

## ICZM used as a tool for adaptation to climate change between Water Framework Directive and Marine Strategy Framework Directive

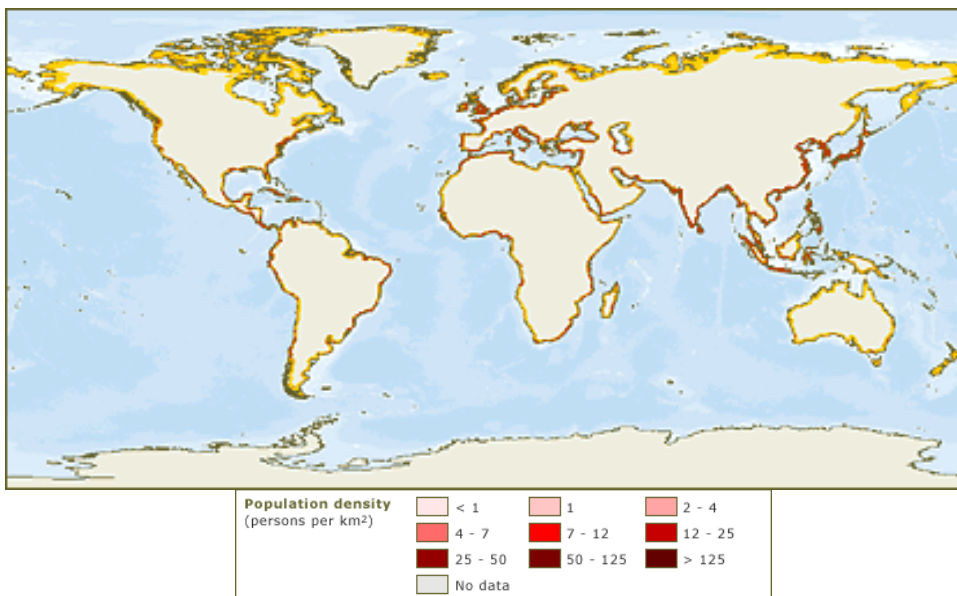
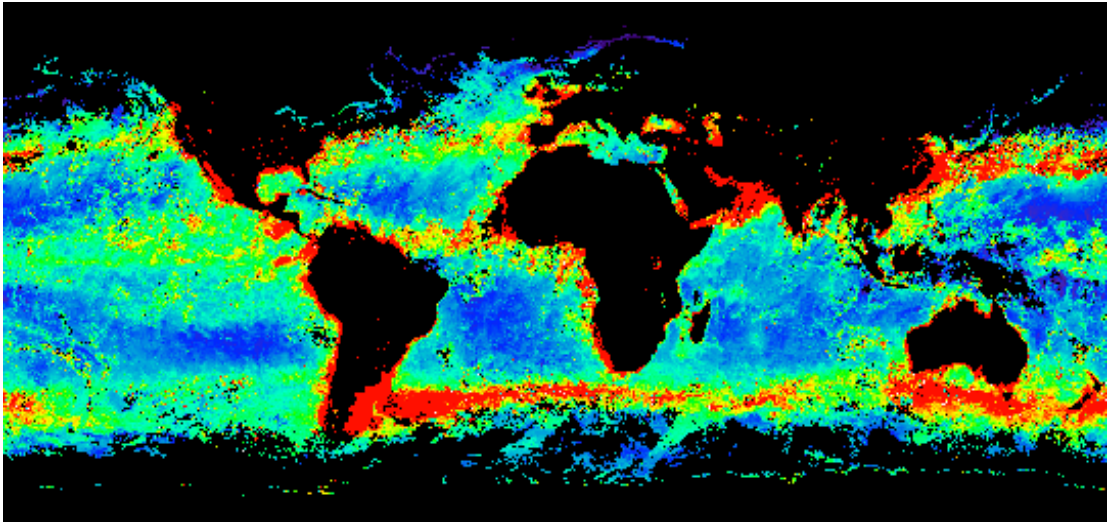
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Ministry of Environment, Water and Forests

