Office of National Marine Sanctuaries
National Oceanic and Atmospheric Administration

NATIONAL MARINE SANCTUARY OF AMERICAN SAMOA

Condition Report Quick Look

Status and Trends of Resource Condition and Ecosystem Services 2007–2020

https://americansamoa.noaa.gov

NATIONAL MARINE SANCTUARY OF AMERICAN SAMOA

CONDITION REPORT QUICK LOOK

About National Marine Sanctuary of American Samoa

National Marine Sanctuary of American Samoa (NMSAS) is a place of extraordinary beauty and is the most remote of the United States' national marine sanctuaries. NMSAS includes six separate protected areas that cover 13,581 square miles of ocean waters, making it the largest national marine sanctuary in the U.S. It is home to a great diversity of marine life, including corals, other invertebrates, fish, turtles, marine plants, and marine mammals. The only true tropical reef within the National Marine Sanctuary System, it is home to some of the oldest and largest *Porites* coral colonies in the world. Its vast open ocean areas encompass two atolls, deep-water corals, seamounts, hydrothermal vents, and an undersea volcano.

What are Condition Reports?

Condition reports provide a summary of resources in a sanctuary, pressures on those resources, current condition and trends, and management responses to the pressures that threaten the integrity of the marine environment.

How are Condition Reports Drafted?

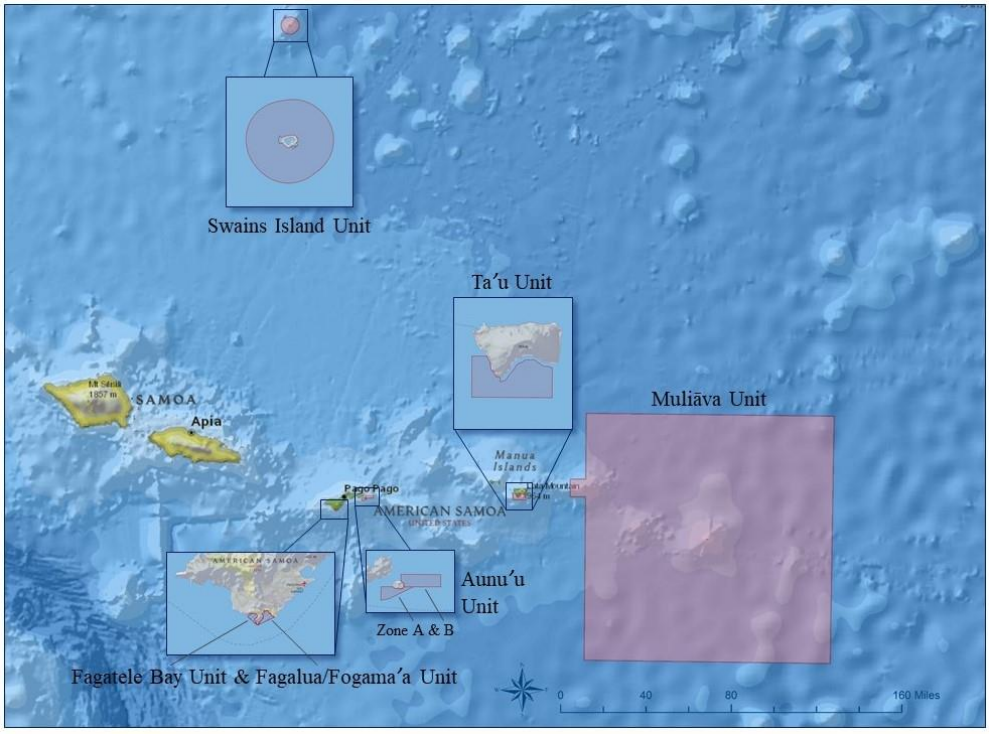
The condition report was drafted in collaboration with subject matter experts with knowledge of marine ecosystems in American Samoa. This report updates the 2007 Fagatele Bay report by including the five new units. It also includes more explicit communication of confidence for the findings and incorporates cultural and ecosystem services.

How will this Condition Report be Used?

Resource managers and stakeholders use condition reports to help determine whether management goals are being achieved. This report will help inform the upcoming management plan review process. Reports may also be used by those wanting to learn about sanctuary resources.

