Office of National Marine Sanctuaries
National Oceanic and Atmospheric Administration

NOAA's Climate-Smart Sanctuaries:

Helping the National Marine Sanctuary System Address Climate Change

Abstract

This document contains an overview of the Climate-Smart Sanctuary process, that was developed to help national marine sanctuaries and other marine protected areas plan for, adapt to, and manage for impacts associated with ci-imate change. Its components include a process for devel-oping a climate change site scenario and climate change action plan; obtaining advisory council and other public input; conducting training for staff and partners; greening operations; and preparing documentation for and obtaining certification. Standards for certification, suggested man-agement and adaptation measures for MPA managers, and documentation formats are also included.

The document may be cited as: Office of National Marine Sanctuaries, National Oceanic and Atmospheric Administra-tion, 2010. NOAA's Climate-Smart Sanctuaries: Helping the National Marine Sanctuary System Address Climate Change.

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The Office of National Marine Sanctuaries serves as the trust-ee for a system of 14 special ocean areas, encompassing more than 150,000 square miles of ocean and Great Lakes waters. The system includes 13 national marine sanctuaries and the Papahānaumokuākea Marine National Monument. The sanctuary system is part of the National Oceanic and Atmospheric Administration (NOAA), which manages sanc-tuaries by working cooperatively with the public to protect sanctuaries while maintaining compatible recreational and commercial activities. Sanctuary staff work to enhance public awareness of our nation's marine resources and maritime heritage through scientific research, monitoring, exploration, educational programs and outreach.

NATIONAL MARINE SANCTUARIES

Contents

Overview

Climate change has been acknowledged as the greatest natural threat facing the planet today. Everyone, as individuals and as parts of families, businesses, communities, and agencies, is asking, *What can I do?* Alone, we can do little. Even as a large marine protected area network, NOAA's National Marine Sanctuary System (NMSS), is limited in what it can do. Many protected areas have not been able to do as much as they would like to deal with impacts from climate change, due to uncertainty about what to do, lack of resources, or both. But the NMSS has been entrusted with the stewardship of many of the most ecologically, economically, and socially important marine resources in U.S. waters. To do nothing is not an option.

Additionally, internationally, MPA managers are struggling with the same problem. At the Second International Marine Protected Areas Congress (May 2009), one of the messages that was brought forth was that although there is increasing discussion of what role MPAs can play in climate impact adaptation and mitigation, far more work is needed in figuring out how to make that actually happen.

The NMSS is therefore developing a Climate-Smart Sanctuary Initiative as a way to prepare the climate site scenario/story, and then organize and implement a climate action plan at each site and receive the certification "Climate-Smart Sanctuary" as a way to indicate they have made certain efforts and achieved a set of standards. The certification standards, evaluation process, and certifying body and methods are currently being developed by NMSS and piloted in the Gulf of Farallones National Marine Sanctuary.

These NMSS efforts support larger agency efforts toward NOAA's climate goal *(Understand climate variability and change to enhance society's ability to plan and respond)* as well as enhance NOAA's compliance with Executive Order 13423 *(Strengthening Federal Environmental, Energy and Transportation Management)*. The NMSS provides and/or supports some of NOAA's climate capacities (History of Marine Animal Populations (HMAP), ocean acidification, sentinel sites, climate literacy), as well as being a customer (experts, data, modeling, and forecasting). The NMSS provides the place-based focal point that puts all of NOAA's climate capabilities to work in protecting marine resources.

Benefits of Climate-Smart Sanctuaries

At its most basic level, this effort answers the question posed earlier What can we do? and helps the NMSS and NOAA meet mandated stewardship responsibilities by protecting sanctuary resources and contributing toward larger efforts designed to help manage for and mitigate climate change

impacts. It also answers the question *What will we do?* and demonstrates to the community that action can and should be taken. Climate site scenario/story and action plan templates and documents, the processes used to prepare them, and the standards and process for certification can be exported and adapted for other domestic and international marine protected areas.

Planning Process

The process to prepare Climate Change Site Scenarios and Action Plans has been adapted (and can easily be part of) the ONMS's management plan review process. It has also been designed to help a site meet the certification standards (see discussion below). In general, the process is:

1. The site completes or revises its condition report so it is less than five years old. The site then prepares a draft Climate Change Site Scenario that describes what the site and its environs will likely look like in 50 to 100 years. The draft Climate Change Site Scenario should:
   - Be based on best available information, including historic baseline information, recent resources assessment(s), and any climatologies, models, or forecasts available for the site and its surrounding region;
   - Use the best local expertise;
   - Provide for the involvement of stakeholders, including an advisory group if present;
   - Provide for other public review; and
   - Undergo a rigorous peer review process.

