



PSA-049-Things you can do

Join WFCRC

The World Federation for Coral Reef Conservation
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"Top 10 Things You Can Do Before, During, and After a Bleaching Event"...NOAA

1. [Develop and/or review your bleaching \(and other crisis\) response plans](#)
2. [Activate your early warning system](#)
3. [Prepare to communicate with stakeholders and other key partners](#)
4. [Devise and mobilize an impact monitoring plan](#)
5. [Reduce other stresses on the reef](#)

DURING

6. [Consider taking additional \(and temporary if necessary\) actions to reduce other stressors on the reef](#)
7. [Monitor ecological and socioeconomic impacts of the bleaching event](#)
8. [Communicate bleaching event data and response to the public, partners, and decision-makers](#)

AFTER

9. [Communicate, debrief, and adapt](#)
10. [Monitor for long-term impacts and recovery and incorporate information into resilience-based management](#)

If you are a coral reef manager taking action to lessen the impact of a coral bleaching event, we want to hear from you! Please share your story with us through the [Reef Resilience Coral Reef Response Group](#) and share your coral bleaching data including reports of no bleaching with [NOAA's Coral Reef Watch](#).

For additional information or questions, contact coralreef@noaa.gov OR WFCRC.org

Before:



Fagatele Bay Bleaching. Photo by : Wendy Cover

1. Develop and/or review your bleaching (and other crisis) response plans

Bleaching response plans can take many forms from a complete management response framework including an incident control system and full field procedures to a simple

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one-page description of key steps and triggers. The four main elements of a bleaching response plan are:

1. An early warning system,
2. Impact assessment,
3. Management interventions, and
4. Communication

Pre-planning before a bleaching event allows managers to respond quickly when bleaching happens.

For More

- [Reef Resilience Coral Reef Module: Coral Bleaching](#)
- [Reef Resilience Case Study: The U.S. Virgin Islands BleachWatch Program](#)

2. Activate your early warning system

With your response plan in place, begin monitoring your sources of early warning for potential impacts to your reef(s). Consider activating your citizen scientists and stewards to report any early signs of coral bleaching and use this information to guide and prioritize impact monitoring.

Global and regional resources for coral bleaching early warning:

- [NOAA Coral Reef Watch Four-Month Coral Bleaching Thermal Stress Outlook](#)
- [NOAA Coral Reef Watch Daily 5-km Satellite Coral Bleaching Thermal Stress Monitoring Products](#)
- [NOAA Coral Reef Watch Daily 5-km Regional Virtual Stations](#)

For More

- [Reef Resilience Coral Reef Module: Participatory Monitoring](#)
- [Reef Resilience Case Study: The U.S. Virgin Islands BleachWatch Program](#)

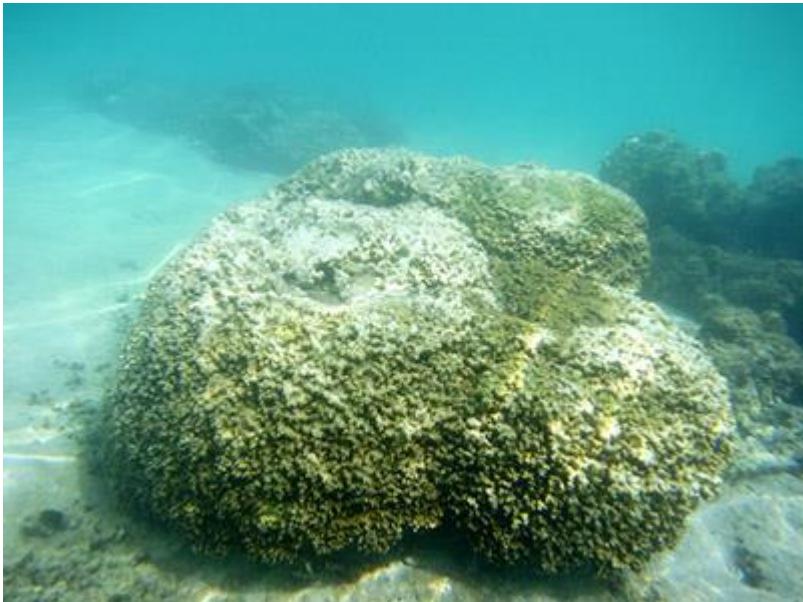
3. Prepare to communicate with stakeholders and other key partners

Effective communication with a variety of stakeholders is essential for any successful coral reef management strategy, especially during a bleaching event when you may want to implement management actions quickly. Develop a communication plan and prepare public communication materials. Consider including talking points on:

- Coral bleaching basics,
- Why coral bleaching is a concern,
- What managers are doing to respond, and
- What the public can do (provide information on citizen science and/or bleaching reporting opportunities).

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While a bleaching event is bad for coral reef ecosystems, it provides an excellent communication and education opportunity.

