

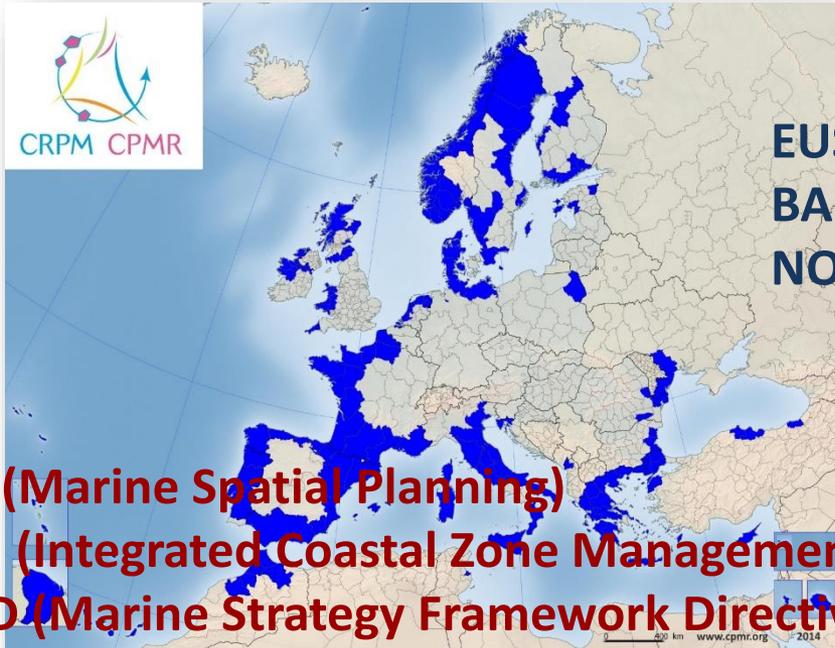
Use of Coastal Bathymetric Data by the Regions

George ALEXAKIS

CRPM Vice-President Responsible for Maritime Issues,
Regional Counselor of Crete (Gr),
in charge of EU & Int Affairs

7 February 2017, Brussels

EUROPEAN STRATEGIES



EUSAIR
BALTIC SEA
NORTH SEA

MSP (Marine Spatial Planning)
ICZM (Integrated Coastal Zone Management)
MSFD (Marine Strategy Framework Directive)

BLUE GROWTH

sustainable jobs and growth >

aquaculture, coastal tourism, marine biotechnology, ocean energy, seabed mining

provide knowledge, legal certainty and security in the blue economy >

marine knowledge, marine spatial planning, integrated maritime surveillance

Sea basin strategies to ensure tailor-made measures and to foster cooperation between countries >

Adriatic-Ionian Sea, Arctic Ocean, Atlantic Ocean, Baltic Sea, Black Sea, Mediterranean Sea, North Sea

BARCELONA CONVENTION BOLOGNA CHARTER



Adhesions to the Bologna Charter



IMP (Integrated Maritime Policy)

