

Supporting marine dimension in NSDI Marine cadastre and Marine SDI

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Background

- The oceans and coasts comprising 72% of the Earth's and they provide the essential life-support function without which life on earth would not be possible, they provide the cheapest form of transportation for our goods, they provide us with energy, food, recreation, and spiritual renovation.
- The multitude of activities supported in ocean and coastal areas is placing increasing pressure on the integrity of the coastal and marine ecosystems and many of the ocean and coastal resources are threatened through overexploitation
- Maintaining the quality of life that the ocean has provided to humankind while sustaining the integrity of ocean ecosystems, requires changes in how we view, manage, govern and use ocean resources and coastal areas.
- Management of the ocean is a complex space of inter-related, intertwined, converging and competing demands and interests. These legal instruments are diffused among a myriad of sectors in international, regional and national organisations

In this presentation is highlighted importance of spatial information and related technologies and policies, which are articulated in new concepts of Marine Cadastre and Marine Spatial Data Infrastructure as tools, instruments and institutions for efficient and more integrated management and administration of marine and coastal environments

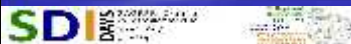


International Legaslative framework

- **UN Convention on the Law of the Sea (UNCLOS)**
- **Convention on Biological Diversity**
- **IMO Maritime policies and strategies (Solas, E-navigation)**
- **International Hydrographic organization (IHO) - MSDI**

UNCLOS

- The Law of the Sea Convention defines the rights and responsibilities of nations in their use of the world's oceans, establishing guidelines for businesses, the environment, and the management of marine natural resources.
- The most significant issues covered were setting limits, navigation, archipelagic status and transit regimes, exclusive economic zones (EEZs), continental shelf jurisdiction, deep seabed mining, the exploitation regime, protection of the marine environment, scientific research, and settlement of disputes



EU Legaslative framework

Intigrated EU Maritime Policy (IMP)

Maritime Spatial Planning (MSP) - 2007

Integrated Coast Zone Managment (ICZM) - 2002

- processes of analyzing and allocating the spatial and temporal distribution of human activities in coast and marine areas to achieve ecological, economic, and social objectives that are usually specified through a political process.

