

## **Progetto NORA**

### **Il Compartimento marittimo di Chioggia: componenti ambientali e usi del mare**

### **Conflitti nell'uso del mare, sinergie e impatti**

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**Sala Consiliare - Comune di Porto Tolle**  
**10 Maggio 2019**

<http://www.tools4msp.eu/progettonora>



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## Tools4MSP Geoplatform

Data and Tools supporting Maritime Spatial Planning

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# Il quadro conoscitivo – Sistema degli usi - Pesca

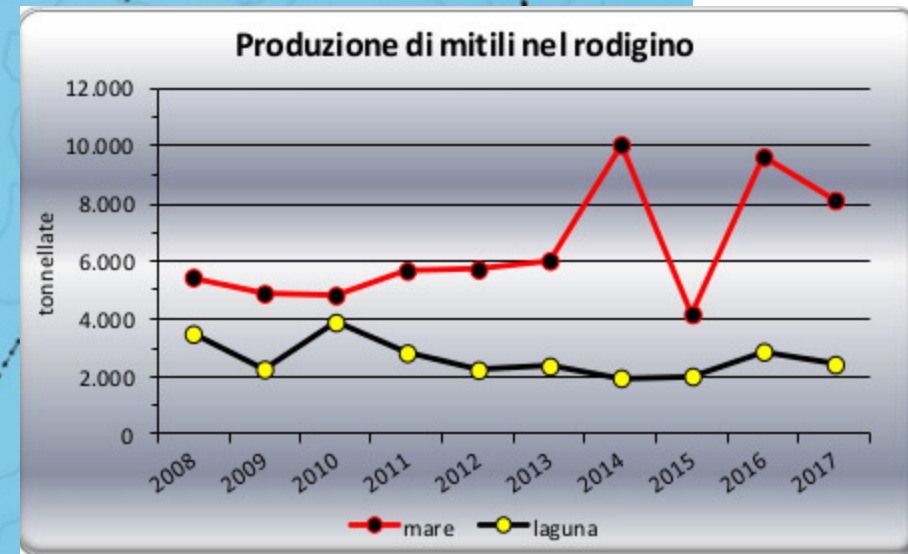
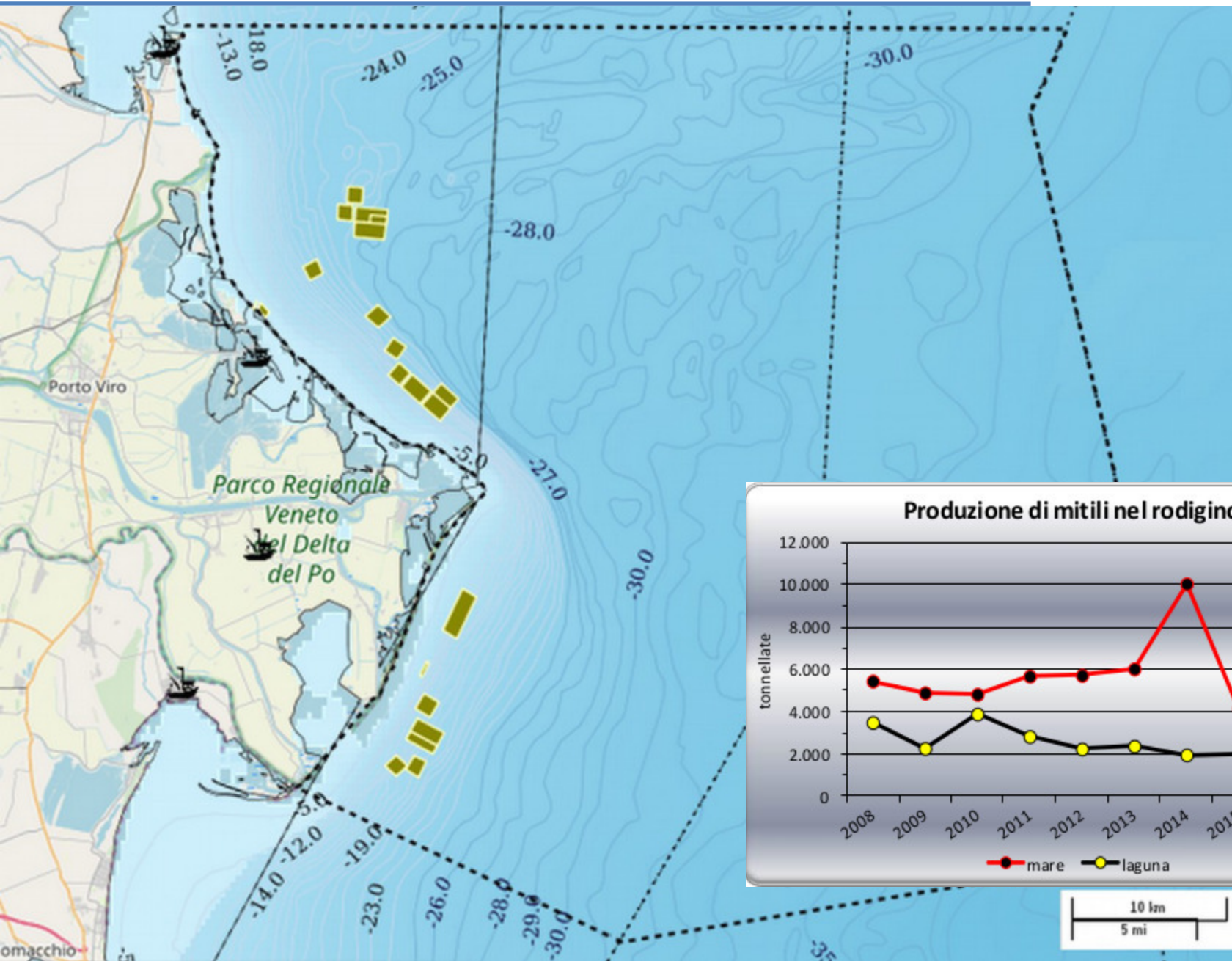


## Le attività principali:

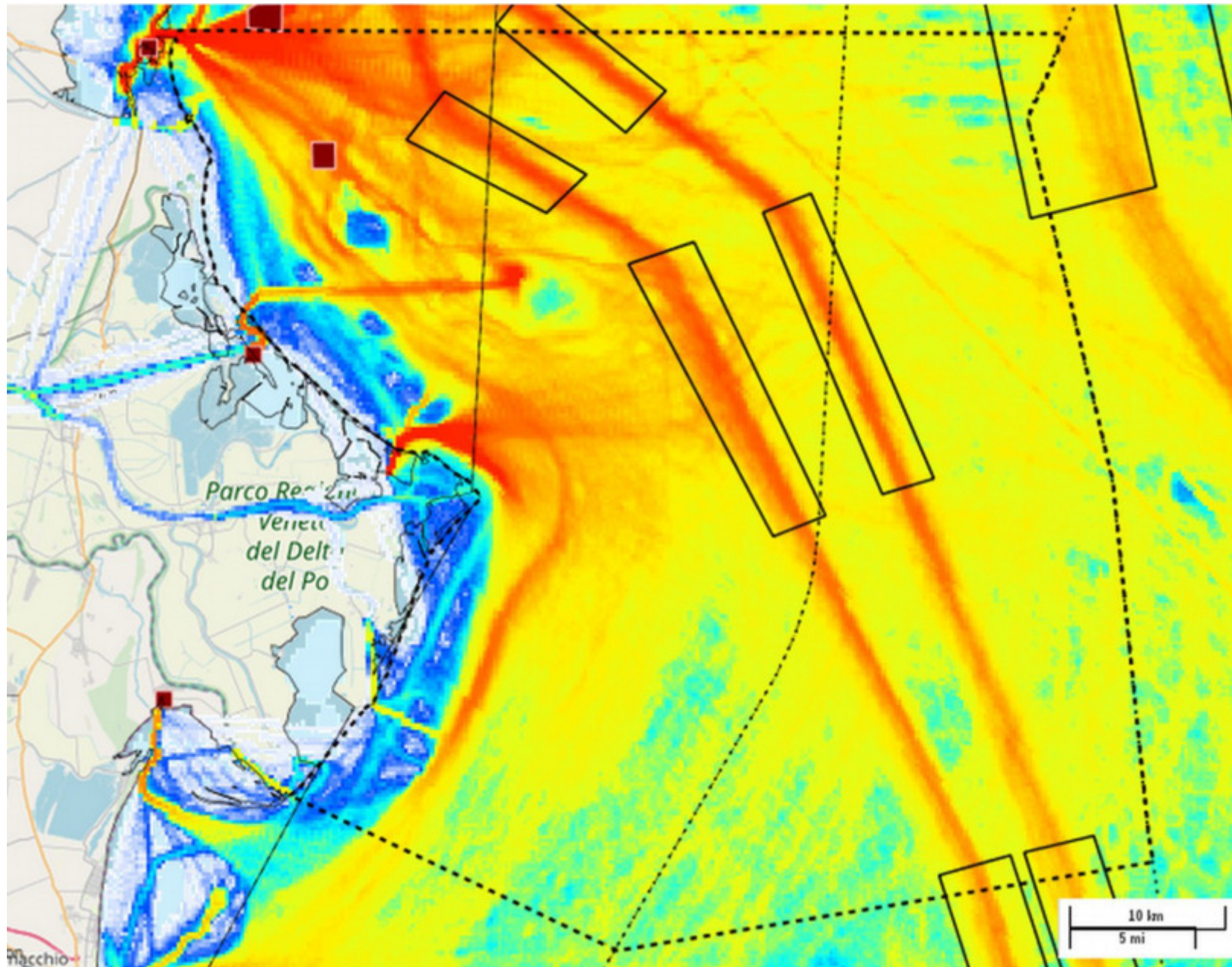
- Pesca artigianale (Small scale fisheries, SSF)
- Draghe idrauliche
- Strascico per specie demersali (OTB)
- Strascico con “rapidi” (TBB)
- Strascico per piccoli pelagici o volante (OTM/PTM)