Pressures on the Sanctuary

The pressures on NMSAS resources associated with human activities are diverse, operate at varying scales, and differ significantly in their impact. Accelerated climate change, pollution, marine debris, vessel groundings, visitor use, scientific and management activities, and nuisance species outbreaks result in the most impactful changes that have been observed throughout the sanctuary. Fishing also occurs in the sanctuary, and while it may be viewed as a pressure, it is also an ecosystem service, contributing to the wellbeing, livelihoods, and food security of many of the communities in American Samoa.



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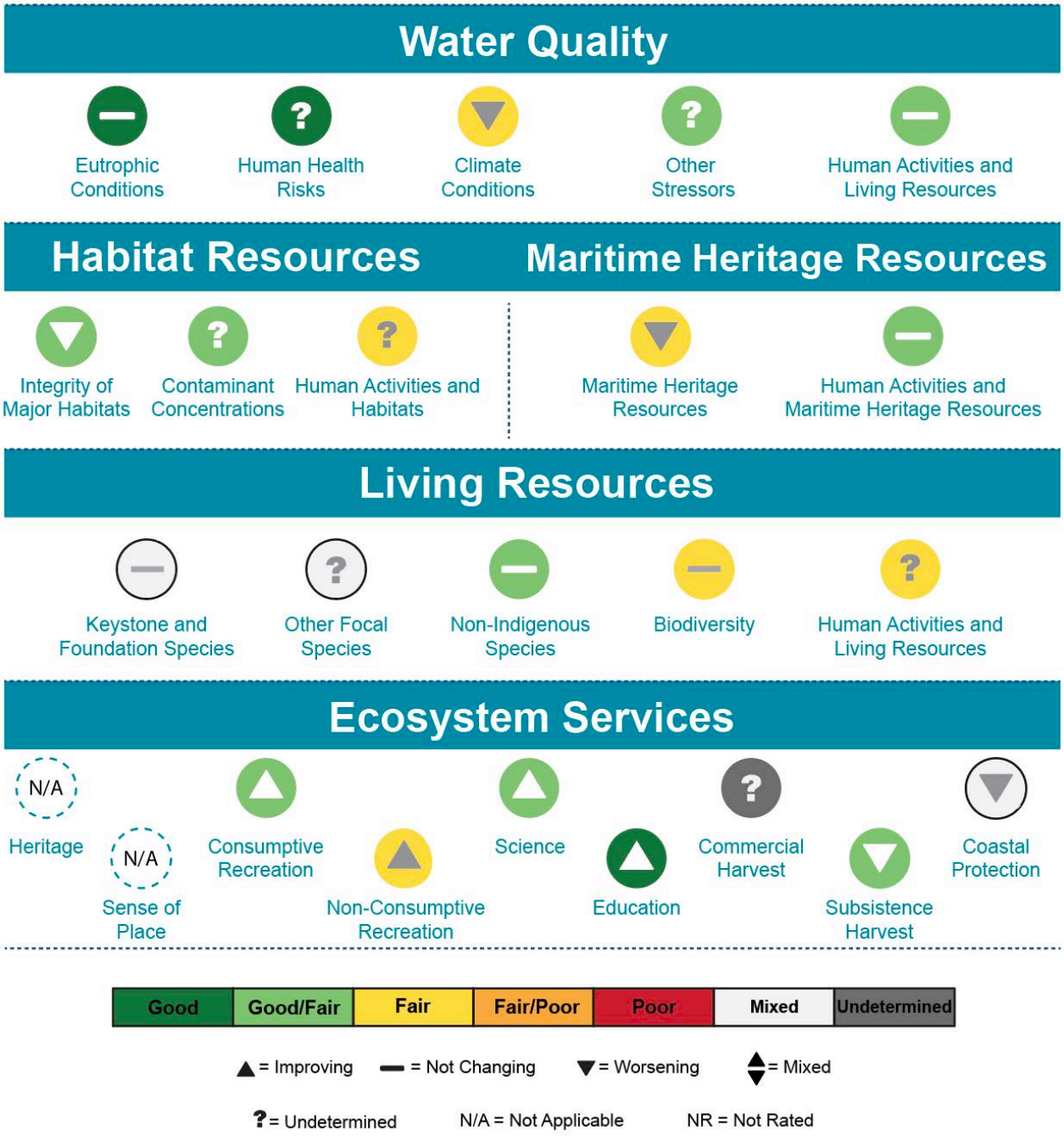
Condition reports use the best available science and information to assess the status and trends of critical components of the sanctuary's ecosystem, the pressures affecting them, and changes in the benefits and services they provide to society. The reports guide sanctuary management and inform issues that may need to be addressed during the sanctuary's management plan review.



