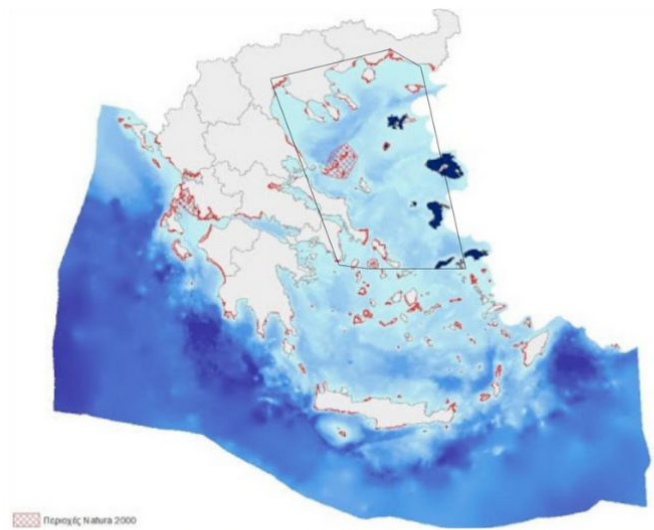


**EMODnet Marine Data for the Offshore
Renewable Energy Sector in the
Mediterranean Sea & Black Sea**

**ESTIMATION OF AVAILABLE
WAVE ENERGY IS IN THE
NORTH AEGEAN
ARCHIPELAGO**

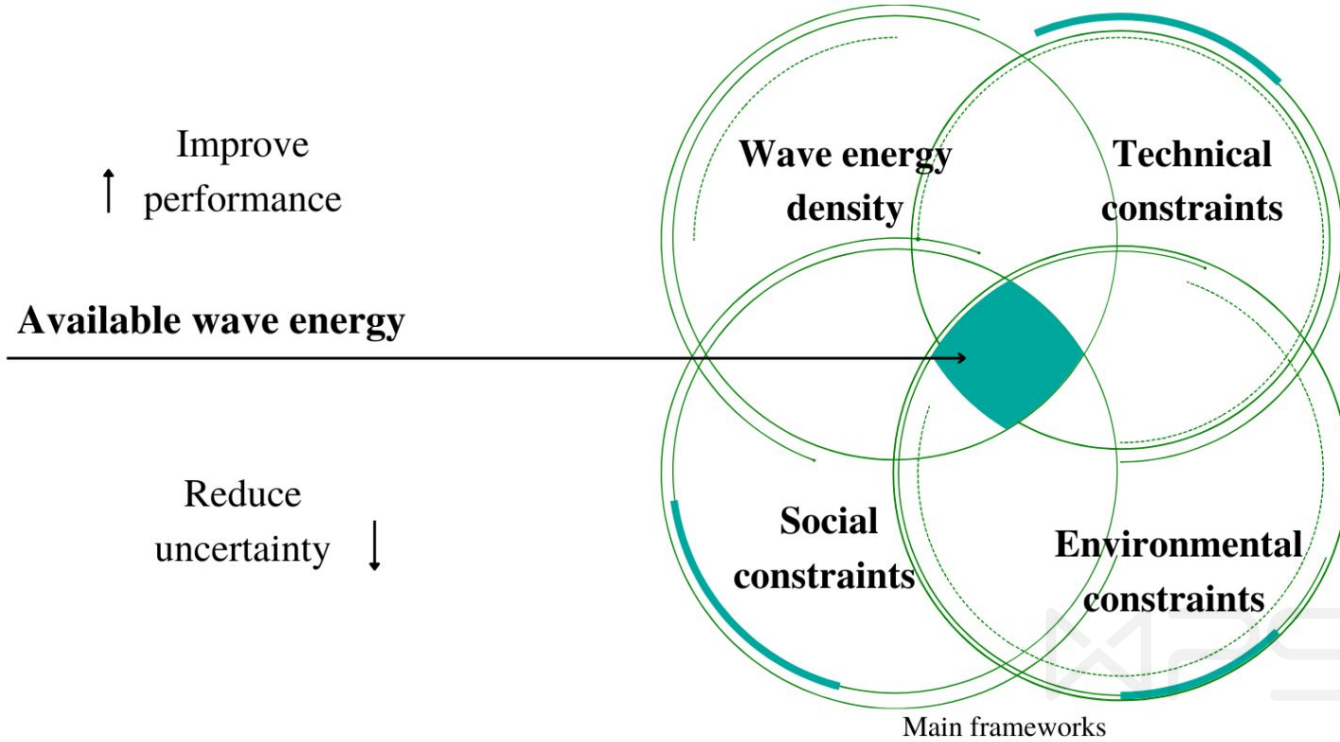
Chrysa Efstratiou, SEALAB, HCMR

20 October 2022



Multi-criteria decision analysis for sustainable wave energy planning in the North Aegean Sea

Internal

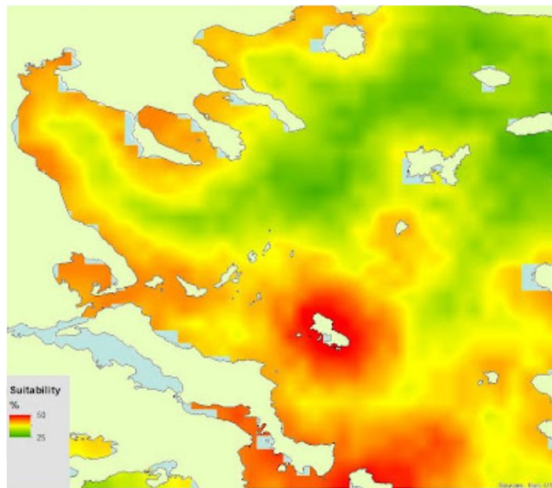


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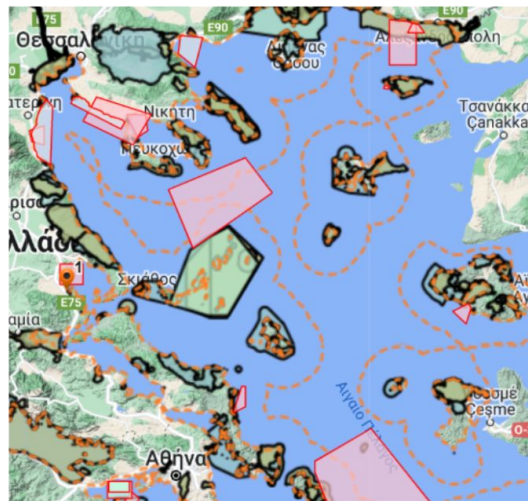
Spatial analysis of marine environmental and human activities data

Criterion	Parameters	Data portals
Wave energy flux	Significant wave heights and mean wave periods	-Mediterranean sea waves reanalysis dataset, produced by HCMR, obtained from the Copernicus Marine Service data portal -In-situ measurements from POSEIDON system (national)
Access to existing infrastructure	Distance to ports and power grid	-EMODnet Human Activities -Independent power transmission operator (national)
User access	Distance to coastline	EMODnet human activities
Constraints	Parameters	Data portals
Geological and geotechnical	Bottom depths, sediment type	EMODnet Geology and Bathymetry portals
Socio-economic	Territorial waters, Military areas, Marine transport services and infrastructure	EMODnet Human Activities Hellenic Navy Hydrographic Service (national)
Environmental	Distance from the shore, habitats and biodiversity hotspots and marine protected areas	EMODnet Biology and Seabed Habitats portals Geodata.gov.gr (national)

Data integration to identify and prioritize best areas for the development of offshore wave energy farms



Assessment of spatial suitability,
according to the available
technologies



Identification of the No-go Areas,
according to the main socio-
ecological criteria

Preliminary assessment of the technical and economic feasibility of potential wave energy projects

- **Comparative evaluation of potential locations for optimal wave energy farm siting**
- **Evaluation of wave power statistics for optimal wave energy farm sizing**
- **Comparison of methods (satellite-based vs in-situ data) projecting best- and worst-case scenarios**
- **Cost-benefit analysis of proposed plans**

- + **There is a need to obtain wave climate data in the coastal zone to analyze the development of onshore wave energy**
- + **There is a need to assess conflicts and complementarities with other commercial activities of Blue Economy**

Thank you

For further information:

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