Harmonization and **N**etworking for contaminant assessment in the **I**onian and **A**driatic Seas

ADRION HarmoNIA Final event & ADRION Thematic Cluster on Coastal and Marine Environment management activities Supporting MSFD, MSP and Protocols of Barcelona Convention

18th June 2020.

Evaluation of coastal vulnerability to marine pollution dispersion on HarmoNIA Geoportal

Strategy for risk assessment
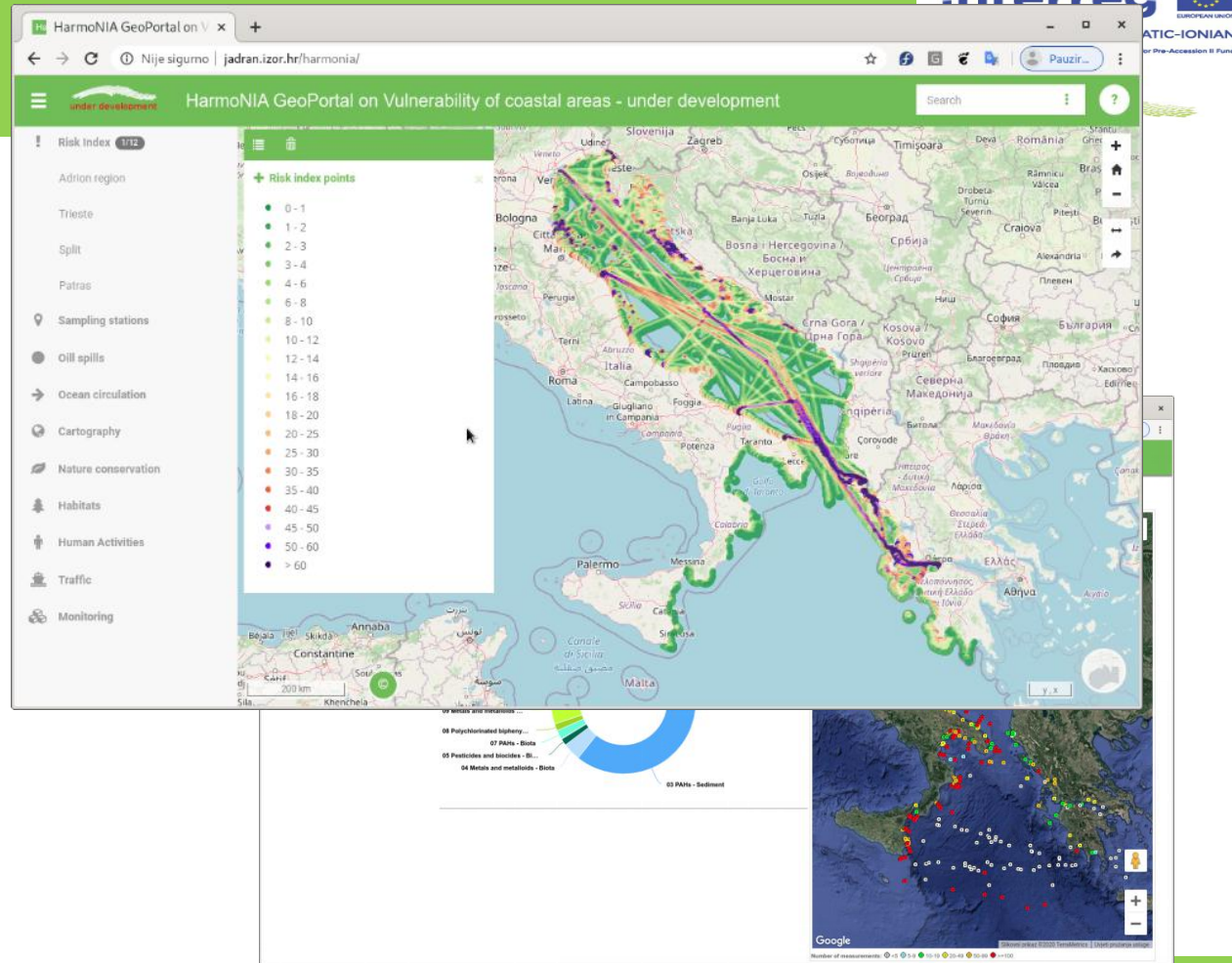
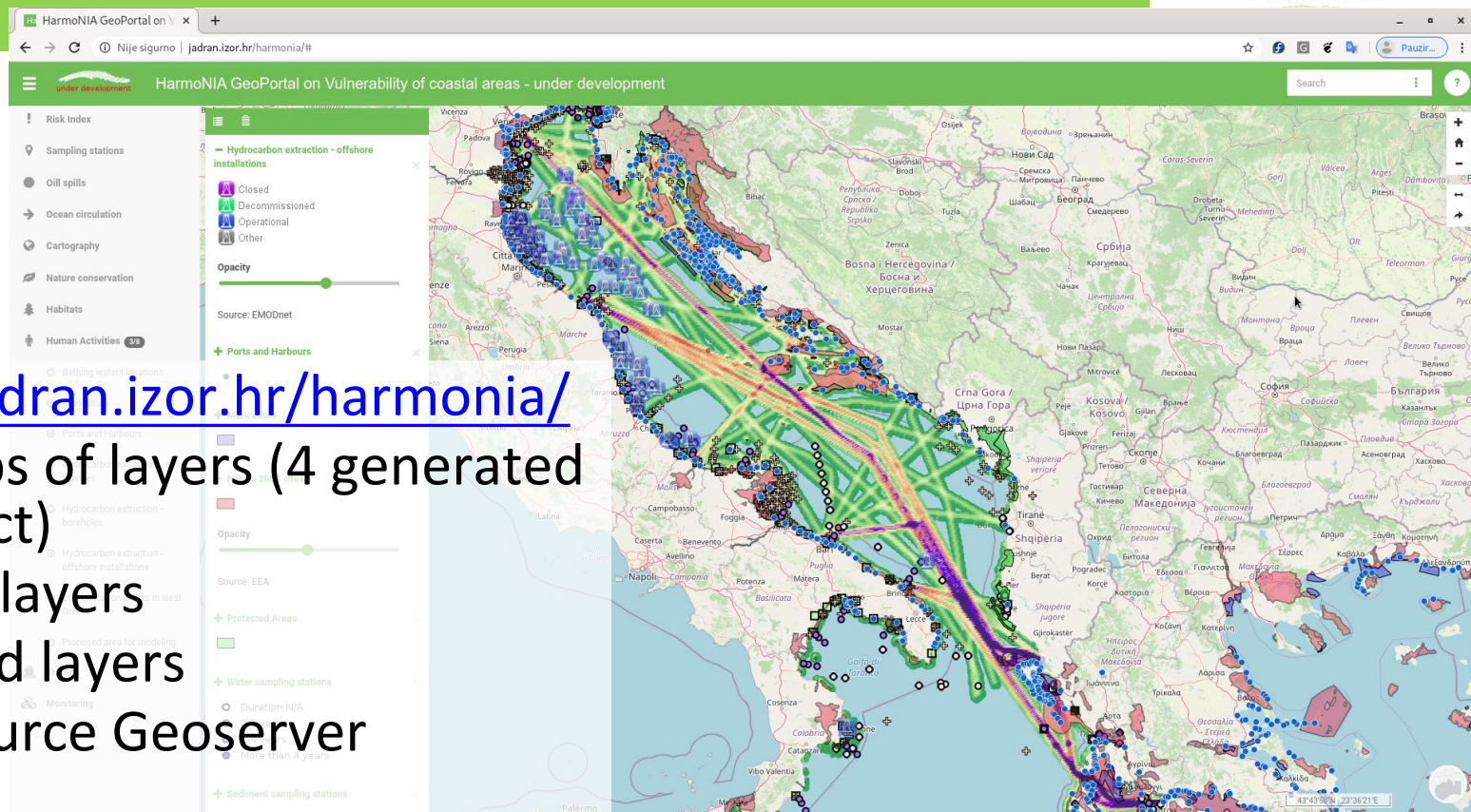**Institute of Oceanography and Fisheries, Split, Croatia**
Damir Ivanković, Ivan Vučić

