

**U.S. Coral Reef Task Force Meeting
Pago Pago, American Samoa
Draft Resolution for Consideration**

Resolution 28:2 Coral Reefs and Climate Change Renewed Call to Action

Points of Contact: USCRTF Climate Change Working Group

Issue Statement:

Climate change continues to be one of the top threats to coral reefs. USCRTF Federal and State/Territory agencies are grappling with how best to identify, plan, and implement climate change adaptation measures that will be both tractable and effective for successful coral reef management. The world's climate is changing, largely due to anthropogenic increases in greenhouse gas concentrations that continue to increase global temperatures while at the same time causing acidification of the world's oceans. Both of these factors have important consequences for coral reefs. In response to the growing climate threat to coral reefs, the USCRTF reaffirms its prior resolutions on Coral Reefs and Climate Change (including 18:1) and encourages its members to work together to confront the serious challenges of climate change, ocean acidification, and their impacts on coral reef systems.

Background:

Coral reefs are under stress from many different sources, including increased sea surface temperatures, ocean acidification, pollution, overfishing, destructive fishing practices, coastal uses, invasive species, disease, and extreme events (*e.g.*, hurricanes and coastal flooding). As human actions increase the concentrations of carbon dioxide and other greenhouse gases in the atmosphere, we are increasing global air and ocean temperatures and reducing the pH of the ocean. These changes are causing both direct effects on corals and coral reefs and indirect effects through interactions with non-climate stresses that hasten the damage to coral reef ecosystems. The Intergovernmental Panel on Climate Change Working Group II Summary for Policymakers noted with very high confidence that corals are vulnerable to thermal stress and have a low capacity to adapt on the timescales at which these changes are occurring. The report also stated that projected increases in sea surface temperatures are likely to cause more frequent coral bleaching events and widespread mortality. At the same time, rising atmospheric carbon dioxide is causing a decline in the pH of ocean waters, reducing the availability of carbonate ions and slowing the growth of corals and other organisms that build reefs. Together with sea level rise and increasing storm intensities, ocean acidification will increase reef erosion and decrease reef resilience. All of these factors render corals and reefs more susceptible to the myriad of local threats from land-based sources of pollution, fishing, and habitat destruction. Carbon dioxide levels in the atmosphere now are the highest they have been in over 800,000 years, probably the highest they have been in over 24 million years, and we continue to increase our rate of carbon dioxide emissions. This rise in atmospheric carbon dioxide will continue to be the largest singular stress to coral reefs in the foreseeable future. It threatens to drive coral reef species toward extinction and threatens the functioning of coral reef ecosystems.

The value of Hawaii's coral reefs to the U.S. was recently estimated to be over \$34B annually. Climate change and other threats to coral reefs jeopardize valuable ecosystem services, adversely affecting coastal economies and societies through reduction in fisheries, shoreline protection, tourism, and loss of these culturally significant ecosystems. Island communities in particular are dependent upon local resources for their livelihoods and are especially vulnerable to changes in coral reef

ecosystems that may occur as a result of climate change. What has become clear in recent years is the extent to which climate change has already affected coral reef ecosystems, creating a deteriorating baseline that highlights the urgency of all USCRTF initiatives to improve coral reef conservation.

The USCRTF has long expressed concern about the impacts of climate change, dating to the second meeting in 1999. At the 2007 meeting in American Samoa, the USCRTF passed Resolution 18.1: Coral Reefs and Climate Change, which focused on the importance of promoting coral reef resilience to climate change and actions for the USCRTF, its agencies and jurisdictions to undertake. Since that time, the USCRTF Federal and State/Territory agencies have made considerable progress in many areas addressed in that resolution (see CCWG Progress Report on Resolution 18.1, USCRTF 2010). However, much more work is needed. Nowhere is this need more urgently felt than in U.S. island jurisdictions and small island nations in the Pacific, Caribbean, and elsewhere. The Pacific Islands Forum Leaders reaffirmed in 2011 that climate change is a key priority under the Pacific Plan as the single greatest threat to livelihoods, security and well-being of the peoples of the Pacific. Additionally, the recently adopted Resolution 17-03 from the Micronesian Chief Executive's Summit makes it clear that the very social structure and livelihoods of Pacific Islands peoples and communities are particularly threatened, and it is essential that actions be taken locally to stabilize coral reefs while countries around the world take actions to reduce atmospheric greenhouse gases. In 2011, a U.S./Caribbean Climate Change Adaptation Initiative was launched to build permanent, regional capacity in the area of climate change adaptation.

In light of the continued need for action by the USCRTF, the Climate Change Working Group (CCWG) and organizers of the 2012 American Samoa USCRTF meeting assert the need for the USCRTF to renew its call to further advance actions to reduce the impacts of climate change on coral reefs. In particular, the CCWG has identified the need to move beyond just improving our understanding of the problem to providing next-generation tools to enhance implementation of local adaptations to changing climatic conditions.

Statement & Decisions:

The USCRTF commits to increasing its efforts across Federal and State/Territory agencies to:

1. Recognize that climate change is an underlying context in which all coral reef conservation efforts occur and agree to mainstream considerations of climate change adaptation throughout USCRTF activities;
2. Enhance engagement and collaboration to address impacts of climate change on coral reef ecosystems among:
 - a. USCRTF Federal and State/Territory agencies;
 - b. USCRTF working groups and priority sites; and
 - c. Federal and State/Territory initiatives;
3. Continue development of advanced methods, tools, and capacity to assess the vulnerability and resilience of coral reef ecosystems to climate change and ocean acidification and to:
 - a. Continue development of methods for design of existing and new large, regional networks of Marine Protected Areas that explicitly incorporate the best available science on factors such as community-level variability in resilience to climate change, locations of potential climate refugia, and effects of climate change on currents/connectivity;
 - b. Develop and execute coral bleaching response plans for all USCRTF jurisdictions;

- c. Develop and execute Local Action Strategies and implementation plans (both existing and new) with concrete steps to promote resilience to climate-related impacts to these ecosystems and the communities that depend on them; and
 - d. Develop, update, and test adaptation planning frameworks and other tools, including the publication *Adapting to Climate Change: A Guide for Reef Managers*, with U.S., international, and State/Territory partners; and
4. Expand and coordinate education and outreach efforts focused on the impacts of climate change and ocean acidification on coral reefs, including reinvigoration of the USCRTF Education and Outreach Working Group and collaboration with Federal and State/Territory climate change initiatives.
 5. Increase coordination and collaboration with other regional and international climate change initiatives such as the Micronesia Challenge, the Pacific Islands Forum Leaders' Pacific Plan, SPREP's Pacific Adaptation to Climate Change (PACC) project, the Caribbean Climate Change Adaptation Initiative, the World Bank's Global Partnership for Oceans, and others.