This step addresses Standard I (completion or revision of condition report).

2. The site, either prior to or while is it preparing the draft Climate Change Site Scenario, should green its operations to a minimum of the standards identified in Appendix 1. This can occur prior to and/or simultaneous to these other steps. This step begins to address Standard VI (greening of operations).
3. The draft Climate Change Site Scenario undergoes a rigorous peer and public review. Public review should:
   - Involve wide-spread distribution of the draft scenario;
   - Provide opportunity to comment through multiple media (online, at meetings, and/or by mail); and
   - Have a comment period for the duration of 30 days or longer.

The peer review process should:

- Be carried out by at least three appropriate and objective subject matter experts;
- Cover all major sections of the Climate Change Site Scenario;
- Allow enough time for a thorough review;
- Thoroughly document all comments; and
- Provide for meaningful changes to be made as necessary and appropriate based on information from the review.

This process is vital, since the Climate Change Site Scenario forms the basis for future management action; it must be credible, defensible, and scientifically sound. WIth the completion of this step, the site has reached Standard II (completion of the climate site scenario).

4. The site superintendent, staff, and/or appropriate partners undergo training on how to plan and manage for climate change impacts, in order to help prepare the Climate Change Action Plan. Such training should include:
   - Overview of what climate change means;
   - Overview of coastal and marine impacts from climate change;
   - Gathering and use of data for planning and management;
   - Planning and management for climate change; and
   - Evaluation and real-time adaptation of management efforts.

This step also addressed Standard III (completion of training).

5. Engage the site's key stakeholders and advisory council in the Climate Change Action Plan by

briefing the members and receiving feedback. Consider a more active role by the full advisory council or a subcommittee or working group created specifically for this purpose. This step brings a broader perspective to the Climate Change Action Plan, adds to the validity of the document, and widens the scope of distribution. This step also achieves Standard IV (engagement of advisory council).

6. The site prepares the Climate Change Action Plan, based on the Climate Change Site Scenario. The Climate Change Action Plan should not attempt to address every climate impact but only those identified as priorities by the site. In considering which issues are most important to address, consider:
   - Can the issue be addressed in the scope of the site's authority?
   - Can the issue realistically be addressed by the site and its partners?
   - How extensive is the issue?
   - How urgent is the issue?

Specific strategies and actions should then be developed that focus on the priority climate issues and impacts for the site. Consider:

- Relevance to the most severe impacts: Will the strategy do something about the worst impacts expected?
- Geographical scope: Will the strategy have the widest impacts across the site?
- Level of effect: Will the strategy go far enough in addressing the impact?
- Urgency: Will the strategy address the most urgent issue first?
- Political and socioeconomic context: Is there enough community and political support for the strategy?
- Feasibility of addressing: Is the strategy achievable with the resources available?

Strategies should be:

- Impact- and outcome-oriented;
- Related directly to the issue(s) they are designed to address;
- Clear, simple, and explicit; and
- Practically attainable within the resources currently or potentially available to the site.

Appendix 2 contains examples of adaptation and management measures for sites that may be considered in preparing the Climate Change Action Plan. Completion of this step achieves Standard V (completion of the climate change action plan).

7. Upon or during the preparation of the Climate Change Action Plan, the site should be completing any other actions they deem necessary to meet or make substantive progress towards the standards as summarized or adapted from Appendix 1.
8. When the site is confident it has met or is making substantive progress toward all of the Climate-Smart standards, it prepares a Climate-Smart Sanctuary Documentation Report. This report documents how the site has specifically and clearly met or is making substantive progress toward each of the standards. See Attachment 3 for a report format.

Standards for Certification

The standards for certifying sites as Climate-Smart must meet several requirements. They must:

- Help a site plan and manage for climate change impacts;
- Be rigorous enough to be meaningful;
- Be realistically achievable in a poor fiscal climate;
- Address the primary functional areas of an MPA (science/research, education/outreach, and management); and
- Address the day-to-day MPA operations of maintaining facilities, running vessels, and interacting with the community.

Please see Attachment 1 for a full list of the certification standards. These standards are specific for the sites in the NMSS.