ECRAN Multi-beneficiary Workshop, Istanbul, 11-13 April 2016

### High developments in the coastal area

- 37% of the world's population lives within 100 km from the coastline.
- In many places, population growth in coastal zones is double that of national average population growth.
- 23 cities are expected to have more than 10 million inhabitants by 2015; 18 of these are coastal.
- With the exception of Tokyo, New York, Los Angeles and Osaka, all coastal megacities are in developing countries.
- Natural coastal systems provide many goods and services that support a range of socio-economic activities.
- Important activities include tourism and recreation, fisheries and aquaculture, mining, industry, transportation and infrastructure development.
- Overexploitation of one particular good or service can inhibit the provision of goods or services that are valued less financially or which enable the system to self-regulate

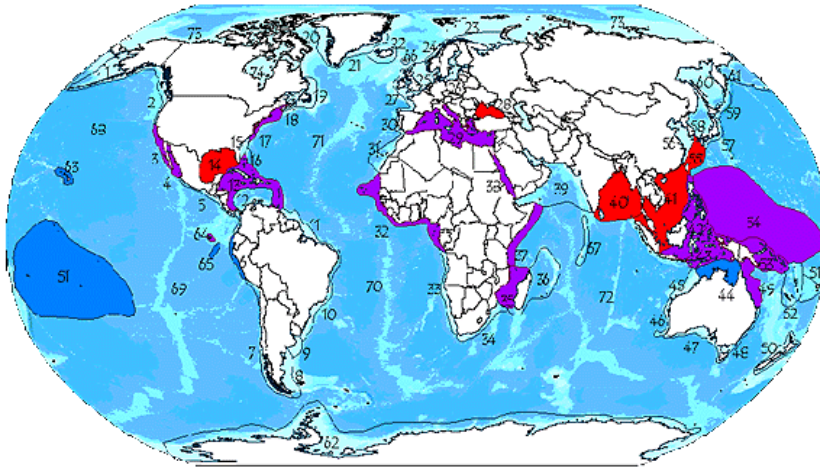
## Seas productivity



### Sources:

1. Center for International Earth Science Information Network (CIESIN); Columbia University; International Food Policy and Research Institute; and World Resources Institute. 2000. *Gridded Population of the World, Version 2*. Palisades, NY: CIESIN, Columbia University.

The most valuable, the most threatened and the most critical areas for marine conservation



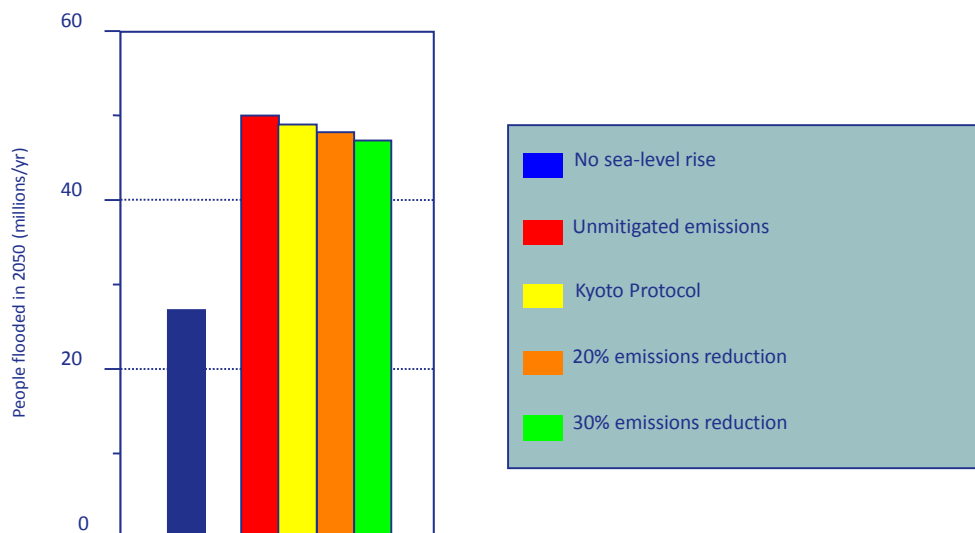
## Effects of climate change on the coastal area

| Climate factor         | Direction  | Biogeophysical effects  |
|------------------------|------------|---|
| Global Sea Level       | Increasing | Floods and displacement of wetlands and lowlands; coastal erosion; increased storm flooding and damage; salinization; rising water tables; impeded drainage |
| Sewater temperature    | Increasing | Increased algal blooms; migration of coastal species to higher latitudes; decreased incidence of sea ice at higher latitudes                                |
| Precipitation intesity | Increasing | Increased flood risk in coastal lowlands  |

