

# Corals on Acid - Ocean acidification impacts on coral reefs

April 30, 2019 at 12:00 noon

**Adina Paytan**  
*University of California*

Rising atmospheric CO<sub>2</sub> and its equilibration with surface seawater is lowering both the pH and carbonate saturation state of the oceans. Reef-building corals may be severely impacted by declining aragonite and calcite saturation, but the fate of coral-reef ecosystems in response to ocean acidification remains largely unexplored. Naturally low-saturation low-pH groundwater submarine springs at Puerto Morelos, Mexico provide insights into potential long-term responses of coral ecosystems to such conditions. Coral species richness, coral-colony size and calcification rates decline with increasing proximity to spring waters. These data, together with in-situ transplantation experiments, show that the response to ocean acidification varies across species and environments and help to better understand the calcification mechanisms and the genetic response to acidification.

**Adina Paytan** obtained a B.Sc. in Biology and Geology and a M.S. in oceanography from the Hebrew University in Jerusalem, another M.Sc. in science education from the Weizmann Institute, and a PhD from the Scripps Institute of Oceanography. Currently a Research Scientist at the University of California Santa Cruz, her research interests span biogeochemistry, chemical oceanography and paleoceanography. She uses chemical and isotopic records from various materials to study biogeochemical processes from seasonal to million-year timescales, and molecular to global spatial scales. An over-arching goal is to understand the processes operating in the Earth System and their relation to changes in climate and tectonics.



The new *Earth Surface Dynamics* seminar series aims to bring together the broad range of researchers on Telegrafenberg looking at Earth surface processes (e.g., hydrology, geochemistry, geobiology, geochemical/carbon cycling, geomorphology) once a month. The aim for these talks is to be broad and accessible and deal with big, global topics, so that non-experts and specialists alike can find them enlightening.

**Main lecture room, Haus H**  
Telegrafenberg, 14473 Potsdam

HELMHOLTZ CENTRE POTSDAM  
**GFZ GERMAN RESEARCH CENTRE  
FOR GEOSCIENCES**