

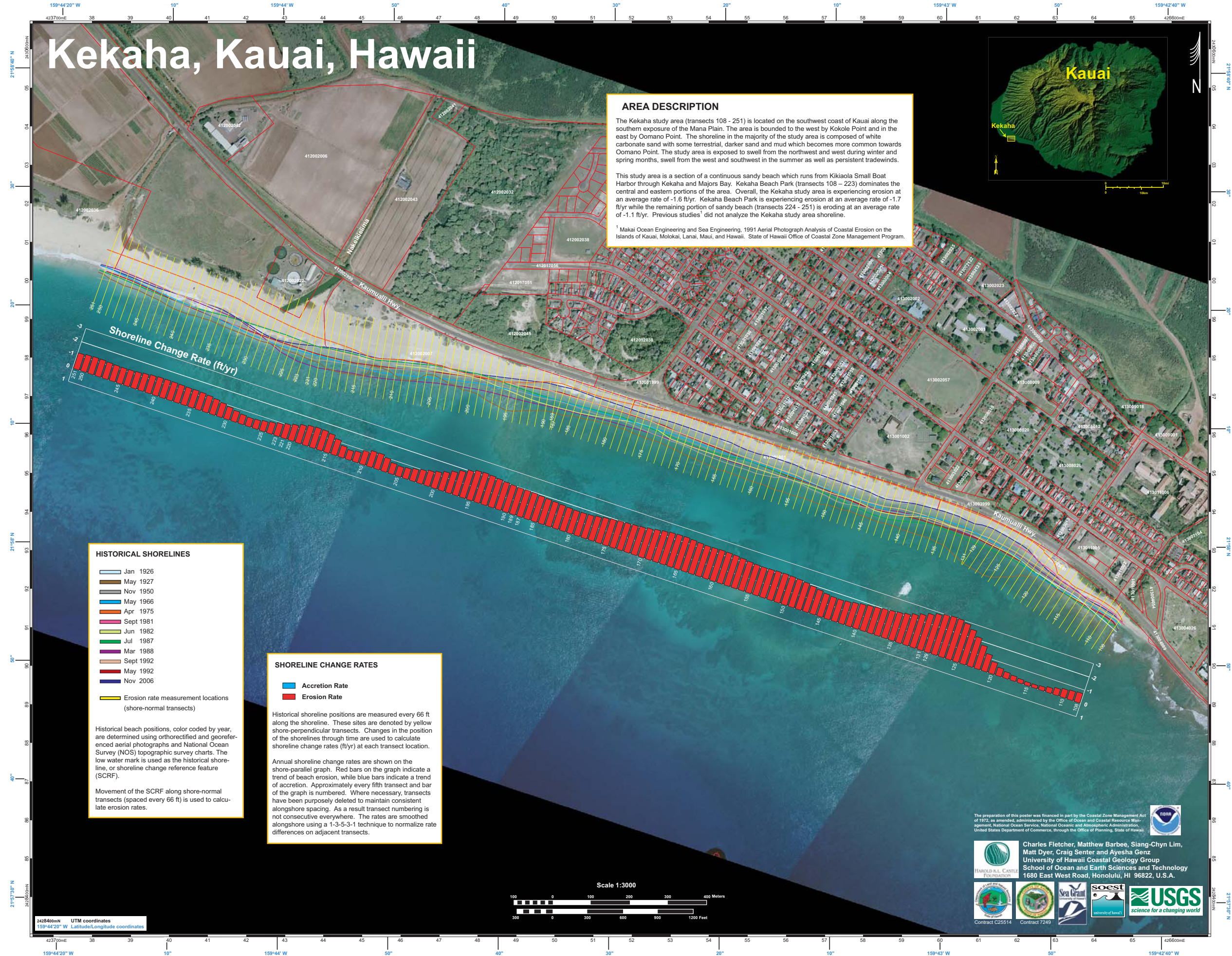
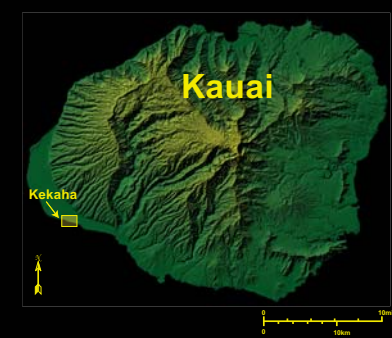
Kekaha, Kauai, Hawaii

AREA DESCRIPTION

The Kekaha study area (transects 108 - 251) is located on the southwest coast of Kauai along the southern exposure of the Mana Plain. The area is bounded to the west by Kokole Point and in the east by Omano Point. The shoreline in the majority of the study area is composed of white carbonate sand with some terrestrial, darker sand and mud which becomes more common towards Omano Point. 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 Kikiola Small Boat Harbor through Kekaha and Majors Bay. Kekaha Beach Park (transects 108 - 223) dominates the central and eastern portions of the area. Overall, the Kekaha study area is experiencing erosion at an average rate of -1.6 ft/yr. Kekaha Beach Park is experiencing erosion at an average rate of -1.7 ft/yr while the remaining portion of sandy beach (transects 224 - 251) is eroding at an average rate of -1.1 ft/yr. Previous studies¹ did not analyze the Kekaha 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

- Jan 1926
- May 1927
- Nov 1950
- May 1966
- Apr 1975
- Sept 1981
- Jun 1982
- Jul 1987
- Mar 1988
- 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 (SCRFF).

Movement of the SCRFF 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.

242840mN UTM coordinates
159°44'20" W Latitude: decimal 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