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Long Mott Energy, LLC

PSAR Subsection 2.4.5, “Probable Maximum Surge and Seiche Flooding”

CHAPTER 2

SUBSECTION 2.4.5 PROBABLE MAXIMUM SURGE AND SEICHE FLOODING

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ACRONYMS AND ABBREVIATIONS

Acronym/Abbreviation	Definition
ADCIRC	ADvanced CIRCulation model
ANSI/ANS	American National Standards Institute/American Nuclear Society
AWL	antecedent water level
CEM	Coastal Engineering Manual
CUDEM	NOAA Continuously Updated Digital Elevation Model
ft	feet
ft^2/s	square feet per second
HSOFS	NOAA Hurricane Surge On-Demand Forecast System
in.	inch(es)
in. Hg	inch(es) Mercury
km	kilometer(s)
kt	knot(s)
LMGS	Long Mott Generating Station
m	meter(s)
m/s	meter(s) per second
m^2/s	square meter(s) per second
mb	millibar(s)
mi	mile(s)
min	minute(s)
mm	millimeter(s)

MSL	mean sea level
NAVD 88	North American Vertical Datum of 1988
NDBC	NOAA National Data Buoy Center
nm	nautical mile(s)
NOAA	National Oceanic and Atmospheric Administration
NWS	National Weather Service
NWS 23	NOAA NWS Report 23
PMH	probable maximum hurricane
PMSS	probable maximum storm surge
psf	pound(s) per square foot
s	second(s)
SLR	sea level rise
SLOSH	NOAA Sea Lake and Overland Surge from Hurricanes (computer model)
SWAN	Simulating WAves Nearshore
USACE	United States Army Corps of Engineers
WNA	Western North Atlantic
WSEL	water surface elevation

Chapter 2 Site Characteristics

2.4 HYDROLOGY

2.4.5 PROBABLE MAXIMUM SURGE AND SEICHE FLOODING

The following site-specific information describes the effects of probable maximum surge and seiche flooding on the safety-related facilities at the Long Mott Generating Station (LMGS) site.

2.4.5.1 Probable Maximum Winds and Associated Meteorological Parameters

The probable maximum storm surge (PMSS) is defined in Subsection 2.4.5 of NUREG-0800 as the surge that results from a combination of meteorological parameters of a probable maximum hurricane (PMH), a probable maximum windstorm, or a moving squall line and has virtually no probability of being exceeded in the region involved.

Based on historical tide gauge records described in Subsection 2.4.5.2, it is evident that the meteorological event that would produce the PMSS along the Texas Gulf Coast near the LMGS site would be a PMH.

According to Subsection 2.4.5 of NUREG-0800, for sites such as the LMGS site that are not located on the Great Lakes or any other lake, moving squall lines or the probable maximum windstorm would not produce the PMSS.

As defined by National Oceanic and Atmospheric Administration (NOAA) National Weather Service (NWS) Report 23 (NWS -23), the PMH is a hypothetical steady state hurricane having a combination of values of meteorological parameters that ~~will~~ give the highest sustained wind speed that can probably occur at a specified coastal location (NWS, 1979).

The meteorological parameters that define the PMH wind field include the hurricane peripheral pressure (p_p), central pressure (p_c), radius of maximum winds (R_m), forward speed (T), and track direction (Θ).

The PMH parameters at the Texas Gulf Coast near the LMGS site are obtained from ~~NOAA Technical Report NWS-23 (~~NWS -23~~)~~ and are summarized in Table 2.4.5-1. The PMH parameter values were established based on data from historical hurricanes from 1851 –~~-~~ 1977 and were presented for multiple locations along the Gulf and Atlantic Coast shoreline in accordance with their milepost distances from the United States-Mexico border. The milepost distance to the shoreline location nearest to the LMGS site is estimated to be 290 nautical miles (nm) (NWS, 1979~~-23~~).

The pressure difference between the hurricane peripheral and central pressures, Δp, is identified as the most important meteorological parameter in defining the hurricane wind field (NWS, 1979~~-23~~). ~~NOAA Technical Report~~ NWS -23 provides single values of PMH peripheral and central pressures along the mileposts. However, a range of values (i.e., lower and upper bounds) is provided for the other PMH parameters. At milepost 290 n~~autical mi~~m~~.~~, the PMH peripheral and central pressures are 30.12 in. Hg (1020 mb) and 26.19 in. Hg (886.9 mb), respectively, with a Δp of 3.93 in. Hg, or 133.1 mb. An ambient atmospheric pressure of 1015 mb was assumed based on observations. The corresponding lower and upper bounds of the radius of maximum wind are 5 and 21 ~~nautical mi~~nm (9.3 and 38.9 km). The lower and upper bounds of the forward speed are 6 and 20 kt (11.1 and 37.0 km per hour). The track direction, ϴ, is found to be dependent on the hurricane forward speed, and the lower and upper bounds of ϴ are given as 86 and 191 degrees (clockwise from the north), respectively. The maximum 1-min, 10-m sustained wind speed reasonably possible in this region is 154.3 kt (285.8 km per hour).

The effect of long-term climate variability on hurricane intensity is an area of active research. Since 1977, several intense hurricanes have made landfall on the Gulf of Mexico Coast, including Hurricanes Katrina and Rita in 2005 and Hurricane Harvey in 2017, the three most intense hurricanes in recent times. The most severe hurricane that made landfall near the LMGS site shoreline is the Indianola Hurricane of August 1886, with central pressure of 27.33 in. Hg, or 925 mb, as described in Subsection 2.4.5.2.1.

The PMH central pressure for the Gulf Coast near the LMGS site (i.e., 886.9 mb) is lower than the central pressure of the most intense hurricane recorded in history (i.e., 925 mb, Indianola 1886). Because ~~NOAA Technical Report NWS-23 (~~NWS -23~~)~~ includes the last active hurricane period from 1945 to 1970 (and any such earlier periods from 1851) in the analysis (NWS, 1979), it is reasonable to assume that the PMH parameters thus derived are sufficiently conservative even when considering future climate variability.

2.4.5.2 Surge and Seiche Water Level

The LMGS site is located on the north-east corner of San Antonio Bay at latitude 28.525°, longitude 96.765° (Figure 2.4.5-1), on Coloma Creek approximately 16 mi~~.~~ (26 km) upstream from its confluence with Powderhorn Lake, Texas. The storm surge at the LMGS site is caused by the coastal storm surge in the vicinity of the San Antonio River and mouth of the Coloma Creek through Matagorda Bay.

The natural ground at the site varies in elevation from approximately 26 ft (8.3 m) to above 28 ft (8.5 m) in North American Vertical Datum of 1988 (NAVD 88). The finished floor grade of all safety-related structures is at elevation 31.5 ft (9.6 m) NAVD 88. The PMSS at the site is postulated to be caused by storm surges that would propagate upstream through the San Antonio Bay system as well as Matagorda Bay and Coloma Creek from the Gulf of Mexico shoreline. Figure 2.4.5-1 shows the location of the site relative to the Texas Gulf Coast, the San Antonio Bay, and the Matagorda Bay-Coloma Creek system. Because the site is not located on an open coast or a large body of water, seiche events would not affect the site.

2.4.5.2.1 Historical Hurricane Events and Storm Surge

A list of hurricanes that made landfall on the Texas Gulf Coast from 1851 to 2023 is presented in Table 2.4.5-2 (Blake, et al. ~~2007~~ 2011 and NOAA, 2024a). Figure 2.4.5-2 shows the tracks of all hurricanes in the Gulf of Mexico from 1851 to 2023 with intensities of Hurricane Category 1 and above on the Saffir-Simpson Hurricane Scale. Figure 2.4.5-3 shows the variation in the central pressures of the hurricanes tabulated in Table 2.4.5-2. As indicated in Table 2.4.5-2 and Figure 2.4.5-3, the August 1886 Indianola Hurricane was the most intense hurricane that affected the Texas Gulf Coast. The hurricane made landfall on the Calhoun County, Texas, coast near the LMGS site, as shown on Figure 2.4.5-2.

The next most severe hurricane that made landfall near the LMGS site was Hurricane Carla in September 1961. This Category 4 hurricane made landfall on the Matagorda Bay coast and resulted in a surge water level of about 16.6 ft (5.1 m) above mean sea level (MSL) at Port Lavaca (USACE, 1975), which based on the vertical datum conversion is approximately 17.3 ft (5.3 m) NAVD 88 factor at Rockport, Texas (NOAA, 2024b). A high-water line varying from 15.7 to 22 ft (4.8 to 6.7 m) above MSL (approximately 16.4 to 22.7 ft, or 5.0 to 6.9 m, NAVD 88) was established based on debris lines near the head of Lavaca Bay, including, probably, the effects of wave setup and run-up (USACE, 1975).

The most severe hurricane within the past decade was Hurricane Harvey in September 2017. This Category 4 hurricane made landfall on the Aransas Bay coast and resulted in a surge water level of about 7.2 ft (2.2 m) above MSL at Port Lavaca (NOAA, 2024c), which based on the vertical datum conversion factor is approximately 7.9 ft (2.4 m) NAVD 88 at Rockport, Texas (NOAA, 2024b). The highest inundations (8 to 10 ft above ground level) likely occurred along the western shores of San Antonio Bay and adjacent Hynes Bay (Blake and Zelinsky, 2018).

Storm surges from severe hurricanes in the Gulf of Mexico region with landfall beyond the Texas Coast, as shown on Figure 2.4.5-2, could also affect the coastal region near the LMGS site. However, the impact of such hurricane surges on the LMGS site would be small.

2.4.5.2.2 Storm Surge Analysis

The maximum storm surge elevation at the LMGS site is estimated based on the propagation of the PMSS through the San Antonio Bay and Matagorda Bay-Coloma Creek system. A step-wise approach consistent with the Hierarchical Hazard Assessment methodology described by NUREG/CR-7046, Design Basis Flood Estimation for Site Characterization at Nuclear Power Plants, was used to deterministically evaluate the PMSS stillwater elevation (i.e., the elevation of the surface of the water in the absence of waves and wave set-up) at the LMGS site. As discussed below, two different hydrodynamic models were applied in a phased approach.

In a first phase of modeling, a screening-level assessment was performed using the two-dimensional NOAA Sea Lake and Overland Surge from Hurricanes (SLOSH) computer model, version 4.22 (NOAA, 2021 and NOAA, 2017). The SLOSH model is computationally efficient, allowing many simulations to be performed over a relatively short period of time. However, the SLOSH model has limitations, including its relatively coarse, structured model grid and the inability to represent dynamic tides and external boundary fluxes (e.g., river flow). Therefore, in a second phase of modeling (i.e., refinement-level assessment), additional simulations ~~will be~~were performed using the ADvanced CIRCulation (ADCIRC) model (Westerink et al., 1994). While ADCIRC is not hindered by many of the limitations associated with SLOSH, the high-resolution, finite-element mesh and related high computational demand prevent broad applications (i.e., only a limited number of storm simulations is practicable in the context of a given analysis). Thus, ADCIRC ~~will be~~was applied in a targeted fashion (i.e., refinement-level assessment) to further evaluate the storms identified during the screening-level assessment that are predicted to cause large surges at the LMGS site and to develop the final PMSS stillwater elevations. The ADCIRC model is integrated with the SWAN (Simulating WAves Nearshore) model to incorporate the effects of ocean surface waves in surge calculations. The screening level assessment is described in Subsection 2.4.5.2.2.5 and the ~~Additional site-specific analyses and associated information that includes the refinement level assessment using ADCIRC will be provided by the end of 2025.~~ refined PMSS analysis is described in Subsection 2.4.5.2.2.6. ~~Although the~~

The SLOSH model does not account for the ocean surface wave component of storm surge.~~,~~ ~~the ADCIRC model is integrated with the SWAN (Simulating WAves Nearshore) model to incorporate the effects of ocean surface waves in surge calculations.~~ Preliminary analysis indicated~~s~~ that the SLOSH model predicts higher water surface elevations (WSEL) than ADCIRC in this region. Thus, it was expected that SLOSH model results would bound those of the refined PMSS analysis. The results of the refined analysis using ADCIRC, without accounting for wave run-up, confirmed this prediction. Wave run-up was then added to this water level using SWAN. ~~The conservatism inherent in SLOSH can be partially offset by the wave impacts generated by SWAN. Therefore, the water surface elevation results obtained from SLOSH and presented herein are expected to be bounding.~~

2.4.5.2.2.1 Generation of an Initial Storm Set

An Initial Storm Set was generated using the PMH parameters described in Subs~~s~~ection 2.4.5.1.

