Current and future plans for operational observations at NL wind farms

And some news about the NOOS FTP box

Pieter Haaring @ Rijkswaterstaat
data management North Sea

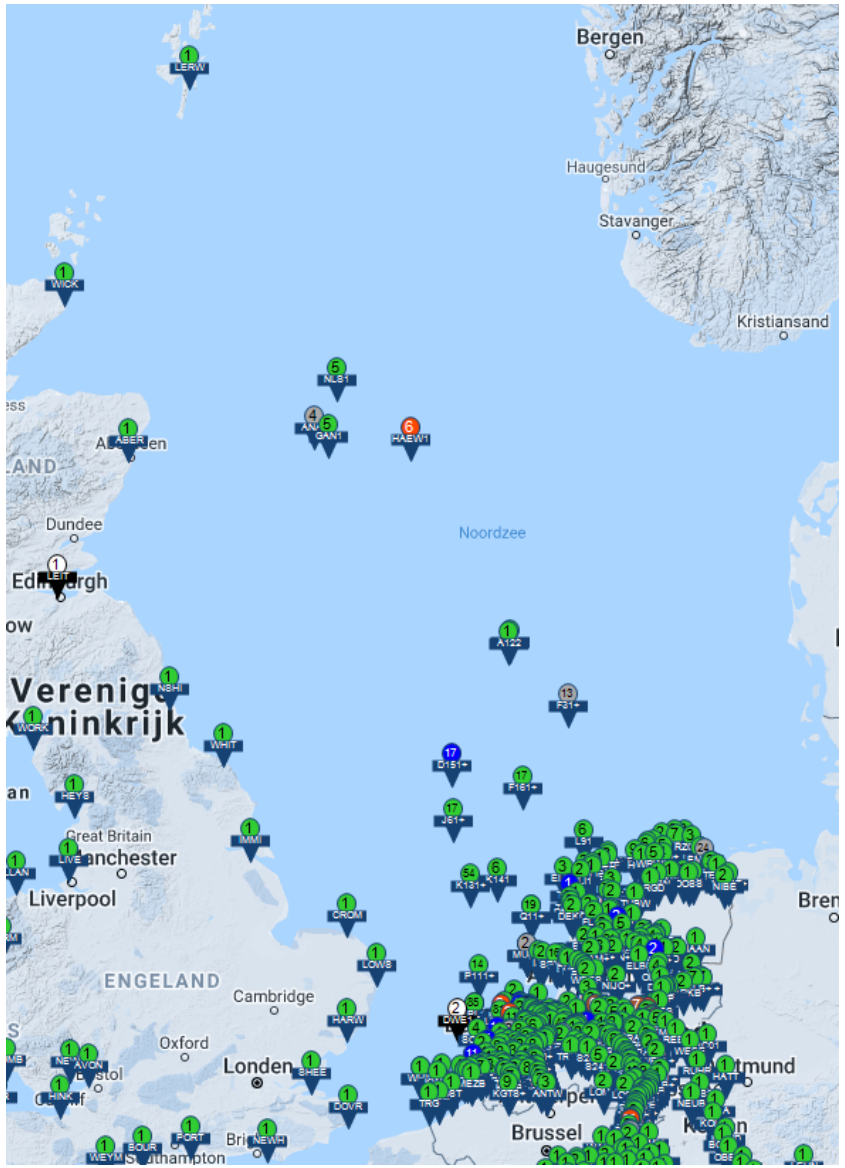
3 November 2021

Hydro & Meteo Data Measurement Network

At this moment

Hydro parameters (Rijkswaterstaat)

- Water level
- Wave heights -direction
- Currents
- Water temperature
- Salinity



