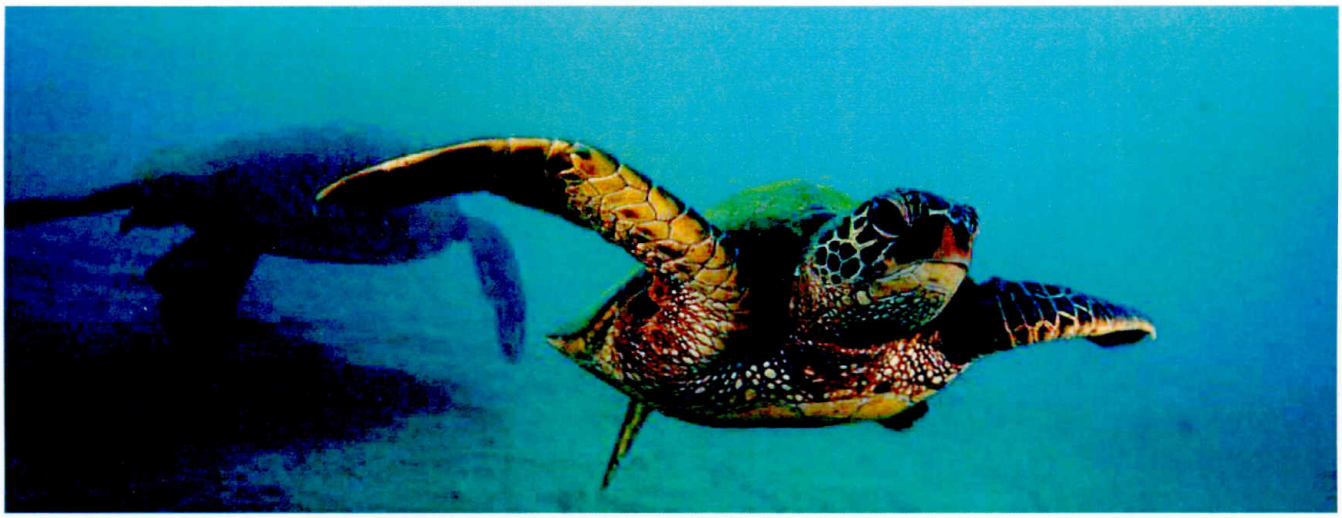
Marine Climate Change

It is now unequivocal – increasing levels of carbon dioxide and other gases in the Earth's atmosphere have resulted in global warming of our planet. But climate change could be much much worse. The oceans have absorbed over 40% of the extra carbon dioxide released into the atmosphere by the burning of fossil fuels and over 80% of the extra heat trapped greenhouse gases. Without the oceans, climate change on would be proceeding much faster.

While buffering us against warming, the ocean environment has been fundamentally changed. For example:

- In August 2005, the waters of the Caribbean Sea reached record-breaking high temperatures for weeks on end, causing the worst coral bleaching event on record in the Caribbean, with as much as 90% of corals bleached and 40% mortality.
- Changes in the ocean around the world-renown Galapagos Islands have so severely impacted species of corals, seaweed, and the Galapagos damsel fish that they have not been seen in over 10 years.
- In the summer of 2007, "Acidified" water caused by the ocean's absorption of carbon dioxide was found less than 20 miles from coast of North America.

The heat and carbon dioxide absorbed by the oceans will continue to transform the ocean environment for decades to come. In response, marine species and the hundreds of millions of people that depend on the ocean will need to adapt to the new conditions. Providing a way for life in the oceans and humans to adapt together to the changing world around us is the single greatest challenge to conservation.

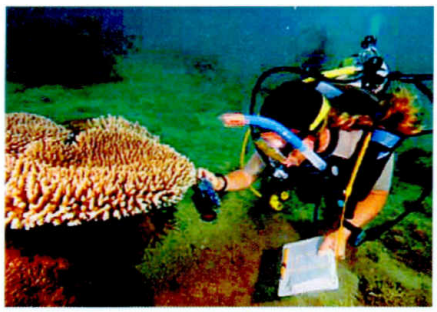


Conservation International's rapidly expanding marine climate change program is leading efforts for both human and marine biodiversity adaptation. CI's model for marine work enables us to tackle climate change at the scale it affects us: from a sea turtle nesting on a beach in Raja Ampat to the impacts of changes in ocean currents across the Tropical Eastern Pacific Ocean. Our scientists and field staff are working to develop and test the cutting-edge, multidisciplinary conservation tools that are urgently needed to addess climate change in oceans around the globe. CI's current priority areas include: the Eastern Tropical Pacific Seascape (including the Galapagos), the Coral Triangle, and the Pacific.

Science

CI is working to understand how climate change impacts on biodiversity translate into impacts on people. For example, the movement of fish populations to cooler areas already being observed as ocean temperatures increase has huge implications for the small scale fishing villages that depend on these populations.

An easy-to-use and low-cost tool for reef managers is being developed and field tested to allow for early detection of climate change related stresses on corals.



Field implementation

CI's marine climate change implementation program is a comprehensive approach that simultaneously includes vulnerability assessments, capacity building and pilot projects in each geographic focus area.

Vulnerability Assessments use local and international expert opinion to identify the impacts of climate change on biodiversity and related human well-being, and to develop priorities and strategy for conservation and management in the region that addresses the impacts of climate change

Capacity building efforts provide training for marine managers and policy makers on the impacts of climate change

Pilot projects address the highest priority climate change issues, testing tools and strategies for marine adaptation, and demonstrating the feasibility and utility of adaptation.

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