Blue Growth

Marine data and Knowledge

Marine Spatial Planning

integrated maritime surveillance

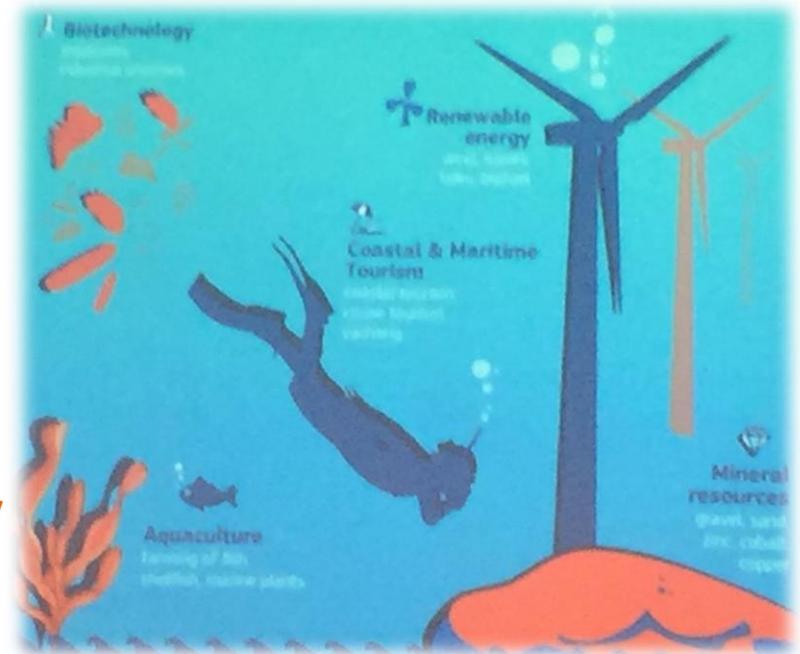
Sea basin Strategies



POLICY AREAS

IN WHICH REGIONS USE BATHYMETRIC DATA

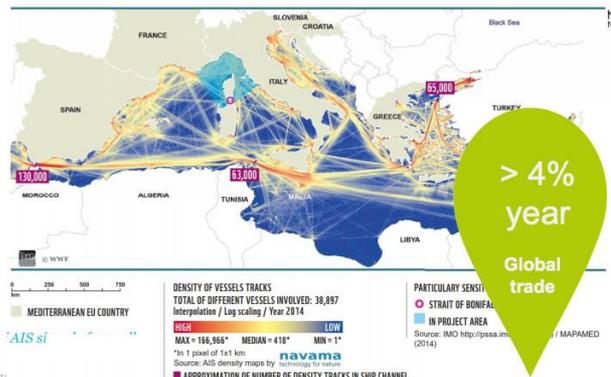
- Maritime Spatial Planning and Integrated Coastal Management
- Actions against erosion and climate change in coastal areas
- Fisheries and Aquaculture: position, type, size and function of the cages, anchorages
- Maritime and Fishing Tourism: Cruises routes, species identification, catch, fishing way
- Oil Extraction Platforms: depth and method of extraction, anchorages
- Shipwrecks: identification, hauling ability, ability to visit
- Submarine Tectonic Faults: extent of marine pollution
- Identification - Protection - of MPAS and endemic species (eg *Posidonia oceanica*)



EMERGING SECTORS _ 1

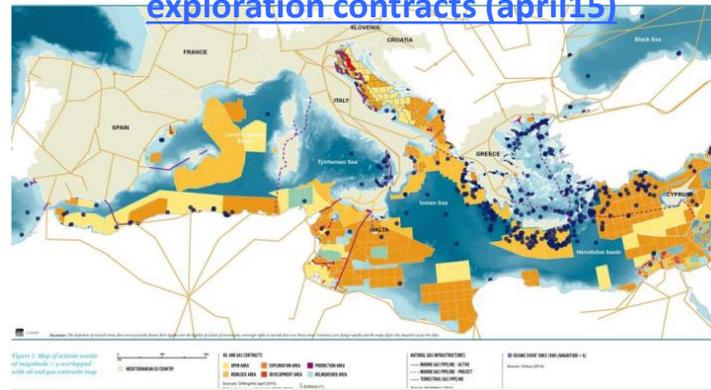
OUR EXPERIENCE FROM CRETE.. AN EXAMPLE FROM MEDITERRANEAN WHY FOCUS ON THE EU COASTAL REGIONS..

MARITIME TRAFFIC

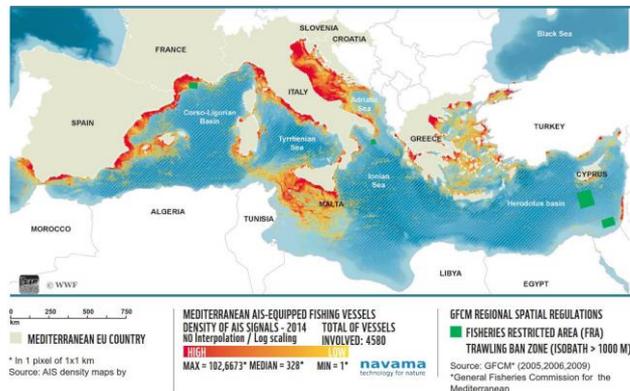


OFFSHORE OIL & GAS:

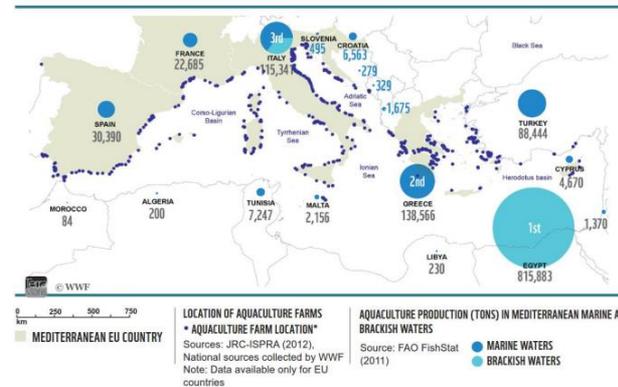
exploration contracts (april 15)



