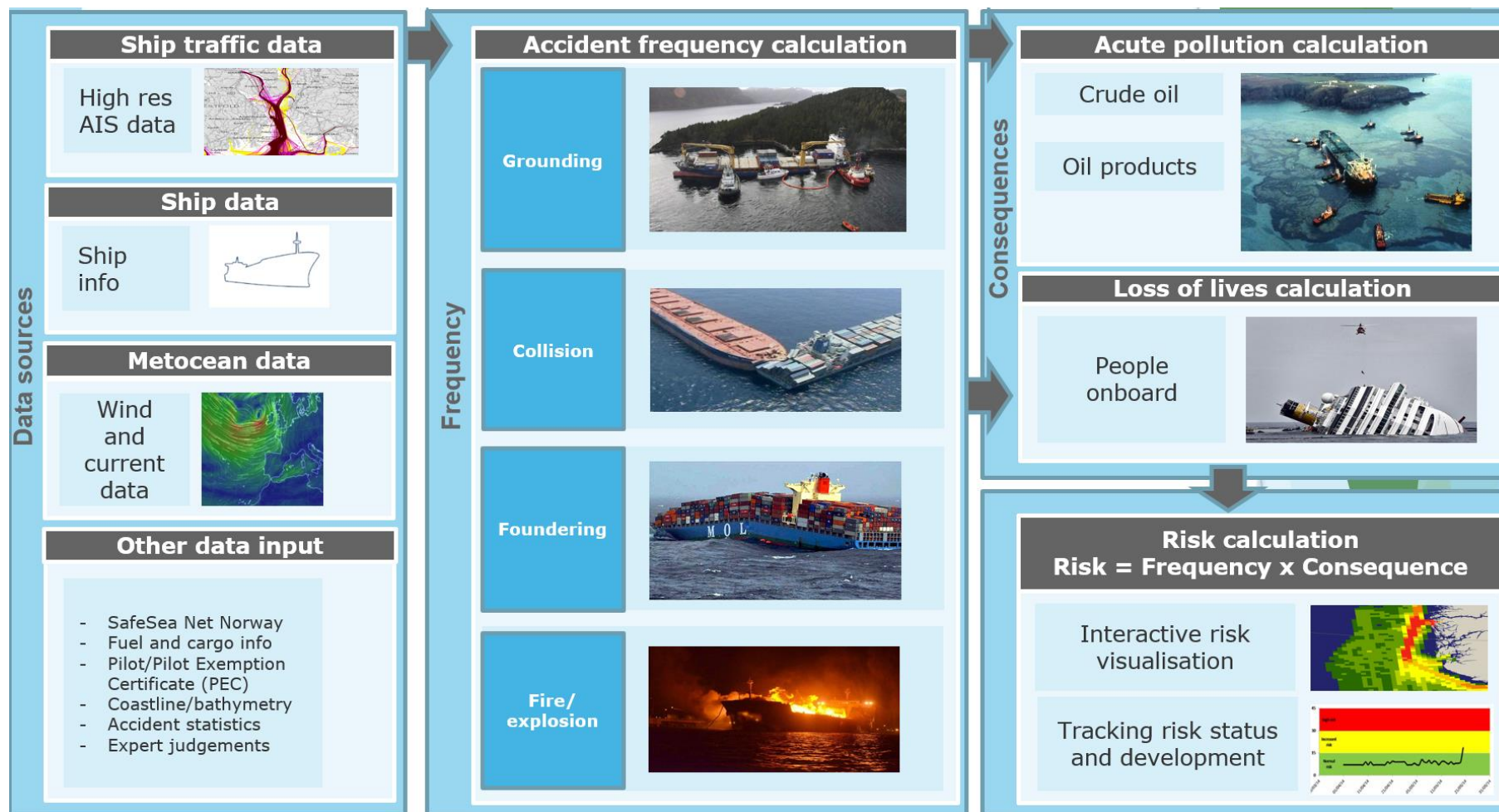
- AlSyRisk
 - Tool for estimating risk of spillage and loss of life as a result of vessel incidents
- EnviRisk
 - Tool for estimating environmental consequences and risk as a result of spillage from vessels