The following tropical cyclone parameters were considered in developing the Initial Storm Set:

- Radius of maximum winds
- Storm forward speed
- Storm bearing (i.e., storm heading relative to due north)
- Central p~~P~~ressure deficit
- Landfall locations

The potential PMH parameters and parameter ranges are summarized in Table 2.4.5-1 and ~~Table 2.4.5-3~~Table 2.4.5-4.

Synthetic storm tracks were first created by combining nine potential storm bearings (i.e., +80 degrees~~°~~ to +200 degrees~~°~~ in 15 degree~~°~~ intervals) with eight potential landfall locations (Figure 2.4.5-4 and Figure 2.4.5-5) spanning the distances between NWS ~~-~~23 m~~M~~ilep~~-P~~osts 230 and 300 (NWS, 1979~~-23~~). The coordinates of these landfall locations are provided in Table 2.4.5-3. These landfall location selections reflect the understanding that regional storm surge (i.e., open-ocean surge approaching the coastline) must pass through the eastern opening of San Antonio Bay as well as Matagorda Bay and be routed to the vicinity of the LMGS site. Storms making landfall to the west of m~~M~~ilep~~-P~~ost 230 and to the east of m~~M~~ile~~-P~~post 300 are not likely to maximize these conditions based on storm size restrictions, as indicated by the PMH parameters established in Subsection 2.4.5.1, and/or misalignment between maximum winds and direct routes to the LMGS site (i.e., the momentum required to carry very large storm surges to the LMGS site would not be maintained). Seventy-two storm tracks were created based on these nine potential bearings and eight potential landfall locations. Each potential storm track was then expanded into a set of storms using the ranges of forward speed and radius of maximum wind. Whereas a single maximum wind speed was determined for each bearing, the radius of maximum winds and forward speed parameters were presented as ranges (i.e., with upper and lower bounds varying by bearing). Thus, in generating the Initial Storm Set, each range was divided into units of 5 mi and 5 kt, respectively, and a unique hypothetical (i.e., synthetic) storm was created for each combination of values. The upper and lower bounds of the ranges presented in the PMH calculation do not necessarily correspond to multiples of 5 mi or 5 kt; therefore, in generating the Initial Storm Set, the ranges were rounded to the nearest multiple (i.e., to span each range). The resulting Initial Storm Set included 1440 unique synthetic storms, each with a unique storm identification number.

2.4.5.2.2.2 Adjustment of Central Pressure Deficit

SLOSH is a dynamic, two-dimensional, numerical finite-difference computer model used to estimate storm surge heights and winds resulting from historical, hypothetical, or predicted hurricanes. The SLOSH model was developed by the NOAA NWS Meteorological Development Laboratory based in Silver Spring, Maryland. The SLOSH model requires input representing storm track coordinates (i.e., direction and translational speed), radius of maximum winds, and central pressure deficit (i.e., the absolute difference between the peripheral/ambient pressure and the minimum pressure at the center of the storm) to calculate storm surge heights. The model accounts for both the hurricane wind field and the pressure differential when calculating storm surge (NOAA, 1992). SLOSH uses a simplified parametric wind model based on central pressure deficit and radius of maximum winds to calculate the surface stresses over water that generate storm surge. One half of the hurricane's forward speed is added vectorially to the symmetric winds to provide wind field asymmetry (NOAA, 1992) due to the storm translational speed. SLOSH uses a look-up procedure to derive a maximum wind speed for use in the internal wind model based on several input parameters, including central pressure deficit, radius of maximum winds, and latitude of the center of the model mesh. Maximum wind speed is not directly accepted as input (NOAA, 2021).

Sensitivity analysis on the synthetic storm tracks showed that the wind velocity exceeds the upper limit of wind speed established in Subsection 2.4.5.1. Therefore, central pressure deficit was adjusted through trial and error to limit the maximum wind speed below the acceptable upper limit. The calculated central pressure deficit according to NWS -23 (see Subsection 2.4.5.1) is 133.1 mb (NWS, 1979). The adjusted central pressure deficit varied in synthetic storm sets from 100 mb to 133.1 mb based on maximum velocity calculated by SLOSH program.

All PMH parameters, including revised central pressure deficit, are provided in Table 2.4.5-4.

2.4.5.2.2.3 Calculation of the Antecedent Water Level

In accordance with NUREG/CR-7046, the PMSS is required to be evaluated coincident with an antecedent water level (AWL) equal to the ten percent exceedance high tide plus long-term changes in sea level. The ten percent exceedance high tide is defined as the high tide level that is equaled or exceeded by ten percent of the maximum monthly tides over a continuous 21-year period. In accordance with American National Standards Institute/American Nuclear Society (ANSI/ANS) standard ANSI/ANS-2.8-1992, Determining Design Basis Flooding at Power Reactor Sites, this tide can be determined from recorded tide data or from predicted astronomical tide tables (ANSI/ANS, 1992).

An AWL was calculated using data obtained from the Rockport, Texas, NOAA tidal gaging station as per NUREG/CR-7046; ANSI/ANS, 1992; and Regulatory Guide 1.59, Revision 2, Design Basis Floods for Nuclear Power Plants. Observed and verified monthly maximum tide data obtained over a continuous 21-year period (January 1, 2000, through December 31, 2021) were used to calculate the 10 percent exceedance high tide. Cumulative sea level rise (SLR) was then added to obtain the AWL. The records were sorted from highest to lowest elevation and assigned ranks in an Excel spreadsheet. Several identical values were identified; these values were assigned equal ranks and consecutive ranking was ignored (i.e., ranks are skipped for tied values, but the lowest record had a rank equal to 250). For each record, the probability of exceedance was calculated using the Weibull form of the general plotting position equation. The 10 percent exceedance high spring tide at the Rockport NOAA station (NOAA, 2024b) is estimated to be about 2.8 ft (0.85 m) NAVD 88.

In accordance with guidance from JLD-ISG-2012-06, Guidance for Performing a Tsunami, Surge, or Seiche Hazard Assessment, the long-term (i.e., plant life cycle) effect of SLR was estimated and included in the calculation of the AWL (NRC, 2013). The location closest to the site that has long-term SLR data available is Rockport, Texas, at 5.97 mm (0.24 in.) per year. Assuming that sea level in the region continues to rise at the same rate, an SLR of 1.2 ft (358 mm) is postulated for a 60-year period. Therefore, the AWL applied to the estimated deterministic PMSS is 4.0 ft NAVD 88 (i.e., 2.8 ft NAVD 88 + 1.2 ft) (1.2 m).

2.4.5.2.2.4 SLOSH Model Verification

The Matagorda Bay basin grid (Figure 2.4.5-6) was used in estimating storm surge associated with each of the 1440 synthetic hurricane tracks. The highest resolution is over the Matagorda Bay area, which is not far from the LMGS site in Calhoun County, Texas. The latest update made to the basin was in 2007 and elevations are referenced to NAVD 88 (SLOSH, 2021). SLOSH results are extracted for six grid cells for the PMSS and verification analysis as presented in Table 2.4.5-5.

Two major historical hurricanes, Harvey (2017) and Carla (1961), were used to verify SLOSH and estimate uncertainty associated with estimating surge. These hurricanes are examples of the highest intensity events that could affect the area around the LMGS site. Hurricane Harvey is the primary scenario for the verification, validation, and determination of the uncertainty of the SLOSH model because of the availability of measured water level, meteorological data, and high-water observations. Storm track parameters, including latitude and longitude, minimum pressure, and radius of maximum winds, were obtained from the NOAA's International Best Track Archive for Climate Stewardship dataset (Knapp et. al. 2010). Figure 2.4.5-7 shows the tracks of these storms as they approach the coast near the LMGS site. Harvey and Carla made landfall west and east of the site, respectively.

The time series of SLOSH-modeled and NOAA tide gauge-observed surge at Seadrift, Port O'Connor, Port Lavaca, Aransas Wildlife Refuge, and Rockport during Hurricane Harvey are shown in Figure 2.4.5-8 through Figure 2.4.5-12. Maximum surge values and time of maximum surge for all five locations are presented in Table 2.4.5-6. At Seadrift, the station closest to the LMGS site, SLOSH underestimated the maximum surge by 1.18 ft (0.36 m) and the peak surge predicted by the model was almost four hours earlier than observed. For comparison, in a study where the ADCIRC+~~Simulating Waves Nearshore (~~SWAN~~)~~ model was used to simulate Hurricane Harvey (Shamsu and Akbar, 2023), the surge at Seadrift was underestimated by 1.31 ft (0.40 m).

The SLOSH model performed the best at Port O'Connor, overestimating the surge by 0.26 ft (0.08 m) and predicting the modeled peak surge occurring less than an hour earlier than observed. At Aransas Wildlife Refuge, SLOSH overestimated the maximum total water elevation by 0.45 ft (0.14 m), and the timing of the maximum total water elevation in the model was less than an hour later than observed. The tide gauge at Rockport (Figure 2.4.5-12) failed during Hurricane Harvey because the storm had a direct impact at this location. Port Lavaca had the largest SLOSH-modeled difference when compared to the observations; it underestimated the maximum total water elevation by 1.29 ft (0.39 m), with the maximum elevation occurring slightly more than four hours earlier.

In the case of Hurricane Carla, no direct time-series measurement data are available. Validation of the SLOSH model for this event is based on storm surge values along the Texas coast reported by Sugg and Pelissier (Sugg and Pelissier, 1968). Figure 2.4.5-13 shows the mapped SLOSH model output and the reported surge and high-water mark values. The reported surge values map indicates that the maximum surge around Port Lavaca was on the order of 16 ft to 22 ft (4.9 to 6.7 m) and 11.0 ft to 12.3 ft (3.4 to 3.7 m) around Port O'Connor. Time-series of the SLOSH-modeled surge at the three locations are shown in Figure 2.4.5-14, and the maximum surge and time of maximum surge are presented in Table 2.4.5-7. The maximum surge at Port Lavaca (19.0 ft [5.8 m]) corresponds to the range reported in Sugg and Pelissier, 1968, while the 9.3 ft [2.8 m] maximum at Port O'Connor underestimates the surge reported in Sugg and Pelissier, 1968. SLOSH also underestimates the surge at Aransas Wildlife Refuge (4.80 ft [1.46 m] compared to 6.30 ft [1.92 m] reported). Near Seadrift, a surge of 10.0 ft (3.0 m) was reported, while SLOSH estimates a maximum surge of 6.0 ft (1.8 m) in that area. Overall, the surge pattern in SLOSH is representative of the reported surge in Sugg and Pelissier, 1968, with higher surge to the right of the track, where the winds blow from sea to land, and lower surge to the left of the track.

Based on the model validation of Hurricane Harvey, the accuracy of the model for maximum total water elevation is between negative 8 percent and positive 20 percent. This range is in agreement with Forbes et al., 2014, who reported water elevation accuracy of between 10 percent and 20 percent when using SLOSH to model Hurricane Sandy. Therefore, for the SLOSH results in the screening-level assessment (Subsection 2.4.5.2.2.5), the maximum total water levels are increased by 10 percent to account for SLOSH model uncertainty.

The LMGS site was not flooded during any of these historical events, as also discussed in Section 2.4.2.

2.4.5.2.2.5 Screening-Level Assessment (SLOSH)

Screening-level storm surge simulations were performed using the SLOSH model, the Initial Storm Set, and the AWL. These simulations were performed to identify: 1) the sensitivity of storm surge at the LMGS site to different storm parameters (i.e., storm track, radius of maximum winds, etc.) as constrained by the PMH parameters; and 2) the specific combinations of storm parameters and storm tracks that result in the largest predicted storm surges at the LMGS site, also constrained by the PMH parameters. The screening-level simulations performed using SLOSH assumed steady-state conditions (i.e., storm parameters were not varied from the initial specifications).

The primary model inputs include:

- Operational SLOSH 4.22 basin/grid—provided by NOAA with integrated topography, bathymetry, geographic features, and obstructions.

- Initial Water Level—initial condition for surge simulations. In this calculation, the initial water level was set equal to the AWL (refer to Subsection 2.4.5.2.2.3).
- Storm Direction—storm track bearing in degrees~~ (°)~~, measured positive clockwise from north.
- Landfall location coordinates—latitude and longitude in decimal degrees.
- Storm Forward Speed—storm forward translational storm speed (kt).
- Radius of Maximum Winds—Radius of Maximum Winds in ~~statute~~ nautical mi.
- Central Pressure Deficit—(Central Pressure Deficit or difference between central and peripheral barometric pressures) (mb).

Most of these parameters are presented in Table 2.4.5-4~~3~~. In generating input to SLOSH, ~~nautical mi.~~nm were converted to mi~~.~~ using a conversion factor of 1.15078. Input parameters are delivered to the SLOSH executable via a single input file (i.e., a track file,.trk file extension) that includes a series of one hundred track file points. Track file points represent the hurricane center position at hourly intervals.