PROFESSIONAL FISHERIES



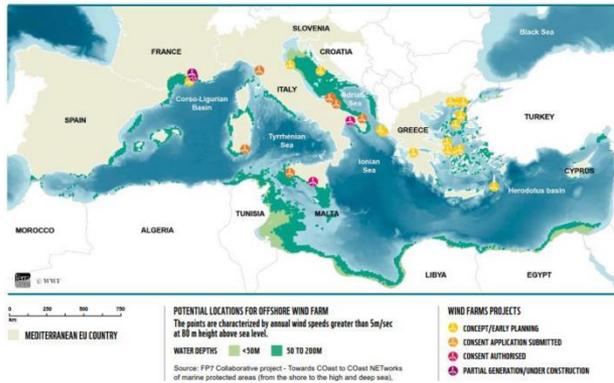
MARINE AQUACULTURE



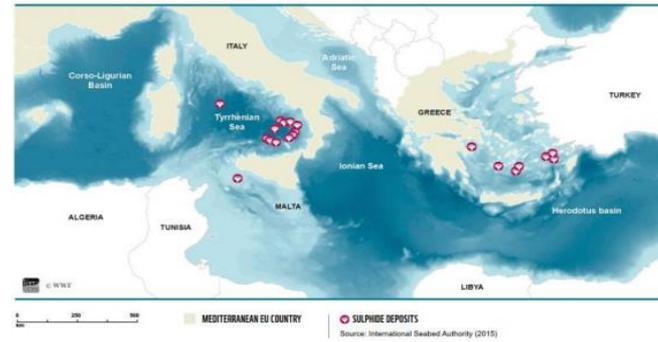
C. Piante & D. Ody (2016): Blue Growth in the Med. A Challenge for the MPA Network. MEDPAN Forum, Tangiers, Morocco.

EMERGING SECTORS _ 2

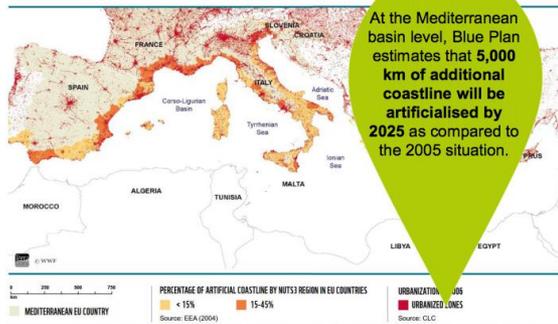
RENEWABLE ENERGY



MARINE MINING



COASTAL DEVELOPMENT



At the Mediterranean basin level, Blue Plan estimates that **5,000 km of additional coastline will be artificialised by 2025** as compared to the 2005 situation.

LAND-BASED POLLUTION



Wastewater: is expected to keep decreasing over the next 15 years. Heavy metals: an upward trend for mercury and lead. POPs: slowly decline. Nutrient discharges: slight increase.

C. Piante & D. Ody (2016): Blue Growth in the Med. A Challenge for the MPA Network. MEDPAN Forum, Tangiers, Morocco.

CASE STUDIES_1

OUR EXPERIENCE FROM CRETE..

