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Monitoring Storm Tide and Flooding From Hurricane Irma Along the U.S. Virgin Islands, Puerto Rico, and the Southeastern United States, September 2017







Open-File Report 2019–1013

U.S. Department of the Interior
U.S. Geological Survey

Cover. Left: Storm damage in Big Pine Key, Florida. Photograph by Rick Solis, U.S. Geological Survey (USGS). Middle: USGS hydrologic technician Meagan Montgomery inspecting a hurricane-damaged streamgage in Chokoloskee, Florida. Photograph by Robert Clendening, USGS. Right: USGS hydrologic technician David Byers measuring a high-water mark in Big Pine Key, Florida. Photograph by Don Hampton, USGS.

Monitoring Storm Tide and Flooding From Hurricane Irma Along the U.S. Virgin Islands, Puerto Rico, and the Southeastern United States, September 2017

By Michael J. Byrne, Sr., and Mark R. Dickman

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DAVID L. BERNHARDT, Acting Secretary

U.S. Geological Survey
James F. Reilly II, Director

U.S. Geological Survey, Reston, Virginia: 2019

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This mission would not be possible without the dedication of the U.S. Geological Survey field crew and office personnel as well as the generosity of the private citizens who granted access to their property to survey the hurricane damage.

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Conversion Factors

U.S. customary units to International System of Units

Multiply	By	To obtain
	Length	
foot (ft)	0.3048	meter (m)
	Velocity	
mile per hour (mi/h)	1.609	kilometer per hour (km/h)

Datum

Vertical coordinate information is referenced to the North American Vertical Datum of 1988 (NAVD 88) or Puerto Rico Vertical Datum of 2002 (PRVD02) unless otherwise noted.

Horizontal coordinate information is referenced to the North American Datum of 1983 (NAD 83).

Elevation, as used in this report, refers to distance above the vertical datum.

Abbreviations

ASCII	American Standard Code for Information Interchange
GNSS	Global Navigation Satellite System
HWM	high-water mark
NetCDF	Network Common Data Form
RDG	rapid deployment gage
USGS	U.S. Geological Survey

Monitoring Storm Tide and Flooding From Hurricane Irma Along the U.S. Virgin Islands, Puerto Rico, and the Southeastern United States, September 2017

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Abstract

Hurricane Irma skirted the northern coasts of the U.S. Virgin Islands and Puerto Rico, with maximum sustained winds of 185 miles per hour (mi/h) on September 6, 2017. The hurricane first made landfall in Florida near Cudjoe Key, in the lower Florida Keys, with maximum sustained winds of 130 mi/h on September 10, 2017. The hurricane made a second Florida landfall on Marco Island, Florida, with maximum sustained winds of 115 mi/h on September 19, 2017. The U.S. Geological Survey (USGS), in cooperation with Federal Emergency Management Agency, deployed a temporary monitoring network of storm-surge and barometric pressure sensors at 249 locations along the Puerto Rico, Florida, Georgia, and South Carolina coasts to record the timing, areal extent, and magnitude of hurricane storm tide and coastal flooding generated by the hurricane. Immediately following the passage of Hurricane Irma, the sensors were retrieved, and the data were disseminated on the USGS Flood Event Viewer (https://stn.wim.usgs.gov/FEV/#IrmaSeptember2017). The storm-tide peak data values were verified by comparing data from hydrologic recorders and nearby high-water marks (HWMs). Following the hurricane, 508 independent HWM locations were flagged and surveyed relative to the North American Vertical Datum of 1988, National Geodetic Vertical Datum of 1929, or a local datum along the southeastern U.S. coast, and to Puerto Rico Vertical Datum of 2002 in Puerto Rico. Most HWMs were in Florida because of the path of the hurricane. The data from the Hurricane Irma storm-tide network are available on a provisional basis in tab-delimited, American Standard Code for Information Interchange (ASCII) format and Network Common Data Form (NetCDF) format by site for each sensor by using the USGS Flood Event Viewer.

Introduction

Hurricane Irma skirted the northern coast of the U.S. Virgin Islands and Puerto Rico as a Category 5 hurricane on the Saffir-Simpson scale (National Weather Service, 1972), with maximum sustained winds of 185 miles per hour (mi/h) on September 6, 2017 (fig. 1). The hurricane first made landfall near Cudjoe Key, in the lower Florida Keys, as a Category 4 hurricane with maximum sustained winds of 130 mi/h on September 10, 2017 (National Hurricane Center, 2017). The hurricane made a second landfall on Marco Island, Florida, as a Category 3 hurricane with maximum sustained winds of 115 mi/h on September 10, 2017 (National Hurricane Center, 2017). The hurricane left 23 percent of Puerto Rico (370,000 customers) and 59 percent of Florida (6.1 million customers) without power (U.S. Department of Energy, 2017).

The U.S. Geological Survey (USGS), in cooperation with the Federal Emergency Management Agency, deployed a temporary monitoring network of storm-surge and barometric pressure sensors at 249 locations along the Puerto Rico, Florida, Georgia, and South Carolina coasts to record the timing, areal extent, and magnitude of hurricane storm tide and coastal flooding generated by Hurricane Irma (fig. 2). Storm tide, as defined by the National Oceanic and Atmospheric Administration (2013), is the water-level rise generated by a combination of storm surge and the astronomical tide during a coastal storm. Storm surge is defined as the water-level rise, caused by a storm, over and above the predicted astronomical tide.

The deployment of storm-surge and barometric pressure sensors and subsequent high-water mark (HWM) collection were completed as part of a coordinated Federal emergency response as outlined by the Robert T. Stafford Disaster Relief and Emergency Assistance Act (42 USC §5121 et seq.) under a directed mission assignment by the Federal Emergency Management Agency. In addition to the pressure sensors, a total of 508 HWMs were recovered and surveyed following the techniques described in Koenig and others (2016).

During the hurricane, real-time water-level data collected at temporary rapid deployment gages (RDGs, https://water.usgs.gov/hif/programs/projects/rapid_deployment_gage_III/), long-term USGS streamgaging stations (https://waterdata.usgs.gov/nwis) with instrumentation used to measure water level and corresponding streamflow, and tide-gage stations were relayed hourly or more frequently, through satellite telemetry, for display on the Flood Event

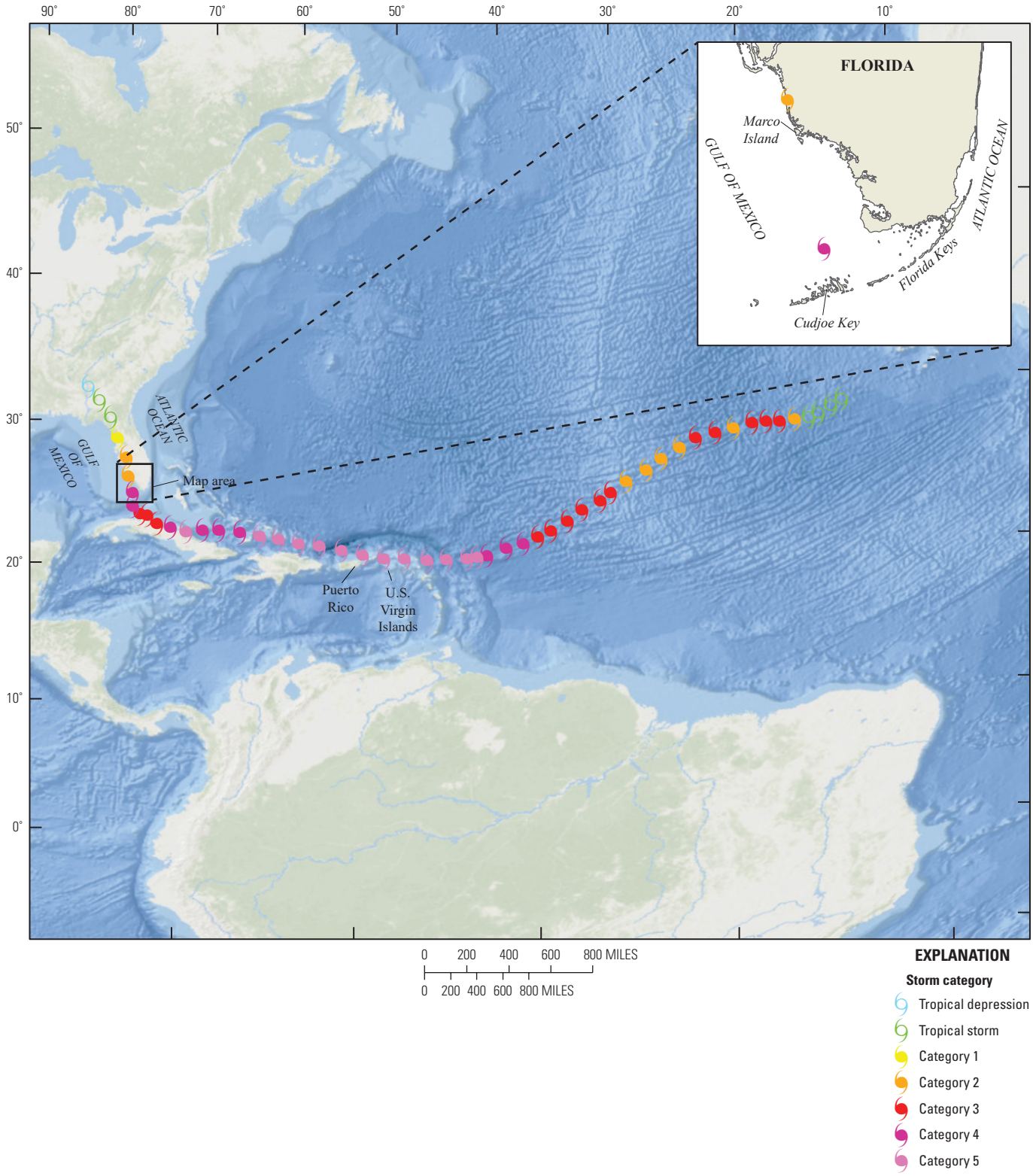


Figure 1. Hurricane Irma path and intensity, September 2017. Map image is the intellectual property of Esri and is used herein under license. Copyright © 2017 Esri and its licensors. All rights reserved.

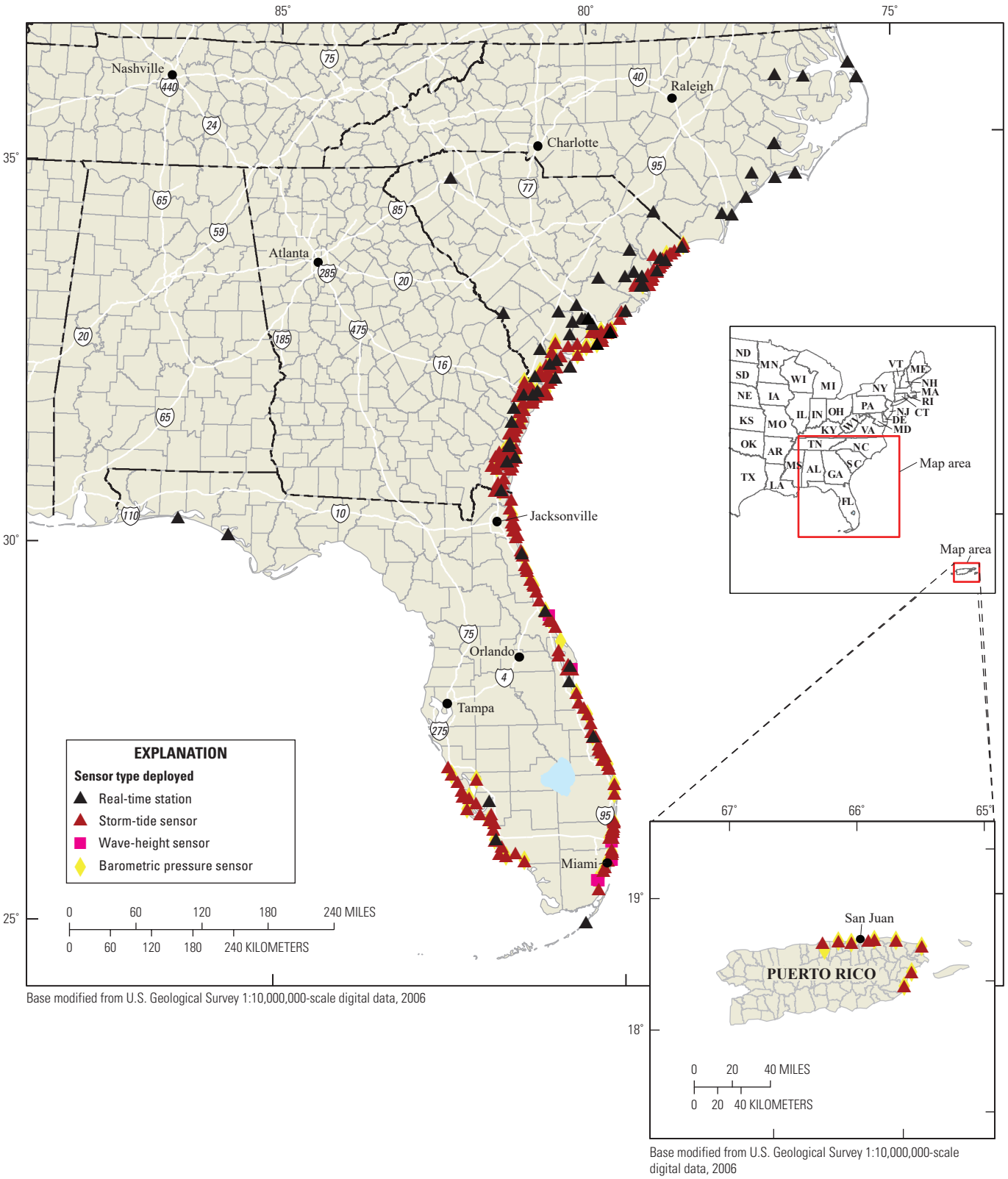


Figure 2. Location of storm-tide sensors for monitoring time, areal extent, and magnitude of storm tide and coastal flooding generated by Hurricane Irma, September 2017.

Viewer (https://stn.wim.usgs.gov/FEV/#IrmaSeptember2017). These real-time data provided emergency managers and responders with critical information for identifying flood-affected areas and accurately directing assistance to affected communities. Data collected during and following this hurricane and others (Frantz and others, 2017) can be used to calibrate and evaluate the performance of storm-tide models used to predict the maximum and incremental water level and flood extent and the site-specific effects of storm tide on natural and anthropogenic features of the environment.

Hurricane Irma Storm-Tide Monitoring

Storm-surge sensors were placed at sites selected to augment existing streamgage and tidal-gage networks to ensure adequate monitoring in areas forecast to have had substantive storm tide. A total of 215 storm tide sensors, 12 wave-height sensors, 22 RDGs, and 73 barometric pressure sensors were deployed at 249 locations during September 4–10 before hurricane landfall (fig. 2; table 1). Six storm-tide sensors were lost, and 38 sensors did not record storm tide because of a lack of water level or equipment malfunction. A typical sensor installation is shown in figure 3.

The sensors recorded water-level elevations in feet above the North American Vertical Datum of 1988 (NAVD 88) or the Puerto Rico Vertical Datum of 2002 (PRVD02). Storm-surge sensors recorded data at 30-second intervals and wave-height sensors recorded data at 1-second or 0.25-second intervals. The barometric pressure transducers recorded barometric pressure, in pounds per square inch, at 30-second intervals. Water-level elevation and barometric pressure were recorded by the sensors during the hurricane, and an example of the data is shown in figure 4. The RDG water levels are mean values collected using a radar sensor sampling at 5-second or shorter intervals (Park and others, 2014) and averaged over 6 or 15 minutes. A typical RDG installation is shown in figure 5.

Immediately following Hurricane Irma, the sensors were retrieved, and the data were disseminated on the USGS Flood Event Viewer. Data were collected and processed following protocols established by McGee and others (2006) and McCallum and others (2012), which included correcting water-level readings for barometric pressure and salinity. The filtered storm-tide peak, as shown in figure 4 was determined using the method described by Frantz and others (2017). The storm-tide peak data values were verified by comparing adjacent hydrologic recorders and HWMs. Following the hurricane, 508 independent HWM locations were flagged and surveyed relative to NAVD 88, National Geodetic Vertical Datum of 1929 (NGVD 29), or a local datum along the Atlantic and Gulf coasts, and PRVD02 in Puerto Rico (fig. 6). Most HWMs were in Florida because of the path of the hurricane.

Table 1. Number of sites equipped to monitor Hurricane Irma storm tide, by State and U.S. territory.