Certification Process

In order for a certification to be considered credible, it needs to be approved by objective experts through an impartial, well-documented process. The Climate-Smart Sanctuary certification will be made in the following process (also see Figure 1):

1. Form a Local Review Team.

   Each site will form their own Local Review Team to be composed of a minimum of three representatives chosen from outside ONMS, and one representative from the ONMS Climate Subcommittee. The external members are to represent the following areas of expertise:

   - Protected areas – Consider a colleague from a partner federal or state park.
   - Climate sciences – Consider a colleague from a local RISA program (Regional Integrated Sciences and Assessments program through the NOAA Climate Program Office), a researcher at a local university, or a science partner from another state or local agency.
   - Facilities – Consider a colleague from NOAA's Facilities programs, or a local, state, or other federal partner.

   Other expert representatives may be added if a site desires.
2. Conduct an orientation call for the members of the Local Review Team to present expectations and ensure familiarity with the process and standards of Climate-Smart Sanctuary Certification.
3. Schedule a full-day assessment visit by the Local Review Team. The meeting should include a thorough presentation of necessary documentation and tour of facilities.
4. Submit the Climate Smart Sanctuary Documentation Report to the Local Review Team at least 30 days before the Climate-Smart Sanctuary certification assessment visit.
5. Conduct Climate-Smart Sanctuary certification assessment visit and provide any clarifications or additions to documentation as requested by the Local Review Team.
6. The Local Review Team has thirty days to make their findings and recommendations, and submit them as a report to the ONMS's Executive Team.
7. The Executive Team has thirty days to review the report from the Local Review Team and decide if the site has achieved or is making substantive progress toward all of the standards.
8. If the Executive Team decides that a site has achieved or is making substantive progress toward all of the standards, it will be certified as Climate Smart (see Attachment 4 for a certificate format). A press release or public ceremony can be held announcing the certification. The certification is good for a period of ten years, after which it may be revisited.
9. If the Executive Team decides that a site has NOT achieved or is making substantive progress toward all of the standards, it will make recommendations on how to address deficiencies. The site can take action to address those deficiencies, prepare new documentation, and reform the Local Review Team to prepare a new report for the Executive Team.

   The Executive Team will serve as the certifying authority for the NMSS for the foreseeable future. As more sites initiate the Climate Smart process, and more partners become involved, the NMSS may consider an outside Certifying Authority with expertise in such areas as:

   - protected area and/or resource management expertise
   - climate adaptation/management planning and implementation
   - climate literacy principles and outreach methods
   - climate science and monitoring
   - green operations/facilities.

