

**Figure S01:** Observed Stations used in Tidal Harmonic Analyses<sup>a</sup>

State	Station ID	Station Name Lon(°)	Station Lat(°)	Station Lon(°)	Node Lat(°)	Node (km)	Distance	
FL	8724698	Loggerhead Key	-82.920 000	24.631 667	-82.923 727	24.642 351	1.2	
	8726724	Clearwater Beach	-82.831 667	27.978 333	-82.832 801	27.968 863	1.1	
	8727333	Mangrove Point	-82.723 333	28.870 000	-82.728 394	28.878 597	1.1	
	8727520	Cedar Key	-83.031 667	29.135 000	-83.031 305	29.128 884	0.7	
	8729210	Panama City Beach	-85.878 333	30.213 333	-85.867 858	30.638 829	1.1	
MS-AL	8729678	Navarre Beach	-86.865 000	30.376 667	-86.866 377	30.377 058	0.1	
	8735180	Dauphin Island	-88.075 000	30.250 000	-88.070 908	30.247 918	0.5	
	8737048	Mobile State Docks	-88.043 333	30.708 333	-88.020 187	30.668 061	5	
	8737373	Lower Bryant Landing	-87.873 333	30.978 333	-87.947 404	30.638 763	38.3	
	8741041	Dock E, Port of Pascagoula	-88.505 000	30.346 700	-88.517 038	30.328 818	2.3	
	8741196	Pascagoula Point	-88.533 333	30.340 000	-88.529 506	30.338 398	0.4	
	8741533	Pascagoula NOAA Lab	-88.566 667	30.358 333	-88.563 685	30.336 794	2.4	
	8742221	Horn Island	-88.666 667	30.238 333	-88.669 152	30.247 194	1	
	8743281	Ocean Springs	-88.798 333	30.391 667	-88.813 037	30.391 786	1.4	
	8744117	Biloxi	-88.903 333	30.411 667	-88.875 694	30.418 478	2.8	
	8745557	Gulfport Harbor	-89.081 667	30.360 000	-89.081 691	30.362 392	0.3	
	8747437	Bay Waveland Yacht Club	-89.325 000	30.325 000	-89.323 865	30.325 726	0.1	
	8747766	Waveland	-89.366 667	30.281 667	-89.366 336	30.282 192	0.1	
	LA	8760551	South Pass	-89.140 000	28.990 000	-89.134 178	28.990 503	0.6
		8760922	Pilots Station East, SW Pass	-89.406 667	28.931 667	-89.403 984	28.929 652	0.3
8760943		SW Pass	-89.418 333	28.925 000	-89.416 527	28.923 063	0.3	
8761305		Shell Beach	-89.671 700	29.866 700	-89.677 401	29.870 550	0.7	
8761720		Grand Isle	-89.968 333	29.255 000	-89.962 229	29.270 007	1.8	
8761724		Grand Isle	-89.956 667	29.263 333	-89.950 300	29.265 301	0.7	
8761927		New Canal Station	-90.113 333	30.026 667	-90.111 447	30.026 219	0.2	
8762075		Port Fourchon	-90.200 000	29.115 000	-90.250 387	29.116 407	4.9	
8762372		East Bank 1, Norco, B. LaBranche	-90.368 333	30.050 000	-90.368 196	30.055 989	0.7	
8764025		Stouts Pass at Six Mile Lake	-91.230 000	29.743 333	-91.230 429	29.744 025	0.1	
8764044		Berwick	-91.236 667	29.666 667	-91.235 495	29.667 303	0.1	
8764227		LAWMA, Amerada Pass	-91.338 333	29.448 333	-91.330 413	29.440 960	1.1	
8764311		Eugene Islan	-91.385 000	29.371 667	-91.384 032	29.368 866	0.3	
8765251		Cypremort Point	-91.880 000	29.713 333	-91.882 830	29.714 797	0.3	
8766072		Freshwater Canal Locks	-92.305 000	29.555 000	-92.304 526	29.553 952	0.1	
TX	8767816	Lake Charles	-93.221 700	30.223 300	-93.310 980	30.064 106	19.6	
	8767961	Bulk Terminal	-93.300 000	30.190 000	-93.310 980	30.064 106	14	
	8768094	Calcasieu Pass	-93.343 333	29.765 000	-93.343 115	29.765 384	0	
	8770475	Port Arthur	-93.930 000	29.866 700	-93.912 195	29.862 374	1.8	
	8770520	Rainbow Bridge	-93.881 700	29.980 000	-93.838 992	29.977 869	4.1	
	8770559	Round Point	-94.690 000	29.713 300	-94.696 072	29.711 306	0.6	
	8770570	Sabine Pass North	-93.870 100	29.728 400	-93.870 260	29.725 455	0.3	
	8770613	Morgans Point	-94.985 000	29.681 700	-94.986 486	29.681 034	0.2	
	8770743	Battleship Texas State Park	-95.090 000	29.756 700	-94.988 871	29.692 287	12.1	
	8770777	Manchester	-95.265 800	29.726 300	-94.988 871	29.692 287	27.1	
	8770933	Clear Lake	-95.066 700	29.563 300	-95.005 514	29.550 906	6.1	
	8770971	Rollover Pass	-94.513 300	29.515 000	-94.501 495	29.503 686	1.7	
	8771013	Eagle Point	-94.918 300	29.480 000	-94.910 522	29.476 711	0.8	
	8771450	Galveston Pier 21	-94.793 300	29.310 000	-94.785 338	29.316 765	1.1	
	8771510	Galveston Pleasure Pier	-94.788 333	29.285 000	-94.786 484	29.280 66	0.5	
8772447	USCG Freeport	-95.302 500	28.943 300	-95.290 878	28.930 859	1.8		
8773037	Seadrift	-96.711 700	28.408 300	-96.725 681	28.391 884	2.3		
8773701	Port O'Connor	-96.388 300	28.451 700	-96.392 811	28.450 860	0.5		
8774513	Copano Bay	-97.021 700	28.118 300	-97.020 924	28.121 058	0.3		
8774770	Rockport	-97.046 700	28.021 700	-97.044 354	28.025 128	0.4		
8775188	White Point	-97.475 000	27.858 300	-97.472 443	27.855 618	0.4		
8775237	Port Aransas	-97.073 300	27.838 300	-97.071 231	27.836 975	0.3		
8775283	Port Ingleside, Corpus Christi Bay	-97.203 300	27.821 700	-97.207 117	27.818 053	0.6		
8775296	Texas State Aquarium	-97.390 000	27.811 700	-97.387 699	27.811 298	0.2		
8775792	Packery Channel	-97.236 700	27.633 300	-97.232 997	27.691 702	6.5		
8775870	Corpus Christi	-97.216 667	27.580 000	-97.213 497	27.579 113	0.3		

<sup>a</sup> Also listed are the latitudes and longitudes for the observation stations as well as the latitudes and longitudes for the nodes used from the model simulation and the distance in kilometers between the observed and modeled stations.