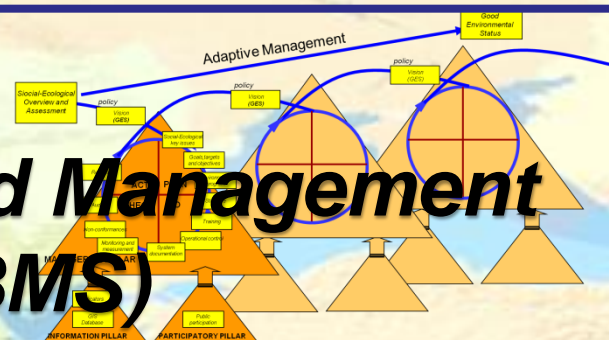
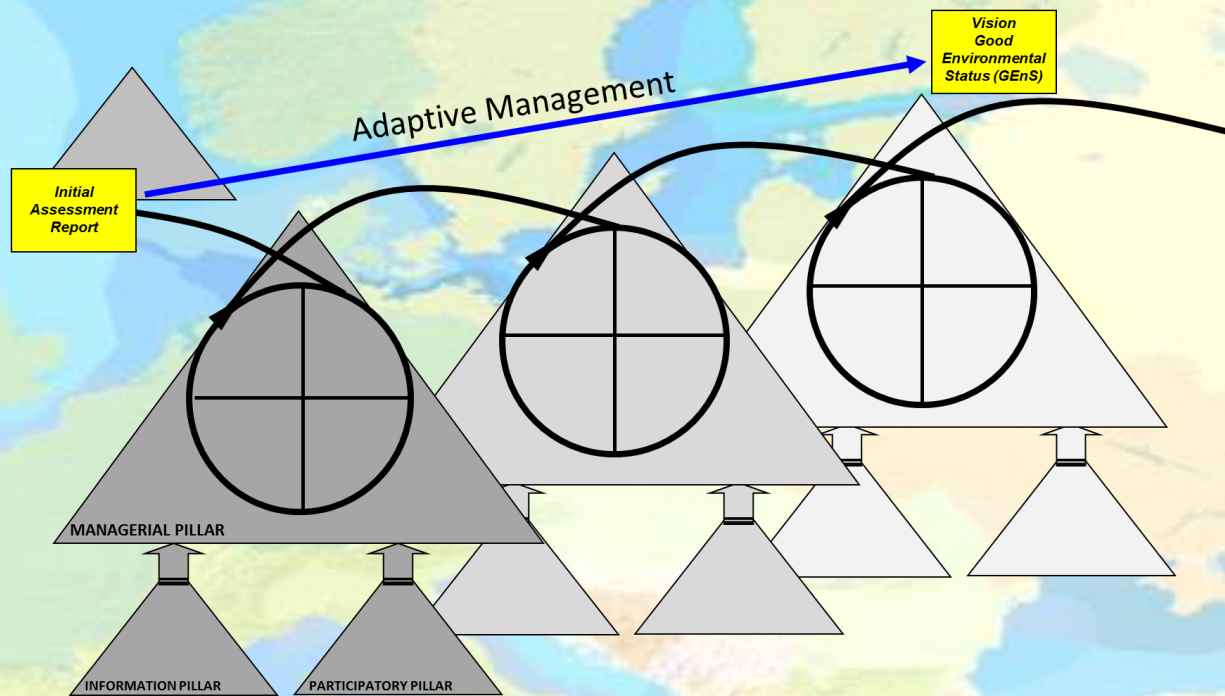




# The Ecosystem-Based Management System (EBMS)



**The Ecosystem-Based Management System (EBMS) is a proposal for an standard framework, a systematic process to translate the Ecosystem Approach (EA) concept into tangible policy management practices**