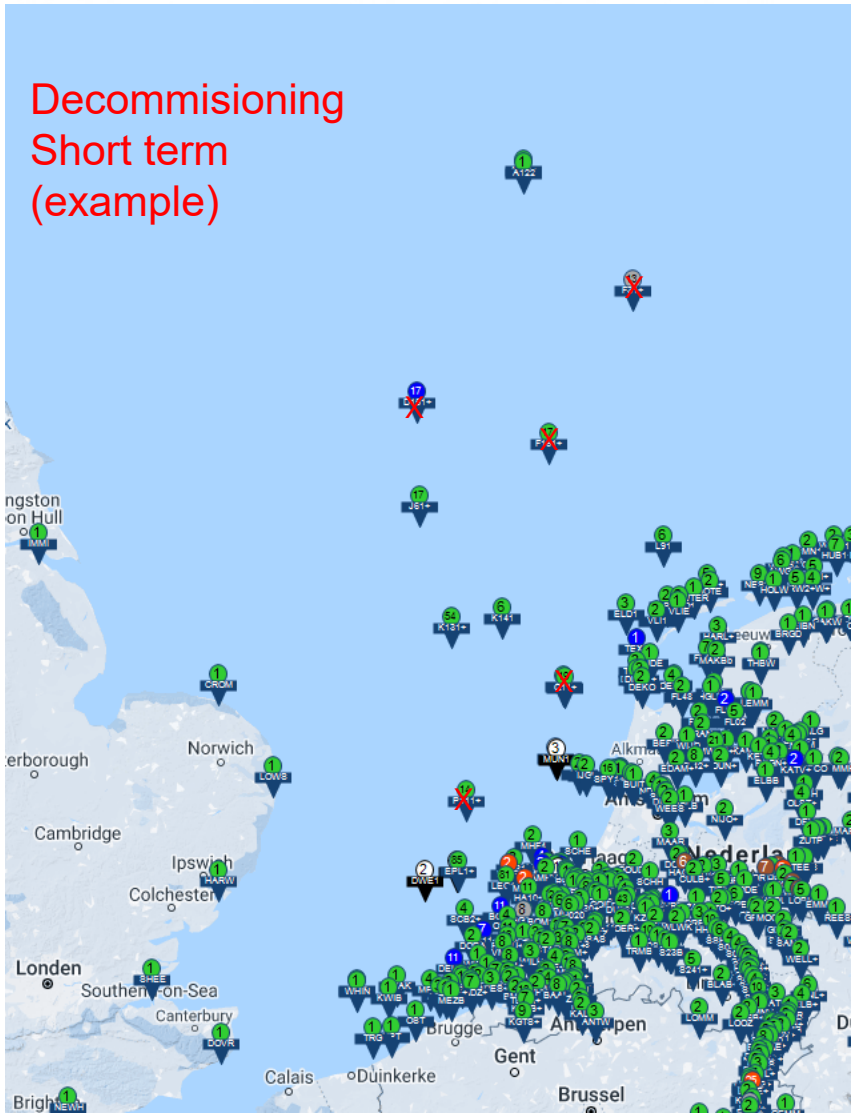
including data collected from our neighbours

Meteo (KNMI)

