

## **D2. Climate Change Action Plan**

**Desired Outcomes:** 1) OCNMS is a sentinel site in the Pacific Northwest for climate change monitoring; 2) OCNMS is a go-to source for climate change information on Washington's outer coast marine ecosystems; and 3) ONMS understands and is prepared for likely climate change impacts in the sanctuary region.

### **Links to Goals:**

Goal C - Investigate and enhance the understanding of ecosystem processes, and inform ecosystem-based management efforts, through scientific research, monitoring, and characterization.

Goal E - Maintain the sanctuary's natural biological diversity and protect, and where appropriate, restore and enhance sanctuary ecosystems.

Goal G - Facilitate wise and sustainable use the sanctuary to the extent that such uses are compatible with resource protection.

Goal H- Build, maintain, and enhance an operational capability and infrastructure.

### **Background:**

The public repeatedly raised concerns about climate change and its potential effects on organisms and ecosystems within the sanctuary during the MPR scoping process. Additionally, the Olympic Coast Intergovernmental Policy Council (IPC) and the OCNMS Advisory Council (AC) identified climate change as a high priority to be addressed in the revised management plan.

Climate change is an ecosystem management issue cutting across all disciplines and will be addressed by all of OCNMS' program areas over the next decade. Indeed, references to climate change can be found in strategies and activities throughout this management plan. Because climate change is expected to be such an important issue for the sanctuary, it was important to highlight the issue in its own action plan. Other action plans reference ways in which individual OCNMS programs will address aspects of the climate change topic, but this action plan is focused on how ONMS will coordinate its efforts across program areas in order to address climate change in a holistic and interdisciplinary way. This action plan also promotes OCNMS as a sentinel site for ocean acidification and climate change research. Sentinel sites are locations in the marine environment that support sustained observations of changes in the status of the marine environment. They allow investigators to track the status of key indicators of ecosystem integrity, serve as a means to provide early warning to resource managers, and offer opportunities for protocol testing. They address NOAA activities in areas of mandated responsibility and help address questions about regional issues such as habitat degradation and invasive species impacts.

### **Strategy CLIM1: CLIMATE-SMART SANCTUARY PROGRAM**

Participate in the Office of National Marine Sanctuaries Climate-Smart Sanctuaries program in order to become certified as a climate-smart sanctuary.

**Activity A:** Conduct an audit of OCNMS' carbon footprint and determine what changes are needed to ensure OCNMS meets the minimum green operating standards outlined in the Climate-Smart Sanctuary guidelines.

**Activity B:** Develop a Climate Change Site Scenario for OCNMS synthesizing the best available information on climate change impacts to present a picture of what the sanctuary might look like in 50 to 100 years.

**Activity C:** Work with the AC and IPC to review (and revise if necessary) this Climate Change Action Plan based upon the findings of the Climate Change Site Scenario.

**Activity D:** Brief the AC and IPC on OCNMS' Climate-Smart Sanctuary certification process, and ensure information compiled for Climate Smart Sanctuary certification is widely distributed to OCNMS partners and the public.

### **Strategy CLIM2: SANCTUARY AS SENTINEL SITE**

Work to establish OCNMS as a sentinel site for long-term climate change research and monitoring in the Pacific Northwest.

**Activity A:** Propose to NOAA leadership that OCNMS be identified as a sentinel site for climate change research and monitoring.

**Activity B:** Work with the AC to establish a climate change working group to help 1) develop a climate change research prospectus describing specific climate change research priorities for the sanctuary, and 2) identify marine chemical, physical, and biological indicators of climate change that OCNMS and partners should consider monitoring.

**Activity C:** Provide relevant scientific and technical information to the Washington Department of Ecology to support the State's central climate change information clearinghouse and utilize this clearinghouse to support OCNMS research and planning efforts.

### **Strategy CLIM3: RESILIENT ECOSYSTEMS**

Work with natural resource managers and local communities on the Olympic Peninsula to improve the resiliency of ecosystems in the face of climate change impacts.

**Activity A:** Work with the AC to establish a climate change working group to provide recommendations to ONMS, and to collaborate with tribal, federal, state and local governments on potential joint management responses to climate change impacts.

**Activity B:** Participate in the state of Washington's integrated climate change response strategy as well as in other regional efforts to develop and understand climate change impacts to natural and cultural resources.

**Activity C:** Host workshops and provide training for OCNMS staff and local communities on the outer coast on planning, mitigating for, and managing climate change impacts.

### **Strategy CLIM4: COMMUNICATING CLIMATE CHANGE**

Communicate information about climate change and its potential effects on the sanctuary and Washington's outer coast to OCNMS partners and the public.

**Activity A:** Ensure information and data collected by OCNMS on climate change and its effects on the sanctuary are readily available to other resource managers and interested parties.

**Activity B:** Provide local communities and the public with information about potential climate change impacts on the Olympic Coast and local, tribal, state and regional efforts to plan for climate change.

**Activity C:** Work with tribal communities to develop public outreach materials that convey tribal perspectives on climate change and its potential effects on tribal communities.

**Activity D:** Promote education and outreach elements in climate change research projects that occur within OCNMS.

**Activity E:** Develop a Climate Literacy education and outreach plan and incorporate it into OCNMS' Ocean Literacy Action Plan.

**Links to Other Action Plans:** Collaborative and Coordinated Sanctuary Management, Physical and Chemical Oceanography, K-12 Education, Higher Education, Visitor Services, Data Management, Sharing, and Reporting

**Key Partners:** Hoh, Makah, and Quileute tribes and Quinault Indian Nation, Washington State Ocean Caucus, UW Climate Impacts Group, West Coast Governors' Agreement on Ocean Health Climate Change Action Coordination Team, NOAA/PMEL, OCNMS Advisory Council, West Coast Regional Sanctuaries, Monterey Bay Research Institute, Grays Harbor and North Pacific Coast marine resources committees, Washington Sea Grant, Port Townsend Marine Science Center, UW Friday Harbor Labs, U.S. Fish and Wildlife Service, Olympic National Park, NOAA Ocean Services, and non-governmental organizations, AC, NOAA (ONMS, NMFS, PMEL), NGOs, IPC, Washington Department of Ecology