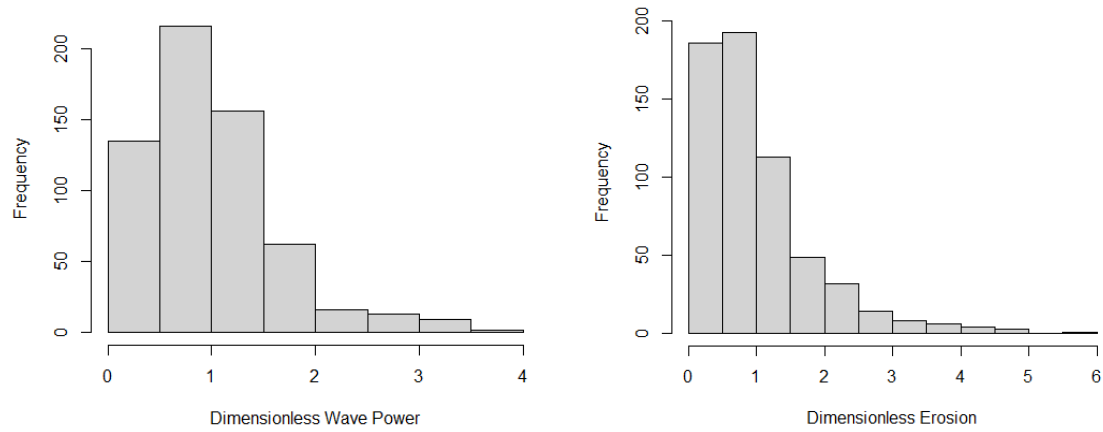
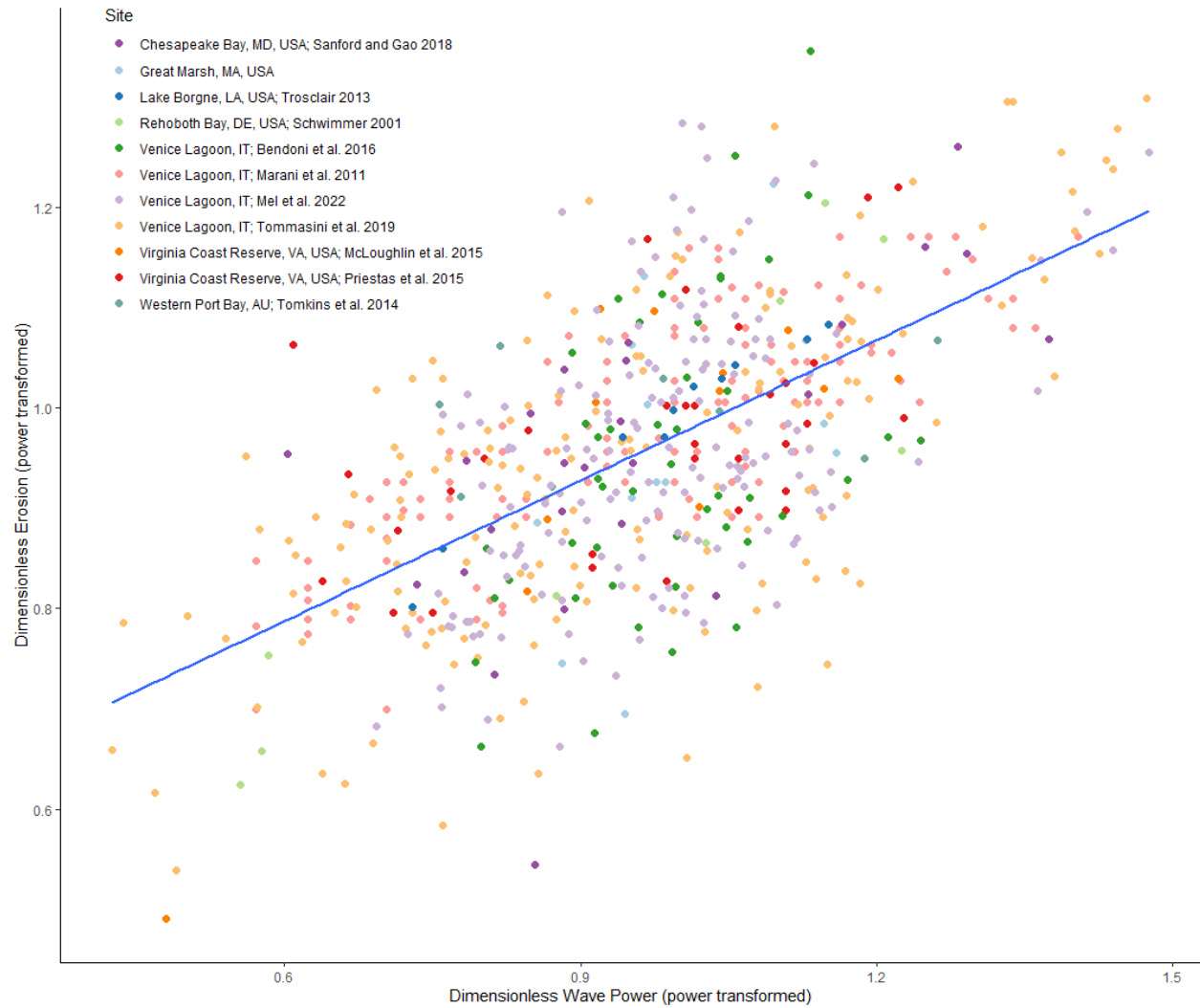


