

environment, or in order to comply with existing national legislation, E.C. Directives or International Conventions.

The following offers a broad summary of information available on R&D spending on ocean technology projects or programs in the Member States, with relevance to the ocean sciences and marine environmental sectors.

### Europe

European Community R&D is supported through the E.C. Framework Program in discrete program areas. Prospective participants must respond to a call for proposal, which is time-limited, and may be awarded a research contract for all or part of the project. Research topics should be pre-competitive (not near-market) and preferably collaborative among organizations in the Member States. The funding is predominantly through grants of up to 50 percent for companies and 100 percent marginal costs for higher education institutions, and research and technology organizations.

The overall objectives of the E.C. activities related to marine R&D in the marine area have been summarized as follows [Philippe Bordeau, Directorate-General for Science, Research and Development, CEC: IOTRC, Hawaii, January 1989]:

- To contribute to a better knowledge of the marine environment in order to improve its management and protection, and to predict change.

- To encourage the development of new technologies for exploration, protection and exploitation of marine resources.
- To improve coordination and cooperation among national marine R&D programs in the Member States, and to help increase the effectiveness of these programs through better use of research facilities.
- To strengthen industrial competitiveness in the relevant sectors.
- To provide the technical basis for, and encourage the development of, competitive norms, standards and design guidelines in view of the completion of the internal European market in 1992.
- To assist European participation in worldwide ocean programs.
- To facilitate training and exchange of personnel.

The main E.C. program is MAST, which aims to:

- improve the knowledge of the marine environment
- promote new exploration technologies for the protection and exploitation of marine resources
- coordinate national R&D programs

**Table 11**

**MAST Expenditures**

	MAST I	MAST II
Marine Science	30-35%	30-38%
Coastal Engineering	15-20%	12-18%
Marine Technology	30-35%	24-32%
Supporting Initiatives	10-15%	10-20%
Integrated Projects	0	10-20%
Dissemination/Exploitation	0	1.04 MECU
Administration	8.25%	5.00%