Data and Products Thu Mar 28 08:23:45 HST 2024

Name	Pacific Sea Level Extremes Outlooks Products
Capability Area	- Understanding Climate Variability and Change
Focus Area	- Coastal Inundation/Sea Level Rise, Extreme Weather, and Community Resilience
Regions	- Central North Pacific - Western North Pacific - South Pacific - Pacific Basin
Products/Physical	- Products - Physical - Outloooks (monthly to annual) - Impacts - Flooding/Inundation - Eroison - Spatial Scale - Location/Site - Time Scale - Future - Methodology - Model/Statistical - Oceanic (e.g., Water Temperature, Salinity, Acidity, Sea Level, Wave Height)
Sectors	- Public Health and Safety - Community Planning and Development

Description	The objective of this effort is to build upon seasonal sea level outlooks currently provided by the NWS Pacific ENSO Applications Climate Center as well as similar types of information being provided by other agencies, institutions, and organizations in the Pacific Islands region. The goal is to provide information to planners, managers, and other decision-makers that affords them an opportunity to appropriately address risks from elevated water levels. Extreme water levels are experienced when seasonal high tides combine with intra-annual sea level variations associated with ocean processes (e.g., ENSO, mesoscale eddy events) and surge and/or high run-up due to wind, wave, and atmospheric forces associated with storms. Recent work suggest that not only can stations can be grouped regionally into those where high tides dictate extremes, where the combination of high tides and the nontidal residual is important, and where nontidal residual events are the primary cause of extreme levels, but by the combination of processes that contribute to the nontidal residual (e.g., tropical and extra-tropical storms, ocean mesoscale variability, and swell events from distant storms). This effort is exploring how this knowledge can be used, for example by establishing forecast skill through statistical relationships to teleconnections or other such indices, to create one to three month extreme water level outlooks that are specific to a particular location.
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