Supplementary Information

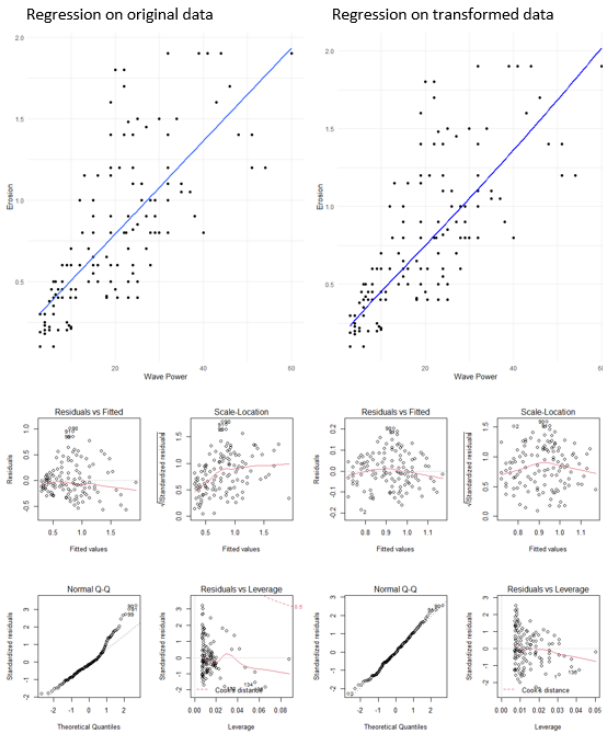


SI Fig. 1 Distributions of global dimensionless wave power and erosion data.

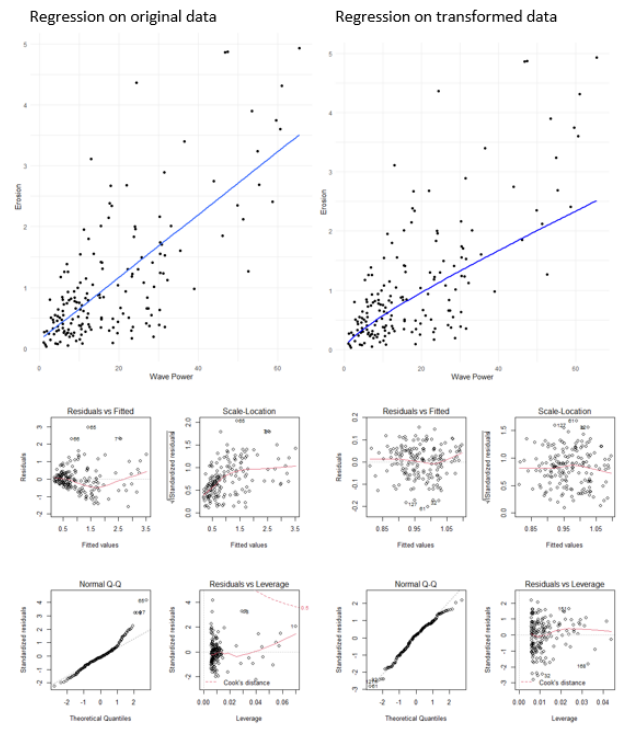


SI Fig. 2 Linear regression on the transformed dimensionless wave power and erosion data.