Figure 1: Climate-Smart Sanctuary Certification Process

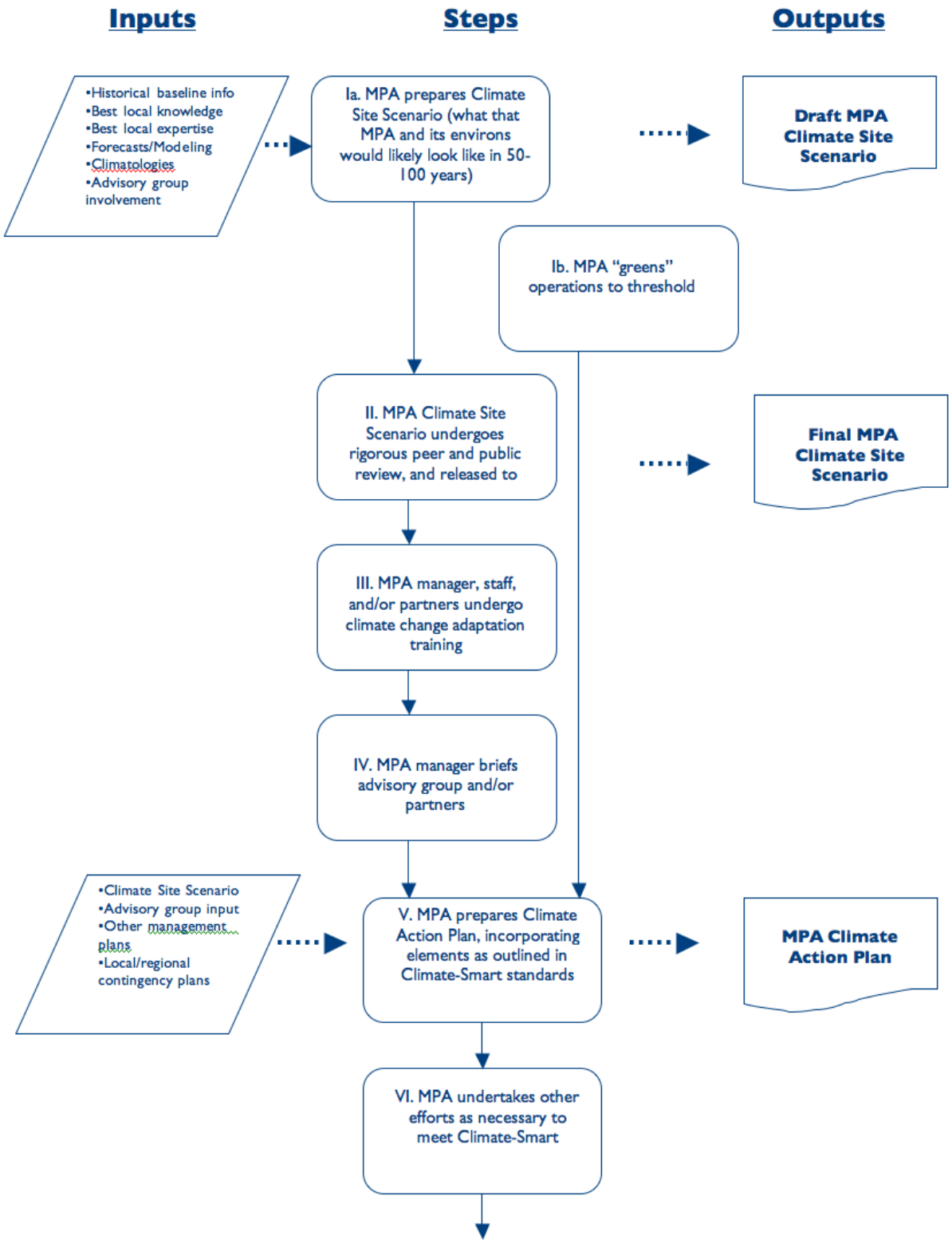
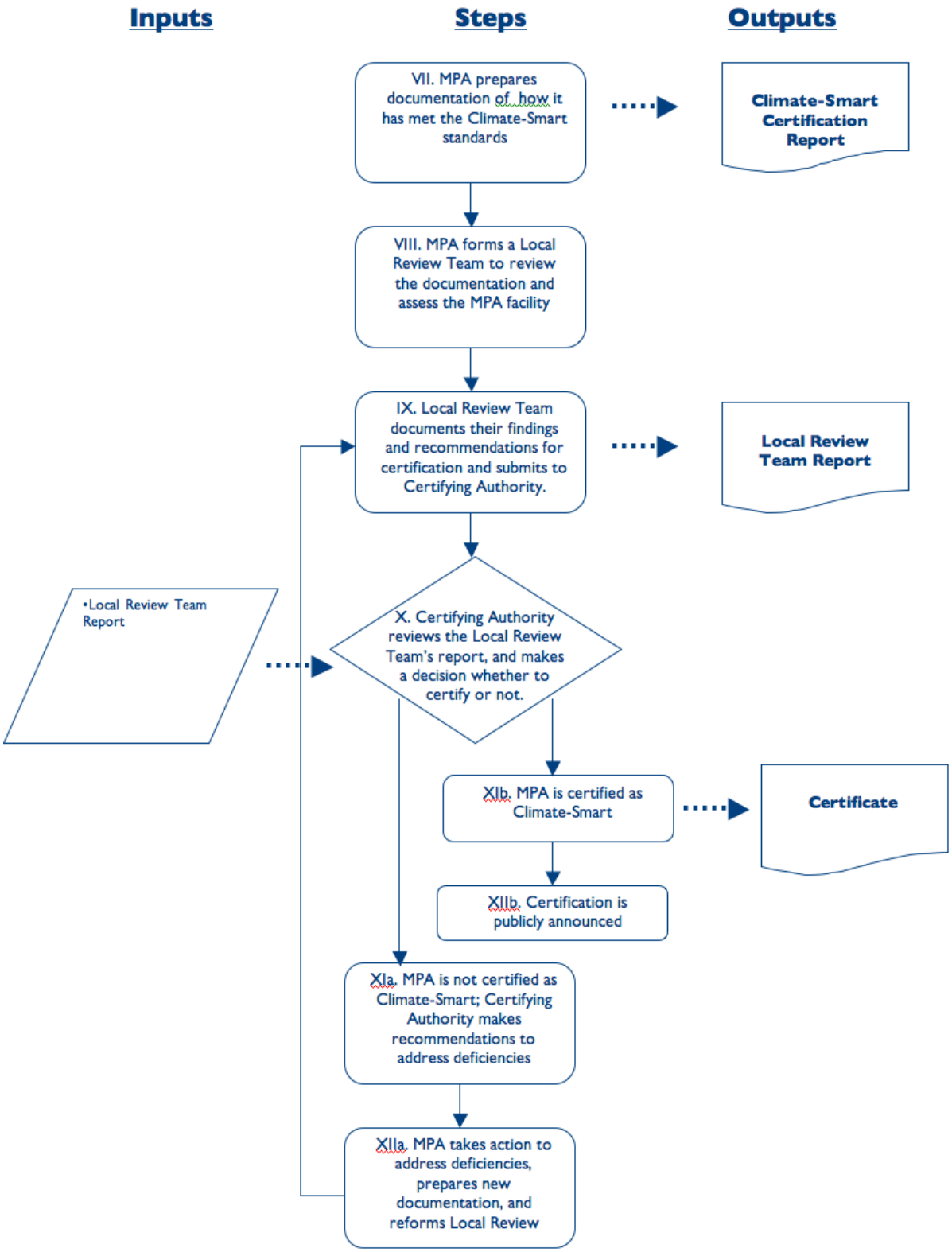