The SLOSH-modeled maximum total water elevation for all 1440 variable central pressure difference scenario production runs is shown in Figure 2.4.5-15. These maximum water elevations were extracted at the SLOSH cell determined to represent the LMGS site in the model (i.e., cell [89,28]). Zero elevation values mean that the site cell was not flooded during the simulation; this occurred for 761 storm tracks.

Maximum water elevation ranged from 23 ft to 37.7 ft NAVD 88 (7.0 to 11.5 m) (prior to adjusting for the SLOSH uncertainty). ~~The peak value of 37.7 ft corresponds to storm track 671. A threshold of 6.7 ft above the raised site grade of 31 ft (9.4 m) NAVD 88 was considered for screening the most severe tracks. When applying an increase of 10 percent to the maximum total water elevation to account for the SLOSH model uncertainty, 534 storm tracks surpassed the raised site grade elevation of 31 ft (9.4 m) NAVD 88. The maximum adjusted PMSS water surface elevation at the LMGS site is 41.47 ft NAVD 88, which represents 10.47 ft of inundation. From these 534 storm tracks, 15 storm tracks (see Table 2.4.5-8) were selected for further evaluation in ADCIRC+SWAN analysis.~~ The following criteria were used to select these 15 storm tracks:

One storm from each set of storms that resulted in identical total water levels at the site was selected. Storms were selected to model a variable range of flooding from 3 ft to 10 ft (0.9 to 3.0 m).

2.4.5.2.2.6 Refined PMSS Analysis

ADCIRC is a two-dimensional, depth-integrated, barotropic, time-dependent, long wave, hydrodynamic circulation model. It is a highly developed computer program for solving the equations of motion for a moving fluid on a rotating earth. These equations have been formulated using the traditional hydrostatic pressure and Boussinesq approximations. The equations have been discretized in space using the finite element method and in time using the finite difference method (Westerink et al., 2008).

The initial grid is from NOAA Hurricane Surge On-Demand Forecast System (HSOFS) (Riverside Technology, Inc., and AECOM 2015). To incorporate the latest available bathymetry and topography and increase the grid resolution in the area of interest, an improved version of the NOAA grid was developed. HSOFS has been previously used in operational modeling of storm surge by NOAA (Zachary, et al. 2018) and for research studies (Ajimon, et al. 2022, Musinguzi, Reddy and Akbar 2022). The domain of the original HSOFS grid covers the Gulf of Mexico, the Caribbean Sea, and part of the Western North Atlantic (WNA) (Figure 2.4.5-16). At the larger scale, spatial resolution varies from 31.1 mi (50 km) in the WNA boundary, 6.2 – 18.6 mi (10 – 30 km) on the deeper non-shelf waters of the WNA, Caribbean Sea and Gulf of Mexico, and 3.1 mi (5 km) or less in all shelf waters. The domain scale spatial resolution is shown in Figure 2.4.5-16. In the area of interest, the spatial resolution of the original HSOFS grid varies from 820.2 ft (250 m) at selected narrow entrances and channels to 984.3 – 1640.4 ft (300 – 500 m) in the coastal plains and 1640.4 ft (500 m) or more at the inland boundary. At LMGS, the spatial resolution of the original HSOFS grid was on the order of 1640.4 ft. (500 m) and close to the inland boundary. The spatial resolution of the original HSOFS grid in the study area is shown in Figure 2.4.5-17.

Based on the local bathymetry, topography, and storm surge flood dynamics observed from the production SLOSH model results, the model resolution was increased in the area between Matagorda Bay to the east and the Aransas National Wildlife Refuge to the west. Creating the improved grid required extensive manual delineation of important features based on bathymetry and topography elevation, the coastline, and the target spatial resolution required. Satellite ortho-imagery was used to correctly place and delineate the jetty at the entrance of Matagorda Bay, which is the main channel entrance and which was not incorporated in the original HSOFS grid. The resulting improved grid has 2,244,498 nodes and 4,426,001 elements, while the original HSOFS grid had 1,813,443 nodes and 3,564,104 elements.

Figure 2.4.5-18 shows the grid spacing of the improved grid. In the improved grid the spatial resolution is as fine as 32.8 ft (10 m) in areas bordering Powderhorn Lake and Chocolate Bay. Because the main source of overland flooding into LMGS comes from the Matagorda Bay side, the finest spatial resolution was placed along the borders of these water bodies as they extend far inland and are the major carriers of storm surge flooding into the LMGS site. The spatial resolution over the LMGS site is on the order of 98.4 ft (30 m) to 164.0 ft. (50 m), and the coastlines in the area of improved resolution are on the order of 328.1 ft. (100 m). In addition, the inland boundary of the model was moved farther north to allow additional spacing between the LMGS and the boundary.

In the area of improved grid resolution, all the original surface elevations were replaced with the most recently available data from the NOAA Continuously Updated Digital Elevation Model (CUDEM) 1/9 Arc-Second Resolution Bathymetric-Topographic Tiles (CIRES, 2014).

The depths in Matagorda Bay and San Antonio Bay are in the range of 0 ft (0 m) to 16.4 ft (5 m), but with many obstructions caused by the barrier islands and sandbars that face the Gulf of Mexico. There is a deep navigational channel that connects the Gulf of Mexico with Matagorda Bay, with a jetty that cuts through the barrier island at the entrance of Matagorda Bay. These barrier islands and sandbars provide a natural dissipative effect on water levels, currents, and waves. Due to the high velocity and water surface gradients generated by hurricane forcing used in the production runs, it was of importance to aim for a spatial resolution on the order of 164 ft. (50 m) to account for these features in detail.

A detailed view (with a focus on elevations above 0 ft [0 m] NAVD 88) of the updated topography on the improved HSOFS grid is shown in Figure 2.4.5-19. Some of the tributary creeks reach up to approximately 12.4 mi (20 km) inland, providing the conditions for the storm surge flood originating in Matagorda Bay to propagate towards the LMGS site location. The land bordering these creeks has a height of 6.5 ft (2 m), which allows buildup of the storm surge and waves to further propagate inland. In contrast, the land bordering San Antonio Bay has no equivalent tributaries, and its height is on the order of 16.4 ft (5 m) to 22.9 ft (7 m), making it more difficult for a storm surge flood to reach the LMGS location.

Model Calibration and Verification:

The ADCIRC+SWAN model was calibrated for Hurricanes Harvey (2017) and Nicholas (2021). Hurricane wind and atmospheric pressure fields were generated by ADCIRC using the Holland parametric wind model (ADCIRC input parameter NES = 8) (Holland, 1980). The inputs to the Holland model were central latitude and longitude, maximum wind speed, minimum barometric pressure, radius of maximum winds, and the 34-kt wind radius. ADCIRC internally calculates the hurricane translation speed and adds it to the hurricane wind field for additional wind field asymmetry. The inputs were sourced from NOAA Automated Tropical Cyclone Forecasting (NOAA, 2025) and the International Best Track Archive for Climate Stewardship (Gahtan, et al. 2024) databases and formatted as an ADCIRC input file.

Measurements from tide gauges were obtained from NOAA Tides and Currents (NOAA, 2024b) and data from the offshore wave buoys was obtained from the NOAA National Data Buoy Center (NDBC) (NDBC 2025a; NDBC, 2025b). Because the ADCIRC and ADCIRC+SWAN simulations did not include tide forcing, the numerically predicted storm surge for the selected historic hurricanes was compared against the observed storm surge (derived by subtracting the predicted tide-only water level from the measured water level at each tide gauge).

Hurricane Harvey:

The simulation of Hurricane Harvey was carried out for the period between August 25, 2017 00Z and August 26, 2017 18Z. The track and validation locations used for the simulation are shown in Figure 2.4.5-20. For Hurricane Harvey the ADCIRC and ADCIRC+SWAN water levels were validated at the NOAA tide gauges at Seadrift, Texas (red triangle), and Port O'Connor, Texas (green triangle), and the ADCIRC+SWAN wave heights were validated at the NOAA NDBC wave buoys 42020 (blue square) and 42019 (red square) (NDBC 2025a; NDBC, 2025b) .

Comparison of the ADCIRC and ADCIRC+SWAN predicted storm surge with observations is shown in Figure 2.4.5-21. ADCIRC estimates of surge at Seadrift and Port O'Connor were notably lower than the measurements and markedly improved when the contribution of wave setup to storm surge was incorporated in ADCIRC+SWAN. At Seadrift the maximum observed surge was 5.6 ft (1.72 m), while the maximum ADCIRC surge was 3.7 ft (1.14 m) and the ADCIRC+SWAN surge was 5.7 ft (1.75 m). A recent study using the original HSOFS grid to simulate Hurricane Harvey with ADCIRC+SWAN (Shamsu and Akbar, 2023) reported a surge of 4.1 ft (1.25 m) at Seadrift, which is lower than measurements and predictions using the improved HSOFS grid. This finding shows that the improvements incorporated in the improved HSOFS grid yield more accurate storm surge estimates.

At Port O'Connor, the observed maximum surge was 2.6 ft (0.78 m), while the maximum ADCIRC surge was 0.9 ft (0.27 m), with ADCIRC+SWAN predicting a closer match of 2.7 ft

(0.83 m). At both locations the ADCIRC+SWAN surge signal followed a similar pattern to observations, especially at Port O'Connor where ADCIRC+SWAN was able to partially capture the secondary surge that occurred following the main surge peak. For the ADCIRC results at Port O'Connor, the secondary surge is absent, indicating that it is likely caused by wave action.

Comparison of the ADCIRC+SWAN significant wave height with the NOAA NDBC buoy observations is shown in Figure 2.4.5-22. At both locations the model calculated significant wave height higher than that observed at the peak of the event, especially at the Freeport buoy 42019. Maximum modeled significant wave height at 42020 was 27.1 ft (8.25 m) versus the observed 24.1 ft (7.34 m), while at 42019 the modeled maximum significant wave height of 30.2 ft (9.20 m) exceeded the observed 23.2 ft (7.08 m). The temporal pattern of the ADCIRC+SWAN wave heights generally agreed well with the observations.

Hurricane Nicholas:

The Hurricane Nicholas simulation was carried out for the period between September 13, 2021 06Z to September 14, 2021 12Z. The track and validation locations used for the simulation are shown in Figure 2.4.5-23. For Hurricane Nicholas the ADCIRC and ADCIRC+SWAN water levels were validated at the NOAA tide gauges at Port O'Connor, Texas (red triangle), and Port Lavaca, Texas (green triangle), and the ADCIRC+SWAN wave heights were validated at the NOAA NDBC wave buoys 42020 (blue square) and 42019 (red square) (NDBC 2025a; NDBC, 2025b).

Comparison of the ADCIRC+SWAN storm surge predictions with observations at Port O'Connor and Port Lavaca is shown in Figure 2.4.5-24. At Port O'Connor ADCIRC+SWAN underestimated the surge (2.1 ft [0.65 m] vs. 2.7 ft [0.81 m] observed) while at Port Lavaca it overestimated the surge (2.7 ft [0.81 m] vs. 1.9 ft [0.59 m] observed). At both locations ADCIRC on its own produced lower surge estimates than when coupled with SWAN. The timing of the surge peak at both locations generally agreed well with the observations. Because the winds blow across Matagorda Bay from the east, there is a stretch of about 55 km (34 mi) across the bay over which the surge and wave field can grow after the initial dissipation as the hurricane moves from the Gulf and over the barrier islands.

The trends in predicted significant wave height for Nicholas resembled those of Hurricane Harvey (Figure 2.4.5-25). At NDBC station 42019 the model overestimated the peak significant wave height by approximately 4.9 ft. (1.5 m). In contrast, the model results at NDBC buoy 42020 did not exhibit this overprediction of wave height as the patch of elevated wave heights was located ahead and to the east side of the hurricane track. Upon landfall the behavior of the wave field resembles the previous hurricane cases and became depth-limited with the barrier islands causing an abrupt dissipation of the incoming waves from the Gulf of Mexico.

Production Runs:

The 15 storm parameter combinations presented in Table 2.4.5-8 are beingwere simulated using ADCIRC+SWAN. As described earlier in this section, additional site-specific analyses and associated information that includes ADCIRC results will be provided by the end of 2025. The production runs had a duration of 1.50 days with a 0.50 day ramp up period, a 0.1 s timestep and a 600 s coupling interval with SWAN. A surface elevation offset of 1.22 m (4 ft) was applied to ADCIRC+SWAN through the nodal attribute "sea_surface_height_above_geoid". This constant offset represents the contribution of SLR and 10 percent exceedance tide to the total WSEL caused by the atmospheric and wave forcing.

