



COCARDE: new view on old mounds – an international network of carbonate mound research

A. Rüggeberg (1), A. Foubert (2), A. Vertino (3), D. Van Rooij (1), S. Spezzaferri (4), J.-P. Henriët (1), W.-C. Dullo (5), and COCARDE Science Community (6)

(1) Renard Centre of Marine Geology, Ghent University, Gent, Belgium (andres.ruggeberg@ugent.be, david.vanrooij@ugent.be, jeanpierre.henriet@ugent.be), (2) KU Leuven, Department of Earth and Environmental Sciences, Heverlee, Belgium (anneleen.foubert@ees.kuleuven.be), (3) Department of Geological Sciences and Geotechnologies, Milano-Bicocca University, Milano, Italy (agostina.vertino@unimib.it), (4) Department of Geosciences, University of Fribourg, Fribourg, Switzerland (silvia.spezzaferri@unifr.ch), (5) GEOMAR, Helmholtz Centre for Ocean Research Kiel, Kiel, Germany (cdullo@geomar.de), (6) <http://www.cocarde.eu/participants>

Carbonate mounds are important contributors of life in different settings, from warm-water to cold-water environments, and throughout geological history. Research on modern cold-water coral carbonate mounds over the last decades made a major contribution to our overall understanding of these particular sedimentary systems. By looking to the modern carbonate mound community with cold-water corals as main framework builders, some fundamental questions could be addressed, until now not yet explored in fossil mound settings.

The international network COCARDE (<http://www.cocarde.eu>) is a platform for exploring new insights in carbonate mound research of recent and ancient mound systems. The aim of the COCARDE network is to bring together scientific communities, studying Recent carbonate mounds in mid-slope environments in the present ocean and investigating fossil mounds spanning the whole Phanerozoic time, respectively.

Scientific challenges in modern and ancient carbonate mound research got well defined during the ESF Magellan Workshop COCARDE in Fribourg, Switzerland (21.–24.01.2009). The Special Volume Cold-water Carbonate Reservoir systems in Deep Environments – COCARDE (Marine Geology, Vol. 282) was the major outcome of this meeting and highlights the diversity of Recent carbonate mound studies.

The following first joint Workshop and Field Seminar held in Oviedo, Spain (16.–20.09.2009) highlighted ongoing research from both Recent and fossil academic groups integrating the message from the industry. The field seminar focused on mounds from the Carboniferous platform of Asturias and Cantabria, already intensively visited by industrial and academic researchers. However, by comparing ancient, mixed carbonate-siliciclastic mound systems of Cantabria with the Recent ones in the Porcupine Seabight, striking similarities in their genesis and processes in mound development asked for an integrated drilling campaign to understand better the 3D internal mound build-up. The Oviedo Workshop and Field Seminar led to the submission of a White Paper on Carbonate Mound Drilling and the initiation of the ESF European Research Network Programme Cold-Water Carbonate Mounds in Shallow and Deep Time – The European Research Network (COCARDE-ERN) launched in June 2011.

The second COCARDE Workshop and Field Seminar was held in Rabat, Morocco (24.–30.10.2011) and thematically focussed on carbonate mounds of (f) Morocco. The compact workshop invited students from Moroccan Universities to experience ongoing carbonate mound research in Recent and Ancient environments of Morocco. Two Round Tables discussed innovative approaches in carbonate mound research in Morocco (Recent vs. Ancient - offshore vs. onshore) and reviewed together with oil industry opportunities of international collaboration. The outcome of this workshop will lead into joint research projects, drilling campaigns on- and offshore, and expansion of COCARDE onto the African continent.