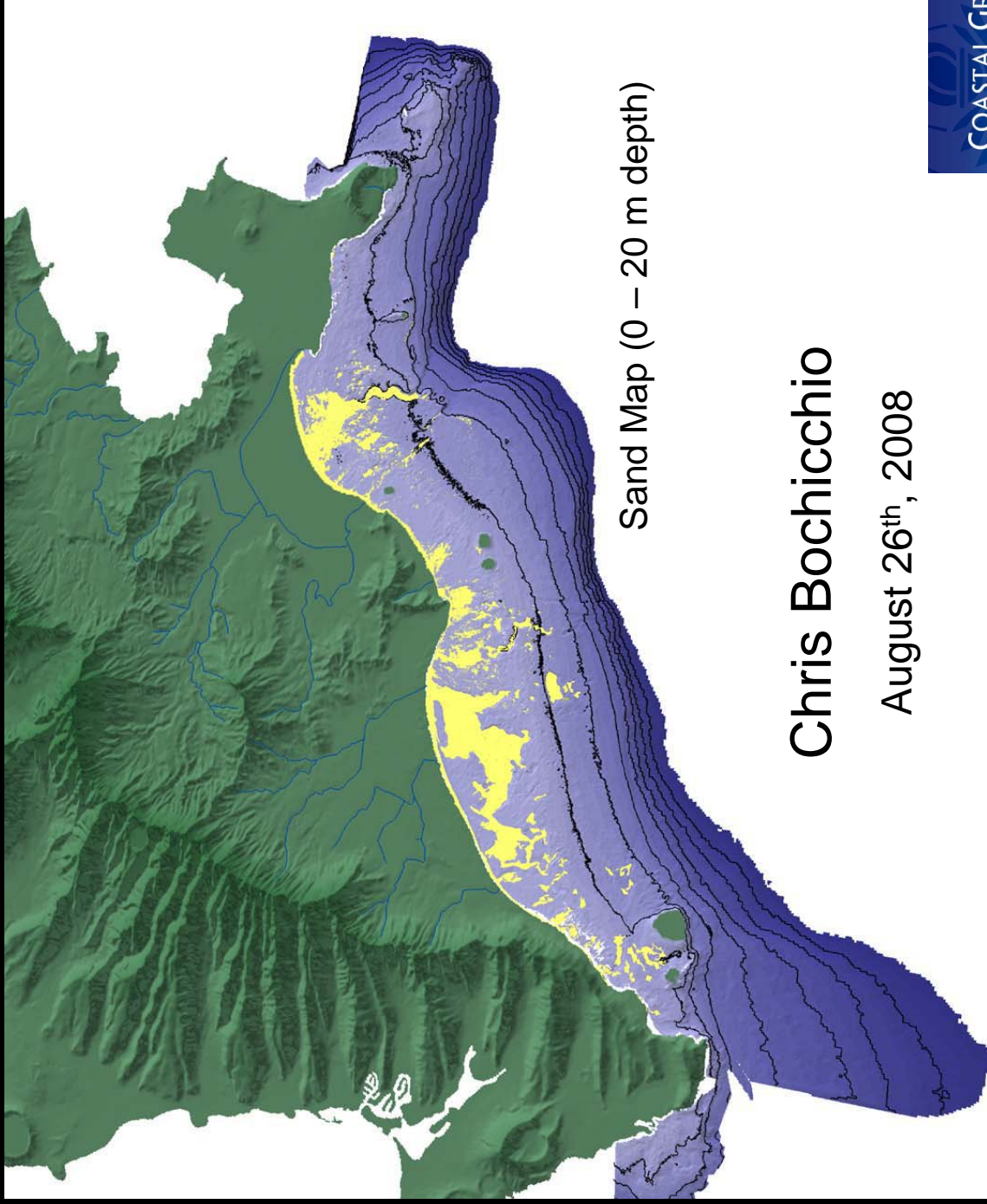


# Offshore Sand Investigation Results

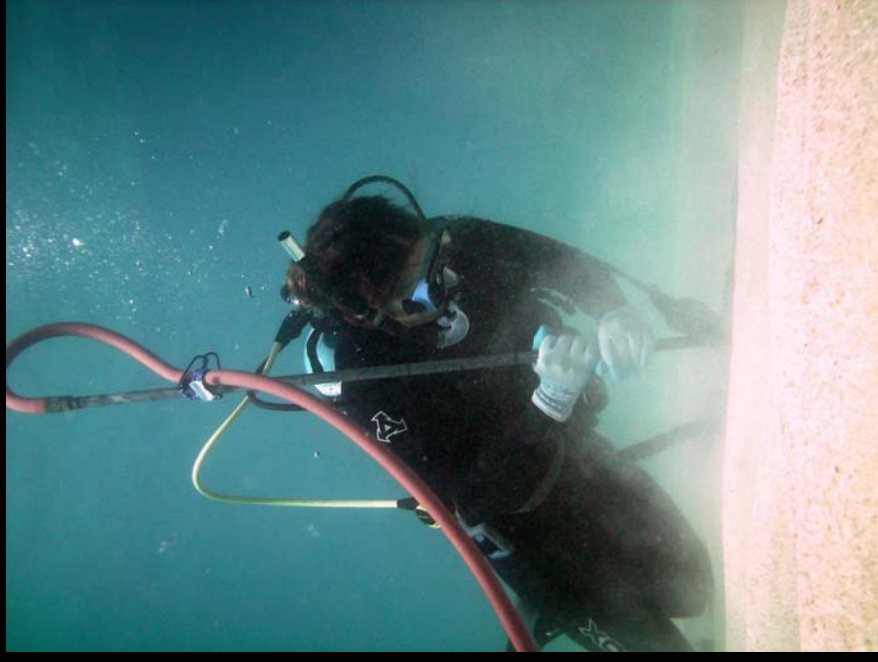
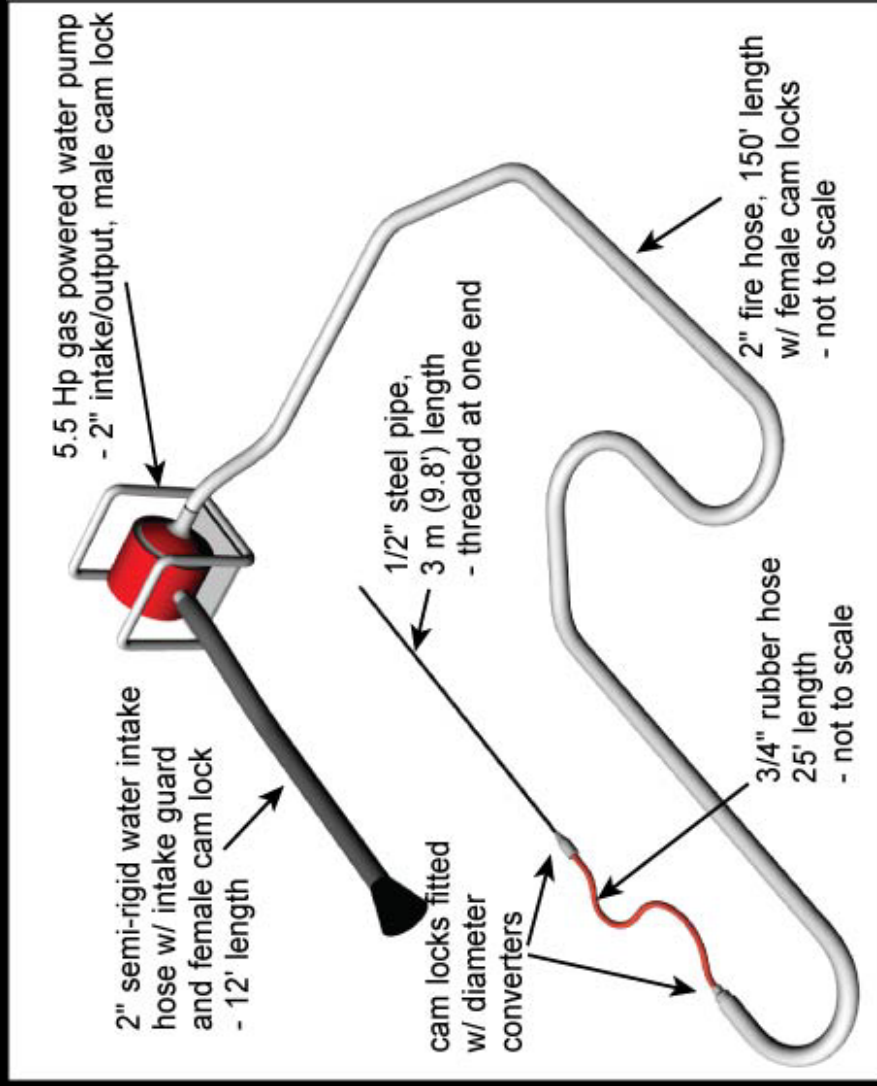