A spatially constant horizontal eddy viscosity of 107.6 ft^2/s (10 m^2/s) for the momentum equations was used for the model runs. This value was inherited from the original NOAA HSOFS fort.15 file. A minimum quadratic friction coefficient of 0.001 was defined based on the settings chosen during the initial model development phase. A maximum wind drag coefficient of 0.002, which is the standard value from the ADCIRC model documentation, was selected.

The maximum surface elevation, maximum significant wave height, associated wave direction, and maximum wind speed at the LMGS site for all the ADCIRC+SWAN production runs are shown in Table 2.4.5-9. The storm which causes the highest maximum surface elevation of 36.38 ft (11.09 m) NAVD 88 at the site is #260. This hurricane also resulted in the highest wind speed of 83.8 m/s (163 kt) at the site. Storms #491 and #671 follow with maximum WSEL of 31.52 ft (9.61 m) and 31.36 ft (9.56 m) NAVD 88, respectively.

The model output timeseries in Figure 2.4.5-26 show a peak in surface water elevation accompanied by the signature pattern of two wind speed peaks with a drop to almost zero as the hurricane eye tracks nearby. The duration of the storm surge flood at the site is about 6 hours. The significant wave height follows the same pattern as the wind speed with two peaks, with the first peak higher than the second.

2.4.5.3 Seiches and Resonance

A seiche is defined as an oscillation of the water surface in an enclosed or semi-enclosed body of water initiated by an external cause. Once started, the oscillation may continue for several cycles; however, over time it gradually decays because of friction (NUREG/CR-7046; NRC, 2013).

Except for the cooling basin, the site is not located near a semi-enclosed or large body of water. Atmospheric or other seiches are, therefore, unlikely to cause flooding at the safety-related structures at the site. Although seismic seiches are observed in the Gulf of Mexico and within the barrier islands along the Gulf coast, the seiche magnitudes are too small to affect the safety-related facilities at a finished floor grade elevation of 31.5 ft (9.6 m) NAVD 88. Therefore, flooding of the site due to seiches is not considered as a credible scenario.

2.4.5.4 Wave Action

The coupled ADCIRC+SWAN model was used to simulate storm surge and waves due to the deterministic PMSS storm surge from the hypothetical hurricane that resulted in maximum stillwater elevation at the LMGS site. The analyzed significant wave height and peak period is 4.04 ft (1.23 m) and 2.8 s, respectively. ~~Additional site-specific analyses and associated information that includes wave height and period will be provided by the end of 2025.~~

The methodology described in the United States Army Corps of Engineers (USACE) Coastal Engineering Manual (CEM) (USACE, 2011) was utilized for calculating wave runup. The procedure adopted assumes that the waves are not experiencing local breaking, which is a justifiable assumption at most of the buildings at the LMGS site due to wave blocking, diffraction, and scattering by the buildings and as indicated by the SWAN results. The Goda method accommodates obliquely incident waves with wave angle β, and it also assumes that the vertical wall causes a reflected or standing wave against the waterside of the wall with the crest of the wave at an elevation greater than one-half of reflected wave height due to wave nonlinearity (the 0.75(1+cosβ) parameter in η*). Because Goda's method does not include the hydrostatic contribution of the total force on the wall, this was added to the wave force to produce the total force on the wall. The hydrostatic force (F_h) is defined as $F_h = \rho_w g h'^2$, where ρ_w is the density of seawater, g is gravitational acceleration, and h' is the depth of water at the wall.

Wave and hydrostatic pressures are calculated and presented in Figure 2.4.5-27. Hydrostatic pressure at the bottom of the structure is approximately 344 psf and the hydrodynamic pressure at the level of stillwater level is approximately 370 psf.

2.4.5.5 Wave Runup

In accordance with EM 1110-2-1614, Equation 2-2 (USACE, 1995; ANSI/ANS, 1992), the design wave height, also referred to herein as $H_{1\%}$ (the average wave height of the highest 1 percent of waves), used for wave runup and the calculation of wave effects was calculated using the following approximation, where H_s is significant wave height calculated using SWAN in Subsection 2.4.5.4:.

$$H_{1\%} \approx 1.67 H_s$$

Wave run-up calculations for the plant are based upon the latest design guidance found in the United States Army Corps of Engineers (USACE) Coastal Engineering ManualCEM, Chapter VI-5 (USACE, 2002). The waves are considered to impact vertical surfaces on the plant's critical surfaces; therefore, the Goda equations are used to determine the wave run-up height (Table VI-5-53, Equation VI-5-147 in USACE, 2002).

Using Goda's method, the run-up elevation (η*) is $\eta^* = 0.75\,(1+\cos\beta)\,\lambda 1\, H_{1\%}$, where β is the wave angle from normal to the wall and λ_1=1 for regular vertical walls. Conservatively cos β is set to 1. Therefore, the runup becomes $\eta^* = 1.5\, H_{1\%}$.

After the calculations are performed, the peak total water surface elevation (WSEL) value, defined as the still WSEL plus wave run-up, is considered the maximum value for the site. Given that the safety-related SSCs are required to be adequately protected, wave run-up will not impact the performance of any required safety functions. Additional site-specific analyses and associated information regarding wave run-up will be provided by the end of 2025.

2.4.5.6 Stillwater Level and Total Water Level due to Storm Surge

The maximum PMSS still water level at the LMGS site, before wind-wave induced run-up, is predicted to be at elevation 36.38 ft (11.1 m) NAVD 88.

Adding the combined maximum wave run-up predictions, which is applicable only to the buildings, the maximum PMSS flooding water level at the wall of the buildings of the LMGS site is postulated to be at elevation 46.49 ft (14.17 m) NAVD 88.

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Table 2.4.5-1
Probable Maximum Hurricane Characteristics

Hurricane Parameter	Magnitude
Peripheral Pressure (Pp)	30.12 in. Hg (1019.9 mb)
Central Pressure (Pc)	26.19 in. Hg (886.9 mb)
Radius of Maximum Winds (Rm)	5 to 21 nautical miles
Forward Speed (T)	6 to 20 ~~knots~~kt
Track Direction (θ)	86 to 191 degrees (clockwise from north)
Maximum 1-min 10-m Wind Speed	154.3 kt

Source: NWS, 1979

Table 2.4.5-2
Summary of Historical Hurricane Events on the Texas Gulf Coast
(Sheet 1 of 2)

Serial Number	Date[a]	Hurricane Name[b]	Saffir-Simpson Hurricane Category at Landfall[c]	Central Pressure at Landfall[d] (millibars)	Maximum Winds[e] (knots)
1	June 1851		1	977	80
2	June 1854		1	985	70
3	September 1854	Matagorda	2	969	90
4	September 1865	Sabine River–Lake Calcasieu	2	969	90
5	July 1866		2	969	90
6	October 1867	Galveston	2	969	90
7	August 1869	Lower Texas Coast	2	969	90
8	September 1875		3	960	100
9	August 1879		2	964	90
10	August 1880		3	931	110
11	September 1882		2	969	90
12	June 1886		2	973	85
13	August 1886	Indianola	4	925	135
14	September 1886		1	973	80
15	October 1886		3	955	105
16	September 1887		2	973	85
17	June 1888		1	985	70
18	July 1891		1	977	80
19	August 1895		1	973	65
20	September 1897		1	981	75
21	September 1900	Galveston	4	936	125
22	June 1909~~0~~		2	972	85
23	July 1909~~0~~	Ve~~a~~la~~e~~sco	3	959	100
24	August 1909~~0~~		1	955	65
25	September 1910		2	965	95
26	October 1912		2	973	85
27	June~~ly~~ 1913		1	988	65
28	August 1915	Galveston	4	940~~5~~	115
29	August 1916		~~3~~4	~~948~~932	115
30	August 1918		3	955	105
31~~30~~	September 1919		4	927	130
32~~31~~	June 1921		~~2~~1	~~979~~980	80
33~~32~~	June 1929		1	982	80
34~~33~~	August 1932	Freeport	4	941	
35~~34~~	July – August 1933		2	975	

36~~35~~	September 1933	3	949
37~~36~~	July 1934	2	975

Table 2.4.5-2
Summary of Historical Hurricane Events on the Texas Gulf Coast
(Sheet 2 of 2)

Serial Number	Date[a]	Hurricane Name[b]	Saffir-Simpson Hurricane Category at Landfall[c]	Central Pressure at Landfall[d] (millibars)	Maximum Winds[e] (knots)
3837	June 1936		1	987	
3938	August 1940		2	972	
4039	September 1941		3	958	
4140	August 1942		1	992	
4241	August 1942		3	950	
4342	July 1943		2	969	
4443	August 1945		2	967	
4544	August 1947		1	992	
4645	October 1949		2	972	
4746	June 1957	Audrey	4	945	
4847	July 1959	Debra	1	984	
4948	September 1961	Carla	4	931	
5049	September 1963	Cindy	1	996	
5150	September 1967	Beulah	3	950	
5251	August 1970	Cealia	3	945	
5352	September 1971	Fern	1	979	
5453	August 1980	Allen	3	945	100
5554	August 1983	Alicia	3	962	100
5655	June 1986	Bonnie	1	990	75
5756	August 1989	Chantal	1	986	70
5857	October 1989	Jerry	1	983	75
5958	August 1999	Bret	3	951	100
6059	July 2003	Claudette	1	979	80
6160	September 2005	Rita	3	937	100
6261	September 2007	Humberto	1	985	80
63	July 2008	Dolly	1	967	75
64	September 2008	Ike	2	950	95
6562	June 2015	Bill	1	997	50
6663	August 2017	Harvey	4	937	115
6764	September 2019	Imelda	1	1003	40
6685	September 2020	Beta	1	997	55
6669	September 20210	Nicholas	1	991	65

a) Some hurricanes made landfall over Mexico but also caused sustained hurricane force surface winds in Texas.
b) Hurricane names are formally maintained from 1957.
c) The highest Saffir-Simpson Hurricane Scale impact in the United States based on estimated maximum sustained surface winds produced at the coast.
d) The observed (or analyzed by NOAA from peripheral pressure measurements) central pressure of the hurricane at landfall.
e) Estimated maximum sustained (1 min.) surface (at 32.8 ft. or 10 m) winds to occur along the U.S. Coast. Winds are

estimated to the nearest 10 knots for the period of 1851 to 1885 and to the nearest 5 knots for the period of 1886 to date. Data not available from NOAA for the years 193215 through 1979.
Source: Blake et al., 2007 2011 and NOAA, 2024a.

Table 2.4.5-3
Hypothetical Landfall Coordinates

Landfall (ID)	Latitude		Longitude	
L1	28.36233	N	-96.3984	W
L2	28.27016	N	-96.56075	W
L3	28.17324	N	-96.70786	W
L4	28.06319	N	-96.85299	W
L5	27.94131	N	-96.97495	W
L6	27.80377	N	-97.07635	W
L7	27.66018	N	-97.17836	W
L8	27.503425	N	-97.260625	W

Table 2.4.5-4
Synthetic Hurricane Parameters
(Sheet 1 of 54)

Storm ID	Bearing (Θ)	Rmax (nm)	T (kt)	Landfall	Lat	Long	∆P (mb)
1	80	5	5	L1	28.36233	-96.3984	109.17
2	95	5	5	L1	28.36233	-96.3984	109.17
3	110	5	5	L1	28.36233	-96.3984	109.17
4	125	5	5	L1	28.36233	-96.3984	109.17
5	140	5	5	L1	28.36233	-96.3984	109.17
6	155	5	5	L1	28.36233	-96.3984	109.17
7	170	5	5	L1	28.36233	-96.3984	109.17
8	185	5	5	L1	28.36233	-96.3984	109.17
9	200	5	5	L1	28.36233	-96.3984	109.17
10	80	10	5	L1	28.36233	-96.3984	114.31
11	95	10	5	L1	28.36233	-96.3984	114.31
12	110	10	5	L1	28.36233	-96.3984	114.31
13	125	10	5	L1	28.36233	-96.3984	114.31
14	140	10	5	L1	28.36233	-96.3984	114.31
15	155	10	5	L1	28.36233	-96.3984	114.31
16	170	10	5	L1	28.36233	-96.3984	114.31
17	185	10	5	L1	28.36233	-96.3984	114.31
18	200	10	5	L1	28.36233	-96.3984	114.31
19	80	15	5	L1	28.36233	-96.3984	120.26
20	95	15	5	L1	28.36233	-96.3984	120.26
21	110	15	5	L1	28.36233	-96.3984	120.26
22	125	15	5	L1	28.36233	-96.3984	120.26
23	140	15	5	L1	28.36233	-96.3984	120.26
24	155	15	5	L1	28.36233	-96.3984	120.26
25	170	15	5	L1	28.36233	-96.3984	120.26
26	185	15	5	L1	28.36233	-96.3984	120.26
27	200	15	5	L1	28.36233	-96.3984	120.26

