



**TEDEN SREDOZEMSKO OBALE
IN MAKROREGIONALNIH
STRATEGIJ**

Izola, Slovenija
16. – 20. september 2024

**MEDITERRANEAN COAST
AND MACRO-REGIONAL
STRATEGIES WEEK**

Izola, Slovenia
16 – 20 September 2024



Consultation within TSG 3: Construction Activities in the Sea and on the Seashore and Achieving good environmental status of the Sea



2021
2030 United Nations Decade
of Ocean Science
for Sustainable Development

Coastal constructions and their pressures and impacts on benthic habitat types, communities and species in the Slovenian Sea

Borut Mavrič,
National Institute of Biology, Marine Biology Station

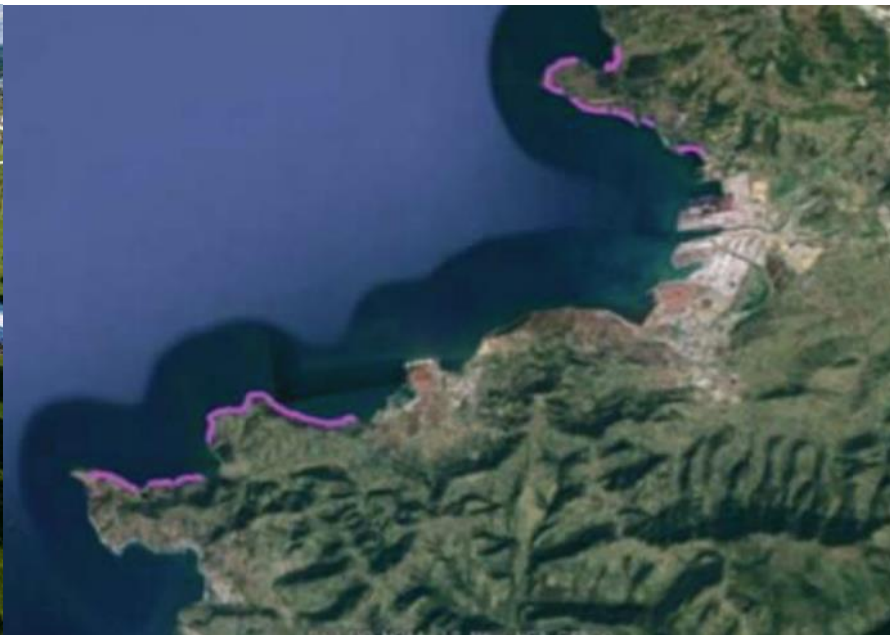




Source: <https://www.esa.int/>

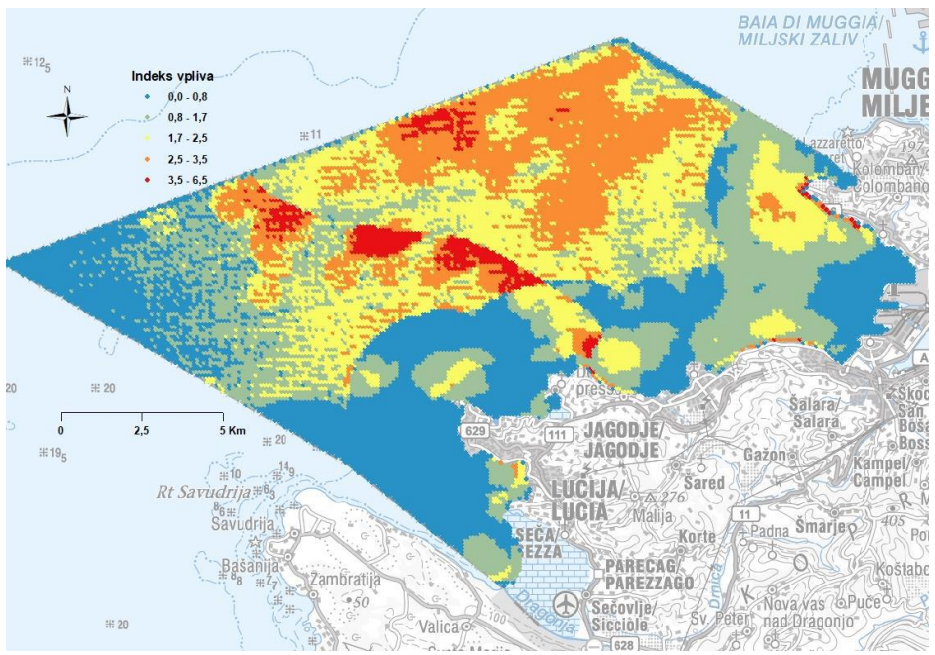
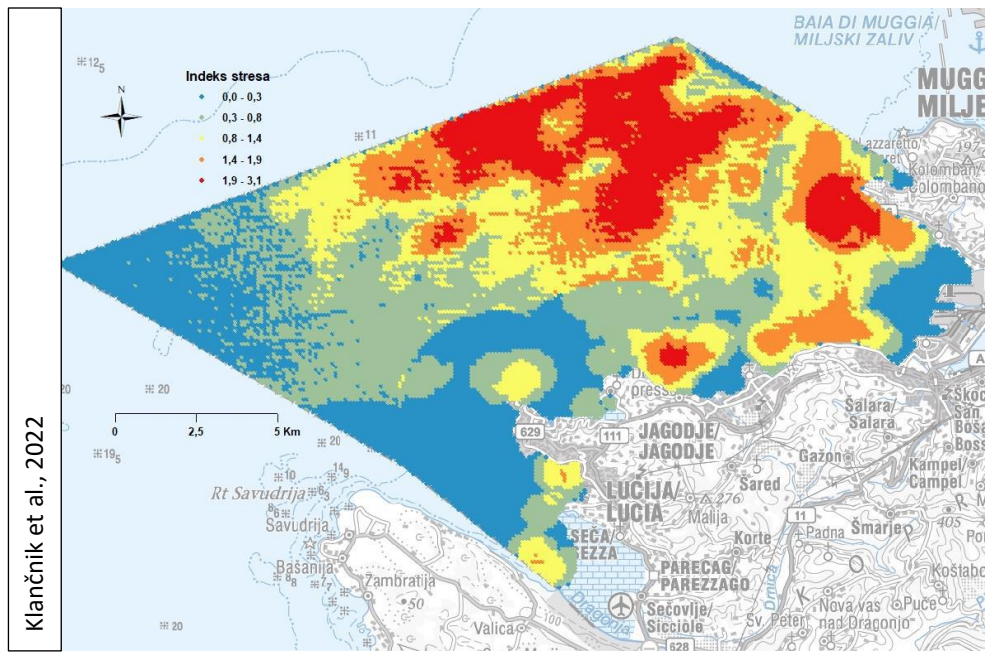
Slovenian coast is part of highly urbanised area.

Only around 20 % of the coastline is in near natural state.



Pressures

Impacts/Effects



Klančnik et al., 2022

Intensity, duration, frequency, extent

sensitivity, resilience, resistance





Pressures and Impacts on the Seabed

- Loss of marine area
- Substrate change
- Changes hydrodynamics
- Lower water quality
- Siltation, abrasion

- Loss of (mikro)habitat
- Change in BDV
- Change in ecosystem services



Introducing pebbles

- The habitat is not naturally present
- It has the lowest species richness
- It is highly movable; sinks into mud, gets redistributed deeper and further from coast, gets thrown on land



TEDEN SREDOZEMSKO OBALE