What are the Conditions and Trends of Sanctuary Resources?

How are Sanctuary Resources Doing at National Marine Sanctuary of American Samoa?

NMSAS is co-managed by the National Oceanic and Atmospheric Administration and the government of American Samoa. Fa'a Samoa (the traditional Samoan way of life) and partnerships with sanctuary-adjacent communities are highly valued as part of this management structure. Climate change and ocean acidification are likely to have a significant influence on the status and trends of sanctuary resources in the future, and it is important that NMSAS work with partners to improve climate monitoring and research moving forward.

Water Quality

In general, water quality in the sanctuary is good. Available data indicate that nutrient and contaminant levels are below recommended thresholds. Changing conditions associated with climate change are of significant concern. Pacific Islands are among the most vulnerable areas in the world to the predicted effects of climate change. Changes in ocean conditions resulting from accelerated climate change, like increased ocean temperatures and rising sea levels, are already affecting marine ecosystems across NMSAS.

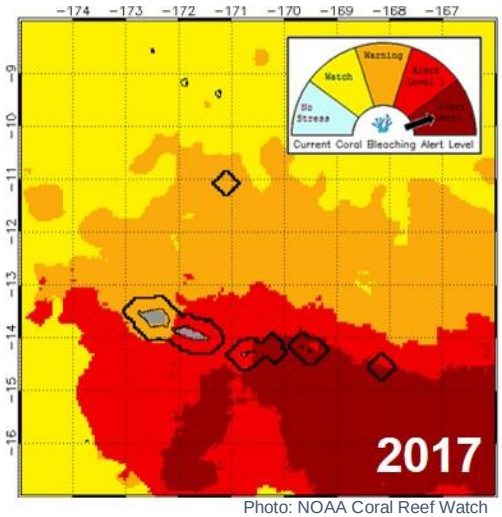


Photo: NOAA Coral Reef Watch

Coral bleaching alert status event in 2017.

Photo: Ocean Exploration Trust

Habitat

Resilient shallow coral reef and mesophotic coral ecosystem habitats continue to thrive in American Samoa. The sanctuary also includes extensive open-ocean areas, banks, deep ocean floor habitats, an undersea volcano, hydrothermal vents, and seamounts. Habitats in the sanctuary are in good/fair condition. Shallow coral reef habitats were exposed to disturbances such as cyclones, coral bleaching events, and crown-of-thorns sea star invasions, and have demonstrated resilience. Nearshore habitats are also exposed to human-caused impacts. A vessel grounding in Aunu'u pulverized coral reef habitat, but the effects were constrained to a small area.

Photo: Wendy Cover/NOAA

What are the Conditions and Trends of Sanctuary Resources?

Living Marine Resources

Sharks, parrotfish, and surgeonfish are all important components of coral reef ecosystems. Low abundances of large fish, particularly sharks and large parrotfish, in the sanctuary are of concern, as this may compromise ecosystem resilience. The abundance of harvested species, including giant clams, many targeted food fish species, and humphead wrasse, is low, and recovery is uncertain due to continued harvest and life cycle characteristics. The decline in giant clam populations from 1996 to 2006 is particularly worrisome to resource managers, and there is some concern that ocean acidification and elevated seawater temperatures may be affecting these species.

Maritime Heritage Resources

Current knowledge of the nature, location, and significance of maritime heritage resources within NMSAS is limited. In general, maritime heritage resources have not been subject to human impacts that might otherwise diminish their aesthetic, cultural, historical, archaeological, scientific, or educational value. However, they have been subject to natural deterioration, erosion, and high-energy shoreline events. Resources like submerged shipwrecks and aircraft, which likely exist within the sanctuary, are presumed to be slowly degrading, primarily due to these natural processes.

Photo: W. Cover/NOAA

How do People Benefit from the Sanctuary?

What are Ecosystem Services?

