

Monitoring Continuous Underwater Radiated Noise in the Mediterranean Sea: Can NAVISON Support?

Samy Djavidnia

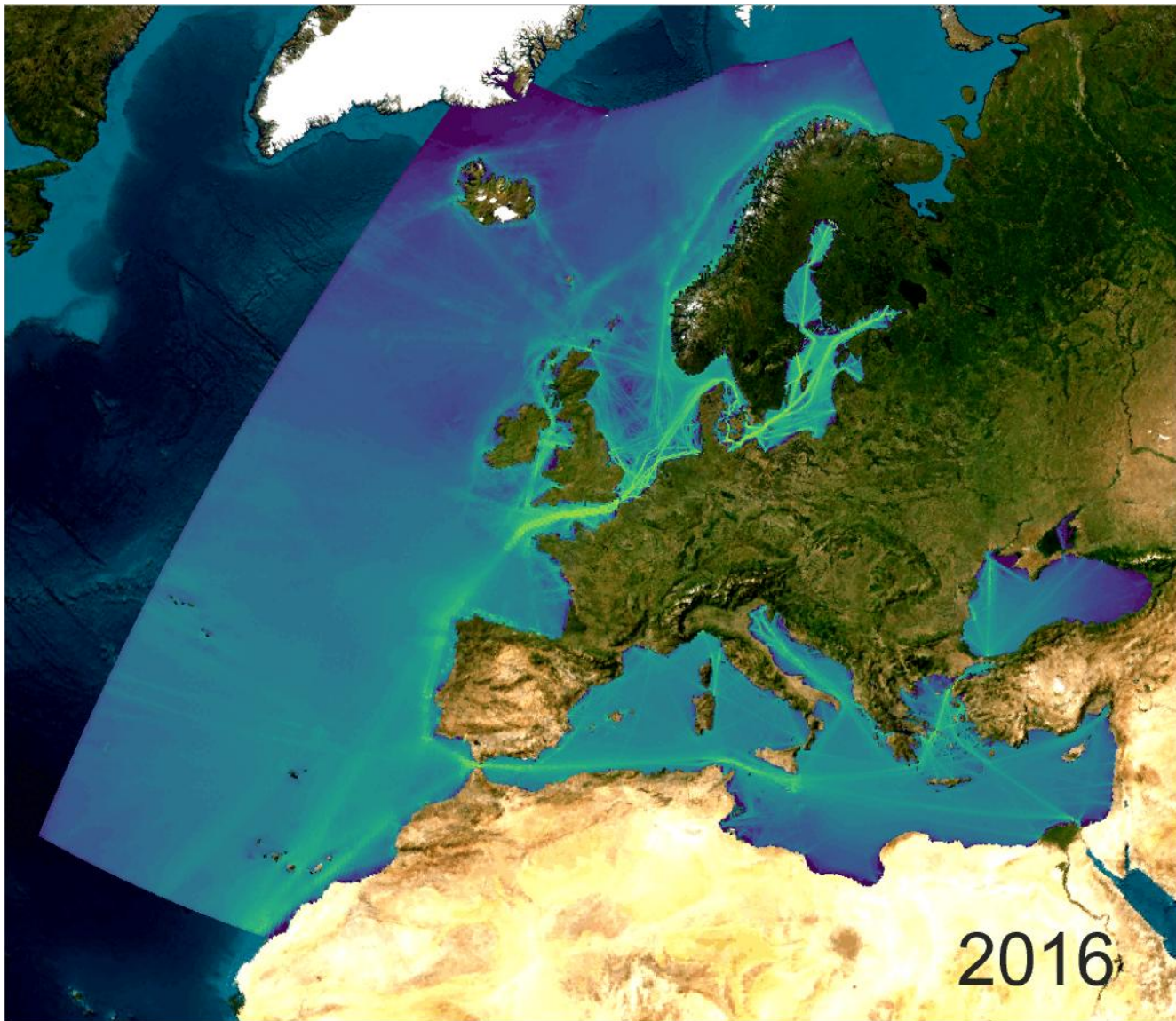
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REMPEC URN Meeting, 29 May 2026

- NAVISON develops quarterly underwater sound maps to analyse shipping noise trends and future impacts in European waters, including the Mediterranean Sea.
- Covers historical trends (2016–2023) and future scenarios for 2030, 2040, and 2050
- Focuses on low-frequency underwater noise (63 & 125 Hz) under the EU MSFD D11C2 criterion
- Assesses noise from major vessel groups: cargo, container, passenger/cruise, tanker/gas, and Ro-Ro ships
- Supports evaluation of new technologies and operational measures to reduce underwater shipping noise