Chris Bochicchio

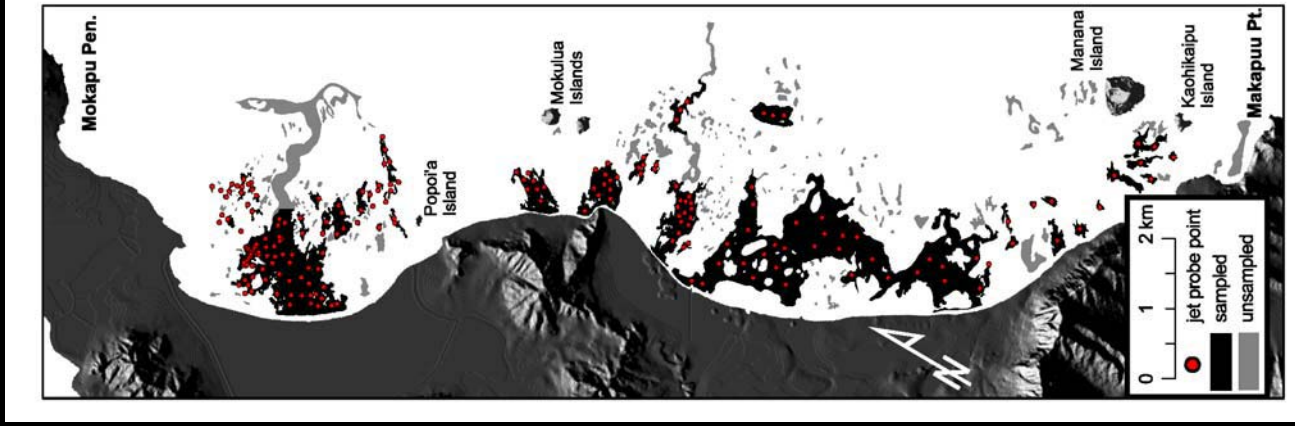
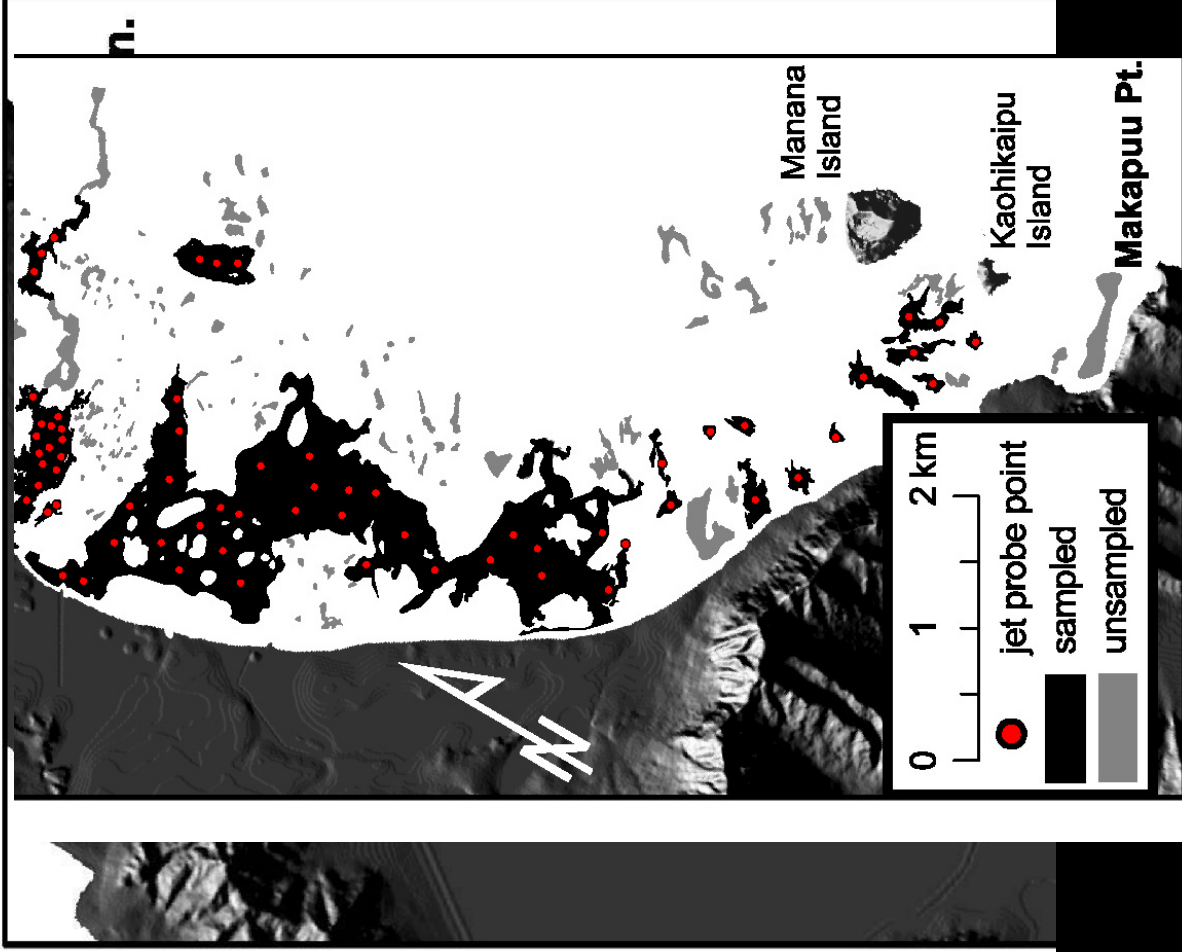
August 26<sup>th</sup>, 2008



