

NOAA in the Caribbean 101

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NOAA NWS Caribbean Tsunami Warning Program



NOAA in the Caribbean



Office for Coastal Management



NOAA In the Caribbean - Steering Committee Members

NOAA in the Caribbean Steering Committee Members and Backups

First	Last Name	Office	Back Up
Bill	Arnold	NMFS Southeast Regional Office / Sustainable Fisheries	Maria Lopez
Brad	Benggio	NOS - Office for Response and Restoration	Jason Rolfe
David	Brown	NESDIS Climate Services	
Lisamarie	Carrubba	NMFS Southeast Regional Office / Protected Resources	Jocelyn Karazsia
Ernesto	Diaz	Puerto Rico Department of Natural and Environmental Resources (CZM/NERR/Coral)	
Roberto	García	NWS San Juan Forecast Office	Ernesto Morales
Bob	Glazer	Gulf and Caribbean Fisheries Institute	Alejandro Acosta
Kurt	Grove	Puerto Rico Sea Grant College Program (UPP-Mayaguez)	
Jim	Hendee	OAR Atlantic Oceanographic and Meteorological Lab	Erica Rule
Michael	Henderson	NOS - Office of Coast Survey	
Ron	Hill	NMFS Southeast Fisheries Science Center	Jen Schull
Jocelyn	Karazsia	NMFS Southeast Regional Office / Habitat Conservation	Lee Carrubba
Tom	Moore	NMFS Southeast Regional Office / Restoration Center	
Ernesto	Morales	NWS San Juan Forecast Office	
Meredith	Muth	OAR Climate Program Office	Erin Eastwood
Bill	O'Beirne	NOS Office for Coastal Management	Marlon Hibbert
Makeda	Okolo	NOAA Legislative Affairs	
Geno	Olmi	NOAA SE & Caribbean Regional Collaboration Team (Coordinator)	Jeff Payne and David Brown
Jean-Pierre	Oriol	US Virgin Island Department of Planning and Natural Resources (CZM/Coral)	
Jeff	Payne	NOS Office for Coastal Management	
Simon	Pittman	NOS National Centers for Coastal and Ocean Science	Chris Jeffrey
Staci	Rijal	NOAA International Affairs	
Miguel	Rolón	Caribbean Fisheries Management Council	Graciela Garcia-Moliner
Christa	von Hillebrandt-Andrade	NWS Tsunami Warning Program	Carolina Hincapié
Dana	Wusinich-Mendez	NOS Office for Coastal Management / Coral Reef Conservation Program	Marlon Hibbert



NOAA In the Caribbean Mission

- Initiated by NOAA's Southeast And Caribbean Regional Collaboration Team in 2011
- A forum for communication, partnership, and user engagement to:
 - improve coordination and application of NOAA capabilities by enhancing internal NOAA communications on Caribbean efforts
 - identify and respond to local and regional challenges, needs, and opportunities in the Caribbean
 - work within NOAA to inform and champion resourcing of and support for Caribbean efforts



NOAA Carib Scope – Caribbean LME



NOAA Caribbean e-Newsletter

To subscribe *e-mail us at*
CaribbeanNews@noaa.gov

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CaribbeanNews@noaa.gov

NOAA IN THE CARIBBEAN

CONNECTING NOAA & PARTNERS ACROSS THE CARIBBEAN



In this issue:

Feature Stories

[NOAA Engages with Cuba on New Projects](#)

[CARIBE WAVE 16](#)

[Update on CREWS Network](#)

[Dredge Disposal Impacts Mesophotic Coral Ecosystems](#)

[Citizen Science: Improving the Quality of Marine Mammal Research](#)

[Yarari Joins the North Atlantic Sister Sanctuary Program](#)

[Cabo Rojo Watershed Plan](#)

[Sustainable Seafood Initiative in USVI](#)

Upcoming Events

Announcements

NOAA in the Caribbean News Spring 2016

Message from the Steering Committee

On behalf of the NOAA in the Caribbean (NOAACarib) Steering Committee, I want to welcome you to the first issue of the new NOAACarib E-Newsletter! We've switched the format of our flagship newsletter from a stand-alone pdf document to an e-newsletter in response to changes in membership, budget, and technology. The new format will by necessity be a bit shorter, but we intend to provide more timely information by publishing more frequently. We will continue to report on NOAA partnerships in the Caribbean, and provide news items of interest, updates on new data, announcements of funding opportunities, upcoming events and more.