- Wind speed&direction
- Air temp
- Humidity
- View
- Air pressure
- clouds

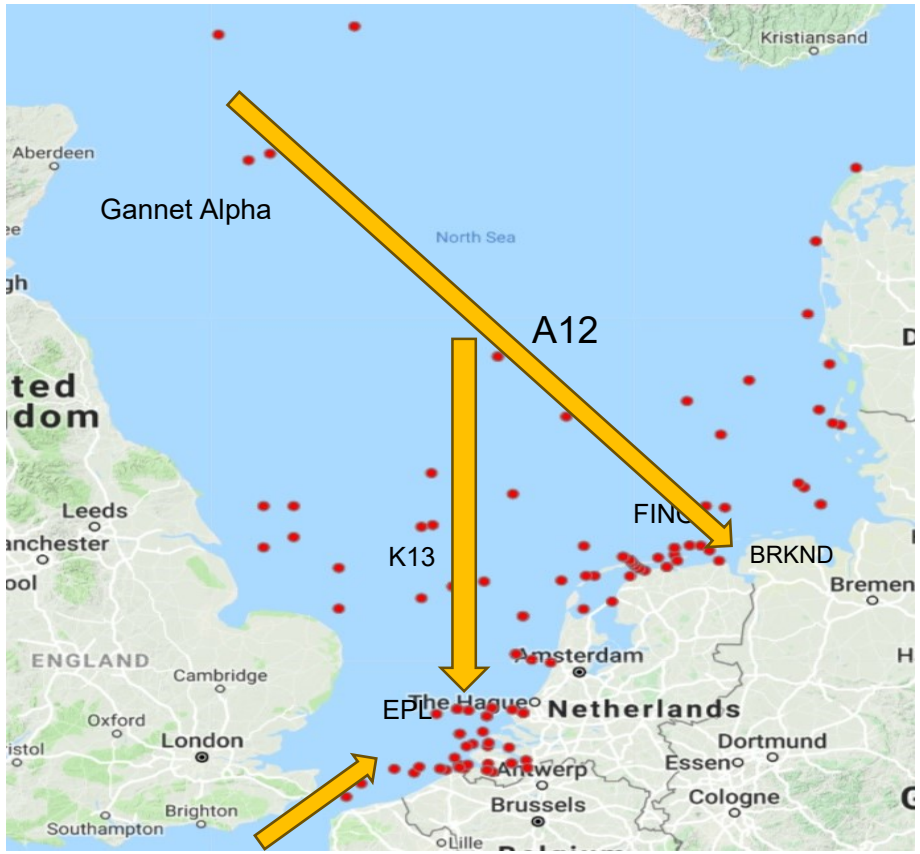
Problem

- Decommissioning of the oil-and-gas offshore platforms

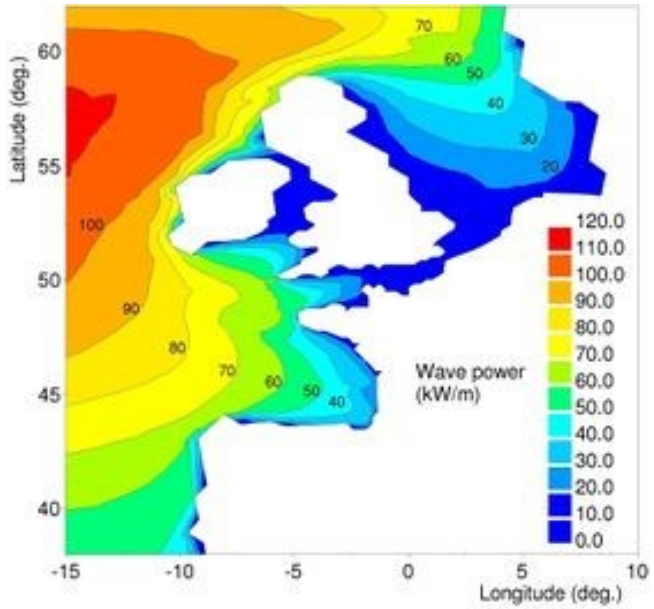


What we need and where

Primary wave propagation paths Dutch coast.



