

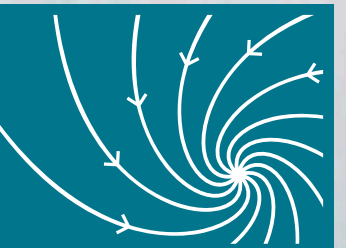


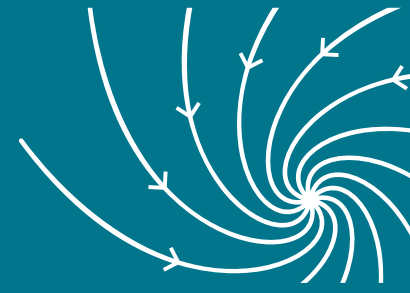
Co-production of seasonal forecasts: experiences from Norway

Erik Kolstad
ewk.no

NORCE

BJERKNES CENTRE
for Climate Research





COUNTRY	PERSONNEL				
Norway	90	Canada	4	Australia	1
Germany	29	India	4	Brazil	1
China	15	Japan	4	Ethiopia	1
France	12	Russia	4	Indonesia	1
UK	11	Belgium	3	Iran	1
Netherlands	10	Spain	3	Ireland	1
Sweden	9	Austria	2	Korea	1
Turkey	6	Greece	2	Nepal	1
USA	6	Iceland	2	Portugal	1
Denmark	5	Malaysia	2	Somalia	1
Italy	5	Sudan	2	Total	247
Switzerland	5	Vietnam	2		

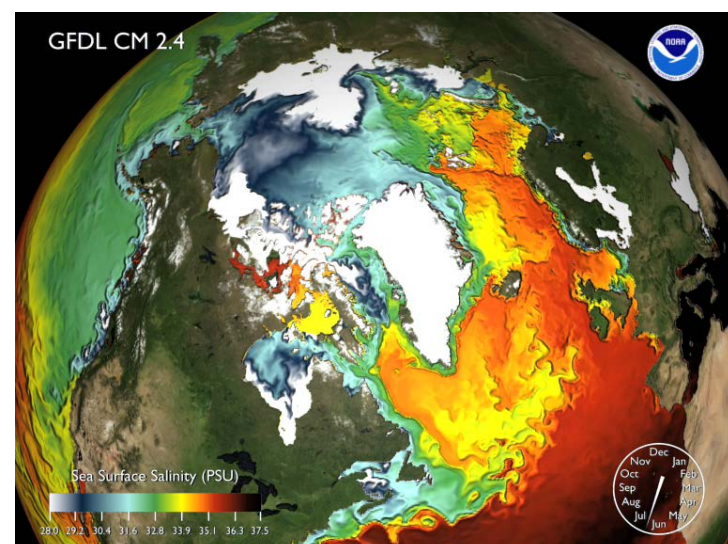
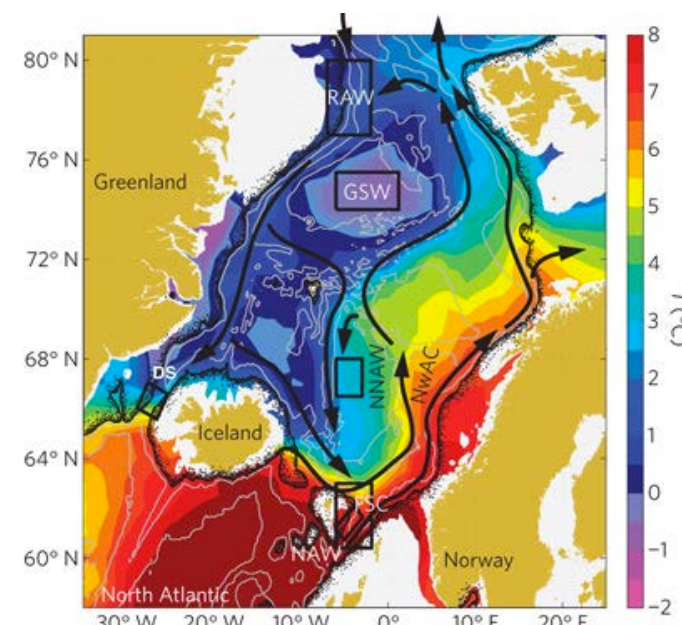
Bergen