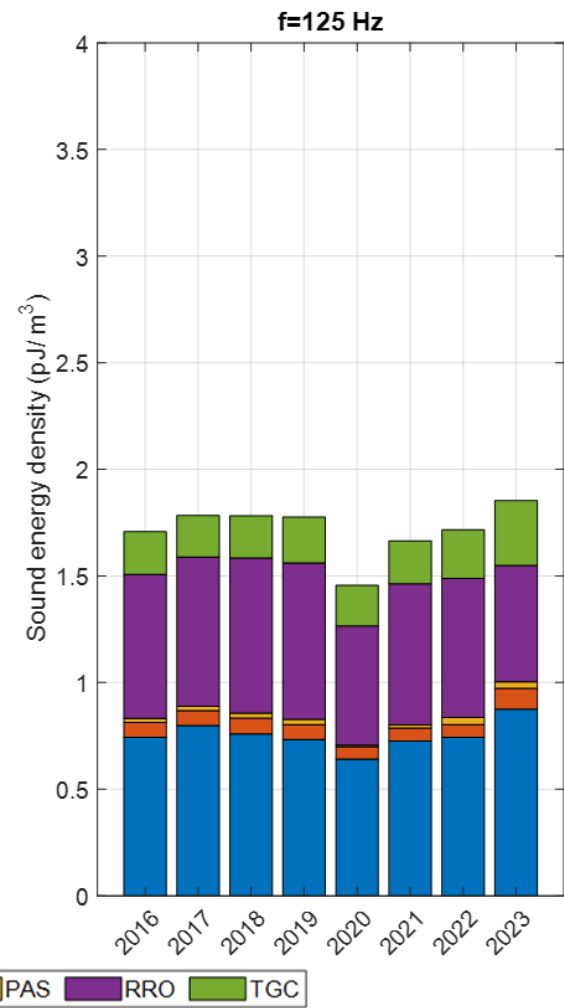
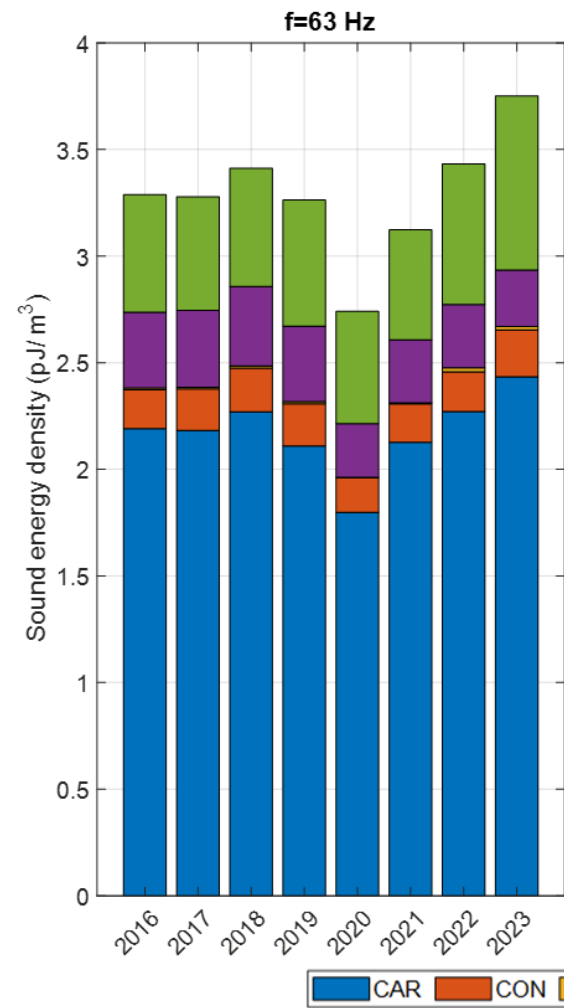


