



Minutes of the

Third MARS Conference of Directors
Stazione Zoologica Anton Dohrn
Naples, 2-3 November 2006

Thursday 2 November morning

Miguel Nuevo-Alarcon - EU DG Research – 7th FP

The council has adopted the 7th FW programme. In this programme the competitiveness of the EC in the global arena is important. EU is attaining the lead of the most competitive knowledge-based economy in the world.

In FP6 (2002-2006) for the maritime and marine sector 557 M€ funding is available, for Environment the share is 54 M€. The attention for marine sciences remains high in FP7.

For FP7 the Galway Declaration and Green Paper on Maritime Strategy are leading documents. There are 4 activity types in FP7: 1) transnational cooperation, 2) ideas, 3) individual actions of people, 4) support capacities.

Content is structured into 10 Themes, a.o. Environment. Within Environment the relevant topics are a.o.: 1) sustainable production, 2) communication technologies, 3) climate change, pollution risks, 4) sustainable management of resources, 5) management of marine environment, 6) earth observation.

The EC is still open for input - knowledgeable persons and organisations, as MARS, are requested to give input to the FP7 programme and on the green paper. This input can help to adjust (influence) future calls in FP7.

Jan Mees – ESF Marine Board and MarinERA

The focal points of the ESF Marine Board are to be 1) a voice and 2) a forum, and to develop 3) strategies and 4) synergy.

MarinERA is a strategic and operational platform for funding agencies. MARS is invited to be an observer in that programme. In MarinERA the calls will be on 1) Regional drivers of ecosystem changes, and 2) Rapid changes (e.g. thermocline circulation in the N. Atlantic).

We should be aware that funding organizations have a different philosophy than that of researchers. MarinERA is a top-down system, whereas NoE's and researchers follow a bottom-up approach. The connection between the different approaches need attention.

Salvatore Arico – UNESCO / MAB

Linkage of the network of marine biosphere reserves with networks of marine research stations such as MARS is necessary, as part of an effort towards a federation of marine stations (MAB ICC 19) - not only for Europe but also at the global scale.

Thursday 2 November afternoon

Wouter Los – LifeWatch

Lifewatch aims at:

- Supporting a coherent approach and strategy on research infrastructures
- Facilitating multilateral initiatives to better use research infrastructures

Plan is to link the collected ecological monitoring data with physical data.

It may help to promote new research.

Yet, to integrate the different methods, facilities, etc., is cost intensive. Moreover, a link to GMES and GEOSS may be needed.

This all needs structuring of the scientific community. Networks need to work together.

The ESFRI (European Strategic Forum for Research Infrastructures) initiative may be instrumental in this. It needs national and EC community support. Feasibility has to be tested now (2007-2009) after which committed institutes can start. Within ESFRI there are now 35 proposals one of which is LifeWatch.

What is the role of MARS - a data provider organisation or a scientific network partner organization? MARS members at this moment can at least help to establish Lifewatch by informing science ministers (make publicity, lobby, ..)

We should consider two aspects. Firstly marine research was formerly often privately funded – how about taking up this early thread, and how now to finance LifeWatch? Will industry participate from the start? Secondly, many data collectors are amateurs. They have their own networks. They are not partners in LifeWatch. Should they not be included?

Jan Mees – Marine data management

There are many reasons for better (central archiving) data management:

- Data-series are short-term and tend to get lost with its creator
- Paper records get lost
- Each datapoint has a high cost
- Historically unique (can not be repeated)
- Nobody has a complete overview
- sharing and integration of data is still poor (standardisation needed)
- data should be advertised – data-centers should not bury the data

We should aim for an IMIS – Integrated Marine Information System
Metadata should be compliant with ISO-norms

ERMS is a good example, now hosted by MarBEF.

In the MarBEF data center there are more than 85000 species (in ERMS 31 546), which means that it already includes many species outside Europe.

In the present datasets there is a lack of heterogeneity, essential information is missing, e.g. geo-reference.

Therefore we need training in data management of scientists.

Luc van Dyck – Initiative for Science in Europe – ISE

This organization is for and by scientists. Founders are originally in the field of molecular sciences. ISE is focusing now on ERC, and has become a lobbying organization.

