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**Jomopans**

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# JOMOPANS

**JOINT MONITORING PROGRAMME FOR AMBIENT NOISE IN THE NORTH SEA**

Underwater Noise Webinar

Niels Kinneging, 17 May 2021



Rijkswaterstaat  
Ministerie van Infrastructuur en Waterstaat

# Outline

- ▶ Background
- ▶ Jomopans project
- ▶ Final remarks

# All Ships on Earth

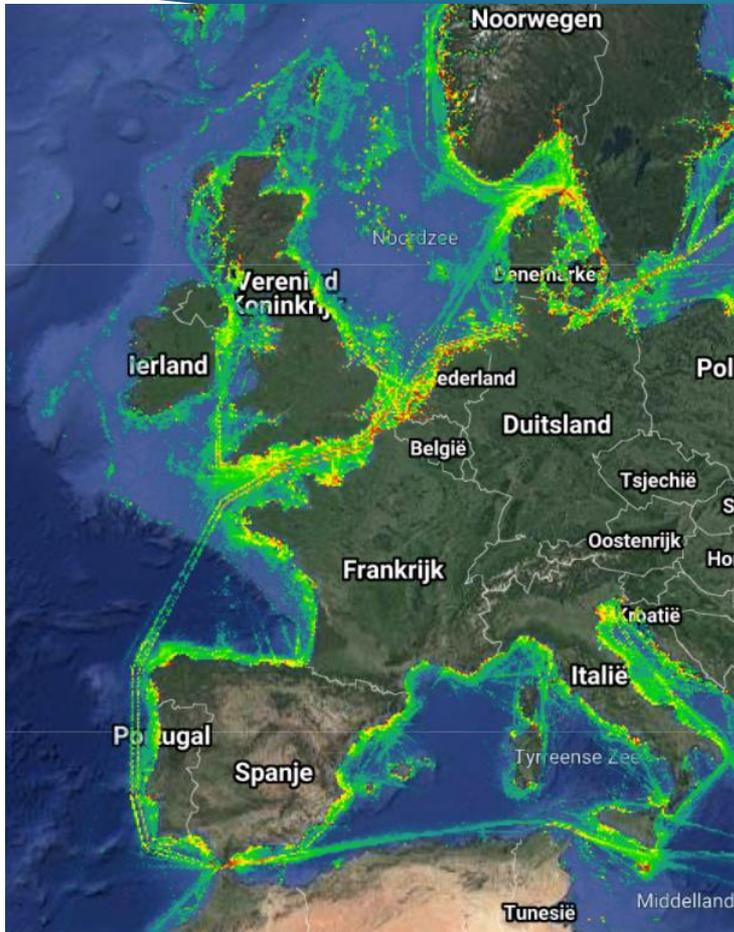
All vessels reports with matching AIS static data  
and not duplicated MMSI reports

Source: SPIRE Global Data and Analytics  
Date: extracted at 18.09.2019 11:29 UTC

This is a plot of all ships reported through the Spire Vessels API with last reported position in the last 24 hours. Note this is using Vessels API so only reports vessels with consistent static information to identify the ship and does not report duplicate MMSI reporting ships.