We welcome feedback on the e-newsletter style and content; as with any new product, there is always room for improvement. As always, we want to hear your stories—stories that help connect NOAA and partners in the Caribbean. And of course, we want you to read and share the newsletter!

We would also like to take this opportunity to send a special shout out to Simon Pittman, our NOAACarib Steering Committee member who has more than capably served as editor-in-chief of the *NOAA in the Caribbean Newsletter* for the last four years. Simon has set some very high standards for the newsletter that we will strive to maintain. Thanks Simon!!

Bill O'Beirne, Chair
NOAACarib Steering Committee
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NOAA In The Caribbean Website


www.regions.noaa.gov/secar/index.php/noaa-in-the-caribbean

NOAA REGIONAL COLLABORATION
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

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Southeast & Caribbean Region

NOAA in the Caribbean



NOAA's Southeast and Caribbean Regional Collaboration Team (SECART) initiated NOAA in the Caribbean (NOAA Carib) in 2011 as a forum to improve communication and coordination among NOAA and its partners working in the Caribbean. NOAA Carib fosters more effective engagement with stakeholders and more efficient delivery of services, as well as improves collaboration in the region. It is also intended to help build and strengthen collaborative partnerships focused on implementation of the [NOAA Caribbean Strategy \(.pdf\)](#).

NOAA Carib includes NOAA employees and partners currently active in research, management, training, or other efforts in the Caribbean. NOAA Carib recognizes the same geographic scope described in the NOAA Caribbean Strategy — the Caribbean Large Marine Ecosystem. While the initial focus is on Puerto Rico and the U.S. Virgin Islands, NOAA Carib seeks to maintain resource exchanges with Florida and, as appropriate and practicable, with partners in the wider Caribbean.

To read the NOAA Caribbean Strategy, please [click here](#).

To read the latest NOAA in the Caribbean Newsletter in English, please [click here](#).

Para leer el más reciente Boletín de NOAA en el Caribe, por favor oprima [aquí](#).

[ISRS Consensus Statement on Coral Bleaching and Climate Change](#)

**** NOAA in the Caribbean 2016 Partners Meeting to be Held May 9-11, 2016. For more information, [click here](#). ****

Mission, Principles, and Objectives Steering Committee NOAA Carib Products Partners Calendar of Events
Resources Contact Us News Jobs and Funding Opportunities

Mission
Goal
Guiding Principles
Objectives

<http://www.regions.noaa.gov/secar/index.php/noaa-in-the-caribbean/>



NOAA Caribbean Strategy

**National Oceanic and
Atmospheric Administration
Caribbean Strategy**

June 23, 2014

**Goal 1: Improved Conservation and
Management of Ocean and Coastal
Ecosystems and Resources**

**Goal 2: Strengthened Understanding of, and
Adaptation to, a Changing Climate**

**Goal 3: Enhanced multi-hazard monitoring,
forecasting, and risk management**

<http://www.regions.noaa.gov/secar/wp-content/uploads/2014/07/NOAA-Caribbean-Strategy-Final-June-23-2014-FINAL.pdf>



2016 NOAA Carib Partners Meeting

- **Trainings**
 - Coastal Resilience / Grants writing training
- **Highlights NOAA activities in Caribbean**
 - Coral work
 - Hazards
 - Placed based efforts
- **Priority setting**
 - Updating and prioritizing Carib Strategy goals 1 & 3



