

MARUM / GLOMAR Specific Knowledge Course

Coastal Dynamics

Part III – Sea Level and Coastal Changes

Dr. Alessio Rovere

*MARUM – Center for Marine Environmental Sciences, University of Bremen
and Leibniz Center for Tropical Marine Research (ZMT), Bremen*

5 – 6 November 2018

Objectives

The general aim of the course is to give a first overview on different aspects of the study of paleo sea level changes. The course will be composed of 4 theory sessions and 1 session to discuss three papers which will previously be assigned to the class.

The course will cover the causes of eustatic sea level changes, the processes behind relative sea level changes and their effects at different time scales; and the techniques used to measure changes in sea level at geological time scales (from the Common Era to the Quaternary).

Topics

Session 1 - Causes of sea level changes: steric sea-level rise, water density, melting ice caps, gravitational effects etc. Definition of 'eustatic' sea level.

Session 2 - Relative land/sea level changes: tectonics, co-seismic uplift, isostasy, sediment compaction, dynamic topography.

Session 3 - Relative sea level markers measured in the field: archeological, sedimentological, biological, geomorphological.

Session 4 - Sea level changes at different times and implications for the future: Holocene, Last Interglacial, MIS 11, Pliocene.

Session 5 - Practical exercise. Where can I find Sea Level data? The students will divide into groups and will work on a small project of their interest, mostly related to the retrieval, download and plotting/analysis of sea level data.

Participation in Coastal Dynamics Parts I or II is not a prerequisite for attending this course.

Location and Time

MARUM, University of Bremen, Leobener Str. 8, 28359 Bremen, Germany
MARUM I building, room 2070

09.00 – 17.00

Registration

To register for this course, please visit the [course webpage](#).

Please note that your registration will be binding.

The registration deadline for this course is **28 October 2018**.

Any enquiries regarding the course should be addressed to early-career@marum.de.