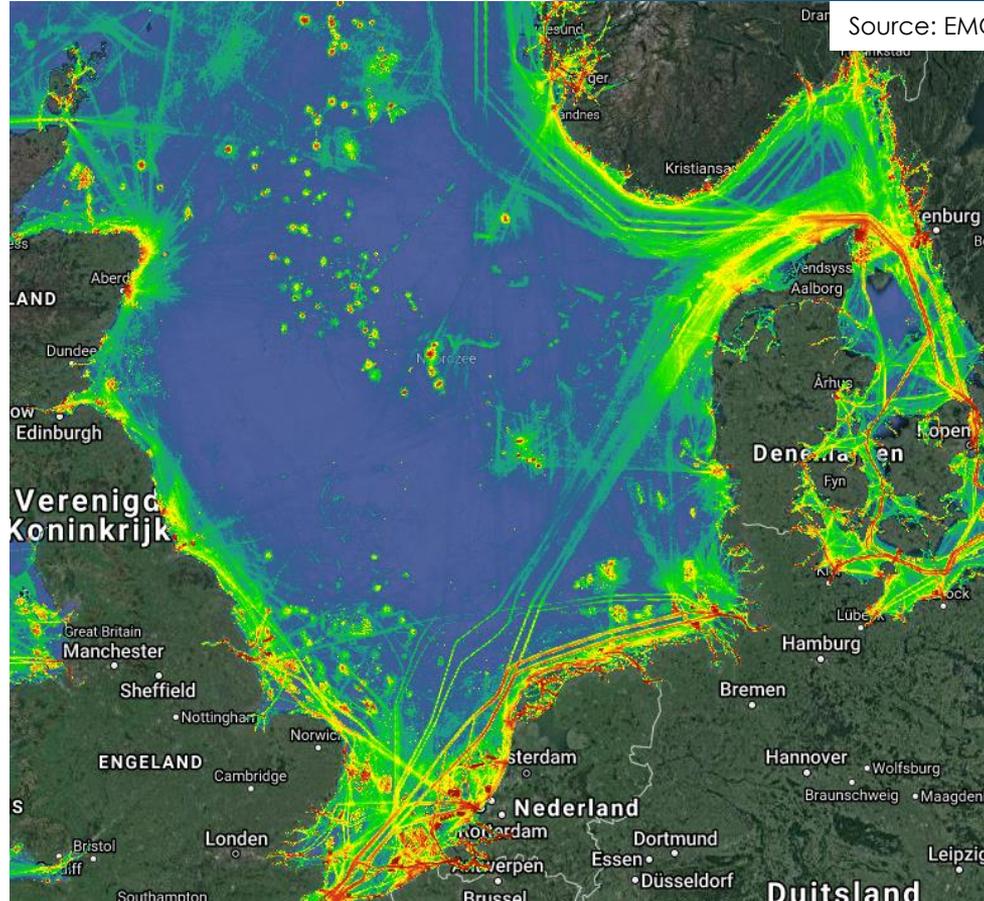
Breakdown of position reports by source. 34% Satellite AIS and 66% from terrestrial AIS. Indicating that 35% of the fleets most recent positions reports from satellite AIS.