Marine Strategy Framework Directive (MSFD) - 2008

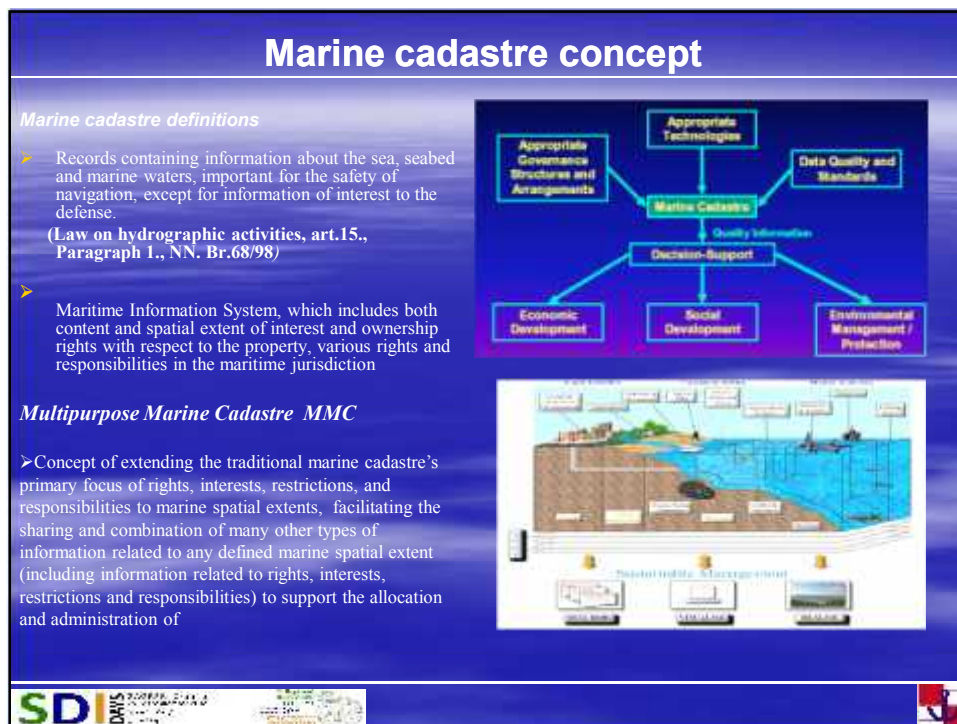
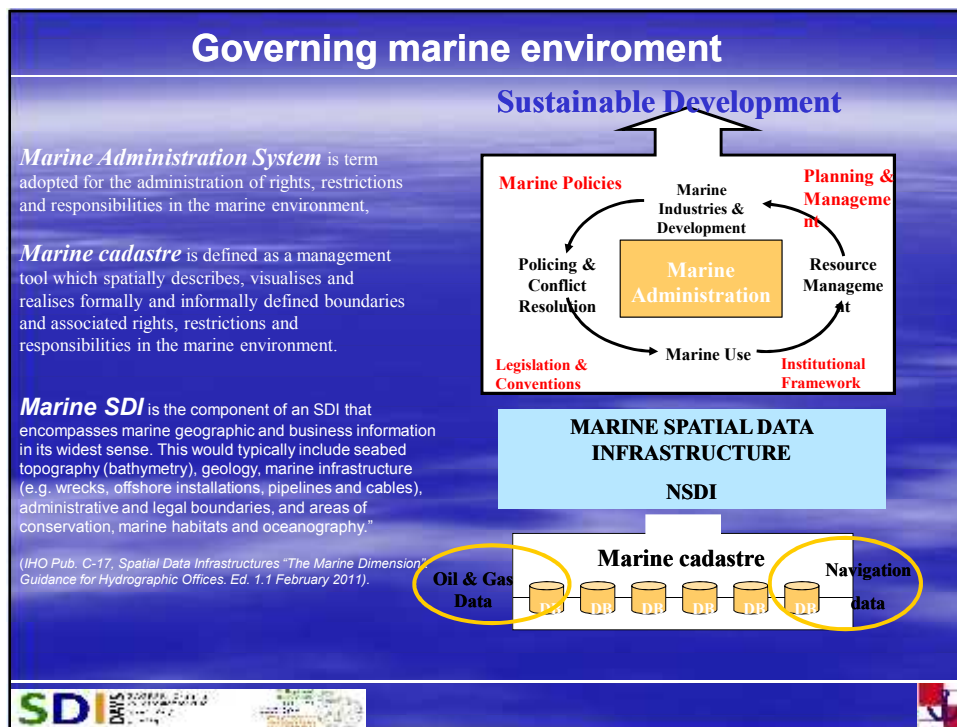
- Environmental pillar of Integrated European Maritime Policy
- Promote sustainable use of the seas and conservation of marine eco systems;
- Sets out a common framework based on co-operation between Member States to ensure the sustainable use of marine goods and services
- Each Member State must achieve or maintain Good Environmental Status in the marine environment by 2020

Mediterranean Action Plan (MAP)

Barcelona Convention and its Protocols: MSSD (2005) ICZM Protocol (2008)

INSPIRE Directive 2007/2/EC





SDI in Marine Environment

Current situation in Croatia

National Spatial Data Infrastructure (NSDI -NIPP)

- project development of spatial data infrastructure for Croatia compatible INSPIRE EU directive (SGA, 2008)

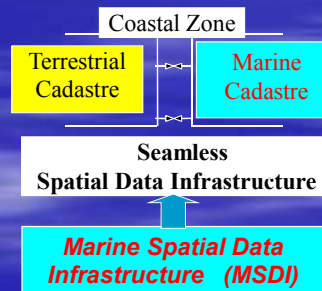


Need for including a marine dimension to NSDI model

- by extending, modifying and testing the principles that underlie SDI models (in particular the NSDI model) in an coastal zone and offshore context with particular attention on the coastal zone. – seamless model

