

1 U.S. Coral Reef Task Force Meeting
2 Pago Pago, American Samoa
3 Approved August 23, 2007
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5 **Resolution 18.1: Coral Reefs and Climate Change**
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7 **Points of Contact:**

8 USCRTF Steering Committee and Climate Change Working Group
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10 **Issue Statement:** Coral reefs are under stress from many different sources, some of which are
11 local in nature, while others have global influence. The world's climate is changing, in part due
12 to anthropogenic increases in greenhouse gas concentrations. The Intergovernmental Panel on
13 Climate Change (IPCC) recently concluded that anthropogenic emissions of carbon dioxide are
14 very likely to have increased global temperatures. Further, the IPCC also noted that increasing
15 atmospheric carbon dioxide concentrations are leading to increased acidification of the world's
16 oceans. Both of these factors have important consequences for coral reefs. In response to the
17 growing climate threat to coral reefs, the USCRTF encourages its members to take actions to
18 confront the serious challenge of climate change
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20 **Background:**

21 Coral reefs are under stress from many different sources, including increased sea surface
22 temperatures, ocean acidification, pollution, overfishing, destructive fishing practices, coastal
23 uses, invasive species, and extreme events (*e.g.*, hurricanes and coastal flooding). Climate
24 change, in particular, increases global air and ocean temperatures and threatens coral reef
25 ecosystems. The IPCC Working Group II Summary for Policymakers noted with very high
26 confidence that corals are vulnerable to thermal stress and have a low capacity to adapt. The
27 report also concluded that sea surface temperatures are projected to increase and could result in
28 more frequent coral bleaching events and widespread mortality. Climate change may also
29 threaten corals through decreasing resistance to disease, sea level rise, increasing storm damage,
30 and declining seawater pH. As the pH of ocean waters decline, the anticipated decrease in
31 carbonate ion availability can slow the growth of corals, increasing reef erosion and
32 compromising reef resilience. Loss of coral reefs could adversely affect coastal economies
33 through reduction in fisheries, shoreline protection, and tourism. Island communities in
34 particular are dependent upon local resources for their livelihoods and are especially vulnerable
35 to changes in coral reef ecosystems that may occur as a result of climate change.
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37 The USCRTF has a history of specifically addressing the issue of climate change and its impacts
38 to coral reef ecosystems. Specific to climate change, the USCRTF has passed four targeted
39 resolutions highlighted below and has developed Climate Change Local Action Strategies in two
40 of seven jurisdictions.
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42 **Pertinent Mandates and Action to address climate change and its impacts**

43 **Executive Order #13089 for the Protection of Coral Reefs** mandates that the U.S. Coral Reef
44 Task Force "...shall develop and implement, with the scientific community, research aimed at
45 identifying the major causes and consequences of degradation of coral reef ecosystems...[and]

46 shall develop, recommend, and seek or secure implementation of measures necessary to reduce
47 and mitigate coral reef ecosystem degradation.”

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49 **The Coral Reef Action Plan** calls for efforts to reduce global threats to coral reefs through
50 exercising global leadership in shaping priorities and approaches that conserve coral reef
51 ecosystems, and to strengthen international research, monitoring and assessment efforts aimed at
52 understanding, predicting, preventing and responding effectively to the impacts of large-scale
53 phenomena such as bleaching and disease, and their socioeconomic impacts.

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56 The USCRTF, in 1999, passed **Resolution 2-3 to Support the Dept. of State's Statement on**
57 **Coral Bleaching and Climate Change**, which acknowledged that it is likely that anthropogenic
58 activities contributed to increasing sea surface temperatures, the extensive coral bleaching, and
59 the coral mortality that occurred simultaneously in 1998.

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61 **Resolution 8-5: Coral Reefs and Climate Change.** The USCRTF, in 2003, committed to the
62 development of an interagency public/private partnership for planning a comprehensive,
63 integrative program for understanding local and system-wide coral reef responses to climate
64 change, including application of this knowledge for local reef management. To support this, the
65 USCRTF sponsored a workshop on Coral Reefs, Climate and Coral Bleaching with participation
66 by over 100 scientists and managers from local and federal governments, universities, the private
67 sector, and non-governmental organizations. As a direct output from this workshop (**Resolution**
68 **10-6: Proposal on Coral Reefs, Climate and Coral Bleaching Initiative**), the USCRTF and
69 partners, both domestic and international, developed *A Reef Manager's Guide to Coral*
70 *Bleaching* which articulates the state of knowledge on the causes and consequences of coral
71 bleaching and provides information on responding to mass bleaching events, developing
72 bleaching response plans, assessing ecological, social and economic impacts, and tools for
73 identifying and building long-term reef resilience.

74
75 In 2005, coral reefs in the wider Caribbean suffered a widespread and severe bleaching event that
76 resulted in extensive coral death in much of the region. The USCRTF passed **Resolution 14-2:**
77 **Call for Action to Respond to the Caribbean/Atlantic Bleaching Event**, in November 2005 to
78 mobilize efforts across the Caribbean to monitor, assess, and research short- and long-term
79 impacts of the 2005 warming and bleaching event. The USCRTF Bleaching Committee
80 coordinated the efforts of NOAA, NASA, DOI (USGS & NPS), other government agencies, non-
81 governmental organization partners, university researchers, and local managers to take steps to
82 better understand and address the underlying causes of massive bleaching events.