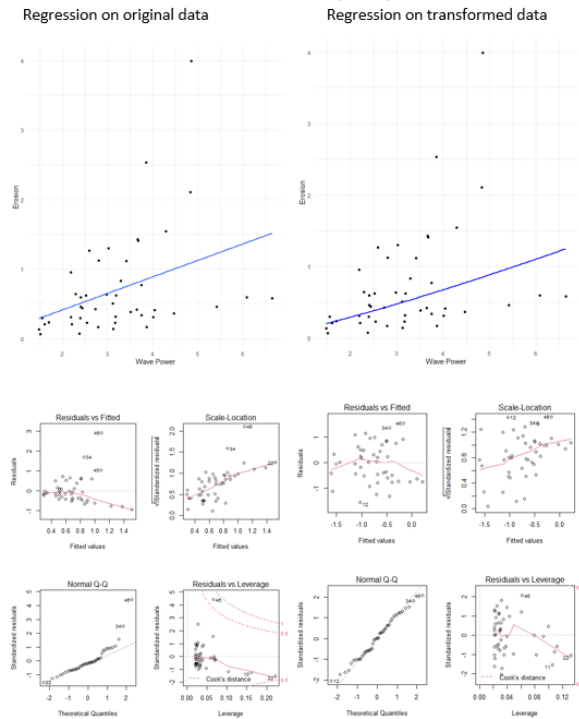
Marani et al. (2011)



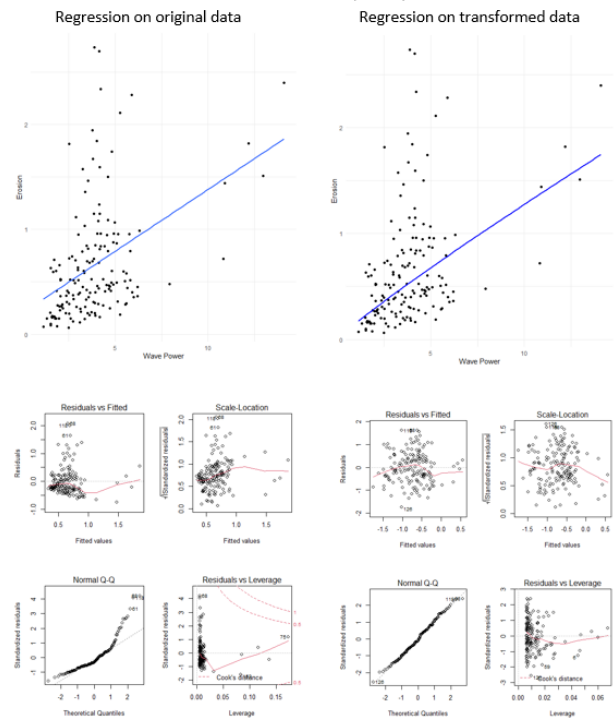
Tommasini et al. (2019)



Bendoni et al. (2016)

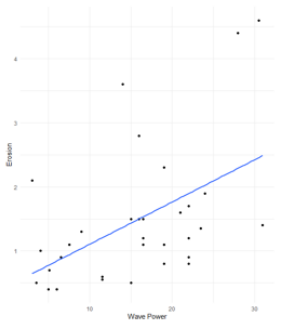


Mel et al. (2022)

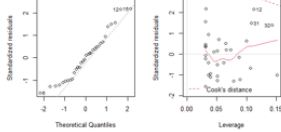
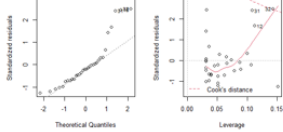
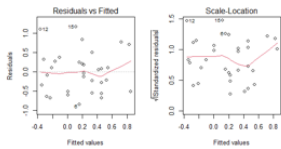
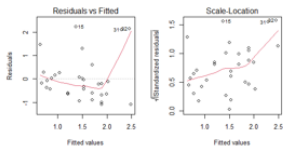
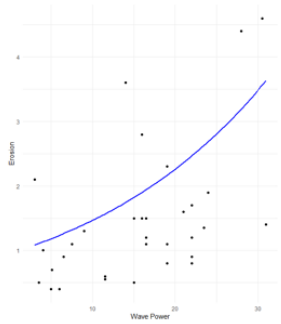