Introduction

- Focus on online products

- Products avaliable after formal ending of project

- Source of information

- Stakeholders, scientists and general public

HarmoNIA Geoportal

- http://jadran.izor.hr/harmonia/
- 10 groups of layers (4 generated by project)
- Total 58 layers
- Animated layers
- Open source Geoserver

Layers Origin

- HarmoNIA project
- EMODnet
- HAZADR project
- European Commisson
- EEA
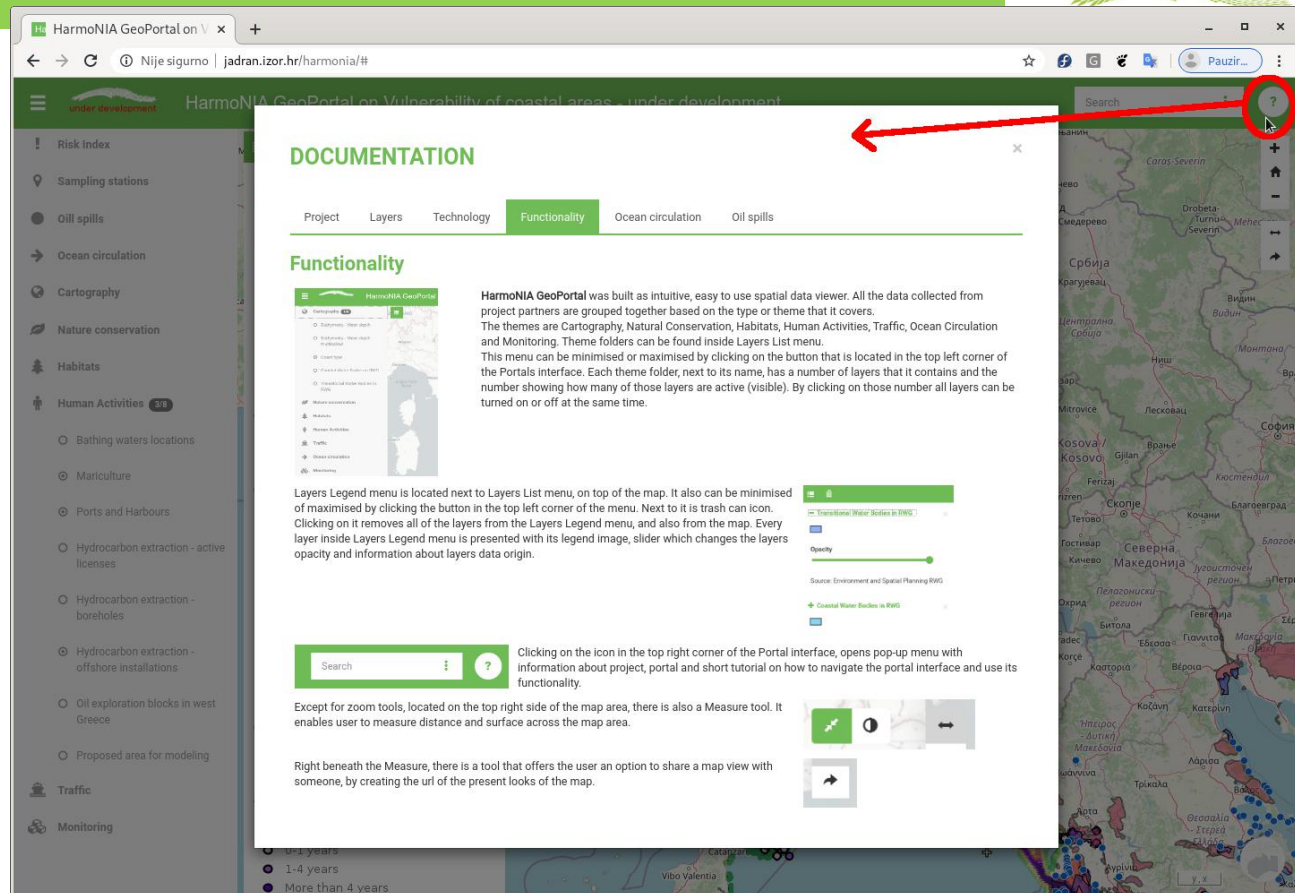
About Geoportal and have to use it

- Help section
- Upper right corner

Methodology used in the oil spill risk assessment
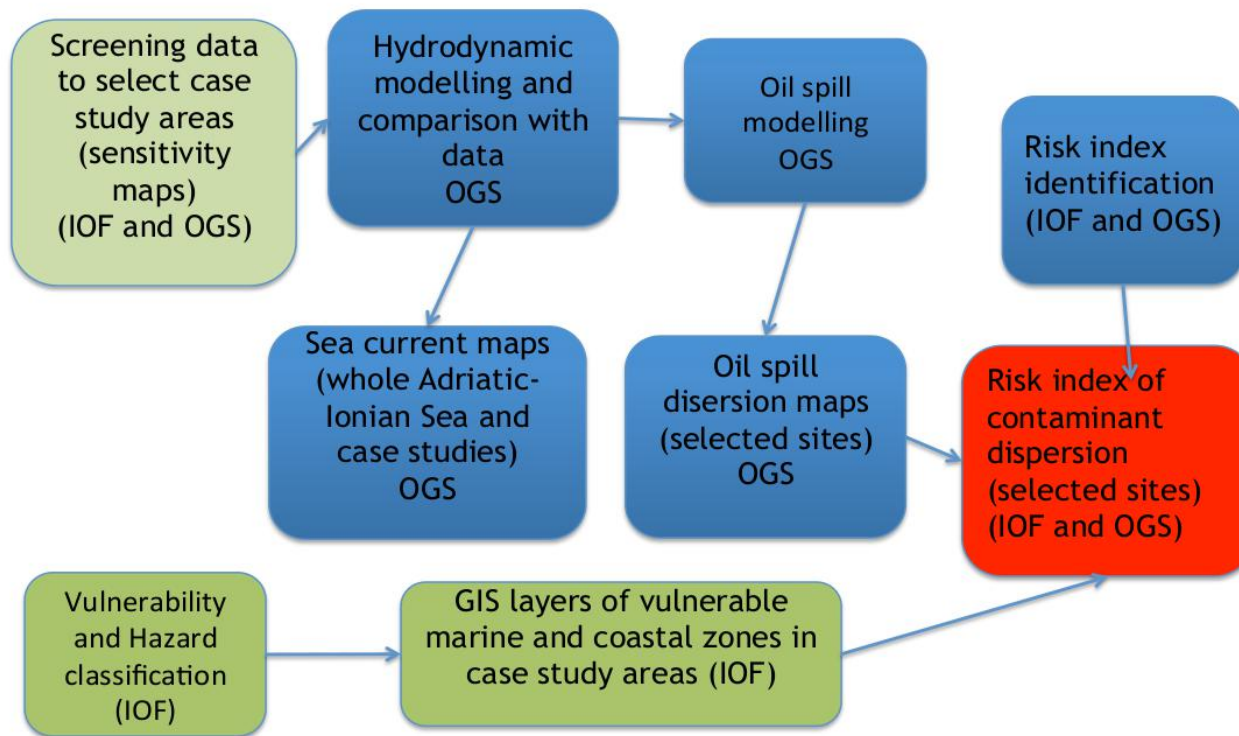
GIS layers of vulnerable marine and coastal zones