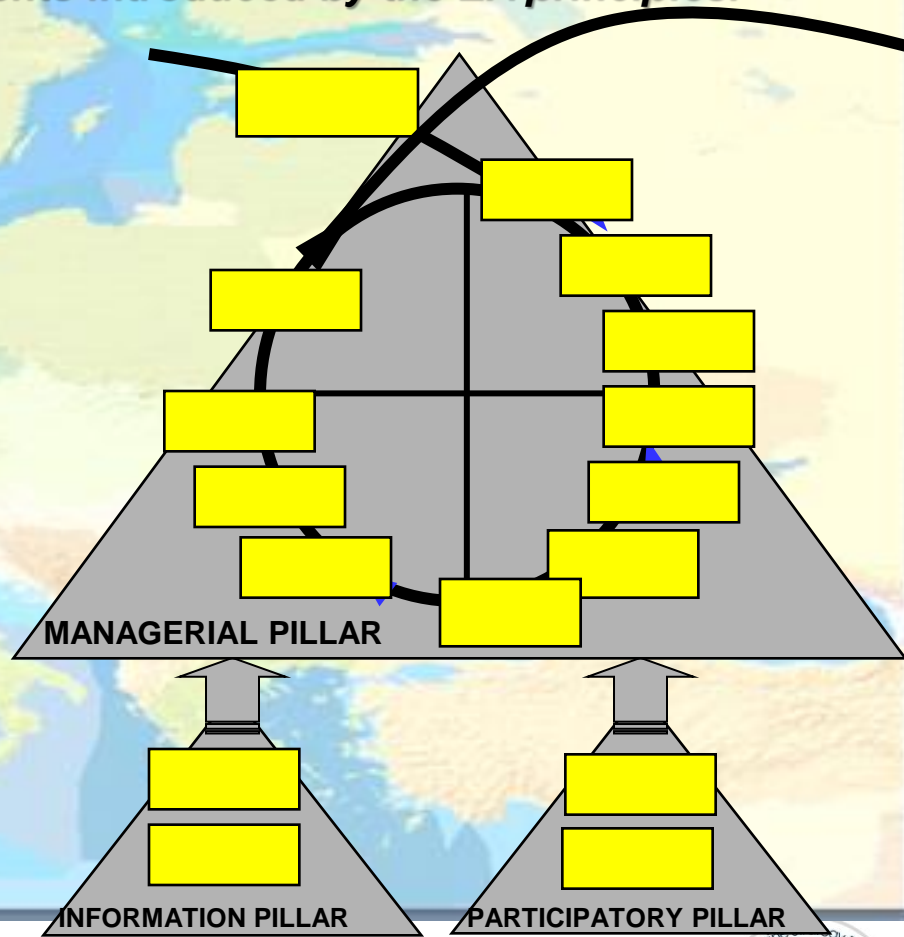
**The EBMS is an adaptive management approach combining classical Environmental and Risk Management System theory with the principles of an EA. The EBMS is a coherent, holistic and formal systematic way to manage environmental public goods.**

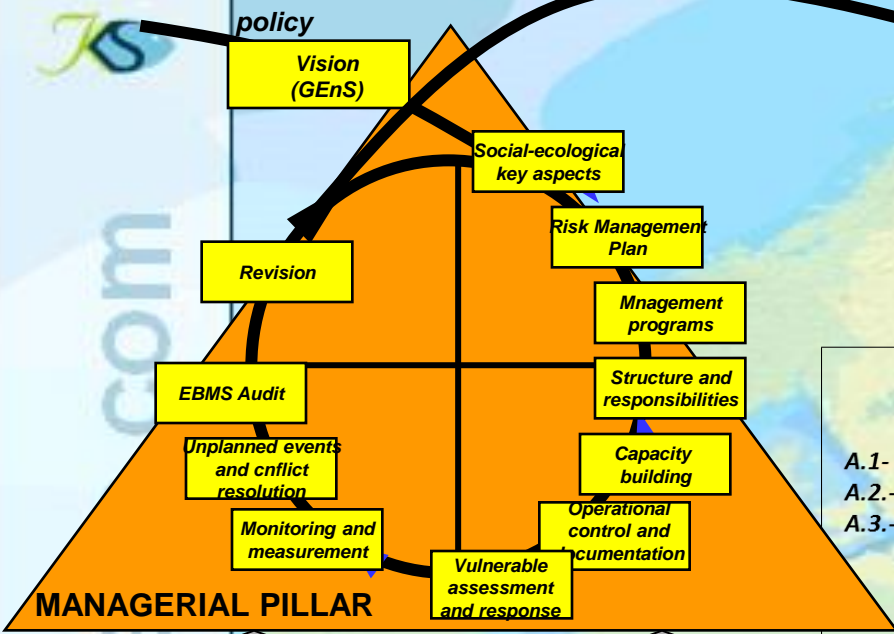




**The EBMS is a three pillar structure. The managerial pillar, the basis of the system, follows a formal classical Environmental Management System (EMS) with the incorporation of a Risk Management framework. The information and the participatory pillars provide the inputs required for functioning and performance of the managerial system and allows to accomplish the different requirements introduced by the EA principles.**