# Jet Probe Design

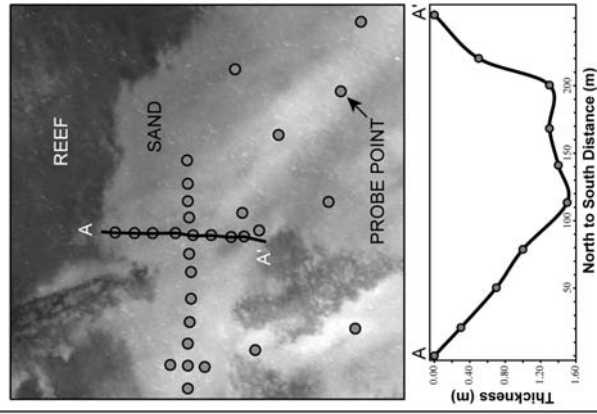


# Jet Probe Measurements



# Sand Bodies

54: directly measured  
210: extrapolated

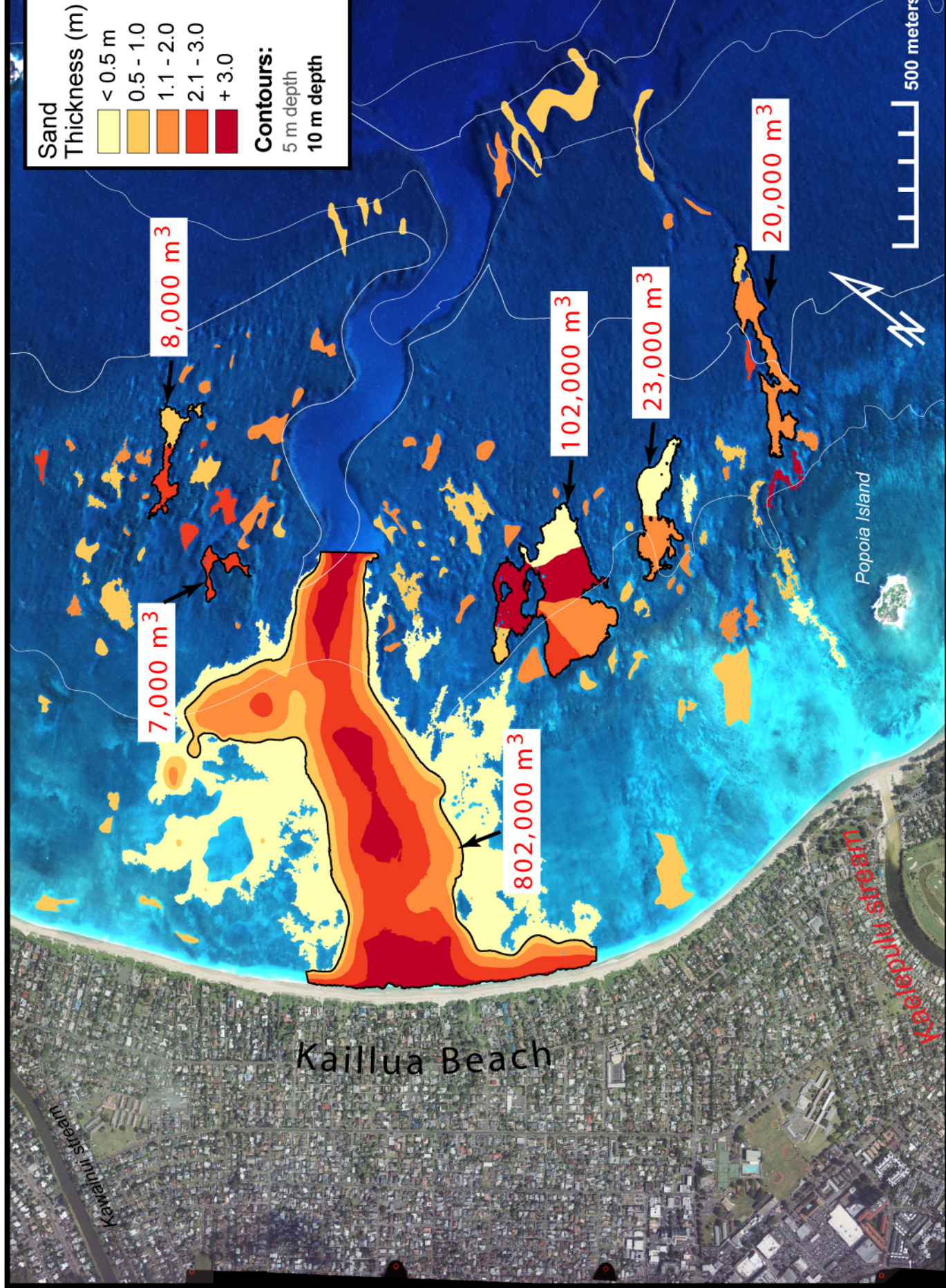


Number of Sand Bodies Organized by Morphology (Columns) and Region (Rows)