Table 2.4.5-4
Synthetic Hurricane Parameters
(Sheet 2 of 54)

Storm ID	Bearing (Θ)	Rmax (nm)	T (kt)	Landfall	Lat	Long	∆P (mb)
28	80	20	5	L1	28.36233	-96.3984	126.8
29	95	20	5	L1	28.36233	-96.3984	126.8
30	110	20	5	L1	28.36233	-96.3984	126.8
31	125	20	5	L1	28.36233	-96.3984	126.8
32	140	20	5	L1	28.36233	-96.3984	126.8
33	155	20	5	L1	28.36233	-96.3984	126.8
34	170	20	5	L1	28.36233	-96.3984	126.8
35	185	20	5	L1	28.36233	-96.3984	126.8
36	200	20	5	L1	28.36233	-96.3984	126.8
37	80	25	5	L1	28.36233	-96.3984	133.1
38	95	25	5	L1	28.36233	-96.3984	133.1
39	110	25	5	L1	28.36233	-96.3984	133.1
40	125	25	5	L1	28.36233	-96.3984	133.1
41	140	25	5	L1	28.36233	-96.3984	133.1
42	155	25	5	L1	28.36233	-96.3984	133.1
43	170	25	5	L1	28.36233	-96.3984	133.1
44	185	25	5	L1	28.36233	-96.3984	133.1
45	200	25	5	L1	28.36233	-96.3984	133.1
46	80	5	10	L1	28.36233	-96.3984	105.42
47	95	5	10	L1	28.36233	-96.3984	105.42
48	110	5	10	L1	28.36233	-96.3984	105.42
49	125	5	10	L1	28.36233	-96.3984	105.42
50	140	5	10	L1	28.36233	-96.3984	105.42
51	155	5	10	L1	28.36233	-96.3984	105.42
52	170	5	10	L1	28.36233	-96.3984	105.42
53	185	5	10	L1	28.36233	-96.3984	105.42
54	200	5	10	L1	28.36233	-96.3984	105.42

Table 2.4.5-4
Synthetic Hurricane Parameters
(Sheet 3 of 54)

Storm ID	Bearing (Θ)	Rmax (nm)	T (kt)	Landfall	Lat	Long	∆P (mb)
55	80	10	10	L1	28.36233	-96.3984	110.4
56	95	10	10	L1	28.36233	-96.3984	110.4
57	110	10	10	L1	28.36233	-96.3984	110.4
58	125	10	10	L1	28.36233	-96.3984	110.4
59	140	10	10	L1	28.36233	-96.3984	110.4
60	155	10	10	L1	28.36233	-96.3984	110.4
61	170	10	10	L1	28.36233	-96.3984	110.4
62	185	10	10	L1	28.36233	-96.3984	110.4
63	200	10	10	L1	28.36233	-96.3984	110.4
64	80	15	10	L1	28.36233	-96.3984	116.3
65	95	15	10	L1	28.36233	-96.3984	116.3
66	110	15	10	L1	28.36233	-96.3984	116.3
67	125	15	10	L1	28.36233	-96.3984	116.3
68	140	15	10	L1	28.36233	-96.3984	116.3
69	155	15	10	L1	28.36233	-96.3984	116.3
70	170	15	10	L1	28.36233	-96.3984	116.3
71	185	15	10	L1	28.36233	-96.3984	116.3
72	200	15	10	L1	28.36233	-96.3984	116.3
73	80	20	10	L1	28.36233	-96.3984	123.14
74	95	20	10	L1	28.36233	-96.3984	123.14
75	110	20	10	L1	28.36233	-96.3984	123.14
76	125	20	10	L1	28.36233	-96.3984	123.14
77	140	20	10	L1	28.36233	-96.3984	123.14
78	155	20	10	L1	28.36233	-96.3984	123.14
79	170	20	10	L1	28.36233	-96.3984	123.14
80	185	20	10	L1	28.36233	-96.3984	123.14
81	200	20	10	L1	28.36233	-96.3984	123.14

**Table 2.4.5-4
Synthetic Hurricane Parameters
(Sheet 4 of 54)**

Storm ID	Bearing (Θ)	Rmax (nm)	T (kt)	Landfall	Lat	Long	∆P (mb)
82	80	25	10	L1	28.36233	-96.3984	130.42
83	95	25	10	L1	28.36233	-96.3984	130.42
84	110	25	10	L1	28.36233	-96.3984	130.42
85	125	25	10	L1	28.36233	-96.3984	130.42
86	140	25	10	L1	28.36233	-96.3984	130.42
87	155	25	10	L1	28.36233	-96.3984	130.42
88	170	25	10	L1	28.36233	-96.3984	130.42
89	185	25	10	L1	28.36233	-96.3984	130.42
90	200	25	10	L1	28.36233	-96.3984	130.42
91	80	5	15	L1	28.36233	-96.3984	101.74
92	95	5	15	L1	28.36233	-96.3984	101.74
93	110	5	15	L1	28.36233	-96.3984	101.74
94	125	5	15	L1	28.36233	-96.3984	101.74
95	140	5	15	L1	28.36233	-96.3984	101.74
96	155	5	15	L1	28.36233	-96.3984	101.74
97	170	5	15	L1	28.36233	-96.3984	101.74
98	185	5	15	L1	28.36233	-96.3984	101.74
99	200	5	15	L1	28.36233	-96.3984	101.74
100	80	10	15	L1	28.36233	-96.3984	106.64
101	95	10	15	L1	28.36233	-96.3984	106.64
102	110	10	15	L1	28.36233	-96.3984	106.64
103	125	10	15	L1	28.36233	-96.3984	106.64
104	140	10	15	L1	28.36233	-96.3984	106.64
105	155	10	15	L1	28.36233	-96.3984	106.64
106	170	10	15	L1	28.36233	-96.3984	106.64
107	185	10	15	L1	28.36233	-96.3984	106.64
108	200	10	15	L1	28.36233	-96.3984	106.64

Table 2.4.5-4
Synthetic Hurricane Parameters
(Sheet 5 of 54)

Storm ID	Bearing (Θ)	Rmax (nm)	T (kt)	Landfall	Lat	Long	∆P (mb)
109	80	15	15	L1	28.36233	-96.3984	112.59
110	95	15	15	L1	28.36233	-96.3984	112.59
111	110	15	15	L1	28.36233	-96.3984	112.59
112	125	15	15	L1	28.36233	-96.3984	112.59
113	140	15	15	L1	28.36233	-96.3984	112.59
114	155	15	15	L1	28.36233	-96.3984	112.59
115	170	15	15	L1	28.36233	-96.3984	112.59
116	185	15	15	L1	28.36233	-96.3984	112.59
117	200	15	15	L1	28.36233	-96.3984	112.59
118	80	20	15	L1	28.36233	-96.3984	119.42
119	95	20	15	L1	28.36233	-96.3984	119.42
120	110	20	15	L1	28.36233	-96.3984	119.42
121	125	20	15	L1	28.36233	-96.3984	119.42
122	140	20	15	L1	28.36233	-96.3984	119.42
123	155	20	15	L1	28.36233	-96.3984	119.42
124	170	20	15	L1	28.36233	-96.3984	119.42
125	185	20	15	L1	28.36233	-96.3984	119.42
126	200	20	15	L1	28.36233	-96.3984	119.42
127	80	25	15	L1	28.36233	-96.3984	126.8
128	95	25	15	L1	28.36233	-96.3984	126.8
129	110	25	15	L1	28.36233	-96.3984	126.8
130	125	25	15	L1	28.36233	-96.3984	126.8
131	140	25	15	L1	28.36233	-96.3984	126.8
132	155	25	15	L1	28.36233	-96.3984	126.8
133	170	25	15	L1	28.36233	-96.3984	126.8
134	185	25	15	L1	28.36233	-96.3984	126.8
135	200	25	15	L1	28.36233	-96.3984	126.8

Table 2.4.5-4
Synthetic Hurricane Parameters
(Sheet 6 of 54)

Storm ID	Bearing (Θ)	Rmax (nm)	T (kt)	Landfall	Lat	Long	∆P (mb)
136	80	5	20	L1	28.36233	-96.3984	100
137	95	5	20	L1	28.36233	-96.3984	100
138	110	5	20	L1	28.36233	-96.3984	100
139	125	5	20	L1	28.36233	-96.3984	100
140	140	5	20	L1	28.36233	-96.3984	100
141	155	5	20	L1	28.36233	-96.3984	100
142	170	5	20	L1	28.36233	-96.3984	100
143	185	5	20	L1	28.36233	-96.3984	100
144	200	5	20	L1	28.36233	-96.3984	100
145	80	10	20	L1	28.36233	-96.3984	103.07
146	95	10	20	L1	28.36233	-96.3984	103.07
147	110	10	20	L1	28.36233	-96.3984	103.07
148	125	10	20	L1	28.36233	-96.3984	103.07
149	140	10	20	L1	28.36233	-96.3984	103.07
150	155	10	20	L1	28.36233	-96.3984	103.07
151	170	10	20	L1	28.36233	-96.3984	103.07
152	185	10	20	L1	28.36233	-96.3984	103.07
153	200	10	20	L1	28.36233	-96.3984	103.07
154	80	15	20	L1	28.36233	-96.3984	108.87
155	95	15	20	L1	28.36233	-96.3984	108.87
156	110	15	20	L1	28.36233	-96.3984	108.87
157	125	15	20	L1	28.36233	-96.3984	108.87
158	140	15	20	L1	28.36233	-96.3984	108.87
159	155	15	20	L1	28.36233	-96.3984	108.87
160	170	15	20	L1	28.36233	-96.3984	108.87
161	185	15	20	L1	28.36233	-96.3984	108.87
162	200	15	20	L1	28.36233	-96.3984	108.87

**Table 2.4.5-4
Synthetic Hurricane Parameters
(Sheet 7 of 54)**

Storm ID	Bearing (Θ)	Rmax (nm)	T (kt)	Landfall	Lat	Long	∆P (mb)
163	80	20	20	L1	28.36233	-96.3984	115.71
164	95	20	20	L1	28.36233	-96.3984	115.71
165	110	20	20	L1	28.36233	-96.3984	115.71
166	125	20	20	L1	28.36233	-96.3984	115.71
167	140	20	20	L1	28.36233	-96.3984	115.71
168	155	20	20	L1	28.36233	-96.3984	115.71
169	170	20	20	L1	28.36233	-96.3984	115.71
170	185	20	20	L1	28.36233	-96.3984	115.71
171	200	20	20	L1	28.36233	-96.3984	115.71
172	80	25	20	L1	28.36233	-96.3984	123.14
173	95	25	20	L1	28.36233	-96.3984	123.14
174	110	25	20	L1	28.36233	-96.3984	123.14
175	125	25	20	L1	28.36233	-96.3984	123.14
176	140	25	20	L1	28.36233	-96.3984	123.14
177	155	25	20	L1	28.36233	-96.3984	123.14
178	170	25	20	L1	28.36233	-96.3984	123.14
179	185	25	20	L1	28.36233	-96.3984	123.14
180	200	25	20	L1	28.36233	-96.3984	123.14
181	80	5	5	L2	28.27016	-96.56075	109.17
182	95	5	5	L2	28.27016	-96.56075	109.17
183	110	5	5	L2	28.27016	-96.56075	109.17
184	125	5	5	L2	28.27016	-96.56075	109.17
185	140	5	5	L2	28.27016	-96.56075	109.17
186	155	5	5	L2	28.27016	-96.56075	109.17
187	170	5	5	L2	28.27016	-96.56075	109.17
188	185	5	5	L2	28.27016	-96.56075	109.17
189	200	5	5	L2	28.27016	-96.56075	109.17

Table 2.4.5-4
Synthetic Hurricane Parameters
(Sheet 8 of 54)

Storm ID	Bearing (Θ)	Rmax (nm)	T (kt)	Landfall	Lat	Long	∆P (mb)
190	80	10	5	L2	28.27016	-96.56075	114.31
191	95	10	5	L2	28.27016	-96.56075	114.31
192	110	10	5	L2	28.27016	-96.56075	114.31
193	125	10	5	L2	28.27016	-96.56075	114.31
194	140	10	5	L2	28.27016	-96.56075	114.31
195	155	10	5	L2	28.27016	-96.56075	114.31
196	170	10	5	L2	28.27016	-96.56075	114.31
197	185	10	5	L2	28.27016	-96.56075	114.31
198	200	10	5	L2	28.27016	-96.56075	114.31
199	80	15	5	L2	28.27016	-96.56075	120.26
200	95	15	5	L2	28.27016	-96.56075	120.26
201	110	15	5	L2	28.27016	-96.56075	120.26
202	125	15	5	L2	28.27016	-96.56075	120.26
203	140	15	5	L2	28.27016	-96.56075	120.26
204	155	15	5	L2	28.27016	-96.56075	120.26
205	170	15	5	L2	28.27016	-96.56075	120.26
206	185	15	5	L2	28.27016	-96.56075	120.26
207	200	15	5	L2	28.27016	-96.56075	120.26
208	80	20	5	L2	28.27016	-96.56075	126.8
209	95	20	5	L2	28.27016	-96.56075	126.8
210	110	20	5	L2	28.27016	-96.56075	126.8
211	125	20	5	L2	28.27016	-96.56075	126.8
212	140	20	5	L2	28.27016	-96.56075	126.8
213	155	20	5	L2	28.27016	-96.56075	126.8
214	170	20	5	L2	28.27016	-96.56075	126.8
215	185	20	5	L2	28.27016	-96.56075	126.8
216	200	20	5	L2	28.27016	-96.56075	126.8

