

JOMOPANS Good Environmental Status (GES) Tool is live!

It is live! The JOMOPANS project is pleased to announce that our Good Environmental Status (GES) Tool is up and running at <https://jomopansgestool.au.dk>. There are three major functions of the tool: downloading Data Files, viewing Maps and Layers, and using our GES Calculator Tool.



The screenshot shows the homepage of the Jomopans GES Tool. At the top, there is a navigation bar with the Interreg North Sea Region 2014-2020 logo, the European Union flag, and the text "Jomopans Data Files Maps and Layers GES Calculator About". A green "Login" button is located in the top right corner. The main content area features a large blue background image of a whale. The heading "Welcome to Jomopans GES Tool" is centered. Below it, a sub-heading reads "A framework for a fully operational joint monitoring programme for ambient noise in the North Sea." Three bullet points list the tool's functions: "Browsing maps and collected data", "Download maps and source data files", and "Combine maps to calculate GES Tool outputs". At the bottom, three icons represent the main features: a download icon for "Data Files", a globe icon for "Maps and Layers", and a calculator icon for "GES Calculator Tool". Each feature is accompanied by a brief description of its function.

interreg North Sea Region 2014-2020 EUROPEAN UNION

Jomopans Data Files Maps and Layers GES Calculator About

Login

Welcome to Jomopans GES Tool

A framework for a fully operational joint monitoring programme for ambient noise in the North Sea.

- Browsing maps and collected data
- Download maps and source data files
- Combine maps to calculate GES Tool outputs

Data Files
Search and download the source data files

Maps and Layers
View all the input sound and habitat maps

GES Calculator Tool
View and calculate the Good Environment Strategy tool

In the Data Files tab, all of our North Sea soundscape maps for 2019 by month are freely available to download. Under the annual tab, we also have provided regional area maps, such as Dogger Bank and Danish Waters, as well as distribution or density maps for important North Sea species. From Waggitt. et al. 2020, we have formatted their density maps for cetaceans, such as harbor porpoise, and sea birds, such as northern gannet. JOMOPANS partner, Institute of Marine Research (IMR) in Norway provided distribution and spawning maps for various fish species, such as cod and plaice.

- 2019
 - Monthly
 - 01
 - [Jomopans sound maps 2019 January - jomopans_soundmaps_2019_01.nc4](#) Layers: 96
 - 02
 - [Jomopans sound maps 2019 February - jomopans_soundmaps_2019_02.nc4](#) Layers: 96
 - 03
 - [Jomopans sound maps 2019 March - jomopans_soundmaps_2019_03.nc4](#) Layers: 96
 - 04
 - [Jomopans sound maps 2019 April - jomopans_soundmaps_2019_04.nc4](#) Layers: 96
 - 05
 - [Jomopans sound maps 2019 May - jomopans_soundmaps_2019_05.nc4](#) Layers: 96
 - 06
 - [Jomopans sound maps 2019 June - jomopans_soundmaps_2019_06.nc4](#) Layers: 96
 - 07
 - [Jomopans sound maps 2019 July - jomopans_soundmaps_2019_07.nc4](#) Layers: 96
 - 08
 - [Jomopans sound maps 2019 August - jomopans_soundmaps_2019_08.nc4](#) Layers: 96
 - 09
 - [Jomopans sound maps 2019 September - jomopans_soundmaps_2019_09.nc4](#) Layers: 96
 - 10
 - [Jomopans sound maps 2019 October - jomopans_soundmaps_2019_10.nc4](#) Layers: 96
 - 11
 - [Jomopans sound maps 2019 November - jomopans_soundmaps_2019_11.nc4](#) Layers: 96
 - 12
 - [Jomopans sound maps 2019 December - jomopans_soundmaps_2019_12.nc4](#) Layers: 96