Monitoring at Scale

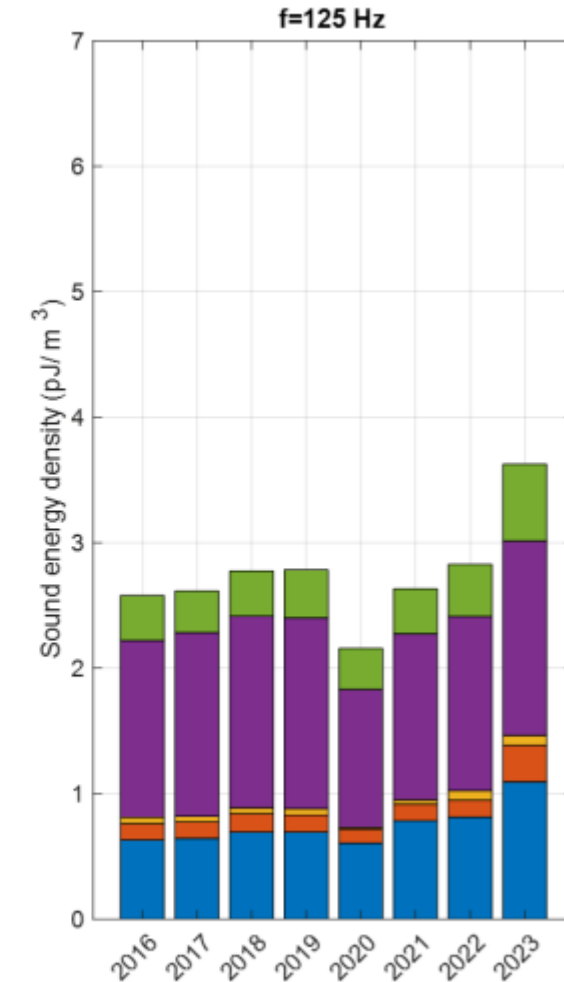