Table 2.4.5-4
Synthetic Hurricane Parameters
(Sheet 9 of 54)

Storm ID	Bearing (Θ)	Rmax (nm)	T (kt)	Landfall	Lat	Long	∆P (mb)
217	80	25	5	L2	28.27016	-96.56075	133.1
218	95	25	5	L2	28.27016	-96.56075	133.1
219	110	25	5	L2	28.27016	-96.56075	133.1
220	125	25	5	L2	28.27016	-96.56075	133.1
221	140	25	5	L2	28.27016	-96.56075	133.1
222	155	25	5	L2	28.27016	-96.56075	133.1
223	170	25	5	L2	28.27016	-96.56075	133.1
224	185	25	5	L2	28.27016	-96.56075	133.1
225	200	25	5	L2	28.27016	-96.56075	133.1
226	80	5	10	L2	28.27016	-96.56075	105.42
227	95	5	10	L2	28.27016	-96.56075	105.42
228	110	5	10	L2	28.27016	-96.56075	105.42
229	125	5	10	L2	28.27016	-96.56075	105.42
230	140	5	10	L2	28.27016	-96.56075	105.42
231	155	5	10	L2	28.27016	-96.56075	105.42
232	170	5	10	L2	28.27016	-96.56075	105.42
233	185	5	10	L2	28.27016	-96.56075	105.42
234	200	5	10	L2	28.27016	-96.56075	105.42
235	80	10	10	L2	28.27016	-96.56075	110.4
236	95	10	10	L2	28.27016	-96.56075	110.4
237	110	10	10	L2	28.27016	-96.56075	110.4
238	125	10	10	L2	28.27016	-96.56075	110.4
239	140	10	10	L2	28.27016	-96.56075	110.4
240	155	10	10	L2	28.27016	-96.56075	110.4
241	170	10	10	L2	28.27016	-96.56075	110.4
242	185	10	10	L2	28.27016	-96.56075	110.4
243	200	10	10	L2	28.27016	-96.56075	110.4

Table 2.4.5-4
Synthetic Hurricane Parameters
(Sheet 10 of 54)

Storm ID	Bearing (Θ)	Rmax (nm)	T (kt)	Landfall	Lat	Long	∆P (mb)
244	80	15	10	L2	28.27016	-96.56075	116.3
245	95	15	10	L2	28.27016	-96.56075	116.3
246	110	15	10	L2	28.27016	-96.56075	116.3
247	125	15	10	L2	28.27016	-96.56075	116.3
248	140	15	10	L2	28.27016	-96.56075	116.3
249	155	15	10	L2	28.27016	-96.56075	116.3
250	170	15	10	L2	28.27016	-96.56075	116.3
251	185	15	10	L2	28.27016	-96.56075	116.3
252	200	15	10	L2	28.27016	-96.56075	116.3
253	80	20	10	L2	28.27016	-96.56075	123.14
254	95	20	10	L2	28.27016	-96.56075	123.14
255	110	20	10	L2	28.27016	-96.56075	123.14
256	125	20	10	L2	28.27016	-96.56075	123.14
257	140	20	10	L2	28.27016	-96.56075	123.14
258	155	20	10	L2	28.27016	-96.56075	123.14
259	170	20	10	L2	28.27016	-96.56075	123.14
260	185	20	10	L2	28.27016	-96.56075	123.14
261	200	20	10	L2	28.27016	-96.56075	123.14
262	80	25	10	L2	28.27016	-96.56075	130.42
263	95	25	10	L2	28.27016	-96.56075	130.42
264	110	25	10	L2	28.27016	-96.56075	130.42
265	125	25	10	L2	28.27016	-96.56075	130.42
266	140	25	10	L2	28.27016	-96.56075	130.42
267	155	25	10	L2	28.27016	-96.56075	130.42
268	170	25	10	L2	28.27016	-96.56075	130.42
269	185	25	10	L2	28.27016	-96.56075	130.42
270	200	25	10	L2	28.27016	-96.56075	130.42

Table 2.4.5-4
Synthetic Hurricane Parameters
(Sheet 11 of 54)

Storm ID	Bearing (Θ)	Rmax (nm)	T (kt)	Landfall	Lat	Long	∆P (mb)
271	80	5	15	L2	28.27016	-96.56075	101.74
272	95	5	15	L2	28.27016	-96.56075	101.74
273	110	5	15	L2	28.27016	-96.56075	101.74
274	125	5	15	L2	28.27016	-96.56075	101.74
275	140	5	15	L2	28.27016	-96.56075	101.74
276	155	5	15	L2	28.27016	-96.56075	101.74
277	170	5	15	L2	28.27016	-96.56075	101.74
278	185	5	15	L2	28.27016	-96.56075	101.74
279	200	5	15	L2	28.27016	-96.56075	101.74
280	80	10	15	L2	28.27016	-96.56075	106.64
281	95	10	15	L2	28.27016	-96.56075	106.64
282	110	10	15	L2	28.27016	-96.56075	106.64
283	125	10	15	L2	28.27016	-96.56075	106.64
284	140	10	15	L2	28.27016	-96.56075	106.64
285	155	10	15	L2	28.27016	-96.56075	106.64
286	170	10	15	L2	28.27016	-96.56075	106.64
287	185	10	15	L2	28.27016	-96.56075	106.64
288	200	10	15	L2	28.27016	-96.56075	106.64
289	80	15	15	L2	28.27016	-96.56075	112.59
290	95	15	15	L2	28.27016	-96.56075	112.59
291	110	15	15	L2	28.27016	-96.56075	112.59
292	125	15	15	L2	28.27016	-96.56075	112.59
293	140	15	15	L2	28.27016	-96.56075	112.59
294	155	15	15	L2	28.27016	-96.56075	112.59
295	170	15	15	L2	28.27016	-96.56075	112.59
296	185	15	15	L2	28.27016	-96.56075	112.59
297	200	15	15	L2	28.27016	-96.56075	112.59

Table 2.4.5-4
Synthetic Hurricane Parameters
(Sheet 12 of 54)

Storm ID	Bearing (Θ)	Rmax (nm)	T (kt)	Landfall	Lat	Long	∆P (mb)
298	80	20	15	L2	28.27016	-96.56075	119.42
299	95	20	15	L2	28.27016	-96.56075	119.42
300	110	20	15	L2	28.27016	-96.56075	119.42
301	125	20	15	L2	28.27016	-96.56075	119.42
302	140	20	15	L2	28.27016	-96.56075	119.42
303	155	20	15	L2	28.27016	-96.56075	119.42
304	170	20	15	L2	28.27016	-96.56075	119.42
305	185	20	15	L2	28.27016	-96.56075	119.42
306	200	20	15	L2	28.27016	-96.56075	119.42
307	80	25	15	L2	28.27016	-96.56075	126.8
308	95	25	15	L2	28.27016	-96.56075	126.8
309	110	25	15	L2	28.27016	-96.56075	126.8
310	125	25	15	L2	28.27016	-96.56075	126.8
311	140	25	15	L2	28.27016	-96.56075	126.8
312	155	25	15	L2	28.27016	-96.56075	126.8
313	170	25	15	L2	28.27016	-96.56075	126.8
314	185	25	15	L2	28.27016	-96.56075	126.8
315	200	25	15	L2	28.27016	-96.56075	126.8
316	80	5	20	L2	28.27016	-96.56075	100
317	95	5	20	L2	28.27016	-96.56075	100
318	110	5	20	L2	28.27016	-96.56075	100
319	125	5	20	L2	28.27016	-96.56075	100
320	140	5	20	L2	28.27016	-96.56075	100
321	155	5	20	L2	28.27016	-96.56075	100
322	170	5	20	L2	28.27016	-96.56075	100
323	185	5	20	L2	28.27016	-96.56075	100
324	200	5	20	L2	28.27016	-96.56075	100

Table 2.4.5-4
Synthetic Hurricane Parameters
(Sheet 13 of 54)

Storm ID	Bearing (Θ)	Rmax (nm)	T (kt)	Landfall	Lat	Long	∆P (mb)
325	80	10	20	L2	28.27016	-96.56075	103.07
326	95	10	20	L2	28.27016	-96.56075	103.07
327	110	10	20	L2	28.27016	-96.56075	103.07
328	125	10	20	L2	28.27016	-96.56075	103.07
329	140	10	20	L2	28.27016	-96.56075	103.07
330	155	10	20	L2	28.27016	-96.56075	103.07
331	170	10	20	L2	28.27016	-96.56075	103.07
332	185	10	20	L2	28.27016	-96.56075	103.07
333	200	10	20	L2	28.27016	-96.56075	103.07
334	80	15	20	L2	28.27016	-96.56075	108.87
335	95	15	20	L2	28.27016	-96.56075	108.87
336	110	15	20	L2	28.27016	-96.56075	108.87
337	125	15	20	L2	28.27016	-96.56075	108.87
338	140	15	20	L2	28.27016	-96.56075	108.87
339	155	15	20	L2	28.27016	-96.56075	108.87
340	170	15	20	L2	28.27016	-96.56075	108.87
341	185	15	20	L2	28.27016	-96.56075	108.87
342	200	15	20	L2	28.27016	-96.56075	108.87
343	80	20	20	L2	28.27016	-96.56075	115.71
344	95	20	20	L2	28.27016	-96.56075	115.71
345	110	20	20	L2	28.27016	-96.56075	115.71
346	125	20	20	L2	28.27016	-96.56075	115.71
347	140	20	20	L2	28.27016	-96.56075	115.71
348	155	20	20	L2	28.27016	-96.56075	115.71
349	170	20	20	L2	28.27016	-96.56075	115.71
350	185	20	20	L2	28.27016	-96.56075	115.71
351	200	20	20	L2	28.27016	-96.56075	115.71

Table 2.4.5-4
Synthetic Hurricane Parameters
(Sheet 14 of 54)

Storm ID	Bearing (Θ)	Rmax (nm)	T (kt)	Landfall	Lat	Long	∆P (mb)
352	80	25	20	L2	28.27016	-96.56075	123.14
353	95	25	20	L2	28.27016	-96.56075	123.14
354	110	25	20	L2	28.27016	-96.56075	123.14
355	125	25	20	L2	28.27016	-96.56075	123.14
356	140	25	20	L2	28.27016	-96.56075	123.14
357	155	25	20	L2	28.27016	-96.56075	123.14
358	170	25	20	L2	28.27016	-96.56075	123.14
359	185	25	20	L2	28.27016	-96.56075	123.14
360	200	25	20	L2	28.27016	-96.56075	123.14
361	80	5	5	L3	28.17324	-96.70786	109.17
362	95	5	5	L3	28.17324	-96.70786	109.17
363	110	5	5	L3	28.17324	-96.70786	109.17
364	125	5	5	L3	28.17324	-96.70786	109.17
365	140	5	5	L3	28.17324	-96.70786	109.17
366	155	5	5	L3	28.17324	-96.70786	109.17
367	170	5	5	L3	28.17324	-96.70786	109.17
368	185	5	5	L3	28.17324	-96.70786	109.17
369	200	5	5	L3	28.17324	-96.70786	109.17
370	80	10	5	L3	28.17324	-96.70786	114.31
371	95	10	5	L3	28.17324	-96.70786	114.31
372	110	10	5	L3	28.17324	-96.70786	114.31
373	125	10	5	L3	28.17324	-96.70786	114.31
374	140	10	5	L3	28.17324	-96.70786	114.31
375	155	10	5	L3	28.17324	-96.70786	114.31
376	170	10	5	L3	28.17324	-96.70786	114.31
377	185	10	5	L3	28.17324	-96.70786	114.31
378	200	10	5	L3	28.17324	-96.70786	114.31

Table 2.4.5-4
Synthetic Hurricane Parameters
(Sheet 15 of 54)

