



Our ocean and cities in the times of Anthropocene

Luisa Perini

Regione Emilia-Romagna

Settore difesa del territorio- Area Geologia, Suoli e Sismica -



#EMD2022 #OceanLiteracy



In collaboration with students of the University of Bologna

The Emilia-Romagna coastal zone: vulnerability and resources

An area actively seeking a sustainable compromise among the different economic sectors, environment protection and cultural heritage valorization

Most relevant economies are:

- **Tourism** (overall contributes for the 11% of the regional GDP)
- **Transport** and harbour facilities (26 ports/marinas)
- **Aquaculture** (contribute to the 45% of national production)
- **Fishery** (small scale- 609 vessels – 4500 workers)
- **Energy** (oil&gas and the uncoming renewable energy)

Criticalities:

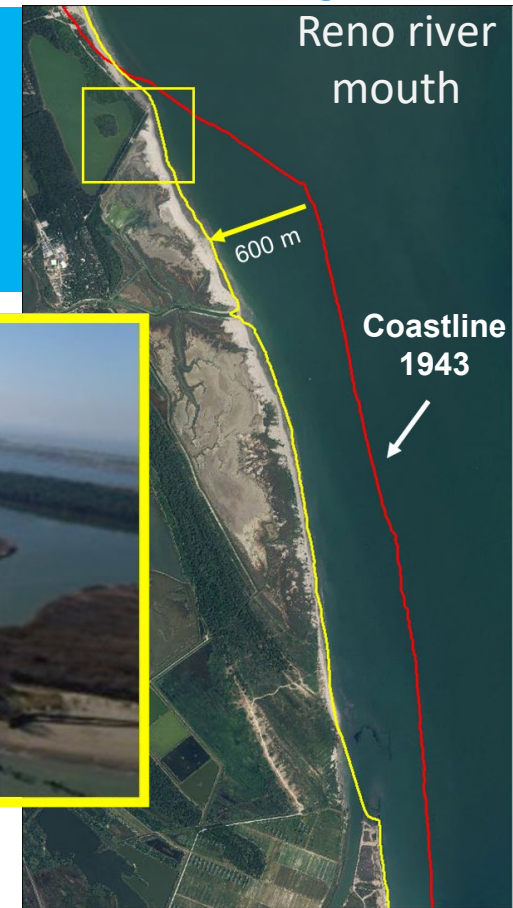
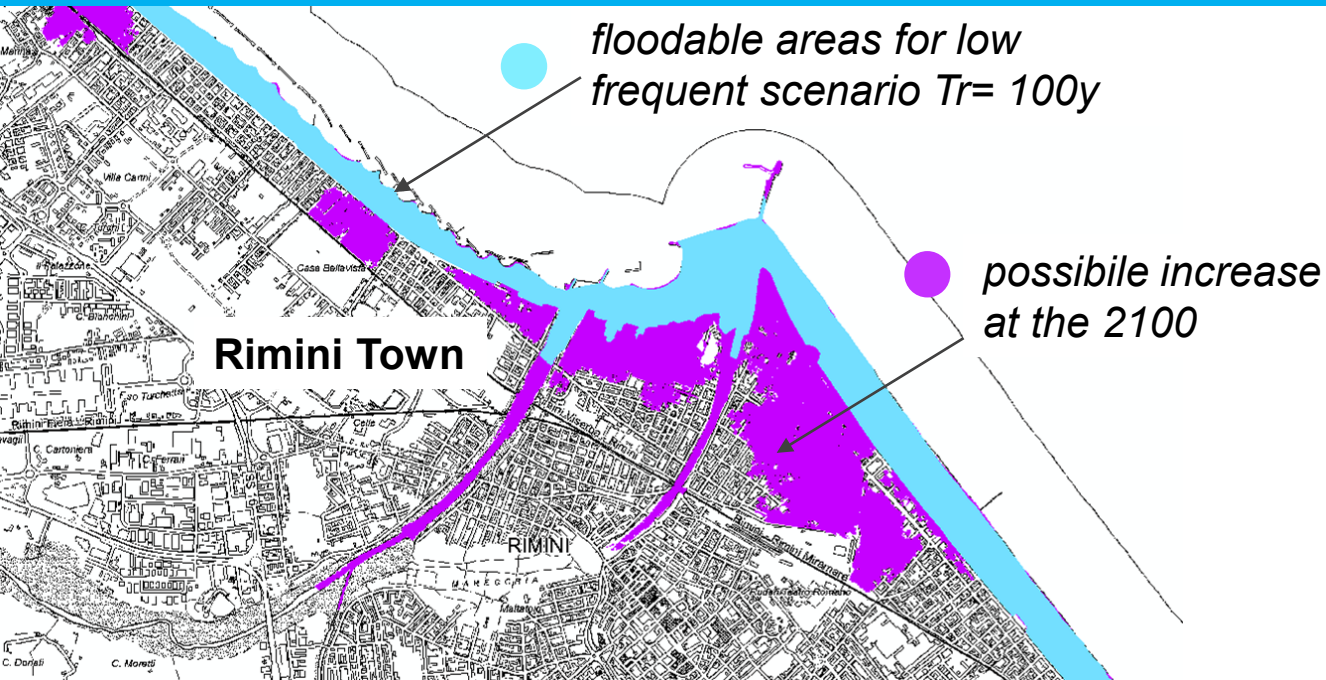
- Large areas below mean sea level behind the littoral
- Coastal erosion affects over the 47% of the shoreline
- Urban spread over 400% during the last 70 years



