

More Acidic Ocean Hurts Reef Algae as Well as Corals
By HENRY FOUNTAIN

The gradual acidification of the oceans, a result of rising levels of carbon dioxide in the atmosphere, is thought to be bad for coral reefs. The absorption of CO₂ by seawater leads to lower saturation levels of carbonate ions, which reduces calcification, the process by which corals make their hard skeletons.

But it takes more than coral to make a coral reef. And a new study shows that ocean acidification may be bad for another important reef builder, crustose coralline algae.

These organisms act like a mortar to help hold reefs together and otherwise aid reef ecology. Like corals, they secrete calcium carbonate. So Ilsa B. Kuffner of the United States Geological Survey in St. Petersburg, Fla., and colleagues set out to see whether higher ocean pH would affect them. They reported their findings in Nature Geoscience.

The researchers set up experimental tanks near a reef in Hawaii and pumped water through them, modifying the pH in some of the tanks to match that forecast for 2100. After seven weeks, there was far less algae encrusted on clear plastic cylinders inside the more acidic tanks. Instead, the tanks had more filamentous and other noncalcifying algae. The researchers suggest that any shift to such "soft" algae may affect reef growth rates.