# Shipping densities



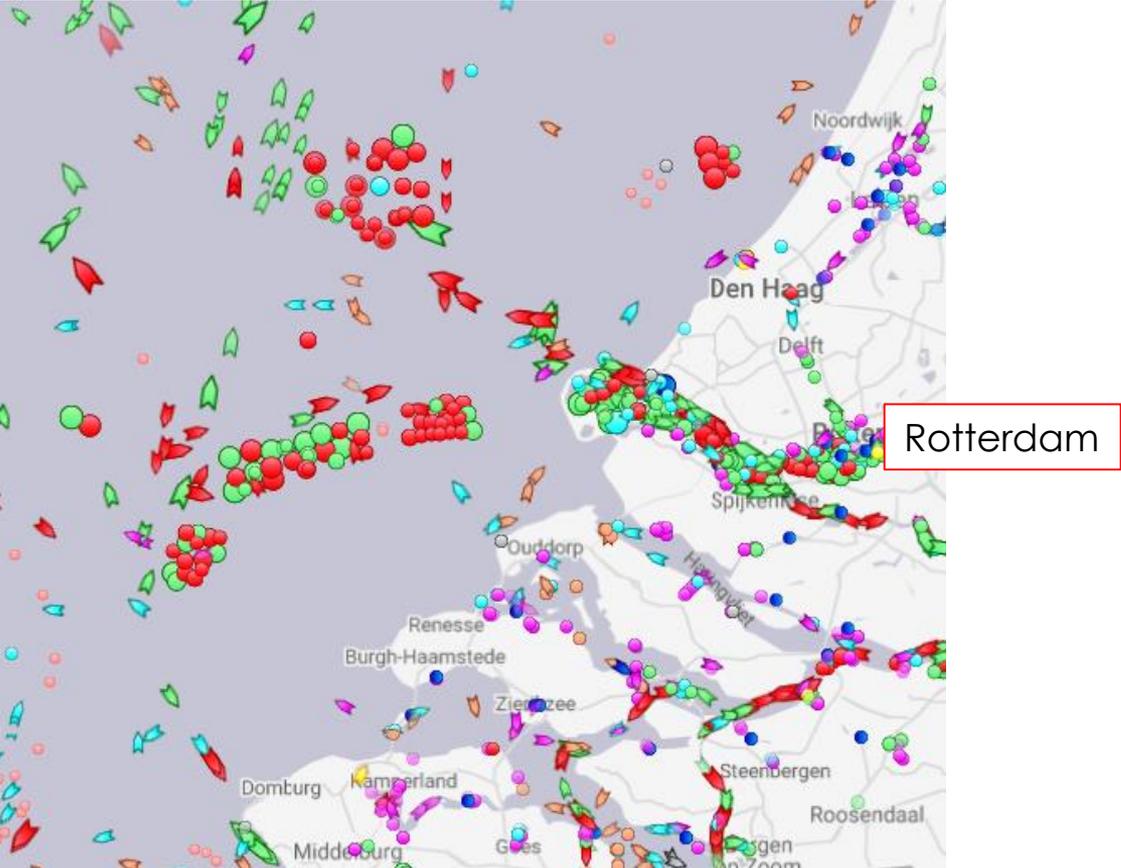
Source: EMODNET Human Activities

# Shipping densities



Source: EMODNET Human Activities

# Shipping (snapshot)



# Marine Strategy Framework Directive (2008)

- ▶ Good Environmental Status (GES) in EU marine waters
- ▶ Ecosystem approach
  - ▶ Environment
  - ▶ Sustainable use
- ▶ Regional co-operation



**OSPAR  
COMMISSION**

*Protecting and conserving the  
North-East Atlantic and its resources*

# Descriptors

- ▶ Biodiversity
- ▶ Non-indigenous species
- ▶ Commercial fish
- ▶ Marine food webs
- ▶ Eutrophication
- ▶ Sea-floor integrity
- ▶ Hydrographical conditions
- ▶ Contaminants
- ▶ Contaminants in fish
- ▶ Marine litter
- ▶ Energy, including underwater noise

## Criteria

- Impulsive noise
- Continuous noise

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INSTITUTE OF MARINE RESEARCH

**FFI** Forsvarets  
forskningsinstitutt  
Norwegian Defence Research Establishment



Scottish Government  
Riaghaidas na h-Alba  
gov.scot

marine.scotland



UNIVERSITÄT ARHUS



Cefas



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Ministerie van Infrastructuur en Waterstaat