Priestas et al. (2015)

Regression on original data

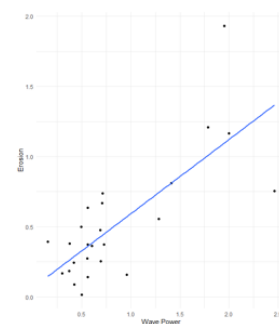


Regression on transformed data

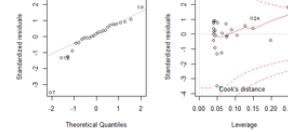
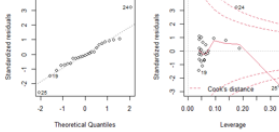
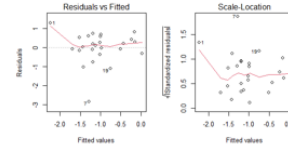
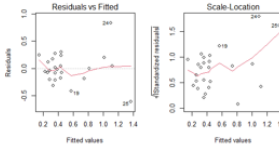
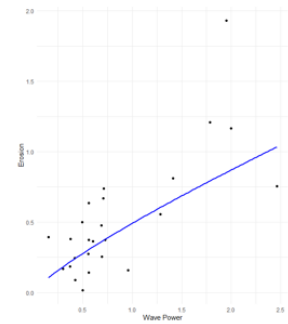


Sanford and Gao (2018)

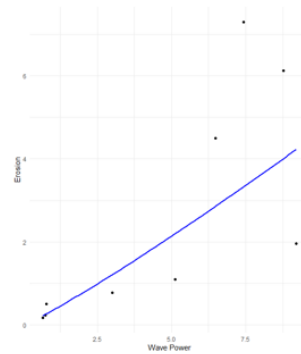
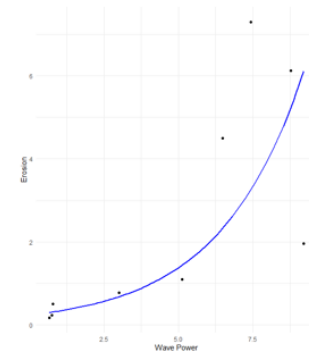
Regression on original data



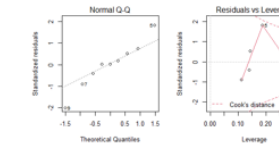
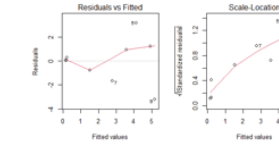
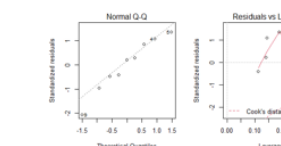
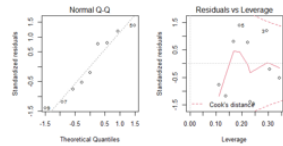
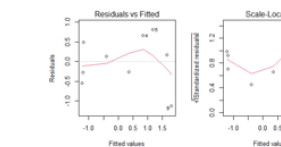
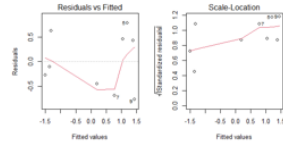
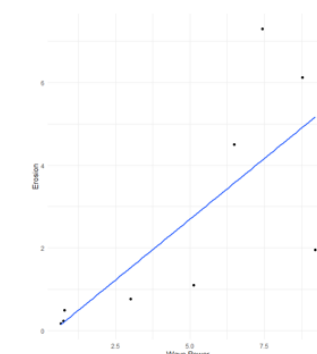
Regression on transformed data