Figure 1: Climate-Smart Sanctuary Certification Process (Continued)



Attachment 1: Climate-Smart Sanctuary Certification Standards

Standard I: Condition Report[1] completed or updated within the last five years using the best available information on climate impacts on resource status and trends

Standard II: Climate Change Site Scenario/Story[2] completed, with the following requirements:

A. Use of appropriate experts internally and externally
B. Includes documentation of historical and anticipated changes in resource qualities resulting from climate change
C. Sanctuary advisory council[3] involvement
D. Opportunity for public input
E. Rigorous peer review (on par with condition reports)

Standard III: Sanctuary Superintendent and/or other staff as appropriate have completed training on how to plan and manage for climate change impacts, with the following required elements:

A. Overview of what climate change means
B. Overview of coastal and marine impacts from climate change
C. How to gather and use data for planning and management
D. How to plan and manage for climate change
E. How to evaluate and adapt management efforts

Standard IV: Sanctuary advisory council and appropriate working groups have been briefed on potential climate change impacts on sanctuary resources and actions being taken

Standard V: Climate Action Plan[4] completed (incorporating items as listed below):

A. Minimal research and monitoring functions in place
   - Completion of a science assessment that prioritizes climate information needs based on but not necessarily limited to the climate change story/scenario, condition report, and the sanctuary management plan
   - Sentinel site capacities that establish the sanctuary's role as a location for long-term monitoring and research related to climate change, including:
     - Making regular measurements of parameters that track basic critical climate change indicators including: 1) temperature, dissolved oxygen, and salinity, and /or direct acidification measurements at all sanctuaries, and 2) selected parameters that may include nutrients, sea level, circulation, upwelling intensity, and storm intensity and frequency at specific sites)

[1] Condition Reports provide a summary of resources in the sites, pressures on those resources, the current condition and trends, and management responses to the pressures that threaten the integrity of the marine environment.
[2] Climate Site Scenarios/Stories synthesize the best available information and expertise on climate change impacts to present a picture of what a site might look like in 50 to 100 years.
[3] Sanctuary advisory councils are community-based groups charted to provide advice and recommendations to the manager on the operation of an individual site.
[4] Climate Action Plans are a collection of strategies for management, science, outreach, operations, and other MPA functional areas, that have been developed by an individual site to address the issues and impacts described in its Climate Story/Site Scenario.
[5] Sanctuary Management Plans are site-specific documents that ONMS uses to manage individual sanctuaries. Management plans summarize existing programs and regulations; articulate visions, goals, objectives, and priorities; and guide management decision-making.

- Having a process for information delivery that allows access to relevant data sets, summary data, and publications related to climate change

- Research facilitation to ensure that potential collaborators are attracted to conduct research and monitoring in sanctuaries, including:
  - Policies and procedures in place to allow access to vessels, aircraft, laboratory space, and dormitory space, as present at each site
  - Staff in place to focus on access by the research community and facilitation of research and monitoring
- Strategies addressing specialized research and monitoring needs and gaps in information identified in climate action plan
- Strategy leads (internal or partner), implementation timeline, and funding requirements identified in climate action plan