State or U.S. territory	Type and number of sensors deployed			
	Storm tide	Wave height	Real-time rapid deployment gages	Barometric pressure
Florida	83	12	5	31
Georgia	57	0	8	18
South Carolina	66	0	9	16
Puerto Rico	9	0	0	8
Total	**215**	**12**	**22**	**73**

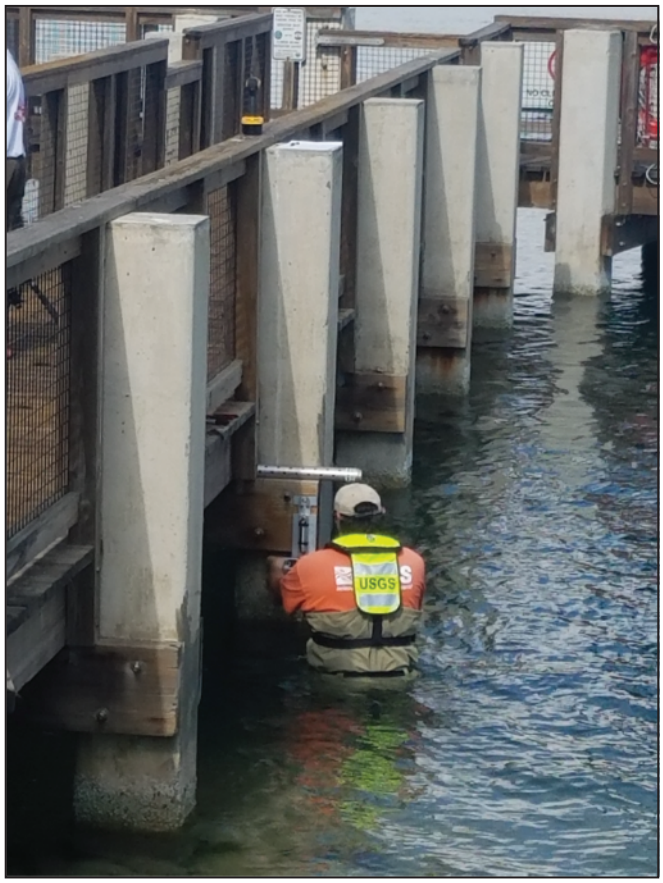


Figure 3. U.S. Geological Survey (USGS) hydrologic technician Scott Greenwood installing a storm sensor in Sebastian Florida. Photograph by Kagho Asongu, Cherokee Nation and Technology, under contract to the USGS.

Elevation Surveys

National Geodetic Survey benchmarks throughout the study area were surveyed for vertical control. This control was established on permanent objects near the storm-surge sensors to relate the recorded water-surface elevation to the NAVD 88 or PRVD02 datum. Graduated steel tapes were used to relate the elevations of the reference points to those of the storm-surge sensors. Survey-grade Global Navigation Satellite System (GNSS) equipment (fig. 7) was used to determine the

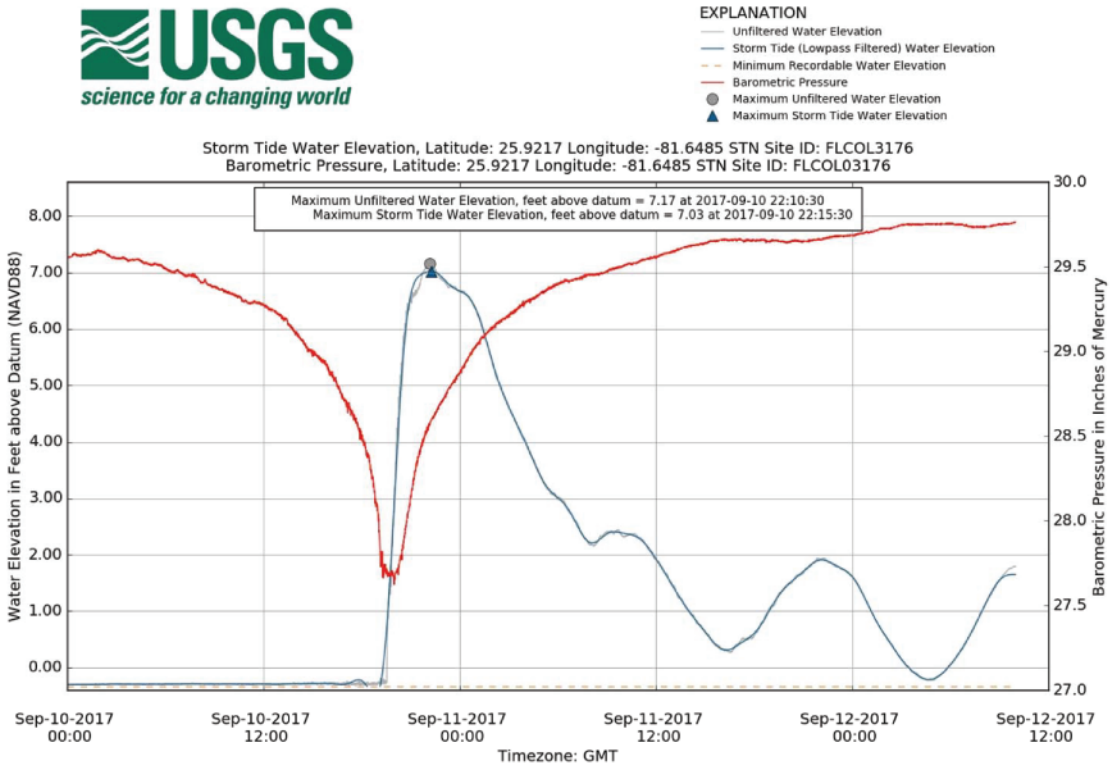


Figure 4. Hydrograph from Flood Event Viewer (https://stn.wim.usgs.gov/FEV/#IrmaSeptember2017) displaying storm-tide elevation and barometric pressure data recorded during Hurricane Irma at Goodland, Florida, September 2017.



Figure 5. U.S. Geological Survey (USGS) rapid-deployment gage collecting real-time water-level and barometric pressure data on Highway U.S. 1 in Islamorada, Florida, September 2017. Photograph by Sean Raabe, USGS.



Figure 6. U.S. Geological Survey (USGS) hydrologic technician David Byers measuring high- water mark in Islamorada, Florida. Photograph by Don Hampton, USGS.



Figure 7. Global Positioning System to survey storm-tide elevation for Hurricane Irma in Chokoloskee, Florida, September 2017. Photograph by Ryan Hollins, U.S. Geological Survey.

elevation above NAVD 88 or PRVD02 of the reference points and HWMs, in accordance with USGS technical guidance (Rydlund and Densmore, 2012). All GNSS elevations in this report were derived using the GEOID12B model (National Geodetic Survey, 2017).

Data Presentation

The data from the Hurricane Irma storm-tide network are available on a provisional basis in tab-delimited, American Standard Code for Information Interchange (ASCII) format and Network Common Data Form (NetCDF) format by site for each sensor by using the USGS Flood Event Viewer. Digital photographs for selected locations are also available on the viewer. Data available for each sensor include location, date, time, water level, and barometric pressure. Data available for HWMs include location, description and quality of the mark, and elevation.

The peak storm tide was recorded at a total of 205 storm-tide sensors (table 2, at the back of the report). Sites are categorized as storm tide or wave height depending on the data-collection interval and proximity to the ocean. For GNSS established elevations, the survey uncertainty of the recorded peak storm-tide is reported (table 2). The survey uncertainty was calculated using the methods described in Rydlund and Densmore (2012). The recorded peak storm-tide at the long-term USGS monitoring stations along the coasts of Puerto Rico, Florida, Georgia, and South Carolina is provided in table 3. In addition to the storm-tide data collected by the USGS, peak storm-tide elevations also were compiled for real-time monitoring stations operated by State and other Federal agencies (table 4). The North Carolina Division of Emergency Management provided data for three of their monitoring stations (David Herlong, North Carolina Division of Emergency Management, written commun., February 2017). Peak storm-tide data also were compiled for National Oceanic and Atmospheric Administration tide gages (https://tidesandcurrents.noaa.gov/stations.html?type=Water+Levels), which have instrumentation to measure coastal water level located in each State (National Oceanic and Atmospheric Administration, 2017) (table 4). All HWM data collected by the USGS immediately after Hurricane Irma are listed in table 5.

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Tables 2–5

Table 2. Hurricane Irma peak storm-tide and wave-height data for 249 temporarily deployed sites, by State and U.S. territory.

[Dates shown as month, day, year, referenced to Coordinated Universal Time (UTC). ft, foot; NAVD 88, North American Vertical Datum of 1988; RDG, rapid deployment gage; State or U.S. territory: Fla., Florida; Ga., Georgia; N.C., North Carolina; P.R. Puerto Rico; S.C., South Carolina. ±, plus or minus; na, not available]

Site identification	State or U.S. territory	County	Latitude (Decimal degrees)	Longitude (Decimal degrees)	Sensor deployment type	Type of data collected	Peak storm-tide elevation (ft above NAVD 88)	Peak storm tide elevation date	Surveyed sensor elevation uncertainty (± ft)
FLBAY03331	Fla.	Bay	30.188	-85.742	Real-time RDG	Storm tide	None	No surge recorded	0.16
FLBRE03152	Fla.	Brevard	28.358	-80.679	Water level	Storm tide	4.87	09/11/2017	0.20
FLBRE03159	Fla.	Brevard	28.048	-80.548	Water level	None	None	No surge recorded	0.20
FLBRE03160	Fla.	Brevard	27.922	-80.519	Water level	Storm tide	1.33	09/11/2017	0.20
FLBRE03161	Fla.	Brevard	28.553	-80.795	Water level	Storm tide	1.67	09/11/2017	0.01
FLBRE03165	Fla.	Brevard	28.624	-80.796	Water level	None	None	Lost equipment	0.14
FLBRE03167	Fla.	Brevard	28.368	-80.602	Water level	None	None	No surge recorded	0.01
FLBRE03169	Fla.	Brevard	28.436	-80.660	Water level	None	None	No surge recorded	0.14
FLBRE21108	Fla.	Brevard	28.359	-80.604	Wave height	None	None	No surge recorded	0.08
FLBRE21110	Fla.	Brevard	28.359	-80.604	Wave height	None	None	No surge recorded	0.08
FLBRE21111	Fla.	Brevard	28.359	-80.604	Wave height	None	None	No surge recorded	0.08
FLBRO03495	Fla.	Broward	26.058	-80.111	Wave height	None	None	No surge recorded	0.15
FLBRO03496	Fla.	Broward	26.059	-80.128	Water level	Storm tide	2.54	09/10/2017	0.00
FLBRO03521	Fla.	Broward	26.317	-80.075	Water level	None	None	Lost equipment	na
FLBRO03524	Fla.	Broward	26.261	-80.084	Water level	None	None	Lost equipment	0.15
FLBRO03525	Fla.	Broward	26.222	-80.104	Water level	Storm tide	3.41	09/10/2017	0.01
FLBRO03527	Fla.	Broward	26.189	-80.094	Water level	Storm tide	4.04	09/10/2017	0.15
FLBRO03530	Fla.	Broward	26.114	-80.106	Water level	None	None	No surge recorded	0.13
FLBRO20853	Fla.	Broward	26.235	-80.088	Water level	Storm tide	3.72	09/10/2017	0.15
FLBRO20894	Fla.	Broward	26.191	-80.107	Water level	Storm tide	3.28	09/10/2017	0.15
FLBRO21002	Fla.	Broward	26.118	-80.149	Water level	Storm tide	3.05	09/10/2017	0.15
FLCHA03378	Fla.	Charlotte	26.940	-82.052	Water level	Storm tide	4.12	09/11/2017	0.34
FLCHA03566	Fla.	Charlotte	26.805	-82.274	Water level	Storm tide	2.18	09/11/2017	0.07
FLCHA03571	Fla.	Charlotte	26.921	-82.331	Water level	None	None	No surge recorded	0.00
FLCOL03089	Fla.	Collier	25.957	-81.512	Water level	Storm tide	4.87	09/11/2017	0.02
FLCOL03148	Fla.	Collier	26.046	-81.708	Water level	Storm tide	4.14	09/11/2017	0.02
FLCOL03171	Fla.	Collier	25.948	-81.743	Water level	Storm tide	5.37	09/10/2017	0.02
FLCOL03176	Fla.	Collier	25.922	-81.648	Water level	Storm tide	7.17	09/10/2017	0.02
FLCOL03237	Fla.	Collier	25.845	-81.387	Water level	Storm tide	8.92	09/10/2017	0.02
FLCOL03294	Fla.	Collier	26.278	-81.825	Water level	Storm tide	3.91	09/11/2017	0.01
FLCOL03296	Fla.	Collier	26.132	-81.806	Water level	Storm tide	6.25	09/10/2017	0.07
FLCOL03297	Fla.	Collier	26.142	-81.790	Real-time RDG	Storm tide	4.13	09/10/2017	0.01
FLDUV03108	Fla.	Duval	30.511	-81.461	Water level	Storm tide	6.76	09/11/2017	0.01
FLDUV03110	Fla.	Duval	30.421	-81.421	Water level	Storm tide	6.86	09/11/2017	0.13
FLDUV03114	Fla.	Duval	30.288	-81.421	Water level	Storm tide	5.16	09/11/2017	0.10
FLDUV17794	Fla.	Duval	30.324	-81.435	Water level	Storm tide	5.39	09/11/2017	0.00
FLDUV21045	Fla.	Duval	30.294	-81.388	Water level	Storm tide	9.9	09/11/2017	0.01
FLFLA03131	Fla.	Flagler	29.559	-81.176	Water level	Storm tide	4.98	09/11/2017	0.09
FLFLA03133	Fla.	Flagler	29.507	-81.140	Water level	Storm tide	None	Lost equipment	0.05
FLFLA03134	Fla.	Flagler	29.480	-81.126	Water level	Storm tide	None	No surge recorded	0.05

Table 2. Hurricane Irma peak storm-tide and wave-height data for 249 temporarily deployed sites, by State and U.S. territory.—Continued

[Dates shown as month, day, year, referenced to Coordinated Universal Time (UTC). ft, foot; NAVD 88, North American Vertical Datum of 1988; RDG, rapid deployment gage; State or U.S. territory: Fla., Florida; Ga., Georgia; N.C., North Carolina; P.R. Puerto Rico; S.C., South Carolina. ±, plus or minus; na, not available]

Site identification	State or U.S. territory	County	Latitude (Decimal degrees)	Longitude (Decimal degrees)	Sensor deployment type	Type of data collected	Peak storm-tide elevation (ft above NAVD 88)	Peak storm tide elevation date	Surveyed sensor elevation uncertainty (± ft)
FLIND03149	Fla.	Indian River	27.855	-80.452	Water level	Storm tide	1.56	09/11/2017	0.20
FLIND03750	Fla.	Indian River	27.650	-80.354	Water level	None	None	No surge recorded	0.14
FLIND03751	Fla.	Indian River	27.763	-80.397	Water level	Storm tide	11.48	09/10/2017	0.03
FLLEE03246	Fla.	Lee	26.484	-82.011	Water level	Storm tide	2.75	09/11/2017	0.13
FLLEE03287	Fla.	Lee	26.479	-81.852	Water level	Storm tide	3.98	09/11/2017	0.12
FLLEE03288	Fla.	Lee	26.404	-81.878	Water level	Storm tide	4.35	09/11/2017	0.01
FLLEE03292	Fla.	Lee	26.365	-81.808	Water level	Storm tide	4.66	09/11/2017	0.03
FLLEE03365	Fla.	Lee	26.550	-82.196	Water level	Storm tide	2.2	09/11/2017	0.01
FLLEE03376	Fla.	Lee	26.718	-82.259	Water level	Storm tide	2.59	09/11/2017	0.01
FLLEE03380	Fla.	Lee	26.706	-82.164	Water level	Storm tide	1.98	09/11/2017	0.00
FLLEE03381	Fla.	Lee	26.631	-82.069	Water level	Storm tide	2.47	09/11/2017	0.13
FLLEE20980	Fla.	Lee	26.655	-81.872	Real-time RDG	Storm tide	3.43	09/11/2017	0.00
FLMAR00009	Fla.	Martin	27.253	-80.222	Water level	Storm tide	2.26	09/10/2017	0.01
FLMAR03735	Fla.	Martin	27.200	-80.166	Water level	Storm tide	1.5	09/10/2017	0.08
FLMAR03739	Fla.	Martin	27.089	-80.127	Water level	None	None	No surge recorded	0.17
FLMAR03740	Fla.	Martin	27.038	-80.111	Water level	Storm tide	0.75	09/10/2017	0.17
FLMAR03742	Fla.	Martin	27.154	-80.201	Water level	Storm tide	2.07	09/10/2017	0.08
FLMAR17784	Fla.	Martin	27.245	-80.192	Water level	None	None	No surge recorded	0.08
FLMIA03213	Fla.	Miami-Dade	25.813	-80.186	Water level	Storm tide	3.35	09/10/2017	0.19
FLMIA03335	Fla.	Miami-Dade	25.726	-80.235	Water level	Storm tide	5.75	09/10/2017	0.00
FLMIA03476	Fla.	Miami-Dade	25.901	-80.124	Water level	Storm tide	3.32	09/10/2017	0.00
FLMIA03483	Fla.	Miami-Dade	25.960	-80.122	Water level	Storm tide	3.33	09/10/2017	0.00
FLMIA03786	Fla.	Miami-Dade	25.539	-80.327	Wave height	Wave height	5.61	09/10/2017	0.23
FLMIA03794	Fla.	Miami-Dade	25.438	-80.327	Water level	Storm tide	4.07	09/10/2017	0.16
FLMIA21052	Fla.	Miami-Dade	25.552	-80.351	Wave height	Wave height	4.84	09/10/2017	0.23
FLMIA21056	Fla.	Miami-Dade	25.930	-80.120	Water level	None	None	Lost equipment	na
FLMIA21077	Fla.	Miami-Dade	25.681	-80.257	Water level	Storm tide	5.36	09/10/2017	0.01
FLMIA21078	Fla.	Miami-Dade	25.810	-80.121	Wave height	None	None	No surge recorded	0.19
FLMON20862	Fla.	Monroe	25.002	-80.530	Real-time RDG	Storm tide	6.1	09/10/2017	0.00
FLNAS21014	Fla.	Nassau	30.621	-81.439	Water level	Storm tide	9.39	09/11/2017	0.21
FLPAL03553	Fla.	Palm Beach	26.341	-80.073	Water level	Storm tide	3.03	09/10/2017	0.01
FLPAL03554	Fla.	Palm Beach	26.350	-80.076	Water level	Storm tide	3.05	09/10/2017	0.10
FLPAL03587	Fla.	Palm Beach	26.825	-80.043	Water level	Storm tide	2.21	09/10/2017	0.17
FLPAL17786	Fla.	Palm Beach	26.692	-80.049	Water level	Storm tide	2.32	09/10/2017	0.29
FLSAR03505	Fla.	Sarasota	27.010	-82.412	Water level	None	None	No surge recorded	0.01
FLSAR03562	Fla.	Sarasota	27.114	-82.466	Water level	Storm tide	3.46	09/11/2017	0.17
FLSTJ03115	Fla.	St. Johns	30.211	-81.410	Water level	Storm tide	5.51	09/11/2017	0.10
FLSTJ03117	Fla.	St. Johns	30.133	-81.385	Water level	Storm tide	6.02	09/11/2017	0.00
FLSTJ03118	Fla.	St. Johns	29.949	-81.310	Water level	Storm tide	6.41	09/11/2017	0.29
FLSTJ03125	Fla.	St. Johns	29.762	-81.254	Water level	Storm tide	6.74	09/11/2017	0.09
FLSTJ03126	Fla.	St. Johns	29.718	-81.231	Water level	Storm tide	9.54	09/21/2017	0.01

