



Long Term Manipulations of Intact Microbial Mat Communities in a Greenhouse Collaboratory: Simulating Earth's Present and Past Field Environments

By Brad Bebout

Bibliogov. Paperback. Book Condition: New. This item is printed on demand. Paperback. 34 pages. Dimensions: 9.7in. x 7.4in. x 0.1in. Photosynthetic microbial mat communities were obtained from marine hypersaline saltern ponds, maintained in a greenhouse facility, and examined for the effects of salinity variations. Because these microbial mats are considered to be useful analogs of equivalent ancient marine communities, they offer insights about evolutionary events during the greater than 3 billion year time interval wherein mats co-evolved with Earth's geosphere and atmosphere. Although photosynthetic mats can be highly dynamic and exhibit extremely high activity, the mats in the present study have been maintained for more than one year with relatively minor changes. The major groups of microorganisms, as assayed using microscopic, genetic, and biomarker methodologies, are essentially the same as those in the original field samples. Field and greenhouse mats were similar with respect to rates of exchange of oxygen and dissolved inorganic carbon across the mat-water interface, both during the day and at night. Field and greenhouse mats exhibited similar rates of efflux of methane and hydrogen. Manipulations of salinity in the water overlying the mats produced changes in the community that strongly resemble those observed in the field. A...

Reviews

This book may be really worth a read through, and far better than other. it was actually writtern extremely completely and valuable. I am just very easily will get a satisfaction of looking at a published ebook.

-- Lillie Toy

It is easy in read through easier to fully grasp. it had been writtern very completely and useful. I am pleased to let you know that here is the greatest book we have read during my personal life and could be he very best book for possibly.

-- Miss Marge Jerde