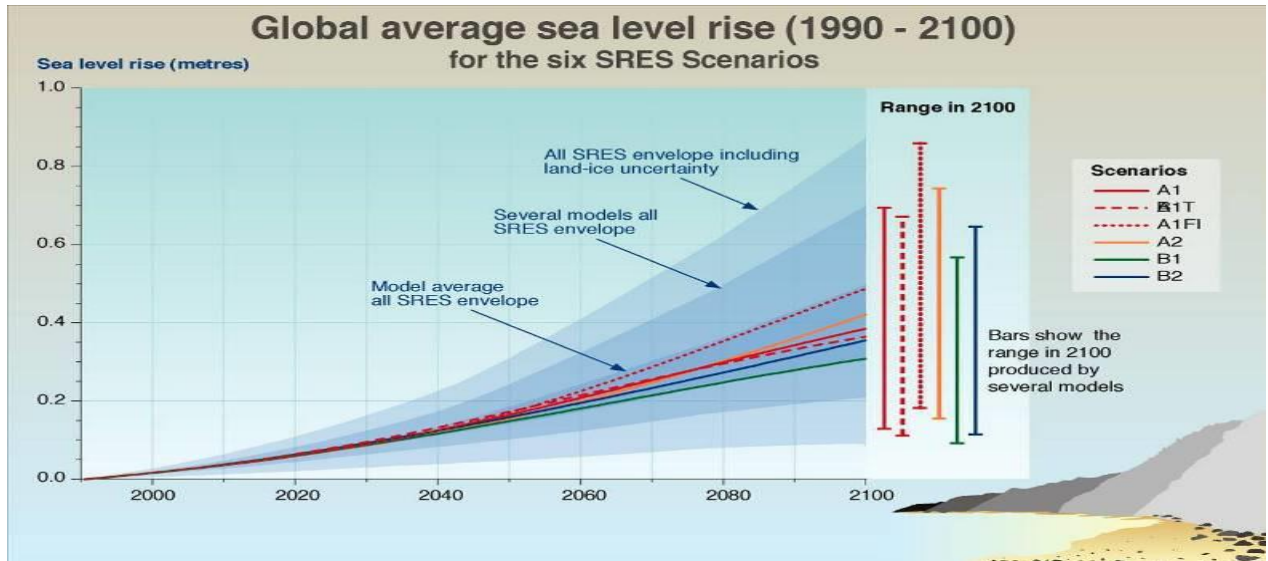
## Effects of climate change on the coastal area

| Climate factor              | Direction          | Biogeophysical effects  |
|-----------------------------|--------------------|---|
| Wave climate                | Unknown            | Changed cross-shore and longshore sediment transport, and hence patterns of erosion and accretion |
| Storm frequency             | Regional variation | Changed occurrence of storm flooding and damage   |
| River runoff                | Regional variation | Changed sediment supply from rivers to the coast  |
| Atmospheric CO <sub>2</sub> | Increasing         | Increased productivity in coastal ecosystems  |

## People at risk of flooding



## Expected sea level rise from global climate models



## Consequences on the coastline

- Erosion of the coastline because of sea level rise
- Changes in wind patterns and storms leading to increased/changed erosion patterns
- Changes in wave patterns and extreme events
- Increase in flooding risk for shallow areas
- Reduced effects of existing coastal protection (dikes)
- Salt water intrusion in ground water
- Increased pressure on sluice capacities
- Influence on harbour constructions

## Strategic objectives in international waters and coastal area

Foster international, multi-state cooperation on priority water concerns

- Restore and sustain coastal and marine fish stocks and associated biological diversity
- Reduce nutrient over-enrichment and oxygen depletion from land-based pollution of coastal waters in Large Marine Ecosystems

Catalyze transboundary action addressing water concerns

- Balance overuse and conflicting uses of water resources in transboundary surface and groundwater basins
- Reduce persistent toxic substances and adaptive management of waters with melting ice

