



# RAOP-MED: RISK ASSESSMENT ANALYSIS ON OFFSHORE PLATFORMS IN SOUTH EAST MEDITERRANEAN

**ENPI** - The European Neighborhood and Partnership Instrument (ENPI) is the financial instrument for European neighborhood policy (ENP). It is promoted good governance and equitable social and economic development process. The ENPI also supports cross-border and trans-regional cooperation.

**CBCMED** - The multilateral cross-border cooperation "Mediterranean Sea Basin Programme" is part of ENPI for the 2007-2013 period.

# RAOP MED BACKGROUND



Today more than 100 offshore installations and facilities handling oil across the Mediterranean Sea

- ✓ 40% are refineries,
- ✓ 24% are ports,
- ✓ 26% are oil terminals
- ✓ 10% are offshore platforms

**Risk of a big scale oil spill incident increases**

# RAOP MED BACKGROUND

- The RAOP- MED project was born out of **necessity to identify the risks related to oil spills in the Eastern Mediterranean**



The consequences of a big scale incident can be devastating not only at local but at regional level as well, affecting the economies of many countries at Mediterranean Basin Level

## Oil spilled in the Mediterranean



In thousand tones (2008-2009) Source REMPEC

- REMPEC - The Regional Marine Pollution Emergency Response Centre for the Mediterranean Sea (<http://www.rempec.org/>)

# RAOP MED PARTNERS

- The Project Leader **Cyprus Ports Authority.**
- The project Partners



1. **Cyprus University of Technology**



2. **University of Cyprus – Oceanography Center**



3. **Premium Consulting & Co (Greece)**



4. **Heraklion Port Authority S.A. (Greece)**



5. **Marine Science Station (University of Jordan, Yarmouk University)**



6. **Israel Oceanographic & Limnological Research**



7. **National Center for Research and Development (Jordan)**



# RAOP MED BACKGROUND



4 Participating countries



8 Project Partners



Duration of the project 24 months



Budget €1.68m, out of which 89,77% is funded by ENPI CBCMED.



# RAOP MED METHODOLOGICAL FRAMEWORK

## THE CONCEPT OF RISK

Risk is a fairly simple concept:

$$\text{Risk} = \text{Probability} \times \text{Effect}$$

However it develops into a fairly complicated system of variables that effect the overall risk.

For the purposes of RAOP-MED, it was important to **identify the key components that would contribute to the risk of oil pollution.**

# IDENTIFICATION OF KEY FACTORS

The main concept of RAOP-MED **is to estimate the risk arising from oil pollution** in the East Mediterranean Sea.

The key components of risk essentially break down to the following simple questions:

**Risk = Probability**

X

**Effect**

- What is the probability an oil spill will occur?

- Which are those factors that will be affected when an oil spill occurs?

# EFFECTS OF AN OIL SPILL

What are the main sources of an oil spill occurrence?

- Vessel traffic – collisions between commercial vessels (spillage of vessel fuel) or collisions between tankers (spillage of vessel cargo)
- Oil terminals
- Oil rigs
- STS operations



# EFFECTS OF AN OIL SPILL

The key of identifying the effects of an oil spill was to consider all possible aspects:

- Environmental
- Economic
- Social
- Operational

# RISK ASSESSMENT MAP (WP 4-5)

- Creation of ship density map (IOLR)
- Calculation of probability of occurrence of oil spill (IOLR + HAZMAT)
- Oil spill evaluation (HAZMAT)

# VESSEL TRAFFIC AND OIL OPERATION DATA AIS AND

Data was collected regarding:

- Visiting of Eastern Mediterranean ports by all types of ships during 2013
- Location of Oil terminals
- Location of Oil rigs
- SST operation

