

The Coral Reef Ecosystem Research Plan

Fiscal Years 2007 - 2011



THE GOAL of NOAA's coral reef ecosystem research is to provide sound science to enable effective ecosystem-based management by identifying the stressors affecting ecosystem condition, determining the processes by which they affect ecosystems, identifying their short- and long-term impacts, identifying strategies to mitigate these impacts, and forecasting future ecosystem conditions with and without management intervention.

The NOAA Coral Reef Ecosystem Research Plan (Research Plan) is NOAA's first agency-wide coral reef ecosystem research plan. It:

- Provides a **national perspective on the stressors** that affect the condition of coral reef ecosystems – fishing, pollution, coastal uses, invasive species, climate change, and extreme events;
- **Summarizes the management issues and information needs** that will drive research at the regional level;
- **Describes what needs to be understood** about coral reef ecosystems and the stressors that affect them to implement effective ecosystem-based management strategies;
- **Covers all coral reef ecosystems under the jurisdiction of the United States and the Pacific Freely Associated States;** and
- **Is written for a broad audience**, including resource managers, scientists, policy makers, and the public.



RESEARCH PLAN FRAMEWORK

The NOAA Coral Reef Ecosystem Research Plan is presented in two sections: National Research Priorities (Part I) and Regional Research Priorities (Part II). Part I identifies the role of research in management, the role of mapping and monitoring in management-driven research programs, the tools and technologies necessary to conduct research, the importance of transferring science and technology into operations, and the need for targeted outreach and education to translate research results to improve management decisions. Part II reviews for each region the major coral reef ecosystem stressors and the research needed to help address key management objectives.

CORAL REEF CONSERVATION PROGRAM



WHY DOES NOAA NEED A 5-YEAR CORAL REEF ECOSYSTEM RESEARCH PLAN?

Coral reef ecosystems are highly valued as biological, ecological, cultural, and economic resources. In the past few decades, competing demands on coral reef ecosystems and increasing threats from both natural and anthropogenic stressors have contributed to a significant decline in coral reef ecosystem condition.

Two earlier NOAA reports, *The State of Coral Reef Ecosystems of the United States and Pacific Freely Associated States: 2002* and *2005*, summarized the status and health of coral reef ecosystems throughout U.S. waters. Based on these status reports, the Research Plan outlines the national and regional research needed to address the many management challenges in reducing threats to reefs, reversing reef declines, and promoting the resilience of coral reef ecosystems.

WHO SHOULD USE THE RESEARCH PLAN?

The Research Plan is designed to be a planning tool for both NOAA and non-NOAA entities that support coral reef ecosystem research activities.

The Research Plan provides coastal and ocean managers, scientists, and policy makers with the most up-to-date scientific information to address the complex nature of the threats facing coral reef ecosystems, and identifies priority research needed to advance management action. The Research Plan is designed to help NOAA and other entities guide priority setting for coral reef ecosystem research through FY 2011.

HOW WAS THE RESEARCH PLAN DEVELOPED, AND WHAT ARE THE NEXT STEPS?

The research needs identified in the Research Plan were developed based on recommendations from workshop reports, technical reports, peer-reviewed articles and direct input and review by the representative government agencies and governments of the U.S. Coral Reef Task Force, coral reef managers, scientists, and other key stakeholders.

The Research Plan is intended to be a flexible, evolving document that allows new requirements for research to be addressed as appropriate. Annual implementation plans will allow refinement of the research needs identified in this Plan to further focus limited research funds, respond to emerging issues and changing priorities, and take advantage of technologies developed during the next five years.

http://coris.noaa.gov/activities/coral_research_plan/



THIS NOAA Coral Reef Ecosystem Research Plan is the first document to be issued under the new Coral Reef Conservation Program NOAA Technical Memorandum series.

The NOAA Coral Reef Conservation Program supports effective management and sound science to preserve, sustain, and restore valuable coral reef ecosystems for future generations.



NOAA CORAL REEF CONSERVATION PROGRAM

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