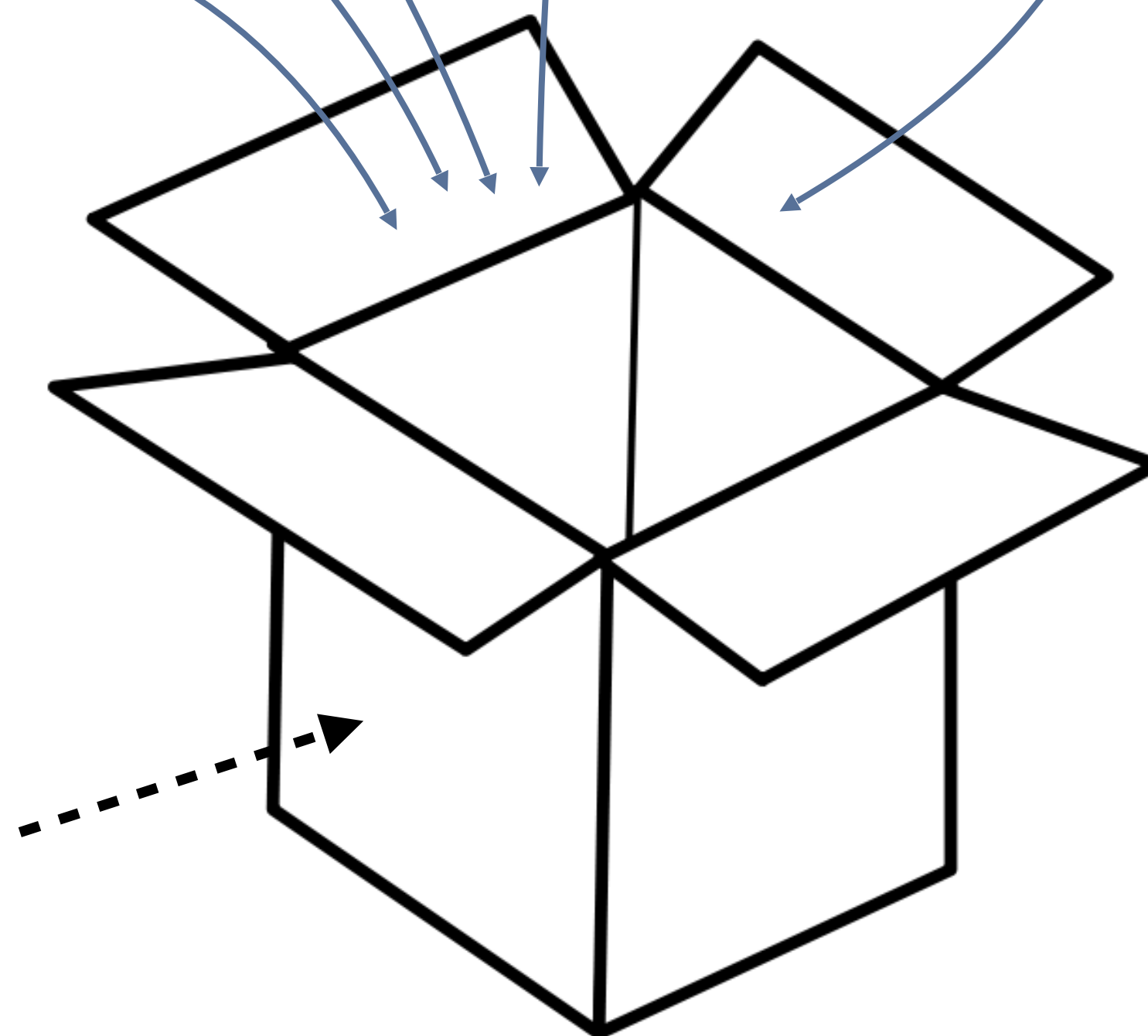
Scientific staff incl. PhD students: about 230

Seasonal Forecasting Engine (SFE)