B. Minimal outreach and education functions in place
- Core outreach and education program in place
- Outreach and education materials related to climate incorporate the system-wide core subset of the national climate literacy standards:
  - Organisms exposed to climate conditions outside their normal range must adapt or migrate, or they will perish.
  - The consensus of scientific studies on climate indicates that most of the observed increase in global average temperatures since the latter part of the 20th century is very likely due to human activities, primarily from increases in greenhouse gas concentrations resulting from the burning of fossil fuels.
  - Human activities have affected the land, oceans, and atmosphere, and these changes have altered global climate patterns.
  - Some changes resulting from human activities have decreased the capacity of the environment to support various species and have substantially reduced ecosystem biodiversity and ecological resilience.
  - The chemistry of ocean water is changed by absorption of carbon dioxide from the atmosphere (ocean acidification).
  - Ecosystems on land and in the ocean have been and will continue to be disturbed by climate change.
  - Climate information can be used to reduce vulnerabilities or enhance the resilience of communities and ecosystems affected by climate change.
  - Decisions that involve Earth's climate must be made with an understanding of the complex interconnections among the physical and biological components of the Earth system as well as the consequences of such decisions on social, economic, and cultural systems.
  - Humans may be able to mitigate climate change or lessen its severity by reducing greenhouse gas concentrations through processes that move carbon out of the atmosphere or reduce greenhouse gas emissions.
  - A combination of strategies is needed to reduce greenhouse gas emissions.
  - Actions taken by individuals, communities, states, and countries all influence climate.
  - Strategies addressing climate change literacy needs identified in action plan
  - Strategy leads (internal or partner), implementation timeline, and funding requirements identified in action plan

C. Minimal adaptive management measures in place
- Priority climate issues identified in the action plan
- Priority adaptive management strategies to address climate change impacts identified in action plan (please

see Attachment 2 for a list of possible measures to consider).

- Performance measures consistent with ONMS standards identified for each strategy in the action plan.
- Strategy leads (internal or partner), implementation timeline, and funding requirements identified in action plan
- Climate change identified as a priority topic for at least one advisory council working group or a specialized working group is created for it

Standard VI: Minimal green operating standard reached:

A. Emissions

- Required:
  - Completion of an emissions inventory using the National Park Service's CLIP Tool or similar tool
  - Completion of an emissions reduction plan using National Park Service's CLIP Tool or similar tool (which may include many actions as noted below)

B. Transportation

- Required:
  - All transportation subsidies (federal, state, local) have been identified and made known to the staff.
  - Infrastructure is in place to support use of alternative transportation methods by staff (e.g., secure bike racks, designated parking for carpooling, lockers and showers for those who walk, etc.).
  - Planning for use of sanctuary vessels includes minimizing transit times.
- At Least 4 of 6:
  - Eligible employees are allowed to telecommute at least one day a week.
  - Flexible work schedules are allowed and promoted to help reduce most heavily traveled commute times.
  - Hybrid or alternative fuel vehicles are leased if feasible.
  - Alternative transportation for local travel is provided (bikes, electric scooters, golf carts, etc).
  - Videoconferencing facilities are easily accessible and available for staff use.
  - Sanctuary vessels use biodiesel or alternative fuel sources if feasible and available.

C. Energy Efficiency

- Required:
  - All employees have been briefed on energy efficiency and other green operational requirements. The briefing is repeated at least once annually.
  - Signage is used in the office to remind staff to turn off lights and power down equipment when not in use and over the weekends.
  - Standby modes are used on all equipment with this as an option.
  - Computers, printers, copiers, and appliances purchased after the date of final issuance of these guidelines are all Energy Star certified.
  - Thermostats are kept at 75 degrees for cooling, and 68 degrees for heating under normal operating circumstances; use programmable thermostats to control the temperature after hours.
  - Hot water heaters are kept between 125 and 130 degrees.

- Refrigerators are kept between 38 and 41 degrees and freezers between 10 and 20 degrees under normal operating circumstances.

- At Least 4 of 6:
  - LEED silver certification or its equivalent is sought for any new or renovation construction projects as of the date of the final issuance of these guidelines.
  - Compact fluorescent or LED bulbs and/or dimmer switches are used in all possible places.
  - Power strips are used to shut down equipment when not in use.
  - Regularly scheduled maintenance is completed on the HVAC and refrigeration system.
  - Local energy audits have been utilized where available.
  - Alternative energy sources such as solar, wind, and geothermal are used where feasible.

D. Waste Management/Supplies:

- Required
  - All available local options for recycling and composting are utilized.
  - All batteries that can be replaced with rechargeable ones have been.
  - Individual plastic water bottles have been eliminated; bulk water deliveries or filtered tap water is available if tap water is in question.
  - Printers are set for automatic double-sided printing if they possess that capability.
  - All paper supplies (printer paper, paper towels, toilet paper, tissues, etc) are from recycled sources, with as high a percent of post-consumer content as possible.
  - Signage is used in the office to remind staff to only use the amount of paper necessary.
  - All cleaning supplies are non-toxic and environmentally friendly.
  - A review of energy bills and energy inspection of facilities is done at least annually.
- At Least 2 of 4:
  - Paper that has been printed on one side is used as scrap and notepaper.
  - The site has been removed from all unneeded/unwanted catalog lists, unwanted magazine subscriptions have been cancelled, bills are paid online, and/or other steps have been taken to reduce junk mail.
  - All kitchenware (dishes, glassware, utensils), including guest coffee mugs, is permanent, where feasible.
  - Cloth napkins and cleaning rags are used instead of paper.

