



**Centro de Investigación en Ciencias del Mar y Limnología,
San José, Costa Rica**

Leibniz Center for Tropical Marine Ecology, Bremen, Germany

Mini-Symposium

**Adaptation of coral reefs
to changes in the
carbonate chemistry:**

**The Costa Rican Pacific coast
an analog for the future?**

January 24th, 2012

**Ciudad de la Investigación, Universidad de Costa Rica,
San Pedro, 11501-2060 San José, Costa Rica**

Organizers: Carlos Jiménez (CIMAR), Tim Rixen (ZMT)

Adaptation of coral reefs to changes in the carbonate chemistry

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Background: Part of the Costa Rican Pacific coast periodically experiences upwelling waters that expose reefs to pH values lower than usual and similar to those expected in a high CO₂ world of the future. The Costa Rican Pacific coast, therefore, represents a natural laboratory for studying how coral reefs adapt to changes in seawater carbonate chemistry. The understanding of such adaptation strategies is crucial to improve our knowledge on the future of coral reefs and for designing and implementing appropriate management strategies in Costa Rica and the entire Indo/Pacific region.

In April 2009, scientists of CIMAR and ZMT carried out a preliminary small-scale study showing the strong impact of upwelling on the pH as well as on the concentration of dissolved oxygen in the surface waters of Culebra Bay. These results were extremely important but raised also new questions and suggested new directions for research.

Objective: The mini-symposium will be used as a platform to introduce the results of the preliminary small-scale study of 2009, to highlight new research interest, and to present ongoing research activities at CIMAR and ZMT. The overall aim of the mini-symposium is to identify common research interest in order to establish cooperative synergies and to educate the new generations of scientists.

Program

- 08:30 – 08:45 Welcome remarks by the former Director of the Centro de Investigación en Ciencias del Mar y Limnología (CIMAR) - **Dr. José Antonio Vargas**
- 08:45 – 09:00 Welcome remarks and introduction of ZMT by Achim Schlüter
- 09:00 – 09:15 Welcome remarks by the organizers Carlos Jiménez / Tim Rixen
- 09:15 – 09:30 Coffee break

- 09:30 – 10:00 Atmospheric forcing of cool sea subsurface temperature water events in Bahia Culebra, Costa Rica - Eric Alfaro / Jorge Cortés
- 10:00 – 10:30 Overview talk on coral reefs in Costa Rica (Pacific and Caribbean) - Jorge Cortés (CIMAR)
- 10:30 – 11:00 Overview talk on plankton research in the Pacific coast of Costa Rica - Marco Corrales U . (CIMAR)
- 11:00 – 11:30 Overview talk on ocean acidification and its impact on marine life - Agostino Merico (ZMT)
- 11:00 – 11:30 Biogeochemical approaches to understand coral reef functioning. Christian Wild (ZMT)
- 11:30 – 12:00 Acidification from a Socio-Economic perspective – Achim Schlüter (ZMT) / Róger Madrigal Ballesterero (CATIE)
- 12:00 – 13:30 Lunch break
- 13:30 – 14:00 Status of coral reefs in Pacific Costa Rica - Carlos Jiménez / Celeste Sánchez (CIMAR)
- 14:00 – 14:30 Impact of upwelling events on the seawater carbonate chemistry and dissolved oxygen concentration in the Gulf of Papagayo: Implications for coral reefs. - Tim Rixen (ZMT)
- 14:30 – 15:00 Discussion session (Chair: Jorge Cortés, CIMAR)
- 15:00 - 15:15 Coffee break
- 15:15 – 16:00 Discussion session (Chair: Jorge Cortés, CIMAR)
- 16:00 – 16:15 Concluding remarks (Jorge Cortés / Carlos Jiménez / Tim Rixen)

Talks

- It is advised to prepare a 25-minute talk in order to leave at least 5 minutes for questions.
- Presentations should be given to the organizers in PowerPoint 2003/2007 or PDF formats.
- Abstracts (no longer than one page A4 or Letter) of the presentations should be sent to the organizers no later than the **18th of January 2012**. Abstracts include the presentations' title, name of the speaker (underlined) and co-authors, their academic affiliations and the email address of the contact person. Abstracts will be made available to all participants.