**Combined, these three pillars can facilitate a wider use of sustainable development principles such as integration, adaptability, transparency or participation inside a quality assurance mechanism.**





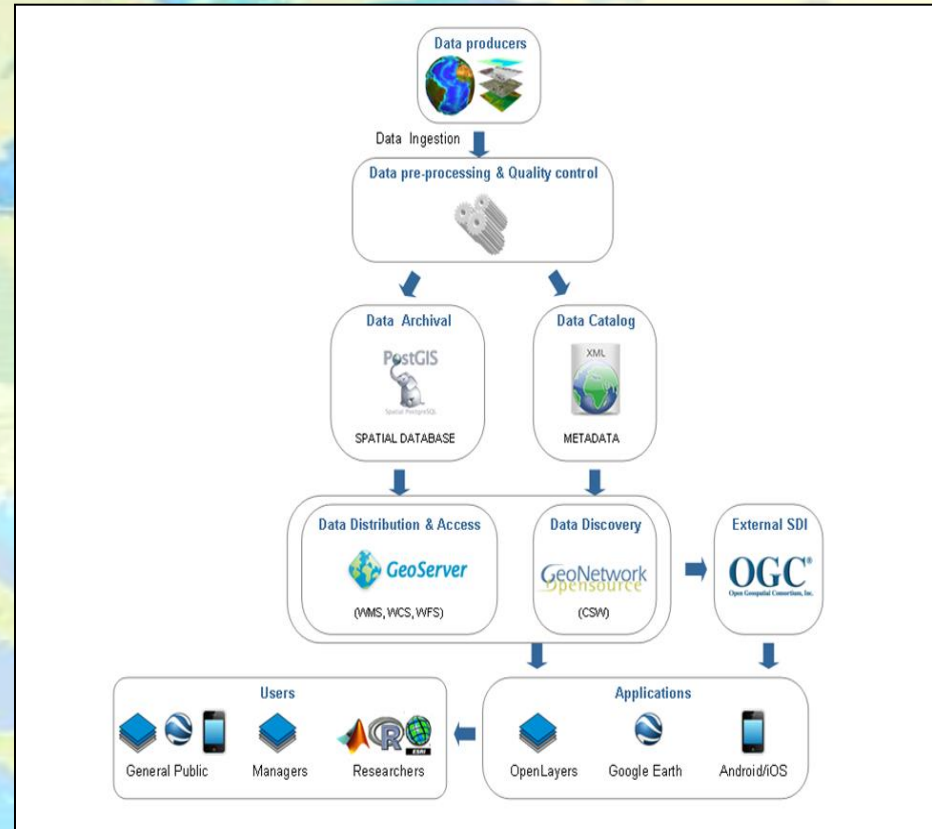
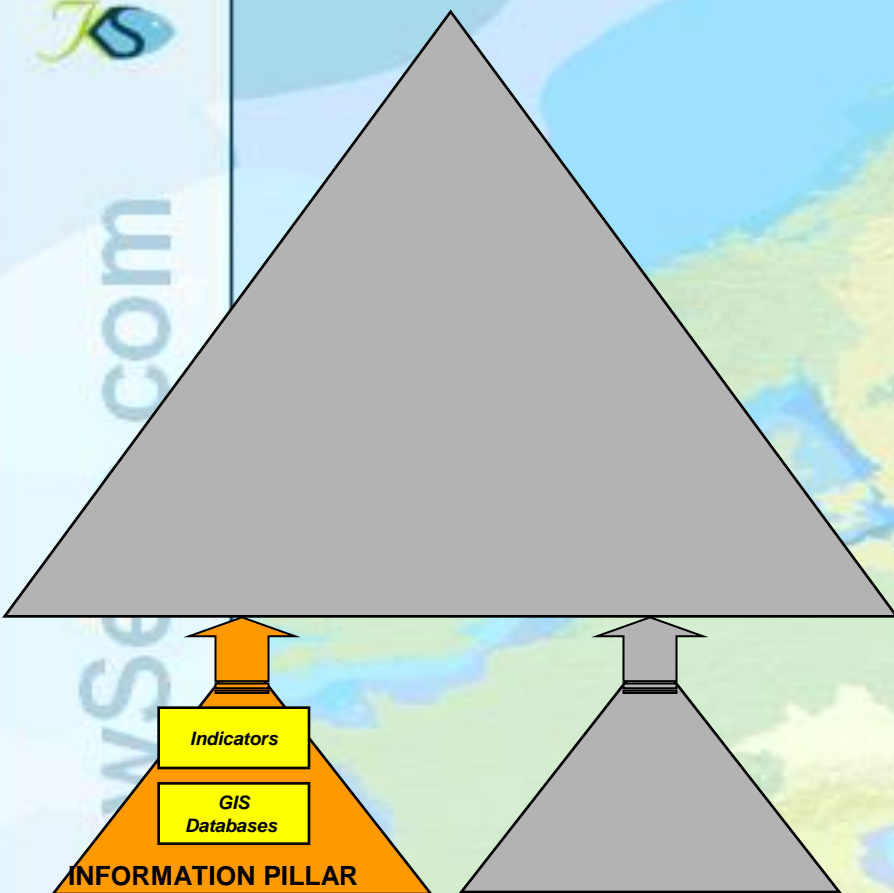
**The managerial pillar is the engine of the EBMS. It retains the format of an EMS-ISO standard. It is based on the ISO 14001 structure in which the planning and implementation phases works with the newly ISO 31010 on Risk Management.**