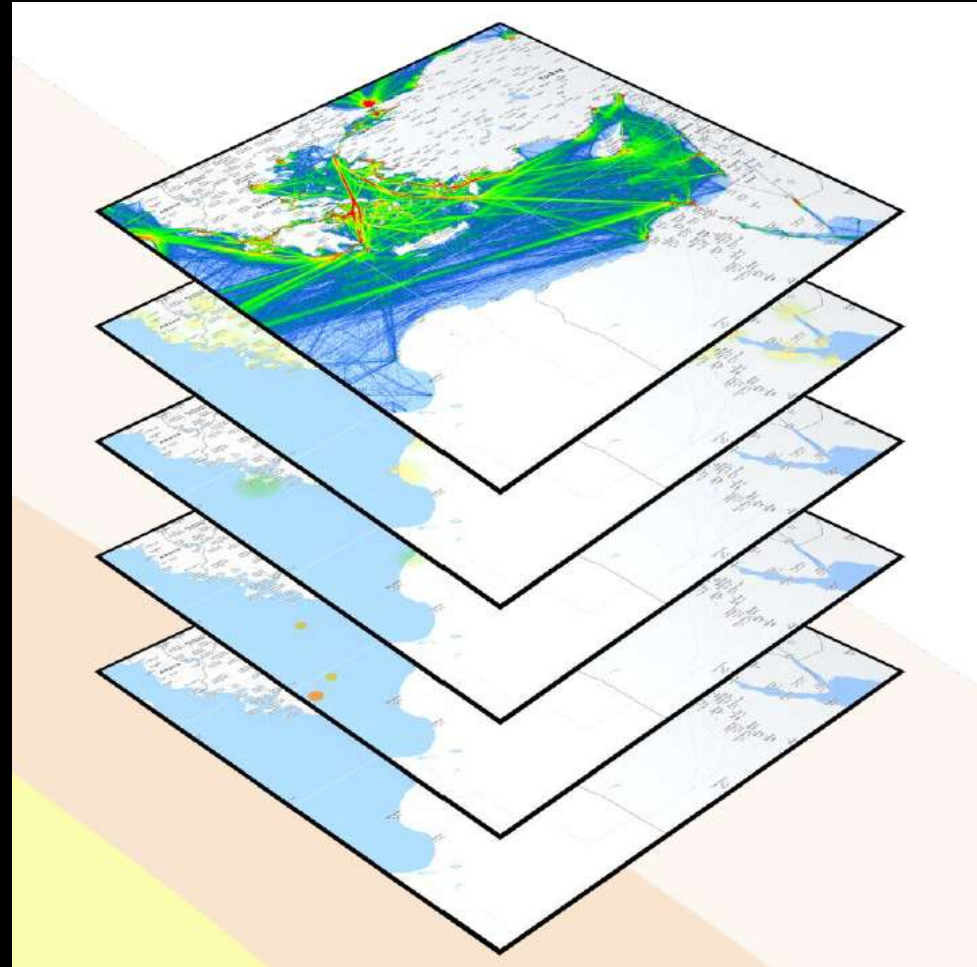
# SENSITIVITY MAPPING (WP6)

- Identification and collection of Environmental parameters (CUT +NCRD)
- Identification and collection of Socio-Economic parameters (CUT +NCRD)

