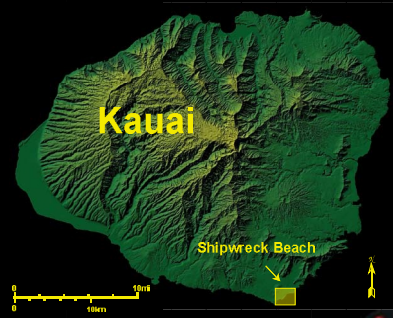


Shipwreck Beach, Kauai, Hawaii



AREA DESCRIPTION

The Shipwreck Beach study area (transects 0–20) is located on the southeast coast of Kauai. The shoreline is composed of carbonate sand beach interrupted by basalt headlands. Overall, the area is experiencing erosion at an average rate of -1.2 ft/yr. Previous studies¹ found similar trends in shoreline change for the Shipwreck Beach study area.

¹ Makai Ocean Engineering and Sea Engineering, 1991 Aerial Photograph Analysis of Coastal Erosion on the Islands of Kauai, Molokai, Lanai, Maui, and Hawaii. State of Hawaii Office of Coastal Zone Management Program.

SHORELINE CHANGE RATES

Accretion Rate
Erosion Rate

Historical shoreline positions are measured every 66 ft along the shoreline. These sites are denoted by yellow shore-perpendicular transects. Changes in the position of the shorelines through time are used to calculate shoreline change rates (ft/yr) at each transect location.

Annual shoreline change rates are shown on the shore-parallel graph. Red bars on the graph indicate a trend of beach erosion, while blue bars indicate a trend of accretion. Approximately every fifth transect and bar of the graph is numbered. Where necessary, transects have been purposely deleted to maintain consistent alongshore spacing. As a result transect numbering is not consecutive everywhere. The rates are smoothed alongshore using a 1-3-5-3-1 technique to normalize rate differences on adjacent transects.

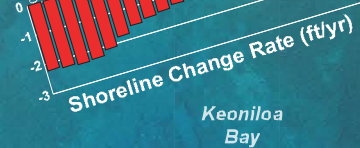
HISTORICAL SHORELINES

- T-sheet 1927
- Apr 1975
- Jan 1982
- Jul 1987
- Mar 1988
- May 2000
- Oct 2007

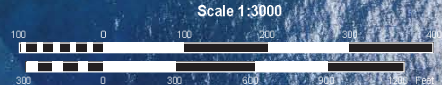
Erosion rate measurement locations (shore-normal transects)

Historical beach positions, color coded by year, are determined using orthorectified and georeferenced aerial photographs and National Ocean Survey (NOS) topographic survey charts. The low water mark is used as the historical shoreline, or shoreline change reference feature (SCRF).

Movement of the SCRF along shore-normal transects (spaced every 66 ft) is used to calculate erosion rates.



248400mN UTM coordinates
159°26'30"W Latitude/longitude coordinates



The preparation of this poster was financed in part by the Coastal Zone Management Act of 1972, as amended, administered by the Office of Ocean and Coastal Resource Management, National Ocean Service, National Oceanic and Atmospheric Administration, United States Department of Commerce, through the Office of Planning, State of Hawaii.

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Contract C25514 Contract 7249