Ecosystem services are the benefits that humans receive from natural and cultural resources. Nine types are considered in this report: heritage, sense of place, consumptive recreation, non-consumptive recreation, science, education, commercial harvest, subsistence harvest, and coastal protection.

Photo: M. Gebauer/NOAA

Heritage and Sense of Place

NMSAS is tasked with interpreting, protecting, and preserving historic and cultural resources and incorporating traditional knowledge and stewardship into management. Fa'a Samoa provides the cultural context for all sanctuary activities and functions.

Consumptive Recreation

Consumptive recreation describes recreational activities that may result in disturbance to wildlife or destruction of habitats, such as recreational fishing, sport fishing, and beachcombing. The National Marine Sanctuary System aims to balance access to these activities with resource protection. Evaluating consumptive recreation in the Pacific Islands is difficult, as island communities rely on fishing for subsistence and do not view it as a recreational activity.

Non-consumptive Recreation

Non-consumptive recreation generally does not result in damage to natural and heritage resources, and includes activities like swimming, snorkeling, scuba diving, boating, and beach recreation. There are no studies specific to non-consumptive recreational activities in NMSAS. Territory-wide studies show that swimming and beach recreation are relatively common activities in American Samoa. Despite increasing awareness of the sanctuary and recreational opportunities available, non-consumptive recreation remains limited by small numbers of potential participants.

Photo: N. Moffitt/NOAA

Science

Research and partnerships have increased, despite lack of vessel access and limited science staff capacity. Sanctuary staff and partners have supported research cruises to study shallow coral reef and deep-sea ecosystems, explore mesophotic systems, investigate contaminants in Fagatele Bay, and install a buoy to monitor ocean acidification in Fagatele Bay. Interns support science efforts, and outreach staff incorporate science into ocean literacy efforts.

Education

Education and outreach efforts at NMSAS have consistently grown. The sanctuary has collaborated with local, regional, national, and international partners to inform and educate the public, projecting the region's special resources and ecosystems through film productions, publications, and expeditions.

Photo: N. Moffitt/NOAA

How do People Benefit from the Sanctuary?

Commercial Harvest

Except at Swains Island, reef fish populations across the territory are well below their estimated potential. Fishing may quickly reduce the population of commercial reef fish species in bays like Fagatele Bay and remote sites like Rose Atoll. Fishing is prohibited in Fagatele Bay and limited in other areas like Aunu'u and Muliāva.

Subsistence Harvest

Subsistence harvest is important to the American Samoan community to ensure that families have food on the table, have a healthy diet, and maintain a connection to the past through traditional fishing methods. Many residents believe reef fishing is worse now than when they were young. Although people still engage in subsistence harvest, the frequency of harvest has decreased.

Coastal Protection

Coral reefs protect infrastructure and support economic activity. Rising sea level is of great concern. In addition to global sea level rise, American Samoa has experienced rapid sinking of land since a powerful 2009 earthquake. Coral bleaching events, storms, and vessel groundings have impaired some sanctuary areas. Although coastal protection is rated as fair in most sanctuary units, Muliāva is considered to be good/fair and Aunu'u is fair/poor.

Photo: P. Taliva'a /NOAA

Photo: N. Moffitt/NOAA

What Did We Learn from this Condition Report?

- Highlighting the reciprocal relationship between humans and the ocean and weaving community voices and perspectives into the report was essential to the success of the process and final product.
- Critical issues and human activities occurring within and beyond NMSAS were identified, discussed, and evaluated. Each warrants attention, tracking, study, and, in some cases, management action.
- Currently, impacts to sanctuary ecosystems resulting from climate change are of greatest concern to NMSAS.
- Addressing identified issues, threats, and challenges to sanctuary resources and communities will require participation by, and coordination with, a variety of agencies and organizations.
- NMSAS is fortunate to work with partners that contribute to managing human activities, addressing marine conservation issues, and protecting invaluable natural and cultural treasures.

What Can You Do to Help National Marine Sanctuary of American Samoa?

Visit the Sanctuary

Experience the wonders of the sanctuary. From fishing to snorkeling, there is something for everyone. The Tauese P.F. Sunia Ocean Center is a visitor center for NMSAS that feature exciting exhibits for all ages. For more information, please call 1-684-633-6500.

Get Involved

You can get involved with NMSAS through volunteering or attending Sanctuary Advisory Council meetings.