AlSyRisk



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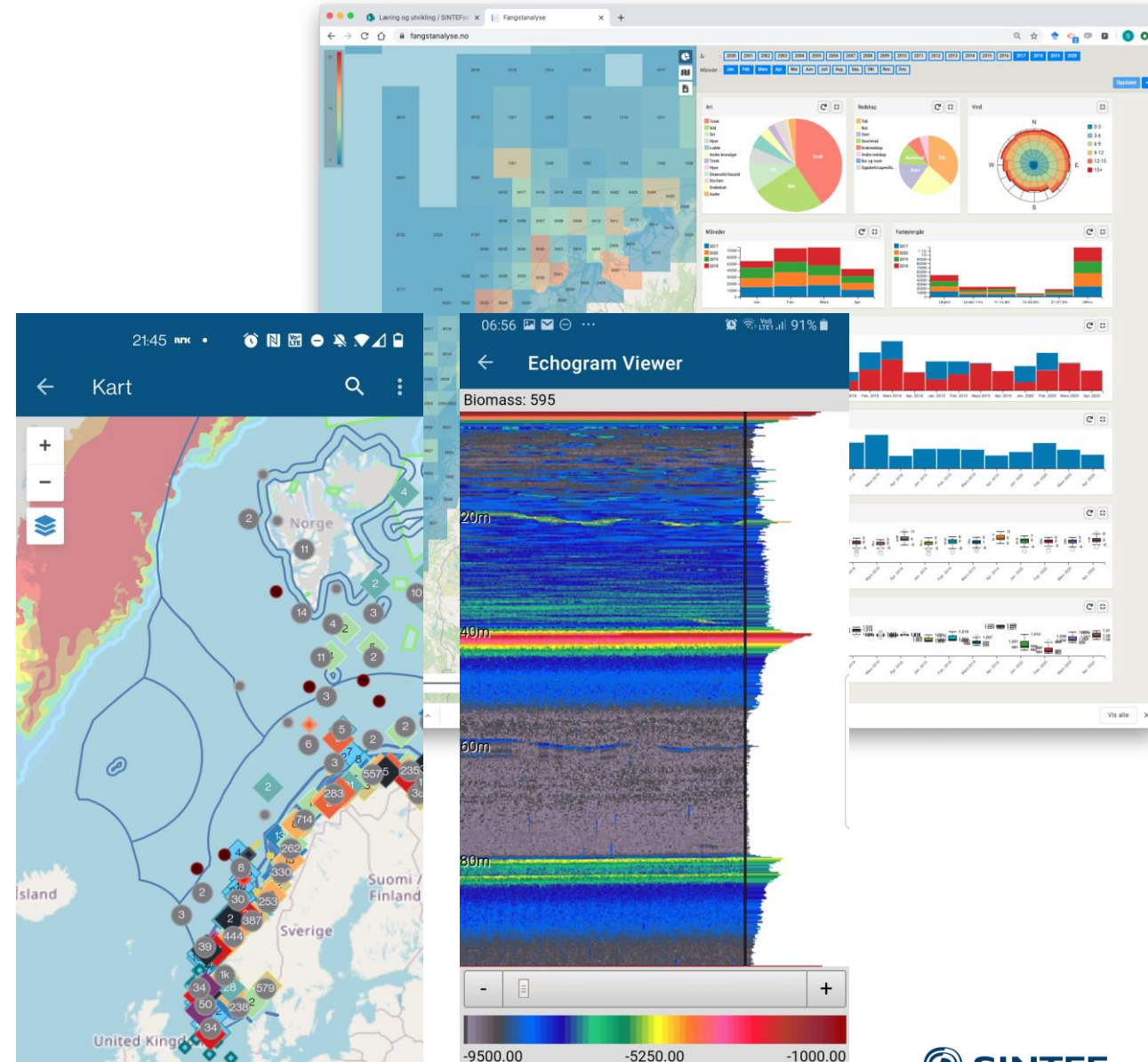
ICING

Flow of development

- Phase I: gathering user requirements and stakeholder consultations
- Phase II: beta testing and prototype of SPRICE app. Leverage existing FiskInfo app platform and user base
- Phase III: soft launch of SPRICE app
- Phase IV: refinement and launch of the app

