Helmholtz Graduate School for Polar and Marine Research

Course announcement: POLMAR Expert Course

An *advanced* Hitchhikers Guide to the Black Arts of Earth System Modelling

('or why you should not want to know what is in a sausage')

Prof. Dr. Andy Ridgwell, University of California, Riverside / University of Bristol

Date & Time:	**February 15, 2017**	9 am – 5 pm
Location:	E - 4025	
Language:	English	
POLMAR credit points:	1	
Registration:	info.polmar@awi.de	

Course content:

This 1-day advanced course builds on the introductory course. It will focus on the long-term controls on global carbon cycling and the use of models in interpreting the geological record. In it, you will experiment with and assess the role of deep-sea sediments in providing a long-term buffering and regulation of atmospheric pCO_2. Equally, you will see how deep-sea sediments 'record', imperfectly, properties of Earth system, taking the example of massive carbon release to the atmosphere such as characterized the Paleocene-Eocene Thermal Maximum. There will be opportunities to experiment with different continental configurations and to test ideas for how past climates and marine carbon cycle might have operated, particularly associate with global disruptions of carbon cycling and climate such as associated with the Cretaceous Ocean Anoxic Events as well as with the end Cretaceous impact. The cumulating objectives of this advanced course are to develop a fuller appreciation of the time-scales and strength of long-term (geological) feedbacks on atmospheric pCO_2, and how the Earth system responds to extreme perturbations, and how this is expressed in the geological record.

Day 3 [*advanced*] – Models and past climates and carbon cycling

Please note: This course is the advanced module that complements the introductory course held on March 11 & 12 (which are days 1 and 2). You can book all three days.

1. Presentation – The application of models to the past

How can we have any confidence in modelling the past?

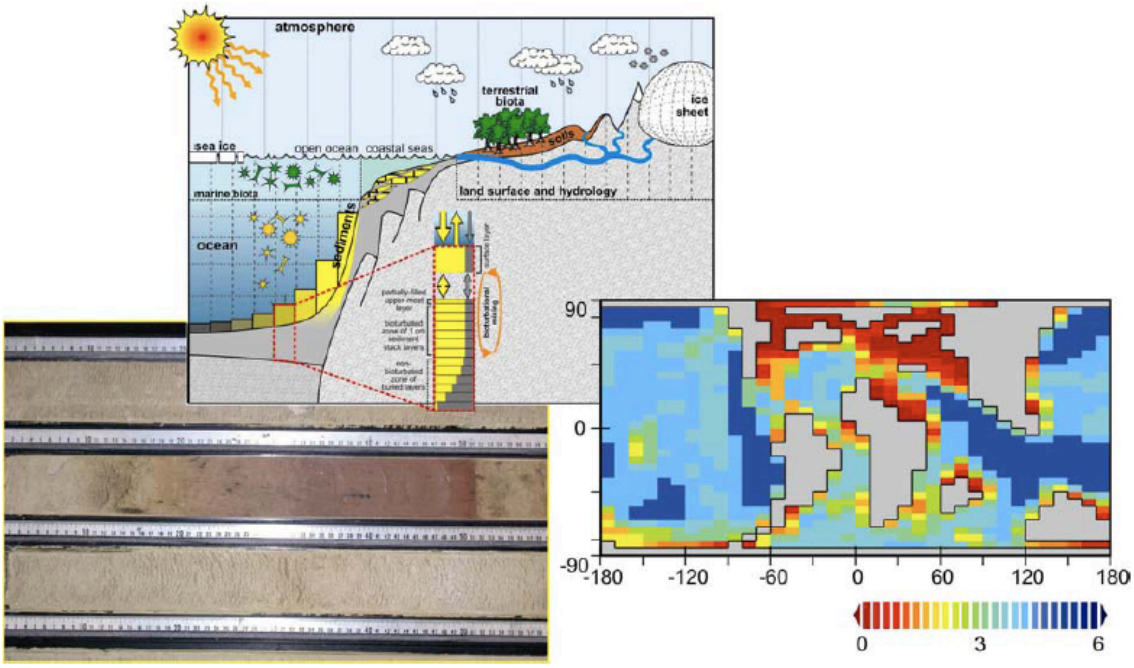
Examples of applications to past climate and carbon cycle perturbation events.

2. Session *VI* – Long-term controls on atmospheric pCO_2

Role of deep-sea sediments.

3. Session *VII* – Addressing the geological record

Past climates and carbon cycling.



Target group:
Anybody interested in the topic! It would be good if participants had taken part in the introductory course before (either in 2017 or in previous years).

More information: andy@seao2.org
http://www.seao2.info/index.html

Our courses are generally free of charge for all participants. However, they do have a price and can cost POLMAR as much as 150 € per day per student. Please take this into account when cancelling your place at the last minute.