Forecasting weather 10–100 days ahead



"White box": empirical relationships, dynamical models, statistics, AI



Tailored forecasts

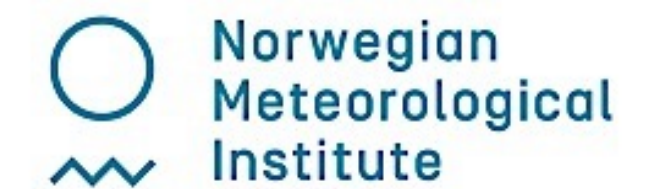
Insurance

SpareBank 1



Weather

StormGeo



Renewable energy



agder energi

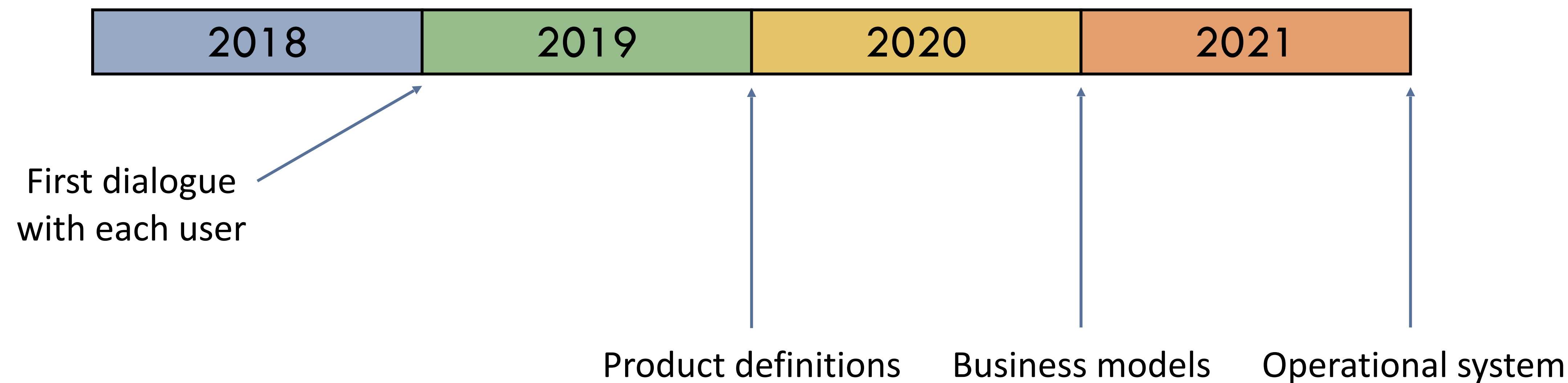


KONGSBERG

Coast guard

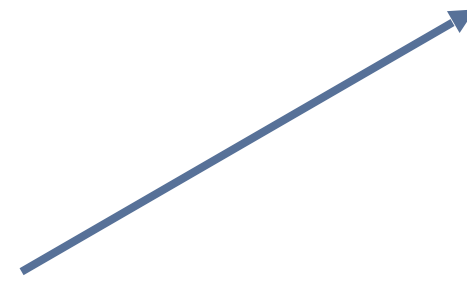


Project milestones





First dialogue
with each user



How do we co-produce the
forecasts with the users?

**1. Visit them where they
are: builds trust**



1040 km
650 miles

Data SIO, NOAA, U.S. Navy, NGA, GEBCO
Image Landsat / Copernicus
Image U.S. Geological Survey
Image IBCAO