○ Annual

- Belgium - belgium.tif Layers: 1
- Cod Distribution - cod.tif Layers: 1
- Cod Spawning - cod_spawning.tif Layers: 1
- Common Guillemot Density - common_guillemot.tif Layers: 1
- Denmark - denmark.tif Layers: 1
- Dogger Bank - dogger_bank.tif Layers: 1
- Germany - germany.tif Layers: 1
- Haddock Distribution - haddock.tif Layers: 1
- Haddock Spawning - haddock_spawning.tif Layers: 1
- Harbour Porpoise Density - harbour_porpoise.tif Layers: 1
- Herring Distribution - herring.tif Layers: 1
- Herring Spawning - herring_spawning.tif Layers: 1
- Jomopans sound maps 2019 full year - jomopans_soundmaps_2019.nc4 Layers: 96
- Kattegat - kattegat.tif Layers: 1
- Minke Whale Density - minke_whale.tif Layers: 1
- Netherlands - netherlands.tif Layers: 1
- Northern Gannet Denisty - northern_gannet.tif Layers: 1
- Northern North Sea - northern_north_sea.tif Layers: 1
- Norway - norway.tif Layers: 1
- Norwegian Trench - norwegian_trench.tif Layers: 1
- Plaice Distribution - plaice.tif Layers: 1
- Plaice Spawning - plaice_spawning.tif Layers: 1
- Skagerrak - skagerrak.tif Layers: 1
- Southern North Sea - southern_north_sea.tif Layers: 1
- Sweden - sweden.tif Layers: 1
- United Kingdom - uk.tif Layers: 1
- Whitebeaked Dolphin Denisty - whitebeaked_dolphin.tif Layers: 1

In the Maps and Layers tab, users can view all of the Data Layers. For example, a sound dominance map for the month of June.

Note: In order to view the dominance maps, the Data Period must be set to 'Monthly', as the maps are presented by month. In order to view the species or area maps, the Data Period must be set to Annual. This is because the area maps are stable throughout the year, and the provided species maps are general density/species range maps for the entire year. To view cetacean and bird maps, you should select 'Species Density' in Data Measure, as these maps came from Waggitt. et al. 2020 density estimates. To view the fish maps, select 'Area Mask' as these are flat range maps for both the spawning areas and general distribution.

The screenshot shows the 'View Jomopans Maps' interface. At the top, there are logos for Interreg North Sea Region Jomopans and the European Union, along with navigation links: Jomopans, Data Files, Maps and Layers, GES Calculator, and About. A green 'Login' button is in the top right.

View Jomopans Maps

Search for Layer by type

Data Period: Monthly | Year: 2019 | Month (optional): Jun

Data Type: Sound Dominance | Data Measure: Median Wind | Data Subtype (optional): 20db

Data Frequency (optional): ----- | Data Percentile (optional): -----

Find Layers

Select Layer from available list:

Available Layers:

- sounddominance_medianwind_20db_125hz_-_monthly_2019-06
- sounddominance_medianwind_20db_125hz_-_monthly_2019-06
- sounddominance_medianwind_20db_63hz_-_monthly_2019-06
- sounddominance_medianwind_20db_broadband_-_monthly_2019-06
- sounddominance_medianwind_20db_decade1_-_monthly_2019-06
- sounddominance_medianwind_20db_decade2_-_monthly_2019-06
- sounddominance_medianwind_20db_decade3_-_monthly_2019-06

Select Layer

The interface also includes a map of the North Sea region with zoom controls (+, -, square) and labels for 'Ísland', 'Sverige - Baltiska', and 'Suomi / Finland'.

Select Layer from available list:

Available Layers:

sounddominance_medianwind_20db_125hz_-_monthly_2019-06

Select Layer



Layer Details

Layer Name:

Sound Dominance, Median Wind, 20db, 125Hz

Data Period:

Monthly: June 2019

Original Layer Name:

SoundDominance_MedianWind_20dB_125Hz

Source File:

[Download File](#)

Upload Date:

23 June 2021




Legend

Dominance (%)