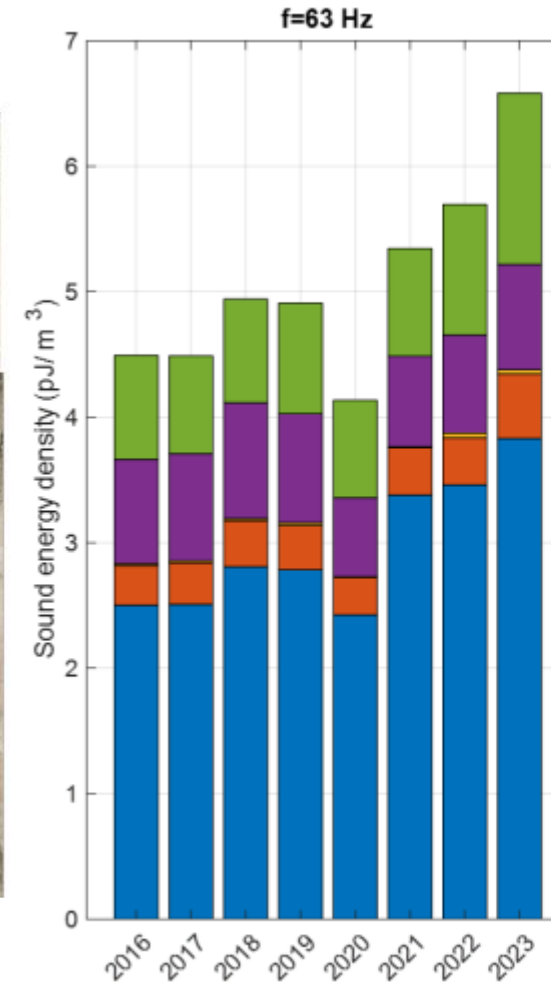
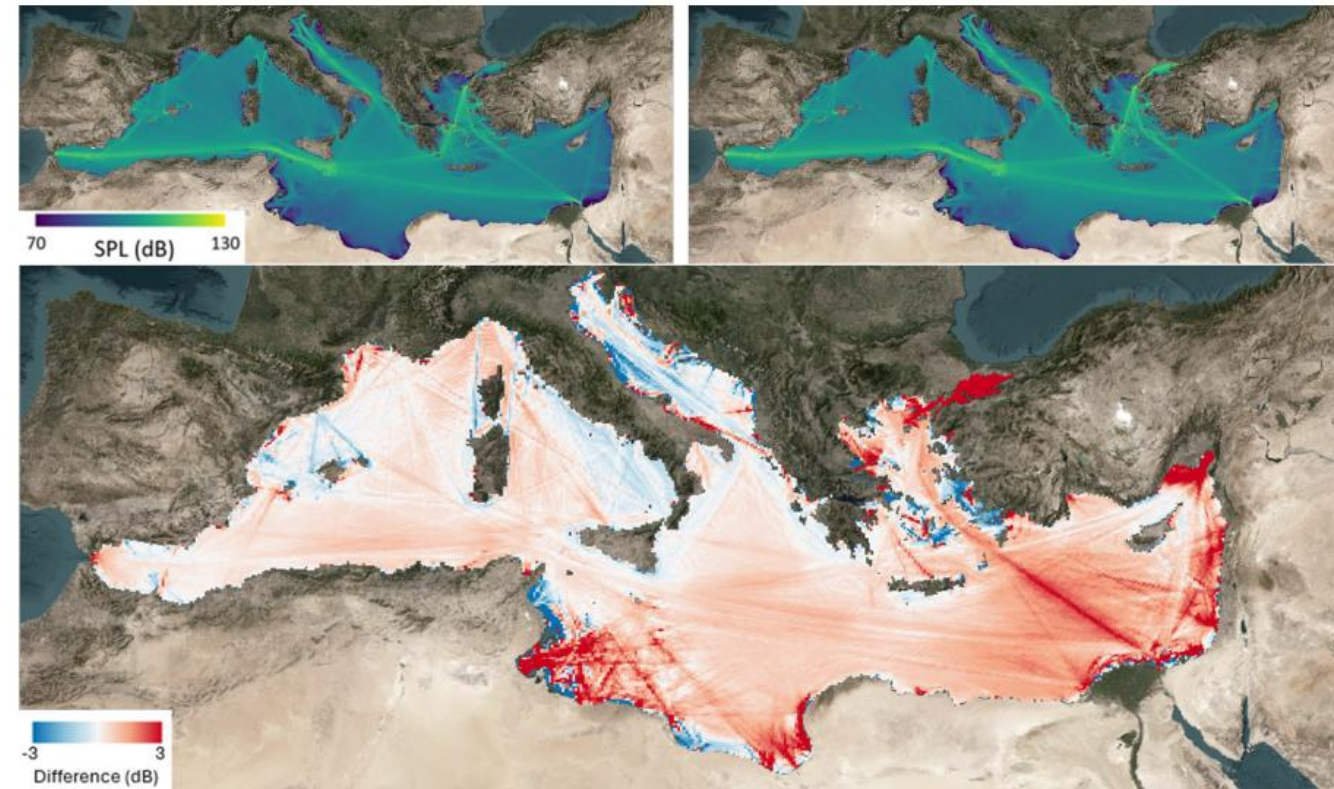