Table 2. Hurricane Irma peak storm-tide and wave-height data for 249 temporarily deployed sites, by State and U.S. territory.—Continued

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Site identification	State or U.S. territory	County	Latitude (Decimal degrees)	Longitude (Decimal degrees)	Sensor deployment type	Type of data collected	Peak storm-tide elevation (ft above NAVD 88)	Peak storm tide elevation date	Surveyed sensor elevation uncertainty (± ft)
FLSTJ03129	Fla.	St. Johns	29.680	-81.221	Water level	Storm tide	6.27	09/11/2017	0.22
FLSTJ17848	Fla.	St. Johns	29.886	-81.286	Water level	Storm tide	6.75	09/11/2017	0.29
FLSTJ21054	Fla.	St. Johns	30.161	-81.356	Water level	None	None	Lost equipment	na
FLSTL03727	Fla.	St. Lucie	27.471	-80.290	Water level	Storm tide	2.79	09/11/2017	0.00
FLSTL03729	Fla.	St. Lucie	27.363	-80.249	Water level	Storm tide	2.08	09/10/2017	0.00
FLSTL03731	Fla.	St. Lucie	27.527	-80.348	Water level	Storm tide	2.61	09/11/2017	0.16
FLSTL03732	Fla.	St. Lucie	27.467	-80.330	Water level	Storm tide	2.68	09/11/2017	0.00
FLSTL17773	Fla.	St. Lucie	27.293	-80.251	Water level	Storm tide	2.06	09/10/2017	0.01
FLSTL21031	Fla.	St. Lucie	27.472	-80.325	Real-time RDG	Storm tide	2.52	09/11/2017	0.00
FLVOL03136	Fla.	Volusia	29.411	-81.095	Water level	Storm tide	10.94	09/11/2017	0.00
FLVOL03138	Fla.	Volusia	29.287	-81.055	Water level	Storm tide	4.52	09/11/2017	0.01
FLVOL03141	Fla.	Volusia	29.147	-80.965	Water level	None	None	No surge recorded	0.01
FLVOL03145	Fla.	Volusia	29.031	-80.916	Water level	Storm tide	1.28	09/11/2017	0.01
FLVOL03146	Fla.	Volusia	29.009	-80.878	Water level	Storm tide	8.49	09/11/2017	0.15
FLVOL21027	Fla.	Volusia	29.079	-80.919	Wave height	Wave height	9.75	09/11/2017	0.08
FLVOL21104	Fla.	Volusia	29.079	-80.919	Wave height	Wave height	9.1	09/11/2017	0.08
FLVOL21105	Fla.	Volusia	29.079	-80.920	Wave height	None	None	No surge recorded	0.08
FLVOL21107	Fla.	Volusia	29.079	-80.920	Wave height	None	None	No surge recorded	0.08
FLVOL21109	Fla.	Volusia	29.079	-80.919	Wave height	Wave height	9.71	09/11/2017	0.08
GABRY17883	Ga.	Bryan	31.791	-81.202	Water level	Storm tide	8.93	09/11/2017	0.02
GABRY17888	Ga.	Bryan	31.979	-81.288	Water level	Storm tide	6.12	09/11/2017	0.02
GABRY21250	Ga.	Bryan	31.886	-81.212	Water level	Storm tide	8.2	09/11/2017	0.02
GACAM17835	Ga.	Camden	31.122	-81.483	Real-time RDG	None	None	No surge recorded	na
GACAM17822	Ga.	Camden	31.114	-81.614	Water level	Storm tide	7.8	09/11/2017	0.18
GACAM17823	Ga.	Camden	30.720	-81.549	Water level	Storm tide	6.72	09/11/2017	0.02
GACAM17830	Ga.	Camden	30.742	-81.688	Water level	Storm tide	5.97	09/11/2017	0.07
GACAM17833	Ga.	Camden	30.849	-81.635	Water level	Storm tide	7.45	09/11/2017	0.02
GACAM17840	Ga.	Camden	30.845	-81.560	Water level	Storm tide	6.86	09/11/2017	0.02
GACAM17842	Ga.	Camden	30.771	-81.581	Water level	Storm tide	8.18	09/11/2017	0.06
GACAM17853	Ga.	Camden	31.035	-81.640	Water level	Storm tide	7.29	09/11/2017	0.02
GACAM21130	Ga.	Camden	30.745	-81.600	Water level	Storm tide	7.11	09/11/2017	0.02
GACAM21305	Ga.	Camden	31.077	-81.727	Water level	Storm tide	7.39	09/11/2017	0.07
GACHA21079	Ga.	Chatham	31.993	-81.056	Real-time RDG	Storm tide	8.64	09/11/2017	0.04
GACHA21092	Ga.	Chatham	32.035	-80.987	Real-time RDG	Storm tide	8.41	09/11/2017	0.02
GACHA21288	Ga.	Chatham	32.002	-81.200	Real-time RDG	Storm tide	7.68	09/11/2017	0.01
GACHA17815	Ga.	Chatham	31.992	-80.847	Water level	Storm tide	8.77	09/11/2017	0.15
GACHA17816	Ga.	Chatham	32.006	-80.842	Water level	Storm tide	10.83	09/11/2017	0.02
GACHA17817	Ga.	Chatham	32.008	-80.849	Water level	Storm tide	7.98	09/11/2017	0.02
GACHA17818	Ga.	Chatham	32.008	-80.852	Water level	Storm tide	8.02	09/11/2017	0.15
GACHA17820	Ga.	Chatham	32.018	-80.851	Water level	Storm tide	7.99	09/11/2017	0.02
GACHA17824	Ga.	Chatham	32.021	-80.899	Water level	Storm tide	8.53	09/11/2017	0.02

Table 2. Hurricane Irma peak storm-tide and wave-height data for 249 temporarily deployed sites, by State and U.S. territory.—Continued

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Site identification	State or U.S. territory	County	Latitude (Decimal degrees)	Longitude (Decimal degrees)	Sensor deployment type	Type of data collected	Peak storm-tide elevation (ft above NAVD 88)	Peak storm tide elevation date	Surveyed sensor elevation uncertainty (± ft)
GACHA17838	Ga.	Chatham	32.004	-80.961	Water level	Storm tide	8.7	09/11/2017	0.15
GACHA17841	Ga.	Chatham	32.020	-80.992	Water level	Storm tide	8.58	09/11/2017	0.08
GACHA17845	Ga.	Chatham	32.035	-81.045	Water level	Storm tide	8.7	09/11/2017	0.08
GACHA17849	Ga.	Chatham	32.072	-81.068	Water level	None	None	No surge recorded	0.15
GACHA17850	Ga.	Chatham	32.098	-81.092	Water level	Storm tide	8.14	09/11/2017	0.03
GACHA17851	Ga.	Chatham	32.084	-81.158	Water level	Storm tide	9.95	09/12/2017	0.08
GACHA17852	Ga.	Chatham	32.008	-81.238	Water level	Storm tide	6.81	09/11/2017	0.03
GACHA17858	Ga.	Chatham	32.106	-81.196	Water level	Storm tide	6.4	09/12/2017	0.26
GACHA17860	Ga.	Chatham	32.161	-81.183	Water level	Storm tide	7.72	09/11/2017	0.08
GACHA17861	Ga.	Chatham	31.958	-81.011	Water level	Storm tide	9.17	09/11/2017	0.10
GACHA17863	Ga.	Chatham	31.947	-81.067	Water level	Storm tide	8.72	09/11/2017	0.05
GACHA17866	Ga.	Chatham	31.890	-81.062	Water level	Storm tide	8.26	09/11/2017	0.10
GACHA17870	Ga.	Chatham	31.929	-81.070	Water level	Storm tide	8.59	09/11/2017	0.10
GAGLY21138	Ga.	Glynn	31.179	-81.352	Real-time RDG	None	None	No surge recorded	0.01
GAGLY17783	Ga.	Glynn	31.088	-81.480	Water level	Storm tide	7.88	09/11/2017	0.10
GAGLY17790	Ga.	Glynn	31.021	-81.435	Water level	Storm tide	7.7	09/11/2017	0.11
GAGLY17795	Ga.	Glynn	31.063	-81.405	Water level	Storm tide	10.03	09/11/2017	0.03
GAGLY17797	Ga.	Glynn	31.253	-81.464	Water level	Storm tide	18.2	09/11/2017	0.03
GAGLY17802	Ga.	Glynn	31.068	-81.413	Water level	Storm tide	6.54	09/11/2017	0.03
GAGLY17807	Ga.	Glynn	31.067	-81.426	Water level	Storm tide	7.37	09/11/2017	0.11
GAGLY17810	Ga.	Glynn	31.171	-81.428	Water level	Storm tide	7.61	09/11/2017	0.07
GAGLY17811	Ga.	Glynn	31.185	-81.533	Water level	Storm tide	8.31	09/11/2017	0.07
GAGLY17813	Ga.	Glynn	31.242	-81.535	Water level	Storm tide	9.29	09/11/2017	0.10
GAGLY17819	Ga.	Glynn	31.162	-81.500	Water level	Storm tide	7.71	09/11/2017	0.18
GAGLY17821	Ga.	Glynn	31.148	-81.498	Water level	Storm tide	8.1	09/11/2017	0.18
GAGLY17854	Ga.	Glynn	31.191	-81.659	Water level	Storm tide	8.59	09/11/2017	0.12
GAGLY17855	Ga.	Glynn	31.256	-81.602	Water level	Storm tide	8.16	09/11/2017	0.03
GAGLY17879	Ga.	Glynn	31.295	-81.344	Water level	Storm tide	7.89	09/11/2017	0.03
GAGLY17881	Ga.	Glynn	31.221	-81.393	Water level	Storm tide	7.82	09/11/2017	0.03
GAGLY17903	Ga.	Glynn	31.175	-81.350	Water level	Storm tide	11.13	09/11/2017	0.03
GAGLY18414	Ga.	Glynn	31.134	-81.397	Water level	Storm tide	8.49	09/11/2017	0.01
GALIB17844	Ga.	Liberty	31.829	-81.355	Real-time RDG	Storm tide	6.77	09/11/2017	0.05
GALIB21184	Ga.	Liberty	31.644	-81.394	Real-time RDG	Storm tide	7.51	09/11/2017	0.04
GALIB17856	Ga.	Liberty	31.710	-81.239	Water level	Storm tide	8.6	09/11/2017	0.04
GALIB17857	Ga.	Liberty	31.770	-81.278	Water level	Storm tide	8.48	09/11/2017	0.04
GAMCI21208	Ga.	Mcintosh	31.368	-81.436	Real-time RDG	Storm tide	7.11	09/11/2017	0.02
GAMCI17825	Ga.	Mcintosh	31.621	-81.263	Water level	Storm tide	8.57	09/11/2017	0.06
GAMCI17827	Ga.	Mcintosh	31.569	-81.322	Water level	Storm tide	8.64	09/11/2017	0.04
GAMCI17828	Ga.	Mcintosh	31.454	-81.363	Water level	Storm tide	8.86	09/11/2017	0.06
GAMCI17834	Ga.	Mcintosh	31.488	-81.445	Water level	Storm tide	12.98	09/11/2017	0.06
GAMCI17837	Ga.	Mcintosh	31.531	-81.359	Water level	Storm tide	8.58	09/11/2017	0.06

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Site identification	State or U.S. territory	County	Latitude (Decimal degrees)	Longitude (Decimal degrees)	Sensor deployment type	Type of data collected	Peak storm-tide elevation (ft above NAVD 88)	Peak storm tide elevation date	Surveyed sensor elevation uncertainty (± ft)
GAMCI17884	Ga.	Mcintosh	31.368	-81.437	Water level	Storm tide	7.33	09/11/2017	0.07
GAMCI17891	Ga.	Mcintosh	31.582	-81.359	Water level	Storm tide	8.31	09/11/2017	0.11
SCBEA14138	S.C.	Beaufort	32.430	-80.670	Real-time RDG	Storm tide	8.47	09/11/2017	0.01
SCBEA14281	S.C.	Beaufort	32.390	-80.775	Real-time RDG	Storm tide	8.54	09/11/2017	0.00
SCBEA14286	S.C.	Beaufort	32.343	-80.463	Real-time RDG	None	None	No surge recorded	0.01
SCBEA21188	S.C.	Beaufort	32.236	-81.012	Real-time RDG	None	None	No surge recorded	na
SCBEA14138	S.C.	Beaufort	32.430	-80.670	Water level	Storm tide	8.47	09/11/2017	0.01
SCBEA14139	S.C.	Beaufort	32.289	-80.931	Water level	Storm tide	8.65	09/11/2017	0.04
SCBEA14148	S.C.	Beaufort	32.232	-80.929	Water level	Storm tide	8.82	09/11/2017	0.04
SCBEA14278	S.C.	Beaufort	32.652	-80.684	Water level	None	None	No surge recorded	na
SCBEA14279	S.C.	Beaufort	32.542	-80.745	Water level	Storm tide	8.93	09/11/2017	0.05
SCBEA14280	S.C.	Beaufort	32.231	-80.794	Water level	Storm tide	8.78	09/11/2017	0.10
SCBEA14281	S.C.	Beaufort	32.390	-80.775	Water level	Storm tide	8.54	09/11/2017	0.00
SCBEA14282	S.C.	Beaufort	32.484	-80.600	Water level	Storm tide	8.19	09/11/2017	0.04
SCBEA14283	S.C.	Beaufort	32.376	-80.717	Water level	Storm tide	8.34	09/11/2017	0.10
SCBEA14284	S.C.	Beaufort	32.231	-80.863	Water level	Storm tide	9.38	09/11/2017	0.10
SCBEA14285	S.C.	Beaufort	32.287	-80.814	Water level	Storm tide	8.36	09/11/2017	0.10
SCBEA14286	S.C.	Beaufort	32.343	-80.463	Water level	Storm tide	8.43	09/11/2017	0.01
SCBEA14287	S.C.	Beaufort	32.140	-80.809	Water level	Storm tide	8.2	09/11/2017	0.10
SCBEA14288	S.C.	Beaufort	32.203	-80.700	Water level	Storm tide	7.91	09/11/2017	0.01
SCBEA14289	S.C.	Beaufort	32.352	-80.701	Water level	Storm tide	7.83	09/11/2017	0.14
SCBEA14290	S.C.	Beaufort	32.335	-80.672	Water level	Storm tide	7.89	09/11/2017	0.14
SCBEA14291	S.C.	Beaufort	32.453	-80.702	Water level	Storm tide	8.64	09/11/2017	0.14
SCBEA14292	S.C.	Beaufort	32.374	-80.837	Water level	Storm tide	8.51	09/11/2017	0.03
SCBEA14293	S.C.	Beaufort	32.177	-80.770	Water level	Storm tide	8.11	09/11/2017	0.03
SCCHA14306	S.C.	Charleston	32.777	-79.811	Real-time RDG	Storm tide	6.73	09/11/2017	0.08
SCCHA14228	S.C.	Charleston	32.784	-80.107	Water level	Storm tide	6.67	09/11/2017	0.13
SCCHA14229	S.C.	Charleston	32.812	-79.854	Water level	Storm tide	6.21	09/11/2017	0.06
SCCHA14248	S.C.	Charleston	32.793	-80.057	Water level	Storm tide	5.22	09/12/2017	0.18
SCCHA14295	S.C.	Charleston	32.784	-79.959	Water level	Storm tide	6.6	09/11/2017	0.01
SCCHA14296	S.C.	Charleston	33.030	-79.625	Water level	Storm tide	5.09	09/12/2017	0.02
SCCHA14297	S.C.	Charleston	32.663	-79.944	Water level	Storm tide	7.03	09/11/2017	0.18
SCCHA14298	S.C.	Charleston	32.767	-79.974	Water level	Storm tide	6.31	09/11/2017	0.08
SCCHA14300	S.C.	Charleston	32.636	-80.341	Water level	Storm tide	7.1	09/11/2017	0.13
SCCHA14301	S.C.	Charleston	32.790	-79.788	Water level	Storm tide	6.74	09/11/2017	0.15
SCCHA14302	S.C.	Charleston	32.816	-79.809	Water level	Storm tide	6.73	09/11/2017	0.07
SCCHA14305	S.C.	Charleston	32.772	-79.842	Water level	Storm tide	6.69	09/11/2017	0.13
SCCHA14306	S.C.	Charleston	32.777	-79.811	Water level	Storm tide	7.37	09/11/2017	0.08
SCCHA14307	S.C.	Charleston	33.038	-79.561	Water level	Storm tide	6.28	09/11/2017	0.01
SCCHA14308	S.C.	Charleston	32.940	-79.657	Water level	Storm tide	7.01	09/11/2017	0.01
SCCHA14309	S.C.	Charleston	32.762	-79.857	Water level	Storm tide	6.5	09/11/2017	0.01