BLUNDESAMT FÜR  
SEESCHIFFFAHRT  
UND  
HYDROGRAPHIE



National Physical Laboratory

**TNO**



Operational Directorate Natural Environment  
OD Nature | OD Natuur | DO Nature

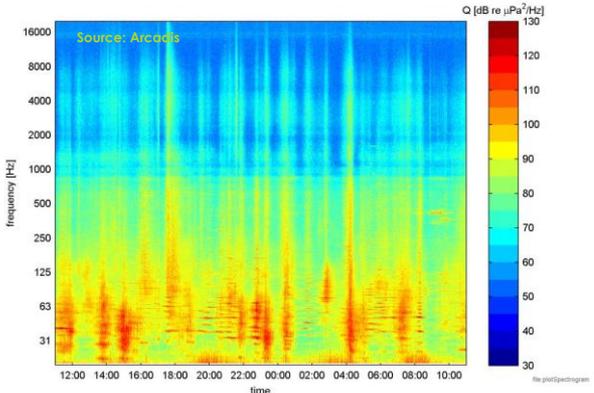
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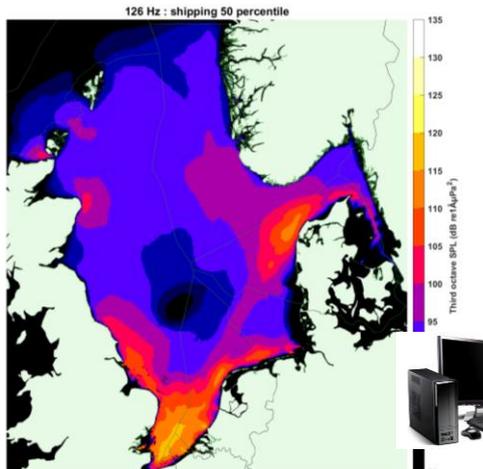
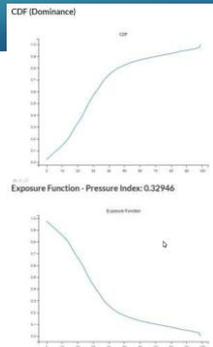


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# Elements of Jomopans



measurements



modelling



Sound Pressure Level: [dropdown] [dropdown] [dropdown]

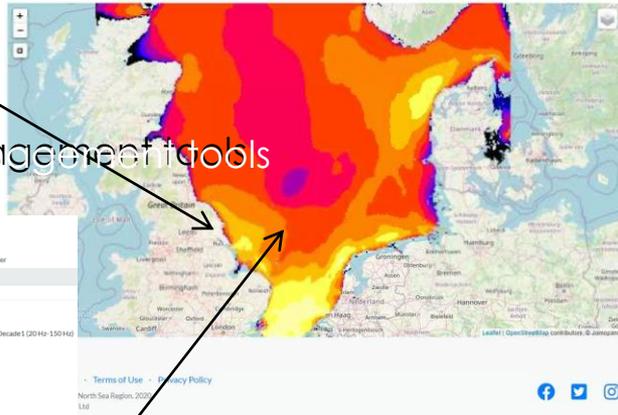
Data Frequency (optional): [dropdown] Data Percentile (optional): [dropdown]

[Find Layers]

Select Layer from available list:

Available Layers: spl\_shipping\_allships\_broadband\_p50\_monthly\_2017-02

[Select Layer]



management tools

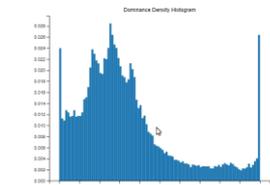
**GES Tool Calculator**  
Select layers above

Dominance Layer: [dropdown] Species Layer: [dropdown] Area Layer: [dropdown]