# Il quadro conoscitivo – Sistema degli usi - Acquacoltura

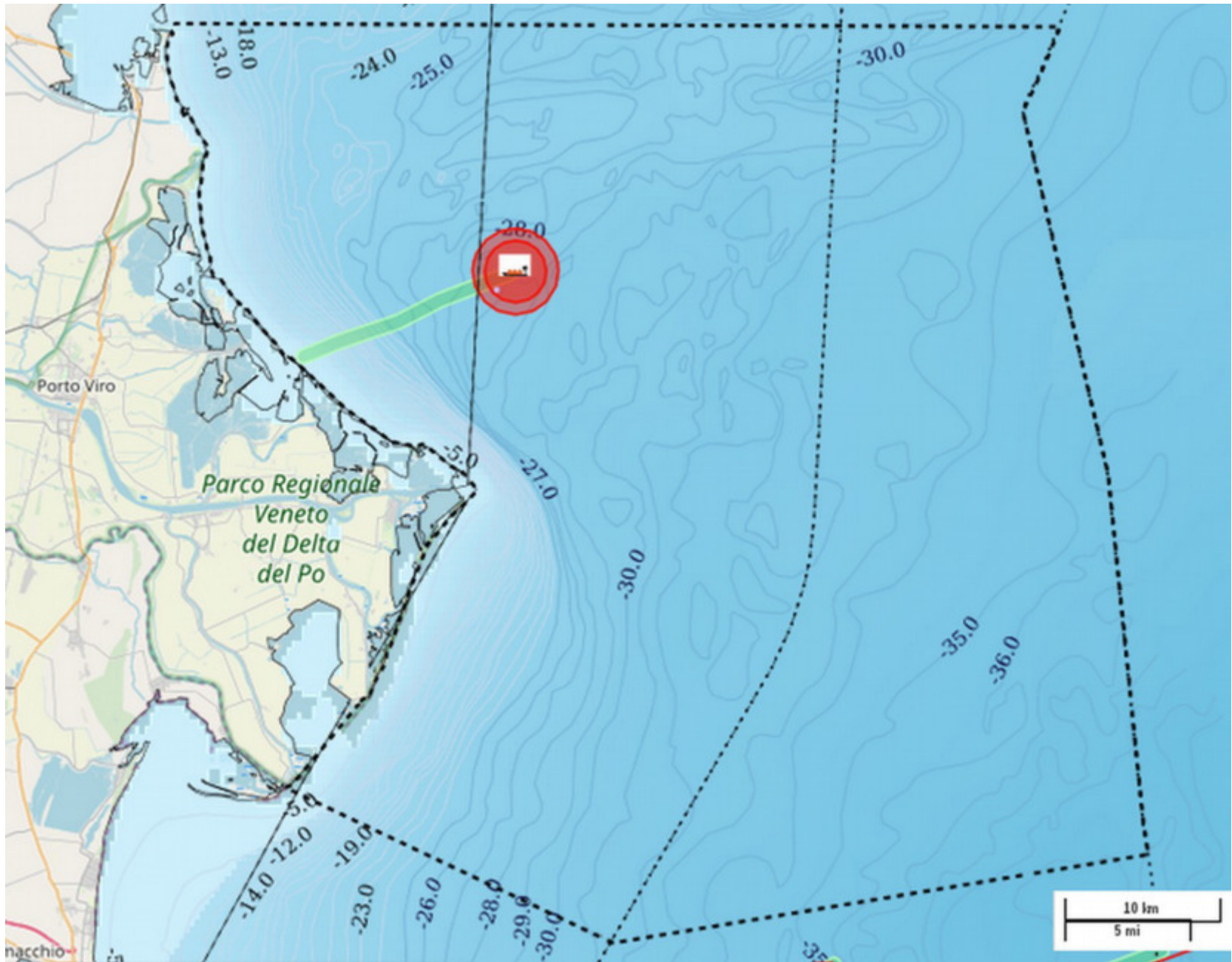


# Il quadro conoscitivo – Sistema degli usi – Trasporto marittimo

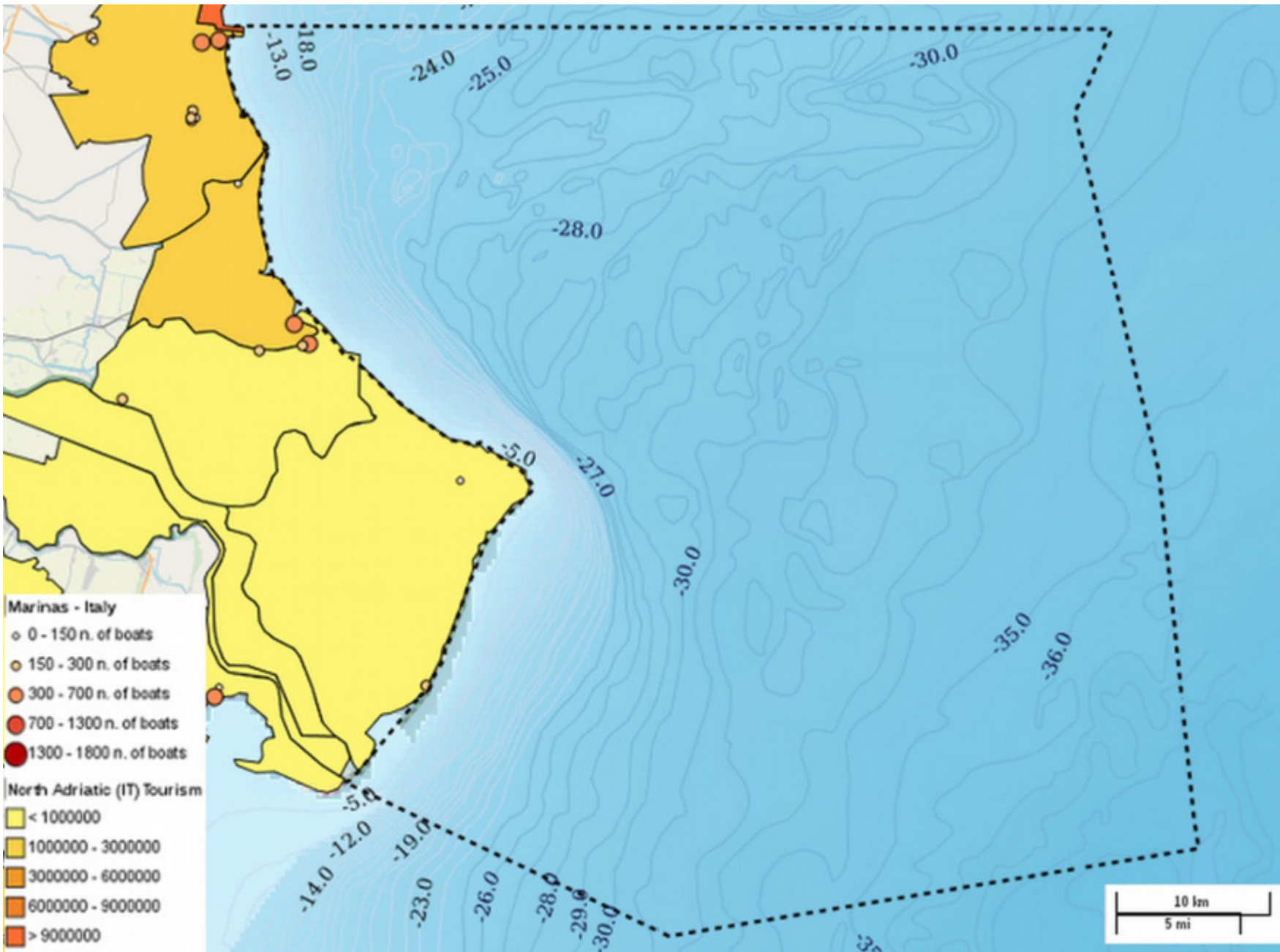




# Il quadro conoscitivo – Sistema degli usi - Energia

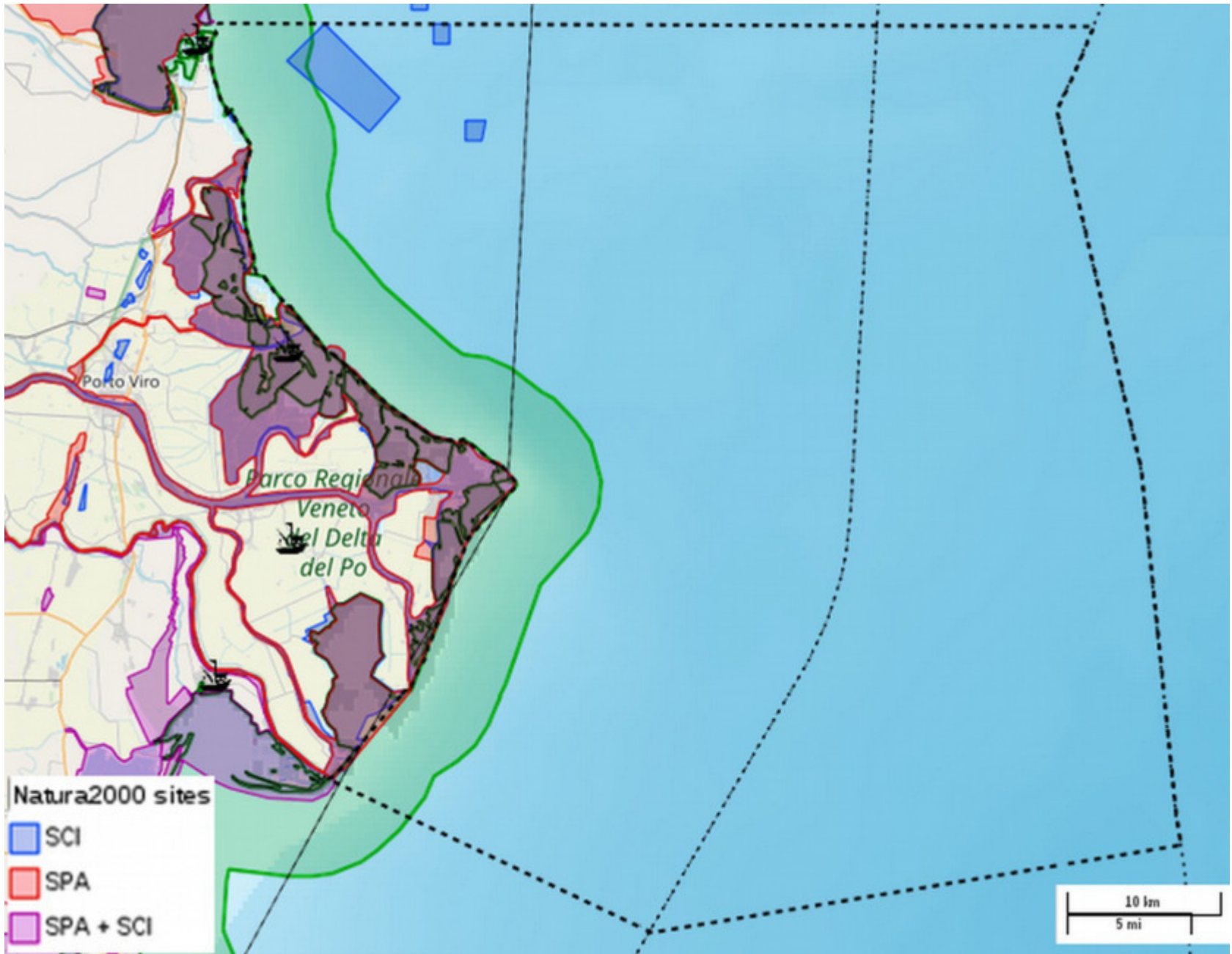


# Il quadro conoscitivo – Sistema degli usi - Turismo





# Il quadro conoscitivo – Protezione ambientale





# Il quadro conoscitivo – Componenti ambientali

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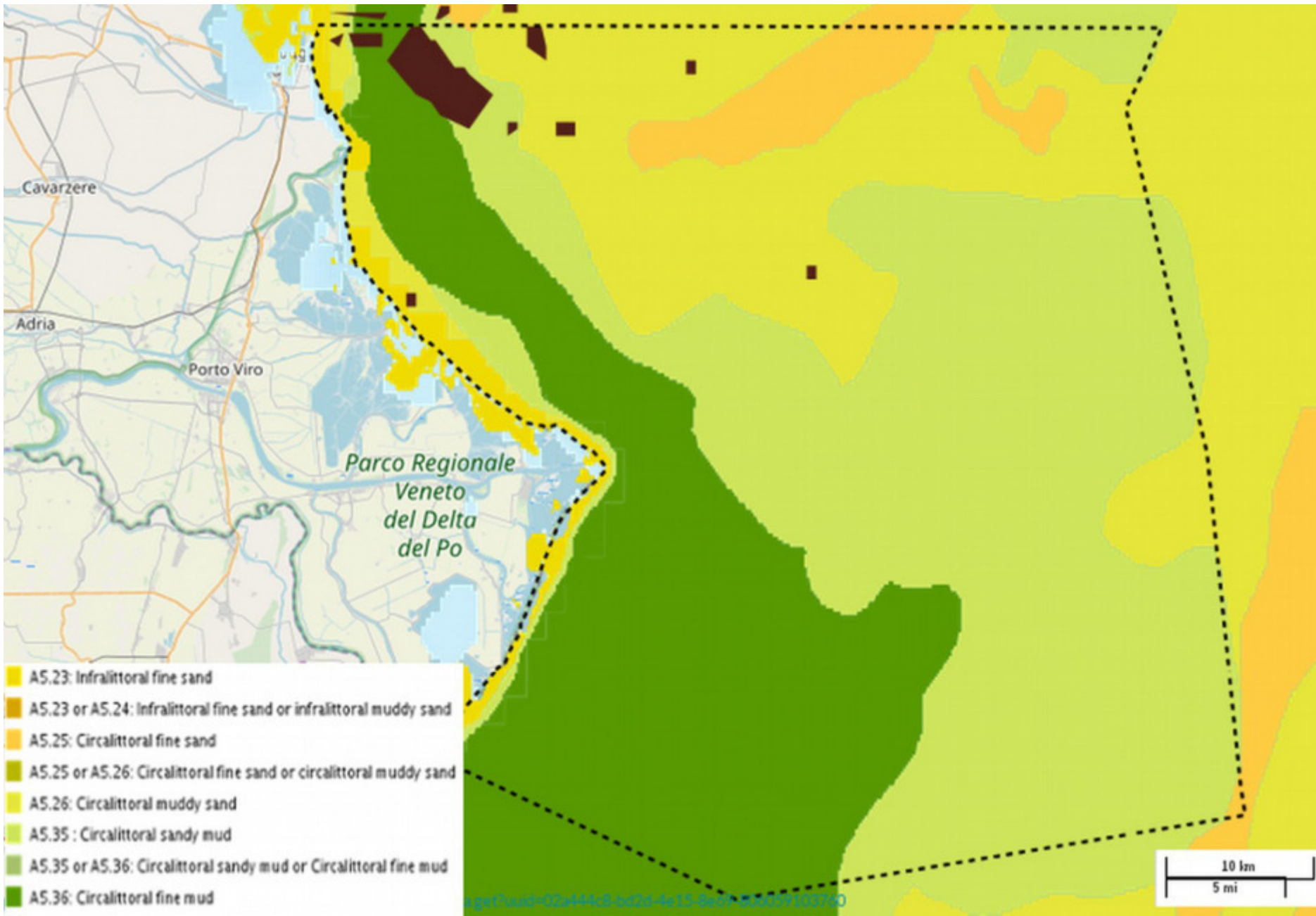
L'area di studio rientra nella **EBSA “Ecologically or Biologically Significant Marine Areas”** del Nord Adriatico (UNEP/MAP RAC/SPA), definita come area speciale per il supporto dei servizi forniti dal mare sulla base di criteri di unicità o rarità, importanza per le fasi di vita delle specie, importanza per specie/habitat minacciati o in via di estinzione, vulnerabilità, fragilità, sensibilità o lento recupero, produttività biologica, biodiversità, naturalezza.

Componenti ambientali descritte:

- Habitat di fondo molle
- Habitat di fondo roccioso e biogenici
- *Essential fish habitats*
- Specie pelagiche rilevanti