- Mariculture
- Protected areas
  – Ramsar sites data
  – Natura 2000 data
  – National data about natural protected areas
- Areas of socio-economic value
  – Bathing Water Directive
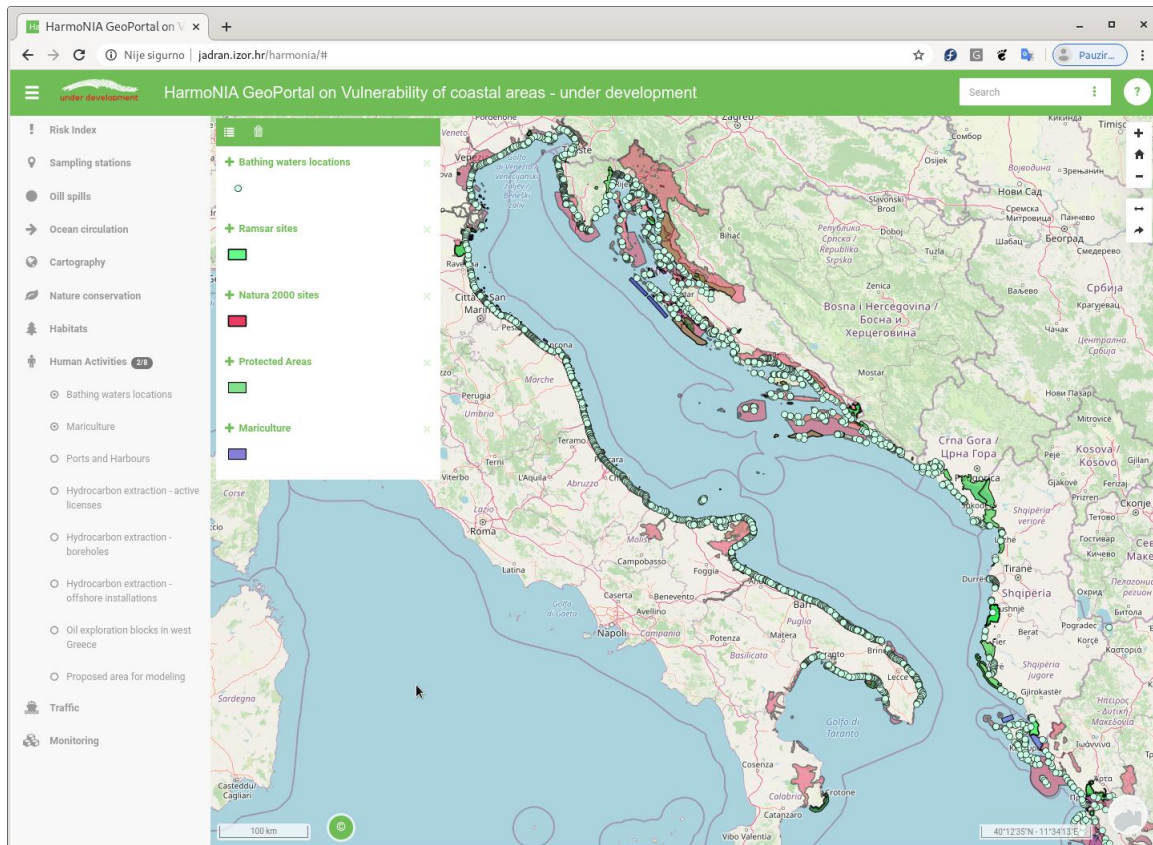
Vulnerability index