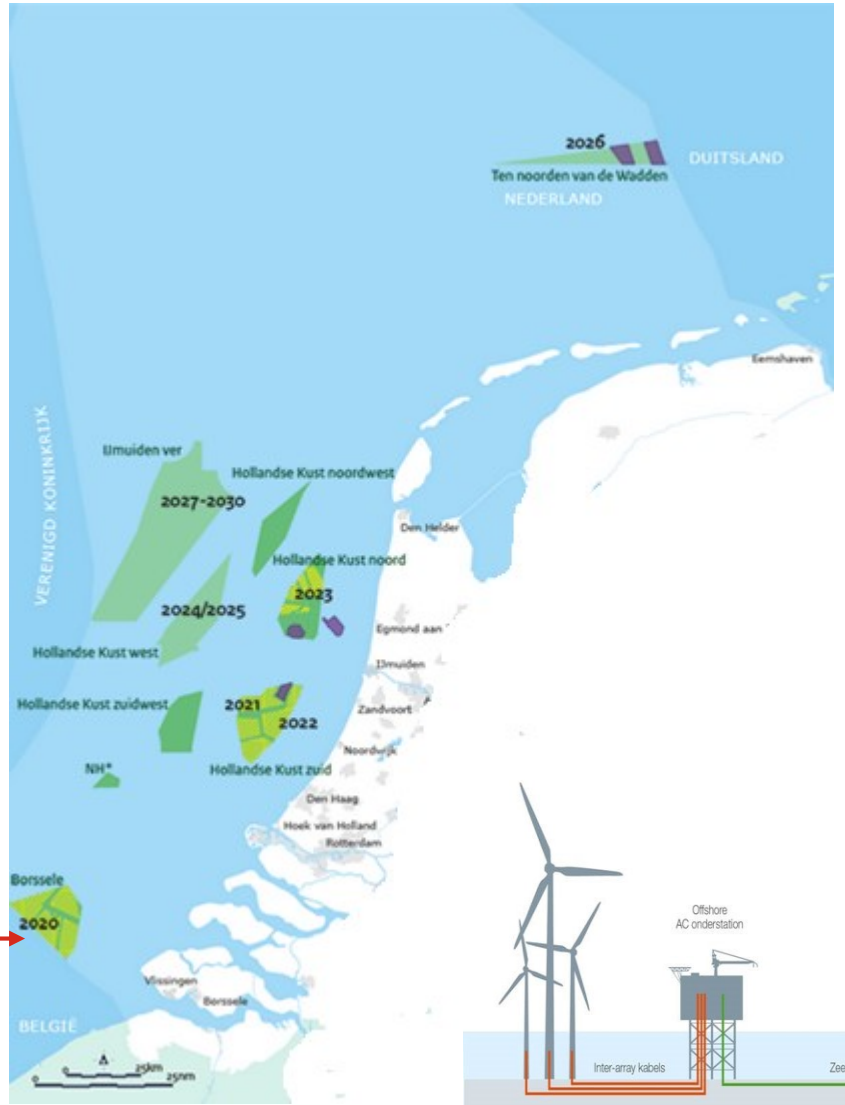
Example Wave measurements

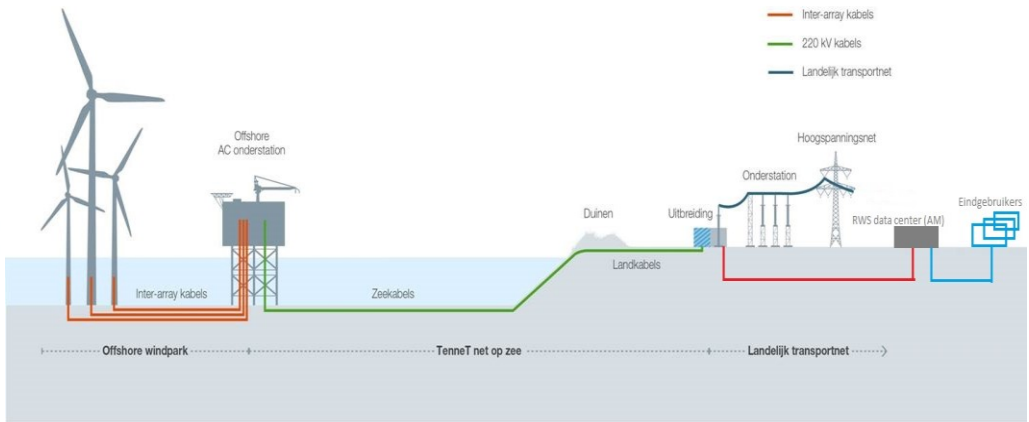


Wave energy North Sea and Biskaje area

Part of the solution

- Offshore windfarm AC sub stations





Hydro /Meteo data measured on/near substations

Waarnemingen Offshore installaties Noordzee vrijdag 17 september 2021 14:50 uur

Station	Temp (°C)	Zeewater (°C)	RV (%)	Wind	Wind (m/s)	Max (m/s)	Zicht (m)	Druk (hPa)
BG-OHVS2	16.4		72	O	4	5	45000	1016.2
K14-FA-1C	17.3		84	WZW	5	6	35000	1014.7
AWG-1	17.3		75	ONO	3	4	45000	1016.1
K13 Alpha	16.6	17.7	85	ZW	6	7		
[illegible]	17.6		83				29000	1015.5