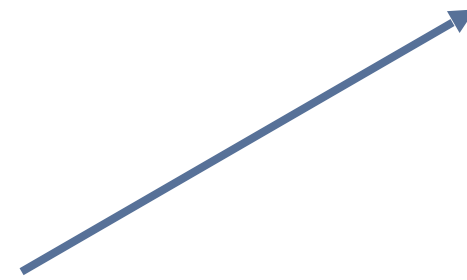
Google Earth







First dialogue
with each user



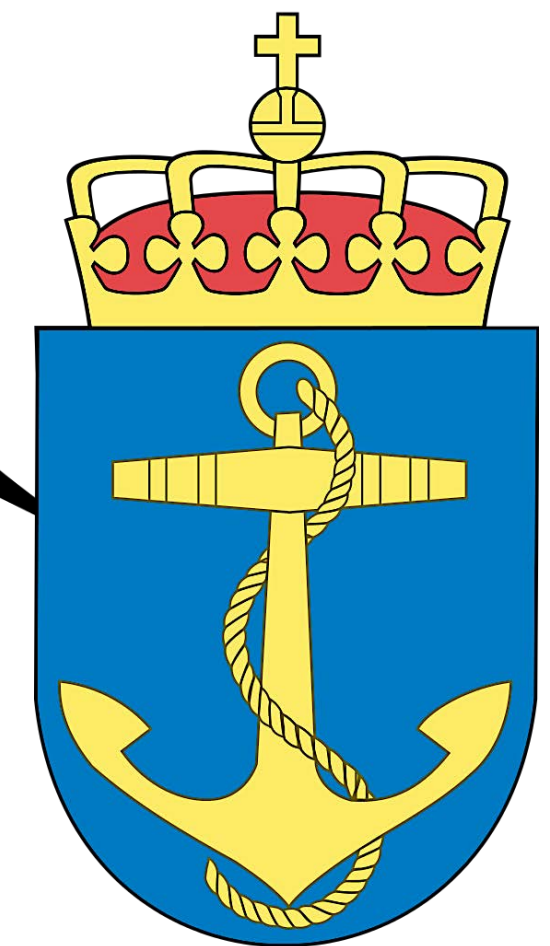
How do we co-produce the
forecasts with the users?

1. Visit them where they
are: builds trust

2. Ask the right questions

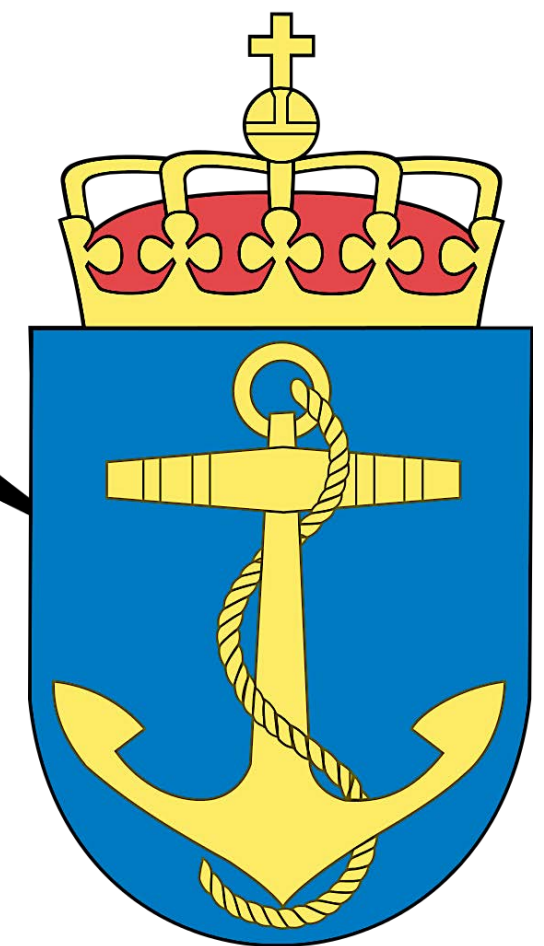
*We're here because
we want to provide
you with seasonal
forecasts*