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Site identification	State or U.S. territory	County	Latitude (Decimal degrees)	Longitude (Decimal degrees)	Sensor deployment type	Type of data collected	Peak storm-tide elevation (ft above NAVD 88)	Peak storm tide elevation date	Surveyed sensor elevation uncertainty (± ft)
SCCHA14310	S.C.	Charleston	32.598	-80.196	Water level	Storm tide	6.84	09/11/2017	0.00
SCCHA14311	S.C.	Charleston	32.628	-80.029	Water level	Storm tide	7.13	09/11/2017	0.04
SCCHA14312	S.C.	Charleston	32.706	-79.949	Water level	Storm tide	7.44	09/11/2017	0.18
SCCOL14313	S.C.	Colleton	32.494	-80.339	Water level	Storm tide	7.22	09/11/2017	0.20
SCCOL14314	S.C.	Colleton	32.613	-80.481	Water level	None	None	No surge recorded	na
SCDOR21185	S.C.	Dorchester	32.965	-80.151	Real-time RDG	Storm tide	12.21	09/12/2017	na
SCDOR21186	S.C.	Dorchester	33.147	-80.331	Real-time RDG	Storm tide	7.54	09/12/2017	na
SCGEO21174	S.C.	Georgetown	33.547	-79.401	Real-time RDG	None	None	No surge recorded	na
SCGEO14168	S.C.	Georgetown	33.393	-79.381	Water level	Storm tide	4.8	09/11/2017	0.19
SCGEO14169	S.C.	Georgetown	33.469	-79.279	Water level	Storm tide	2.7	09/11/2017	0.01
SCGEO14316	S.C.	Georgetown	33.435	-79.123	Water level	Storm tide	5.96	09/11/2017	0.13
SCGEO14317	S.C.	Georgetown	33.513	-79.181	Water level	Storm tide	3.81	09/11/2017	0.23
SCGEO14318	S.C.	Georgetown	33.471	-79.101	Water level	Storm tide	5.34	09/11/2017	0.14
SCGEO14319	S.C.	Georgetown	33.357	-79.294	Water level	Storm tide	4.94	09/11/2017	0.13
SCGEO14320	S.C.	Georgetown	33.555	-79.034	Water level	Storm tide	5.36	09/11/2017	0.14
SCGEO14321	S.C.	Georgetown	33.527	-79.031	Water level	Storm tide	7.91	09/11/2017	0.07
SCGEO14322	S.C.	Georgetown	33.362	-79.383	Water level	Storm tide	5.02	09/11/2017	0.13
SCGEO14323	S.C.	Georgetown	33.368	-79.169	Water level	Storm tide	5.56	09/11/2017	0.19
SCGEO14324	S.C.	Georgetown	33.425	-79.131	Water level	Storm tide	6.09	09/11/2017	0.10
SCGEO14325	S.C.	Georgetown	33.562	-79.086	Water level	Storm tide	6.35	09/12/2017	0.00
SCHOR00003	S.C.	Horry	33.681	-78.892	Water level	Storm tide	5.98	09/11/2017	0.02
SCHOR14188	S.C.	Horry	33.750	-79.078	Water level	Storm tide	3.86	09/12/2017	0.01
SCHOR14326	S.C.	Horry	33.888	-78.593	Water level	None	None	No surge recorded	na
SCHOR14327	S.C.	Horry	33.580	-79.003	Water level	Storm tide	5.45	09/11/2017	0.02
SCHOR14328	S.C.	Horry	33.603	-78.974	Water level	Storm tide	6.65	09/11/2017	0.09
SCHOR14329	S.C.	Horry	33.841	-78.617	Water level	Storm tide	4.82	09/11/2017	0.12
SCHOR14330	S.C.	Horry	33.686	-78.981	Water level	Storm tide	5.05	09/12/2017	0.07
SCHOR14331	S.C.	Horry	33.741	-78.867	Water level	Storm tide	3.89	09/12/2017	0.09
SCHOR14332	S.C.	Horry	33.765	-78.817	Water level	Storm tide	4.26	09/12/2017	0.07
SCHOR14333	S.C.	Horry	33.793	-78.736	Water level	Storm tide	5.18	09/11/2017	0.07
SCHOR14335	S.C.	Horry	33.641	-78.948	Water level	Storm tide	5.83	09/12/2017	0.07
SCHOR17779	S.C.	Horry	33.659	-78.918	Water level	Storm tide	6.49	09/11/2017	0.07
SCHOR17780	S.C.	Horry	33.759	-78.793	Water level	Storm tide	5.38	09/11/2017	0.09
SCHOR17781	S.C.	Horry	33.700	-78.937	Water level	Storm tide	3.75	09/12/2017	0.07
SCHOR17782	S.C.	Horry	33.853	-78.594	Water level	Storm tide	4.88	09/11/2017	0.07
SCJAS21187	S.C.	Jasper	32.588	-80.924	Real-time RDG	None	None	No surge recorded	na
PRCAR20632	P.R.	Municipality of Carolina	18.451	-65.996	Water level	None	None	No surge recorded	0.10
PRDOR20633	P.R.	Municipality of Dorado	18.476	-66.278	Water level	None	None	No surge recorded	0.06

Table 2. Hurricane Irma peak storm-tide and wave-height data for 249 temporarily deployed sites, by State and U.S. territory.—Continued

[Dates shown as month, day, year, referenced to Coordinated Universal Time (UTC). ft, foot; NAVD 88, North American Vertical Datum of 1988; RDG, rapid deployment gage; State or U.S. territory: Fla., Florida; Ga., Georgia; N.C., North Carolina; P.R. Puerto Rico; S.C., South Carolina. ±, plus or minus; na, not available]

Site identification	State or U.S. territory	County	Latitude (Decimal degrees)	Longitude (Decimal degrees)	Sensor deployment type	Type of data collected	Peak storm-tide elevation (ft above NAVD 88)	Peak storm tide elevation date	Surveyed sensor elevation uncertainty (± ft)
PRFAJ20587	P.R.	Municipality of Fajardo	18.346	-65.636	Water level	None	None	No surge recorded	0.14
PRHUM20650	P.R.	Municipality of Humacao	18.164	-65.743	Water level	None	None	No surge recorded	0.13
PRLOI20636	P.R.	Municipality of Loiza	18.424	-65.830	Water level	None	None	No surge recorded	0.11
PRSAN20648	P.R.	Municipality of San Juan	18.453	-66.044	Water level	None	None	No surge recorded	0.03
PRTOA20649	P.R.	Municipality of Toa Baja	18.456	-66.180	Water level	None	None	No surge recorded	0.07
PRVEG20634	P.R.	Municipality of Vega Baja	18.489	-66.406	Water level	None	None	No surge recorded	0.04
PRYAB20635	P.R.	Municipality of Yabucoa	18.063	-65.816	Water level	None	None	No surge recorded	0.13

Table 3. Hurricane Irma peak storm-tide data recorded at U.S. Geological Survey long-term monitoring sites, by State and U.S. territory.

[Dates shown as month, day, year, referenced to Coordinated Universal Time (UTC). Datum: NAVD 88, North American Vertical Datum of 1988; NGVD 29, National Geodetic Vertical Datum of 1929; PRVD02, Puerto Rico Vertical Datum of 2002]

Site identification	State or U.S. territory	County	Latitude (Decimal degrees)	Longitude (Decimal degrees)	Station type	Type of data collected	Peak storm-tide elevation, feet above datum	Vertical datum	Peak storm-tide date
02231291	Florida	Duval	30.446	-81.192	Real-time streamgage	Storm tide	18.01	NAVD 88	09/11/2017
02244040	Florida	Putnam	29.596	-81.683	Real-time streamgage	Storm tide	15.23	NAVD 88	09/10/2017
02244440	Florida	Duval	29.578	-81.063	Real-time streamgage	Storm tide	4.13	NAVD 88	09/11/2017
02246500	Florida	Duval	30.322	-81.665	Real-time streamgage	Storm tide	5.02	NAVD 88	09/11/2017
02248350	Florida	Volusia	28.821	-80.860	Real-time streamgage	None	None	None	Damaged
022907085	Florida	Miami-Dade	25.571	-80.379	Real-time streamgage	Storm tide	5.28	NAVD 88	09/10/2017
02290709	Florida	Miami-Dade	25.560	-80.360	Real-time tide-gage	Storm tide	5.18	NAVD 88	09/10/2017
251127080382100	Florida	Miami-Dade	25.191	-80.639	Real-time streamgage	None	None	None	Damaged
251355080312800	Florida	Miami-Dade	25.233	-80.525	Real-time streamgage	None	None	None	Damaged
251341080291200	Florida	Miami-Dade	25.228	-80.486	Real-time streamgage	None	None	None	Damaged
251549080251200	Florida	Miami-Dade	25.264	-80.420	Real-time streamgage	Storm tide	4.06	NAVD 88	09/10/2017
251946080254800	Florida	Miami-Dade	25.330	-80.435	Real-time streamgage	None	None	None	Damaged
251716080342100	Florida	Miami-Dade	25.286	-80.573	Real-time streamgage	Storm tide	2.10	NAVD 88	09/11/2017
250802081035500	Florida	Monroe	25.137	-81.064	Real-time streamgage	Storm tide	4.98	NAVD 88	09/11/2017
022908205	Florida	Monroe	25.339	-80.913	Real-time streamgage	Storm tide	1.39	NAVD 88	09/11/2017
252230081021300	Florida	Monroe	25.375	-81.037	Real-time streamgage	Storm tide	2.76	NAVD 88	09/11/2017
252551081050900	Florida	Monroe	25.431	-81.086	Real-time streamgage	Storm tide	3.63	NAVD 88	09/11/2017
02290878	Florida	Monroe	25.501	-81.077	Real-time streamgage	Storm tide	2.05	NAVD 88	09/11/2017
02290918	Florida	Monroe	25.556	-81.165	Real-time streamgage	Storm tide	5.05	NAVD 88	09/11/2017
02290888	Florida	Monroe	25.709	-81.250	Real-time streamgage	None	None	None	Damaged
0229070838	Florida	Miami-Dade	25.570	-80.386	Real-time streamgage	Storm tide	5.42	NAVD 88	09/10/2017
251003080435500	Florida	Miami-Dade	25.136	-80.733	Real-time streamgage	Storm tide	3.86	NAVD 88	09/10/2017
251032080473400	Florida	Miami-Dade	25.176	-80.793	Real-time streamgage	None	None	None	Damaged

Table 3. Hurricane Irma peak storm-tide data recorded at U.S. Geological Survey long-term monitoring sites, by State and U.S. territory.—Continued

[Dates shown as month, day, year, referenced to Coordinated Universal Time (UTC). Datum: NAVD 88, North American Vertical Datum of 1988; NGVD 29, National Geodetic Vertical Datum of 1929; PRVD02, Puerto Rico Vertical Datum of 2002]

Site identification	State or U.S. territory	County	Latitude (Decimal degrees)	Longitude (Decimal degrees)	Station type	Type of data collected	Peak storm-tide elevation, feet above datum	Vertical datum	Peak storm-tide date
251032080432200	Florida	Miami-Dade	25.176	-80.793	Real-time tide-gage	None	None	None	Damaged
251241080385300	Florida	Miami-Dade	25.210	-80.648	Real-time streamgage	Storm tide	2.90	NAVD 88	09/10/2017
251115081075800	Florida	Monroe	25.188	-81.133	Real-time streamgage	None	None	None	Damaged
251152080370900	Florida	Miami-Dade	25.198	-80.619	Real-time streamgage	None	None	NAVD 88	Damaged
251209080350100	Florida	Miami-Dade	25.204	-80.584	Real-time streamgage	Storm tide	3.28	NAVD 88	09/10/2017
251253080320100	Florida	Miami-Dade	25.215	-80.534	Real-time streamgage	Storm tide	2.49	NAVD 88	09/11/2017
251433080265000	Florida	Miami-Dade	25.242	-80.478	Real-time streamgage	Storm tide	2.42	NAVD 88	09/11/2017
02198840	Georgia	Effingham	32.236	-81.151	Real-time streamgage	Storm tide	6.98	NAVD 88	09/11/2017
02198920	Georgia	Chatham	32.166	-81.154	Real-time streamgage	None	None	None	Damaged
02198950	Georgia	Chatham	32.166	-81.138	Real-time streamgage	Storm tide	8.37	NAVD 88	09/11/2017
02198955	Georgia	Chatham	32.143	-81.135	Real-time streamgage	Storm tide	8.09	NAVD 88	09/11/2017
021989715	Georgia	Chatham	32.116	-81.129	Real-time tide-gage	Storm tide	8.75	NAVD 88	09/11/2017
021989773	Georgia	Chatham	32.081	-81.081	Real-time streamgage	Storm tide	8.37	NAVD 88	09/11/2017
021989792	Georgia	Chatham	32.166	-81.130	Real-time streamgage	Storm tide	8.01	NAVD 88	09/11/2017
02198980	Georgia	Chatham	32.034	-80.903	Real-time streamgage	None	None	None	Damaged
02199000	Georgia	Chatham	32.083	-81.003	Real-time tide-gage	Storm tide	8.22	NAVD 88	09/11/2017
02203536	Georgia	Bryan	31.978	-81.290	Real-time streamgage	Storm tide	6.50	NAVD 88	09/11/2017
02226180	Georgia	Glynn	31.133	-81.397	Real-time tide-gage	None	None	None	Damaged
02228070	Georgia	Camden	30.974	-81.726	Real-time streamgage	Storm tide	7.05	NAVD 88	09/11/2017
02228295	Georgia	Camden	30.764	81.471	Real-time tide-gage	Storm tide	5.81	NAVD 88	09/11/2017
02231254	Georgia	Camden	30.744	-81.654	Real-time streamgage	Storm tide	4.05	NAVD 88	09/11/2017
0217206935	South Carolina	Charleston	32.856	-79.953	Real-time tide-gage	Storm tide	6.55	NAVD 88	09/11/2017
0217206962	South Carolina	Berkeley	32.924	-79.833	Real-time tide-gage	Storm tide	6.26	NAVD 88	09/11/2017

Table 3. Hurricane Irma peak storm-tide data recorded at U.S. Geological Survey long-term monitoring sites, by State and U.S. territory.—Continued

[Dates shown as month, day, year, referenced to Coordinated Universal Time (UTC). Datum: NAVD 88, North American Vertical Datum of 1988; NGVD 29, National Geodetic Vertical Datum of 1929; PRVD02, Puerto Rico Vertical Datum of 2002]

Site identification	State or U.S. territory	County	Latitude (Decimal degrees)	Longitude (Decimal degrees)	Station type	Type of data collected	Peak storm-tide elevation, feet above datum	Vertical datum	Peak storm-tide date
021720825	South Carolina	Dorchester	32.926	-80.152	Real-time tide-gage	Storm tide	6.65	NAVD 88	09/11/2017
02172053	South Carolina	Berkeley	32.983	-79.923	Real-time tide-gage	None	None	None	Damaged
021720508	South Carolina	Berkeley	33.158	-79.907	Real-time tide-gage	Storm tide	5.64	NAVD 88	09/11/2017
02172050	South Carolina	Berkeley	33.058	-79.939	Real-time tide-gage	Storm tide	5.85	NGVD 29	09/11/2017
02172040	South Carolina	Berkeley	33.064	-79.957	Real-time streamgage	Storm tide	5.58	NGVD 29	09/11/2017
02172020	South Carolina	Berkeley	33.093	-79.949	Real-time tide-gage	Storm tide	6.48	NGVD 29	09/11/2017
330428079214800	South Carolina	Charleston	33.074	-79.363	Real-time tide-gage	Storm tide	13.22	Local datum	09/11/2017
02136350	South Carolina	Georgetown	33.369	-79.264	Real-time tide-gage	Storm tide	4.70	NAVD 88	09/11/2017
021108125	South Carolina	Georgetown	33.507	-79.127	Real-time tide-gage	Storm tide	3.97	NAVD 88	09/11/2017
02110815	South Carolina	Georgetown	33.445	-79.174	Real-time tide-gage	Storm tide	5.71	NGVD 29	09/11/2017
02171800	South Carolina	Charleston	33.209	-79.383	Real-time tide-gage	Storm tide	5.51	NGVD 29	09/11/2017
02171850	South Carolina	Charleston	33.184	-79.406	Real-time tide-gage	Storm tide	5.52	NGVD 29	09/11/2017
02171905	South Carolina	Charleston	33.154	-79.354	Real-time tide-gage	Storm tide	6.56	Local datum	09/11/2017
021720677	South Carolina	Charleston	32.890	-79.963	Real-time tide-gage	Storm tide	6.30	NAVD 88	09/11/2017
021720698	South Carolina	Charleston	32.859	-79.896	Real-time tide-gage	Storm tide	6.53	NAVD 88	09/11/2017
021720709	South Carolina	Charleston	32.802	-79.910	Real-time tide-gage	Storm tide	6.52	NAVD 88	09/11/2017
021720711	South Carolina	Charleston	32.780	-79.924	Real-time tide-gage	Storm tide	7.63	NGVD 29	09/11/2017
021720869	South Carolina	Charleston	32.835	-80.024	Real-time tide-gage	Storm tide	8.00	NGVD 29	09/11/2017
50231500	Puerto Rico	Municipality of Vieques	18.143	-65.563	Real-time tide-gage	Storm tide	2.14	PRVD02	09/07/2017

Table 4. Hurricane Irma peak storm-tide data recorded at State and other Federal agency monitoring sites, by State and U.S. territory.