NOAA Activities

NOAA ACTIVITIES (GENERALLY) IN THE CARIBBEAN					
	National Marine Fisheries Service	National Ocean Service	National Weather Service	Office of Oceanic and Atmospheric Research	National Environmental Data (NESDIS)
RESEARCH	OSF: Fisheries, OHC: habitat, socioeconomic, restoration; OPR: ESA and MMPA species; Science and Technology; Aquaculture; Regional Fishery Science Centers: fisheries, habitat, socioeconomic, ESA species	Office for Coastal Management OCM): socio-economic ; National Centers for Coastal Ocean Science (NCCOS): corals, Socio-Economic,	Hurricane, Tsunamis, Weather, Tornadoes	Atlantic Oceanographic Marine Lab (AOML) - Oceanographic, Climate Program Office (CPO) - Climate, National Sea Grant Program - various	Center for Satellite Applications and Research (STAR), National Centers for Environmental Information (NCEI) science projects and assessments
MODELING	Regional Fishery Science Centers: Ecosystem Modeling, Stock Assessment Modeling	CariCOOS, wind, wave, circulation	Climate, weather, hydrology, Storm surge, tsunamis, water resources, hydrology	AOML/CIMAS: dynamic downscaled climate models	
MAPPING	Critical Habitat for ESA species, tracking marine mammals and foraging and migratory habitat, Essential Fish Habitat, emergency response, commercial and recreational fish catch and effort	NCCOS- Fish distribution, sea floor habitat; EFH OCM- land cover	Weather, Coastal Hazards (storm surges, tsunamis), Hurricane tracking, Climate, drought outlooks	Okeanos Explorer mapping expeditions	Real-time satellite imagery and data (e.g., GOES-R, JPSS)
REAL TIME INFO		CariCOOS - various oceanographic data; CO-Ops - water level	Weather, Hurricane, Tsunamis, Tornadoes, Flood (including coastal); Sea level, weather data;	AOML: Coral Reef Early Warning System network; CHAMP,	Weather and Sea Level (GOES/GTS)
DATA	Commercial and recreational fishery statistics and fishery independent surveys, Office of Science and Technology data portal, species information (ESA, MMPA, fisheries), socioeconomic data; Voice from the Fisheries (oral histories from fishers)	LIDAR, land cover, Digital coast provides access to many coastal data sets from NOAA and others	Climate, Weather, Water, Hurricane, Tsunamis, Tornadoes, Flood (including coastal)		NCEI, world's leading repository of environmental data



2016 Partners Meeting Focus on Hazards and Ecosystems

NOAA IN THE CARIBBEAN
CONNECTING NOAA & PARTNERS ACROSS THE CARIBBEAN

**NOAA Caribbean Strategy Goal 1:
Improved Conservation and Management of Ocean and Coastal Ecosystems and Resources**

Some of the Challenges

- Caribbean coastal and marine water quality is affected by human activities related to coastal development, including land-based pollution and loss of wetlands.
- Many fisheries are small-scale, with fishermen using multiple gear types to catch several different species of fish making management challenging.
- Available technical and financial resources in some cases limit comprehensive ecological monitoring, modeling, and forecasting at the necessary scales and frequencies to inform adaptive management.

Strategic Approach: Objectives

Objective 1:
Enhance and support capacity for ecosystem-based, sustainable management of marine resources to maintain or increase their ecological and economic value.

Objective 2:
Reduce the negative impact of human activities on watersheds and coastal waters, and build capacity for improved marine and coastal resource management practices.

Objective 3:
Assist the conservation and recovery of species specially protected by laws or international protocols or forums.

Objective 4:
Increase the understanding of connectivity to improve management of living marine resources throughout the region.

Objective 5:
Increase abilities of Caribbean region nations to maintain the flow of ecosystem goods and services to sustain and improve their economies and wellbeing.

Objective 6:
Develop and enhance partnerships to advance regional governance and the sustainable management of Caribbean marine resources.

NOAA IN THE CARIBBEAN
CONNECTING NOAA & PARTNERS ACROSS THE CARIBBEAN

**NOAA Caribbean Strategy Goal 3:
Enhanced Multi-Hazard Monitoring, Forecasting, and Risk Management**

Some of the Challenges

- The region is vulnerable to significant natural threats including hurricanes, storm surge and event-related coastal and inland flooding, wave erosion, tsunamis, drought, earthquakes, volcanism, landslides, and marine toxins.
- Enhancing community resilience is hindered in some cases by insufficient monitoring data, high-resolution bathymetry and topography, localized models and tools, multi-hazard early warning systems, and outreach capacity.
- Effective risk communication is challenged by gaps in training, risk awareness education, and communication hinder the effective sharing of information.

Strategic Approach: Objectives

Objective 1:
Build technical capabilities to use sea level, meteorological, hydrographic, and spatial positioning services.

Objective 2:
Increase technical capacity for environmental monitoring and forecasting to increase resilience of Caribbean communities.

Objective 3:
Assist governments in integrating social science and socioeconomic factors into disaster and emergency planning.