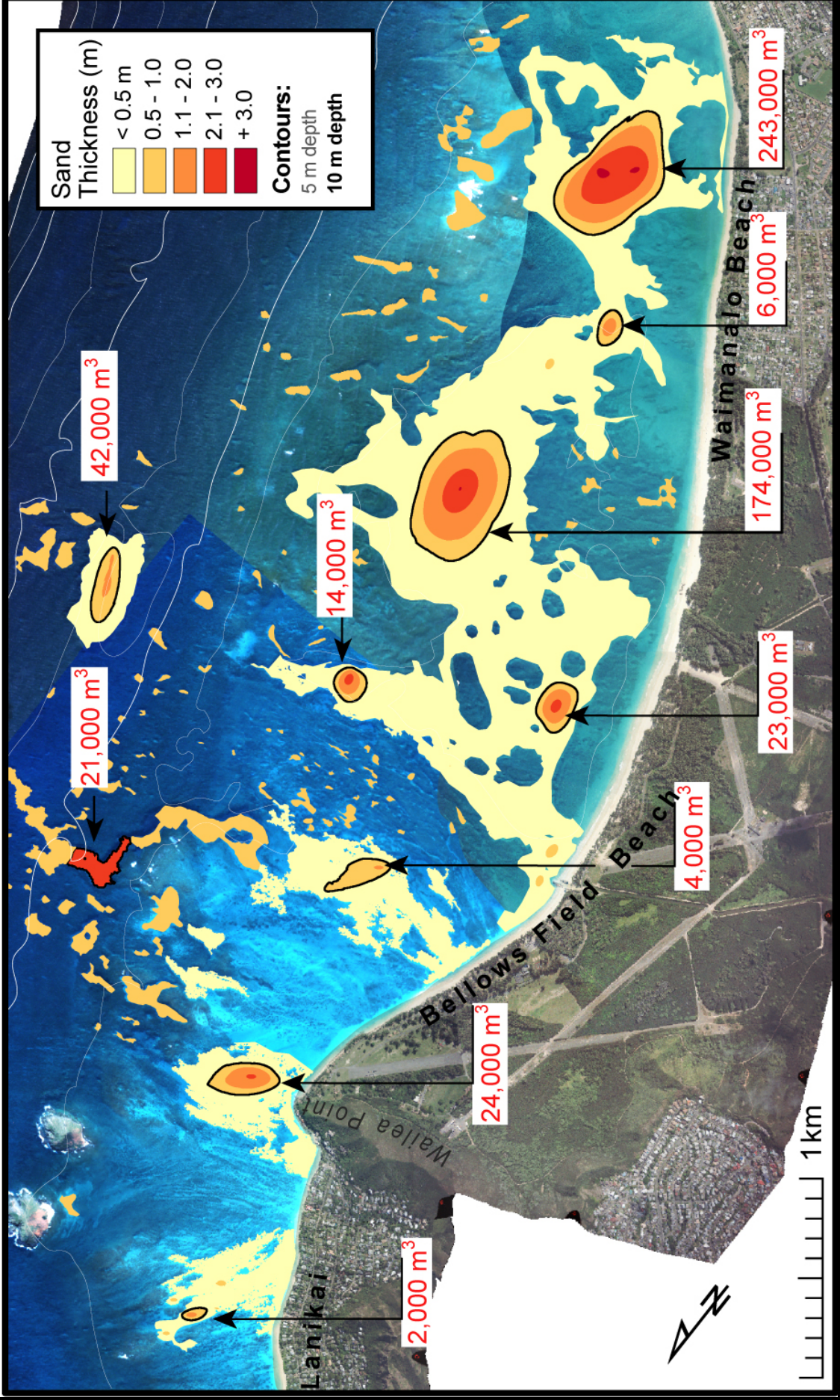
Region	Fossil Channel	Karst Depression	Sand Field	Total
Kailua Bay	Direct <sup>a</sup>	26	0	102
	Indirect <sup>b</sup>	67	0	
Lanikai	Direct	3	4	88
	Indirect	77	1	
Waimānalo Bay	Direct	5	8	74
	Indirect	51	9	
	Direct	34	12	264
Total	Indirect	195	10	
	Combined	229	22	

