



Projects and Activities Tue Feb 19 07:19:59 HST 2019

<b>Name</b>	Sea Level Rise and Changes in Storminess on U.S. High-Island Fringing Reefs
Capability Area: Variability/Changes	<ul style="list-style-type: none"> <li>- Understanding Climate Variability and Change</li> <li>- Research/Development</li> <li>- Historical Observations (hindcasts/climatologies)</li> <li>- Projections (modeling and downscaling)</li> </ul>
ECV	<ul style="list-style-type: none"> <li>- Surface (e.g., temp, precip, wind)</li> <li>- Surface (e.g., SST, SSH, salinity, ocean color)</li> <li>- Sub-surface (e.g., temp, salinity, nutrients, carbon, phytoplankton)</li> </ul>
Timeframe	<ul style="list-style-type: none"> <li>- Seasonal (outlook)</li> <li>- Intra-annual to Decadal</li> <li>- Multi-decadal (scenarios)</li> </ul>
Capability Area: Impacts/Adaptations	<ul style="list-style-type: none"> <li>- Understanding Climate Impacts and Informing Adaptation</li> <li>- Climate Impacts</li> <li>- Historical Observations (hindcasts/climatologies)</li> <li>- Projections (modeling and downscaling)</li> </ul>
Sectors	<ul style="list-style-type: none"> <li>- Energy</li> <li>- Transportation/Communication and Commerce</li> <li>- Social and Cultural Resources</li> <li>- Agriculture and Fisheries</li> <li>- Recreation and Tourism</li> <li>- Ecosystems</li> </ul>
Status	<ul style="list-style-type: none"> <li>- Ongoing</li> </ul>
Focus Area	<ul style="list-style-type: none"> <li>- Coastal Inundation/Sea Level Rise, Extreme Weather, and Community Resilience</li> <li>- Marine and Terrestrial Ecosystems</li> </ul>

Regions	<ul style="list-style-type: none"> <li>- Central North Pacific</li> <li>- State Of Hawaii</li> <li>- North Western Hawaiian Islands</li> <li>- Western North Pacific</li> <li>- CNMI</li> <li>- FSM</li> <li>- Guam</li> <li>- South Pacific</li> <li>- American Samoa</li> </ul>
Description	<p>We are actively conducting USGS-funded research on sea-level rise and changes in storminess on US high-island fringing reefs in the US and US-territories, primarily in US National Parks. Tasks include in situ data acquisition and development of coupled wave-current-sediment transport numerical models to investigate potential future climate change impacts on coral reef ecosystems. We have proposals into the USGS, USFWS, and DOD investigating sea-level rise and changes in storminess on US atolls in the US and US-territories. Proposed tasks include in situ data acquisition and development of coupled wave-current-sediment transport numerical models and hydrologic models to investigate potential future climate change impacts on natural resources, freshwater availability, and infrastructure.</p>
Objectives/Outcomes	<p>USGS peer-reviewed reports describing data and results, peer-reviewed journal articles documenting new scientific findings, and maps describing infrastructure and natural resources potentially impacted by sea-level rise and changes in storminess.</p>
Lead Agencies	USGS
Contacts	Curt Storlazzi, <a href="mailto:cstorlazzi@usgs.gov">cstorlazzi@usgs.gov</a>
Partnering Agencies	University of Hawaii (marine resources), USGS Biology Program (terrestrial and marine resources), USGS Water Program (freshwater), NOAA-CCFHR (marine resources), USACE-WIS (climatological hindcasts)
Required Resources	Primary: Operational funds for fieldwork, climatological information. Secondary: Field instrumentation, funding for numerical modeling support.
Projected Timelines	US high-island fringing reef studies: Ongoing through 2015. US atoll studies: Proposed.