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84 **Resolution 16.8: Support Development and Implementation of Response Plans to Coral**
85 **Bleaching.** The USCRTF reiterated its support for development of Local Action Strategies and
86 other tools and plans to minimize the impacts of coral bleaching and climate change on coral reef
87 ecosystems. This resolution also called for the Steering Committee to develop a review and
88 evaluation of the statement submitted by American Samoa Governor Togiola Tulafono on
89 “Global Climate Change” consistent with national policy and protocols.

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91 **Global Climate Change Statement by Governor Togiola Tulafono, American Samoa.** At the
92 16th USCRTF Meeting in the U.S. Virgin Islands, American Samoa Governor Togiola Tulafono
93 requested that the USCRTF take action on climate change. In particular, Gov. Tulafono
94 suggested four steps: (1) Develop science-based policies to reduce local stressors to coral reefs,
95 and provide protections at the regional level, (2) curtail global greenhouse gas emissions, (3)
96 increase public and leadership awareness and build the support needed to respond to the climate
97 threat, and (4) amend the Task Force’s National Action Plan, Objective 5 of Goal 11, by adding:
98 “and support efforts at the local, state, national and global levels to reduce emissions of
99 greenhouse gases.”

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101 **Response:**

102 Protection of coral reefs from the impacts of climate change will require two approaches. First,
103 federal, state, and territory governments need to partner with other key players, including
104 industry, to reduce the rates of greenhouse gas emissions. Second, as coral reefs continue to
105 decline globally, reef managers must strengthen efforts to build resilience into their ecosystems
106 by working with communities to address local threats. To complement these local-scale
107 initiatives, larger regional, national, and international efforts are needed to manage entire
108 ecosystems and watersheds that influence them. *A Reef Manager’s Guide to Coral Bleaching*
109 provides management strategies to help reef managers increase the resilience of coral reefs and
110 related ecosystems to expected changes in the global climate system. Another resource that is
111 slated for release in 2007 is a federal report by the U.S. Climate Change Science Program
112 entitled, *Preliminary Review of Adaptation Options for Climate Sensitive Ecosystems and*
113 *Resources*. This report examines climate adaptation options for marine protected areas –
114 including coral reefs – and also analyzes barriers and opportunities for implementation by
115 managers.

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118 **Statement Decision(s):**

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120 The USCRTF:

- 121 1. Reaffirms the need to address the major threat that global climate change poses to coral
122 reef ecosystems, as stated in *A National Coral Reef Action Strategy*;
- 123 2. Recognizes the importance of ongoing and continued actions by members and partners to
124 reduce greenhouse gas emissions;
- 125 3. Affirms the need to assess the vulnerability of coral reef ecosystems to climate change;
- 126 4. Affirms the need to develop and implement adaptation strategies that promote resilience
127 to climate-related impacts to these ecosystems and the communities that depend on them;
- 128 5. Affirms that regional Marine Protected Area (MPA) networks can be an important tool
129 for protecting the diversity of coral reefs and ecological connectivity among islands in the
130 face of future losses that may result due to climate change impacts.
- 131 6. Recognizes the vulnerability of island and coastal communities to changes in shoreline
132 protection, fisheries, and tourism as a result of climate change effects to coral reefs.
- 133 7. Forms a standing Climate Change Working Group (CCWG) and calls on Task Force
134 member organizations to identify CCWG members with appropriate expertise including
135 climate change science specifically related to coral reefs, coral bleaching, ocean
136 acidification, and management actions relevant to the coral reef/climate nexus;

- 137 8. Charges the CCWG to
138 a. Develop a toolbox of management actions to minimize the potential risk to coral
139 reefs associated with climate changes, building on *A Reef Manager's Guide to*
140 *Coral Bleaching*;
141 b. Improve our understanding of the potential impacts of and management responses
142 to ocean acidification;
143 c. Expand education and outreach efforts to include climate change and its impacts
144 on coral reefs;
145 d. Identify and engage in cooperative efforts with other climate-focused groups such
146 as the U.S. Climate Change Science Program across federal, state, and local
147 governments, academia, and NGOs; and
148 e. Report through the Steering Committee to the Task Force on the above actions.
149 9. Encourages all federal partners to engage with coral reef jurisdictions to develop
150 strategies to address impacts of climate change on coral reef ecosystems;
151 10. Encourages all coral reef jurisdictions to develop local action strategies (LAS) to assess
152 and address impacts of climate change on coral reef ecosystems;
153 11. Supports the development of plans for the reduction of greenhouse gas emissions for
154 jurisdictions;
155 12. Supports the development of coral bleaching response plans for all jurisdictions; and
156 13. To the extent practicable and appropriate, commits to reducing energy use and utilizing
157 offsets and other means to make USCRTF meetings and documents carbon neutral.