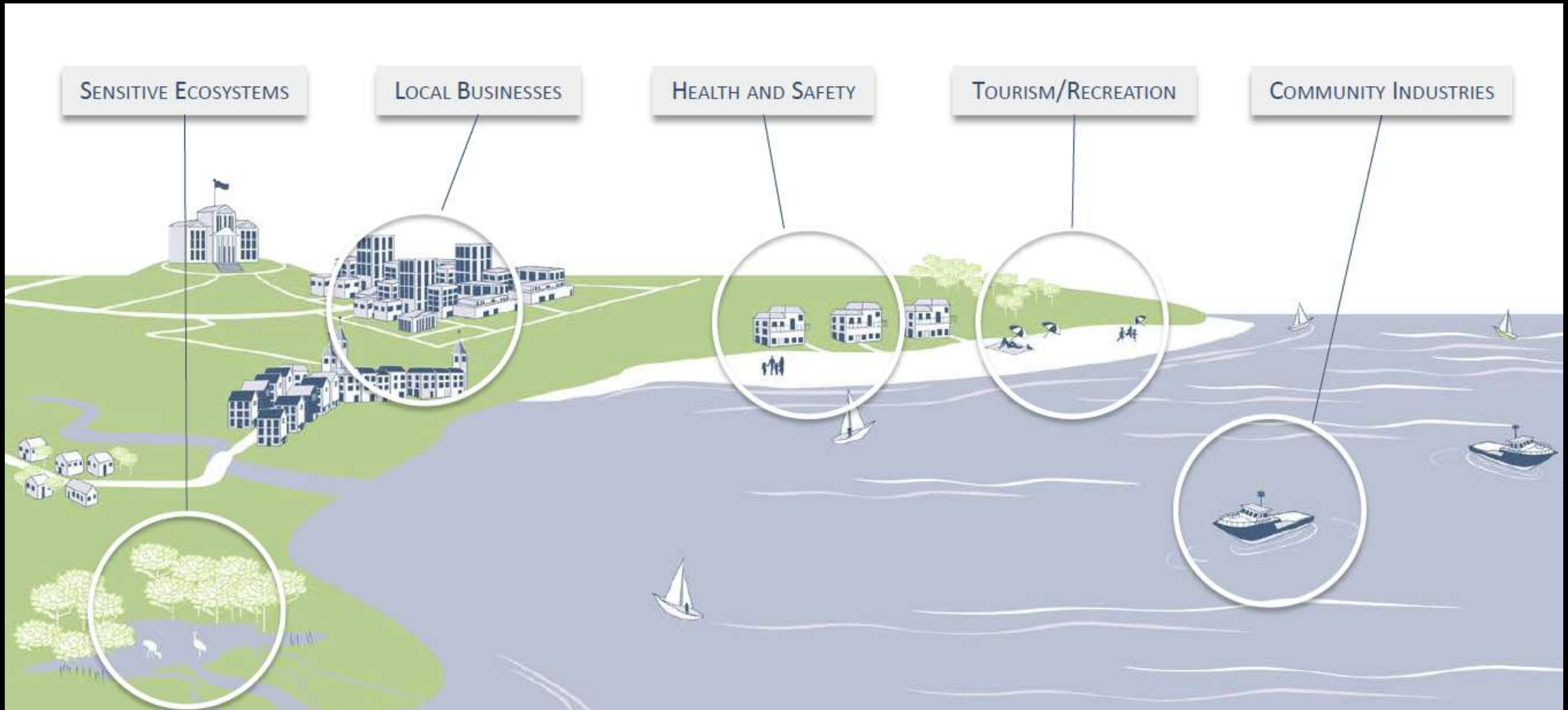
# IMPACT DAMAGE ASSESSMENT (WP7)

- Oil response equipment data collection (NCRD)
- Oil spill forecasting analysis for impact assessment (OC-UCY)

A TOTAL OF 19 DATASETS WAS COLLECTED AND PREPARED FOR INPUT INTO A GIS SYSTEM.



# RECOMMENDATION TO NATIONAL – LEVEL AUTHORITIES



▼ GIS data description	▼ Source	▼ Status
Cetaceans	RAOP-MED	Active
AIS Data	RAOP-MED	Inactive
Ports and Infrastructure	RAOP-MED	Active
Tourist Areas	RAOP-MED	Active
Natura Sites	RAOP-MED	Active
Birds & Habitats	RAOP-MED	Active
Offshore Structures	RAOP-MED	Active
Local vessel traffic	User imported	Active
Bunkering	User imported	Active
Posidonia areas	User imported	Active
Local fishfarming	User imported	Active

OK

Cancel

Import

Link data

Specify region

Data info

DEVELOPMENT OF GIS TOOLS  
FOR ESTIMATION OF OIL SPILL  
RISK FOR DIFFERENT KIND OF  
INPUT DATA