The Network of European Marine Research Stations

Why Europe needs the seas

Europe has the longest coastline of all continents relative to its surface and over half of the EU citizens live close to the coast. The oceans cover 70 % of the earth's surface and determine to a large extent the way in which our planet functions and supports life in general and human life in particular. The oceans determine our weather and climate and society relies on the seas for transport, energy, food and mineral resources, waste treatment and, especially in Europe, leisure.

Marine Research Stations: A unique part of Europe's scientific patrimonium

The Laboratoire Arago in Banyuls, France

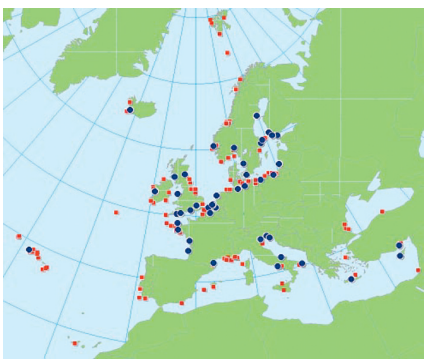
When Charles Darwin published the Origin of Species, public and scientific interest in biology soared. This led to the creation of a number of laboratories with facilities to study marine life in many European countries during the last part of the nineteenth century. Some of the earliest and best known are the Stazione Zoologica in Naples, the marine stations of Villefranche, Banyuls and Roscoff in France, the Marine Biological Association's laboratory in Plymouth and the Biologische Anstalt Helgoland in Germany, to name just a few.

Over more than a century these marine research institutes have been the main centres were scientists, students and laymen alike could have direct access to the sea and to laboratories where marine plants and animals could be studied alive. Many Nobel prices honouring fundamental discoveries in physiology and biochemistry were earned through work in the marine stations and tens of thousands of biologists, physiologists, ecologists and scientists from many other disciplines in Europe received their basic training in marine sciences at one of the marine stations.

The MARS network

In 1996 in Paris the directors of more than 40 marine research stations decided to create a foundation to coordinate their interests at the European level and to better make use of the facilities at the stations: oceanographic research vessels, specialized experimental laboratories, libraries and collections, and access to specific biological communities in the seas. These forty-odd marine research stations cover all the coasts of Europe, from the high Arctic in Svalbard in the north to the Canary Islands and the Azores in the South and Turkey and Israel in the Eastern Mediterranean

Besides making facilities accessible at the European level, the MARS network also started a scientific research initiative that would build on the unique characteristics of the marine institutes. In 2000 in Venice, marine biodiversity was chosen as the first priority issue. The reasons are obvious. Fisheries are in crisis. Marine species in general are disappearing at a rate never observed since life began on earth. The extinction crisis ranks with global climate change as the greatest threat to the integrity of the biosphere in the 21st century. Species extinction is not just an aesthetic or moral problem. Marine organisms play a crucial role in almost all biogeochemical processes that sustain the biosphere, and provide a variety of products (goods) and functions (services) which are essential to mankind's well-being, including the production of food and natural substances, the assimilation of waste, the remineralisation of organic matter and the regulation of the world's climate.



MARS Institutes (blue) and European Marine Biodiversity Research Sites as defined by BIOMARE (red)

MARS and the European Research Area

The scale of the research efforts needed to obtain adequate knowledge for exploration, conservation and restoration of marine biodiversity demands European-scale collaboration. The European Commission started initiatives as early as 1995 and in several conferences and workshops with the Marine Board of the European Science Foundation and MARS, a series of policy documents was produced (http://www.esf.org/) that led to a successful proposal for an EU concerted action BIOMARE in 2001.

The objectives of BIOMARE (http://www.biomareweb.org) are to establish a network of research sites and a series of indicators for biodiversity as the basis for long-term and large-scale marine biodiversity research in Europe. Through the International Biodiversity Observation Year IBOY, DIVERSITAS and the Census of Marine Life CoML, three global initiatives, BIOMARE has attracted attention worldwide as a major effort to coordinate biodiversity research at the European scale and beyond.

In the Fifth Framework Programme another important networking effort MARBENA will run till 2004 (http://www.vliz.be/marbena/). This projects extends the previous actions to the Newly Associated States and will feed directly into EU policy via a series of electronic conferences linked with the European Platform for Biodiversity Research and Strategy (EPBRS).

Finally, in the Sixth Framework Programme the issue of biodiversity and ecosystems has grown to become one of the main research actions, with strong and well received expressions of interest for networks and projects in marine biodiversity, marine genomics and marine biogeochemistry issuing from the MARS member stations. It shows that in the European Research Area that is now taking shape the role of the marine research stations will continue to be important and that these stations will remain an important asset of Europe to fulfil its role as a world leader in the study of the seas and oceans.

For more information consult the MARS web page: http://www.marsnetwork.org
Or contact Prof. Carlo Heip, President of MARS, c.o. Netherlands Institute of Ecology, POBox 140, 4400 AC Yerseke, The Netherlands.
e-mail: c.heip@nioo.knaw.nl.