- All Natural protected areas (weight factor 1)
  - 100m buffer Index 3 (v1)
  - 3500m buffer Index 2 (v2)
  - 5000m buffer Index 1 (v3)
- Beaches (weight factor 3)
  - 300m buffer Index 3 (v1)
  - 35000m buffer Index 2 (v2)
  - 5000km buffer Index 1 (v3)
- Mariculture sites (weight factor 2)
  - 300m buffer Index 3 (v1)
  - 3500m buffer Index 2 (v2)
  - 5000m buffer Index 1 (v3)
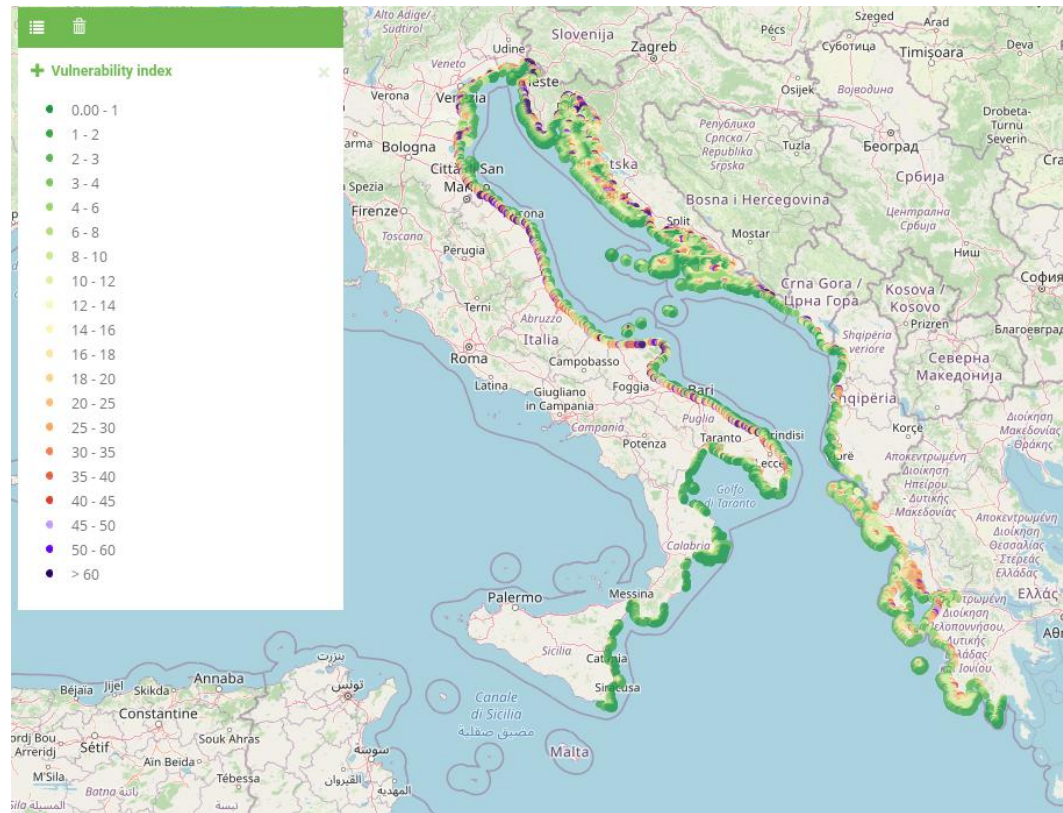
vtot=v1*3+v2*2+v3

GIS layers of oil spill hazard

- Shipping lanes
- Ferry routs
- Ports and harbors
- Offshore platforms
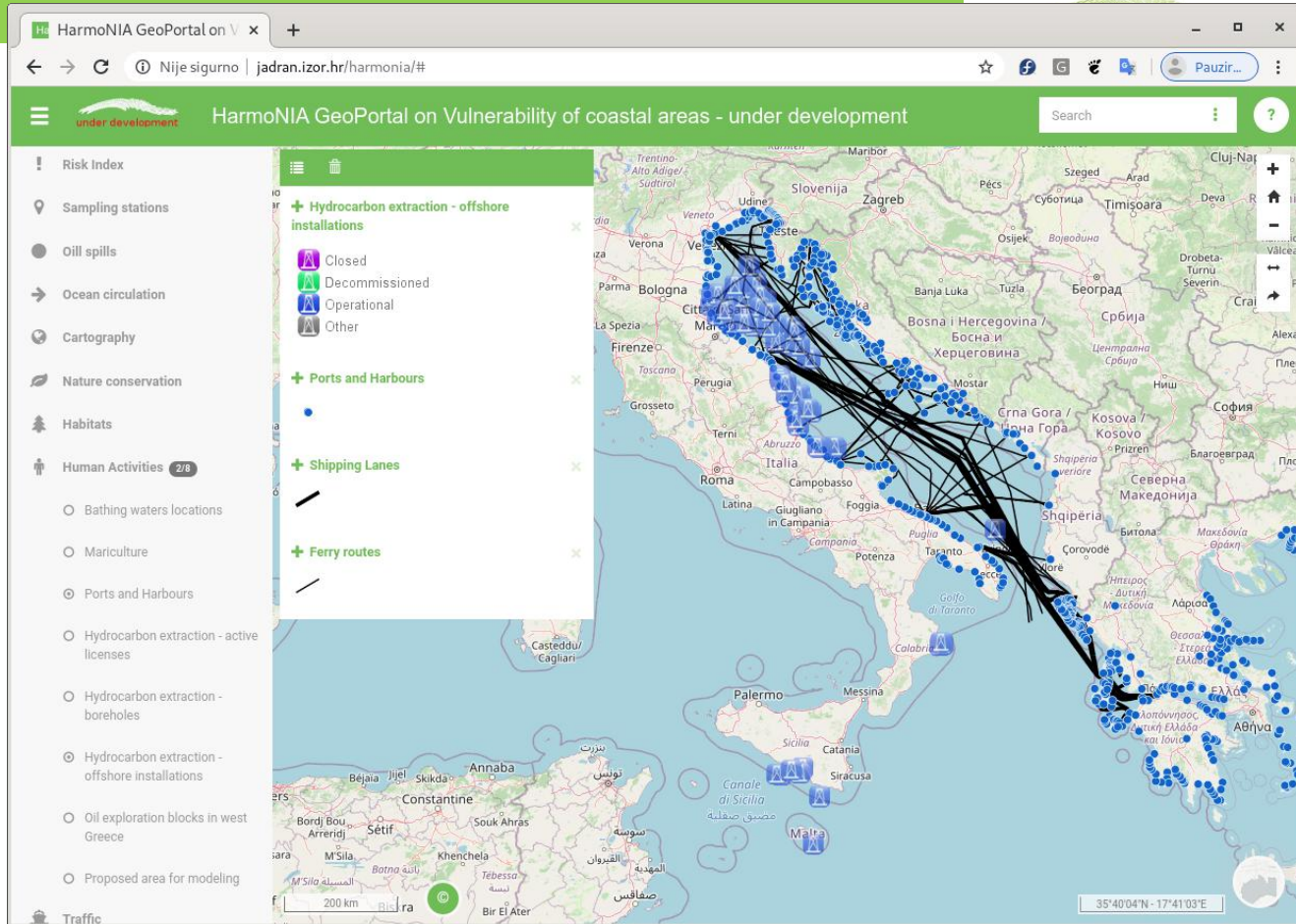
Hazard index