# Integrated Coastal Zone Management

- **Integrated coastal zone management (ICZM)** or Integrated coastal management (ICM) is a process for the management of the coast using an integrated approach, regarding all aspects of the coastal zone, including geographical and political boundaries, in an attempt to achieve sustainability

## Objectives of ICZM

- Optimize benefits from coastal and marine resources, specifically for local communities
- Identify desired uses
- Minimize conflicts
- Prevent environmental degradations

# Sustainable coastal management

- Integrated Coastal Zone Management (ICZM) is a dynamic, multi-disciplinary and iterative process to promote sustainable management of coastal zones.
- "Integrated" in ICZM refers to the integration of objectives and also to the integration of the many instruments needed to meet these objectives. It means integration of all relevant policy areas, sectors, and levels of administration. It means integration of the terrestrial and marine components of the target territory, in both time and space.

## Key principles for successful ICZM

- A broad "holistic" perspective
- A long term perspective
- Adaptive management during a gradual process
- Reflect local specificity
- Work with natural processes
- Participatory planning
- Support & involvement of all relevant administrative bodies
- Use of a combination of instruments



# Key tools for ICZM

- Legislation
  - state legislation, local regulatory documents
- Planning
  - development strategies and sector plans, spatial planning
- Economics and finance
  - participation in state programmes, attraction of international funds, rational budget planning, strengthening of taxation framework
- Infrastructure
  - traffic routes, tourism and recreation facilities, nature and landscape protection, facilitated areas
- Communication
  - website development, local information systems



People for Ecosystem based  
Governance Assessing Sustainable  
Development of Ocean and coast

FP7-ENV.2009.2.2.1.  
(February 2010-January 2014)





## Support to ICZM Protocol

ICZM Protocol addresses :

- Land and sea ecosystems,
  - coastal and maritime planning
- including tourism, energy, etc.,
- impacts of Climate change and adaptation,
  - in a multi sectoral /holistic approach

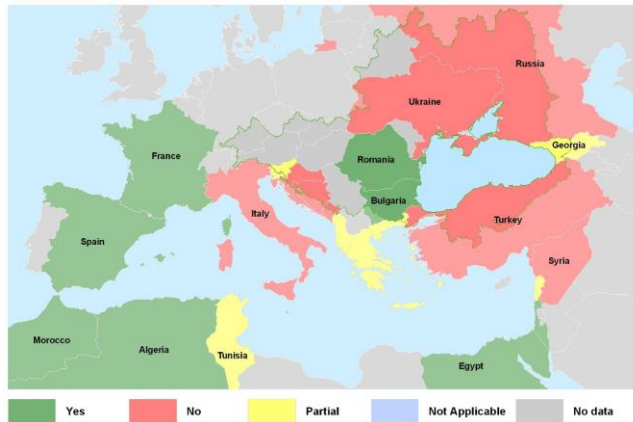


## Policy driven

- **Consistent with the frameworks of the Barcelona and Bucharest Conventions**
- Continuing ICZM efforts
- Supporting new Marine Strategy Directive Framework
- Supporting maritime policy
- Links with Directive habitat, CC and adaptation etc,
- In phase with H2020

# Mapping country responses / some findings

## Coastal zone boundaries legally defined



Potential area of support and collaboration at regional level:

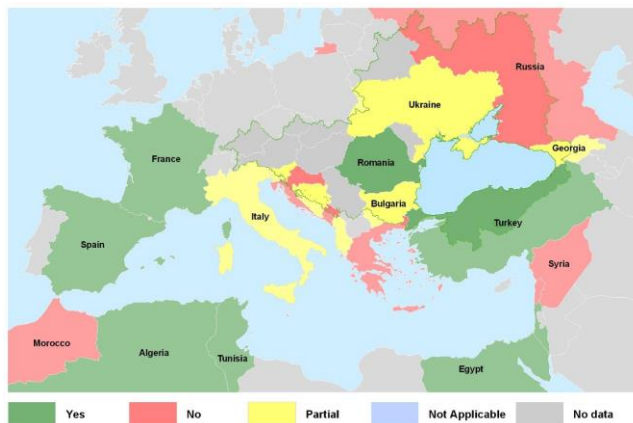
- a harmonized ecosystem-based delimitation of coastal zone boundaries for ICZM that includes both land and sea