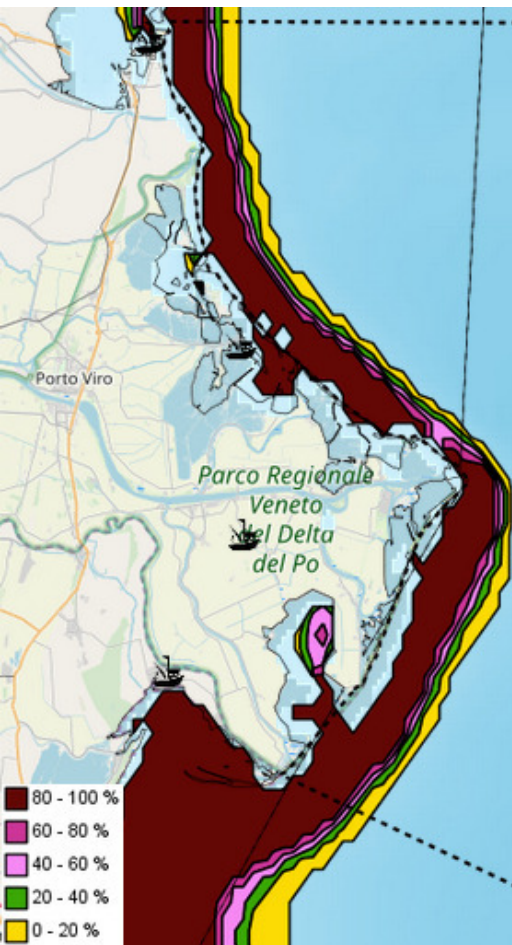


# Il quadro conoscitivo – Componenti ambientali

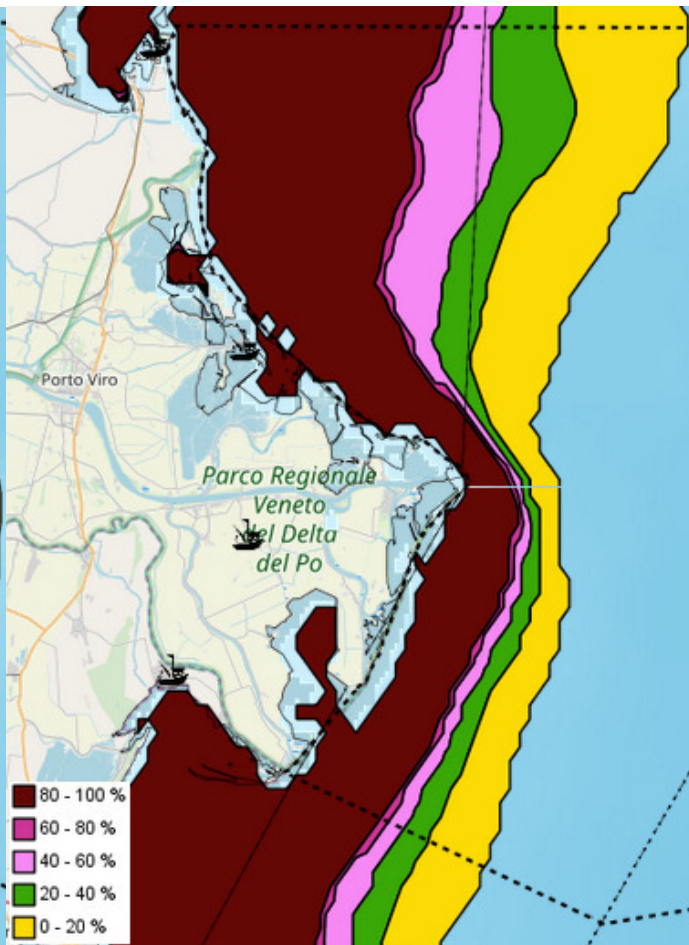




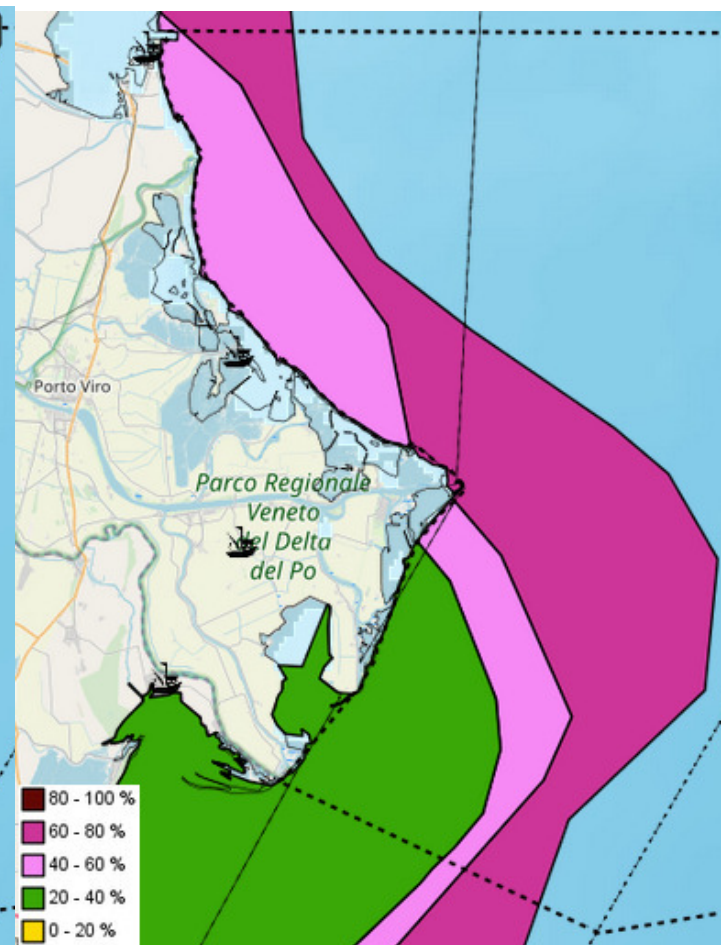
# Il quadro conoscitivo – Aree nursery



*Mullus barbatus*

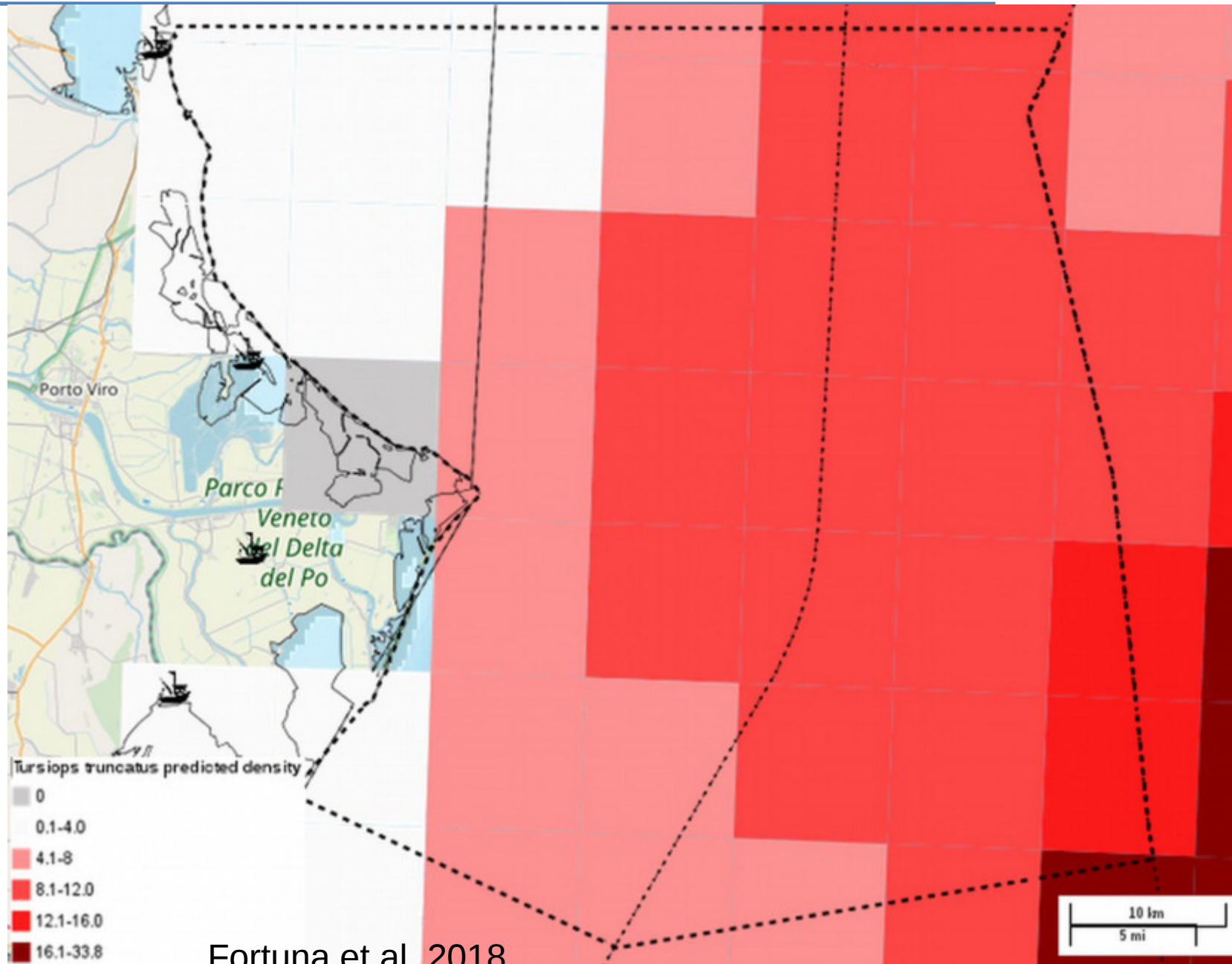


*Pagellus erythrinus*



*Solea solea*

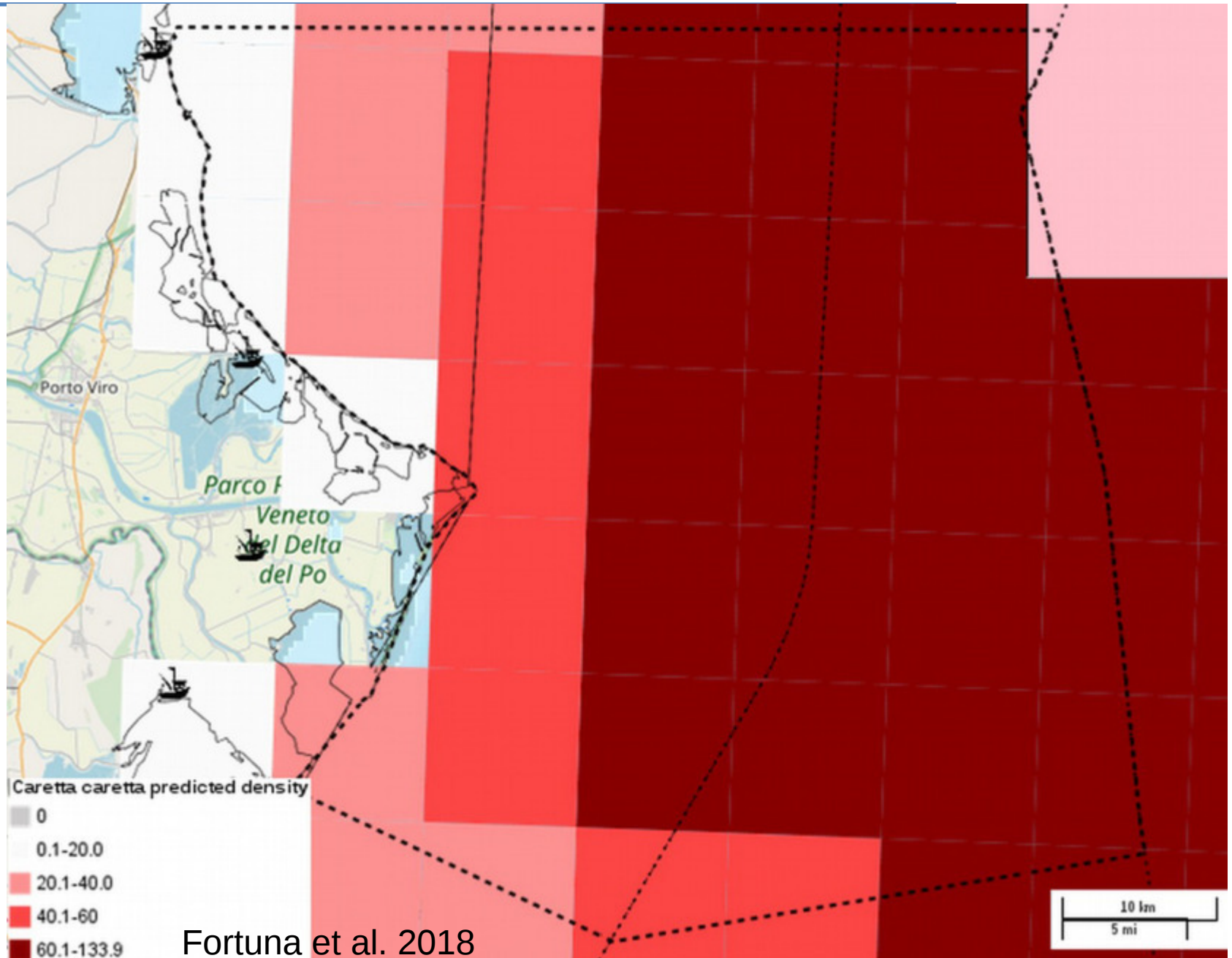
# Il quadro conoscitivo – Componenti ambientali



Fortuna et al. 2018



# Il quadro conoscitivo – Componenti ambientali



Fortuna et al. 2018

