

ID15- PROOF OF CONCEPT FOR DISTRIBUTING UNDERWATER NOISE MAPPING THROUGH EMODNET PHYSICS PORTAL

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Abstract

Underwater noise has been significantly raising in the past decades due to an increment of human-related activities in the oceans such as shipping, industrial activities, seismic explorations, coastal developments, etc. As recognized by the Marine Strategy Framework Directive (MSFD), these activities may have adverse effects on fish and mammals, such as communications masking and modifying predator-prey interactions, or, for the most intense noise sources, direct temporary or permanent physiological damage.

In order to assess and limit the impact of these, the European Commission approved the Marine Strategy Framework Directive which aims to achieve a good environmental status in European waters. Within this directive different environmental challenges are addressed, including the long-term monitoring of underwater noise throughout European waters.

EMODnet Physics is one of the European Marine Observation and Data network thematic portals, which is currently providing access physical parameters of the

oceans. Quonops Online Services is an online and on-demand underwater noise prediction system (qos.quiet-oceans.com) that provides with global statistical maps of both natural and anthropogenic components of the underwater noise. Quonops has been successfully experimented to fulfil the requirements of the MSFD during the BIAS Life+ funded project to provide regional underwater noise mapping of the Baltic Sea.

The feasibility of the connection between Quonops and EMODNet platforms together with the LIDO (Listen to Deep Ocean) network of underwater sound monitoring network has been demonstrated through periodic and automatic delivery of monthly noise maps. This multi-platform technological innovation forms a major step forward towards an operational service dedicated to the operational survey of underwater noise at regional scales.

Keywords – Marine Strategy Framework Directive, Ocean Noise, Noise Map, Noise Modelling, Noise Monitoring

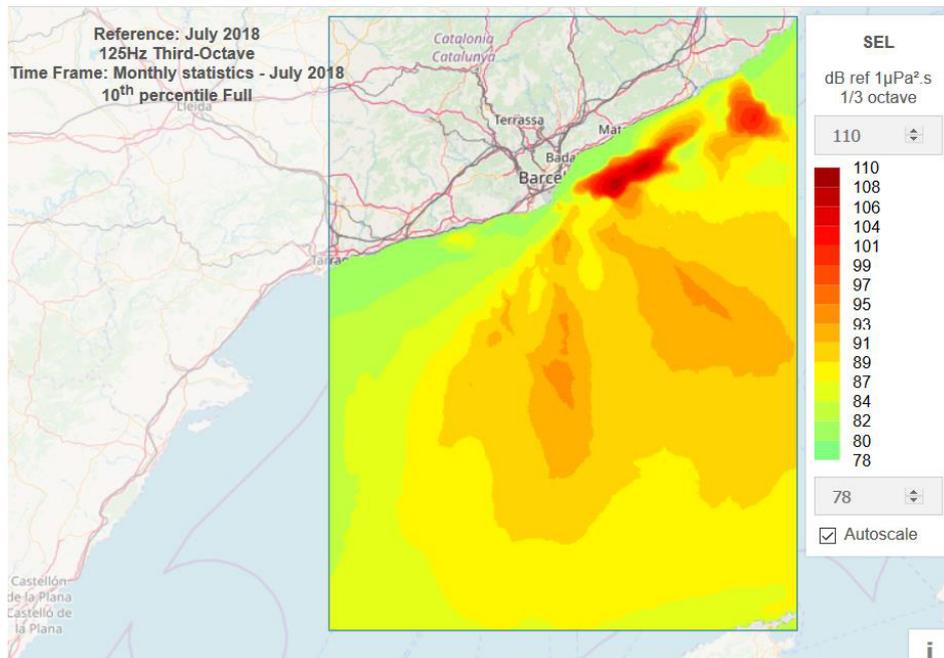


Fig. 1: Statistical noise map offshore Barcelona around the OBSEA monitoring station in July 2018. The map represent the 10th exceedance levels, indicating that the effective noise is equal or higher than the levels represented for 10% of the time, i.e. 3.1 days in July.