Follow NOAA Sanctuaries on Social Media

Follow @noaasanctuaries on Instagram, @americansamoa.noaa.gov on Facebook, and @sanctuaries on Twitter for updates.

Learn How We Can Address Climate Change To Mitigate Ocean Warming

Learn from NOAA's top climate scientists!

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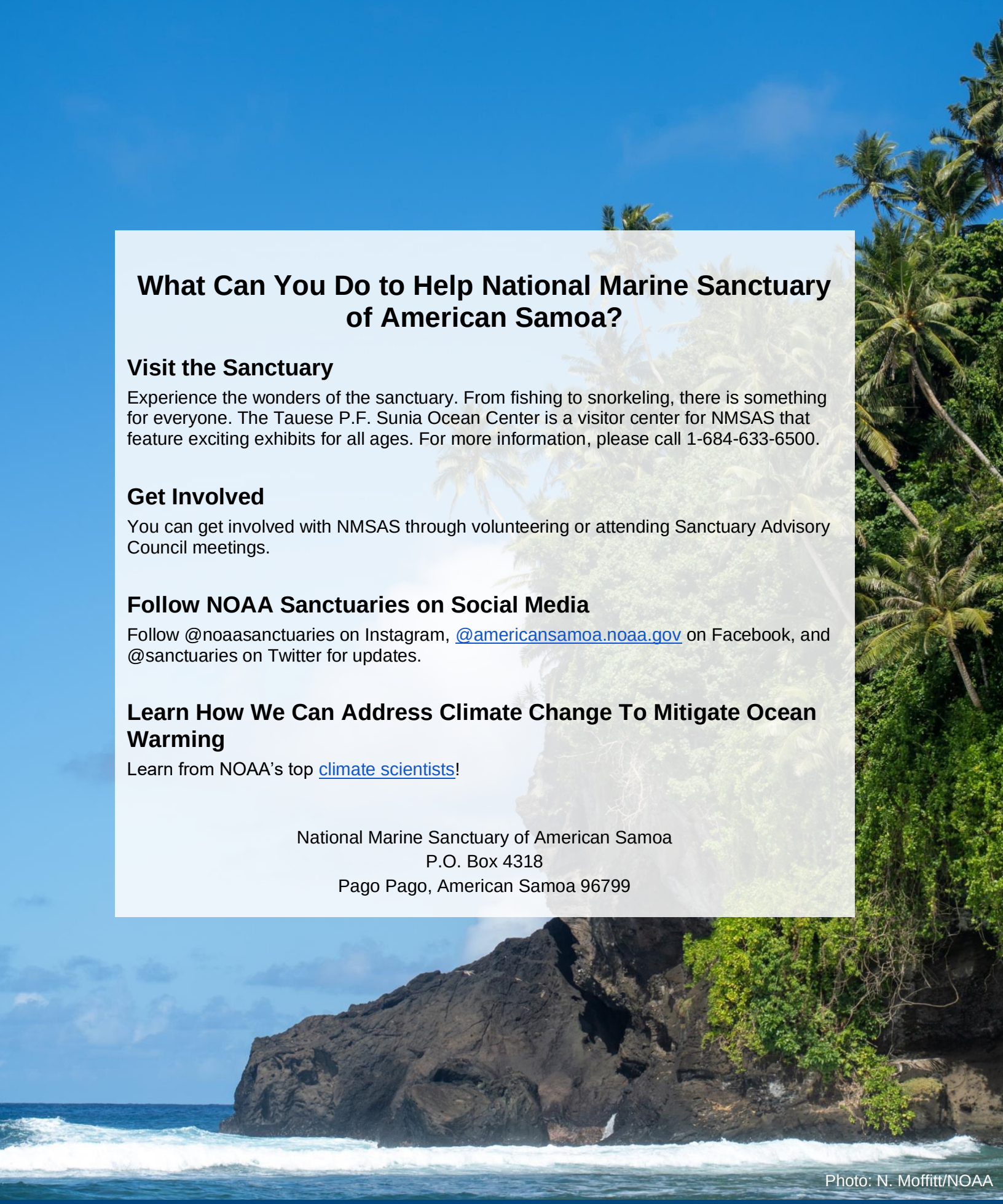

Photo: N. Moffitt/NOAA