70 SPL (dB) 130

Source: EMSA, NAVISON (2025)



Mediterranean Sea (i)



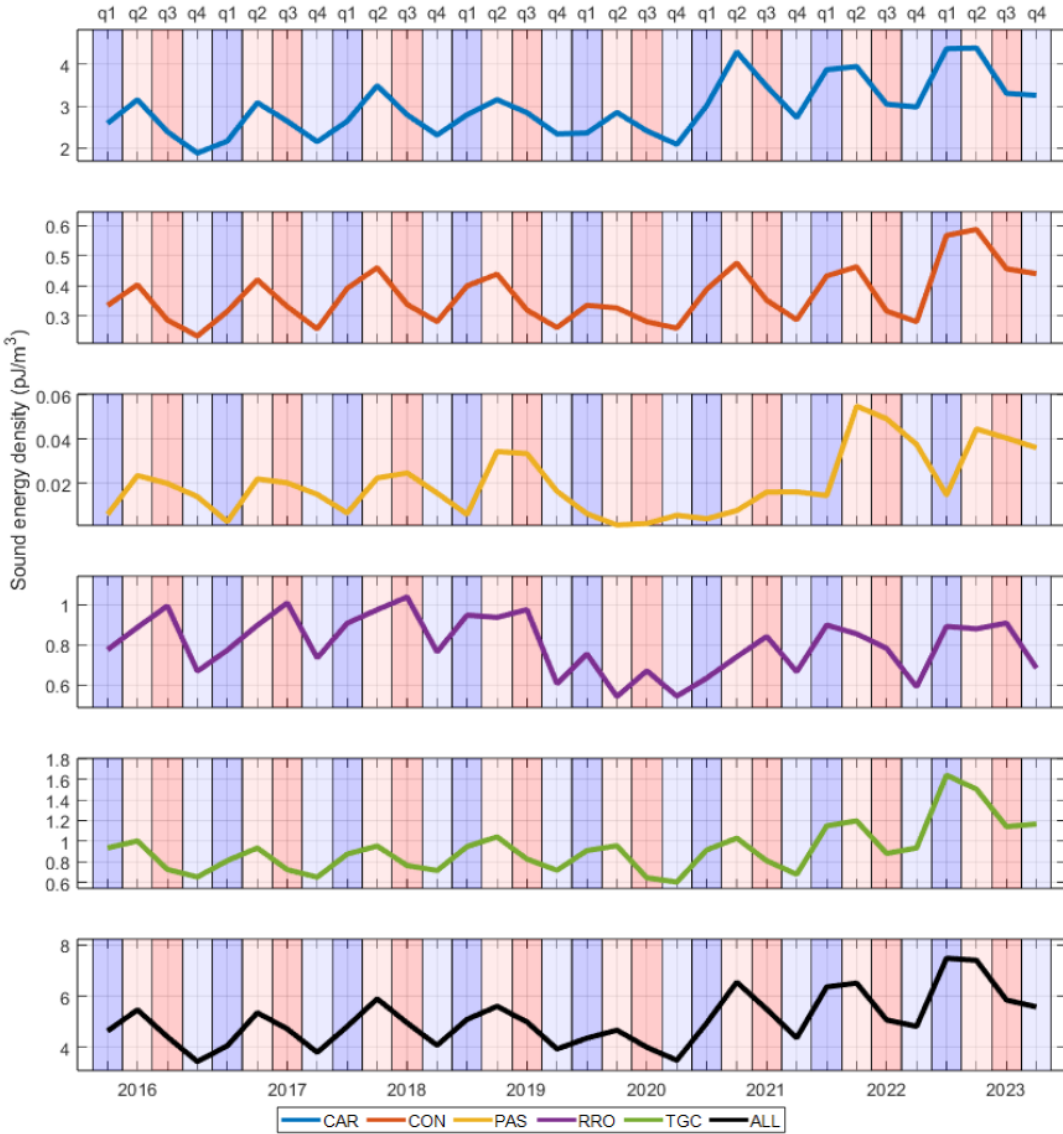
Legend: CAR (blue), CON (orange), PAS (yellow), RRO (purple), TGC (green)