# L'analisi - conflitti: Tools4MSP Approach



Ritmare



blueMed



ADRIPLAN

SIMWESTMED

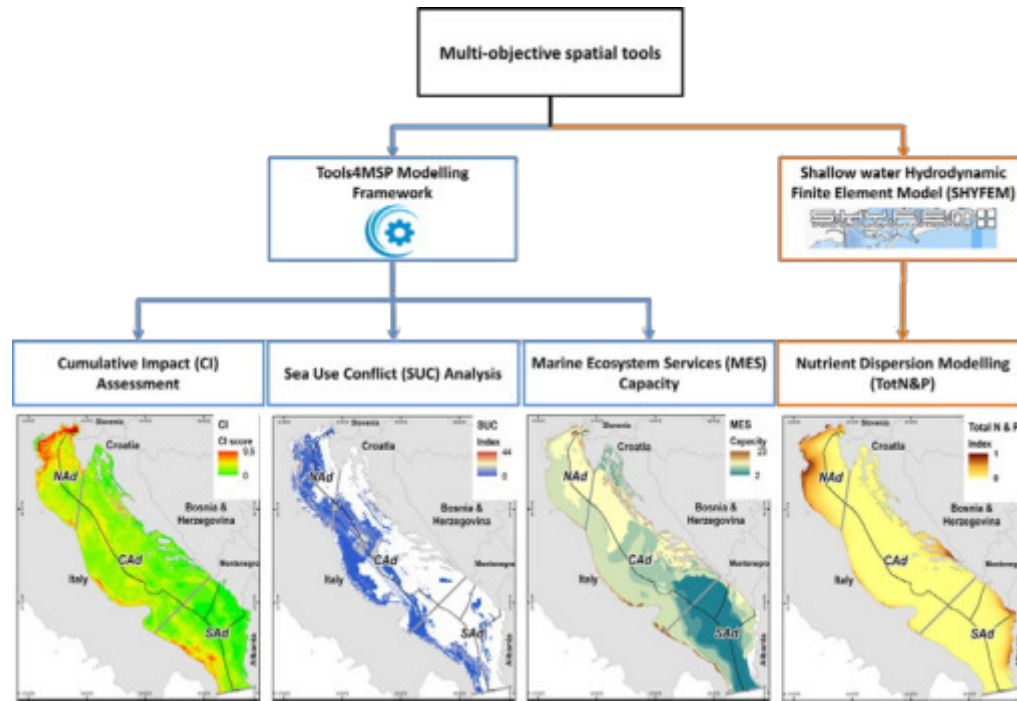


NORA



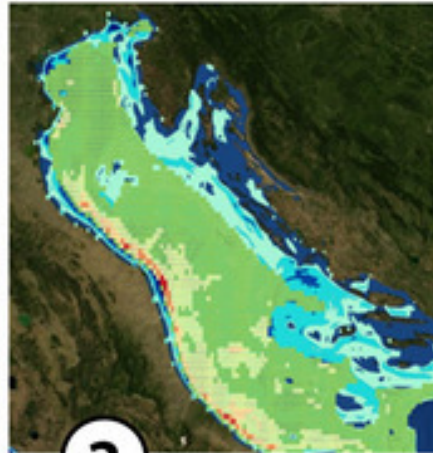
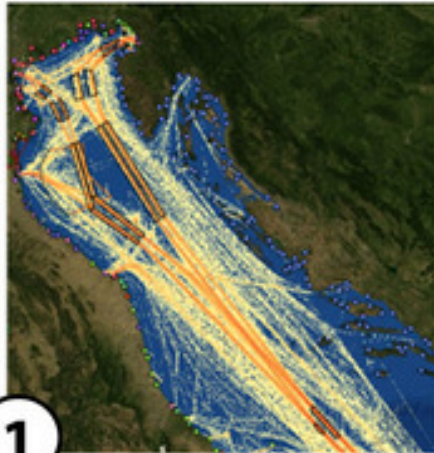
2013

OGGI





# L'analisi - conflitti: Tools4MSP MUC MODEL



## Activities & Uses

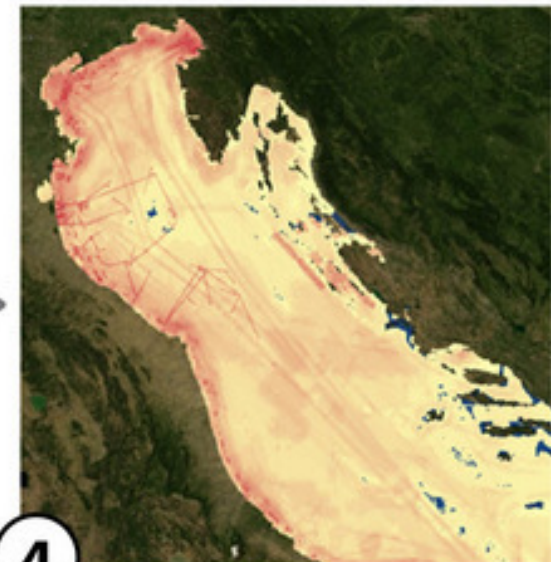
Maritime transport  
Oil & Gas extraction  
Coastal & maritime tourism  
Naval base activities  
Trawling / Fishing ....