E. Landscaping/Water Management:

- Required:
  - A check for leaks is conducted at least once a year.
  - Signage is used in the office to remind staff to conserve water.
- At Least 2 of 3:
  - Native and low-moisture plants are used in landscaping on facility grounds where possible.
  - An integrated pest management system is implemented that uses the least toxic pest control methods and products to reduce or eliminate the use of chemical pesticides. All situations that could attract and harbor pests have been corrected with proper food and garbage storage and landscaping.
  - Low flush toilets, aerating faucets, low-flow showerheads, and other water saving devices are being used where appropriate and possible.

Attachment 2: Possible Management/Adaptation Measures

Note: These measures are only for consideration, among any others that a site may generate for its Climate Action Plan. They are not required.

Objective	Type of Measure	Examples
Build the general resiliency of the ecosystems, habitats, species, and other resources of the MPA.	Reduce stressors and impacts inside the MPA through zoning.	• Use zones to manage human use to protect important habitats or life history stages of marine animals by restricting or prohibiting uses on an areal and/or temporal basis. • Use core and buffer zone approach (i.e., Man and the Biosphere Model). • Create or expand no-take areas. • If creating a network of reserves within an MPA, consider including full representation and replication of habitat types in the MPA.
	Reduce stressors and impacts inside the MPA through new or modified regulations (non-zoning).	• Develop new or strengthen existing discharge regulations for both point and non-point sources, including vessels and outfalls. • Develop new or strengthen existing regulations for activities affecting the seabed and benthic habitat, including anchoring, trawling, dredging, laying pipelines or cables, creating artificial reefs, construction, aquaculture, and mining, oil, and gas activities. • Develop new or strengthen existing regulations regarding resource extraction, including fishing, kelp and seagrass harvest, bioprospecting, coral or benthos sampling, and removal of cultural and historial artifacts and resources. • Develop new or strengthen existing regulations regarding vessel traffic including vessel lanes, general or vessel type exclusion areas (such as for personal watercraft or oil tankers), and no wake zones or reduced speed zones. • Toughen up targets and/or standards for water quality • Make permitting requirements/standards stricter to reduce the risk of impacts to MPA resources. • Establish or increase civil and/or criminal penalties to create stronger deterrents to violating the MPA's regulations. • Develop a rapid response capacity to quickly assess impacts from extreme events and determine appropriate responses.
	Reduce stressors and impacts inside the MPA through non-regulatory management measures	• Get involved in or provide comments on shore-based and/or external (local and regional) permitting authorities (i.e., locations of seawalls, docks, outfalls etc) • Make climate impact analysis as an explicit part of permit applications, environmental impact analyses, and other related documents and processes • Consider agreements with user groups to modify and/or move their detrimental activities • After extreme events, take actions that hasten natural recovery processes. • Ensure the MPA's contingency plans cover increased hazards related to climate change including flooding, disease and bleaching outbreaks, and more extreme weather events.
	Reduce impacts and stressors from outside the boundary of the MPA.	• Maximize the use of provisions and authorities to mitigate potential impacts from outside the MPA. • Partner with terrestrial and marine protected areas near or adjacent to the MPA and integrate climate protection efforts to complement and supplement each other. • Partner with local municipalities and communities near or adjacent to the MPA and integrate climate protection efforts. • Determine if there are local and/or state climate adaptation plans and ensure that they include the MPA. If such plans don't exist, offer support and encouragement to develop them. • Determine what local contingency/ disaster response plans exist, and ensure they cover impacts from climate, and ensure such plans include the MPA. • Get involved in or provide comments on shore-based and/or external (local and regional) permitting authorities (i.e., locations of seawalls, docks, outfalls etc). • Maximize the use of international authority and tools, including Areas to be Avoided (IMO), Particularly Sensitive Sea Areas (PSSA), CITES, MARPOL, etc

Attachment 2: Possible Management/Adaptation Measures (Continued)

Note: These measures are only for consideration, among any others that a site may generate for its Climate Action Plan. They are not required.

