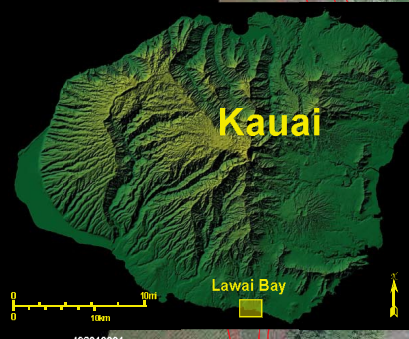


Lawai Bay, Kauai, Hawaii



HISTORICAL SHORELINES

- Jan 1928
- May 1966
- Apr 1975
- Jan 1982
- Sep 1984
- Jul 1987
- Mar 1988
- Sept 1992
- Aug 2000
- Oct 2007
- Jan 2008

Yellow lines indicate 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).

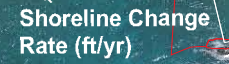
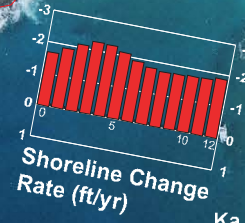
Movement of the SCRF along shore-normal transects (spaced every 66 ft) is used to calculate erosion rates.

SHORELINE CHANGE RATES

- Blue bars: Accretion Rate
- Red bars: 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.



AREA DESCRIPTION

The Lawai Bay study area (transects 0 - 21) is located on the south coast of Kauai. The area is bounded by Lawai Bay to the west and La Lae Kiki to the east. The shoreline is characterized by small pocket beaches interspersed among basaltic headlands.

Overall, the area is eroding at an average rate of -1.2 ft/yr. There are three pocket beaches within the study area. Lawai Bay (transects 0 - 12) is located to the west of Ka Lae O Kaiwa. This section of the study area is experiencing erosion at an average rate of -1.9 ft/yr. The next beach (transects 13 - 14) to the east of Spouting Horn Park has experienced erosion at an average rate of -0.2 ft/yr. The beach (transects 15 - 21) by Kukuiula Landing Park has experienced no net trend over the period of study. Previous studies¹ did not analyze the Lawai Bay study area shoreline.

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.

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UTM coordinates: 447500mE, 22°53'00"N
 Latitude/Longitude coordinates