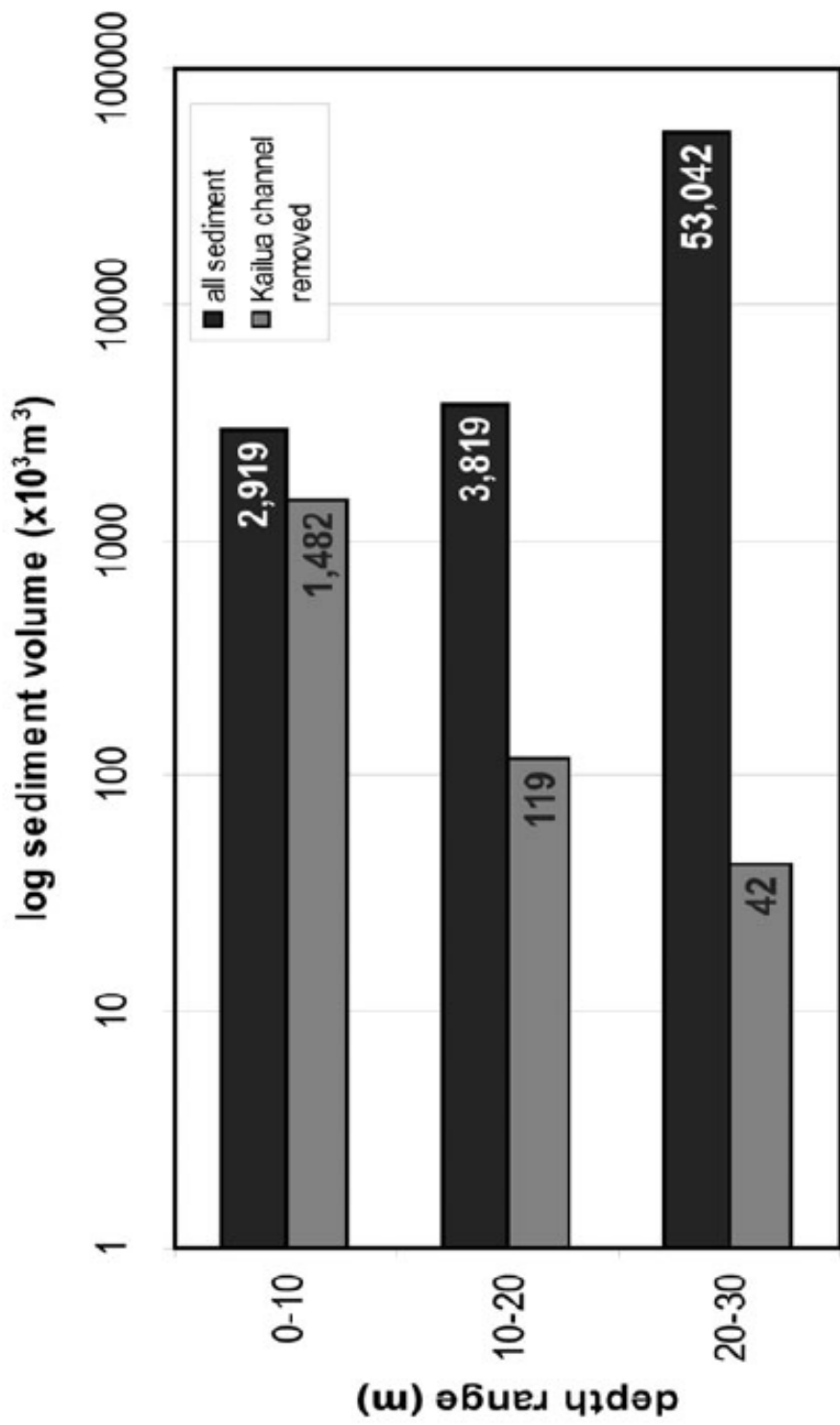
<sup>a</sup> Volume calculation made from thickness measurements.

