Kokole Point, Kauai, Hawaii

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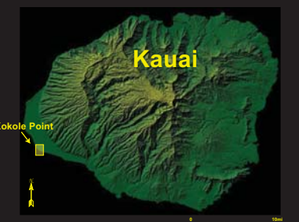
AREA DESCRIPTION

The Kokole Point study area (transects 253 - 440) is located on the southwest shore of Kauai on the Mana Plain. The study area extends south to include the Mana Drag Strip (transects 257 – 326) and north Kokole Point (transects 371 – 374). The shoreline is composed of white carbonate sand and vegetated dunes. The study area is exposed to swell from the northwest and west during winter and spring months, swell from the west and southwest in the summer as well as persistent tradewinds.

This study area is a section of a continuous sandy beach which runs from Kikiaola Small Boat Harbor through Kekaha and Majors Bay. Overall, the Kokole Point study area (transects 253 - 440) has experienced no net trend over the period of study. The northern portion of the study area (transects 374 - 440) is accreting at an average rate of 0.4 ft/yr while the southern portion (transects 253 - 371) is eroding at an average rate of -0.2 ft/yr. Previous studies[1] did not analyze the Kokole Point 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.



HISTORICAL SHORELINES

- May 1927
- Nov 1950
- May 1966
- Apr 1975
- Jul 1987
- Mar 1988
- Oct 1991
- Sept 1992
- May 1992
- Nov 2006

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

- 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.

Scale 1:3000

100 0 100 200 300 400 Meters

300 0 300 600 900 1200 Feet

242940mN UTM coordinates
159°46'10" W Latitude/Longitude coordinates