



MARCOM+

Integrating Marine & Maritime Science Communities

MARCOM+ 2nd Interdisciplinary Dialogue Across Science /
Research Infrastructure Development

joint panel meeting

4-6 April 2011

report

Chairs: Kostas Nittis (HCMR, Greece), Adi Kellermann (ICES, Denmark)

The chairs welcomed the participants and thanked the local organizer - SOCIB (Balearic Islands Coastal Observing and Forecasting System) for the meeting arrangements.

Kostas Nittis presented the role of the Interdisciplinary Dialogue Across Science Panel and the Research Infrastructure Development Panel. Findings from the 1st joint IDDAS/RID panel meeting were also presented.

The group agreed that the cross-cutting marine / maritime priority topics list should be shortened to better reflect common scientific challenges.

Adi Kellermann presented the major conclusions from the other MARCOM+ Panel meetings (Technology Transfer Panel, Foresight Panel and Policy Interface Panel) as well as conclusions from the MARCOM workshops and the Open Forum.

It was reiterated that science networks act mostly on the European scale, whereas the industry rather operates on a national / regional basis. The MARCOM group should focus on a number of interdisciplinary areas of common interest instead of trying to be all encompassing. Franciscus Colijn suggested adding exploitation of non-living marine resources to the topic list. Rudy Herman recommended not to look only on European waters in terms of the sea-bed mineral extraction and the technologies needed but to take other sea areas into consideration as well. Torgeir Edvardsen added that the complementarity between the top down initiatives like the Joint Programming Initiatives and the bottom-up initiatives where science and industry meets (e.g. the technology platforms) is important. The MARCOM group has to keep in mind that cross-discipline integration is a difficult and complex process (from identification of common marine / maritime problems to agreeing on a direction of product application). People of different sectors have different understanding and different approaches to scientific questions.

Joaquín Tintoré – director of Balearic Islands Coastal Observing and Forecasting System (SOCIB www.socib.eu) presented the organization, its structure, achievements and goals. He stressed the importance of linking Science, Society and Technology in major research programs and infrastructures. He also underlined the need to include local stakeholders in the design and implementation phase of new research investments capturing their needs through proper socio-economic analysis.

This was followed by presentation ‘Social Science Aspects of Marine/Maritime Research’ by Amy Diedrich (SOCIB Division of Strategic Issues and Applications for Society). The presentation constitutes an attachment to this report.

Summary of the presentation:

The sustainable management of coastal and marine ecosystems has become a significant international challenge which is becoming increasingly urgent with the prevalence of global change. The need to manage human activity as part of ecosystems and reconcile environmental preservation with sustainable economic growth in marine areas is central to the European Strategy for Marine and Maritime Research. Integrated management processes that seek to link interdisciplinary scientific information with decision-making have been proposed as tools to support associated European policy such as the Marine Strategy Framework Directive and the Integrated Maritime Policy. These include Marine Spatial Planning (MSP) and Integrated Coastal Zone Management (ICZM). In order to support these developments, there is a need for scientific research aimed at establishing innovative, adaptive approaches to understanding and managing social-ecological systems with variable, complex, and multi-dimensional attributes. New scientific approaches such as sustainability science have emerged in order to address this need and are more applied, interdisciplinary, and problem orientated than before.

As the focus on the human aspects of ecosystem management grows, the role of social science in environmental research is becoming increasingly important. Social science, which consists of a plurality of sciences outside of the natural sciences (e.g. anthropology, economics, psychology, political science, geography), can contribute significant quantitative and qualitative information to support interdisciplinary marine/maritime research and associated processes such as MSP and ICZM. Some specific aspects include:

- Scoping research to define the problem/challenge/issue when it is embedded in multiple systems or sectors (i.e. economic, governance, social, cultural, ecological contexts).
- Identification and knowledge of the factors (drivers, pressures) associated with the problem in order to address them more effectively.
- Definition of site or situation specific priority objectives. This information can help guide research across disciplines in order to ensure more targeted, efficient, and effective use of resources (i.e. time, funds, and personnel).
- Identification and involvement of key, multiple stakeholders using structured and systematic methods.
- Conflict resolution techniques.
- The design and implementation of research that matches the needs and capacities of decision-makers or target clients (i.e. help to bridge the science-policy gap).