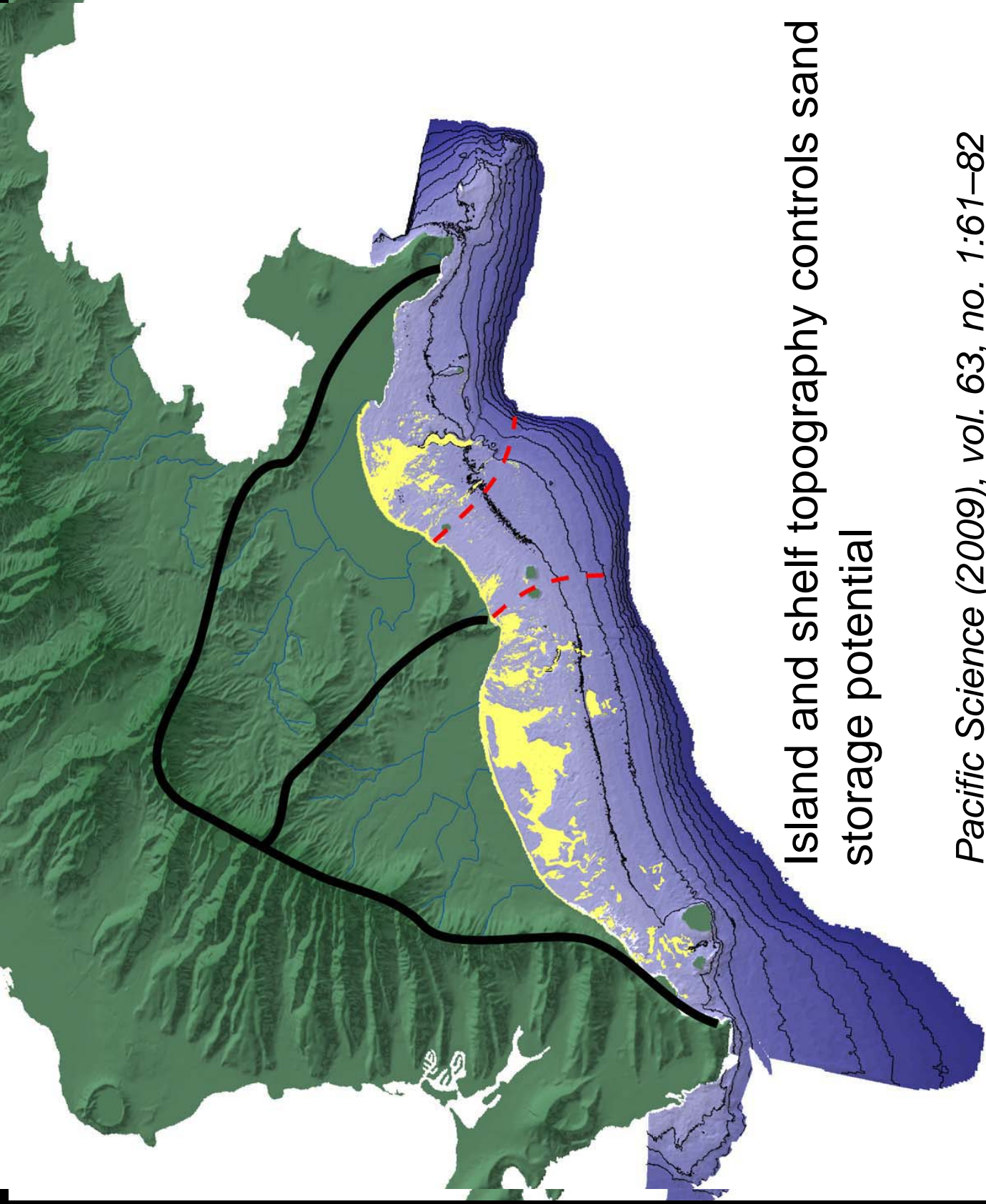
<sup>b</sup> Volume estimated from known values at adjacent sediment bodies.