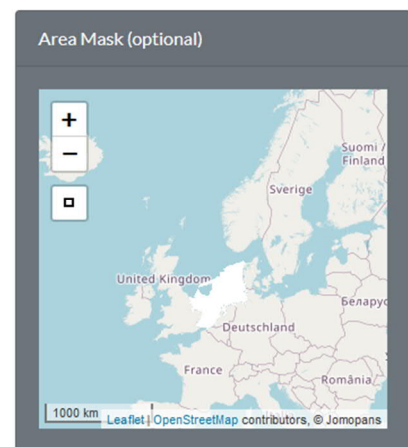
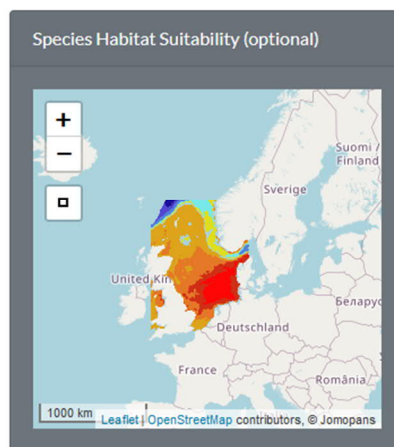
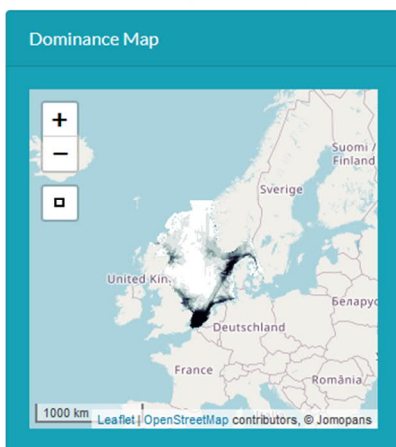
- ($x <= 10$)
- ($10 < x$) & ($x <= 20$)
- ($20 < x$) & ($x <= 30$)
- ($30 < x$) & ($x <= 40$)
- ($40 < x$) & ($x <= 50$)
- ($50 < x$) & ($x <= 60$)
- ($60 < x$) & ($x <= 70$)
- ($70 < x$) & ($x <= 80$)
- ($80 < x$) & ($x <= 90$)
- ($90 < x$)

And most excitingly, the GES Tool. Here is where we can look at specific areas in the North Sea, such as the Southern North Sea, specific species distributions, such as harbor porpoise, and apply different noise dominance maps to those overlapping areas to calculate the total. In this example, the dominance layer models the median wind noise at the 125 Hz third-octave level, with a noise excess of 20 dB for the month of August in 2019.

GES Tool Input Layers

Dominance Layer	sounddominance_medianwind_20db_125hz_-_monthly_2019-08 
Species Habitat Suitability Layer (optional)	species_species-density_harbour-porpoise-area_-_annual_2019 
Area/Region Mask Layer (optional)	area_mask_area-mask_southern-north-sea-area_-_annual_2019 