### EBMS Managerial Pillar

<p>A.1- General Structure.          A.2.- Vision (Good Environmental Status)*.          A.3.- Planning.              A.3.1.- National and international requirements*.              A.3.2.- Social-Ecological key aspects*.              A.3.3.- Risk Management Plan*.              A.3.4.- Risk Management programs*.                  - collaborative agreements,                  - concerted actions,                  - best management practices,                  - marine protected areas,                  - regulatory policy alignment,...</p>	<p><b>Risk Assessment</b></p>
<p>A.4.- Implementation and Operation.              A.4.1.- Structure and Responsibilities.              A.4.2.- Capacity building*.              A.4.3.- Communication.              A.4.4.- EBMS Documentation.              A.4.5.- EBMS Operational Control.              A.4.6.- Vulnerability assessment and response.</p>	<p><b>Risk Treatment</b></p>
<p>A.5.- Checking and Corrective Measures.              A.5.1.- Monitoring.              A.5.2.- Unplanned events and conflict resolution*.              A.5.3.- EBMS Records.              A.5.4.- EBMS Audits.</p>	<p><b>Audit</b></p>
<p>A.6.- Management Review (updating the vision).</p>	



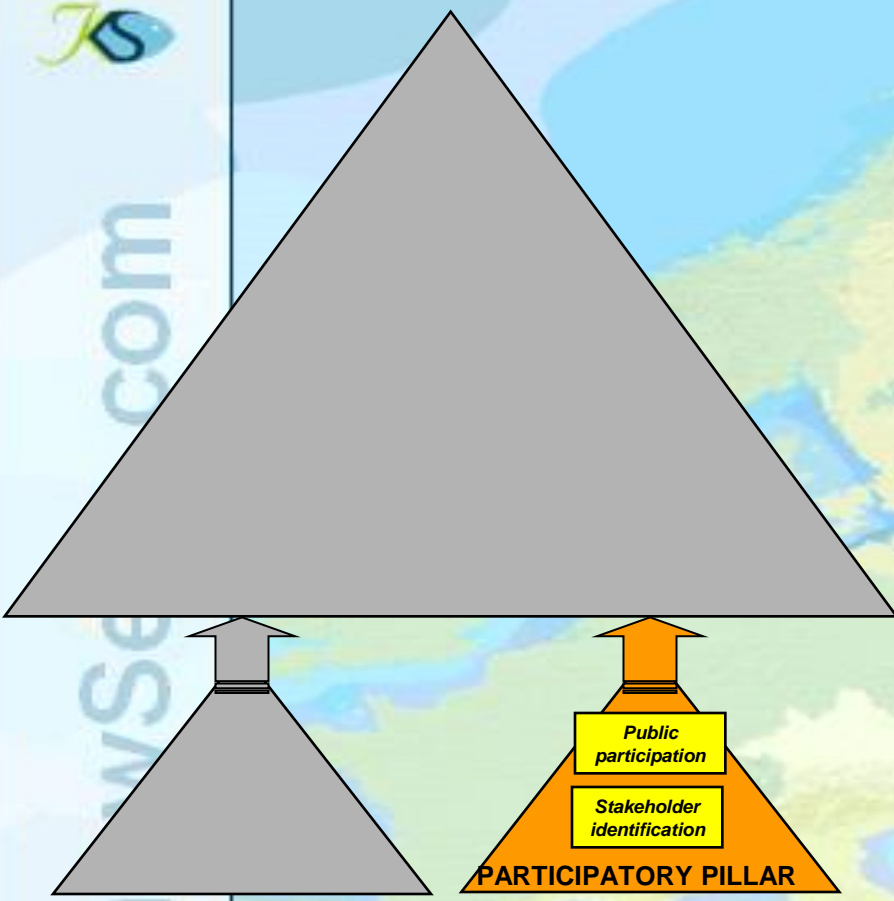
**The information pillar of the EBMS must provide the managerial pillar with user-friendly tools to facilitate the flow of information into the decision making process. An Spatial Data Infrastructure (SDI) following standard procedures is the main format for such pillar.**



**The participatory pillar is aimed to enhance communication with stakeholders and to service needs for capacity building. Two main issues are addressed:**

**Facilitating Stakeholder identification and participation.- all relevant stakeholders should be identified and should have the opportunity to participate, this can be easily done through a MEDUSA-type tool. A web portal with purpose of enhancing stakeholder capacity has been developed ([www.msfd.eu](http://www.msfd.eu)).**

**Conflict resolution.- using succesful applications of Multi Criteria Analyssis (MCA) tools.**



[www.msfd.eu](http://www.msfd.eu)

