**HISTORICAL SHORELINES**

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).

**SHORELINE CHANGE RATES**

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 Anini study area (transects 100 - 180) is located on the north coast of Kauai. The shoreline is composed of calcareous sand beach with a fringing reef offshore. Overall, the area is eroding at an average rate of -0.3 ft/yr. Previous studies found similar trends in shoreline change for the Anini study area.


**HISTORICAL BEACH POSITIONS**

- 1927 T-sheet
- Nov 1950
- May 1961
- Nov 1968
- Apr 1975
- Jul 1987
- May 1988
- Sep 1999
- Jan 2008

Erosion rate measurement locations (shore-normal transects)

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