*Mhhhm, that sounds
interesting*



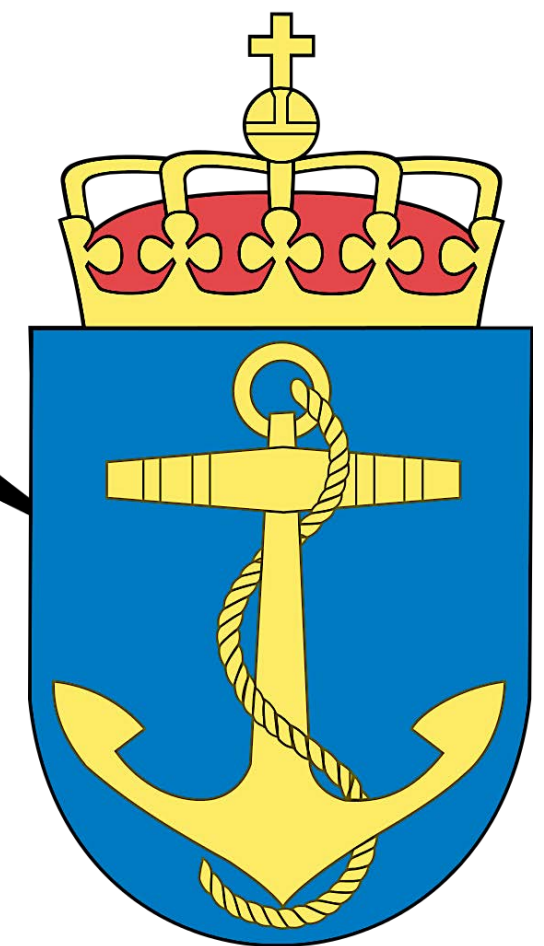
*So what data do
you need?*

*What do you mean
"data", we need to know
where the sea ice is*



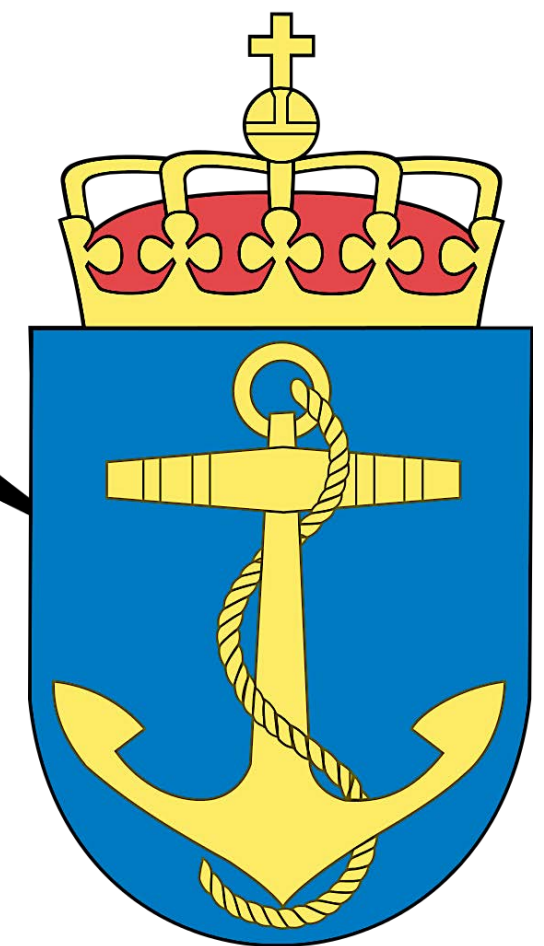
Ok, so when do you typically need this information?

When we're going to rescue someone in the ice and need to find the safest route



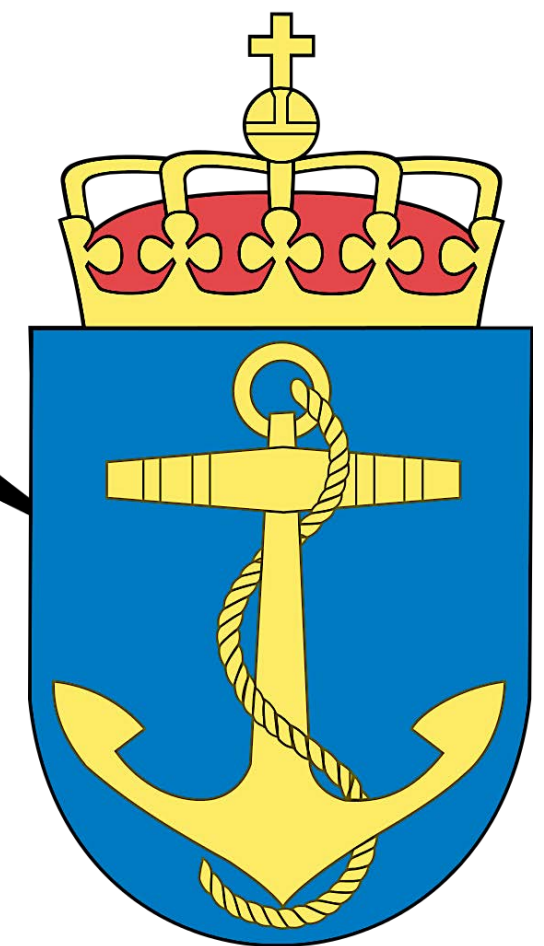
*So you need
information about
the current state
(nowcasts)?*