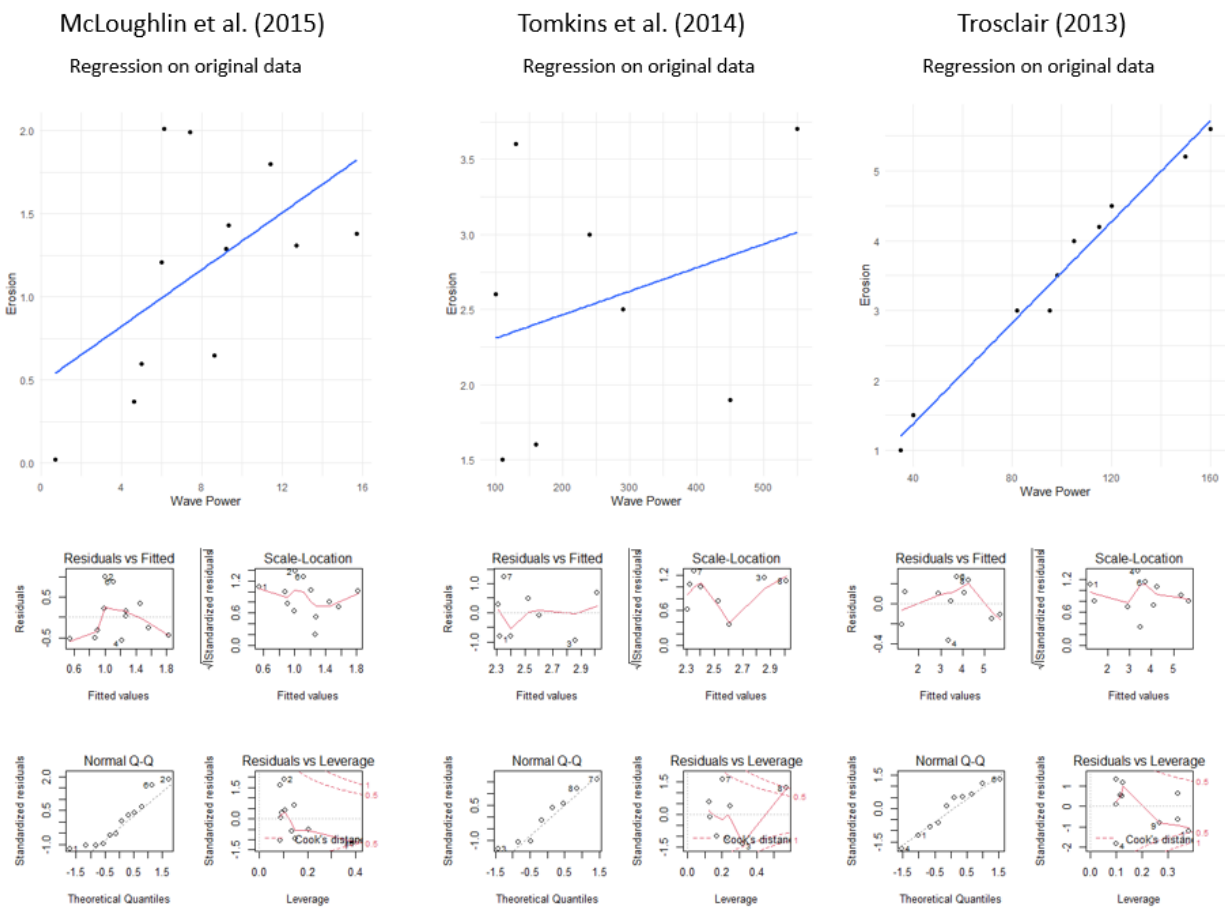


Schwimmer (2001)

