

North Kihei, Maui, Hawaii

Smoothed Erosion Rates

TRANSECT	ST(ft/yr)	SETBACK(ft)	TRANSECT	ST(ft/yr)	SETBACK(ft)
618	-1.6	104.6	719	-0.1	31.7
619	-1.6	106.4	720	-0.2	33.0
620	-1.6	105.0	721	-0.2	33.9
621	-1.5	100.0	722	-0.2	35.4
622	-1.4	94.3	723	-0.2	37.3
623	-1.3	91.8	724	-0.3	39.3
624	-1.3	91.5	725	-0.3	41.6
625	-1.3	92.0	726	-0.4	43.8
626	-1.4	94.2	727	-0.4	45.8
627	-1.5	99.6	728	-0.5	47.6
628	-1.6	105.6	729	-0.5	49.4
629	-1.7	110.4	730	-0.5	51.7
630	-1.7	111.8	731	-0.6	54.2
631	-1.6	107.3	732	-0.6	56.6
632	-1.4	97.5	733	-0.7	58.4
633	-1.3	89.2	734	-0.7	59.5
634	-1.2	82.6	735	-0.7	60.9
635	-1.1	79.5	736	-0.8	63.0
636	-1.1	77.8	737	-0.8	65.8
637	-1.1	77.8	738	-0.9	68.4
638	-1.1	77.7	739	-0.9	70.5
639	-1.0	77.2	740	-0.9	70.4
640	-1.0	76.5	741	-0.9	68.7
641	-1.0	76.7	742	-0.8	66.4
642	-1.0	75.4	743	-0.8	65.4
643	-1.0	72.7	744	-0.8	66.0
644	-0.9	70.7	745	-0.8	67.4
645	-0.9	70.6	746	-0.9	67.5
646	-0.9	72.2	747	-0.8	66.5
647	-1.0	73.6	748	-0.8	64.8
648	-1.0	72.9	749	-0.9	63.0
649	-0.9	69.6	750	-0.7	61.6
650	-0.8	65.0	751	-0.7	60.8
651	-0.7	61.7	752	-0.7	60.4
652	-0.7	59.9	753	-0.7	60.1
653	-0.7	58.6	754	-0.7	59.1
654	-0.6	57.4	755	-0.6	57.4
655	-0.6	57.0	756	-0.6	55.4
656	-0.7	57.8	757	-0.6	53.7
657	-0.7	59.6	758	-0.5	52.4
658	-0.7	61.5	759	-0.5	51.0
659	-0.7	62.2	760	-0.5	49.0
660	-0.7	61.5	761	-0.4	46.6
661	-0.7	59.1	762	-0.4	44.9
662	-0.6	55.2	763	-0.4	43.9
663	-0.5	50.5	764	-0.4	43.4
664	-0.4	45.6	765	-0.4	43.4
665	-0.3	40.9	766	-0.4	44.0
666	-0.2	35.9	767	-0.4	44.9
667	-0.1	30.8	768	-0.4	45.4
668	0.0	26.7	769	-0.4	44.8
669	0.0	NO EROSION	770	-0.3	43.0
670	0.0	NO EROSION	771	-0.3	40.1
671	0.0	25.4	772	-0.2	37.2
672	0.0	27.0	773	-0.2	35.2
673	-0.1	28.5	774	-0.2	33.9
674	-0.1	30.1	775	-0.2	33.0
675	-0.1	32.0	776	-0.2	32.9
676	-0.2	33.4	777	-0.2	34.1
677	-0.2	33.3	778	-0.2	36.7
678	-0.1	31.9	779	-0.3	40.3
679	-0.1	30.0	780	-0.4	43.9
680	-0.1	28.0	781	-0.4	46.6
681	0.0	26.1	782	-0.5	47.6
682	0.0	NO EROSION	783	-0.4	47.3
683	0.0	NO EROSION	784	-0.4	46.6
684	0.0	NO EROSION	785	-0.4	45.9
685	0.1	NO EROSION	786	-0.4	45.3
686	0.1	NO EROSION	787	-0.4	44.7
687	0.2	NO EROSION	788	-0.4	44.4
688	0.2	NO EROSION	789	-0.4	44.8
689	0.2	NO EROSION	790	-0.4	45.4
690	0.2	NO EROSION	791	-0.4	45.5
691	0.2	NO EROSION	792	-0.4	45.9
692	0.2	NO EROSION	793	-0.4	47.4
693	0.3	NO EROSION	794	-0.5	49.8
694	0.3	NO EROSION	795	-0.5	52.0
695	0.3	NO EROSION	796	-0.6	54.4
696	0.3	NO EROSION	797	-0.6	56.1
697	0.3	NO EROSION	798	-0.7	57.7
698	0.3	NO EROSION	799	-0.7	59.1
699	0.4	NO EROSION	800	-0.7	59.2
700	0.4	NO EROSION	801	-0.7	57.7
701	0.5	NO EROSION	802	-0.6	56.4
702	0.5	NO EROSION	803	-0.6	54.5
703	0.5	NO EROSION	804	-0.6	52.5
704	0.4	NO EROSION	805	-0.5	51.4
705	0.3	NO EROSION	806	-0.5	52.0
706	0.2	NO EROSION	807	-0.6	54.0
707	0.2	NO EROSION	808	-0.6	55.8
708	0.2	NO EROSION	809	-0.6	54.6
709	0.3	NO EROSION	810	-0.5	52.2
710	0.3	NO EROSION	811	-0.5	50.9
711	0.4	NO EROSION			
712	0.4	NO EROSION			
713	0.0	27.3			
714	-0.1	28.2			
715	-0.1	28.3			
716	-0.1	28.2			
717	-0.1	28.6			
718	-0.1	30.0			