For MARS – take home message:

- Make long-term strategy (15-20 years)
- Promote research
- Install proper infrastructure, and take care about updates

Round table discussion

Introductions of NoE's:

- MarBEF – Carlo Heip
- EurOceans – Paul Treguer
- MarineGenomics – Bernard Kloareg

Discussion followed 10 questions posed by chair: Graham Shimmiel

- 1) *What has been the most innovative aspect of your NoE?*
- 2) *What has been the most challenging aspect?*

NoE's have been excellent (innovative) in structuring the marine science arena. How can it then be that no structure after the existence of the NoE's is foreseen, so far? Indeed the challenge was enormous; but the future is unclear because we need financing for such a follow-up structure. The EC is currently working on a mechanism for the follow-up of NoE's – it is not going to have an end.

The innovation could have been stronger if there would have been a focus on some issues. For some issues the focus is even less than in FP3 and FP4. Yet, we can not be exhaustive and that may have its drawbacks for some issues.

- 3) *Are there advantages of combining NoEs?*

Yes, a combination, maybe as a Virtual Institute, is very much needed.

- 4) *Is this the right development area for young scientists?*

Exchange and training projects are incorporated in the NoE's. But it may be questioned if this is sufficient? What happens after their training, and what when their PhD ends? If there is so little money for research in NoE's what can we offer young scientists then. As a follow-up we need a system as tenure-track – the current situation now is dramatic. Still the general feeling is that there have been many mechanisms in the NoE's to open-up possibilities for PhD's and post-docs. The EC will now install a helpful system for young scientists within the Mobility programme.

- 5) *How to manage institutes that should be included or excluded?*

NoE's can not do anything about that at this moment since there are no additional funds.

- 6) *What is the challenge for FP7?*

Quality needs time. Once shown to work properly, a follow-up within FP7 should be automatic for the NoE's. Maybe the different NoE's still need a common goal. This should encompass a holistic approach (e.g. water-column can not be done without sediment), and free access to all results of the research. Moreover, care should then be taken about a good public outreach, although several networks are already aware of public outreach and have developed strong initiatives for this.

- 7) *How do NoE's link to other organizations like the ESF /MarinERA networks?*

- 8) *What has been the experience with the Commission?*

- 9) *Has bureaucratic management overtaken the science?*

- 10) *Does the rest of the world take NoE's seriously?*

Additional questions were raised.

- *What went wrong in the NoE's? What do you think about how continuation can be achieved?*

Not much went wrong.

Yet, the EC does not sufficiently discuss the priorities in science at the national level. We are changing from a cottage science to an industrially organized science. Needs and wishes can be different at the research and political level. EC should therefore interact more with what is done at the national level.

And the EC should take care that there can be a loss of interest to participate in a NoE because of working for such little money. However, lack of money may also be helpful to be critical in setting the highest priorities and investing restricted funds in the most intelligent way.

- *Were the NoE's a success story, why, what mechanism is preferred?*

Although NoE's have proven to be successful in reaching their aims (integration of European science arena), the EC should take into account that they contribute only 5% of the total European science budget, and thus they cannot set the complete science agenda. There is now a strong need to find money for research "at the bench".

Also IP's should be kept as a mechanism since they are a good (sometimes better) chance for the combination of science and integration.

Towards a Virtual Institute – Paul Treguer

The aim is to create a long-lasting multi-site institute.

It is not fully clear what a Virtual Institute is. The concept has been introduced by EC without definition. The concept seems to have developed from industry, where it is used for making centralized tasks that different companies share with each other in order to optimize efficiency for each partner.

It makes sense that a Virtual Institute is a continuation of the NoE's. A Virtual Institute should be used only if there is added value.

The role of the NoE's now is that we can build a taskforce, in a good position to go also outside Europe. The EC needs to help with that.

Moreover, we are creating the NoE's also for the future. We are now no longer only looking at our national borders, but have responsibilities to go even further than that – e.g. conservation and protection of the ocean.