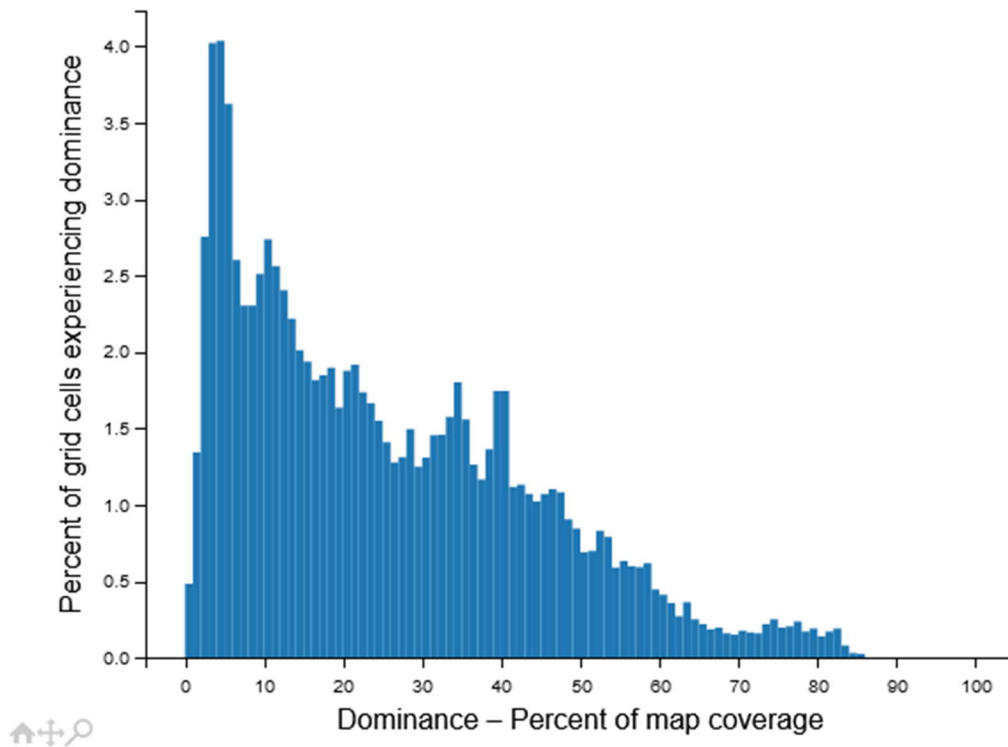
GES Tool Input Maps



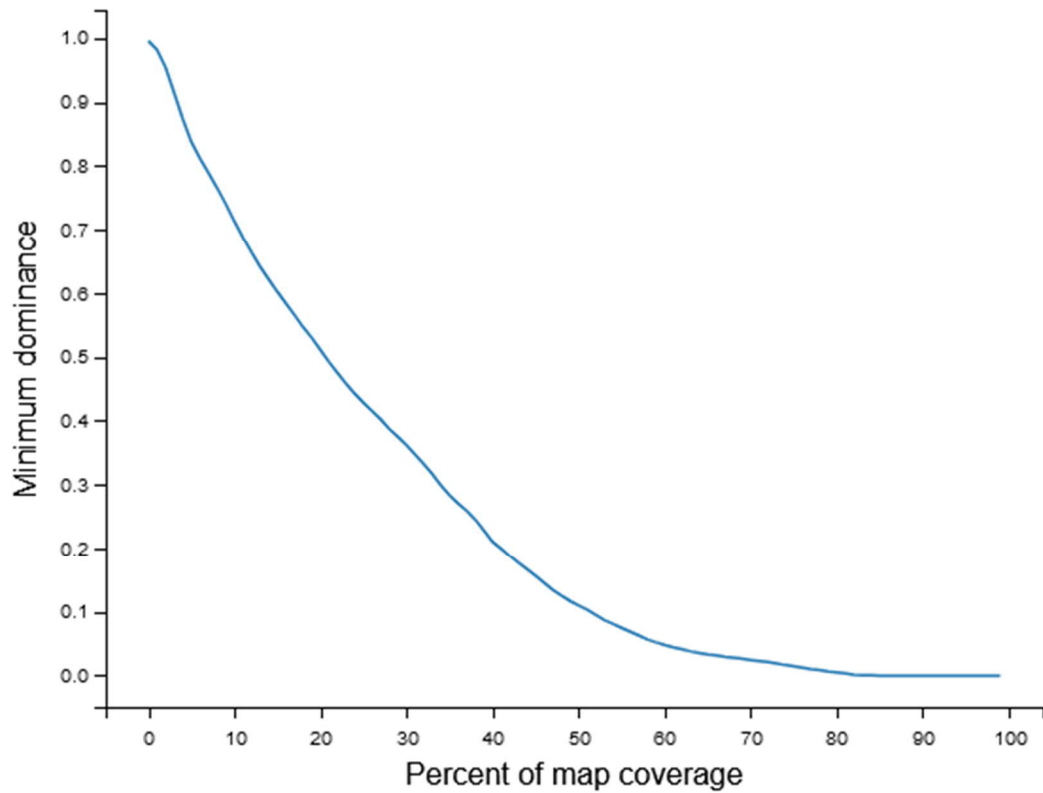
With these conditions, the pressure index for harbor porpoise in the southern North Sea is 0.25. In addition to this index number, there are three plots to help explain the context for the pressure index value:

- Dominance Histogram: Distribution of dominance in grid cells of the assessment area.
- Cumulative Distribution Function (CDF): A cumulative sum of the affected area from the high end of the distribution.
- The Pressure Curve: derived from the CDF. This is a very condensed expression of the conditions in the area under assessment.

Dominance Histogram



Exposure Function - Pressure Index: 0.25



Reference:

Waggitt, J. J., Evans, P. G., Andrade, J., Banks, A. N., Boisseau, O., Bolton, M., ... & Hiddink, J. G. (2020). Distribution maps of cetacean and seabird populations in the North-East Atlantic. *Journal of Applied Ecology*, 57(2), 253-269.