Table 1

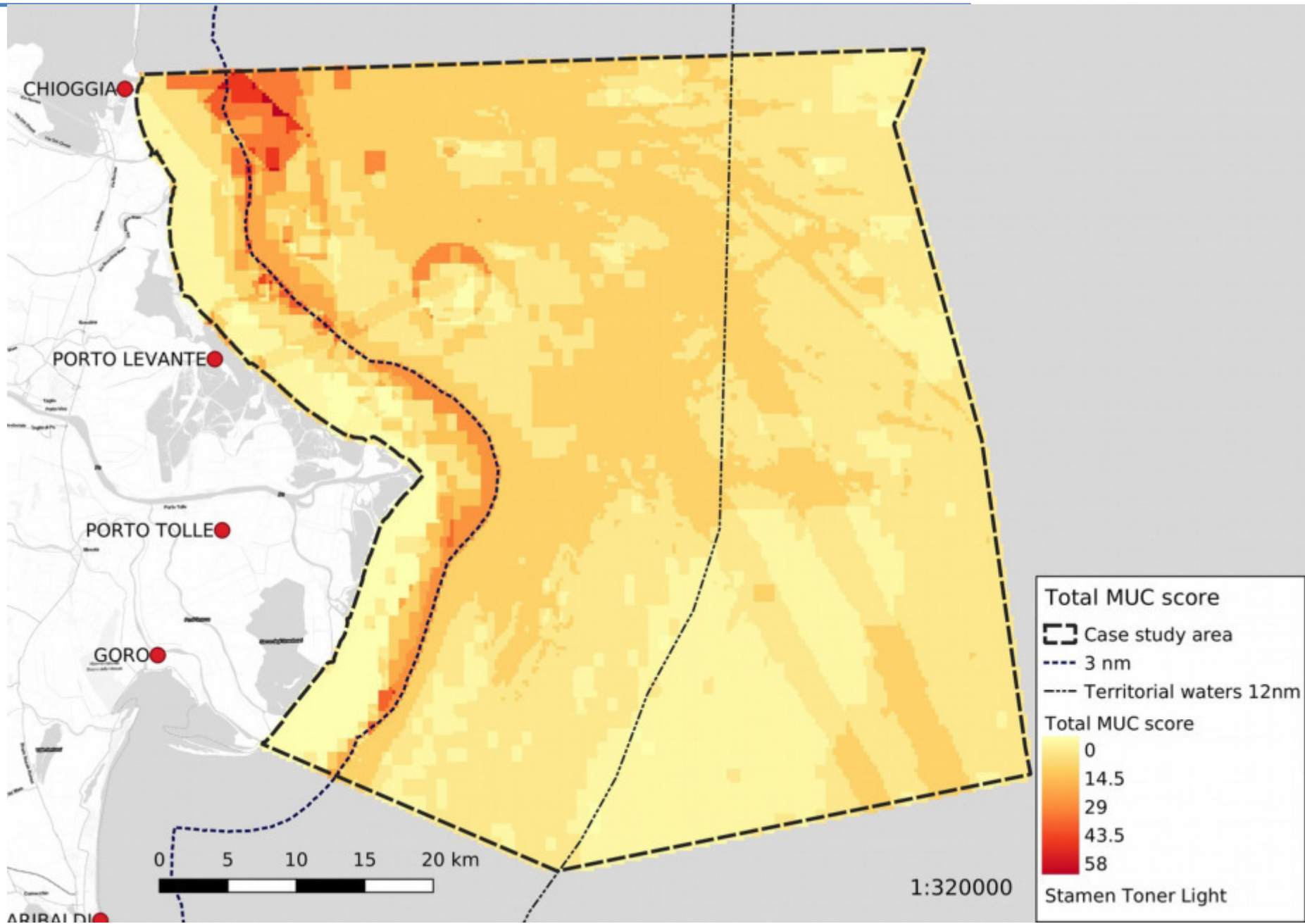
3

	Aquaculture	Cables and Pipelines	Coastal Defence Work	Dumping areas for dredging	Fishing	Maritime Transport	Military Areas	Military temporary	No trawling areas	Offshore sand deposits	Oil & Gas extraction	Protected Areas	Small scale fishery	Trawling
Aquaculture	5													
Cables and Pipelines	5	4												
Coastal Defence Work	5	5	5											
Dumping areas for dredging	5	5	5	5										
Fishing	5	0	4	0										
Maritime Transport	5	0	5	0	2									
Military Areas	5	5	5	5	5	5								
Military temporary	5	5	5	5	5	5	4	5						
No trawling areas	0	0	0	0	6	0	0	0						
Offshore sand deposits	5	5	5	5	2	2	5	4	0					
Oil & Gas extraction	5	4	4	5	4	5	5	5	0	5				
Protected Areas	5	4	4	5	4	5	5	5	0	5	4			
Small scale fishery	5	4	4	5	2	2	5	5	0	2	4	4		
Trawling	5	4	4	5	2	2	5	5	6	2	4	4	2	