Four working groups have been created among the 3 NoE's:

- WG1: Scientific challenges. 8 Key areas for scholarships, 3 Multidisciplinary studies
- WG2: PhD programme (Doctoral School in marine sciences)
- WG3: Sharing of facilities (in close link with ESFRI)
- WG4: Mobility of personnel (started already with mobility of students)

Paul Treguer states that a Virtual Institute based on a large number of participants is not realistic. The idea is rebutted since it would lead to consortia from UK, France, Germany, whereas Eastern European countries also have sufficient excellence and expertise to bring in. Moreover, many smaller institutes could contribute a highly valuable diversity.

Concern is also expressed that centralized initiatives may create "marine ghetto's", e.g. oceanography versus ecology.

Different disciplines, groups and networks therefore need to do more about confidence building. That needs time.

Be also aware of the fact that universities do not wish to let a PhD be granted/delivered by a Virtual Institute, since it is their own prerogative.

Still a strongly positive issue of the Virtual Institute is that, as for NoE's, advanced high level courses can be organised.

Friday 3 November 2006

Jan Hiddink – Foodwebs and fisheries

MPA's may not be suitable for all fish species. In a MPA the total amount of food increases. Yet, the food amount of small polychaetes (opportunistic species) may be higher due to trawling, thus lower in the MPA, whereby the plaice has better conditions outside the MPA.

One should not forget that taking adult fish out of the system may change predator-prey relationships. An example is that jelly-fish may take over the predator role, and by that taking out juvenile and larval stages of fish – thus no recovery if fishing is abandoned.

Adrianna Ianora – marine chemical ecology

Marine natural products are considered at the basis of ecological specialization by affecting species' distribution patterns and community organization, as well as maintenance of biodiversity through resource and habitat partitioning. Many of these products may also find important biotechnological applications as new drugs, and in the aquaculture, agriculture and chemical industries.

Vangelis Papathanassiou – SESAME

The aim is to study changes in the Mediterranean and Black Seas simultaneously. What kind of changes have there been in essential mechanisms and goods and services happened, and what will occur in the future?

Phil Weaver – HERMES

Project on deep sea research.

Coral areas do coincide strongly with trawling areas. Most areas belong to territorial waters, and could be indicated as Natura 2000 areas. Yet, proper legislation is still needed. In Norway some protected areas are indicated.

Ricardo Santos – Deep sea vents and the Mid Atlantic Ridge

Fisheries often followed the chain of underwater seamounts where fish appear to concentrate around. A fascinating picture of unique deep sea communities has been drawn. A conservation concept is being developed based on the Azores islands.

Lisandro Benedetti-Cecchi – Euro-Nagisa

The NaGisa system goes back to a Japanese activity but has now been extended worldwide, closely associated with The Census of Marine Life. It is focused at the nearshore and intertidal regions in documenting species and species assemblages. A Euro-NaGisa has been established comprising four major European areas (including the Arctic, and linked to Biomare-sites). An initiative is reported to assess processes involved with structures recorded (EMBED). A support by MARS may enhance the global approach in turn.

Fred Buchholz – Large-scale long-term changes in marine biodiversity

Examples for implementation of biodiversity research are given, following the beginning since Darwin's times from the early days of MARS via BIOMARE into current MarBEF activities. The commitment of (MARS-) institutes through contribution of BIOMARE sites further lies in supplying existing data for large scale comparisons of patterns of biodiversity. The assessment of global change effects along gradients, e.g. latitudinal and salinity related, is followed with MarBEF support through its responsive mode project LargeNET with a focus on long term observation series.

Steve Hawkins – Climate change impacts on marine ecosystems

Lots of range shifts/extensions can be found around UK. Local observation series match SAHFOS series. Shifts may occur also indirectly when competition between species (for food, space) is involved (shown for barnacles).

We need broad scale studies, integration with/between national monitor programmes, networks as MarBEF, MARS, mechanisms of response and consequences of changes incl. adaptation strategies

Concluding discussion

Marine stations are endangered. The present tendency to change marine stations more and more into molecular laboratories has to be counteracted. Marine and molecular sciences have to work together.

Marine stations should continue to do local observations, which on the long term will have a high scientific significance.