[Dates are shown as month, day, year, referenced to Coordinated Universal Time (UTC). ft, foot; Datums: NAVD 88, North American Vertical Datum of 1988; MSL, Mean Sea Level. NOAA, National Oceanic and Atmospheric Administration; NCDEM, North Carolina Division of Emergency Management. States and U.S. territories: Fla., Florida; Ga., Georgia; N.C., North Carolina; S.C., South Carolina; P.R. Puerto Rico; V.I. Virgin Islands]

Site identification	Agency	State or U.S. territory	County	Latitude (Decimal degrees)	Longitude (Decimal degrees)	Station type	Type of data collected	Peak storm-tide elevation (ft above datum)	Peak storm-tide date	Vertical datum
8723970	NOAA	Fla.	Monroe	24.702	81.101	Real-time tide-gage	Storm tide	2.21	9/11/2017	NAVD 88
8723214	NOAA	Fla.	Miami-Dade	25.719	80.152	Real-time tide-gage	Storm tide	3.85	9/10/2017	NAVD 88
8722670	NOAA	Fla.	Palm Beach	26.602	80.034	Real-time tide-gage	Storm tide	2.39	9/10/2017	NAVD 88
8724580	NOAA	Fla.	Monroe	24.551	81.801	Real-time tide-gage	Storm tide	2.73	9/10/2017	NAVD 88
9751401	NOAA	V.I.	St. Croix	17.685	64.751	Real-time tide-gage	Storm tide	0.80	9/6/2017	MSL
9751364	NOAA	V.I.	St. Croix	17.736	64.686	Real-time tide-gage	Storm tide	2.02	9/6/2017	MSL
9751381	NOAA	V.I.	St. John	18.317	64.718	Real-time tide-gage	Storm tide	1.58	9/6/2017	MSL
9752695	NOAA	P.R.	Vieques Island	18.085	65.468	Real-time tide-gage	Storm tide	1.52	9/15/2017	MSL
9752619	NOAA	P.R.	Vieques Island	18.150	65.435	Real-time tide-gage	Storm tide	1.67	9/7/2017	MSL
9752235	NOAA	P.R.	Culebra Island	18.300	65.300	Real-time tide-gage	Storm tide	1.58	9/6/2017	MSL
9754228	NOAA	P.R.	Municipality of Yabucoa	18.051	65.833	Real-time tide-gage	Storm tide	1.05	9/7/2017	MSL
9753216	NOAA	P.R.	Municipality of Fajardo	18.334	65.619	Real-time tide-gage	Storm tide	1.99	9/7/2017	MSL
9755371	NOAA	P.R.	Municipality of San Juan	18.452	66.117	Real-time tide-gage	Storm tide	2.10	9/7/2017	MSL
9757809	NOAA	P.R.	Municipality of Arecibo	18.469	66.700	Real-time tide-gage	Storm tide	2.45	9/7/2017	MSL
9759110	NOAA	P.R.	Municipality of Magueyes	17.967	67.036	Real-time tide-gage	Storm tide	0.98	9/7/2017	MSL
9759394	NOAA	P.R.	Municipality of Mayaguez	18.217	67.151	Real-time tide-gage	Storm tide	2.02	9/7/2017	MSL
9759938	NOAA	P.R.	Mona Island	18.084	67.934	Real-time tide-gage	Storm tide	1.53	9/7/2017	MSL
8725110	NOAA	Fla.	Collier	26.119	81.801	Real-time tide-gage	Storm tide	4.85	9/10/2017	NAVD 88
8726384	NOAA	Fla.	Manatee	27.636	82.552	Real-time tide-gage	Storm tide	1.87	9/11/2017	NAVD 88
8725520	NOAA	Fla.	Lee	26.636	81.867	Real-time tide-gage	Storm tide	3.34	9/11/2017	NAVD 88
8726520	NOAA	Fla.	Pinellas	27.752	82.618	Real-time tide-gage	Storm tide	1.93	9/11/2017	NAVD 88
8726607	NOAA	Fla.	Hillsborough	27.851	82.551	Real-time tide-gage	Storm tide	2.36	9/11/2017	MSL
8726667	NOAA	Fla.	Hillsborough	27.902	82.418	Real-time tide-gage	Storm tide	2.75	9/11/2017	NAVD 88

Table 4. Hurricane Irma peak storm-tide data recorded at State and other Federal agency monitoring sites, by State and U.S. territory.—Continued

[Dates are shown as month, day, year, referenced to Coordinated Universal Time (UTC). ft, foot; Datums: NAVD 88, North American Vertical Datum of 1988; MSL, Mean Sea Level. NOAA, National Oceanic and Atmospheric Administration; NCDEM, North Carolina Division of Emergency Management. States and U.S. territories: Fla., Florida; Ga., Georgia; N.C., North Carolina; S.C., South Carolina; P.R. Puerto Rico; V.I. Virgin Islands]

Site identification	Agency	State or U.S. territory	County	Latitude (Decimal degrees)	Longitude (Decimal degrees)	Station type	Type of data collected	Peak storm-tide elevation (ft above datum)	Peak storm-tide date	Vertical datum
8726724	NOAA	Fla.	Pinellas	27.969	82.819	Real-time tide-gage	Storm tide	1.85	9/11/2017	NAVD 88
8727520	NOAA	Fla.	Levy	29.133	83.019	Real-time tide-gage	Storm tide	2.71	9/12/2017	NAVD 88
8728690	NOAA	Fla.	Franklin	29.718	84.969	Real-time tide-gage	Storm tide	1.68	9/12/2017	NAVD 88
8729108	NOAA	Fla.	Bay	30.150	85.700	Real-time tide-gage	Storm tide	1.08	9/12/2017	NAVD 88
8721604	NOAA	Fla.	Brevard	28.403	80.585	Real-time tide-gage	Storm tide	5.23	9/11/2017	NAVD 88
8720625	NOAA	Fla.	St. Johns	29.800	81.550	Real-time tide-gage	Storm tide	4.59	9/11/2017	NAVD 88
8720218	NOAA	Fla.	Duval	30.386	81.419	Real-time tide-gage	Storm tide	5.58	9/11/2017	NAVD 88
8720219	NOAA	Fla.	Duval	30.384	81.551	Real-time tide-gage	Storm tide	5.12	9/11/2017	NAVD 88
8720226	NOAA	Fla.	Duval	30.317	81.651	Real-time tide-gage	Storm tide	5.56	9/11/2017	NAVD 88
8720030	NOAA	Fla.	Nassau	30.668	81.453	Real-time tide-gage	Storm tide	6.34	9/11/2017	NAVD 88
8670870	NOAA	Ga.	Chatham	32.034	80.900	Real-time tide-gage	Storm tide	8.12	9/11/2017	NAVD 88
8665530	NOAA	S.C.	Charleston	32.769	79.189	Real-time tide-gage	Storm tide	6.78	9/11/2017	NAVD 88
8662245	NOAA	S.C.	Beaufort	33.350	79.784	Real-time tide-gage	Storm tide	5.76	9/11/2017	NAVD 88
8661070	NOAA	S.C.	Horry	33.651	78.917	Real-time tide-gage	Storm tide	5.31	9/11/2017	NAVD 88
8658163	NOAA	N.C.	New Hanover	34.202	77.784	Real-time tide-gage	Storm tide	3.91	9/11/2017	NAVD 88
8658120	NOAA	N.C.	New Hanover	34.218	77.951	Real-time tide-gage	Storm tide	3.16	9/11/2017	NAVD 88
8656483	NOAA	N.C.	Washington	34.717	76.667	Real-time tide-gage	Storm tide	2.81	9/11/2017	NAVD 88
BLHN7	NCDEM	N.C.	Beaufort	35.537	-76.623	Real-time tide-gage	Storm tide	1.65	9/11/2017	NAVD 88
OCAN7	NCDEM	N.C.	Hyde	35.115	-75.987	Real-time tide-gage	Storm tide	1.23	9/11/2017	NAVD 88
ORLN7	NCDEM	N.C.	Pamlico	35.024	-76.692	Real-time tide-gage	Storm tide	1.98	9/11/2017	NAVD 88
GRMN7	NCDEM	N.C.	Pitt	35.574	-77.176	Real-time streamgage	Storm tide	1.97	9/11/2017	NAVD 88
CTIN7	NCDEM	N.C.	Carteret	35.018	-76.314	Real-time tide-gage	Storm tide	1.48	9/11/2017	NAVD 88

Table 5. Number of sites equipped to monitor Hurricane Irma storm tide, by State and U.S. territory.

[Dates are shown as month, day, year, referenced to Coordinated Universal Time (UTC). HWM, high-water mark; ft, foot. State or U.S. territory: Fla., Florida; Ga., Georgia; N.C., North Carolina; S.C., South Carolina, P.R. Puerto Rico. Datums: NAVD 88, North American Vertical Datum of 1988; NGVD 29, National Geodetic Vertical Datum of 1929; PRVD02, Puerto Rico Vertical Datum of 2002. na, not available]

Site identification	State or U.S. territory	County	Latitude	Longitude	HWM surveyed elevation (ft above datum)	Peak storm-tide estimated date	Vertical datum or reference point
			Decimal degrees				
FLBRE03161	Fla.	Brevard	28.553	-80.795	1.8	09/11/2017	NAVD 88
FLBRO03524	Fla.	Broward	26.261	-80.084	1.5	09/11/2017	NAVD 88
FLBRO20894	Fla.	Broward	26.191	-80.107	2.9	09/11/2017	NAVD 88
FLCHA23111	Fla.	Charlotte	26.993	-81.896	13.6	09/11/2017	NAVD 88
FLCHA23115	Fla.	Charlotte	26.999	-81.888	15.7	09/11/2017	NAVD 88
FLCHA23121	Fla.	Charlotte	26.976	-81.896	10.3	09/11/2017	NAVD 88
FLCHA23137	Fla.	Charlotte	26.975	-81.886	11.3	09/11/2017	NAVD 88
FLCLA22832	Fla.	Clay	30.040	-81.708	5.3	09/11/2017	NAVD 88
FLCLA22849	Fla.	Clay	30.082	-81.809	10.3	09/11/2017	NAVD 88
FLCLA22851	Fla.	Clay	30.083	-81.808	9.6	09/11/2017	NAVD 88
FLCLA22855	Fla.	Clay	30.063	-81.822	13.1	09/11/2017	NAVD 88
FLCLA22864	Fla.	Clay	30.073	-81.845	16.4	09/11/2017	NAVD 88
FLCLA22868	Fla.	Clay	30.073	-81.844	16.3	09/11/2017	NAVD 88
FLCLA22871	Fla.	Clay	30.073	-81.851	17.0	09/11/2017	NAVD 88
FLCLA22888	Fla.	Clay	30.061	-81.875	20.3	09/11/2017	NAVD 88
FLCLA22896	Fla.	Clay	30.060	-81.870	19.9	09/11/2017	NAVD 88
FLCLA22896	Fla.	Clay	30.060	-81.870	19.9	09/11/2017	NAVD 88
FLCLA22958	Fla.	Clay	30.075	-81.867	17.5	09/11/2017	NAVD 88
FLCLA22962	Fla.	Clay	30.080	-81.878	19.7	09/11/2017	NAVD 88
FLCLA22980	Fla.	Clay	30.086	-81.880	19.9	09/11/2017	NAVD 88
FLCLA22980	Fla.	Clay	30.085	-81.880	19.9	09/11/2017	NAVD 88
FLCLA22985	Fla.	Clay	30.007	-81.692	5.2	09/11/2017	NAVD 88
FLCLA22987	Fla.	Clay	30.083	-81.885	20.6	09/11/2017	NAVD 88
FLCLA22998	Fla.	Clay	30.037	-81.867	24.3	09/11/2017	NAVD 88
FLCLA23043	Fla.	Clay	30.030	-81.872	26.3	09/11/2017	NAVD 88
FLCLA23086	Fla.	Clay	30.028	-81.874	27.8	09/11/2017	NAVD 88
FLCLA23090	Fla.	Clay	29.980	-81.851	29.4	09/11/2017	NAVD 88
FLCLA23098	Fla.	Clay	30.066	-81.859	18.0	09/11/2017	NAVD 88
FLCLA23103	Fla.	Clay	30.076	-81.858	17.8	09/11/2017	NAVD 88
FLCLA23107	Fla.	Clay	30.090	-81.894	22.2	09/11/2017	NAVD 88
FLCLA23114	Fla.	Clay	30.077	-81.873	19.4	09/11/2017	NAVD 88
FLCLA23119	Fla.	Clay	30.042	-81.869	24.3	09/11/2017	NAVD 88
FLCLA23125	Fla.	Clay	30.052	-81.873	23.5	09/11/2017	NAVD 88
FLCLA23129	Fla.	Clay	30.009	-81.858	31.8	09/11/2017	NAVD 88
FLCLA23146	Fla.	Clay	30.069	-81.818	12.3	09/11/2017	NAVD 88
FLCLA23147	Fla.	Clay	30.070	-81.734	5.3	09/11/2017	NAVD 88
FLCLA23157	Fla.	Clay	30.083	-81.787	4.6	09/11/2017	Above ground level
FLCLA23153	Fla.	Clay	30.114	-81.767	5.9	09/11/2017	NAVD 88
FLCLA23159	Fla.	Clay	30.085	-81.797	8.9	09/11/2017	NAVD 88
FLCLA23162	Fla.	Clay	29.993	-81.852	35.1	09/11/2017	NAVD 88
FLCLA23163	Fla.	Clay	30.018	-81.860	29.8	09/11/2017	NAVD 88

Table 5. Number of sites equipped to monitor Hurricane Irma storm tide, by State and U.S. territory.—Continued

[Dates are shown as month, day, year, referenced to Coordinated Universal Time (UTC). HWM, high-water mark; ft, foot. State or U.S. territory: Fla., Florida; Ga., Georgia; N.C., North Carolina; S.C., South Carolina, P.R. Puerto Rico. Datums: NAVD 88, North American Vertical Datum of 1988; NGVD 29, National Geodetic Vertical Datum of 1929; PRVD02, Puerto Rico Vertical Datum of 2002. na, not available]

Site identification	State or U.S. territory	County	Latitude	Longitude	HWM surveyed elevation (ft above datum)	Peak storm-tide estimated date	Vertical datum or reference point
			Decimal degrees				
FLCLA23164	Fla.	Clay	30.097	-81.891	23.8	09/11/2017	NAVD 88
FLCLA23166	Fla.	Clay	30.038	-81.881	25.0	09/11/2017	NAVD 88
FLCLA23167	Fla.	Clay	30.118	-81.760	6.1	09/11/2017	NAVD 88
FLCLA23169	Fla.	Clay	30.098	-81.794	8.7	09/11/2017	NAVD 88
FLCOL03237	Fla.	Collier	25.845	-81.387	8.8	09/11/2017	NAVD 88
FLCOL21927	Fla.	Collier	25.850	-81.385	7.8	09/11/2017	NAVD 88
FLCOL21928	Fla.	Collier	25.849	-81.385	8.1	09/11/2017	NAVD 88
FLCOL03089	Fla.	Collier	25.957	-81.512	5.0	09/11/2017	NAVD 88
FLCOL03176	Fla.	Collier	25.922	-81.648	7.3	09/11/2017	NAVD 88
FLCOL22148	Fla.	Collier	26.050	-81.709	4.1	09/11/2017	NAVD 88
FLCOL22149	Fla.	Collier	25.948	-81.584	5.2	09/11/2017	NAVD 88
FLCOL03148	Fla.	Collier	26.046	-81.708	4.1	09/11/2017	NAVD 88
FLCOL22502	Fla.	Collier	25.927	-81.544	6.3	09/11/2017	NAVD 88
FLCOL22502	Fla.	Collier	25.927	-81.544	6.5	09/11/2017	NAVD 88
FLCOL22503	Fla.	Collier	25.895	-81.456	5.4	09/11/2017	NAVD 88
FLCOL22503	Fla.	Collier	25.895	-81.456	5.4	09/11/2017	NAVD 88
FLCOL22504	Fla.	Collier	25.909	-81.511	6.8	09/11/2017	NAVD 88
FLCOL22506	Fla.	Collier	25.872	-81.382	na	09/11/2017	NAVD 88
FLCOL22585	Fla.	Collier	26.222	-81.813	4.3	09/11/2017	NAVD 88
FLCOL22586	Fla.	Collier	26.156	-81.787	4.7	09/11/2017	NAVD 88
FLCOL22587	Fla.	Collier	26.141	-81.789	4.4	09/11/2017	NAVD 88
FLCOL22588	Fla.	Collier	26.103	-81.785	4.2	09/11/2017	NAVD 88
FLCOL22589	Fla.	Collier	26.095	-81.801	4.3	09/11/2017	NAVD 88
FLCOL22590	Fla.	Collier	26.287	-81.831	3.9	09/11/2017	NAVD 88
FLCOL22590	Fla.	Collier	26.287	-81.831	4.1	09/11/2017	NAVD 88
FLCOL22591	Fla.	Collier	26.254	-81.823	4.4	09/11/2017	NAVD 88
FLCOL22591	Fla.	Collier	26.254	-81.823	4.4	09/11/2017	NAVD 88
FLCOL22592	Fla.	Collier	26.212	-81.812	4.6	09/11/2017	NAVD 88
FLCOL22593	Fla.	Collier	26.122	-81.802	4.1	09/11/2017	NAVD 88
FLCOL22716	Fla.	Collier	26.100	-81.753	3.4	09/11/2017	NAVD 88
FLCOL22717	Fla.	Collier	25.971	-81.736	4.9	09/11/2017	NAVD 88
FLCOL22718	Fla.	Collier	25.914	-81.718	6.1	09/11/2017	NAVD 88
FLCOL22719	Fla.	Collier	25.918	-81.726	5.8	09/11/2017	NAVD 88
FLCOL22720	Fla.	Collier	25.910	-81.697	6.5	09/11/2017	NAVD 88
FLCOL22721	Fla.	Collier	26.126	-81.774	4.4	09/11/2017	NAVD 88
FLCOL22722	Fla.	Collier	26.113	-81.783	4.3	09/11/2017	NAVD 88
FLCOL22722	Fla.	Collier	26.113	-81.783	4.3	09/11/2017	NAVD 88
FLCOL22723	Fla.	Collier	26.025	-81.731	4.0	09/11/2017	NAVD 88
FLCOL22724	Fla.	Collier	25.984	-81.722	4.9	09/11/2017	NAVD 88
FLCOL22725	Fla.	Collier	25.937	-81.700	5.6	09/11/2017	NAVD 88
FLCOL22726	Fla.	Collier	25.933	-81.657	6.1	09/11/2017	NAVD 88