Storm ID	Bearing (Θ)	Rmax (nm)	T (kt)	Landfall	Lat	Long	∆P (mb)
379	80	15	5	L3	28.17324	-96.70786	120.26
380	95	15	5	L3	28.17324	-96.70786	120.26
381	110	15	5	L3	28.17324	-96.70786	120.26
382	125	15	5	L3	28.17324	-96.70786	120.26
383	140	15	5	L3	28.17324	-96.70786	120.26
384	155	15	5	L3	28.17324	-96.70786	120.26
385	170	15	5	L3	28.17324	-96.70786	120.26
386	185	15	5	L3	28.17324	-96.70786	120.26
387	200	15	5	L3	28.17324	-96.70786	120.26
388	80	20	5	L3	28.17324	-96.70786	126.8
389	95	20	5	L3	28.17324	-96.70786	126.8
390	110	20	5	L3	28.17324	-96.70786	126.8
391	125	20	5	L3	28.17324	-96.70786	126.8
392	140	20	5	L3	28.17324	-96.70786	126.8
393	155	20	5	L3	28.17324	-96.70786	126.8
394	170	20	5	L3	28.17324	-96.70786	126.8
395	185	20	5	L3	28.17324	-96.70786	126.8
396	200	20	5	L3	28.17324	-96.70786	126.8
397	80	25	5	L3	28.17324	-96.70786	133.1
398	95	25	5	L3	28.17324	-96.70786	133.1
399	110	25	5	L3	28.17324	-96.70786	133.1
400	125	25	5	L3	28.17324	-96.70786	133.1
401	140	25	5	L3	28.17324	-96.70786	133.1
402	155	25	5	L3	28.17324	-96.70786	133.1
403	170	25	5	L3	28.17324	-96.70786	133.1
404	185	25	5	L3	28.17324	-96.70786	133.1
405	200	25	5	L3	28.17324	-96.70786	133.1

Table 2.4.5-4
Synthetic Hurricane Parameters
(Sheet 16 of 54)

Storm ID	Bearing (Θ)	Rmax (nm)	T (kt)	Landfall	Lat	Long	∆P (mb)
406	80	5	10	L3	28.17324	-96.70786	105.42
407	95	5	10	L3	28.17324	-96.70786	105.42
408	110	5	10	L3	28.17324	-96.70786	105.42
409	125	5	10	L3	28.17324	-96.70786	105.42
410	140	5	10	L3	28.17324	-96.70786	105.42
411	155	5	10	L3	28.17324	-96.70786	105.42
412	170	5	10	L3	28.17324	-96.70786	105.42
413	185	5	10	L3	28.17324	-96.70786	105.42
414	200	5	10	L3	28.17324	-96.70786	105.42
415	80	10	10	L3	28.17324	-96.70786	110.4
416	95	10	10	L3	28.17324	-96.70786	110.4
417	110	10	10	L3	28.17324	-96.70786	110.4
418	125	10	10	L3	28.17324	-96.70786	110.4
419	140	10	10	L3	28.17324	-96.70786	110.4
420	155	10	10	L3	28.17324	-96.70786	110.4
421	170	10	10	L3	28.17324	-96.70786	110.4
422	185	10	10	L3	28.17324	-96.70786	110.4
423	200	10	10	L3	28.17324	-96.70786	110.4
424	80	15	10	L3	28.17324	-96.70786	116.3
425	95	15	10	L3	28.17324	-96.70786	116.3
426	110	15	10	L3	28.17324	-96.70786	116.3
427	125	15	10	L3	28.17324	-96.70786	116.3
428	140	15	10	L3	28.17324	-96.70786	116.3
429	155	15	10	L3	28.17324	-96.70786	116.3
430	170	15	10	L3	28.17324	-96.70786	116.3
431	185	15	10	L3	28.17324	-96.70786	116.3
432	200	15	10	L3	28.17324	-96.70786	116.3

Table 2.4.5-4
Synthetic Hurricane Parameters
(Sheet 17 of 54)

Storm ID	Bearing (Θ)	Rmax (nm)	T (kt)	Landfall	Lat	Long	∆P (mb)
433	80	20	10	L3	28.17324	-96.70786	123.14
434	95	20	10	L3	28.17324	-96.70786	123.14
435	110	20	10	L3	28.17324	-96.70786	123.14
436	125	20	10	L3	28.17324	-96.70786	123.14
437	140	20	10	L3	28.17324	-96.70786	123.14
438	155	20	10	L3	28.17324	-96.70786	123.14
439	170	20	10	L3	28.17324	-96.70786	123.14
440	185	20	10	L3	28.17324	-96.70786	123.14
441	200	20	10	L3	28.17324	-96.70786	123.14
442	80	25	10	L3	28.17324	-96.70786	130.42
443	95	25	10	L3	28.17324	-96.70786	130.42
444	110	25	10	L3	28.17324	-96.70786	130.42
445	125	25	10	L3	28.17324	-96.70786	130.42
446	140	25	10	L3	28.17324	-96.70786	130.42
447	155	25	10	L3	28.17324	-96.70786	130.42
448	170	25	10	L3	28.17324	-96.70786	130.42
449	185	25	10	L3	28.17324	-96.70786	130.42
450	200	25	10	L3	28.17324	-96.70786	130.42
451	80	5	15	L3	28.17324	-96.70786	101.74
452	95	5	15	L3	28.17324	-96.70786	101.74
453	110	5	15	L3	28.17324	-96.70786	101.74
454	125	5	15	L3	28.17324	-96.70786	101.74
455	140	5	15	L3	28.17324	-96.70786	101.74
456	155	5	15	L3	28.17324	-96.70786	101.74
457	170	5	15	L3	28.17324	-96.70786	101.74
458	185	5	15	L3	28.17324	-96.70786	101.74
459	200	5	15	L3	28.17324	-96.70786	101.74

Table 2.4.5-4
Synthetic Hurricane Parameters
(Sheet 18 of 54)

Storm ID	Bearing (Θ)	Rmax (nm)	T (kt)	Landfall	Lat	Long	∆P (mb)
460	80	10	15	L3	28.17324	-96.70786	106.64
461	95	10	15	L3	28.17324	-96.70786	106.64
462	110	10	15	L3	28.17324	-96.70786	106.64
463	125	10	15	L3	28.17324	-96.70786	106.64
464	140	10	15	L3	28.17324	-96.70786	106.64
465	155	10	15	L3	28.17324	-96.70786	106.64
466	170	10	15	L3	28.17324	-96.70786	106.64
467	185	10	15	L3	28.17324	-96.70786	106.64
468	200	10	15	L3	28.17324	-96.70786	106.64
469	80	15	15	L3	28.17324	-96.70786	112.59
470	95	15	15	L3	28.17324	-96.70786	112.59
471	110	15	15	L3	28.17324	-96.70786	112.59
472	125	15	15	L3	28.17324	-96.70786	112.59
473	140	15	15	L3	28.17324	-96.70786	112.59
474	155	15	15	L3	28.17324	-96.70786	112.59
475	170	15	15	L3	28.17324	-96.70786	112.59
476	185	15	15	L3	28.17324	-96.70786	112.59
477	200	15	15	L3	28.17324	-96.70786	112.59
478	80	20	15	L3	28.17324	-96.70786	119.42
479	95	20	15	L3	28.17324	-96.70786	119.42
480	110	20	15	L3	28.17324	-96.70786	119.42
481	125	20	15	L3	28.17324	-96.70786	119.42
482	140	20	15	L3	28.17324	-96.70786	119.42
483	155	20	15	L3	28.17324	-96.70786	119.42
484	170	20	15	L3	28.17324	-96.70786	119.42
485	185	20	15	L3	28.17324	-96.70786	119.42
486	200	20	15	L3	28.17324	-96.70786	119.42

Table 2.4.5-4
Synthetic Hurricane Parameters
(Sheet 19 of 54)

Storm ID	Bearing (Θ)	Rmax (nm)	T (kt)	Landfall	Lat	Long	∆P (mb)
487	80	25	15	L3	28.17324	-96.70786	126.8
488	95	25	15	L3	28.17324	-96.70786	126.8
489	110	25	15	L3	28.17324	-96.70786	126.8
490	125	25	15	L3	28.17324	-96.70786	126.8
491	140	25	15	L3	28.17324	-96.70786	126.8
492	155	25	15	L3	28.17324	-96.70786	126.8
493	170	25	15	L3	28.17324	-96.70786	126.8
494	185	25	15	L3	28.17324	-96.70786	126.8
495	200	25	15	L3	28.17324	-96.70786	126.8
496	80	5	20	L3	28.17324	-96.70786	100
497	95	5	20	L3	28.17324	-96.70786	100
498	110	5	20	L3	28.17324	-96.70786	100
499	125	5	20	L3	28.17324	-96.70786	100
500	140	5	20	L3	28.17324	-96.70786	100
501	155	5	20	L3	28.17324	-96.70786	100
502	170	5	20	L3	28.17324	-96.70786	100
503	185	5	20	L3	28.17324	-96.70786	100
504	200	5	20	L3	28.17324	-96.70786	100
505	80	10	20	L3	28.17324	-96.70786	103.07
506	95	10	20	L3	28.17324	-96.70786	103.07
507	110	10	20	L3	28.17324	-96.70786	103.07
508	125	10	20	L3	28.17324	-96.70786	103.07
509	140	10	20	L3	28.17324	-96.70786	103.07
510	155	10	20	L3	28.17324	-96.70786	103.07
511	170	10	20	L3	28.17324	-96.70786	103.07
512	185	10	20	L3	28.17324	-96.70786	103.07
513	200	10	20	L3	28.17324	-96.70786	103.07

Table 2.4.5-4
Synthetic Hurricane Parameters
(Sheet 20 of 54)

Storm ID	Bearing (Θ)	Rmax (nm)	T (kt)	Landfall	Lat	Long	∆P (mb)
514	80	15	20	L3	28.17324	-96.70786	108.87
515	95	15	20	L3	28.17324	-96.70786	108.87
516	110	15	20	L3	28.17324	-96.70786	108.87
517	125	15	20	L3	28.17324	-96.70786	108.87
518	140	15	20	L3	28.17324	-96.70786	108.87
519	155	15	20	L3	28.17324	-96.70786	108.87
520	170	15	20	L3	28.17324	-96.70786	108.87
521	185	15	20	L3	28.17324	-96.70786	108.87
522	200	15	20	L3	28.17324	-96.70786	108.87
523	80	20	20	L3	28.17324	-96.70786	115.71
524	95	20	20	L3	28.17324	-96.70786	115.71
525	110	20	20	L3	28.17324	-96.70786	115.71
526	125	20	20	L3	28.17324	-96.70786	115.71
527	140	20	20	L3	28.17324	-96.70786	115.71
528	155	20	20	L3	28.17324	-96.70786	115.71
529	170	20	20	L3	28.17324	-96.70786	115.71
530	185	20	20	L3	28.17324	-96.70786	115.71
531	200	20	20	L3	28.17324	-96.70786	115.71
532	80	25	20	L3	28.17324	-96.70786	123.14
533	95	25	20	L3	28.17324	-96.70786	123.14
534	110	25	20	L3	28.17324	-96.70786	123.14
535	125	25	20	L3	28.17324	-96.70786	123.14
536	140	25	20	L3	28.17324	-96.70786	123.14
537	155	25	20	L3	28.17324	-96.70786	123.14
538	170	25	20	L3	28.17324	-96.70786	123.14
539	185	25	20	L3	28.17324	-96.70786	123.14
540	200	25	20	L3	28.17324	-96.70786	123.14

Table 2.4.5-4
Synthetic Hurricane Parameters
(Sheet 21 of 54)

Storm ID	Bearing (Θ)	Rmax (nm)	T (kt)	Landfall	Lat	Long	∆P (mb)
541	80	5	5	L4	28.06319	-96.85299	109.17
542	95	5	5	L4	28.06319	-96.85299	109.17
543	110	5	5	L4	28.06319	-96.85299	109.17
544	125	5	5	L4	28.06319	-96.85299	109.17
545	140	5	5	L4	28.06319	-96.85299	109.17
546	155	5	5	L4	28.06319	-96.85299	109.17
547	170	5	5	L4	28.06319	-96.85299	109.17
548	185	5	5	L4	28.06319	-96.85299	109.17
549	200	5	5	L4	28.06319	-96.85299	109.17
550	80	10	5	L4	28.06319	-96.85299	114.31
551	95	10	5	L4	28.06319	-96.85299	114.31
552	110	10	5	L4	28.06319	-96.85299	114.31
553	125	10	5	L4	28.06319	-96.85299	114.31
554	140	10	5	L4	28.06319	-96.85299	114.31
555	155	10	5	L4	28.06319	-96.85299	114.31
556	170	10	5	L4	28.06319	-96.85299	114.31
557	185	10	5	L4	28.06319	-96.85299	114.31
558	200	10	5	L4	28.06319	-96.85299	114.31
559	80	15	5	L4	28.06319	-96.85299	120.26
560	95	15	5	L4	28.06319	-96.85299	120.26
561	110	15	5	L4	28.06319	-96.85299	120.26
562	125	15	5	L4	28.06319	-96.85299	120.26
563	140	15	5	L4	28.06319	-96.85299	120.26
564	155	15	5	L4	28.06319	-96.85299	120.26
565	170	15	5	L4	28.06319	-96.85299	120.26
566	185	15	5	L4	28.06319	-96.85299	120.26
567	200	15	5	L4	28.06319	-96.85299	120.26