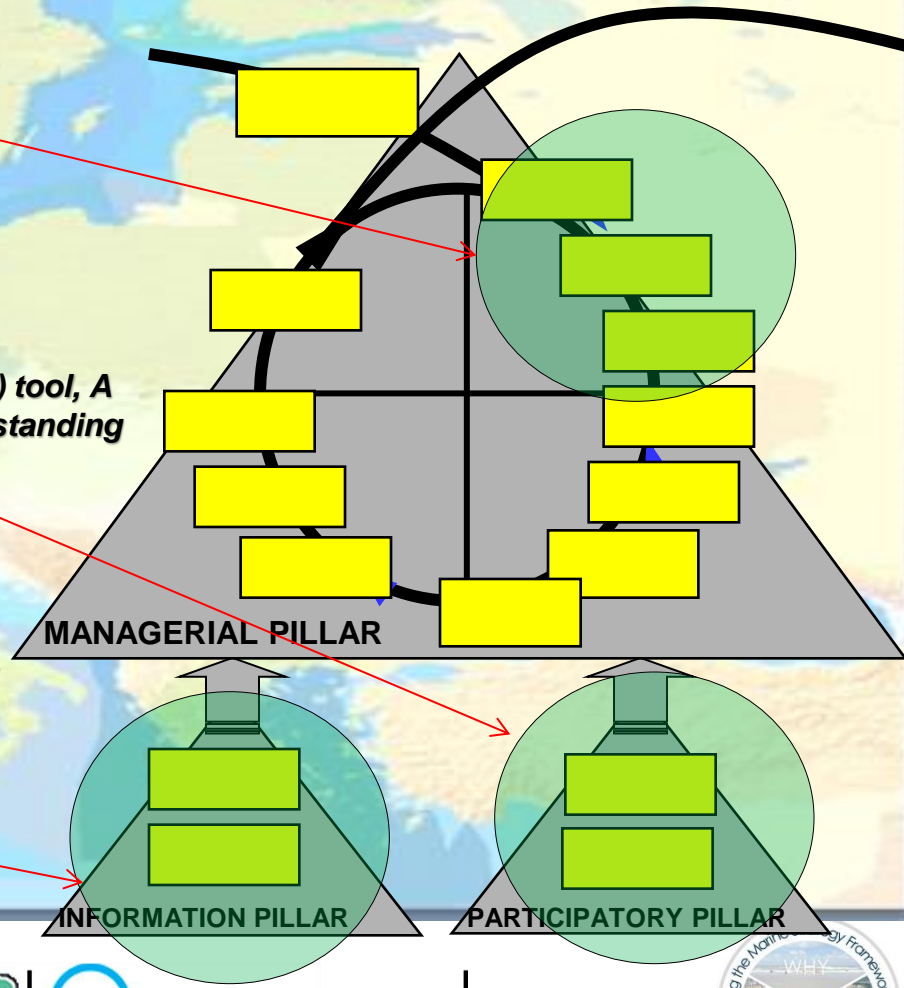


# The EBMS, as a normal EMS, allows managers to develop its own procedures and tools to run the different process steps. Nevertheless, three tools have been developed inside as recommended ones:

**DEMA (DEcision Making) tool, based on a classical Risk Management process adapted to marine and coastal ecosystem based frameworks.**  
See Lozoya et al., (2011) *Env. Sc. & Pol.*, 14: 685-696, for an application.

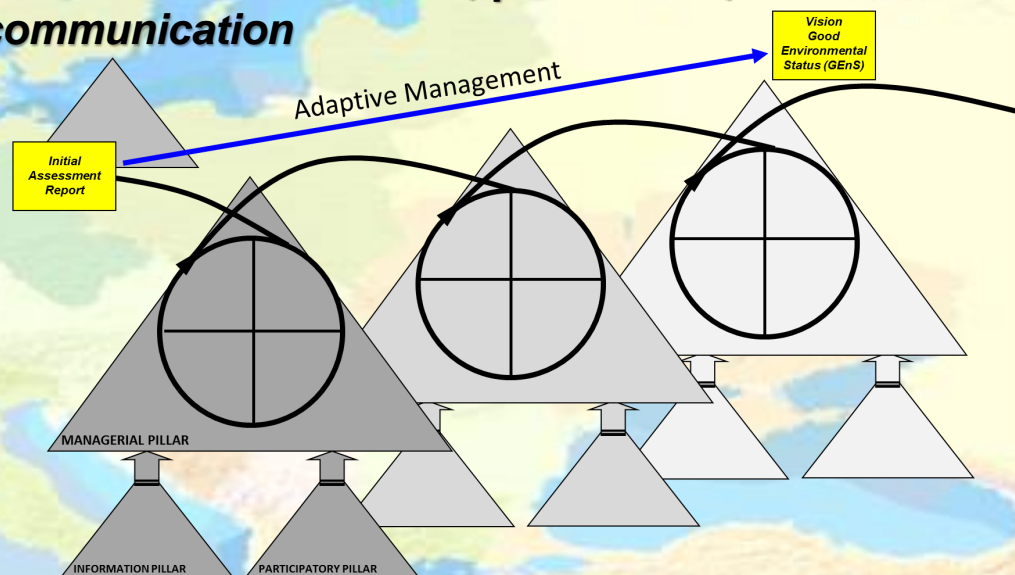
**ESCA (Enhance Stakeholder Capacity) tool, A web platform to increase public understanding**  
See ([www.msfd.eu](http://www.msfd.eu)).

**GIS-Seas tool, analytical and visualization tool intended to provide in real time information for decision-making.**  
See (<http://knowseas.socib.es/lion/composer/>).



# The EBMS presents different advantages:

- a) **Scalability**: The EBMS can be hierarchically introduced at different spatial scales
- b) **Quality assurance**: The EBMS is a Quality Assurance tool (QA) by itself
- c) **Vision driven process**: Good Environmental Status (GENS) or other type of desired vision is its ultimately aspiration, its driving force
- d) **Standardization**: use of a common set of norms, procedures, and language that facilitate communication



**The EBMS could be intended as a standard application made of different tools and used in a systemic way that can facilitate the introduction of today's required new instrument to manage the coastal and marine domain.**





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# Thanks