Table 5. Number of sites equipped to monitor Hurricane Irma storm tide, by State and U.S. territory.—Continued

[Dates are shown as month, day, year, referenced to Coordinated Universal Time (UTC). HWM, high-water mark; ft, foot. State or U.S. territory: Fla., Florida; Ga., Georgia; N.C., North Carolina; S.C., South Carolina, P.R. Puerto Rico. Datums: NAVD 88, North American Vertical Datum of 1988; NGVD 29, National Geodetic Vertical Datum of 1929; PRVD02, Puerto Rico Vertical Datum of 2002. na, not available]

Site identification	State or U.S. territory	County	Latitude	Longitude	HWM surveyed elevation (ft above datum)	Peak storm-tide estimated date	Vertical datum or reference point
			Decimal degrees				
FLCOL22727	Fla.	Collier	25.926	-81.648	6.8	09/11/2017	NAVD 88
FLCOL22728	Fla.	Collier	25.925	-81.644	6.7	09/11/2017	NAVD 88
FLCOL22729	Fla.	Collier	25.924	-81.645	6.6	09/11/2017	NAVD 88
FLCOL22730	Fla.	Collier	25.992	-81.592	4.1	09/11/2017	NAVD 88
FLCOL22731	Fla.	Collier	25.961	-81.711	5.4	09/11/2017	NAVD 88
FLCOL22732	Fla.	Collier	25.935	-81.732	5.6	09/11/2017	NAVD 88
FLCOL22734	Fla.	Collier	25.817	-81.359	8.4	09/11/2017	NAVD 88
FLCOL22734	Fla.	Collier	25.817	-81.359	8.4	09/11/2017	NAVD 88
FLCOL22735	Fla.	Collier	25.847	-81.384	7.9	09/11/2017	NAVD 88
FLCOL22736	Fla.	Collier	25.856	-81.388	7.7	09/11/2017	NAVD 88
FLCOL22737	Fla.	Collier	25.916	-81.378	3.9	09/11/2017	NAVD 88
FLCOL22738	Fla.	Collier	25.942	-81.470	4.8	09/11/2017	NAVD 88
FLCOL22739	Fla.	Collier	25.810	-81.360	8.1	09/11/2017	NAVD 88
FLCOL22740	Fla.	Collier	25.813	-81.364	8.3	09/11/2017	NAVD 88
FLCOL22741	Fla.	Collier	25.847	-81.369	7.4	09/11/2017	NAVD 88
FLCOL22742	Fla.	Collier	25.871	-81.384	6.0	09/11/2017	NAVD 88
FLCOL22743	Fla.	Collier	25.859	-81.385	7.0	09/11/2017	NAVD 88
FLCOL22744	Fla.	Collier	25.958	-81.510	5.1	09/11/2017	NAVD 88
FLCOL22745	Fla.	Collier	25.987	-81.577	4.2	09/11/2017	NAVD 88
FLCOL22715	Fla.	Collier	26.198	-81.812	4.7	09/11/2017	NAVD 88
FLDE 22837	Fla.	De Soto	27.061	-82.003	5.3	09/11/2017	NAVD 88
FLDE 22843	Fla.	De Soto	27.077	-82.008	5.2	09/11/2017	NAVD 88
FLDE 22848	Fla.	De Soto	27.044	-81.986	3.8	09/11/2017	NAVD 88
FLDE 22858	Fla.	De Soto	27.222	-81.876	24.2	09/11/2017	NAVD 88
FLDE 22859	Fla.	De Soto	27.222	-81.876	24.0	09/11/2017	NAVD 88
FLDE 22863	Fla.	De Soto	27.229	-81.891	25.5	09/11/2017	NAVD 88
FLDE 22866	Fla.	De Soto	27.230	-81.891	25.4	09/11/2017	NAVD 88
FLDE 22870	Fla.	De Soto	27.164	-81.903	18.3	09/11/2017	NAVD 88
FLDE 22870	Fla.	De Soto	27.164	-81.903	18.3	09/11/2017	NAVD 88
FLDE 22875	Fla.	De Soto	27.250	-81.876	3.4	09/11/2017	Above ground level
FLDE 22892	Fla.	De Soto	27.260	-81.863	4.4	09/11/2017	Above ground level
FLDE 22939	Fla.	De Soto	27.280	-81.857	31.3	09/11/2017	NAVD 88
FLDE 22953	Fla.	De Soto	27.293	-81.851	33.4	09/11/2017	NAVD 88
FLDUV03108	Fla.	Duval	30.511	-81.461	6.5	09/11/2017	NAVD 88
FLDUV03110	Fla.	Duval	30.421	-81.421	na	09/11/2017	NAVD 88
FLDUV03114	Fla.	Duval	30.288	-81.421	5.0	09/11/2017	NAVD 88
FLDUV17794	Fla.	Duval	30.324	-81.435	5.4	09/11/2017	NAVD 88
FLDUV22828	Fla.	Duval	30.551	-81.590	7.6	09/11/2017	NGVD 29
FLDUV22828	Fla.	Duval	30.551	-81.590	7.1	09/11/2017	NGVD 29
FLDUV22887	Fla.	Duval	30.134	-81.634	5.5	09/11/2017	NAVD 88
FLDUV22928	Fla.	Duval	30.135	-81.630	5.5	09/11/2017	NAVD 88

Table 5. Number of sites equipped to monitor Hurricane Irma storm tide, by State and U.S. territory.—Continued

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Site identification	State or U.S. territory	County	Latitude	Longitude	HWM surveyed elevation (ft above datum)	Peak storm-tide estimated date	Vertical datum or reference point
			Decimal degrees				
FLDUV22954	Fla.	Duval	30.140	-81.622	5.5	09/11/2017	NAVD 88
FLDUV22961	Fla.	Duval	30.135	-81.596	3.3	09/11/2017	Above ground level
FLDUV22966	Fla.	Duval	30.133	-81.579	2.0	09/11/2017	Above ground level
FLDUV22970	Fla.	Duval	30.145	-81.554	8.0	09/11/2017	NAVD 88
FLDUV22975	Fla.	Duval	30.162	-81.560	8.8	09/11/2017	NAVD 88
FLDUV22990	Fla.	Duval	30.249	-81.702	6.1	09/11/2017	NAVD 88
FLDUV22991	Fla.	Duval	30.251	-81.697	5.9	09/11/2017	NAVD 88
FLDUV22992	Fla.	Duval	30.253	-81.691	5.9	09/11/2017	NAVD 88
FLDUV22994	Fla.	Duval	30.286	-81.711	6.3	09/11/2017	NAVD 88
FLDUV22997	Fla.	Duval	30.306	-81.690	7.2	09/11/2017	NAVD 88
FLDUV23003	Fla.	Duval	30.311	-81.685	6.7	09/11/2017	NAVD 88
FLDUV23022	Fla.	Duval	30.312	-81.677	6.6	09/11/2017	NAVD 88
FLDUV23066	Fla.	Duval	30.312	-81.663	5.7	09/11/2017	NAVD 88
FLDUV23078	Fla.	Duval	30.320	-81.661	5.6	09/11/2017	NAVD 88
FLDUV23081	Fla.	Duval	30.313	-81.644	5.6	09/11/2017	NAVD 88
FLDUV23087	Fla.	Duval	30.301	-81.657	6.5	09/11/2017	NAVD 88
FLDUV23092	Fla.	Duval	30.324	-81.658	0.7	09/11/2017	Above ground level
FLDUV23101	Fla.	Duval	30.120	-81.546	6.6	09/11/2017	NAVD 88
FLDUV23116	Fla.	Duval	30.135	-81.561	6.7	09/11/2017	NAVD 88
FLDUV23123	Fla.	Duval	30.133	-81.573	6.2	09/11/2017	NAVD 88
FLDUV23128	Fla.	Duval	30.141	-81.557	7.0	09/11/2017	NAVD 88
FLHAR22963	Fla.	Hardee	27.347	-81.820	37.3	09/11/2017	NAVD 88
FLHAR22971	Fla.	Hardee	27.381	-81.791	41.5	09/11/2017	NAVD 88
FLHAR22978	Fla.	Hardee	27.508	-81.800	53.8	09/11/2017	NAVD 88
FLHAR22983	Fla.	Hardee	27.543	-81.799	56.5	09/11/2017	NAVD 88
FLHAR22984	Fla.	Hardee	27.551	-81.795	57.1	09/11/2017	NAVD 88
FLHAR22988	Fla.	Hardee	27.577	-81.802	59.8	09/11/2017	NAVD 88
FLHAR22995	Fla.	Hardee	27.621	-81.823	68.5	09/11/2017	NAVD 88
FLHAR23067	Fla.	Hardee	27.623	-81.830	71.3	09/11/2017	NAVD 88
FLHEN22845	Fla.	Hendry	26.777	-81.452	20.4	09/11/2017	NAVD 88
FLHEN22850	Fla.	Hendry	26.778	-81.453	21.2	09/11/2017	NAVD 88
FLHEN22857	Fla.	Hendry	26.758	-81.473	15.6	09/11/2017	NAVD 88
FLHER23073	Fla.	Hernando	28.481	-82.182	65.4	09/11/2017	NAVD 88
FLHER23091	Fla.	Hernando	28.496	-82.201	63.8	09/11/2017	NAVD 88
FLHER23099	Fla.	Hernando	28.519	-82.213	59.3	09/11/2017	NAVD 88
FLHER23104	Fla.	Hernando	28.527	-82.199	58.3	09/11/2017	NAVD 88
FLHER23104	Fla.	Hernando	28.527	-82.199	58.0	09/11/2017	NAVD 88
FLHER23108	Fla.	Hernando	28.527	-82.199	57.1	09/11/2017	NAVD 88
FLHER23110	Fla.	Hernando	28.535	-82.196	56.0	09/11/2017	NAVD 88
FLHIL22839	Fla.	Hillsborough	27.881	-82.299	9.4	09/11/2017	NAVD 88
FLHIL22853	Fla.	Hillsborough	27.868	-82.284	14.7	09/11/2017	NAVD 88

Table 5. Number of sites equipped to monitor Hurricane Irma storm tide, by State and U.S. territory.—Continued

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Site identification	State or U.S. territory	County	Latitude	Longitude	HWM surveyed elevation (ft above datum)	Peak storm-tide estimated date	Vertical datum or reference point
			Decimal degrees				
FLHIL22842	Fla.	Hillsborough	27.878	-82.295	10.8	09/11/2017	NAVD 88
FLHIL22846	Fla.	Hillsborough	27.871	-82.286	13.9	09/11/2017	NAVD 88
FLHIL22861	Fla.	Hillsborough	27.862	-82.265	22.3	09/11/2017	NAVD 88
FLHIL22862	Fla.	Hillsborough	27.859	-82.275	17.3	09/11/2017	NAVD 88
FLHIL22867	Fla.	Hillsborough	27.869	-82.286	13.7	09/11/2017	NAVD 88
FLHIL22872	Fla.	Hillsborough	27.878	-82.298	9.8	09/11/2017	NAVD 88
FLHIL22876	Fla.	Hillsborough	27.889	-82.302	7.7	09/11/2017	NAVD 88
FLHIL22886	Fla.	Hillsborough	27.867	-82.230	24.5	09/11/2017	NAVD 88
FLHIL22894	Fla.	Hillsborough	27.873	-82.230	27.4	09/11/2017	NAVD 88
FLHIL22941	Fla.	Hillsborough	27.872	-82.272	28.3	09/11/2017	NAVD 88
FLHIL22979	Fla.	Hillsborough	27.884	-82.306	6.6	09/11/2017	NAVD 88
FLHIL22982	Fla.	Hillsborough	27.877	-82.313	5.1	09/11/2017	NAVD 88
FLHIL22846	Fla.	Hillsborough	27.871	-82.286	13.9	09/11/2017	NAVD 88
FLIND03751	Fla.	Indian River	27.763	-80.397	11.3	09/11/2017	NAVD 88
FLIND03751	Fla.	Indian River	27.763	-80.397	na	na	NAVD 88
FLIND03149	Fla.	Indian River	27.855	-80.452	1.6	09/11/2017	NAVD 88
FLIND03149	Fla.	Indian River	27.855	-80.452	1.7	09/11/2017	NAVD 88
FLLEE03288	Fla.	Lee	26.404	-81.878	4.0	09/11/2017	NAVD 88
FLLEE21933	Fla.	Lee	26.766	-82.265	3.4	09/11/2017	NAVD 88
FLLEE21935	Fla.	Lee	26.766	-82.265	3.1	09/11/2017	NAVD 88
FLLEE03380	Fla.	Lee	26.706	-82.164	2.0	09/11/2017	NAVD 88
FLLEE03287	Fla.	Lee	26.479	-81.852	4.1	09/11/2017	NAVD 88
FLLEE03246	Fla.	Lee	26.484	-82.011	2.9	09/11/2017	NAVD 88
FLLEE22838	Fla.	Lee	26.337	-81.826	4.0	09/11/2017	NAVD 88
FLLEE22838	Fla.	Lee	26.337	-81.827	3.8	09/11/2017	NAVD 88
FLLEE22854	Fla.	Lee	26.335	-81.829	3.9	09/11/2017	NAVD 88
FLLEE22860	Fla.	Lee	26.336	-81.816	3.9	09/11/2017	NAVD 88
FLLEE22869	Fla.	Lee	26.340	-81.807	4.0	09/11/2017	NAVD 88
FLLEE22874	Fla.	Lee	26.341	-81.799	4.2	09/11/2017	NAVD 88
FLLEE22884	Fla.	Lee	26.669	-81.733	9.4	09/11/2017	NAVD 88
FLLEE22889	Fla.	Lee	26.669	-81.738	9.2	09/11/2017	NAVD 88
FLLEE22891	Fla.	Lee	26.341	-81.790	5.0	09/11/2017	NAVD 88
FLLEE22895	Fla.	Lee	26.673	-81.744	12.8	09/11/2017	NAVD 88
FLLEE22907	Fla.	Lee	26.341	-81.783	5.5	09/11/2017	NAVD 88
FLLEE22940	Fla.	Lee	26.689	-81.752	5.4	09/11/2017	NAVD 88
FLLEE22951	Fla.	Lee	26.343	-81.778	6.3	09/11/2017	NAVD 88
FLLEE22952	Fla.	Lee	26.682	-81.739	7.8	09/11/2017	NAVD 88
FLLEE22955	Fla.	Lee	26.341	-81.772	7.3	09/11/2017	NAVD 88
FLLEE22957	Fla.	Lee	26.679	-81.741	8.6	09/11/2017	NAVD 88
FLLEE22960	Fla.	Lee	26.338	-81.765	10.4	09/11/2017	NAVD 88
FLLEE22965	Fla.	Lee	26.335	-81.762	11.6	09/11/2017	NAVD 88

Table 5. Number of sites equipped to monitor Hurricane Irma storm tide, by State and U.S. territory.—Continued