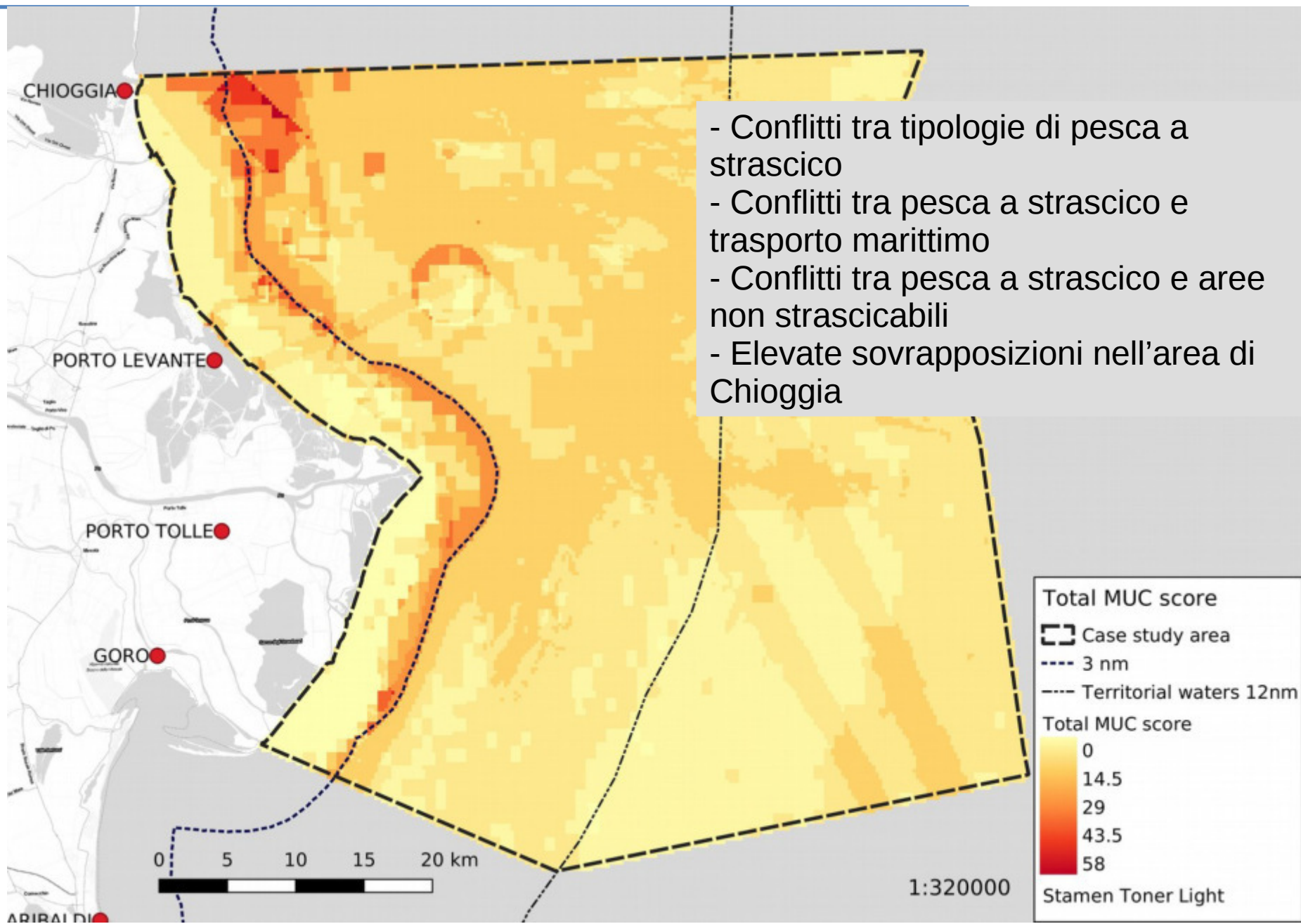
## Spatial conflict scores



# L'analisi - conflitti: Tools4MSP MUC MODEL

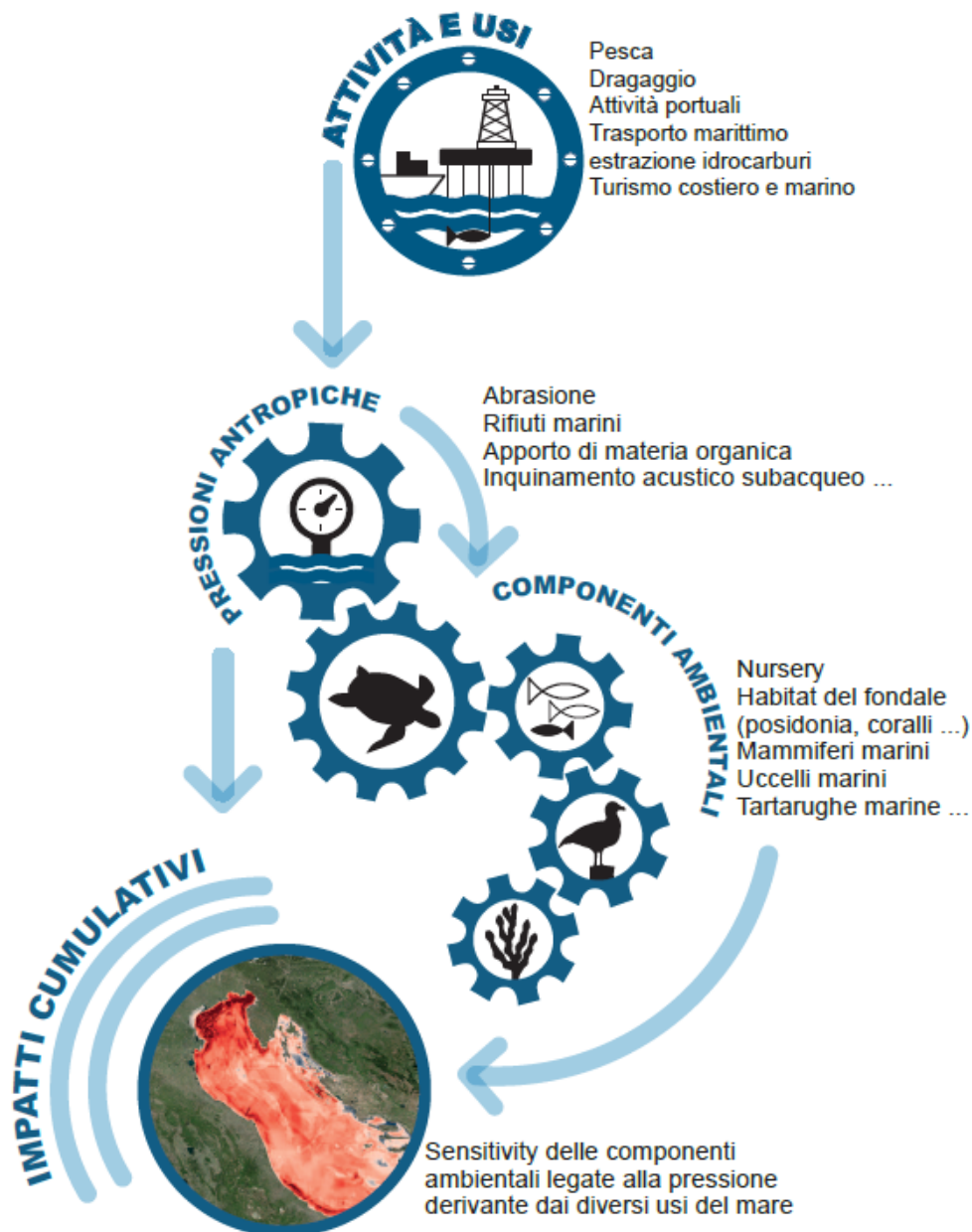


# L'analisi – conflitti: Tools4MSP MUC MODEL

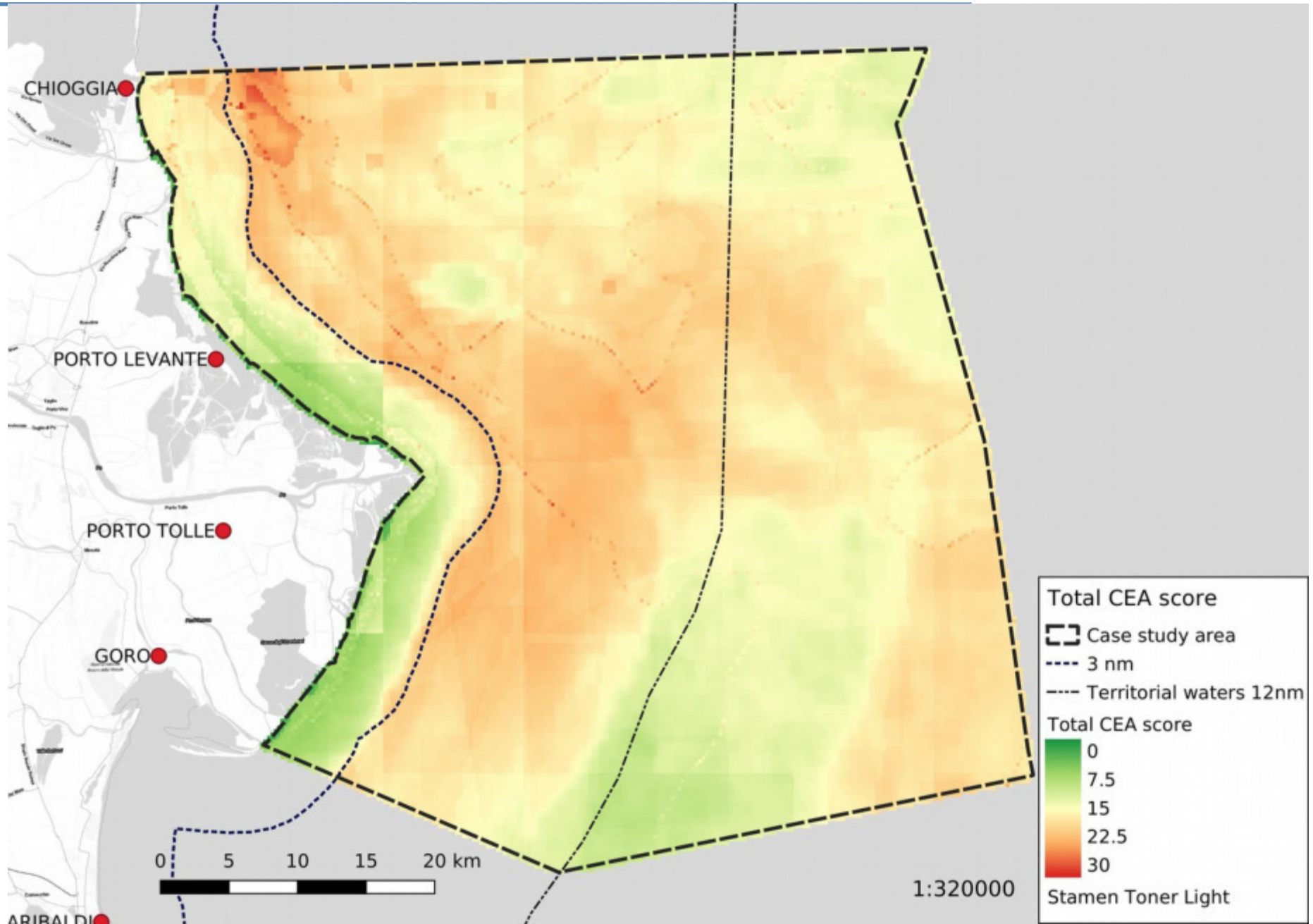




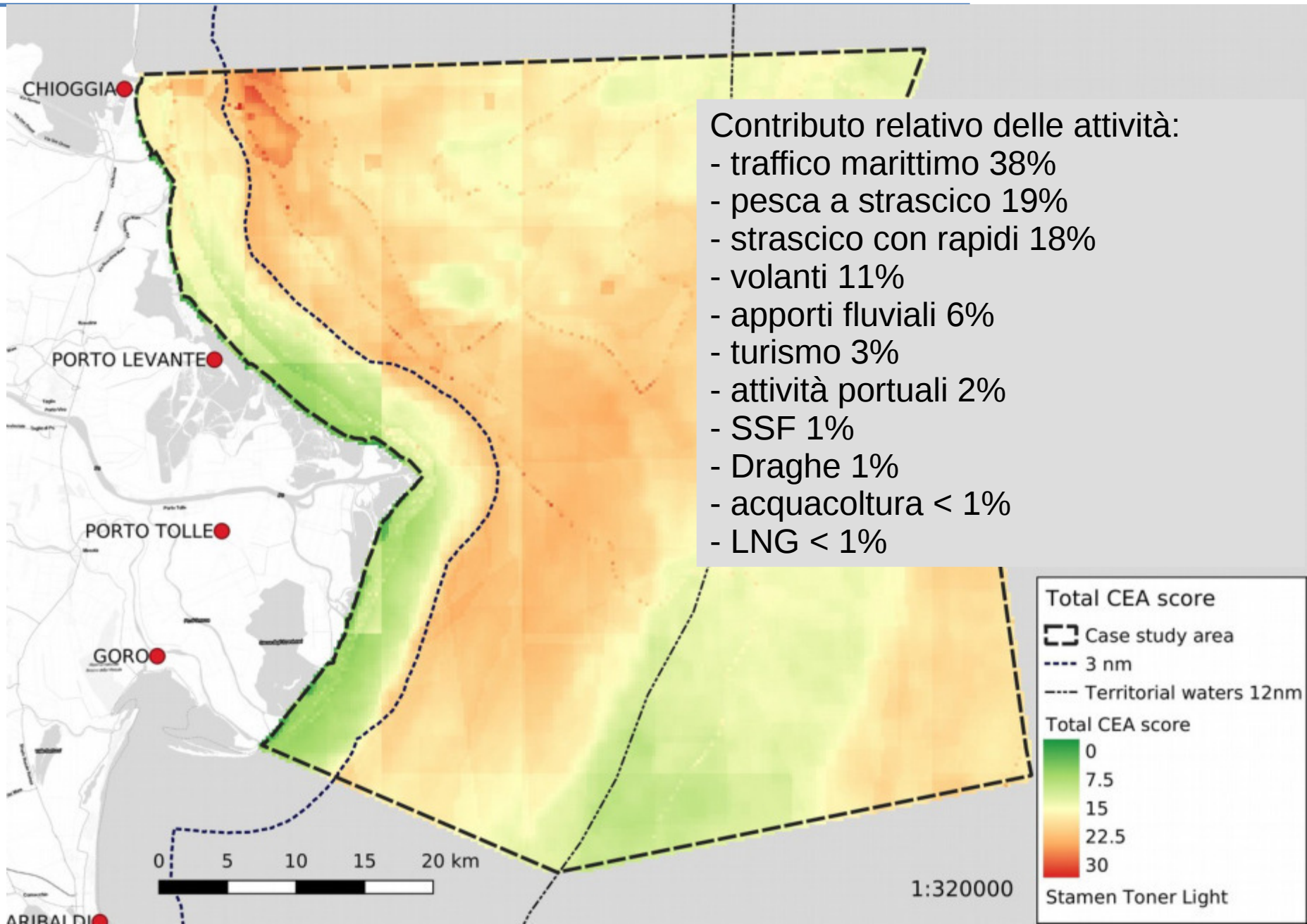
# L'analisi - impatti: Tools4MSP CEA MODEL



