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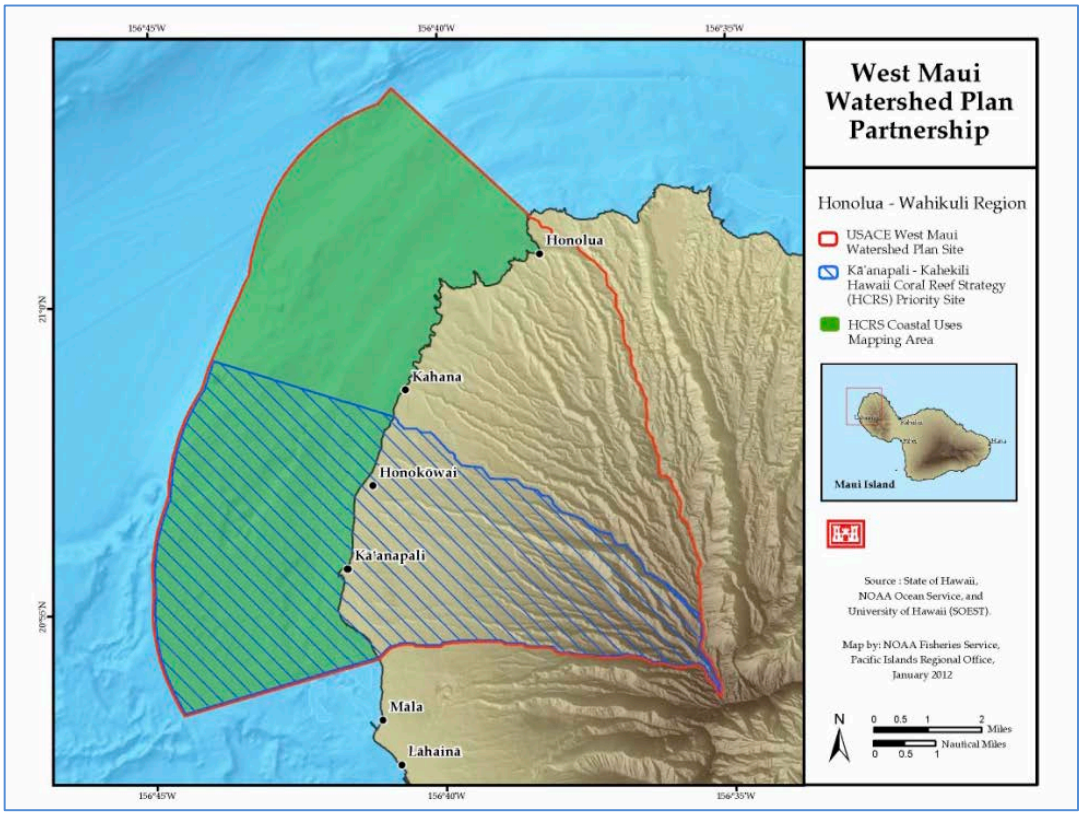
# Regional Sediment Management Program
# Honolulu District
# Hawaii Regional Sediment Management
# West Maui Region Nearshore Sedimentation

## Description

The West Maui Region, located on the island of Maui (see location map below), incorporates a thin coastal margin backed by steep mountainous terrain that has been vastly altered by agricultural and urban development. Inland sediment makes its way from the five watersheds in the West Maui Regional Sediment Management (RSM) study area to the coastal waters via streams and drainages. This inland sediment input to the nearshore littoral environment is a coral reef stressor. Currently, there is a poor understanding of where the sediment is sourced and what the circulation patterns along the coast are that influence the fate and transport of terrigenous sediment. In order to better address sedimentation issues relative to coral reef habitat, a better understanding is needed of the fate of inland sediment inputs within the nearshore littoral environment. Previous Coastal Modeling System (CMS) and Particle Tracking Model (PTM) simulations for this area will be leveraged to evaluate the pathways of terrigenous sediments entering the nearshore from streams and drainages in the West Maui Region. The federally authorized West Maui "Ridge to Reef" Initiative (see location map below) engages various federal, state and county agencies in the implementation of a strategy to reduce the threats of land-based pollution to coral reefs in West Maui. Collaboration and coordination of Hawaii RSM investigations in the West Maui Region and the work being conducted through the West Maui R2R Initiative will be optimized to enhance the utility of the products being developed.



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# Regional Sediment Management Program Honolulu District (POH): West Maui Regional Sediment Management West Maui Region, Maui, Hawaii

**Location Map.** The West Maui RSM Region coincides with the extent of the West Maui R2R Initiative.

**Issue/Challenge To Address**

The West Maui Region provides a small-scale island style test bed for application of numerical models and coastal engineering expertise to investigate the ultimate fate of inland inputs to the nearshore littoral environment. Study findings and lessons learned from application of CMS and PTM tools in the West Maui Region will inform future larger-scale mainland investigations.

**Successes**

N/A

**Lessons Learned**

N/A

**Expected Products**

- Water circulation and particle tracking model results
- Maps and graphics to visualize model results
- Preparation of a Technical Note documenting study findings
- Web site update on findings and lessons learned

**Stakeholders/Users**

USACE Honolulu District, State of Hawaii Department of Land and Natural Resources' Offices of Conservation and Coastal Lands Shoreline and County of Maui. In addition, the National Oceanic and Atmospheric Administration, U.S. Department of Agriculture – Natural Resources Conservation Service, U.S. Environmental Protection Agency, National Fish and Wildlife Foundation, State of Hawaii Department of Health, West Maui Mountains Watershed Partnership, and Kaanapali Makai Watch are all providing assistance as part of the West Maui R2R Initiative to improve the health of West Maui's reefs.

**Projected Benefits**

Advancing the state-of-knowledge of regional coastal processes in Hawaii and improvement of sediment management in the West Maui Region. Coastal modeling data from the West Maui Region will inform future larger-scale mainland investigations. A Technical Note will be prepared that documents methodology used and results of the West Maui PTM investigations.

**Leveraging Opportunities**

There are multiple stakeholders in the West Maui R2R Initiative that could potentially fund additional RSM efforts in support of reef sustainability. The County of Maui may also choose to fund extensions of RSM efforts in the West Maui Region in order to identify sustainable offshore sand sources

**Points of Contact**

USACE Honolulu District.
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**Participating Partners**

The non-federal sponsor is the Department of Land and Natural Resources' Office of Conservation and Coastal Lands.