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Site identification	State or U.S. territory	County	Latitude	Longitude	HWM surveyed elevation (ft above datum)	Peak storm-tide estimated date	Vertical datum or reference point
			Decimal degrees				
FLLEE22967	Fla.	Lee	26.661	-81.721	11.6	09/11/2017	NAVD 88
FLLEE22972	Fla.	Lee	26.671	-81.726	10.6	09/11/2017	NAVD 88
FLLEE22969	Fla.	Lee	26.333	-81.759	11.7	09/11/2017	NAVD 88
FLLEE22969	Fla.	Lee	26.333	-81.759	11.8	09/11/2017	NAVD 88
FLLEE22974	Fla.	Lee	26.668	-81.726	11.0	09/11/2017	NAVD 88
FLLEE22977	Fla.	Lee	26.671	-81.731	10.5	09/11/2017	NAVD 88
FLLEE22976	Fla.	Lee	26.335	-81.753	12.1	09/11/2017	NAVD 88
FLLEE22981	Fla.	Lee	26.335	-81.750	12.9	09/11/2017	NAVD 88
FLLEE22986	Fla.	Lee	26.337	-81.749	13.0	09/11/2017	NAVD 88
FLLEE22989	Fla.	Lee	26.336	-81.755	11.9	09/11/2017	NAVD 88
FLLEE22993	Fla.	Lee	26.673	-81.736	9.2	09/11/2017	NAVD 88
FLLEE23001	Fla.	Lee	26.337	-81.760	11.5	09/11/2017	NAVD 88
FLLEE23055	Fla.	Lee	26.642	-81.688	18.5	09/11/2017	NAVD 88
FLLEE23072	Fla.	Lee	26.339	-81.765	10.1	09/11/2017	NAVD 88
FLLEE23074	Fla.	Lee	26.638	-81.683	18.1	09/11/2017	NAVD 88
FLLEE23076	Fla.	Lee	26.642	-81.686	19.1	09/11/2017	NAVD 88
FLLEE23079	Fla.	Lee	26.644	-81.685	17.4	09/11/2017	NAVD 88
FLLEE23083	Fla.	Lee	26.341	-81.772	7.6	09/11/2017	NAVD 88
FLLEE23088	Fla.	Lee	26.342	-81.773	7.2	09/11/2017	NAVD 88
FLLEE23094	Fla.	Lee	26.343	-81.779	6.3	09/11/2017	NAVD 88
FLLEE23095	Fla.	Lee	26.722	-81.726	4.2	09/11/2017	NAVD 88
FLLEE23096	Fla.	Lee	26.719	-81.725	4.3	09/11/2017	NAVD 88
FLLEE23097	Fla.	Lee	26.343	-81.778	6.2	09/11/2017	NAVD 88
FLLEE23100	Fla.	Lee	26.724	-81.714	4.2	09/11/2017	NAVD 88
FLLEE23105	Fla.	Lee	26.718	-81.666	5.3	09/11/2017	NAVD 88
FLLEE23109	Fla.	Lee	26.342	-81.783	5.5	09/11/2017	NAVD 88
FLLEE23112	Fla.	Lee	26.718	-81.652	5.2	09/11/2017	NAVD 88
FLLEE23117	Fla.	Lee	26.341	-81.789	4.9	09/11/2017	NAVD 88
FLLEE23124	Fla.	Lee	26.339	-81.826	4.3	09/11/2017	NAVD 88
FLLEE23126	Fla.	Lee	26.728	-81.666	11.2	09/11/2017	NAVD 88
FLLEE23130	Fla.	Lee	26.714	-81.611	4.6	09/11/2017	NAVD 88
FLLEE23131	Fla.	Lee	26.338	-81.816	3.8	09/11/2017	NAVD 88
FLLEE23142	Fla.	Lee	26.343	-81.800	4.3	09/11/2017	NAVD 88
FLLEE23145	Fla.	Lee	26.329	-81.768	9.6	09/11/2017	NAVD 88
FLLEE23149	Fla.	Lee	26.329	-81.767	10.1	09/11/2017	NAVD 88
FLLEE23160	Fla.	Lee	26.333	-81.730	14.9	09/11/2017	NAVD 88
FLMAR03740	Fla.	Martin	27.038	-80.111	1.3	09/11/2017	NAVD 88
FLMAR03740	Fla.	Martin	27.038	-80.111	1.2	09/11/2017	NAVD 88
FLMIA03794	Fla.	Miami-Dade	25.438	-80.327	5.0	09/11/2017	NAVD 88
FLMIA21052	Fla.	Miami-Dade	25.552	-80.351	4.8	09/11/2017	NAVD 88
FLMIA21077	Fla.	Miami-Dade	25.679	-80.257	6.6	09/11/2017	NAVD 88

Table 5. Number of sites equipped to monitor Hurricane Irma storm tide, by State and U.S. territory.—Continued

[Dates are shown as month, day, year, referenced to Coordinated Universal Time (UTC). HWM, high-water mark; ft, foot. State or U.S. territory: Fla., Florida; Ga., Georgia; N.C., North Carolina; S.C., South Carolina, P.R. Puerto Rico. Datums: NAVD 88, North American Vertical Datum of 1988; NGVD 29, National Geodetic Vertical Datum of 1929; PRVD02, Puerto Rico Vertical Datum of 2002. na, not available]

Site identification	State or U.S. territory	County	Latitude	Longitude	HWM surveyed elevation (ft above datum)	Peak storm-tide estimated date	Vertical datum or reference point
			Decimal degrees				
FLMIA03786	Fla.	Miami-Dade	25.539	-80.328	5.8	09/11/2017	NAVD 88
FLMON20862	Fla.	Monroe	25.002	-80.530	6.1	09/11/2017	NAVD 88
FLMON20862	Fla.	Monroe	25.003	-80.530	6.1	09/11/2017	NAVD 88
FLMON20862	Fla.	Monroe	25.003	-80.530	6.7	09/11/2017	NAVD 88
FLMON22427	Fla.	Monroe	24.671	-81.370	5.3	09/11/2017	NAVD 88
FLMON22427	Fla.	Monroe	24.671	-81.370	6.2	09/11/2017	NAVD 88
FLMON22427	Fla.	Monroe	24.671	-81.370	5.5	09/11/2017	NAVD 88
FLMON22449	Fla.	Monroe	24.670	-81.368	6.7	09/11/2017	NAVD 88
FLMON22453	Fla.	Monroe	24.552	-81.754	2.9	09/11/2017	NAVD 88
FLMON22453	Fla.	Monroe	24.552	-81.754	3.4	09/11/2017	NAVD 88
FLMON22468	Fla.	Monroe	24.669	-81.345	7.7	09/11/2017	NAVD 88
FLMON22468	Fla.	Monroe	24.669	-81.345	7.7	09/11/2017	NAVD 88
FLMON22476	Fla.	Monroe	24.666	-81.498	5.7	09/11/2017	NAVD 88
FLMON22476	Fla.	Monroe	24.666	-81.498	5.7	09/11/2017	NAVD 88
FLMON22484	Fla.	Monroe	24.549	-81.785	2.8	09/11/2017	NAVD 88
FLMON22484	Fla.	Monroe	24.549	-81.785	2.8	09/11/2017	NAVD 88
FLMON22485	Fla.	Monroe	24.561	-81.806	2.9	09/11/2017	NAVD 88
FLMON22485	Fla.	Monroe	24.561	-81.806	2.7	09/11/2017	NAVD 88
FLMON22487	Fla.	Monroe	24.666	-81.387	6.7	09/11/2017	NAVD 88
FLMON22487	Fla.	Monroe	24.666	-81.387	6.2	09/11/2017	NAVD 88
FLMON22505	Fla.	Monroe	25.709	-81.250	5.1	09/11/2017	NAVD 88
FLMON22505	Fla.	Monroe	25.709	-81.250	4.8	09/11/2017	NAVD 88
FLMON22507	Fla.	Monroe	24.936	-80.613	5.5	09/11/2017	NAVD 88
FLMON22508	Fla.	Monroe	25.035	-80.504	2.0	09/11/2017	NAVD 88
FLMON22510	Fla.	Monroe	24.728	-81.032	5.1	09/11/2017	NAVD 88
FLMON22509	Fla.	Monroe	25.075	-80.461	6.3	09/11/2017	NAVD 88
FLMON22511	Fla.	Monroe	25.041	-80.493	6.0	09/11/2017	NAVD 88
FLMON22516	Fla.	Monroe	25.311	-80.279	4.7	09/11/2017	NAVD 88
FLMON22512	Fla.	Monroe	25.077	-80.454	5.7	09/11/2017	NAVD 88
FLMON22523	Fla.	Monroe	25.333	-80.258	4.7	09/11/2017	NAVD 88
FLMON22530	Fla.	Monroe	25.140	-80.395	5.9	09/11/2017	NAVD 88
FLMON22537	Fla.	Monroe	25.245	-80.317	5.1	09/11/2017	NAVD 88
FLMON22538	Fla.	Monroe	25.163	-80.386	2.4	09/11/2017	NAVD 88
FLMON22539	Fla.	Monroe	24.691	-81.358	4.9	09/11/2017	NAVD 88
FLMON22540	Fla.	Monroe	25.041	-80.492	6.1	09/11/2017	NAVD 88
FLMON22541	Fla.	Monroe	24.773	-80.908	5.2	09/11/2017	NAVD 88
FLMON22543	Fla.	Monroe	25.014	-80.512	5.8	09/11/2017	NAVD 88
FLMON22545	Fla.	Monroe	24.666	-81.420	4.8	09/11/2017	NAVD 88
FLMON22548	Fla.	Monroe	24.667	-81.410	5.1	09/11/2017	NAVD 88
FLMON22549	Fla.	Monroe	24.650	-81.405	6.6	09/11/2017	NAVD 88
FLMON22550	Fla.	Monroe	24.661	-81.479	6.0	09/11/2017	NAVD 88

Table 5. Number of sites equipped to monitor Hurricane Irma storm tide, by State and U.S. territory.—Continued

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Site identification	State or U.S. territory	County	Latitude	Longitude	HWM surveyed elevation (ft above datum)	Peak storm-tide estimated date	Vertical datum or reference point
			Decimal degrees				
FLMON22551	Fla.	Monroe	24.649	-81.406	5.9	09/11/2017	NAVD 88
FLMON22552	Fla.	Monroe	24.663	-81.479	6.5	09/11/2017	NAVD 88
FLMON22554	Fla.	Monroe	24.660	-81.275	8.0	09/11/2017	NAVD 88
FLMON22555	Fla.	Monroe	24.661	-81.404	6.1	09/11/2017	NAVD 88
FLMON22556	Fla.	Monroe	24.635	-81.354	7.7	09/11/2017	NAVD 88
FLMON22557	Fla.	Monroe	24.777	-80.913	4.2	09/11/2017	NAVD 88
FLMON22558	Fla.	Monroe	24.772	-80.922	3.7	09/11/2017	NAVD 88
FLMON22560	Fla.	Monroe	24.973	-80.552	6.0	09/11/2017	NAVD 88
FLMON22561	Fla.	Monroe	24.768	-80.911	5.4	09/11/2017	NAVD 88
FLMON22562	Fla.	Monroe	24.995	-80.534	5.6	09/11/2017	NAVD 88
FLMON22563	Fla.	Monroe	24.755	-80.961	7.1	09/11/2017	NAVD 88
FLMON22564	Fla.	Monroe	25.002	-80.532	0.8	09/11/2017	Above ground level
FLMON22565	Fla.	Monroe	24.758	-80.967	3.9	09/11/2017	NAVD 88
FLMON22568	Fla.	Monroe	24.692	-81.083	5.8	09/11/2017	NAVD 88
FLMON22569	Fla.	Monroe	24.648	-81.332	6.9	09/11/2017	NAVD 88
FLMON22569	Fla.	Monroe	24.648	-81.332	6.5	09/11/2017	NAVD 88
FLMON22570	Fla.	Monroe	24.704	-81.109	5.2	09/11/2017	NAVD 88
FLMON22572	Fla.	Monroe	24.992	-80.542	2.4	09/11/2017	NAVD 88
FLMON22572	Fla.	Monroe	24.992	-80.542	2.4	09/11/2017	NAVD 88
FLMON22573	Fla.	Monroe	24.942	-80.606	5.4	09/11/2017	NAVD 88
FLMON22573	Fla.	Monroe	24.942	-80.606	5.9	09/11/2017	NAVD 88
FLMON22574	Fla.	Monroe	25.062	-80.477	2.5	09/11/2017	NAVD 88
FLMON22575	Fla.	Monroe	25.084	-80.458	2.6	09/11/2017	NAVD 88
FLMON22577	Fla.	Monroe	24.907	-80.645	5.7	09/11/2017	NAVD 88
FLMON22579	Fla.	Monroe	24.922	-80.629	5.7	09/11/2017	NAVD 88
FLMON22578	Fla.	Monroe	24.898	-80.658	4.8	09/11/2017	NAVD 88
FLMON22580	Fla.	Monroe	24.671	-81.340	6.9	09/11/2017	NAVD 88
FLMON22581	Fla.	Monroe	24.652	-81.373	5.4	09/11/2017	NAVD 88
FLMON22582	Fla.	Monroe	24.723	-81.401	3.9	09/11/2017	NAVD 88
FLMON22600	Fla.	Monroe	24.641	-81.569	4.0	09/11/2017	NAVD 88
FLMON22601	Fla.	Monroe	24.635	-81.552	3.7	09/11/2017	NAVD 88
FLMON22602	Fla.	Monroe	24.648	-81.573	3.4	09/11/2017	NAVD 88
FLMON22608	Fla.	Monroe	24.661	-81.519	3.5	09/11/2017	NAVD 88
FLMON22614	Fla.	Monroe	24.659	-81.519	1.7	09/11/2017	Above ground level
FLMON22621	Fla.	Monroe	24.657	-81.385	6.6	09/11/2017	NAVD 88
FLMON22621	Fla.	Monroe	24.657	-81.385	6.8	09/11/2017	NAVD 88
FLMON22622	Fla.	Monroe	24.676	-81.389	4.2	09/11/2017	NAVD 88
FLMON22623	Fla.	Monroe	24.687	-81.397	4.2	09/11/2017	NAVD 88
FLMON22625	Fla.	Monroe	24.643	-81.444	5.5	09/11/2017	NAVD 88
FLMON22627	Fla.	Monroe	24.651	-81.441	6.7	09/11/2017	NAVD 88
FLMON22636	Fla.	Monroe	24.662	-81.441	4.2	09/11/2017	NAVD 88

Table 5. Number of sites equipped to monitor Hurricane Irma storm tide, by State and U.S. territory.—Continued

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Site identification	State or U.S. territory	County	Latitude	Longitude	HWM surveyed elevation (ft above datum)	Peak storm-tide estimated date	Vertical datum or reference point
			Decimal degrees				
FLMON22695	Fla.	Monroe	24.650	-81.438	6.0	09/11/2017	NAVD 88
FLMON22746	Fla.	Monroe	24.660	-81.519	3.5	09/11/2017	NAVD 88
FLMON22835	Fla.	Monroe	24.955	-80.583	2.7	09/11/2017	NAVD 88
FLMON22836	Fla.	Monroe	24.950	-80.591	5.7	09/11/2017	NAVD 88
FLMON22542	Fla.	Monroe	25.024	-80.495	6.4	09/11/2017	NAVD 88
FLNAS21014	Fla.	Nassau	30.621	-81.439	na	na	NAVD 88
FLPAS23004	Fla.	Pasco	28.477	-82.194	65.4	09/11/2017	NAVD 88
FLPAS23075	Fla.	Pasco	28.475	-82.157	67.0	09/11/2017	NAVD 88
FLPAS23080	Fla.	Pasco	28.475	-82.137	68.6	09/11/2017	NAVD 88
FLPAS23084	Fla.	Pasco	28.464	-82.136	68.9	09/11/2017	NAVD 88
FLPAS23154	Fla.	Pasco	28.216	-82.690	17.9	09/11/2017	NAVD 88
FLPAS23155	Fla.	Pasco	28.213	-82.701	12.5	09/11/2017	NAVD 88
FLPAS23155	Fla.	Pasco	28.213	-82.701	12.5	09/11/2017	NAVD 88
FLPAS23156	Fla.	Pasco	28.210	-82.701	10.2	09/11/2017	NAVD 88
FLPAS23158	Fla.	Pasco	28.208	-82.708	9.0	09/11/2017	NAVD 88
FLPAS23150	Fla.	Pasco	28.218	-82.650	25.5	09/11/2017	NAVD 88
FLPAS23148	Fla.	Pasco	28.217	-82.661	24.8	09/11/2017	NAVD 88
FLPAS23151	Fla.	Pasco	28.212	-82.674	21.7	09/11/2017	NAVD 88
FLPAS23152	Fla.	Pasco	28.213	-82.679	20.1	09/11/2017	NAVD 88
FLPOL23089	Fla.	Polk	27.748	-81.780	77.7	09/11/2017	NAVD 88
FLPOL23093	Fla.	Polk	27.813	-81.794	86.8	09/11/2017	NAVD 88
FLSAR03505	Fla.	Sarasota	27.010	-82.412	na	na	NAVD 88
FLSTJ17848	Fla.	St. Johns	29.886	-81.286	6.9	09/11/2017	NAVD 88
FLSTJ03129	Fla.	St. Johns	29.680	-81.221	na	na	NAVD 88
FLSTJ21090	Fla.	St. Johns	29.938	-81.299	na	na	NAVD 88
FLSTJ03117	Fla.	St. Johns	30.133	-81.385	na	na	NAVD 88
FLSTJ03117	Fla.	St. Johns	30.133	-81.385	5.7	09/11/2017	NAVD 88
FLSTJ03118	Fla.	St. Johns	29.949	-81.310	na	na	NAVD 88
FLSTJ03118	Fla.	St. Johns	29.949	-81.310	6.5	09/11/2017	NAVD 88
FLSTJ03115	Fla.	St. Johns	30.211	-81.410	na	na	NAVD 88
FLSTJ22830	Fla.	St. Johns	29.960	-81.543	4.8	09/11/2017	NAVD 88
FLSTJ22831	Fla.	St. Johns	29.951	-81.583	3.0	09/11/2017	NAVD 88
FLSTJ22834	Fla.	St. Johns	29.956	-81.548	4.7	09/11/2017	NAVD 88
FLSTJ22833	Fla.	St. Johns	29.948	-81.575	3.1	09/11/2017	NAVD 88
FLSTJ22840	Fla.	St. Johns	29.928	-81.585	2.6	09/11/2017	NAVD 88
FLSTJ22841	Fla.	St. Johns	29.967	-81.567	na	na	Above ground level
FLSTJ22844	Fla.	St. Johns	29.924	-81.592	5.0	09/11/2017	NAVD 88
FLSTJ22847	Fla.	St. Johns	29.907	-81.507	9.5	09/11/2017	NAVD 88
FLSTJ22847	Fla.	St. Johns	29.906	-81.507	9.9	09/11/2017	NAVD 88
FLSTJ22852	Fla.	St. Johns	29.910	-81.592	6.3	09/11/2017	NAVD 88
FLSTJ22856	Fla.	St. Johns	29.941	-81.524	5.4	09/11/2017	NAVD 88