Figure 36 Mediterranean Sea: Comparison of sound map layers (SPL re 1 μPa^2 , in dB) for including ALL vessel categories during (top left) 2022 and (top right) 2023 at 63 Hz. The (bottom) difference (2023–2022) of these two maps.

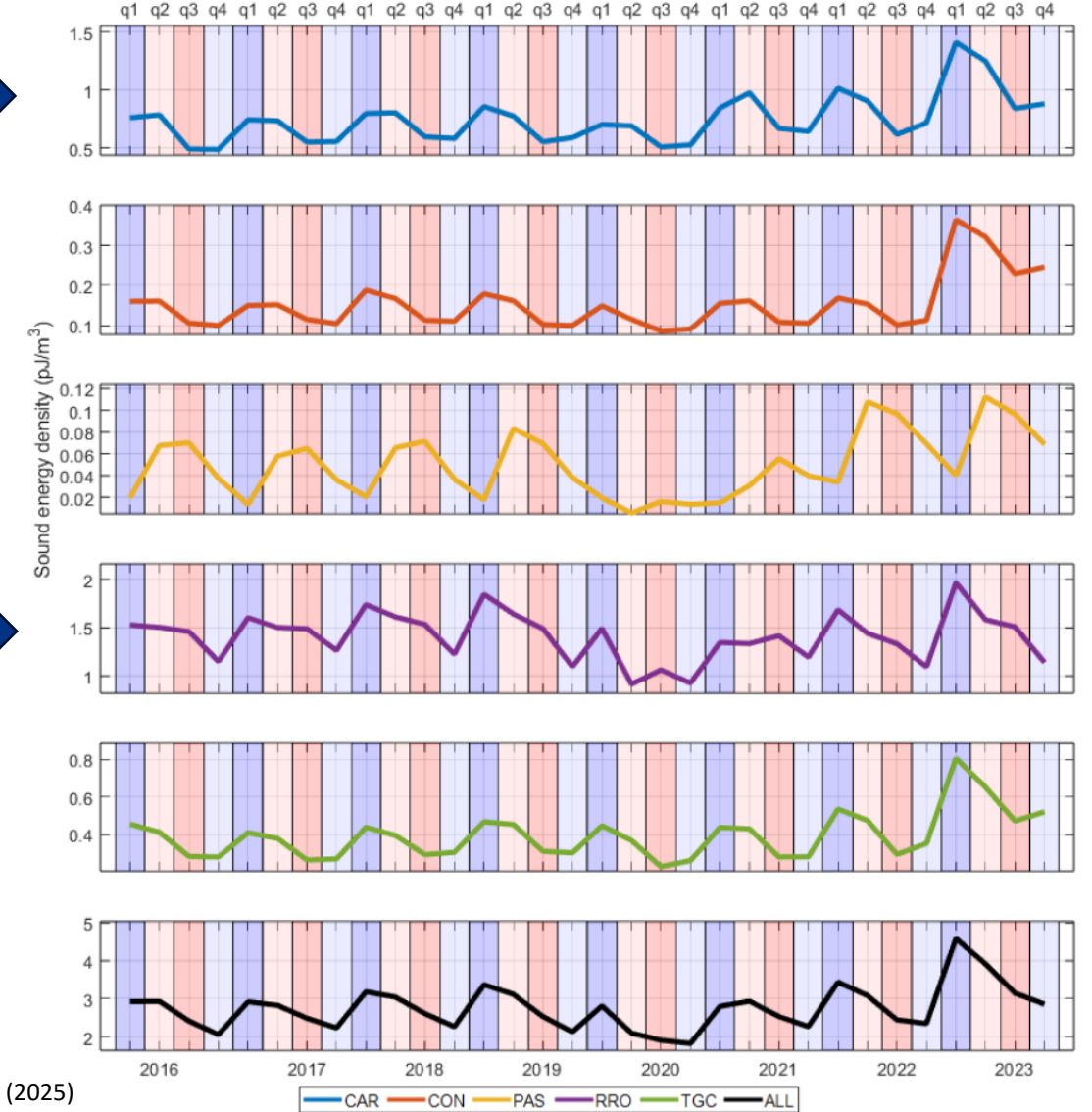
Mediterranean Sea: Annually averaged sound energy density (in pJ/m^3) at (left) 63 Hz and (right) 125 Hz.