Objective	Type of Measure	Examples
Build a framework or process that will help the MPA adapt to climate change impacts	Identify and protect areas within the MPA to serve as climate refugia/ecosystem services banks: • areas that are generally more stable during periods of climate change such as strong upwelling and currents that are less prone to temperature fluxes • areas that serve as carbon sinks, • areas that have shown resistance to climate induced impacts such as bleaching	• Use zoning, non-zoning regulatory, and non-regulatory management measures as described above.
	Determine if and how the MPA boundaries, regulations, and/or management programs may need to be changed due to climate change impacts.	• Assess new species and habitats that might need to be added to the MPA. • Assess the influx of undesirable/invasive species and consider methods to mitigate their arrival, such as no-discharge regulations. • Assess coastal maritime heritage and cultural resources that might be inundated in rising sea level and become part of the MPA (either as a resource to protect or a hazard to address). • Consider a dynamic MPA boundary that can change as certain thresholds or triggers are met from climate change impacts. • Partner with terrestrial authorities to purchase and/or protect shoreland and coastal habitats that may become inundated with sea level rise.
Obtain community input, investment, commitment, and action to help the MPA and surrounding region and communities adapt to and mitigate climate change impacts.	Incorporate climate literacy principles into MPA outreach and engagement efforts.	• Incorporate literacy principles into curricula for school children • Establish a speakers bureau for climate experts to speak to civic organizations, clubs, etc • Host climate fairs or other events
	Engage local users and community members in the MPA's climate change decisionmaking processes.	• Create or adapt a community-based advisory group to provide input to MPA managers. • Identify what local groups have been formed to address climate change and join them; if no groups are active, form one.
Reduce the operational impact/carbon footprint of the MPA	Green MPA operations to the maximum extent possible.	• Reduce waste and initiate or increase recycling efforts • Reduce energy use and initiate or enhance use of alternative energy sources and technology • Maximize the use of biofuels and other bio-based products on vessels • Ensure new construction or renovation is done to LEED or other green building standards. • Volunteer to be a demonstration area for greening efforts, new technology, or new mitigation methods.

Attachment 3: Climate-Smart Sanctuary Certification Documentation Format

Introduction: This report documents the achievement of or substantive progress toward the standards described for Climate-Smart Sanctuaries. For each standard please describe how and when each was achieved or is being addressed.

1. Condition Report completed or updated within the last five years:
2. Climate Change Story/Site Scenario completed:
   - Use of appropriate experts internally and externally:
   - Includes documentation of historical and anticipated changes in resource qualities resulting from climate change:
   - Sanctuary advisory council involvement:
   - Public involvement:
   - Rigorous peer review:
3. Sanctuary Superintendent and/or other staff as appropriate have completed training:
4. Sanctuary advisory council and appropriate working groups have been briefed:
5. Climate Action Plan completed:
   - Minimal research and monitoring functions in place
     - Completion of a science assessment:
     - Sentinel site capacities that establish the sanctuary's role as a location for long-term monitoring and research related to climate change:
     - Research facilitation to ensure that potential collaborators are attracted to conduct research and monitoring in sanctuaries through capabilities that facilitate access:
     - Strategies addressing specialized research and monitoring needs and gaps in information identified in climate action plan:
     - Strategy leads (internal or partner), implementation timeline, and funding requirements identified in climate action plan:
   - Minimal outreach and education functions in place
     - Core outreach and education program in place:
     - Strategies addressing climate change literacy needs identified in action plan:
     - Strategy leads (internal or partner), implementation timeline, and funding requirements identified in action plan:
   - Minimal adaptive management measures in place
     - Priority climate issues are identified in the action plan:
     - Priority adaptive management strategies to address climate change impacts are identified in action plan:
     - Performance measures consistent with ONMS standards identified for each strategy in the action plan:
     - Strategy leads (internal or partner), implementation timeline, and funding requirements identified in action plan:
     - Climate change is identified as a priority topic for at least one advisory council working group:
6. Minimal green operating standard reached:
7. Any other information or evidence that the site wishes to document for the Local Review Team:

Attachment 4: Climate-Smart Sanctuary Certificate

NATIONAL MARINE SANCTUARIES

Climate-Smart Sanctuary

THE FOLLOWING SANCTUARY HAS ACHIEVED OR IS MAKING SUBSTANTIVE PROGRESS TOWARD DESCRIBED STANDARDS AND IS THUS CERTIFIED AS A CLIMATE-SMART SANCTUARY:

_____

This certification recognizes the excellent efforts made by the sanctuary to address the challenges of global climate change and show that we can make a difference.

This certification is in effect for a period of ten years from the date below.

Certified by:

_____
Daniel J. Basta
Director
Office of National Marine Sanctuaries

_____
Date

NOAA

America's Underwater Treasures

http://sanctuaries.noaa.gov