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Abaza et. al. / BSC PS / PEGASO

# Mapping country responses / some findings

## ICZM or coastal law approved



Potential area of support and collaboration at regional level:

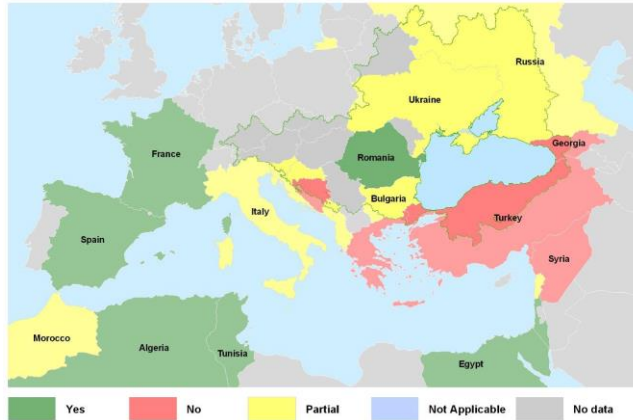
- support for national ICZM legislations

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# Mapping country responses / some findings

## Coordination/integration mechanisms in place (land-sea)



Potential area of support and collaboration at regional level:

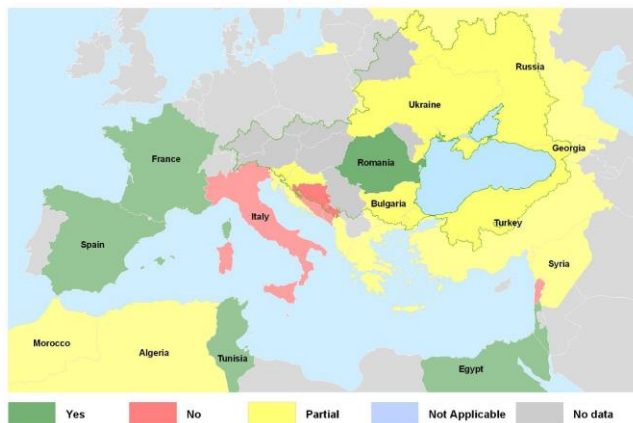
- promote institutional coordination across the land-sea boundary

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# Mapping country responses / some findings

## Coordination/integration mechanisms in place (horizontal)



Potential area of support and collaboration at regional level:

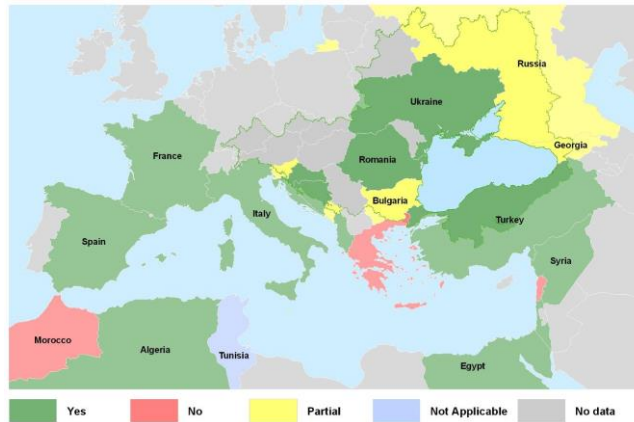
- promote horizontal & vertical coordination

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# Mapping country responses / some findings

## Setback zones for coastal development control



Potential area of support and collaboration at regional level:

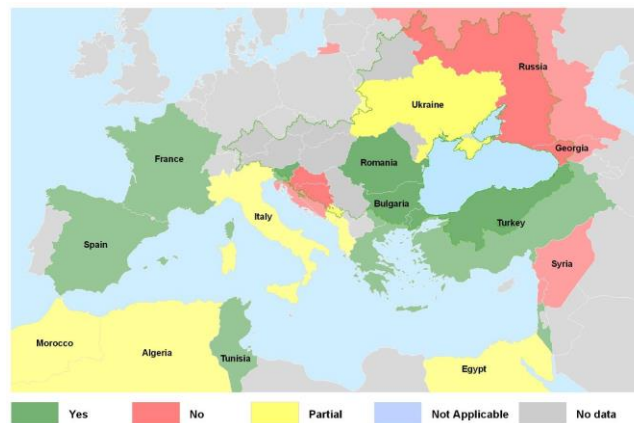
- assess the consistency and efficiency of the application of setback and other development controls on the coast