Development of seamless SDI model

- will bridge the gap between the terrestrial and marine environment, creating the spatially enabled land-sea interface to more effectively meet sustainable development objectives



Hydrography - fundamental backdrop

A successful national hydrographic policy will not only meet the requirements of the mariner but can provide additional and often greater benefits to the marine environments

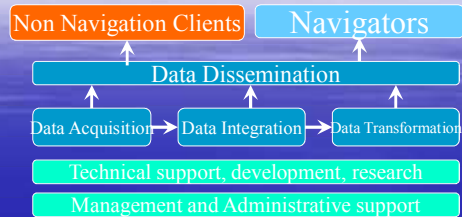
- Safety of navigation
- Protection of marine environment
- National infrastructure development
- Coastal zone management
- Marine exploration
- Resource exploitation
- Maritime boundary delimitation (UNCLOS, others)
- Maritime defence and security
- Disaster management



Role of Hydrographic office

Croatian hydrographic office has mandate for:

- Maritime navigation safety and efficiency
- Tides, Currents and Water Levels
- Seabed mapping for sustainable development
- National sovereignty, security and emergency preparedness



Marine Cadastre - Implementation

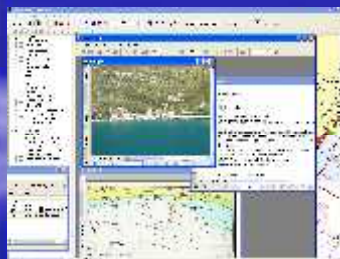
AdriaGIS -Web GIS marine information system

Current state:

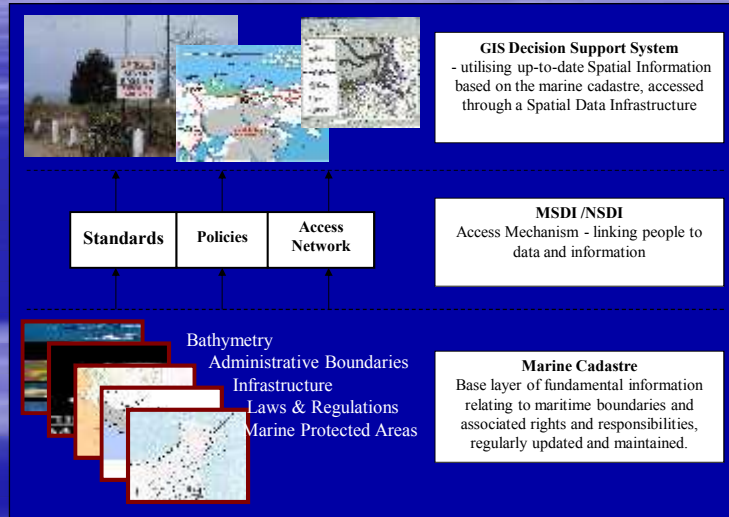
- Web GIS viewer with GIS layers related to marine and coastal environment

Future features:

- Multipurpose marine cadastre
- Web-oriented maritime registers publicly available
- Marine GIS geo-portal with the available thematic layers
- Management and maintenance of information by authorized institutions



Integrated Marine Information System



Conclusions

- A more integrated and holistic approach to management of coastal and marine environments would be facilitated by the extension of the SDI to coastal and marine environment on a seamless platform;
- Demonstration of the requirements and potential advantages of a coastal and marine SDI within the framework of a national NSDI, with further linkages to integrate with national, regional and global initiatives.
- There is need for integrated marine information systems that will contribute to the management of the coastal and marine environments both in the province and the region.
- The Croatian Hydrographic Office is enhancing its role as an organization recognized as the official provider of national hydrographic information.
- CHH is realigning its activities towards data accessibility and the integration of marine information in support of the safe and efficient use of our marine environments, the sustainable development and national sovereignty and security.



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