Vasco Becker- Weinberg, International Max Planck Research School for Maritime Affairs, University of Hamburg gave his presentation ‘Marine Scientific Research in the EU’. The presentation constitutes an attachment to this report.

Summary of the presentation:

The EU Member States have undertaken within the legal framework of the EU and the United Nations Convention on the Law of the Sea (“UNCLOS”), as well as several regional agreements, to cooperate and promote marine science and technology, as well as to exchange scientific information.

However, as EU Member States have exclusive competence on marine scientific research (“MSR”), different domestic rules and regulations are applicable within the respective national maritime areas. Additionally, some Member States have yet to adopt or implement conditions that create favourable circumstances for the development of MSR projects in the maritime areas subject to their control.

The lack of consistency between the different rules and regulations applicable at the national level within the EU has prevented Member States and organisations from engaging in significant cooperation on MSR. Therefore, considering that some degree of harmonization of the different national legal regimes would potentially favour the creation of conditions for

a real partnership between the different Member States regarding MSR, the following measures could be considered at the EU level, taking into account the provisions established under UNCLOS and without hampering Member States' exclusive competence on MSR:

- a) Establishing adequate official channels to fulfil the obligations included in UNCLOS, EU law and regional agreements regarding promotion and creation of favourable conditions for MSR;
- b) Promoting the harmonisation of legal and administrative domestic procedures applicable to MSR, including on responsibility and liability;
- c) Approving and implementing guidelines on:
 - i) Submission and review of MSR requests, including measures to avoid delays and unjustified refusals;
 - ii) EU joint MSR projects in the Area;
 - iii) Exchange and ownership of data obtained as a result of MSR.

Franciscus Colijn presented the 2-pager 'Information on oceanic and coastal observatories' worked out after the 1st MARCOM+ IDDAS/RID Panel meeting:

The document describes what science can offer to development of research infrastructure. The need for standardization of scientific data was raised as an item worth stressing. Discussion with the industry is important in the process of standardizing or at least harmonizing data. The paper constitutes an attachment to this report.

Rudy Herman gave an update on the European Commission's Marine Research Infrastructure Working Group. A major goal of the group has been defining the research infrastructure needs and the gaps on the European scale. The group has also been looking into a model of social benefits of new European infrastructures as well as alternative funding mechanisms through e.g. structural funds managed by European Regions. The list of ESFRI projects within environmental, social and biological sciences was presented. Rudy Herman also gave an update on the Joint Programming Initiative 'Healthy and Productive Seas and Oceans' and its links with the ESFRI initiatives. A consultation mechanism between the MARCOM+ community and its future Forum and the JPI will be considered by the JPI Management Board.

Kostas Nittis presented an update on the 'European Ocean Observing System' initiative that had been introduced by the Ostend declaration (EurOCEAN 2010 conference). The initiative was presented at a recent event organized at the European Parliament ("To Protect and Develop Maritime Resources: Towards European Marine Research Infrastructures", 29th March 2011). The need to consider how MARCOM can aid the process by bringing the different scientific networks together was recognized. The presentation constitutes an attachment to this report.

Based on the findings of the 1st IDDAS/RID Panel and the Technology transfer Panel meetings the group developed suggestions for marine/maritime research priorities into the following table:

| Research priorities for marine / maritime science |
|---|
| Aquatic living resources ; sustainability, mariculture, capture fisheries, distribution, marketing, transport, processing, sustainability of all operations, consumer behaviour and demand, under changing environments, production of values in the secondary etc. sectors, benchmarking; impact of chemical pollution on living resources; multispecies approach; fishing systems and sea food (vessels, processing etc.) of the next millennium |
| Ocean energy affordable, eco compliance; (+solar energy), development of new materials, synergies between ocean-energy, fisheries and aquaculture (to make the ocean energy more cost-effective), “green” offshore installations (from building to dismantling and removal). |
| Blue biotechnology and material research. Ocean resources for “blue” biotechnology (pharmaceuticals); learning from nature for new high performance materials and technologies for maritime products. |
| Global change : adaptation to climate change research; carbon capture, storage and usage; warming in the Arctic - legal issues and impact on economy; Improved services for maritime activities (including forecasts for safety of operations). |
| Human activities and impacts on ecosystems ; Ecosystem properties, e.g. resilience, vulnerability, and resulting requirements for input from different disciplines (with observatories); Marine litter removal, development of new degradable material; |
| MSP and its science - tool boxes; building with nature in coastal architecture and maintenance |
| Use of the oceans and human health and wellness ; |
| Technologies for non living resources |
| Sustainable maritime transport and shipbuilding standards, including ballast water treatment and bioinvasions |