Coastal cities and natural areas face problems related to climate changes

Consequence of sea-level rise

- Increase of floodable surfaces in the coastal cities
- Aquifer and soils salinization and salt intrusion in the rivers
- Faster coastal retreat and loose of natural ecosystems and resources
- Impacts on anthropic infrastructures/activities and thus on the society

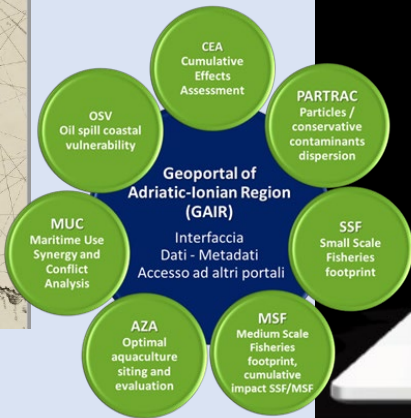


knowledge and tools necessary to manage the coastline and cities

According the EU DIR 89/2014 on **Maritime Spatial Planning** - several studies and databases have been developed to analyze conflicts and synergies among sea and coastal uses; ER approved a proposal of spatial planning (DEL. 277/2021)

Between land and sea: analysis and proposals for Maritime Space Planning in Emilia-Romagna - - <https://ambiente.regione.emilia-romagna.it/it/geologia/pubblicazioni/poster/tra-la-terra-e-il-mare-analisi-e-proposte-per-la-pianificazione-dello-spazio-marittimo-in-emilia-romagna-2018>

ADRION PORTODIMARE project The GAIR – Adriatic Ionian geoportal



Barbanti & Perini, 2018

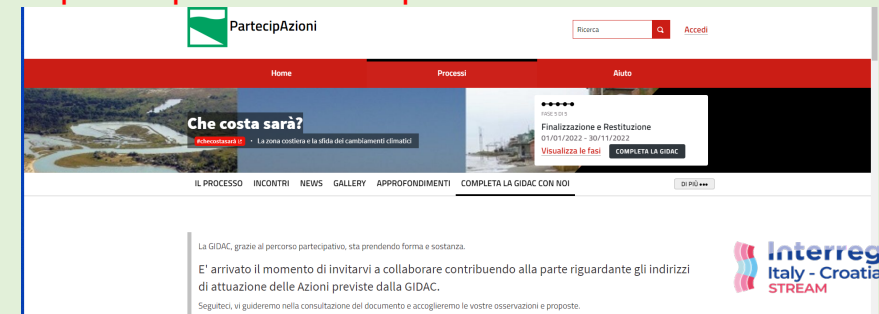
The **Coastal Adaptation Strategy (GIDAC)** - as foreseen by climate change mitigation and adaptation regional strategy

Improve the ICZM vision considering the climate changes issues

- Completely updated the knowledge framework
- Developed a participatory process
- Processed new guidelines