Borssele Alpha	18.0		81	ZW	3	3	35000	1015.9
[illegible]	15.9		79	ZO	4	6	45000	1016.0
F3-DB-1	16.0		73	O	5	6	45000	1016.2
J6-A	17.4		92	Z	3	4	5000	1014.8
L9-FF-1	17.7		80	OZO	3	4	29000	1016.4
P11-B	17.2		79	WZW	6	7	27000	1015.6
LE Goeree	17.9	18.6	81	WZW	5	6	28000	1015.8
Euro Platform	17.6	18.3	84	ZW	5	6	40000	1015.9
D15-FA-1	16.9		92	ZO	7	8	8000	1014.7

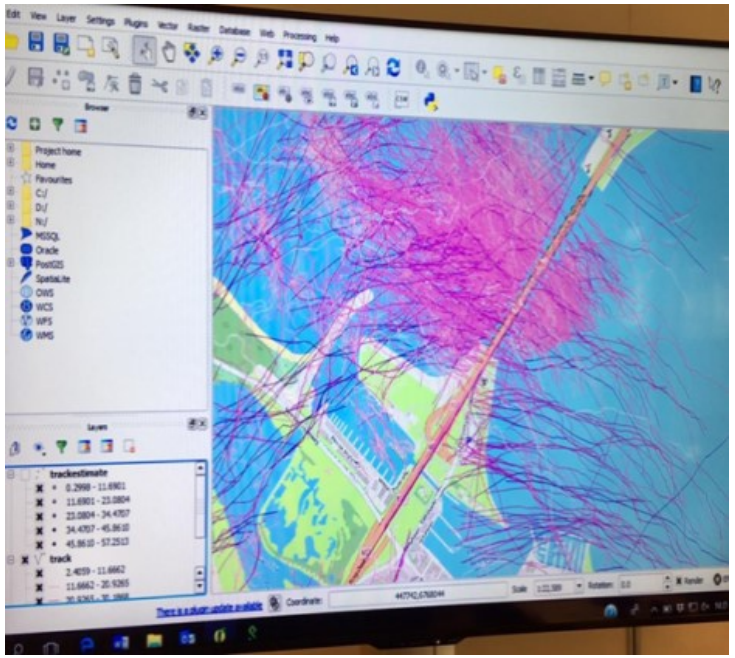
- Netpos / AGRS
- Water Temperature
- Water Level
- Wind
- Air Pressure
- Visibility
- Air temperatuur en humidity
- Cloud height
- LiDAZephir wind lidar (300m)
- Current Measurement Buoy (MK4)