HISTORICAL SHORELINES

- 1900
- Nov 1949
- Oct 1960
- Feb 1963
- Mar 1975
- Jul 1987
- Mar 1988
- Nov 1992
- May 1997
- April 2007

Erosion rate measurement locations (shore normal transects)

Historical beach positions, color coded by year, are determined using ortho-rectified 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).

For situations in which there is coastal armoring or rocky shoreline seaward of any vegetation, the vegetation line is drawn along the seaward side of the rock or armoring. If there is no sandy beach in these areas, both the vegetation line and the SCRFF are delineated along the mean high water line.

Movement of the SCRFF is used to calculate erosion rates along shore-normal transects spaced every 20 m (66 ft) along the shoreline. The 1987 SCRFF is not used in the calculation of the AEHR, however it provides a gauge of seasonal uncertainty.

SHORELINE CHANGE RATES

- Accretion Rate
- Erosion Rate

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 along-shore spacing. As a result transect numbering is not consecutive everywhere.

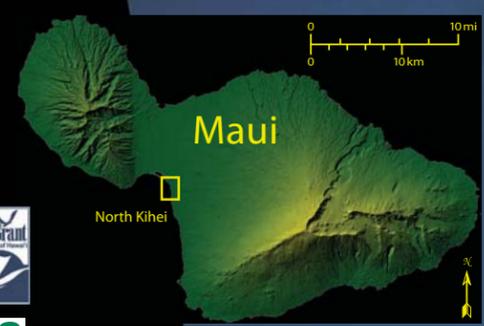
The ST method is used to calculate shoreline change rates for the study area. The rates are smoothed along shore using a 1-3-5-3-1 technique to normalize rate differences on adjacent transects. For more information on erosion rate methods and results see: <http://www.soest.hawaii.edu/asp/coasts/oahu/index.asp>

AREA DESCRIPTION

The North Kihei study area extends from Kalepolepo Beach Park in the south to the midpoint of Kealia Pond and Maalaea Bay Beach in the north

As a whole, the North Kihei area is experiencing erosion in the north and south with some accretion located in the center (transects 682 - 712). In the southern portion of this area (transects 618 - 681) there is an average shoreline change rate of -0.81ft/yr. In the center (transects 682 - 712) there is an average shoreline change rate of 0.26ft/yr. In the northern portion of this study area (transects 683 - 811) there is an average shoreline change rate of -0.49ft/yr.

As of 1963 there is no beach toe located between transects 629 and 631. As a result analysis of this specific location does not include data from 1963 to present day.



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Sea Grant

CZM Hawaii

USGS science for a changing world

Grant Agreement G2824

2298200m N UTM coordinates
156°28'40" W latitude/longitude coordinate



762500m E 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 764700m E

156°28'40" W 30" 20" 10" 156°28' W 50" 40" 156°27'30" W