Franciscus Colijn will send a template for further development of these topics (up to one page description). The following persons volunteered to elaborate on these topics (with a deadline of 17th of May) using the template that will be provided:

- Torgeir Edvardsen and Adi Kellermann - the Aquatic living Resources
- Amy Diedrich - the MSP
- Christos Arvanitidis - Global Change
- Karl Strømsem - Ocean Energy Technology
- Franciscus Colijn - bioinvasions and building with nature

Discussion on joint investments in infrastructure:

Mechanisms of joint investments between science and industry in research infrastructures are known. Scientific community should look at industrial production schemes and identify

where science can contribute. What needs to be communicated is what products science offers to the industry. On the other hand when industry's needs are communicated to science then science can invite the industry to cooperation, suggesting specific cooperation mechanisms. Dialogue with the industry should be able to initiate long-term investments. It is important to realize that it is industrial associations rather than individual companies themselves that cooperate and co-fund research.

Business professional exhibitions – these events can constitute an opportunity model to bring dialogue between industry and science (e.g. the annual TechMar conference - Technology for Mariculture in Norway). Networking and creating cross-sectoral meeting places are useful to generate cooperation and, very important – personal bonds, which may give fruit in future cooperation including joint investments.

Some good practice cooperation examples from local scale where the problems are better recognized are known; there is a need to try to move these issues to regional and European scale. Local authorities could also be the place to identify current needs of industry.

Discussion on the future MARCOM+ Forum:

The concept of the MARCOM+ Forum is similar to the concept of European Technology Platforms (seeking consensus among concerned parties and establishing dialogue between parties). Combining the expertise of Technology Platforms will be helpful to jointly respond to emerging initiatives like the Joint Programming Initiative.

We should make sure the identity of the MARCOM Forum is kept in mind of its constituencies. The starting point would be the MARCOM consortium but we should not forget about the associated networks (e.g. the Aberdeen+ members) and that we need to keep it open to incoming groups of stakeholders.

The Forum's goal will not solely be to service the Commission but to serve the networks within the MARCOM consortium and establish cooperation links in-between and with the industry.

Two models of successful cooperation were presented (MARBEF model and the ICES governance model with organizing expert pools in different meetings). The initial model of MARCOM Forum (suggested by ESF-Marine Board during the 1st Policy Interface Panel) was also presented and discussed. The ideal model seems to be if some partners get together and agree to create and co-finance a coordinating structure. All the parties will gain on it and all contribute to it in a given way. Tighter links with industry and the potential to generate projects constitute a unique opportunity for the whole group and should be further developed. The IDDAS Panel recommends making use of the presented success stories of cooperation between science, society and decision makers in the future MARCOM processes of formulating coherent recommendations to stakeholders.

All the Panel members will be invited to the 2nd MARCOM+ Open Forum (8th September, Brussels).

Meeting participants:

- Christos Arvanitidis (HCMR, Crete)
- Vasco Becker-Weinberg (International Max Planck Research School for Maritime Affairs, University of Hamburg)
- Franciscus Colijn (Institute of Coastal Research)
- Amy Diedrich (Strategic Applications and Issues for Society at SOCIB)
- Torgeir Edvardsen (European Aquaculture Technology and Innovation Platform)
- Patrick Farcy (IFREMER, France)
- Rudy Herman (Flemish Government, ESFRI Working Group on Environmental Research Infrastructure, co-chair JPI Oceans)
- Adi Kellermann (International Council for the Exploration of the Sea)
- Dennis Lisbjerg (European Aquaculture and Fisheries Research Organization)
- Kostas Nittis (HCMR, Athens)
- Pierre Poulain (Istituto Nazionale di Oceanografia e di Geofisica Sperimentale, Trieste)
- Joaquín Tintoré (Balearic Islands Coastal Observing and Forecasting System - SOCIB)
- Slawomir Sagan (Institute of Oceanology, Polish Academy of Science)
- Karl Strømsem (European Ocean Energy Association)
- Wojciech Wawrzynski (International Council for the Exploration of the Sea)