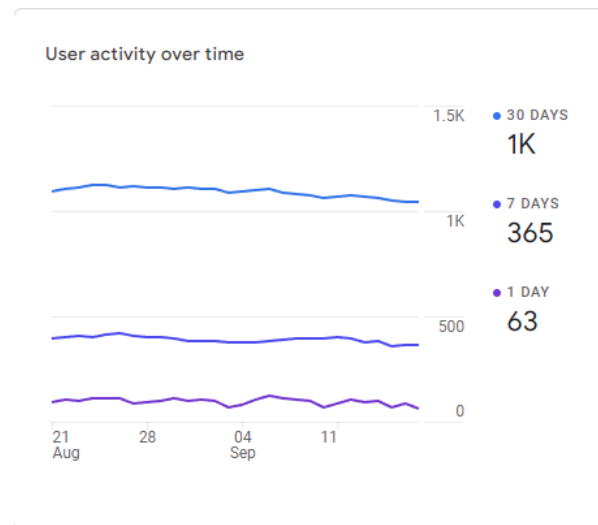
Til Havs

- Formerly called **FiskInfo**
- Platform for dissemination of information to the fishing fleet
- Iterative projects according to user demands and input - since 2013
- SnapFish – sharing of data snapshots from echo sounders
- Fangstanalyse – Historical catch data visualisation and analysis



App integration

- Extension of existing app
 - Activated in settings
- Available for Android, planned for iOS
- Existing user base



23:34 50%

← Innstillinger

Maksimum dager i vannet
7

❄️ **SPRICE innstillinger**

Aktiver SPRICE ☒

SPRICE brukernavn
01998

SPRICE passord
ice01998

⚙️ **Andre innstillinger**

Samtykke til betingelser for bruk
Se betingelser, endre samtykke, mm

MET – Orap observation reporting form

- Free text forms
 - List of valid inputs, not easily accessible
- Time-consuming to fill out
- Report time in UTC
 - Conversion from local time needed by user

Setting av observasjons termin (UTC)				
Obstid (UTC) 2022-09-13 13:11:11		Synop (UTC) 13 Sep 2022 ▼ 13 ▼		
Fartøys kallsignal og posisjon				
Fartøys kallsignal (cal) 	Fartøys breddegrad (LaLa) Grader, minutter (desimalgrader) ▼	Fartøys lengdegrad (LoLo) Grader, minutter (desimalgrader) ▼		
Luft temperatur, sjøtemperatur				
Temperatur (Tt) ▼	Sjøtemperatur i tidels grader (heltall) (Tw) ▼			
Vindobservasjoner				
Når maks middelvind? (tz) 	Maks middelvind i knop (fx) 	Største vindkast i knop (fg) 		
Bølgehøyde (Vinddrevet)				
Høyde for vindbølger (HW) i meter (Visuelt) 	Periode for vindbølger (PW) i sekunder (Visuelt) 			
Dønningshøyde				
Høyde for første dønningssystem (HW1) i meter 	Periode for første dønningssystem (PW1) i sekunder 	Retning for første dønningssystem (DW1) i grader 		
Is på havet				
Konsentrasjon av havis (ci) 	Havisens utviklingsstadium (tykkelse) (Si) 	Is på sjøen (bi) 	Retning til nærmeste iskant (Di) 	Sjøisforhold i øyeblikket og utviklingen de siste 3 timer (zi)
Is på fartøys skrog				
Årsaken til isingen (Is) 	Istykkelse (EsEs) i centimeter 	Endring i isingen (Rs) 		
Når du er ferdig må du kontrollere meldingen ved å trykke på knappen <i>Kontroller melding</i>				
Kontroller melding Avbryt registrering				

App observation reporting form

- Drop down menus for quick selection
- Automate what we can
 - Get position from device
 - Set default report time to current time
- Converts date/time to UTC behind the scenes, user only interacts in local time.