LOCAL NEEDS / CHALLENGES IN COMMON AMONG COASTAL REGIONS

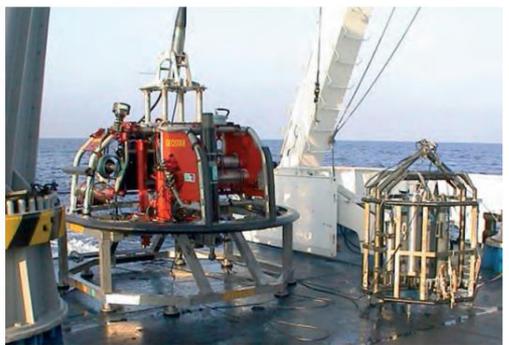
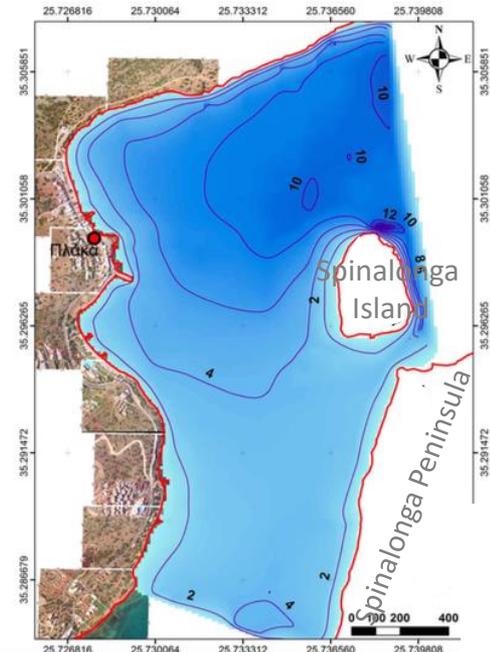
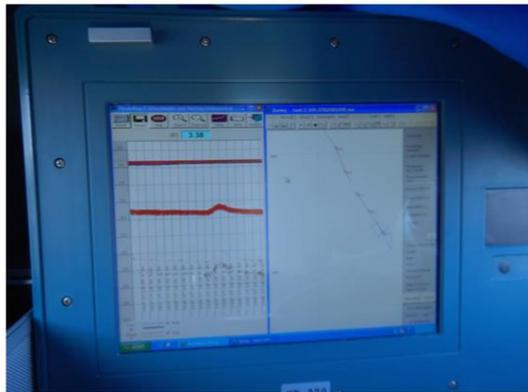


Fig 1: Equipment on board
Powerful and stable platform
providing plenty of telemetry capabilities
for the transmission of video images, data
and control signals.

BIODEEP project, 2001-2004, R/V Urania

Fig 2: Sonar image and
bathymetric data estimation
(snapshot on board)
**“Research Study for
addressing and treatment
of the Erosion Effect at
Elounda Bay, Crete, Greece
conducted by Foundation of
Research and Technology –
FORTHNET, Technical
Report, 2016”**



CASE STUDIES_2

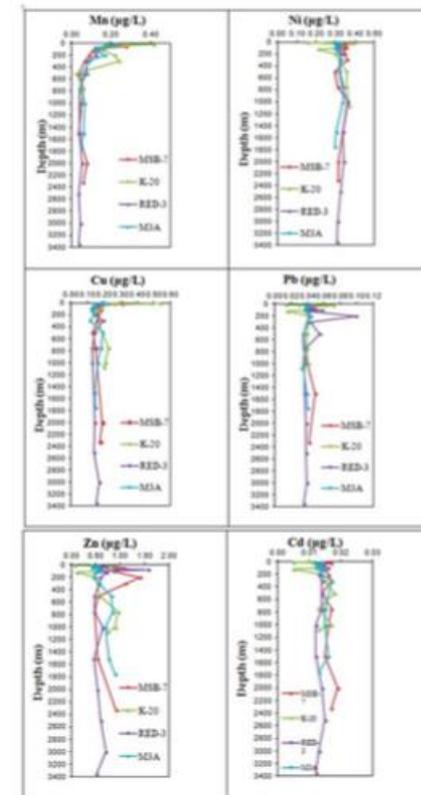
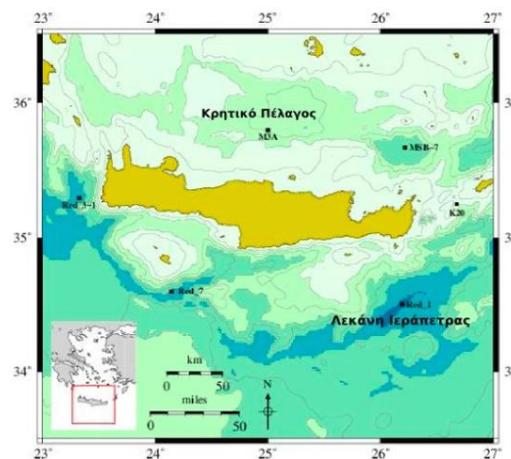
OUR EXPERIENCE FROM CRETE..

“Study and evaluation of ecological status of offshore marine area around the island of Crete. Hellenic Centre of Marine Research, Technical Report”, 2015.