*Yes, we don't have sea
ice forecasts, we make
our own based on
experience*



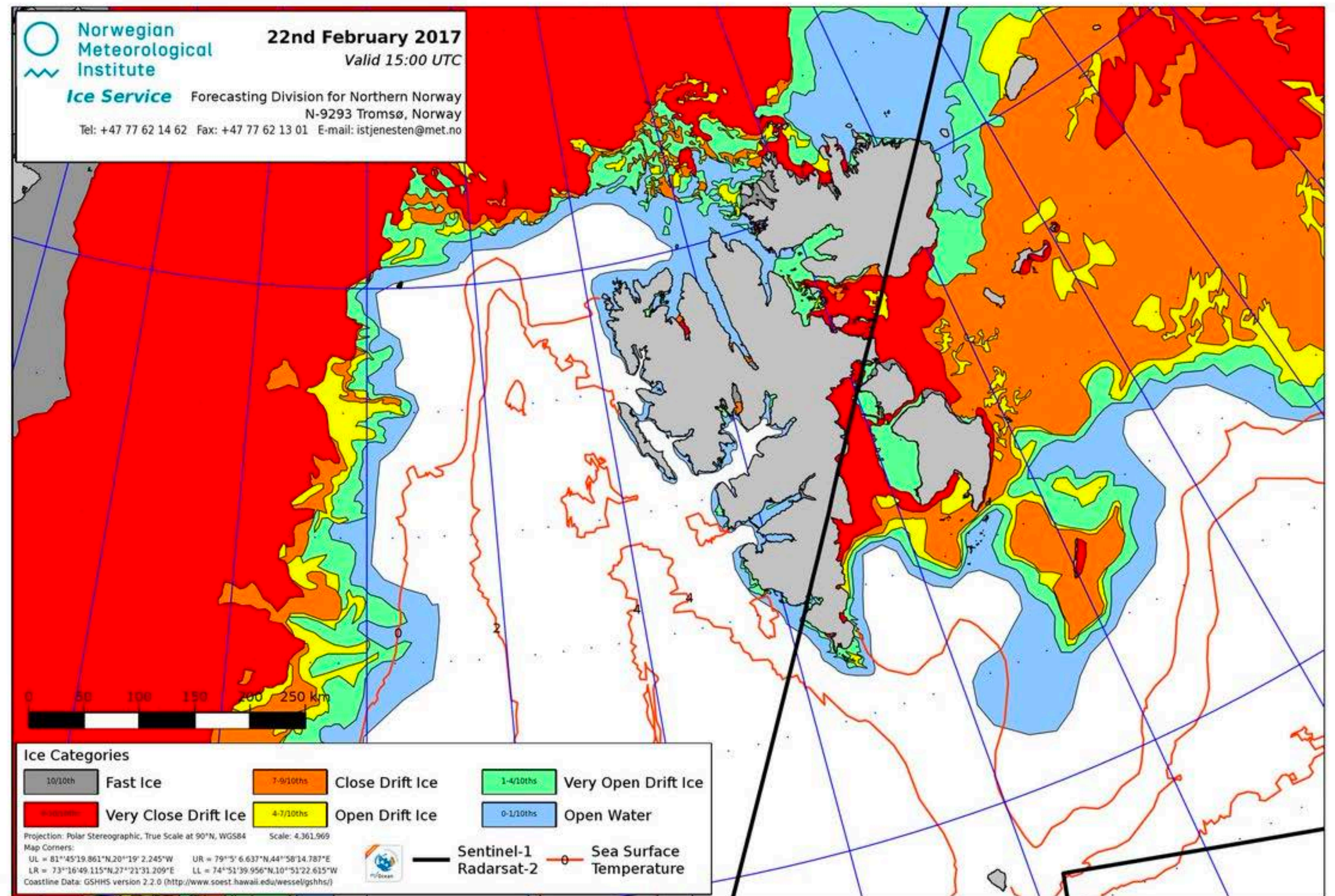
*But might forecasts
longer ahead be
useful for planning?*

