


# Combining multidisciplinary interoperable EMODnet data products to support conservation and management of Mediterranean Sensitive Habitats: example of the North Adriatic maërl beds.

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## Maërl beds : what we need to know

Maërl beds are assemblages of coralline red algae which form an important benthic habitat known to be a **hot-spot of biodiversity**. Maërl beds are target of several **environmental conservation policies** (UNEP-MAP, EU Habitats Directive, EU MSFD), however, the **lack of relevant geospatial data** of the distribution of this habitat in Mediterranean countries significantly hinders the effective implementation of these policies.

To overcome limited data availability, habitat spatial distribution has been modelled according to a set of environmental variables (Martin et al, 2014).

In the North Adriatic, multiple human pressures and environmental modifications threaten this Sensitive Habitat.

### Environmental variables needed to model maërl occurrence:

- Phosphate concentration
- Sea surface current
- Silicate concentration
- Bathymetry
- Bottom salinity
- Euphotic depth
- Seafloor slope



## Policy landscape:



## Major threats to these fragile habitats:

- bottom otter trawling
- anchoring
- dredging
- extraction of sand for artificial beaches
- aquaculture
- offshore dumping
- chemical pollution
- global warming
- ocean acidification



## EMODnet's role:

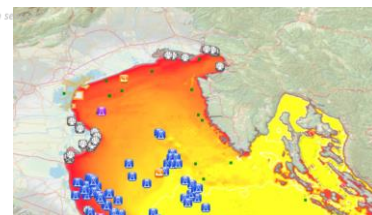
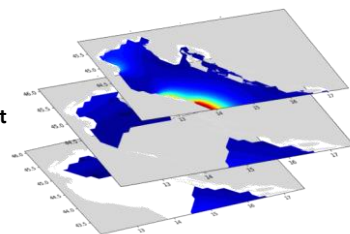
EMODnet (European Marine Observation and Data Network), established in 2009, is a network of institutions collecting, managing and giving access to multidisciplinary (i.e. bathymetry, geology, seabed habitats, physics, chemistry, biology and human activities) (meta) data and data products concerning the European Sea basins.

- ❖ By providing **multidisciplinary, standard, interoperable** data aligned with the **FAIR** principles required to assist modelling Sensitive Habitat distribution and to assess possible threats, EMODnet can play a key role to support ecological research as well as environmental management and conservation.

## North Adriatic example:



**Phosphate concentration maps at several depths**



### Combined product:

- Maërl beds sites
- Bathymetry
- Human activities (offshore plat forms, aquaculture and dredging sites)

## Literature:

Martin, C., Giannoulaki, M., De Leo, F. et al. Coralligenous and maërl habitats: predictive modelling to identify their spatial distributions across the Mediterranean Sea. Sci Rep 4, 5073 (2014). <https://doi.org/10.1038/srep05073>