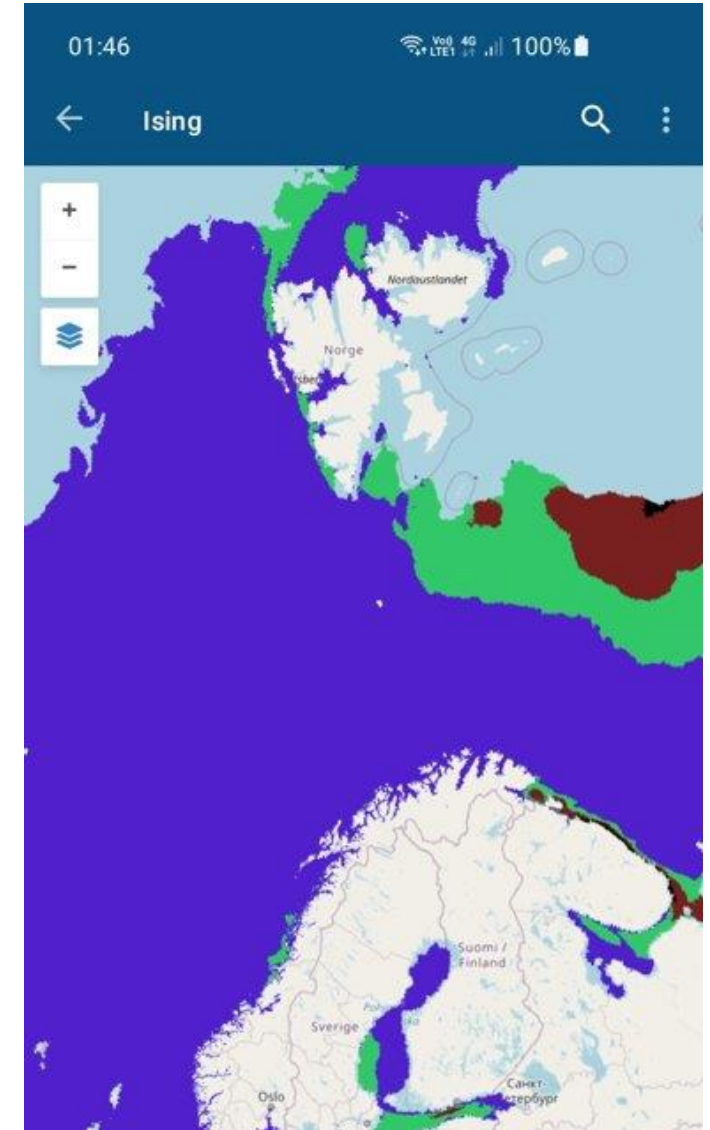
The screenshot shows a mobile application interface for reporting observations. At the top, the status bar displays the time 10:27, various icons (Bluetooth, location, VoLTE, LTE1, signal strength, and battery at 100%), and a blue header bar with a back arrow, the title 'Rapporter ising', and the word 'RAPPORTER'.

The form is organized into sections:

- OBSERVASJONSTIDSPUNKT**: Contains two input fields. 'Dato' (Date) is set to '2022-09-15' with a calendar icon. 'Synop' (Synopsis) is set to '10:00' with a clock icon and a dropdown arrow.
- IS PÅ HAVET**: A dropdown menu currently showing 'Sjøisforhold og utvikling de neste tre timer'.
- IS PÅ FARTØYETS SKROG**: Contains two dropdown menus. The first is 'Istykkelse' (Ice thickness). The second is 'Årsak til ising' (Cause of icing) with a dropdown arrow.
- VINDOBSERVASJONER**: A dropdown menu currently showing 'Endring i ising' (Change in icing) with a dropdown arrow.
- POSIJON**: A dropdown menu currently showing 'Når maks middelvind' (When max average wind) with a dropdown arrow.
- Position**: A large white box with a blue border containing a location pin icon and the coordinates '0°0'0,00"N 0°0'0,00"E'.

Spray icing forecasts

- Allow users to receive icing *surveys*
- More detailed icing reporting
- Drag-and-drop location selection
- See forecasts for different times
- Offline forecasts storage and reporting
- Route planning with icing forecasts



Real-time observations from a fishing vessel

- Weather
 - Temperature
 - Wind
 - Waves (from MRU data)
 - ES80 Echo sounder
 - SN90 Sonar
- Icing observations



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