



Presentation of the Marine Ecosystems Response in the Mediterranean Experiment programme (MERMEX) for the Mediterranean Sea

R. Sempéré (1), X. Durrieu de Madron (2) and C. Guieu (3)

(1)LMGEM, UMR CNRS 6117, Case 901, Centre d'Océanologie de Marseille, Batiment TPR1, Entree F, 4ème étage, Campus de Luminy, 13 288 Marseille Cedex 9, France, (2) UMR CNRS 5110, Université de Perpignan, 66 000 Perpignan, France, (3), Université Pierre et Marie Curie, BP 8 - 06238 Villefranche-sur-mer Cedex, France. guieu@obs-vlfr.fr (richard.sempere@univmed.fr Fax : 33 (0)4 91 82 96 41 Phone : 33 (0)4 01 82 92 12)

The French community working in marine biogeochemistry and biological ecosystems is currently structured to initiate the MERMEX project (Marine Ecosystems Response in the Mediterranean Experiment). This programme led by the 'Institut National des Sciences de l'Univers (INSU)' will be associated to other programmes related to the study of the hydrological cycle (HYMEX) and atmospheric chemistry (CHARMEX) in the Mediterranean basin. MERMEX aims to deepen the current understanding of the Mediterranean marine ecosystems to better anticipate their upcoming evolution. It will focus on the response of ecosystems to modifications of physico-chemical forcing at various scales, both in time and space, linked to changing environmental conditions and increasing human pressure. We propose a comprehensive, integrated approach considering the continuum between the coastal zone and the open sea and its interfaces, including ocean-continent, ocean-atmosphere and water-sediment to precisely describe and model the current state of the Mediterranean ecosystems and the complex interactions existing between the environmental and human factors. Only a coordinated and ambitious strategy, addressing simultaneously the physics and biogeochemistry of these systems will permit to explore and analyse the present sensibility of marine ecosystems, and to validate the tools used to forecast their changes. We present the French initiative MERMEX for a large biogeochemical program in the

Mediterranean and call for international collaboration.

Keywords: Mediterranean Experiment, biogeochemistry, marine ecosystems, climatic change, observation, experimentation, modeling.