Mediterranean Sea (ii)

Mediterranean Sea
f=63 Hz



Mediterranean Sea
f=125 Hz



Source: EMSA, NAVISON (2025)

Figure 37 Mediterranean Sea: Sound energy density (in pJ/m³) of different vessel categories for each quarter in chronological order for 63 Hz.

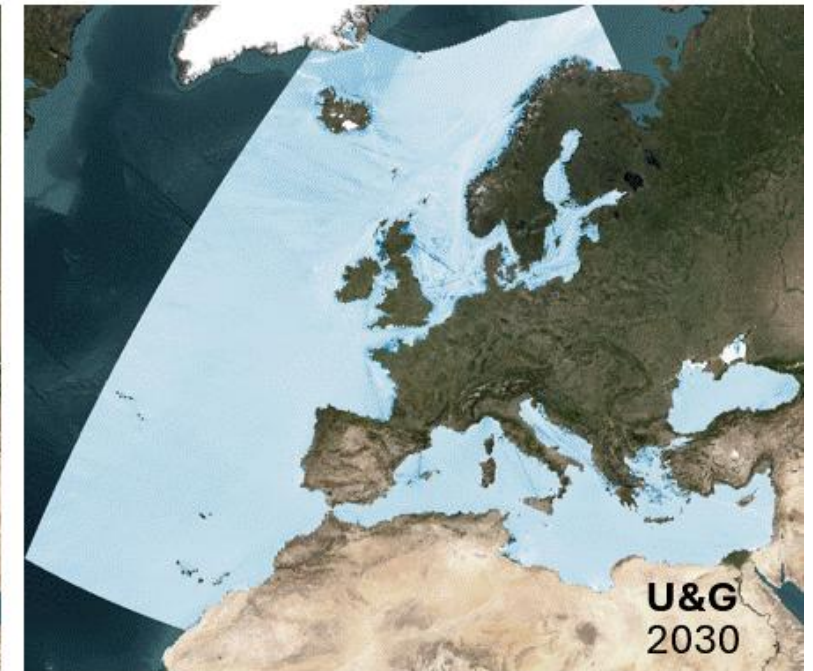
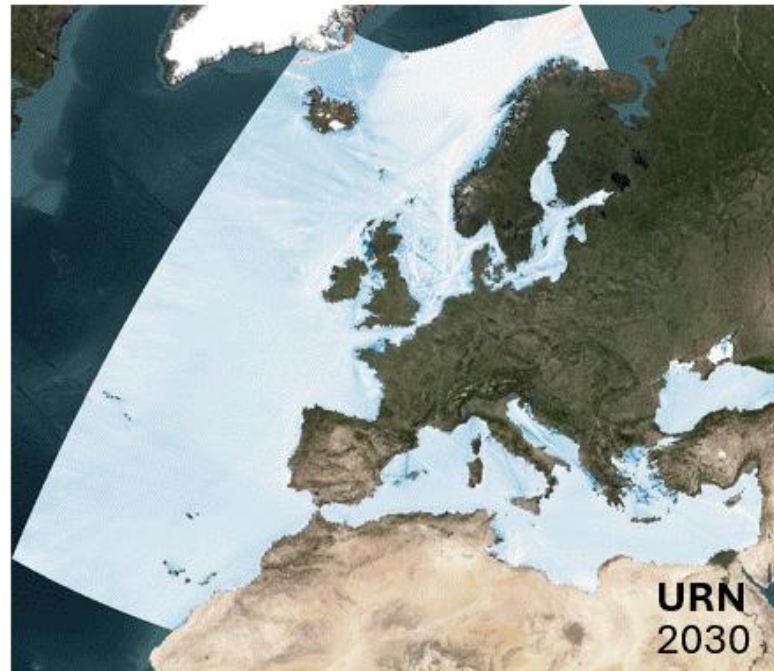
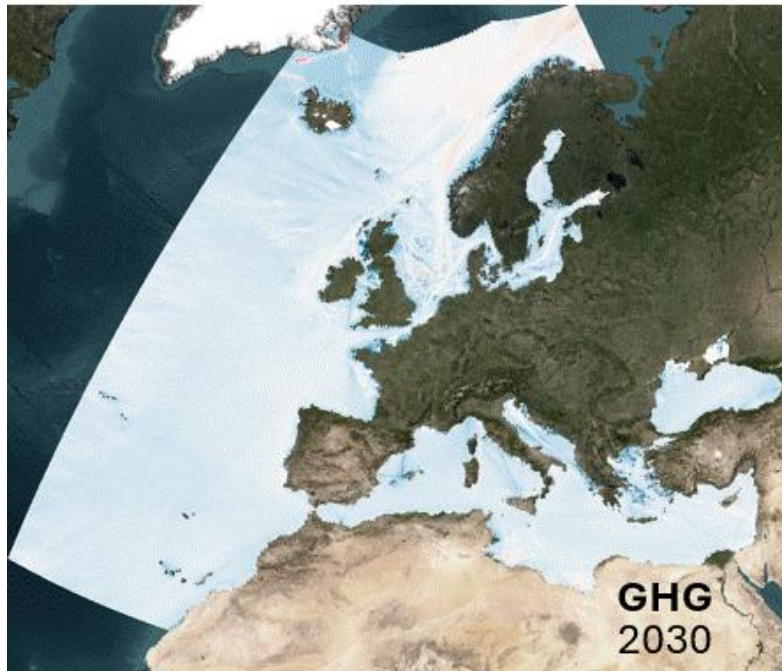
Figure 38 Mediterranean Sea: Sound energy density (in pJ/m³) of different vessel categories for each quarter in chronological order for 125 Hz.

Scenario 0: Business as Usual (BAU)