*(Thinking...) Yes,
potentially a few
weeks or months
ahead*



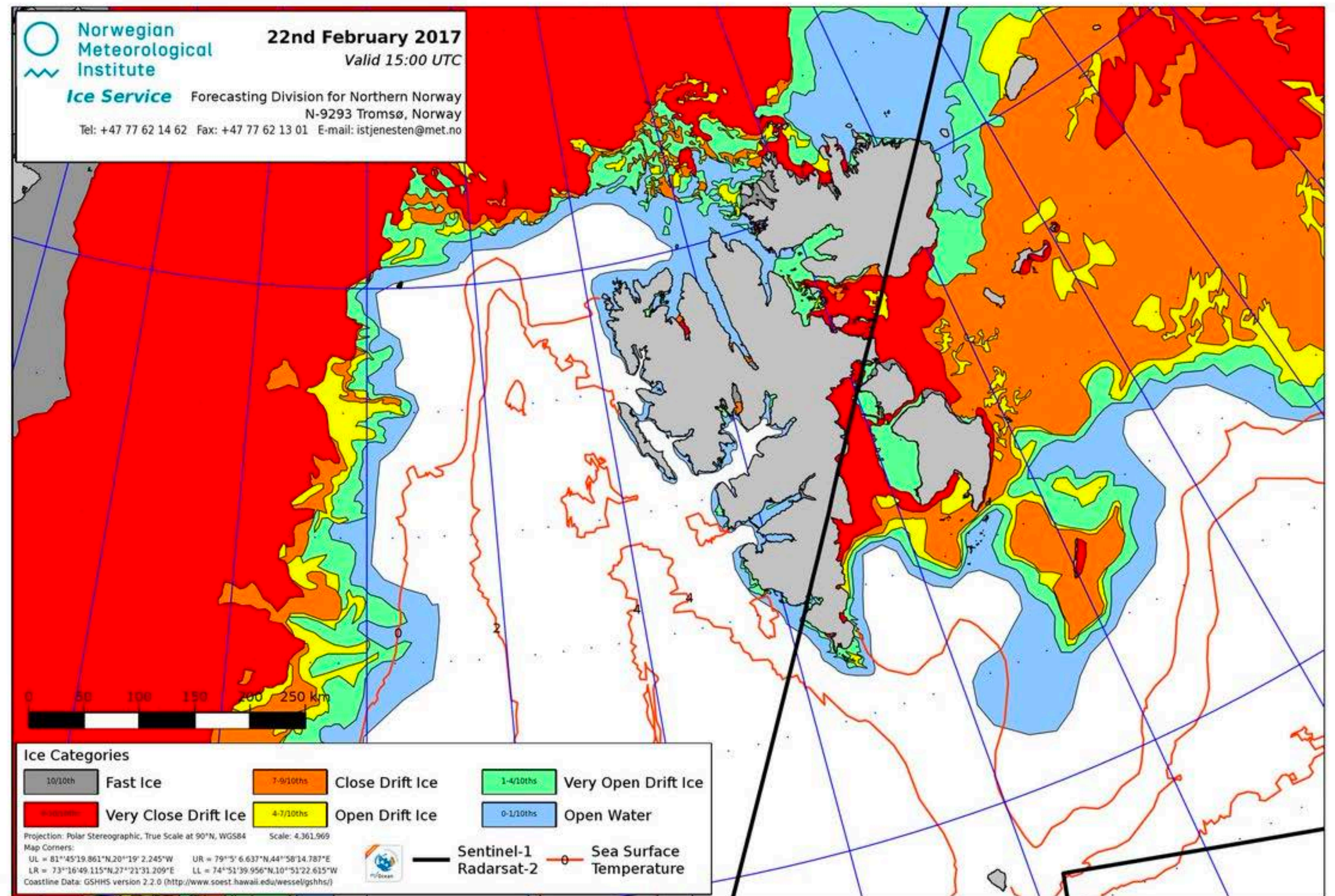
The coast guard gets sea ice charts, but no forecasts

They need nowcasts or short range forecasts for operations, and seasonal forecasts for planning



This only became clear
after we met them face to
face at their base

Now we have put them in
contact with sea ice
modellers at the Bjerknes
Centre + we will see how
well we can forecast sea ice
and SSTs with our system



