

## Change in community metabolisms and seawater carbonate chemistry by degradation of coral reefs at Palau barrier reef

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The change in community metabolisms caused by the degradation of coral reefs was elucidated from long-term surveys. The community net production, respiration, community gross production, and calcification became 32%, 46%, 44%, and 57%, respectively, from 1994 to 2000, and this is in accordance with the decrease of coral cover induced mainly by the worldwide bleaching event in 1998. From the intensive study of lagoon seawater carbonate chemistry, not only the reef flat community metabolism but the productivity of the whole reef system was indicated to have decreased in the last decade by 33 to 50 % year after year. The worldwide degradation of coral reefs is expected to occur in the near future, and coral reefs will face difficulty in keeping their inorganic structures and biodiversity.