Plans for: 3km wind lidar
to measure above the windfarm HKZ

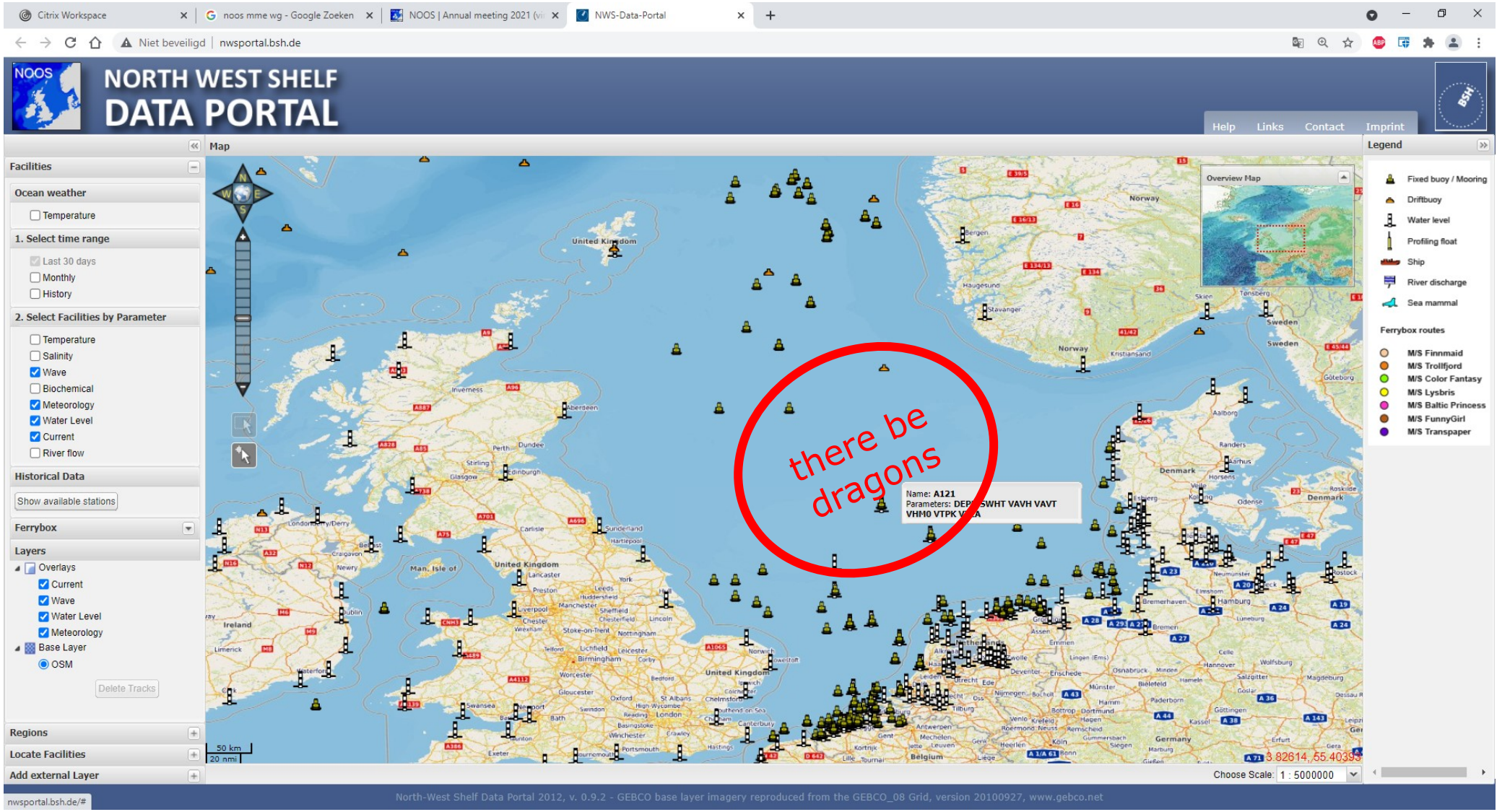
Steven Knoop @KNMI contact for wind lidar measurements
https://cdn.knmi.nl/knmi/pdf/bibliotheek/knmipubIR/IR2021-01.pdf

Also Ecology

- Bird Radar (kalibrating bird migration models for start/stop)
- Bat detector



However: NOOS (near) real time data availabilty



So a request for filling this situational data gap

Changes at Rijkswaterstaat impacting NOOS

- FTP BOX → SFTP BOX
- New protocol
- New accounts
- Change data January - June 2022
- Details: martijn.weeda@rws.nl

Questions