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# Mapping country responses / some findings

## Wetland restoration experience



Potential area of support and collaboration at regional level:

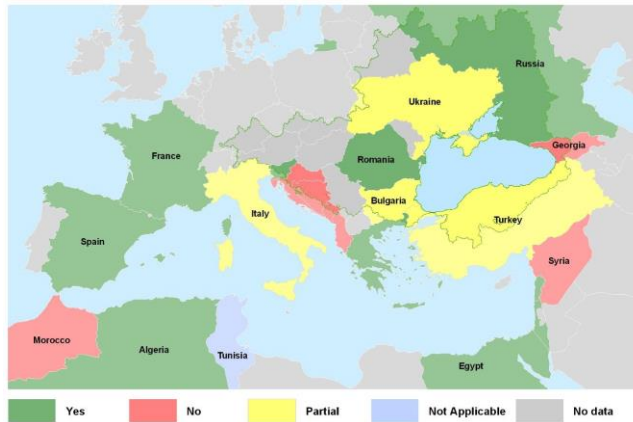
- support positive enhancement measures of key habitats and landscapes

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# Mapping country responses / some findings

## ICZM research centres of excellence



Potential area of support and collaboration at regional level:

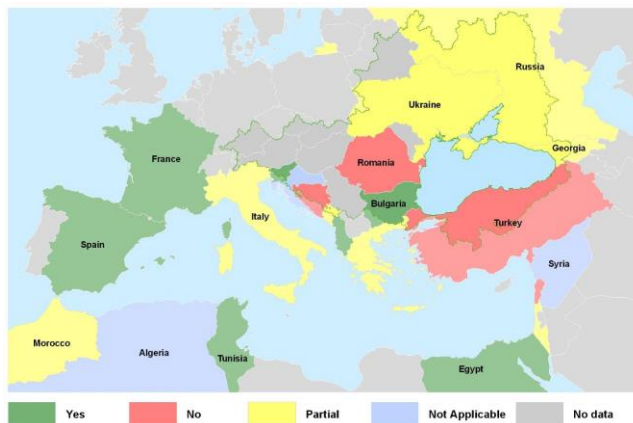
- improve capacity for ICZM research & implementation at all levels

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# Mapping country responses / some findings

## Coastal hazard prevention, mitigation & adaptation measures



Potential area of support and collaboration at regional level:

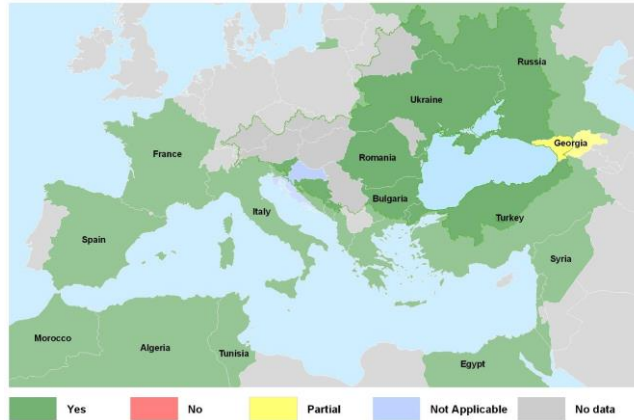
- support common assessment and best practice for mitigation of climate change and other coastal hazards

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# Mapping country responses / some findings

## Environmental assessment procedures in place and adequate



Potential area of support and collaboration at regional level:

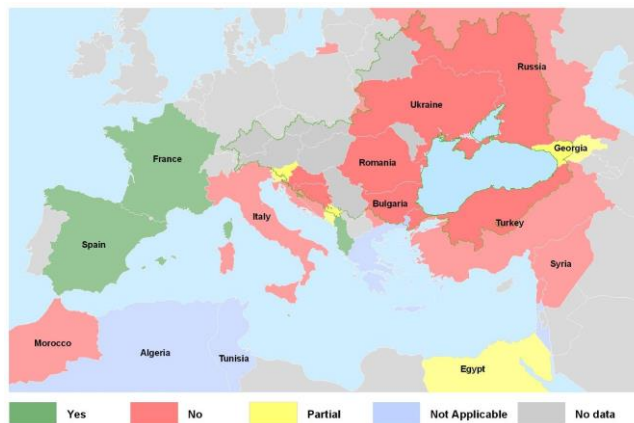
- develop guidance for the use of Strategic Environmental Assessment (SEA) in coastal zones