- Shipping lanes (weight factor 4)
  - 2000m buffer Index 3 (h1)
  - 3500m buffer Index 2 (h2)
  - 5000m buffer Index 1 (h3)
- Ferry route (weight factor 1)
  - 2000m buffer Index 3 (h1)
  - 3500m buffer Index 2 (h2)
  - 5000m buffer Index 1 (h3)
- Ports and harbors (weight factor 1)
  - 2000m buffer Index 3 (h1)
  - 3500m buffer Index 2 (h2)
  - 5000m buffer Index 1 (h3)
- Off shore platforms (weight factor 7)
  - 2000m buffer Index 3 (h1)
  - 3500m buffer Index 2 (h2)
  - 5000m buffer Index 1 (h3)
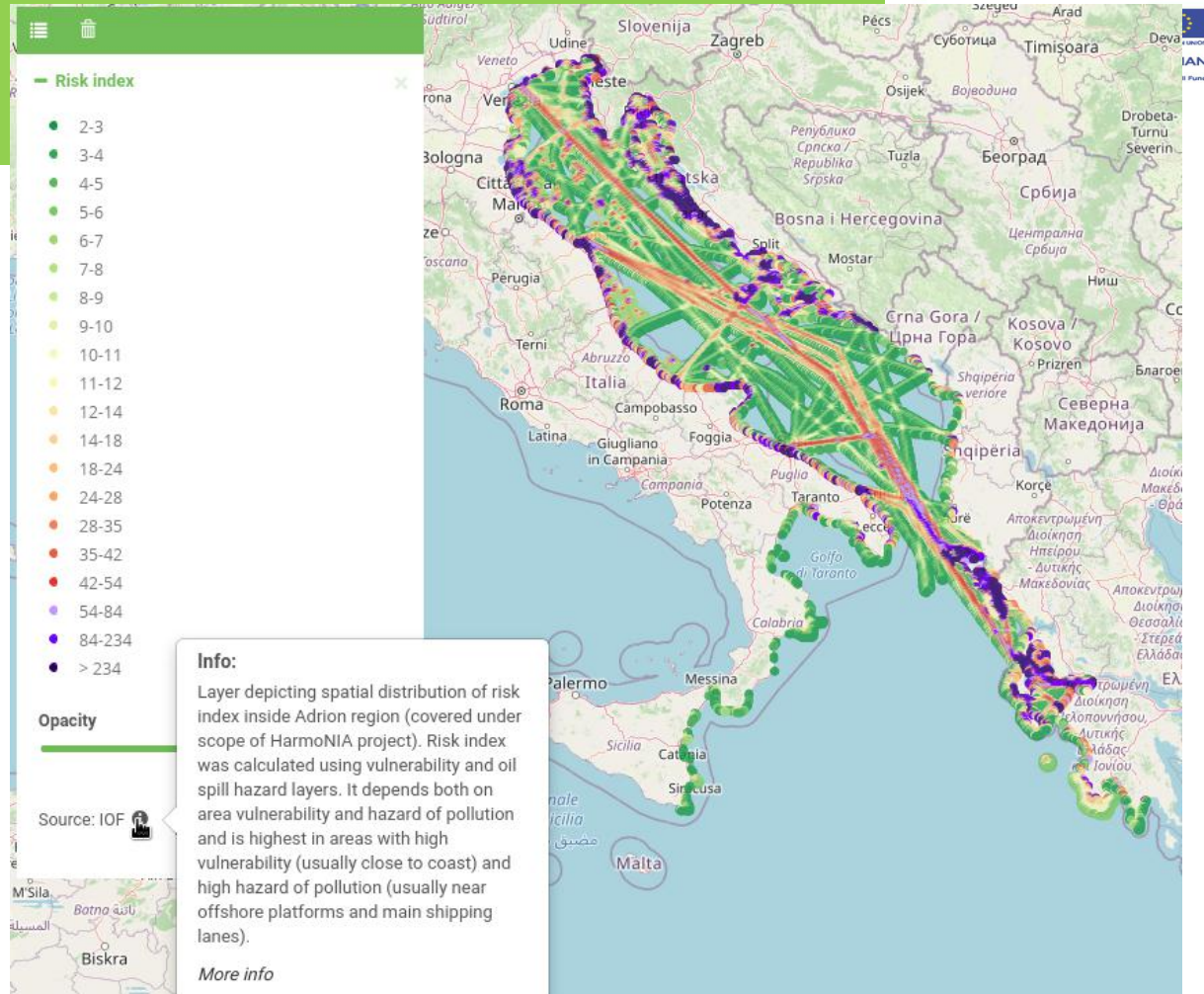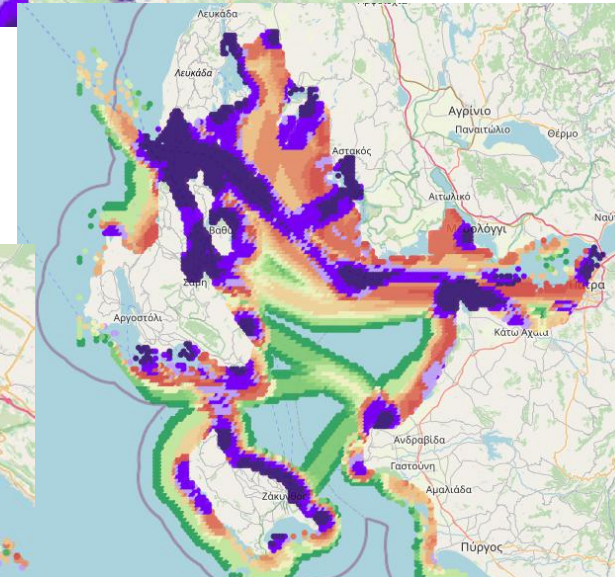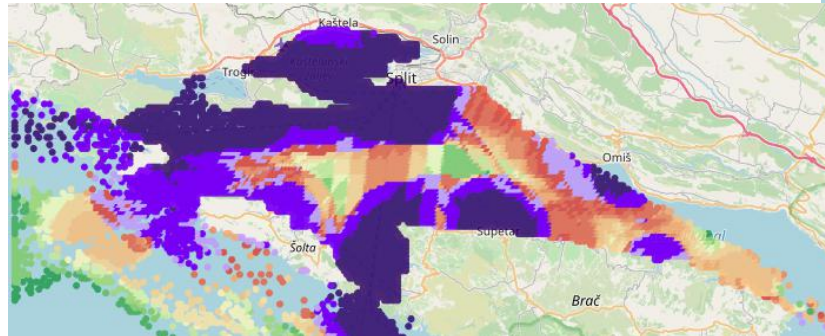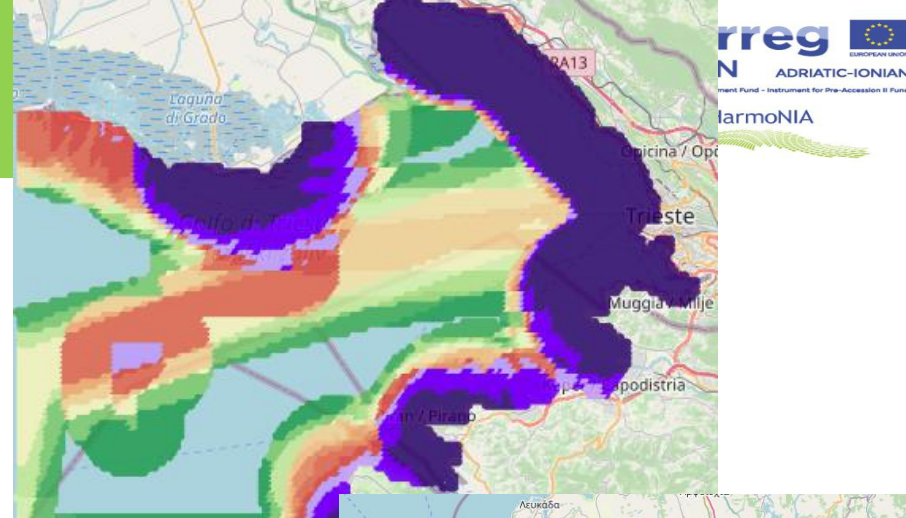
  htot=h1*3+h2*2+h3
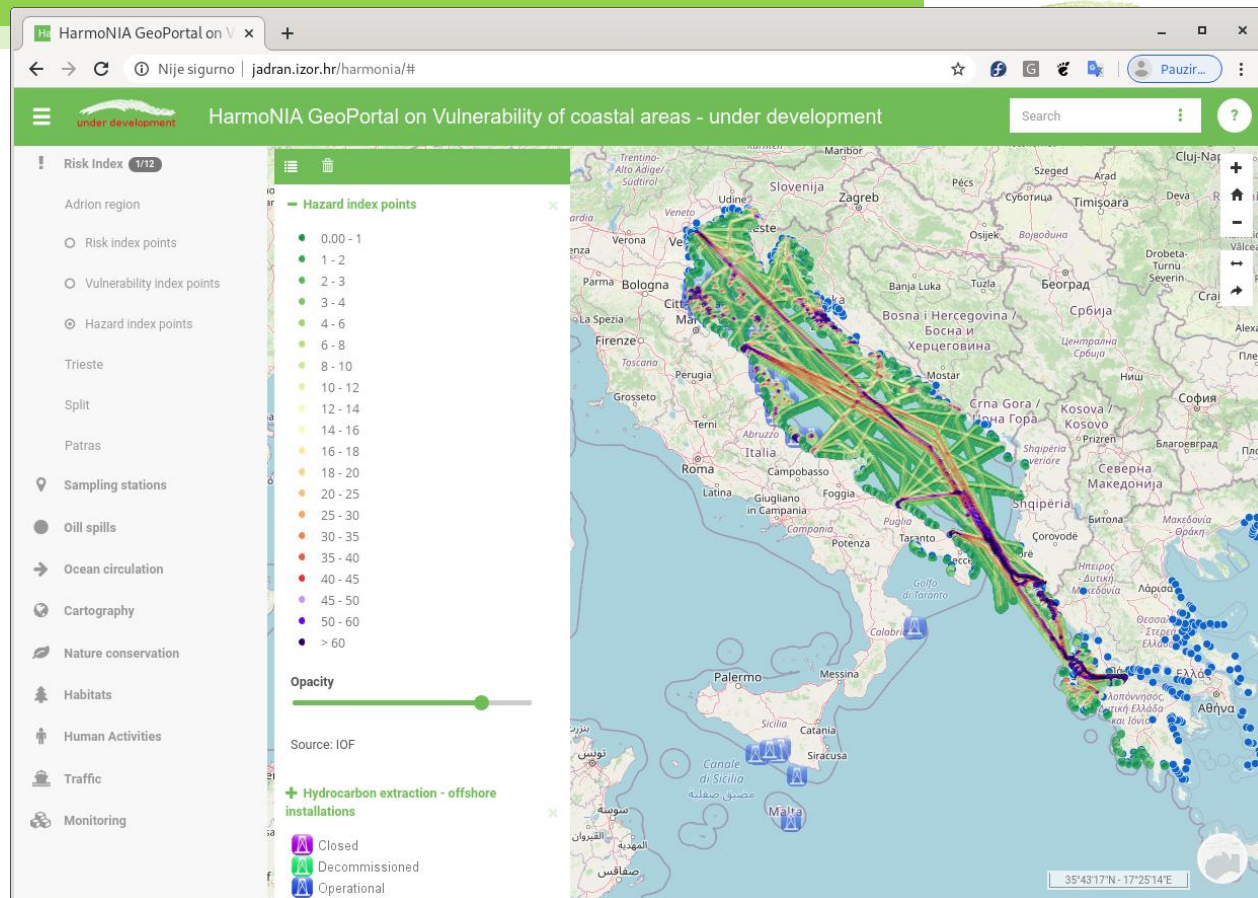
Risk index

Hazard Index x
Vulnerability Index =
Risk Index

Risk index

- 2-3
- 3-4
- 4-5
- 5-6
- 6-7
- 7-8
- 8-9
- 9-10
- 10-11
- 11-12
- 12-14
- 14-18
- 18-24
- 24-28
- 28-35
- 35-42
- 42-54
- 54-84
- 84-234
- > 234

Opacity

Source: IOF

Info:
Layer depicting spatial distribution of risk index inside Adrion region (covered under scope of HarmoNIA project). Risk index was calculated using vulnerability and oil spill hazard layers. It depends both on area vulnerability and hazard of pollution and is highest in areas with high vulnerability (usually close to coast) and high hazard of pollution (usually near offshore platforms and main shipping lanes).

More info

Strategy on risk assessment

- Use of hydrodynamic modeling
- Buffer method
- Hazard and Vulnarebility
- Spatial analysys
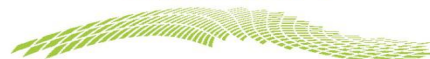- Adoptive parameters
- Accurate input layers
- Operational

Thank you for your attention!