Table 5. Number of sites equipped to monitor Hurricane Irma storm tide, by State and U.S. territory.—Continued

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Site identification	State or U.S. territory	County	Latitude	Longitude	HWM surveyed elevation (ft above datum)	Peak storm-tide estimated date	Vertical datum or reference point
			Decimal degrees				
FLSTJ22865	Fla.	St. Johns	29.985	-81.564	2.2	09/11/2017	NAVD 88
FLSTJ22873	Fla.	St. Johns	29.988	-81.580	4.9	09/11/2017	NAVD 88
FLSTJ22890	Fla.	St. Johns	29.718	-81.504	5.3	09/11/2017	NAVD 88
FLSTJ22956	Fla.	St. Johns	29.661	-81.466	10.8	09/11/2017	NAVD 88
FLSTJ22964	Fla.	St. Johns	30.126	-81.594	5.6	09/11/2017	NAVD 88
FLSTJ22959	Fla.	St. Johns	30.128	-81.604	5.7	09/11/2017	NAVD 88
FLSTJ22925	Fla.	St. Johns	30.130	-81.614	5.6	09/11/2017	NAVD 88
FLSTJ22893	Fla.	St. Johns	30.130	-81.622	5.6	09/11/2017	NAVD 88
FLSTJ22878	Fla.	St. Johns	30.129	-81.624	5.6	09/11/2017	NAVD 88
FLSTJ22973	Fla.	St. Johns	29.818	-81.551	4.5	09/11/2017	NAVD 88
FLSTJ22968	Fla.	St. Johns	29.800	-81.543	4.0	09/11/2017	NAVD 88
FLSTJ22996	Fla.	St. Johns	30.126	-81.587	2.3	09/11/2017	NAVD 88
FLSTJ22996	Fla.	St. Johns	30.126	-81.587	2.5	09/11/2017	NAVD 88
FLSTJ23077	Fla.	St. Johns	30.117	-81.641	3.5	09/11/2017	NAVD 88
FLSTJ23085	Fla.	St. Johns	30.096	-81.638	1.6	09/11/2017	Above ground level
FLSTJ23102	Fla.	St. Johns	29.889	-81.318	4.7	09/11/2017	NAVD 88
FLSTJ23106	Fla.	St. Johns	29.894	-81.303	4.8	09/11/2017	NAVD 88
FLSTJ23113	Fla.	St. Johns	29.886	-81.293	6.0	09/11/2017	NAVD 88
FLSTJ23118	Fla.	St. Johns	29.918	-81.317	5.5	09/11/2017	NAVD 88
FLSTJ23120	Fla.	St. Johns	29.912	-81.296	5.8	09/11/2017	NAVD 88
FLSTJ23122	Fla.	St. Johns	29.916	-81.290	5.3	09/11/2017	NAVD 88
FLSTJ23127	Fla.	St. Johns	29.922	-81.298	4.1	09/11/2017	NAVD 88
FLSTJ23133	Fla.	St. Johns	29.941	-81.308	4.0	09/11/2017	NAVD 88
FLSTJ23144	Fla.	St. Johns	29.886	-81.314	5.2	09/11/2017	NAVD 88
FLSTJ23161	Fla.	St. Johns	29.795	-81.269	6.3	09/11/2017	NAVD 88
FLSTJ23168	Fla.	St. Johns	29.721	-81.506	3.2	09/11/2017	NAVD 88
FLSTJ23199	Fla.	St. Johns	29.784	-81.263	5.4	09/11/2017	NAVD 88
FLVOL03138	Fla.	Volusia	29.287	-81.055	4.5	09/11/2017	NAVD 88
GABRY17888	Ga.	Bryan	31.979	-81.288	6.1	09/11/2017	NAVD 88
GABRY17883	Ga.	Bryan	31.791	-81.202	8.9	09/11/2017	NAVD 88
GABRY21250	Ga.	Bryan	31.886	-81.212	8.3	09/11/2017	NAVD 88
GACAM17823	Ga.	Camden	30.720	-81.549	5.8	09/11/2017	NAVD 88
GACAM21130	Ga.	Camden	30.745	-81.600	6.0	09/11/2017	NAVD 88
GACAM17830	Ga.	Camden	30.742	-81.688	6.1	09/11/2017	NAVD 88
GACAM17842	Ga.	Camden	30.771	-81.581	8.0	09/11/2017	NAVD 88
GACAM17840	Ga.	Camden	30.845	-81.560	6.5	09/11/2017	NAVD 88
GACAM17833	Ga.	Camden	30.849	-81.635	7.1	09/11/2017	NAVD 88
GACAM17853	Ga.	Camden	31.035	-81.640	7.3	09/11/2017	NAVD 88
GACAM21305	Ga.	Camden	31.077	-81.727	7.5	09/11/2017	NAVD 88
GACAM17822	Ga.	Camden	31.114	-81.614	7.8	09/11/2017	NAVD 88
GACHA17852	Ga.	Chatham	32.008	-81.238	6.9	09/11/2017	NAVD 88

Table 5. Number of sites equipped to monitor Hurricane Irma storm tide, by State and U.S. territory.—Continued

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Site identification	State or U.S. territory	County	Latitude	Longitude	HWM surveyed elevation (ft above datum)	Peak storm-tide estimated date	Vertical datum or reference point
			Decimal degrees				
GACHA21823	Ga.	Chatham	32.031	-80.901	8.3	09/11/2017	NAVD 88
GACHA17861	Ga.	Chatham	31.958	-81.011	8.5	09/11/2017	NAVD 88
GACHA17866	Ga.	Chatham	31.890	-81.062	8.4	09/11/2017	NAVD 88
GACHA17870	Ga.	Chatham	31.929	-81.070	8.5	09/11/2017	NAVD 88
GACHA17863	Ga.	Chatham	31.947	-81.067	na	na	NAVD 88
GACHA17816	Ga.	Chatham	32.006	-80.842	10.8	09/11/2017	NAVD 88
GACHA17841	Ga.	Chatham	32.020	-80.992	8.7	09/11/2017	NAVD 88
GACHA17838	Ga.	Chatham	32.004	-80.961	8.4	09/11/2017	NAVD 88
GACHA17845	Ga.	Chatham	32.035	-81.045	8.0	09/11/2017	NAVD 88
GACHA17851	Ga.	Chatham	32.084	-81.158	10.1	09/11/2017	NAVD 88
GACHA17858	Ga.	Chatham	32.106	-81.196	6.4	09/11/2017	NAVD 88
GACHA17860	Ga.	Chatham	32.161	-81.183	7.0	09/11/2017	NAVD 88
GACHA17817	Ga.	Chatham	32.008	-80.849	7.9	09/11/2017	NAVD 88
GACHA17818	Ga.	Chatham	32.008	-80.852	7.9	09/11/2017	NAVD 88
GAGLY17810	Ga.	Glynn	31.171	-81.428	7.6	09/11/2017	NAVD 88
GAGLY17790	Ga.	Glynn	31.021	-81.434	7.2	09/11/2017	NAVD 88
GAGLY17795	Ga.	Glynn	31.063	-81.405	13.5	09/11/2017	NAVD 88
GAGLY17879	Ga.	Glynn	31.295	-81.344	7.9	09/11/2017	NAVD 88
GAGLY17783	Ga.	Glynn	31.088	-81.480	7.9	09/11/2017	NAVD 88
GAGLY17854	Ga.	Glynn	31.191	-81.659	8.6	09/11/2017	NAVD 88
GAGLY17811	Ga.	Glynn	31.185	-81.533	9.2	09/11/2017	NAVD 88
GAGLY17881	Ga.	Glynn	31.221	-81.393	8.0	09/11/2017	NAVD 88
GALIB17857	Ga.	Liberty	31.770	-81.278	8.5	09/11/2017	NAVD 88
GALIB17856	Ga.	Liberty	31.710	-81.239	8.9	09/11/2017	NAVD 88
GAMCI17828	Ga.	Mcintosh	31.454	-81.363	8.8	09/11/2017	NAVD 88
GAMCI17837	Ga.	Mcintosh	31.531	-81.359	8.7	09/11/2017	NAVD 88
GAMCI17827	Ga.	Mcintosh	31.569	-81.322	8.8	09/11/2017	NAVD 88
GAMCI17834	Ga.	Mcintosh	31.488	-81.445	13.0	09/11/2017	NAVD 88
GAMCI17884	Ga.	Mcintosh	31.368	-81.437	7.2	09/11/2017	NAVD 88
PRCAR20632	P.R.	Municipality of Carolina	18.451	-65.996	7.5	09/07/2017	PRVD02
PRCAR20632	P.R.	Municipality of Carolina	18.451	-65.996	7.8	09/07/2017	PRVD02
PRDOR20633	P.R.	Municipality of Dorado	18.476	-66.277	7.1	09/07/2017	PRVD02
PRDOR20633	P.R.	Municipality of Dorado	18.476	-66.277	7.6	09/07/2017	PRVD02
PRDOR23537	P.R.	Municipality of Dorado	18.472	-66.284	6.1	09/07/2017	PRVD02
PRDOR22705	P.R.	Municipality of Dorado	18.470	-66.247	13.8	09/07/2017	PRVD02
PRFAJ20587	P.R.	Municipality of Fajardo	18.346	-65.637	3.5	09/07/2017	PRVD02

Table 5. Number of sites equipped to monitor Hurricane Irma storm tide, by State and U.S. territory.—Continued

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Site identification	State or U.S. territory	County	Latitude	Longitude	HWM surveyed elevation (ft above datum)	Peak storm-tide estimated date	Vertical datum or reference point
			Decimal degrees				
PRFAJ20587	P.R.	Municipality of Fajardo	18.346	-65.636	3.4	09/07/2017	PRVD02
PRFAJ20587	P.R.	Municipality of Fajardo	18.346	-65.636	3.4	09/07/2017	PRVD02
PRHUM20650	P.R.	Municipality of Humacao	18.164	-65.743	2.5	09/07/2017	PRVD02
PRHUM20650	P.R.	Municipality of Humacao	18.164	-65.743	1.7	09/07/2017	PRVD02
PRHUM20650	P.R.	Municipality of Humacao	18.164	-65.743	2.1	09/07/2017	PRVD02
PRHUM20650	P.R.	Municipality of Humacao	18.164	-65.743	2.0	09/07/2017	PRVD02
PRHUM20650	P.R.	Municipality of Humacao	18.164	-65.743	2.2	09/07/2017	PRVD02
PRHUM20650	P.R.	Municipality of Humacao	18.164	-65.743	2.3	09/07/2017	PRVD02
PRLOI20636	P.R.	Municipality of Loiza	18.423	-65.830	6.5	09/07/2017	PRVD02
PRLOI20636	P.R.	Municipality of Loiza	18.423	-65.830	na	na	
PRLOI22698	P.R.	Municipality of Loiza	18.450	-65.904	5.9	09/07/2017	PRVD02
PRLOI20636	P.R.	Municipality of Loiza	18.423	-65.830	7.2	09/07/2017	PRVD02
PRLOI22698	P.R.	Municipality of Loiza	18.450	-65.904	na	na	
PRMAN22699	P.R.	Municipality of Manati	18.470	-66.450	14.3	09/07/2017	PRVD02
PRMAU22713	P.R.	Municipality of Maunabo	18.006	-65.872	7.4	09/07/2017	PRVD02
PRSAN20648	P.R.	Municipality of San Juan	18.453	-66.043	8.6	09/07/2017	PRVD02
PRTOA20649	P.R.	Municipality of Toa Baja	18.456	-66.180	8.3	09/07/2017	PRVD02
PRTOA20649	P.R.	Municipality of Toa Baja	18.456	-66.180	8.3	09/07/2017	PRVD02
PRTOA22708	P.R.	Municipality of Toa Baja	18.452	-66.159	9.8	09/07/2017	PRVD02
PRTOA23538	P.R.	Municipality of Toa Baja	18.453	-66.177	11.4	09/07/2017	PRVD02
PRTOA22709	P.R.	Municipality of Toa Baja	18.464	-66.141	4.5	09/07/2017	PRVD02
PRVEG22702	P.R.	Municipality of Vega Alta	18.483	-66.338	5.9	09/07/2017	PRVD02
PRVEG23492	P.R.	Municipality of Vega Alta	18.489	-66.412	8.3	09/07/2017	PRVD02
PRVEG20634	P.R.	Municipality of Vega Alta	18.489	-66.406	8.0	09/07/2017	PRVD02

Table 5. Number of sites equipped to monitor Hurricane Irma storm tide, by State and U.S. territory.—Continued

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Site identification	State or U.S. territory	County	Latitude	Longitude	HWM surveyed elevation (ft above datum)	Peak storm-tide estimated date	Vertical datum or reference point
			Decimal degrees				
PRVEG20634	P.R.	Municipality of Vega Alta	18.489	-66.406	8.1	09/07/2017	PRVD02
PRVEG22701	P.R.	Municipality of Vega Alta	18.489	-66.392	11.8	09/07/2017	PRVD02
PRYAB20635	P.R.	Municipality of Yabucoa	18.063	-65.816	2.8	09/07/2017	PRVD02
PRYAB20635	P.R.	Municipality of Yabucoa	18.063	-65.816	2.4	09/07/2017	PRVD02
PRYAB20635	P.R.	Municipality of Yabucoa	18.063	-65.816	2.3	09/07/2017	PRVD02
PRYAB20635	P.R.	Municipality of Yabucoa	18.063	-65.816	2.7	09/07/2017	PRVD02
PRYAB20635	P.R.	Municipality of Yabucoa	18.063	-65.816	2.8	09/07/2017	PRVD02
PRYAB20635	P.R.	Municipality of Yabucoa	18.063	-65.816	2.7	09/07/2017	PRVD02
SCBEA14291	S.C.	Beaufort	32.453	-80.702	8.8	09/11/2017	NAVD 88
SCBEA14281	S.C.	Beaufort	32.390	-80.775	8.5	09/11/2017	NAVD 88
SCBEA14285	S.C.	Beaufort	32.287	-80.814	8.6	09/11/2017	NAVD 88
SCBEA14280	S.C.	Beaufort	32.231	-80.794	8.7	09/11/2017	NAVD 88
SCBEA14287	S.C.	Beaufort	32.140	-80.809	8.2	09/11/2017	NAVD 88
SCBEA14293	S.C.	Beaufort	32.177	-80.770	8.2	09/11/2017	NAVD 88
SCBEA14289	S.C.	Beaufort	32.352	-80.701	6.9	09/11/2017	NAVD 88
SCBEA14283	S.C.	Beaufort	32.376	-80.717	8.6	09/11/2017	NAVD 88
SCBEA14282	S.C.	Beaufort	32.484	-80.600	8.4	09/11/2017	NAVD 88
SCCHA14308	S.C.	Charleston	32.940	-79.657	6.9	09/11/2017	NAVD 88
SCCHA14302	S.C.	Charleston	32.816	-79.809	6.7	09/11/2017	NAVD 88
SCCHA14305	S.C.	Charleston	32.772	-79.842	7.0	09/11/2017	NAVD 88
SCCHA14297	S.C.	Charleston	32.663	-79.944	7.1	09/11/2017	NAVD 88
SCCHA14307	S.C.	Charleston	33.038	-79.561	6.6	09/11/2017	NAVD 88
SCCHA14300	S.C.	Charleston	32.636	-80.341	7.0	09/11/2017	NAVD 88
SCCHA14311	S.C.	Charleston	32.628	-80.029	6.7	09/11/2017	NAVD 88
SCCHA14310	S.C.	Charleston	32.598	-80.196	7.0	09/11/2017	NAVD 88
SCCOL14313	S.C.	Colleton	32.494	-80.339	7.2	09/11/2017	NAVD 88
SCGEO14322	S.C.	Georgetown	33.362	-79.383	5.4	09/11/2017	NAVD 88
SCGEO14317	S.C.	Georgetown	33.513	-79.181	3.8	09/11/2017	NAVD 88
SCGEO14323	S.C.	Georgetown	33.368	-79.169	5.7	09/11/2017	NAVD 88
SCGEO14318	S.C.	Georgetown	33.471	-79.101	6.0	09/11/2017	NAVD 88
SCGEO14321	S.C.	Georgetown	33.527	-79.031	7.0	09/11/2017	NAVD 88
SCGEO14325	S.C.	Georgetown	33.562	-79.086	6.5	09/11/2017	NAVD 88
SCHOR00003	S.C.	Horry	33.681	-78.892	7.1	09/11/2017	NAVD 88
SCHOR14329	S.C.	Horry	33.841	-78.617	4.8	09/11/2017	NAVD 88
SCHOR14331	S.C.	Horry	33.741	-78.867	4.0	09/11/2017	NAVD 88

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			Decimal degrees				
SCHOR14328	S.C.	Horry	33.603	-78.974	6.9	09/11/2017	NAVD 88
SCHOR14335	S.C.	Horry	33.641	-78.948	5.9	09/11/2017	NAVD 88
SCHOR17780	S.C.	Horry	33.759	-78.793	5.4	09/11/2017	NAVD 88

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