# Offshore Sand Storage: South Lanikai & North Waimanalo (Bellows)





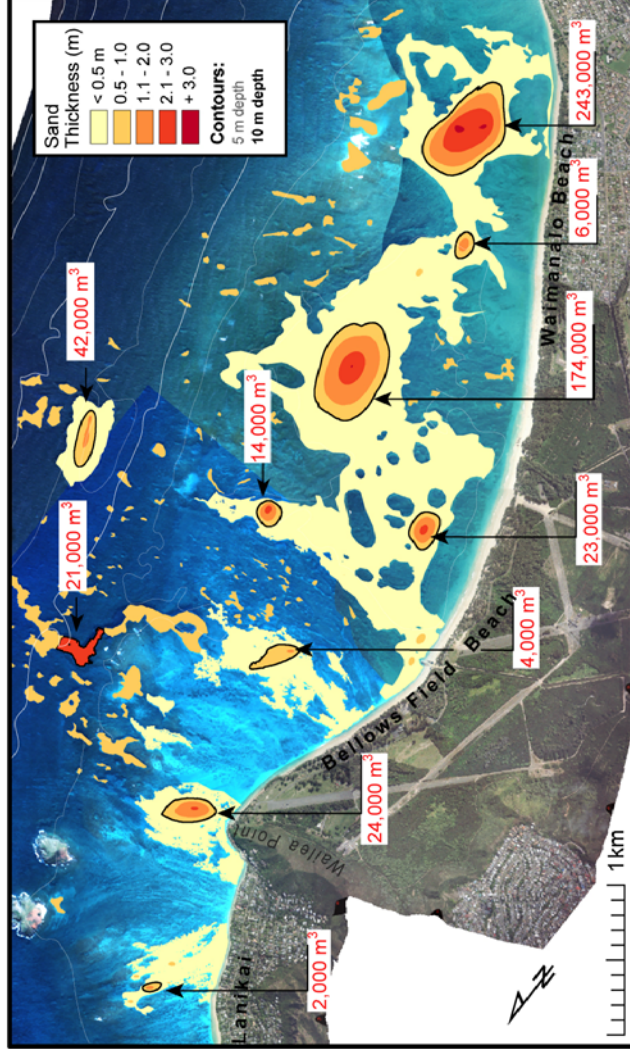


## Island and shelf topography controls sand storage potential

*Pacific Science* (2009), vol. 63, no. 1:61–82

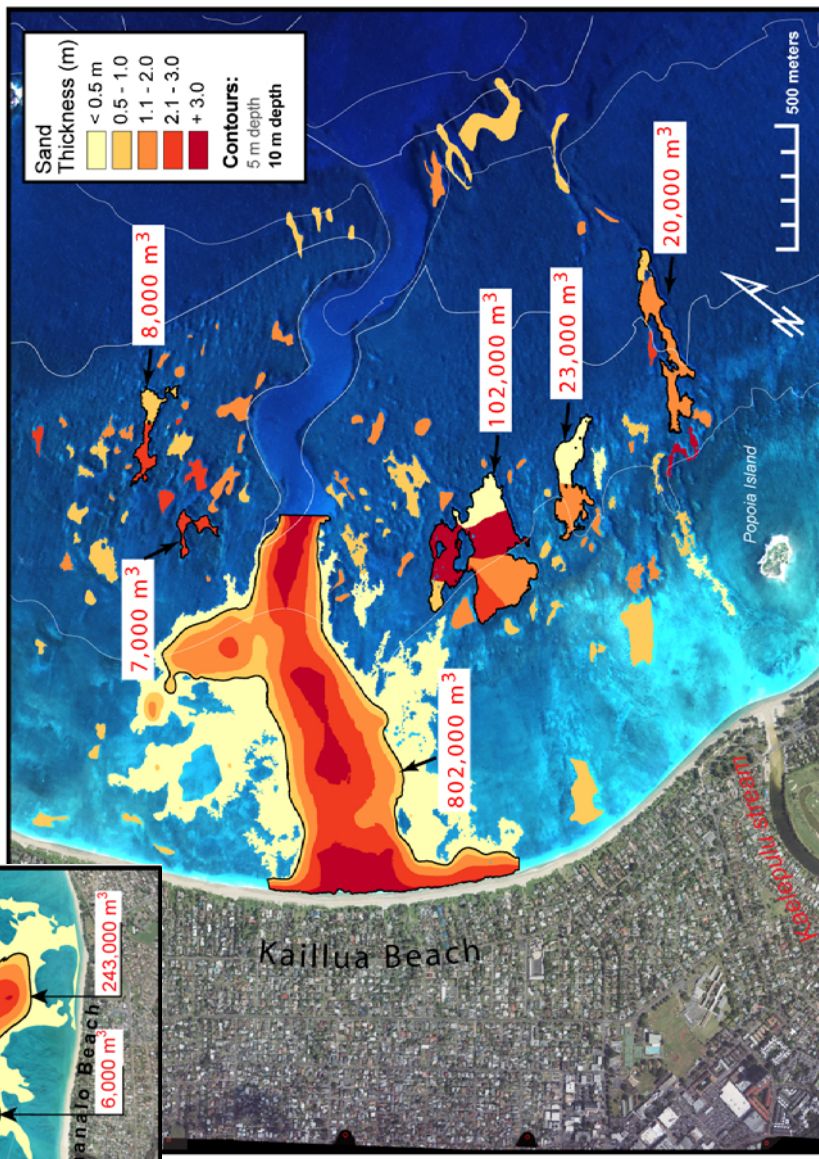


Offshore Sand Storage:  
South Lanikai & North Waimanalo (Bellows)