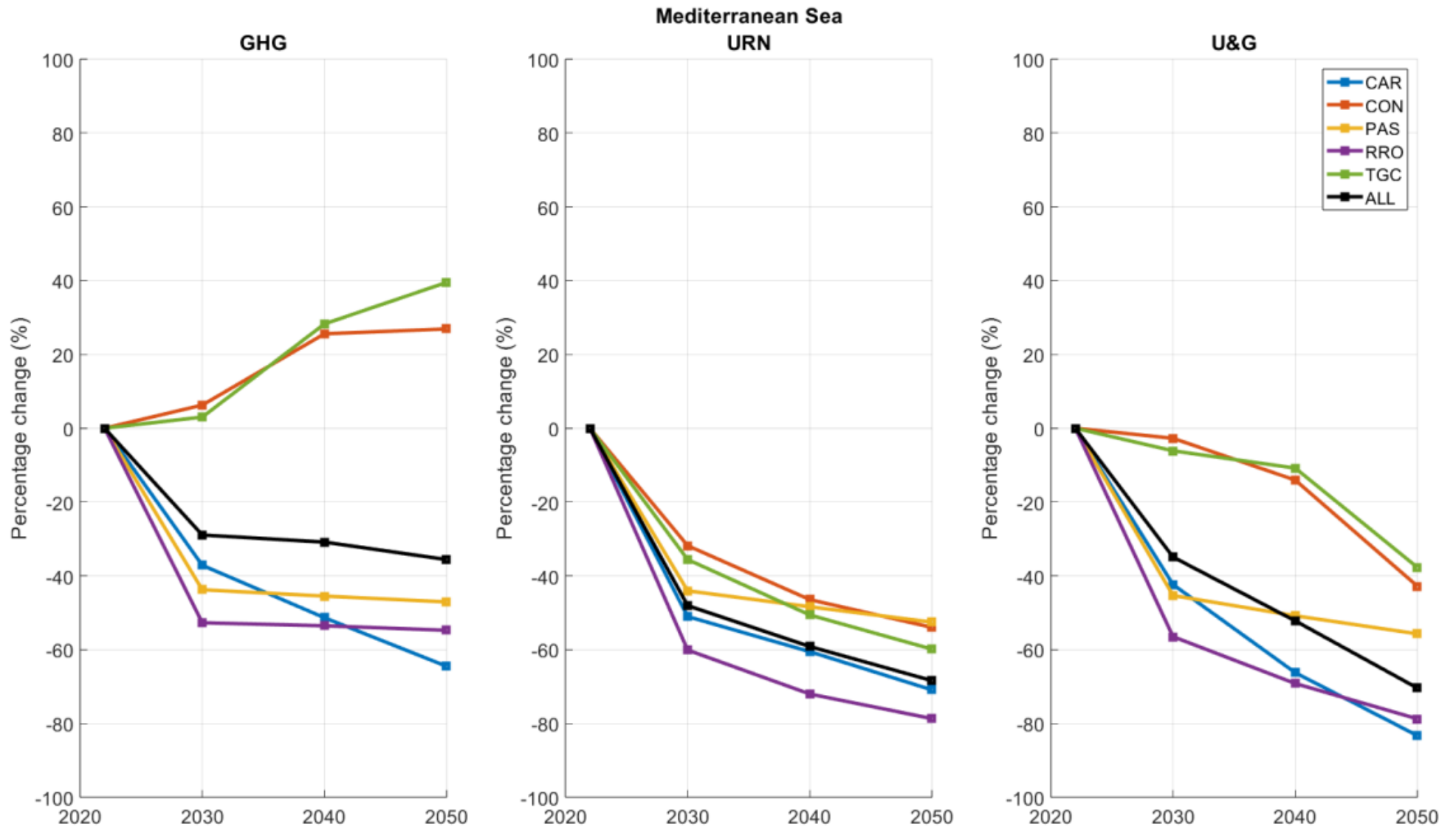
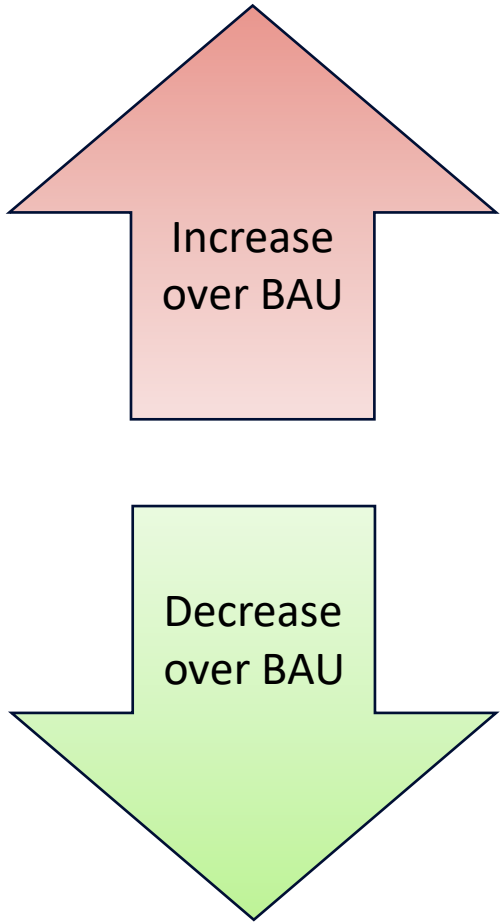
Scenario 1: Green House Gas (GHG) emissions roadmap (GHG)

Scenario 2: Underwater radiated Noise (URN) management (URN)

Scenario 3: URN management plus GHG emissions roadmap (U&G)



Forecast Differences in Med Sea per ship type



Mediterranean Sea: Forecast percentage change in the sound energy density compared to the BAU scenario at 63 Hz.

Underwater noise is one of the most tractable pressures on ocean health we can actually do something about.

The science is there. The policy momentum is real. The technology exists.

NAVISON: <https://emsa.europa.eu/navison>





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