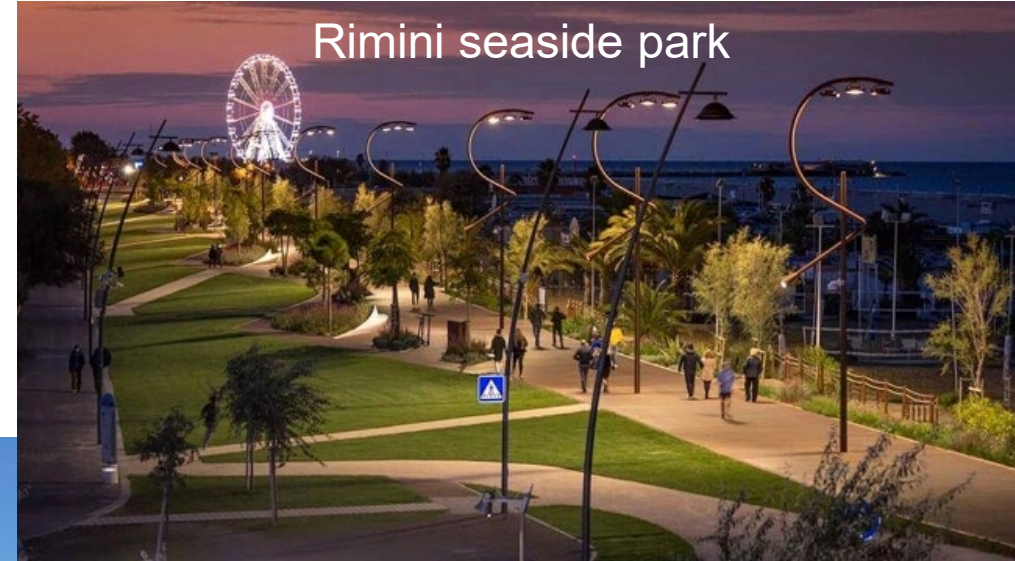
<https://partecipazioni.emr.it/processes/che-costa-sara/f/311/>



La GIDAC, grazie al percorso partecipativo, sta prendendo forma e sostanza. E' arrivato il momento di invitarvi a collaborare contribuendo alla parte riguardante gli indirizzi di attuazione delle Azioni previste dalla GIDAC. Seguiteci, vi guideremo nella consultazione del documento e accoglieremo le vostre osservazioni e proposte.



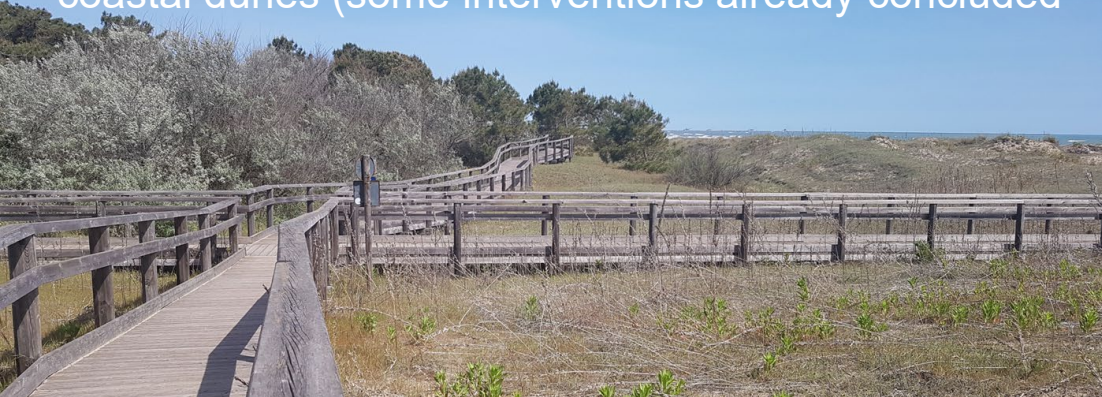
New approach for coastal management: nature based solutions and green infrastructures



Rimini seaside park

Feed the beaches trough **nourishment projects**: ordinary and extraordinary projects (every 5 years)

Protection of coastal and marine ecosystems – e.g. coastal dunes (some interventions already concluded)





<https://ambiente.regione.emilia-romagna.it/it/geologia/geologia/costa/msp>

luisa.perini@regione.emilia-romagna.it

Thank you