# L'analisi - impatti: Tools4MSP CEA MODEL

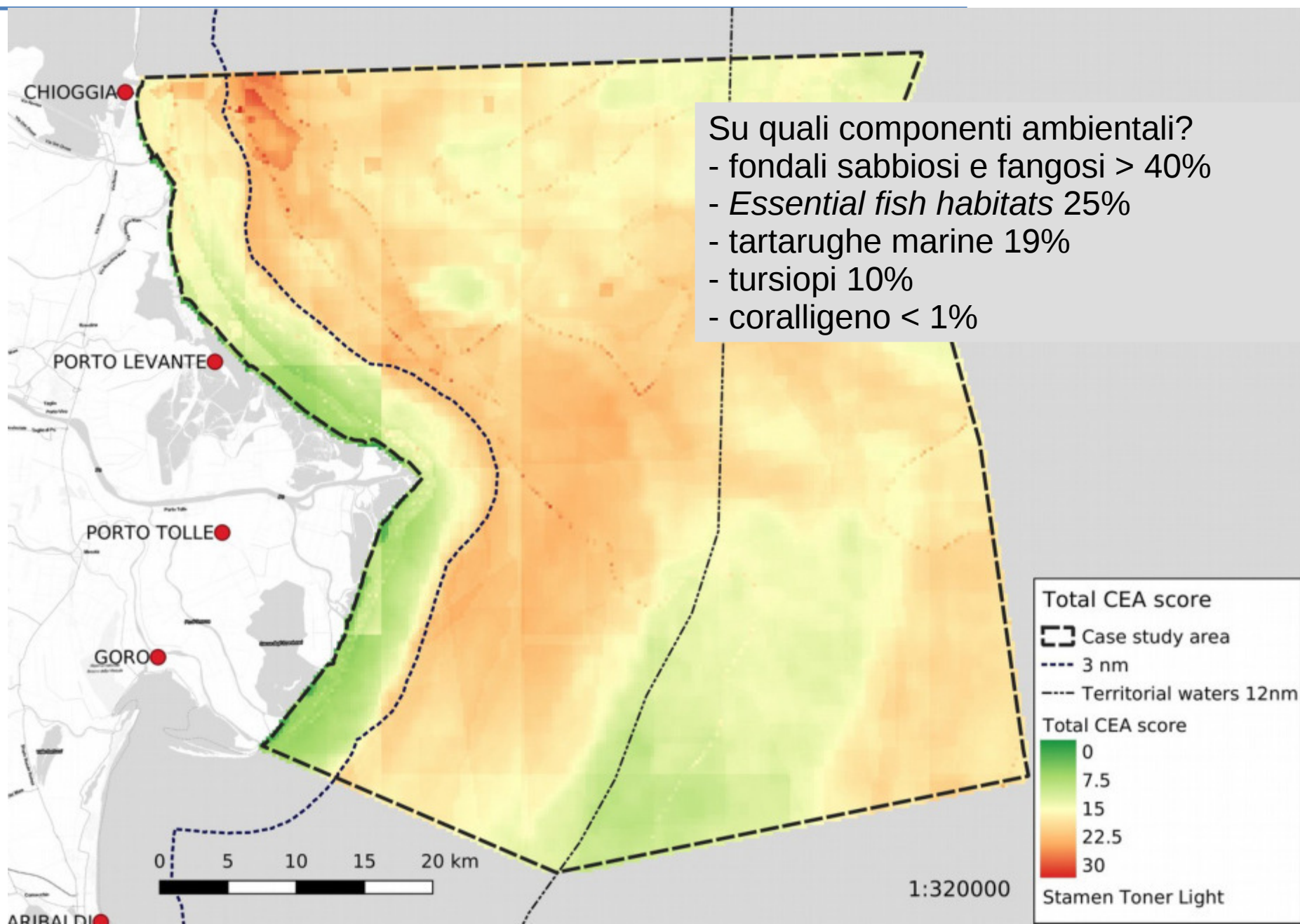


# L'analisi - impatti: Tools4MSP CEA MODEL





# L'analisi - impatti: Tools4MSP CEA MODEL





### Addressing cumulative effects, maritime conflicts and ecosystem services threats through MSP-oriented geospatial webtools

Stefano Menegon<sup>a,\*</sup>, Daniel Depellegrin<sup>a,\*</sup>, Giulio Farella, Alessandro Sarretta, Chiara Venier, Andrea Barbanti

<sup>a</sup> CNR - National Research Council of Italy, ISMAR - Institute of Marine Sciences, Arsenale - Tesa 104, Castello 2737/F, I-30122 Venice, Italy

### Ecological Indicators

journal homepage: [www.elsevier.com/locate/ecolind](http://www.elsevier.com/locate/ecolind)



### A modelling framework for MSP-oriented cumulative effects assessment

Stefano Menegon<sup>a,\*</sup>, Daniel Depellegrin<sup>a,\*</sup>, Giulio Farella<sup>a</sup>, Alessandro Sarretta<sup>a</sup>, Chiara Venier<sup>a</sup>, Andrea Barbanti<sup>a</sup>

<sup>a</sup> CNR - National Research Council of Italy, ISMAR - Institute of Marine Sciences, Venice, Italy  
<sup>b</sup> Department of Design and Planning in Complex Environments, Università Iuav di Venezia, Venice, Italy

Science of the Total Environment



### Science of the Total Environment

journal homepage: [www.elsevier.com/locate/scitotenv](http://www.elsevier.com/locate/scitotenv)



### RESEARCH ARTICLE

## Addressing uncertainty in model cumulative impacts within maritime spatial planning in the Adriatic and Ionian region

Elena Gissi<sup>1,\*</sup>, Stefano Menegon<sup>2,\*</sup>, Alessandro Sarretta<sup>2</sup>, Federica Appiotti<sup>1†</sup>, Denis Maragno<sup>1†</sup>, Andrea Vianello<sup>2,†</sup>, Daniel Depellegrin<sup>2†</sup>, Chiara Venier<sup>2</sup>, Andrea Barbanti<sup>2</sup>

<sup>1</sup> Department of Design and Planning in Complex Environments, Università Iuav di Venezia, Venice, Italy,  
<sup>2</sup> Institute of Marine Sciences, National Research Council, Venice, Italy

### Multi-objective spatial tools to inform maritime spatial planning in the Adriatic Sea

Daniel Depellegrin<sup>a,\*</sup>, Stefano Menegon<sup>a,1</sup>, Giulio Farella<sup>a</sup>, Michol Ghezzi<sup>a</sup>, Elena Gissi<sup>b</sup>, Alessandro Sarretta<sup>a</sup>, Chiara Venier<sup>a</sup>, Andrea Barbanti<sup>a</sup>

<sup>a</sup> CNR - National Research Council of Italy, ISMAR - Institute of Marine Sciences, Venice, Italy

<sup>b</sup> Department of Design and Planning in Complex Environments, Università Iuav di Venezia, Venice, Italy



### Management and Maritime Spatial Planning

Stefano Menegon<sup>1</sup>, Alessandro Sarretta<sup>1</sup>, Andrea Barbanti<sup>1</sup>, Elena Gissi<sup>2</sup>, and Chiara Venier<sup>1</sup>

<sup>1</sup> Consiglio Nazionale delle Ricerche, Istituto di Scienze Marine (CNR-ISMAR), Arsenale - Tesa 104, Castello 2737/F, 30122 Venezia, Italy

<sup>2</sup> Department of Design and Planning in Complex Environments, Università Iuav di Venezia, S. Croce 1957 - 30135 Venezia Italy



### Fra la terra e il mare

Analisi e proposte per la pianificazione dello Spazio Marittimo in Emilia-Romagna



A man with a mustache, wearing a black wetsuit and black gloves, stands on a concrete pier. He is looking down. The background shows the ocean with white foam from breaking waves. A thick rope is tied to a metal post on the left. The sky is overcast.

**GRAZIE!**

**Progetto NORA**

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