Fig 2a,b: Bathymetric profile around seabed island and vertical distribution of heavy metals in the sea (water column) around Crete island



R/V Aegeo,
May 2015



Station	Lat (N)	Long (E)	Depth (m)
Red_1	34° 30.30	26° 11.50	4318
M3A	35° 47.02	24° 55.02	1564
MSB-7	35° 39.99	26° 13.02	2273
Red_3-1	35° 17.71	23° 19.37	3307
Red_7	34° 36.11	24° 08.73	3589
K20	35° 15.00	26° 40.60	1100

CASE STUDIES_3

OUR EXPERIENCE FROM CRETE..

1973



1983



2005

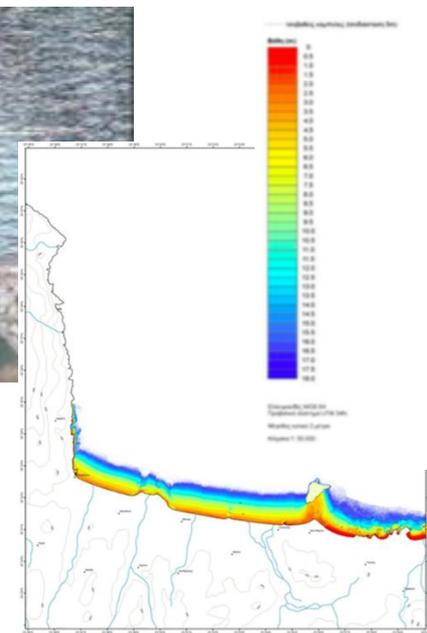
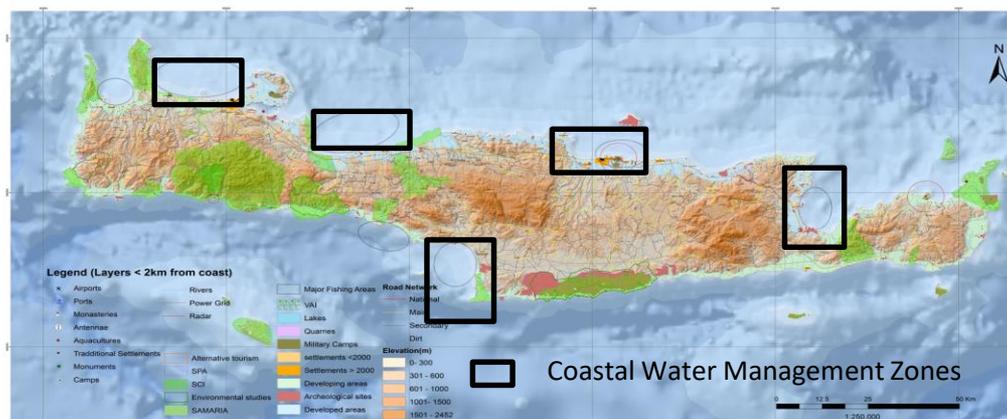


Fig 3a,b: Erosion and destruction of the sandy beach at Kolympari Coastal Zone (west Crete) and Bathymetric profiles **“Study of Corrosion and protection at the Coastal Zone of Gulf of Chania, West Greece. Hellenic Centre of Marine Research, Technical Report”, 2016.**

Fig 4:
MSP Approach at Crete Island.
Coastal & marine human activities
E Hatziyanni 2015,
European Maritime Day, Piraeus, Greece.



FURTHER REGIONAL ACTIONS

At the Region of Crete so far:

- ✓ **We have close co-operation with Hellenic Centre of Marine Research**
(one of the 2 National Bodies responsible for the required actions to monitor the quality of marine waters, Ministerial Decision Jan2017).
- ✓ **We participate in plenty of consortiums producing bathymetric data**
through research, by including Crete as a case study, and thus have access to the data.
- ✓ **We develop of a Regional Geographical Information System (GIS)**
by including bathymetric data collected so far, and new ones gained from new studies.

FURTHER REGIONAL ACTIONS FUNDING – EU CONTRIBUTION

Regions need the Coastal Mapping and the correlation with the Environmental Parameters.

- 1) To face the real needs and problems at local and regional level
- 2) For the Regional and trans-regional implementation of European Maritime Policies

Maritime Regions have common needs and challenges.

We need the EU contribution, to develop a

BLUE SCIENTIFIC DATA BANK / NETWORK

- 1) Encourage the exchange of data with research centers, public services
- 2) Guide the integration of data in cooperation with research centers, public services
- 3) Impose public access to data (open data to citizens, public authorities, researchers, companies)

Thank you!

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