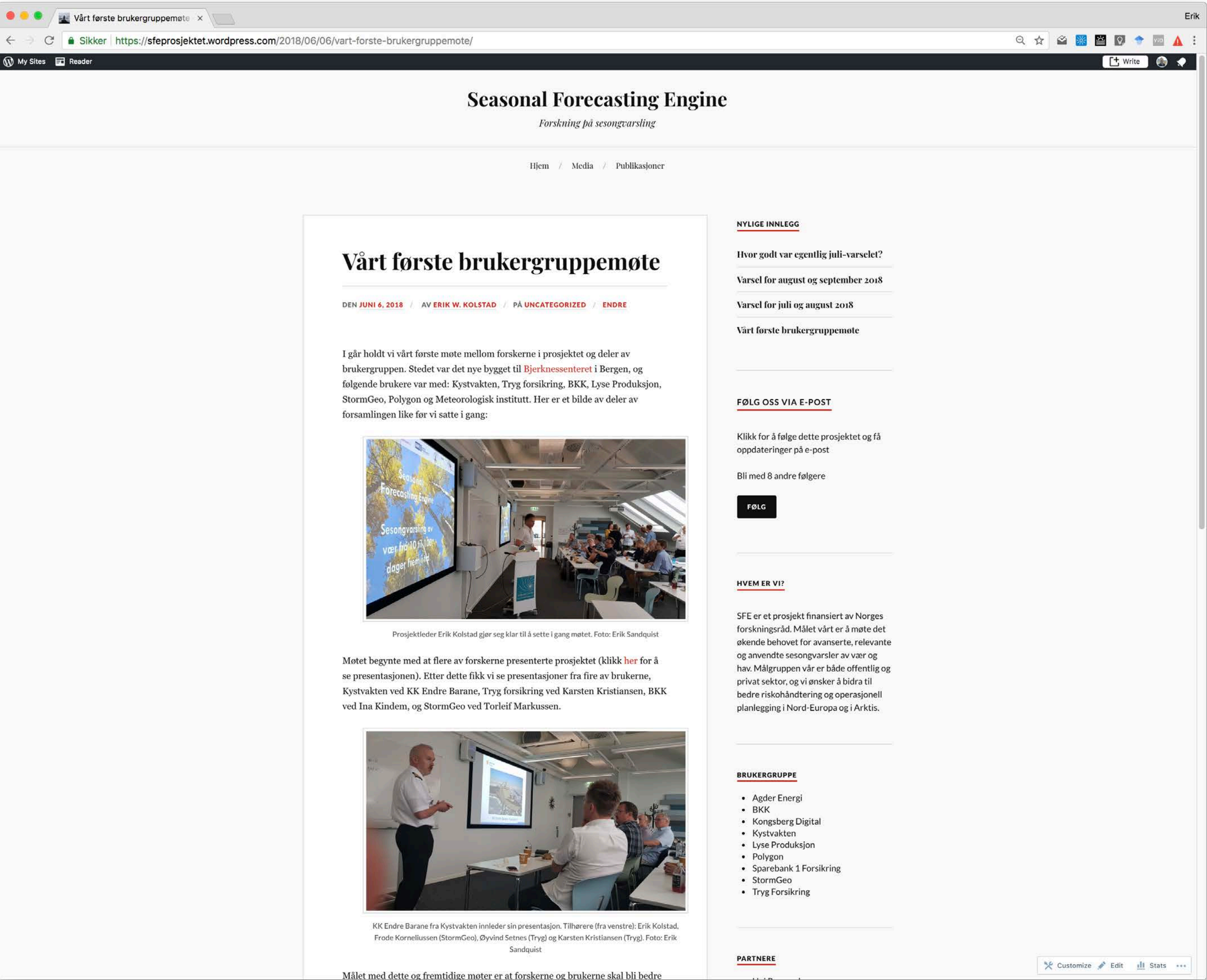
Most important experiences

- It takes a lot of time to build relationships
- Meet partners at their home turf to learn more about them and build trust
- Ask open ended questions, aim for two-way dialogue
- Meet often, and invite users to meet at your home institution – they are curious!
- Make plans for continuation of forecasts after the end of the project period

First user group meeting in
June 2018

Plans for 2018–2021:
Co-production of viable
forecast products

sfeproject.wordpress.com



We have now identified so many potential
uses and users that we're forming a
Climate Risk Alliance



Climate
modelling



Economic
modelling



Statistical
modelling

Thank you!
ewk.no