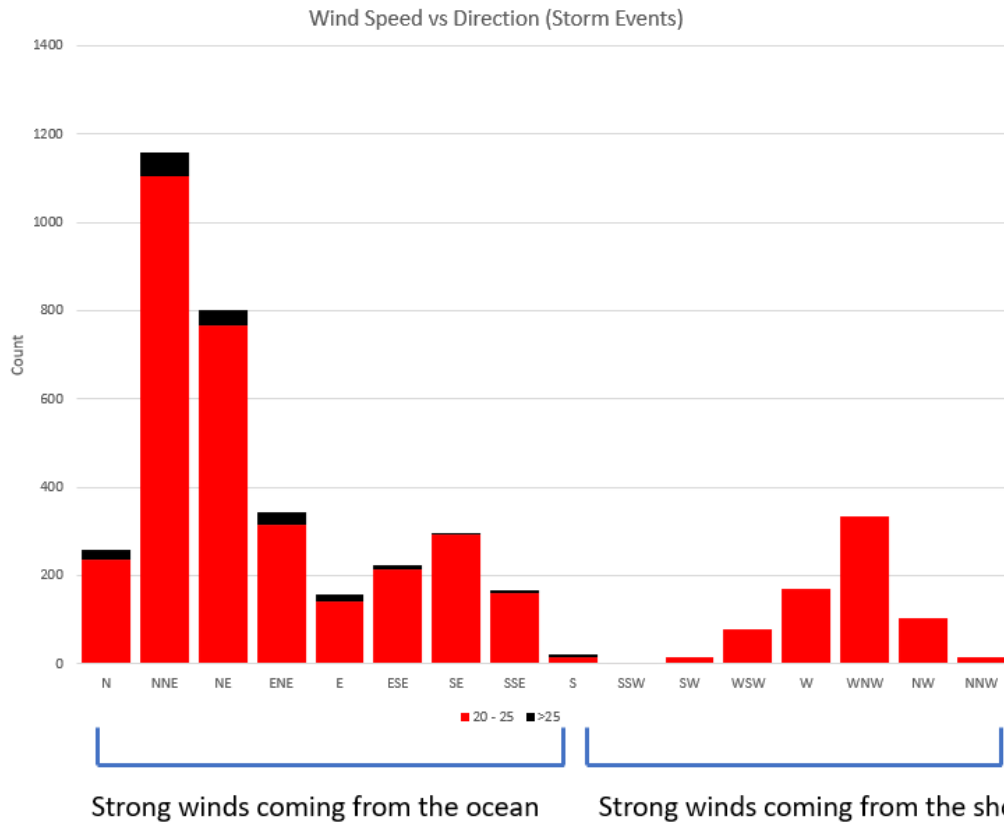
Regression on original transformed data
(semi-log transform)Regression on newly transformed data
(log-log transform)

Regression on untransformed data





SI Fig. 3 Comparison of models from surveyed literature and models on the transformed data. Y axis on scatter plots is erosion, x axis is wave power.



SI Fig. 4 Bar chart of number of high speed wind events, separated by direction wind is blowing from. Red indicates wind speeds between 20 and 25 m/s, and black indicates wind speeds of greater than 25 m/s. Strong winds most frequently come from the NNE.

Site	Retreat Rate (m/yr)	Uncertainty (m/yr)	Number of Transects Used	Length of Shoreline Surveyed (m)	Dates of Shoreline Surveys
EB1	0.28	0.39	54	69	08/25/2015, 03/18/2016, 11/20/2019
EB2	0.06	0.3	61	80	08/25/2015, 03/18/2016, 11/21/2019
EB3	0.24	0.08	44	66	08/25/2015, 03/18/2016, 11/20/2019
EB4	0.31	0.07	59	87	08/25/2015, 01/15/2016, 11/25/2019
EB5	0.97	0.39	29	65	08/25/2015, 01/15/2016, 10/08/2019, 10/08/2020
EB6	0.09	0.19	38	76	08/25/2015, 01/15/2016, 10/08/2019
PI1	0.44	0.13	61	76	08/26/2015, 03/31/2016, 05/10/2016, 07/27/2020
PI2	0.37	0.09	75	98	08/26/2015, 03/31/2016, 05/10/2016, 07/27/2020
PI3	1.52	0.42	46	62	08/26/2015, 04/28/2016, 07/23/2020
PI4	0.31	0.15	52	58	08/26/2015, 04/28/2016, 07/27/2020
PI5	0.49	0.07	62	67	08/26/2015, 05/10/2016, 07/23/2020
PI6	0.68	0.3	49	56	08/26/2015, 05/10/2016, 07/23/2020

SI Table 1. Summary of shoreline retreat surveys used.

Site	Wave Power (All Wind Directions; W/m)	Wave Power (NNE Wind Direction; W/m)	Flood Current Velocity (m/s)	Ebb Current Velocity (m/s)	Channel Curvature (1/Radius of Curvature; km)
EB1	0.036	0.050	0.27	0.41	0.00
EB2	0.035	0.043	0.4	0.34	0.00
EB3	0.026	0.024	0.24	0.22	0.00
EB4	0.040	0.081	0.68	0.34	0.94
EB5	0.038	0.078	0.72	0.46	1.26
EB6	0.028	0.038	0.68	0.4	-1.23
PI1	0.068	0.058	0.4	0.3	1.68
PI2	0.070	0.043	0.38	0.28	1.68
PI3	0.058	0.149	0.82	0.85	2.80
PI4	0.041	0.059	0.84	0.5	0.65
PI5	0.038	0.081	0.6	0.46	1.08
PI6	0.036	0.085	0.65	0.45	1.08

SI Table 2. Great Marsh, MA hydrodynamic and related data.