Objective 4:
Enhance the capacity for multi-hazard disaster preparedness in the Caribbean region.

Preliminary Priorities for Ecosystems Goal

- Better execute existing laws and regulations on critical habitats, protected species and protected areas through multi-agency effort.
- Enhance fisheries regulatory compliance through increased enforcement capacity and strength and leverage Joint Enforcement agreements.
- Economic valuation for marine resources and criteria for prioritization of areas through implementation of the SPAW.
- Enhance biogeographic assessment to map and characterize coastal and marine ecosystems to identify and develop ecosystem based decision-making tools and trainings.



Preliminary Priorities for Hazards Goal

- Increase the dissemination of timely and effective warnings and forecasts and increase the number and frequency of multi-hazard outreach and education through partnerships with community groups, schools, and the media.
- Provide expertise, training and equipment to advance seafloor mapping (bathymetry, habitat, and sediment /sand) mapping, focusing on the nearshore, coastal lagoons, nearshore riverine and estuarine areas in the US Caribbean.
- Strengthen and maintain a modernized and sustainable sea level, meteorological, hydrographic survey framework, maintain and expand water level and geophysical observation stations; and construct a regional integrated knowledge management and archival for oceanographic observation, social and economic data and information to facilitate data acquisition, sharing, and archiving.



Next Steps

- Share all identified priority activities with meeting attendees and key NOAA and Partner offices that were absent.
- Have them all provide input on the priorities to NOAA Carib SC
- Provide another opportunity (virtual) to prioritize activities
- Settle on one or two that we want to take to partner and NOAA leadership to push forward.



Questions?

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or

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NOAA Caribbean Strategy

- **Goal 1: Improved Conservation and Management of Ocean and Coastal Ecosystems and Resources**
 - Enhance And Support Capacity For Ecosystem-Based, Sustainable Management Of Marine Resources To Maintain Or Increase Their Ecological And Economic Value
 - Reduce the negative impact of human activities on watersheds and coastal waters, and build capacity for improved marine and coastal resource management practices
 - Assist the conservation and recovery of species specially protected by laws or international protocols or forums
 - Increase the understanding of connectivity to improve management of living marine resources throughout the region
 - Increase abilities of Caribbean region nations to maintain the flow of ecosystem goods and services to sustain and improve their economies and well-being
 - Develop and enhance partnerships to advance regional governance and the sustainable management of Caribbean marine resources



NOAA Caribbean Strategy

- **Goal 2: Strengthened Understanding of, and Adaptation to, a Changing Climate**
 - Improve scientific understanding and prediction of changing climate in the Caribbean
 - Improve scientific understanding of how Caribbean resources and ecosystems are impacted by a changing climate
 - Support adaptation and mitigation options through sustained, reliable, and timely climate services
 - Foster a climate-literate public that understands its vulnerabilities to a changing climate and is able to make informed decisions



NOAA Caribbean Strategy

- **Goal 3: Enhanced multi-hazard monitoring, forecasting, and risk management**
 - Build technical capabilities to use sea level, meteorological, hydrographic and spatial positioning services
 - Increase technical capacity for environmental monitoring and forecasting to increase resilience of Caribbean communities
 - Assist governments in integrating social science and socioeconomic factors into disaster and emergency planning
 - Enhance the capacity for multi-hazard disaster preparedness in the Caribbean region



NOAA Carib Strategy Goals and Objectives

NOAA CARIBBEAN STRATEGY GOALS & OBJECTIVES	
Goal 1: Improved Conservation and Management of Ocean and Coastal Ecosystems and Resources	
Objective 1	Enhance And Support Capacity For Ecosystem-Based, Sustainable Management Of Marine Resources To Maintain Or Increase Their Ecological And Economic Value
Objective 2	Reduce the negative impact of human activities on watersheds and coastal waters, and build capacity for improved marine and coastal resource management practices
Objective 3	Assist the conservation and recovery of species specially protected by laws or international protocols or forums
Objective 4	Increase the understanding of connectivity to improve management of living marine resources throughout the region
Objective 5	Increase abilities of Caribbean region nations to maintain the flow of ecosystem goods and services to sustain and improve their economies and well-being
Objective 6	Develop and enhance partnerships to advance regional governance and the sustainable management of Caribbean marine resources
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