Therefore, the role of marine observatories should be strengthened. For such a common protocol is needed, old data need to be better recovered and exchangeable, and a common policy has to be agreed upon. Moreover, marine stations and MARS could become stronger by providing training, long-lifetime learning (although fundamental teaching belongs to the universities, yet also universities have often (connections with) marine stations).

This process of strengthening marine stations and MARS can be extended even outside Europe through the MAB (Man and Biosphere) programme.

For going outside Europe, and to reach a global level, a proposal is also that each MARS member will adopt and support a marine station from developing countries.

Networking on the other hand bears the imminent risk of further fractionation of research issues and structures rather than the intended integrative effect. We need to network the existing networks now, at least establishing a better flow of information between them and a coordination in the pursuit of common goals. A great integrative potential is seen in the coming LifeWatch system with an appropriate input from the MARS network .

Accordingly, a mandate is requested to continue with the LifeWatch Programme and to give full support from MARS. This is supported unanimously by the members of MARS present at the meeting.

For this strengthening of marine sciences, which is high on the agenda of the EC, the NoE's are only the starting point, and preferably the NoE's should interlink as well. It became quite clear that the 3 NoE's had their origin in those Marine Institutions which to a large extent were MARS members at the same time. It is to be expected that such a mutual support in the Marine Research area will continue. However, it is important that the smaller institutes and projects should not be forgotten and should always be able to join.

At the same time the MARS network could be strengthened. MARS could obtain a NGO recognition by UNESCO, which gives it global visibility and maybe funding for a secretariat.

The host of the meeting Professor Bernardi thanks the audience for a productive meeting and suggests the prompt circulation of the abstracts and results of the meeting as soon as possible.

Participants

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N= 36, Norway to Naples, Athens to the Azores: F, I, De, Dk, UK, NL, Croatia, B, Gr, Lit, Est, N, P, PI = 14 nations	

Agenda 3rd Conference of Directors MARS – Napoli, 2006

Thursday, 2 November:

11:00-11.30 Registration

11.30-13.00 Welcome address and Speakers Policy

- 1) EU DG Research, Miguel Nuevo-Alarcon
- 2) ESF Marine Board, Jan Mees for Niamh Connolly
- 3) UNESCO/MAB, Salvatore Arico

13:00 – 14:00 Lunch (buffet style at the SZN)

14:00-15:00 3 Speakers Policy & Projects

- 4) Observatories and collections - Life Watch, Wouter Los
- 5) European Marine Data Management, Jan Mees
- 6) Initiative for Science in Europe (ISE), Luc van Dyck

15:00-16:00 Round Table with 3 presentations of NoEs convened by Graham Shimmield:

- 7) MarBEF, Carlo Heip
- 8) EurOceans, Paul Treguer
- 9) MarGenomics, Bernard Kloareg

16:00-16:30 Further topics of Round Table: FP7 and the Virtual Institute

16:30-17:00 Coffee Break

17:00 General Discussion: plenary with panel: FP7 and the Virtual Institute

19:00 Concert in Fresco Room

20:00 Gala Dinner at Villa d'Angri, Award, Election President, etc.

Friday, 3 November

09:00 – 10:20 2 Speakers Research Highlights, 2 Speakers Projects

- 10) Foodwebs and Fisheries: Interactions between benthic invertebrates, demersal fish and bottom trawl fisheries: Jan Hiddink
- 11) New trends in marine Chemical Ecology: Adrianna Ianora
- 12) SESAME Mediterranean (IP), Vangelis Papathanassiou
- 13) HERMES Deep Sea (IP), Phil Weaver

10:20 – 11:00 Coffee Break

11:00 – 12:20 4 Speakers Research Highlights

- 14) Climate Change impacts on marine ecosystems: Steve Hawkins
- 15) Euro - NaGISA and beyond: detecting and interpreting changes in biodiversity: Lisandro Benedetti-Cecchi
- 16) Large scale and long term changes in biodiversity: Fred Buchholz
- 17) Recent trends in biological research and marine conservation in deep sea vents and seamounts in the MAR region: Ricardo Santos

12:20 – 13:00 Concluding discussion