

GLOMAR Introductory Course:

GLOMAR Introductory Course to Natural Sciences in the Marine Realm

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GLOMAR – Bremen International Graduate School for Marine Sciences, University of Bremen
MARUM – Center for Marine Environmental Sciences

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Objectives

The course aims at providing social scientists with the necessary skills to efficiently communicate and eventually collaborate with their fellow PhD students and other colleagues in a multi- and interdisciplinary context. It will give a basic overview on the physics, biology and biogeochemistry of the marine realm as well as on coastal forming processes.

Topics

- Physical Oceanography (*Ulrike Holzwarth*)
- Coastal Processes (*Alice Lefebvre*)
- Earth System & Climate (*Ulrike Holzwarth, Janna Just*)
- Marine Biology and Biogeochemistry (*Martina Löbl*)
- Coastal Geomorphology (*Alice Lefebvre*)
- Climate Reconstructions and Paleoceanography (*Janna Just*)

Content

Introduction: overview on the different disciplines in natural sciences related to marine and climate research

Physical oceanography: basic principles that are required to understand the global ocean circulation and the connection to atmospheric circulation patterns, wind driven currents, thermohaline circulation, coastal upwelling

Coastal processes: tides, waves and sediment characteristics; examples of how coastal morphology results from the transport of sediment under the action of hydrodynamics (movements of water resulting from tidal currents and wave activity)

Earth System & Climate: interactions and feedback mechanisms governing the Earth's climate system, principles of past and present climate change, timescales and forcing mechanisms for global climate

Marine Biology and Biogeochemistry: how life in the ocean was shaped by evolution and how plants and animals shape the current marine system and influence global element cycling, examples from the Wadden Sea

Coastal Geomorphology: influence of climate change and human action on the morphology of the coast, sensitivity and response of the coastal environment to sea level rise and increased storminess, coastal protection strategies, Venice Lagoon as an example for actions taken to protect human settlements

Climate Reconstructions and Paleoceanography: archives for palaeoclimatic and palaeoceanographic reconstructions, the concept of proxies for palaeoclimatic conditions, overview of modelling approaches, visit of the Bremen Core Repository (BCR) where marine sediment cores are stored

Target group:

This three-day introductory course is particularly addressed at PhD students from the social sciences. Other participants are very welcome!

Location

MARUM, University of Bremen, Leobener Str., 28359 Bremen, Germany, Room 0190

Time

09.00 – 16.00

To subscribe

Please send an e-mail to Christina Klose (glomar-courses@marum.de). Please give your name, status (PhD student, Postdoc or Master Student), institute / university and research area / working group as well as your field of study.