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# Mapping country responses / some findings

## National ICZM strategy prepared



Potential area of support and collaboration at regional level:

- provide guidance and support for national ICZM strategies and plans

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## Maritime and coastal issues in the Black Sea

- Eutrophication
- Loss of coastal and seabed habitats
- Pollution and marine / beach litter
- Coastal sensitivities to oil spills
- Operational/illegal spills along maritime routes
- Overfishing and decline in living marine resources
- Need for coastal and marine spatial planning
- Need for coastal and marine conservation



## ICZM in the Black Sea Region

### Next steps recommended by ICZM AG

- ✓ Development of ICZM legal instrument at the regional level
- ✓ Continuation of ICZM methodology & best practice work
- ✓ Implementation of ICZM pilot projects
- ✓ Development of indicators for the 'state of the coast' assessments, progress indicators for ICZM implementation



19<sup>th</sup> Black Sea Commission ICZM AG Meeting &



## Improvement of the Integrated Coastal Zone Management in the Black Sea Region, ICZM



19<sup>th</sup> Black Sea Commission ICZM AG Meeting - Istanbul 3 - 4 June 2015

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## ICZM project

- **Objective**
  - **Overall:** To improve quality of maritime environment using common innovative methodologies for Integrated Coastal Zone Management plans within the Black Sea region to assure the economical use of resources
  - **Specific:**
    - develop common and coherent ICZM approach within the regions
    - provide integrated support for the stakeholders
    - increase the level of public participation in the decision-making process
- **SOURCE OF FUNDING** - 2nd Call for Proposals - **Joint Operational Programme "BLACK SEA BASIN 2007-2013"**
- **Approved – June 2012 (first project approved within EUSDR Priority Area 4)**
- **Total budget:** approximate 627.100 Euro
- **Period of project:** 01.01.2013 – 30.11.2015

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## ICZM project

- **Leader Partner:** The National Administration “Apele Romane”, Dobrogea – Litoral Water Basin Administration, Romania

### Partners

- Sinop Provincial Special Administration, Turkey, TR82 region (SINOP)
- Union of Bulgarian Black Sea Local Authorities Bulgaria, Severoiztochen (UBBSLA)
- Center for Regional Studies, Ukraine, Odessa Region (CRS)
- Ecological Counseling Center Cahul, Republic of Moldova, Cahul town (CCE)
- Turkish Marine Research Foundation, Turkey, TR 10 equivalent region (TUDAV)
- DAYKO – Foundation for the Protection of Natural Life Turkey, TR 21 equivalent region, (DAYKO)

### Associate partners

- Associate 1 –MOE - Ministry of Environment and Forests (Romania)
- Associate 2- RIZE-State University (Turkey)
- Associate 3– KASTAMONU-Local Government (Turkey)
- Associates 4, 5, 6 – EUCC, Water Board Rijnland, Zanvoort Municipality - local public authorities and NGO from The Netherlands, EU

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## ICZM project - Results (1)

- Comprehensive and consolidate knowledge on ICZM framework in 5 project regions;
- Increased administrative capacity to work on ICZM;
- Common approach on ICZM in project regions;
- Providing best practice examples;
- Regional involvement in partnership toolkit;
- Increased theoretical and practical knowledge on ICZM successful practices;
- Creating an interregional expertise on ICZM;
- Increased capacity building for the stakeholders;
- Creating the framework for multiplication of the project and for partnerships building.

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## ICZM project - Results (2)

- Regional public awareness on ICZM process objectives and methodologies;
- Integration of public will and knowledge into planning process;
- Adjusting the ICZM approach to public perception;
- Press conferences, articles / appearances in mass-media after press-releases and events

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**Thank  
you very  
much for  
your  
attention**