**GES Calculation Results**

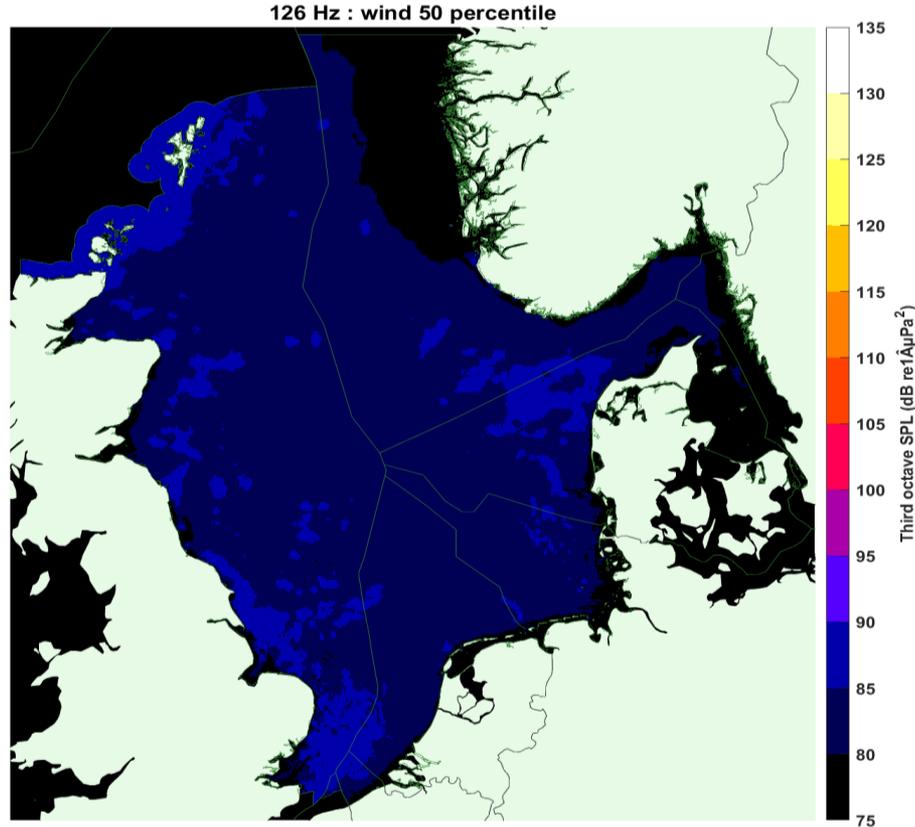
- layer\_label: Sound Dominance 2016 (replaced), InstantaneousWind (replaced), Decade 1 (2014-13) (H4)
- layer\_date: Annual: 2016
- layer\_original\_slug: SoundDominance2016\_InstantaneousWind\_Decade1
- source\_file: Jomopans\_Insight\_coordinates\_map2019.vcf
- upload\_date: 19 November 2020

**Dominance Histogram**

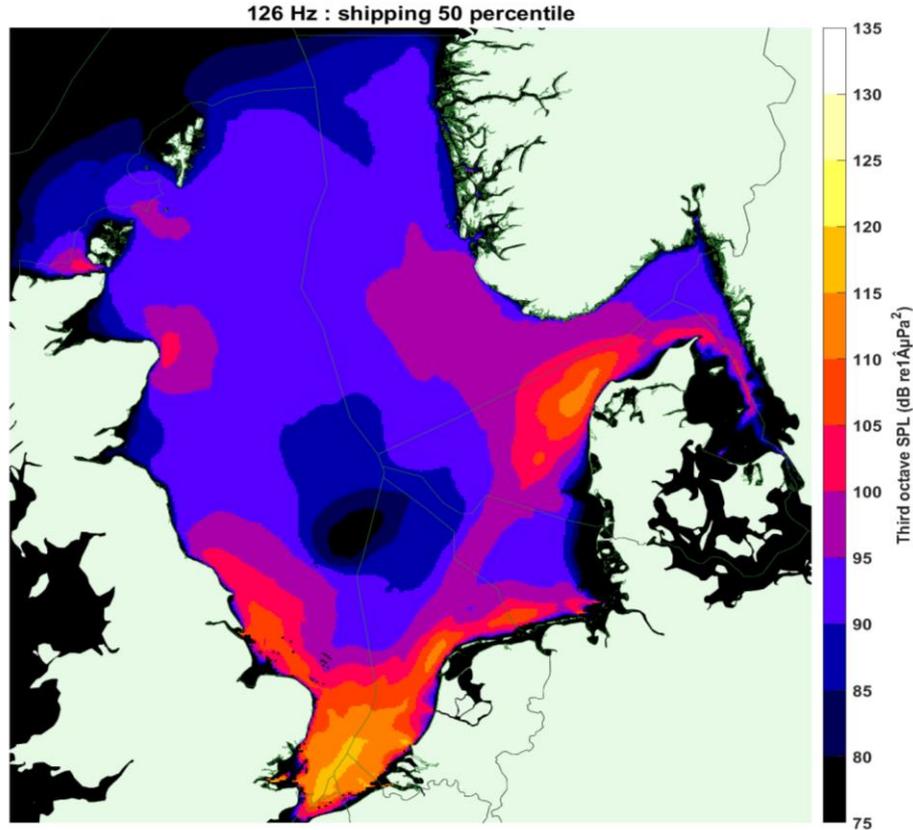


CDF (Dominance)