# Questions?

Offshore Sand Storage:  
Kailua Bay

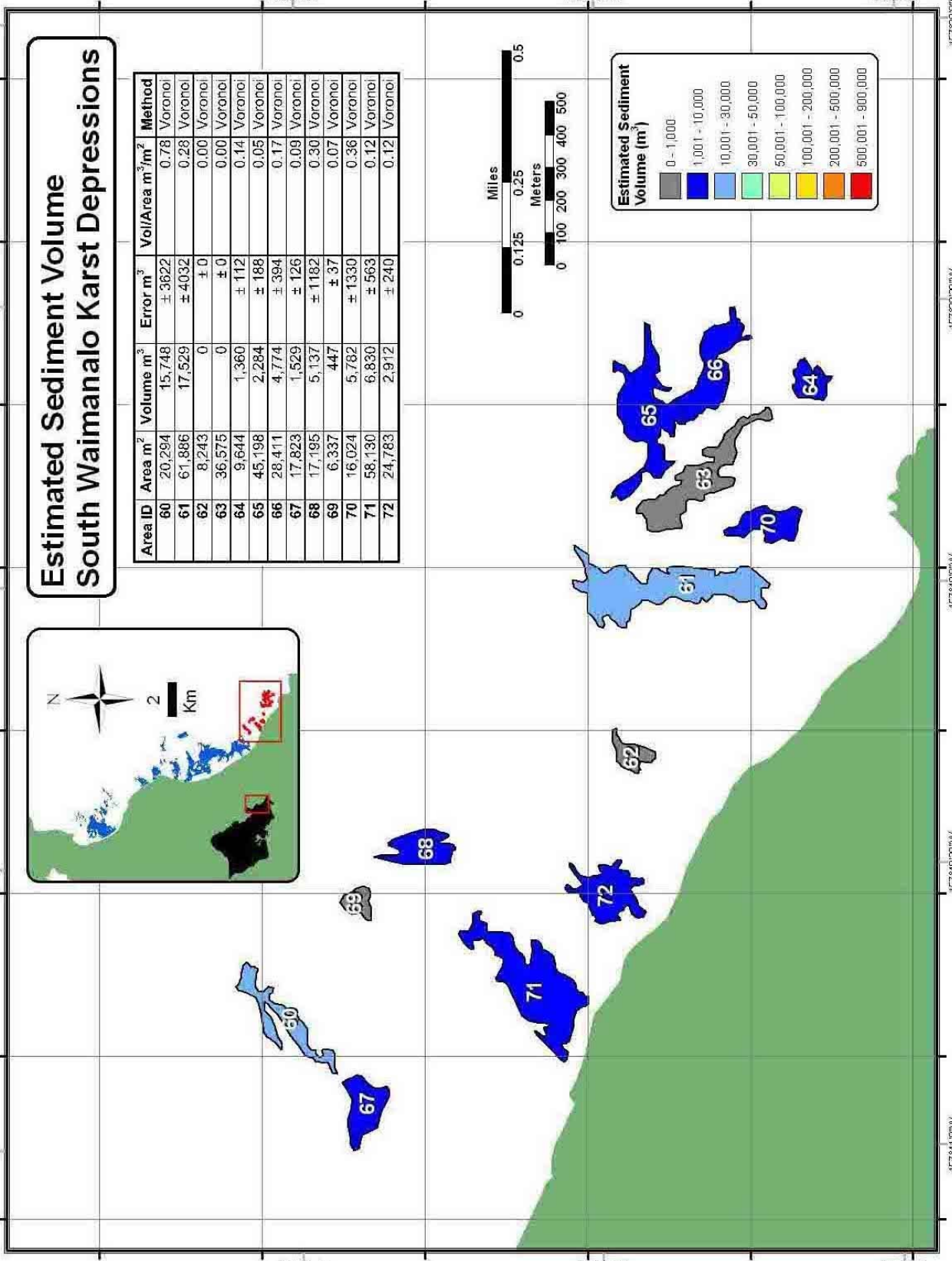
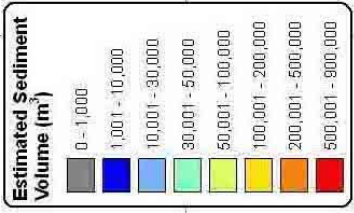
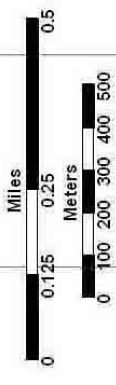
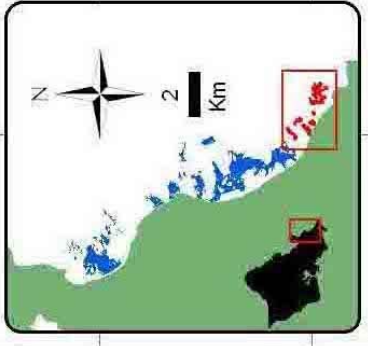


Data available!  
[www.soest.hawaii.edu/coasts](http://www.soest.hawaii.edu/coasts)  
 USACE mapping website



# Estimated Sediment Volume South Waimanalo Karst Depressions

Area ID	Area m <sup>2</sup>	Volume m <sup>3</sup>	Error m <sup>3</sup>	Vol/Area m <sup>3</sup> /m <sup>2</sup>	Method
60	20,294	15,748	± 3622	0.78	Voronoi
61	61,886	17,529	± 4032	0.28	Voronoi
62	8,243	0	± 0	0.00	Voronoi
63	36,575	0	± 0	0.00	Voronoi
64	9,644	1,360	± 112	0.14	Voronoi
65	45,198	2,284	± 188	0.05	Voronoi
66	28,411	4,774	± 394	0.17	Voronoi
67	17,823	1,529	± 126	0.09	Voronoi
68	17,195	5,137	± 1162	0.30	Voronoi
69	6,337	447	± 37	0.07	Voronoi
70	16,024	5,782	± 1330	0.36	Voronoi
71	58,130	6,830	± 563	0.12	Voronoi
72	24,783	2,912	± 240	0.12	Voronoi



THANK YOU