IN MAKROREGIONALNIH
STRATEGIJ

Izola, Slovenija
16. – 20. september 2024



MEDITERRANEAN COAST
AND MACRO-REGIONAL
STRATEGIES WEEK

Izola, Slovenia
16 – 20 September 2024



Introduction of coastal structures



- Piers, walls, pilars, mourgings
- Alochtonous material
- Different structure, morphology (smooth, even, vertical positions, open oirizontal places)
- Different light conditions
- NIS, change in composition of species (jellyfish)
- Changes of bottom and BDV around the structure (buffer zone)



Impacts of Coastal Constructing on Seagrass Meadows and Algal Vegetation



TEDEN SREDOZEMSKJE OBALE
IN MAKROREGIONALNIH
STRATEGIJ

MEDITERRANEAN COAST
AND MACRO-REGIONAL
STRATEGIES WEEK

Izola, Slovenija
16. – 20. september 2024

Izola, Slovenia
16 – 20 September 2024

- Sediment deposition and redistribution
- Lower transparency
- Loss of seagrass meadows (0,908 km²; 30 % of coverage between 2014-2020)
- Loss of macroalgal biomass, changes in species composition
- Higher herbivory pressure on remaining parts
- Sediment destabilisation, change in sediment composition, shifts in community composition and its services



Thank you

- You have to know where you want to build, to know your possibilities and restraints
- Proper planning and execution of works minimises impact
- Our coastal habitat types are already highly impacted
- It is harder and more expensive to restore than protect
- MSFD restraints - Loss of natural habitats < 2 %; < 25 % adversely affected