# Median level wind sound

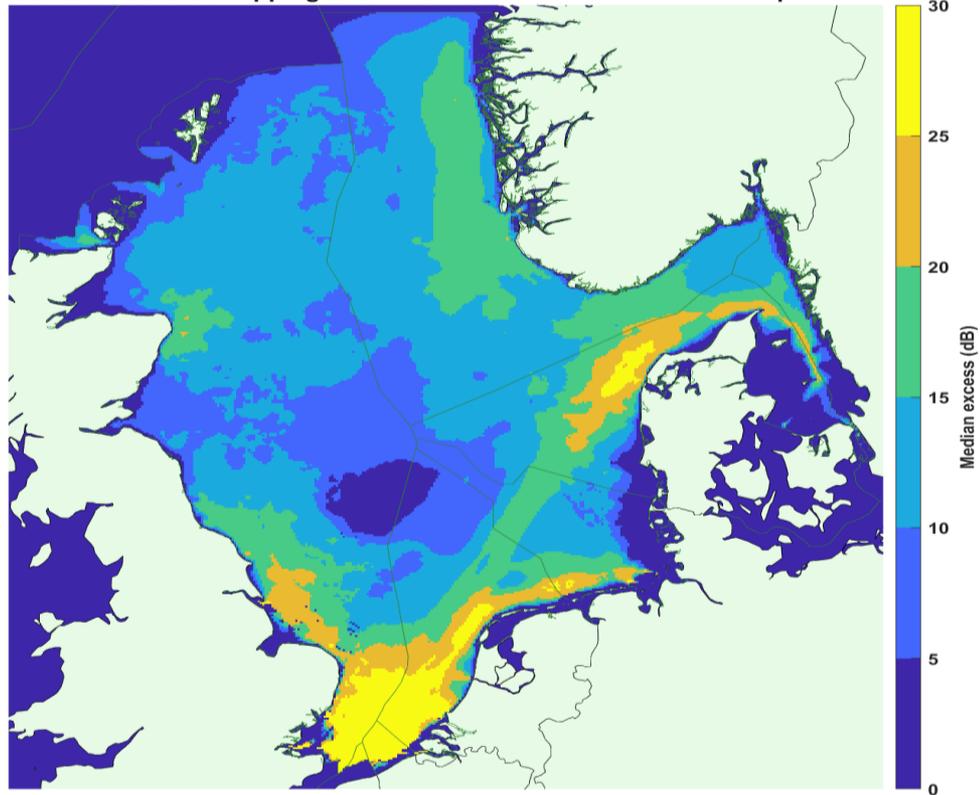


# Median level wind+shipping

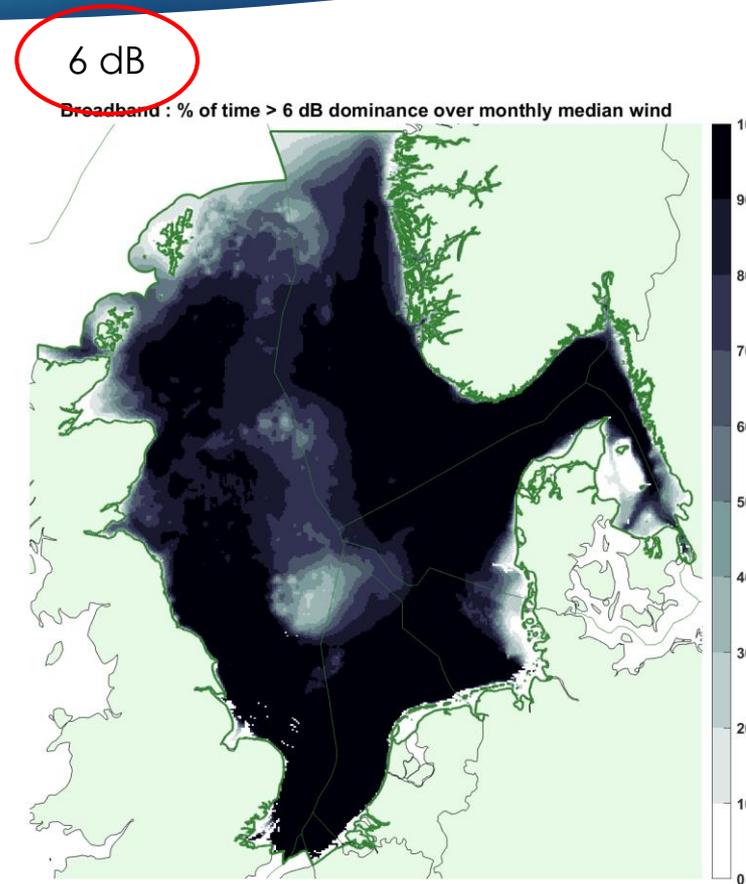
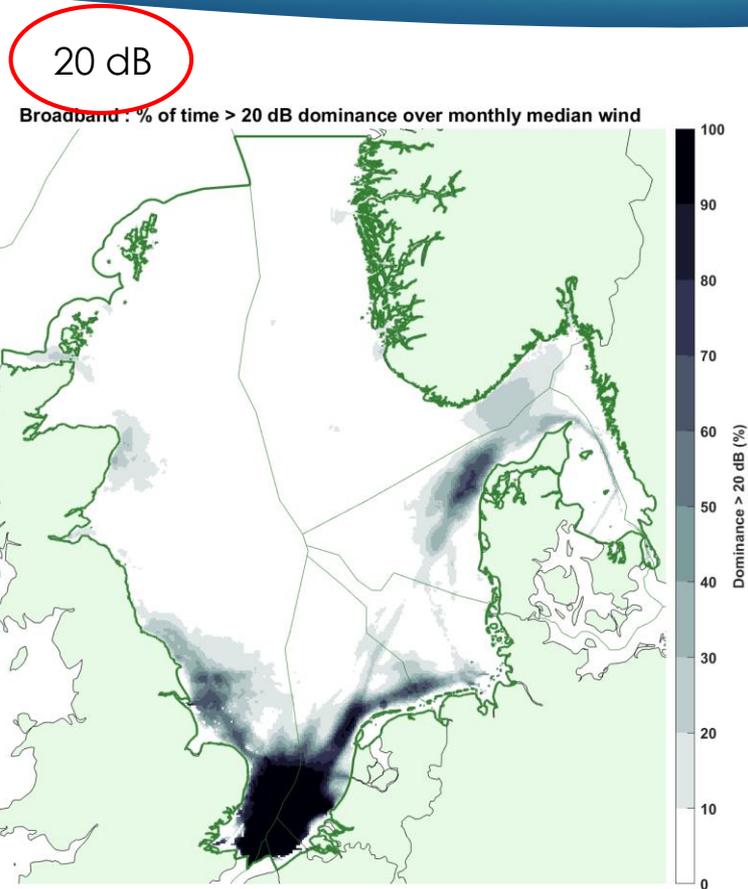


# Excess level

126 Hz : excess of shipping and wind over instantaneous wind 50 percentile



# Dominance



# What's next?

- ▶ If the situation remains as is, underwater noise from ships will most likely increase.
- ▶ What options are there?
  - ▶ Quiet ship technology
  - ▶ Protecting sensitive habitats
  - ▶ Operational measures
  - ▶ Joint monitoring
  - ▶ Etc..

# Final remarks

- ▶ IMO MEPC information paper
- ▶ Jomopans End Event, 10 June 2021
  - ▶ See Jomopans website
  - ▶ Registration: [jomopans@rws.nl](mailto:jomopans@rws.nl)