For More

- [Reef Resilience Coral Reef Module: Communication](#)
- [Reef Resilience Case Study: Malaysia Communication](#)

4. Devise and mobilize an impact monitoring plan

Monitoring and assessment are important

tools for effective management. Having a standardized protocol, based on your budget and capacity, in place to monitor a bleaching event can provide critical information on what reefs were impacted, the extent and magnitude of the impact, the effectiveness of any actions taken to mitigate the effects of bleaching, and the capacity of your reefs to recover. Remember to work with partners to maximize bleaching response capacity and resources, as well as to coordinate with research partners to get permits in place before signs of bleaching are visible.

For More

- [Reef Resilience Coral Reef Module: Designing a Monitoring Plan](#)

5. Reduce other stresses on the reef

Bleaching response is extremely important, but should be part of a larger, long-term management strategy for healthy, resilient reefs. Many of the management strategies that will improve coral reef health are not short-term fixes, so having strong fisheries and watershed management plans in place is key. A bleaching event can provide a unique opportunity to build public support for longer term strategies.

For More

- [Reef Resilience Coral Reef Module: Management Strategies](#)

During:

Coral bleaching at Coconut Point Backreef. Photo by : Wendy Cover

6. Consider taking additional (and temporary if necessary) actions to reduce other stressors on the reef

During times of severe stress, such as a bleaching event, managers can help minimize the severity of damage at important reef sites by protecting corals from activities that might exacerbate the effects of environmental

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pressures. Considering short-term actions for priority management areas, especially when thermal stress is predicted to be most severe, is an important tool in the management toolbox. Options for consideration include:

- Temporary implementation of protected areas where no or limited activities are permitted,
- Temporary protection of herbivores,
- Temporary increased enforcement in sensitive areas,
- Implementation of no anchoring areas,
- Targeted water quality improvements, which may reduce bleaching sensitivity and coral disease risk,
- Suspension of dredging activities to reduce sedimentation stress, and
- Limiting or otherwise adjusting diving and other recreational activities at sensitive or important sites.

Public information campaigns may be a more rapid, effective and economic way of implementing such actions. The actions could be voluntary by encouraging reef users to reduce their impact during and after the stressful bleaching event. If you do take a management action, consider setting up a control site and monitoring for effectiveness.

For More

- [Reef Resilience Coral Reef Module: Managing Local Stressors](#)
- [Reef Resilience Case Study: Malaysia & Thailand-Disturbance Response](#)

7. Monitor ecological and socioeconomic impacts of the bleaching event

Review monitoring data as it comes in, including geographic extent and severity, and be ready to adapt your monitoring plan and management response as needed. Consider monitoring the socioeconomic impacts of the bleaching event, especially if you have sectors (dive tourism, fisheries, etc.) that are dependent on healthy reefs. Since recovery of the reefs and socioeconomic impacts can take time to become apparent, begin thinking strategically about follow-up monitoring as you begin to understand the extent of the impact.

For More

- [Reef Resilience Coral Reef Module: Responsive Monitoring](#)
- [Reef Resilience Coral Reef Module: Socioeconomic Assessment and Monitoring](#)

8. Communicate bleaching event data and response to the public, partners, and decision-makers

Communicate to politicians and decision-makers throughout the event. Ensure you have a clear objective and key messages, and include a clear request for a specific action or alternative if that is your goal. Be consistent in communications across partners and even if it is a status update, include some positive success stories where human actions aided in reef recovery. Be sure to continue to communicate bleaching event updates to the public and include some positive actions that can be taken, even if they are voluntary, to empower your audience to help reefs.

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For More

- [Reef Resilience Coral Reef Module: Developing a Communication Strategy](#)
- [Reef Resilience Coral Reef Module: Talking Points](#)
- Visit [here](#) for tips on ways the public can protect reefs.

After:



Airport Pools Bleaching. Photo by : Wendy Cover

9. Communicate, debrief, and adapt

Follow through on your communication plan by communicating the extent and ecological and socioeconomic impacts of the bleaching event to the public and decision-makers. Remember to go beyond the "doom and gloom" and communicate actions and strategies that can make reefs and communities more resilient before the next bleaching event.

Consider using the communication of ongoing monitoring results as a way of

keeping people's attention on the slow process that is reef recovery and the importance of stewardship actions in supporting recovery.

Debrief all partners and researchers on data gathered during the bleaching event and overall response. Use this opportunity to apply insights gained and lessons learned to adapt your response plans and other management plans.

Share these lessons with other managers and join the [Reef Resilience Coral Reef Response Group](#)! Also consider submitting your bleaching data-including reports of no bleaching to [NOAA Coral Reef Watch](#).

10. Monitor for long-term impacts and recovery and incorporate information into resilience-based management

Conduct an impact assessment to identify areas of your reef(s) that resisted and/or recovered from the bleaching event. This can be a powerful tool to help prioritize management actions and strategies, identify sites for future management or protection, and provide information for adaptive management. If the impact assessment shows that the coral bleaching event has caused severe damage or mortality, or that it has led to outbreaks of coral disease, then existing permits, policies, and regulatory decisions should be adjusted to recognize that the system is degraded and a more cautious approach should be taken during the recovery period.

For More

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- [Reef Resilience Coral Reef Module: Assessing and Monitoring Reef Resilience](#)
- [Reef Resilience Case Study: Florida Disturbance Response](#)

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