Table 2.4.5-4
Synthetic Hurricane Parameters
(Sheet 22 of 54)

Storm ID	Bearing (Θ)	Rmax (nm)	T (kt)	Landfall	Lat	Long	∆P (mb)
568	80	20	5	L4	28.06319	-96.85299	126.8
569	95	20	5	L4	28.06319	-96.85299	126.8
570	110	20	5	L4	28.06319	-96.85299	126.8
571	125	20	5	L4	28.06319	-96.85299	126.8
572	140	20	5	L4	28.06319	-96.85299	126.8
573	155	20	5	L4	28.06319	-96.85299	126.8
574	170	20	5	L4	28.06319	-96.85299	126.8
575	185	20	5	L4	28.06319	-96.85299	126.8
576	200	20	5	L4	28.06319	-96.85299	126.8
577	80	25	5	L4	28.06319	-96.85299	133.1
578	95	25	5	L4	28.06319	-96.85299	133.1
579	110	25	5	L4	28.06319	-96.85299	133.1
580	125	25	5	L4	28.06319	-96.85299	133.1
581	140	25	5	L4	28.06319	-96.85299	133.1
582	155	25	5	L4	28.06319	-96.85299	133.1
583	170	25	5	L4	28.06319	-96.85299	133.1
584	185	25	5	L4	28.06319	-96.85299	133.1
585	200	25	5	L4	28.06319	-96.85299	133.1
586	80	5	10	L4	28.06319	-96.85299	105.42
587	95	5	10	L4	28.06319	-96.85299	105.42
588	110	5	10	L4	28.06319	-96.85299	105.42
589	125	5	10	L4	28.06319	-96.85299	105.42
590	140	5	10	L4	28.06319	-96.85299	105.42
591	155	5	10	L4	28.06319	-96.85299	105.42
592	170	5	10	L4	28.06319	-96.85299	105.42
593	185	5	10	L4	28.06319	-96.85299	105.42
594	200	5	10	L4	28.06319	-96.85299	105.42

Table 2.4.5-4
Synthetic Hurricane Parameters
(Sheet 23 of 54)

Storm ID	Bearing (Θ)	Rmax (nm)	T (kt)	Landfall	Lat	Long	∆P (mb)
595	80	10	10	L4	28.06319	-96.85299	110.4
596	95	10	10	L4	28.06319	-96.85299	110.4
597	110	10	10	L4	28.06319	-96.85299	110.4
598	125	10	10	L4	28.06319	-96.85299	110.4
599	140	10	10	L4	28.06319	-96.85299	110.4
600	155	10	10	L4	28.06319	-96.85299	110.4
601	170	10	10	L4	28.06319	-96.85299	110.4
602	185	10	10	L4	28.06319	-96.85299	110.4
603	200	10	10	L4	28.06319	-96.85299	110.4
604	80	15	10	L4	28.06319	-96.85299	116.3
605	95	15	10	L4	28.06319	-96.85299	116.3
606	110	15	10	L4	28.06319	-96.85299	116.3
607	125	15	10	L4	28.06319	-96.85299	116.3
608	140	15	10	L4	28.06319	-96.85299	116.3
609	155	15	10	L4	28.06319	-96.85299	116.3
610	170	15	10	L4	28.06319	-96.85299	116.3
611	185	15	10	L4	28.06319	-96.85299	116.3
612	200	15	10	L4	28.06319	-96.85299	116.3
613	80	20	10	L4	28.06319	-96.85299	123.14
614	95	20	10	L4	28.06319	-96.85299	123.14
615	110	20	10	L4	28.06319	-96.85299	123.14
616	125	20	10	L4	28.06319	-96.85299	123.14
617	140	20	10	L4	28.06319	-96.85299	123.14
618	155	20	10	L4	28.06319	-96.85299	123.14
619	170	20	10	L4	28.06319	-96.85299	123.14
620	185	20	10	L4	28.06319	-96.85299	123.14
621	200	20	10	L4	28.06319	-96.85299	123.14

**Table 2.4.5-4
Synthetic Hurricane Parameters
(Sheet 24 of 54)**

Storm ID	Bearing (Θ)	Rmax (nm)	T (kt)	Landfall	Lat	Long	∆P (mb)
622	80	25	10	L4	28.06319	-96.85299	130.42
623	95	25	10	L4	28.06319	-96.85299	130.42
624	110	25	10	L4	28.06319	-96.85299	130.42
625	125	25	10	L4	28.06319	-96.85299	130.42
626	140	25	10	L4	28.06319	-96.85299	130.42
627	155	25	10	L4	28.06319	-96.85299	130.42
628	170	25	10	L4	28.06319	-96.85299	130.42
629	185	25	10	L4	28.06319	-96.85299	130.42
630	200	25	10	L4	28.06319	-96.85299	130.42
631	80	5	15	L4	28.06319	-96.85299	101.74
632	95	5	15	L4	28.06319	-96.85299	101.74
633	110	5	15	L4	28.06319	-96.85299	101.74
634	125	5	15	L4	28.06319	-96.85299	101.74
635	140	5	15	L4	28.06319	-96.85299	101.74
636	155	5	15	L4	28.06319	-96.85299	101.74
637	170	5	15	L4	28.06319	-96.85299	101.74
638	185	5	15	L4	28.06319	-96.85299	101.74
639	200	5	15	L4	28.06319	-96.85299	101.74
640	80	10	15	L4	28.06319	-96.85299	106.64
641	95	10	15	L4	28.06319	-96.85299	106.64
642	110	10	15	L4	28.06319	-96.85299	106.64
643	125	10	15	L4	28.06319	-96.85299	106.64
644	140	10	15	L4	28.06319	-96.85299	106.64
645	155	10	15	L4	28.06319	-96.85299	106.64
646	170	10	15	L4	28.06319	-96.85299	106.64
647	185	10	15	L4	28.06319	-96.85299	106.64
648	200	10	15	L4	28.06319	-96.85299	106.64

Table 2.4.5-4
Synthetic Hurricane Parameters
(Sheet 25 of 54)

Storm ID	Bearing (Θ)	Rmax (nm)	T (kt)	Landfall	Lat	Long	∆P (mb)
649	80	15	15	L4	28.06319	-96.85299	112.59
650	95	15	15	L4	28.06319	-96.85299	112.59
651	110	15	15	L4	28.06319	-96.85299	112.59
652	125	15	15	L4	28.06319	-96.85299	112.59
653	140	15	15	L4	28.06319	-96.85299	112.59
654	155	15	15	L4	28.06319	-96.85299	112.59
655	170	15	15	L4	28.06319	-96.85299	112.59
656	185	15	15	L4	28.06319	-96.85299	112.59
657	200	15	15	L4	28.06319	-96.85299	112.59
658	80	20	15	L4	28.06319	-96.85299	119.42
659	95	20	15	L4	28.06319	-96.85299	119.42
660	110	20	15	L4	28.06319	-96.85299	119.42
661	125	20	15	L4	28.06319	-96.85299	119.42
662	140	20	15	L4	28.06319	-96.85299	119.42
663	155	20	15	L4	28.06319	-96.85299	119.42
664	170	20	15	L4	28.06319	-96.85299	119.42
665	185	20	15	L4	28.06319	-96.85299	119.42
666	200	20	15	L4	28.06319	-96.85299	119.42
667	80	25	15	L4	28.06319	-96.85299	126.8
668	95	25	15	L4	28.06319	-96.85299	126.8
669	110	25	15	L4	28.06319	-96.85299	126.8
670	125	25	15	L4	28.06319	-96.85299	126.8
671	140	25	15	L4	28.06319	-96.85299	126.8
672	155	25	15	L4	28.06319	-96.85299	126.8
673	170	25	15	L4	28.06319	-96.85299	126.8
674	185	25	15	L4	28.06319	-96.85299	126.8
675	200	25	15	L4	28.06319	-96.85299	126.8

Table 2.4.5-4
Synthetic Hurricane Parameters
(Sheet 26 of 54)

Storm ID	Bearing (Θ)	Rmax (nm)	T (kt)	Landfall	Lat	Long	∆P (mb)
676	80	5	20	L4	28.06319	-96.85299	100
677	95	5	20	L4	28.06319	-96.85299	100
678	110	5	20	L4	28.06319	-96.85299	100
679	125	5	20	L4	28.06319	-96.85299	100
680	140	5	20	L4	28.06319	-96.85299	100
681	155	5	20	L4	28.06319	-96.85299	100
682	170	5	20	L4	28.06319	-96.85299	100
683	185	5	20	L4	28.06319	-96.85299	100
684	200	5	20	L4	28.06319	-96.85299	100
685	80	10	20	L4	28.06319	-96.85299	103.07
686	95	10	20	L4	28.06319	-96.85299	103.07
687	110	10	20	L4	28.06319	-96.85299	103.07
688	125	10	20	L4	28.06319	-96.85299	103.07
689	140	10	20	L4	28.06319	-96.85299	103.07
690	155	10	20	L4	28.06319	-96.85299	103.07
691	170	10	20	L4	28.06319	-96.85299	103.07
692	185	10	20	L4	28.06319	-96.85299	103.07
693	200	10	20	L4	28.06319	-96.85299	103.07
694	80	15	20	L4	28.06319	-96.85299	108.87
695	95	15	20	L4	28.06319	-96.85299	108.87
696	110	15	20	L4	28.06319	-96.85299	108.87
697	125	15	20	L4	28.06319	-96.85299	108.87
698	140	15	20	L4	28.06319	-96.85299	108.87
699	155	15	20	L4	28.06319	-96.85299	108.87
700	170	15	20	L4	28.06319	-96.85299	108.87
701	185	15	20	L4	28.06319	-96.85299	108.87
702	200	15	20	L4	28.06319	-96.85299	108.87

Table 2.4.5-4
Synthetic Hurricane Parameters
(Sheet 27 of 54)

Storm ID	Bearing (Θ)	Rmax (nm)	T (kt)	Landfall	Lat	Long	∆P (mb)
703	80	20	20	L4	28.06319	-96.85299	115.71
704	95	20	20	L4	28.06319	-96.85299	115.71
705	110	20	20	L4	28.06319	-96.85299	115.71
706	125	20	20	L4	28.06319	-96.85299	115.71
707	140	20	20	L4	28.06319	-96.85299	115.71
708	155	20	20	L4	28.06319	-96.85299	115.71
709	170	20	20	L4	28.06319	-96.85299	115.71
710	185	20	20	L4	28.06319	-96.85299	115.71
711	200	20	20	L4	28.06319	-96.85299	115.71
712	80	25	20	L4	28.06319	-96.85299	123.14
713	95	25	20	L4	28.06319	-96.85299	123.14
714	110	25	20	L4	28.06319	-96.85299	123.14
715	125	25	20	L4	28.06319	-96.85299	123.14
716	140	25	20	L4	28.06319	-96.85299	123.14
717	155	25	20	L4	28.06319	-96.85299	123.14
718	170	25	20	L4	28.06319	-96.85299	123.14
719	185	25	20	L4	28.06319	-96.85299	123.14
720	200	25	20	L4	28.06319	-96.85299	123.14
721	80	5	5	L5	27.94131	-96.97495	109.17
722	95	5	5	L5	27.94131	-96.97495	109.17
723	110	5	5	L5	27.94131	-96.97495	109.17
724	125	5	5	L5	27.94131	-96.97495	109.17
725	140	5	5	L5	27.94131	-96.97495	109.17
726	155	5	5	L5	27.94131	-96.97495	109.17
727	170	5	5	L5	27.94131	-96.97495	109.17
728	185	5	5	L5	27.94131	-96.97495	109.17
729	200	5	5	L5	27.94131	-96.97495	109.17

Table 2.4.5-4
Synthetic Hurricane Parameters
(Sheet 28 of 54)

Storm ID	Bearing (Θ)	Rmax (nm)	T (kt)	Landfall	Lat	Long	ΔP (mb)
730	80	10	5	L5	27.94131	-96.97495	114.31
731	95	10	5	L5	27.94131	-96.97495	114.31
732	110	10	5	L5	27.94131	-96.97495	114.31
733	125	10	5	L5	27.94131	-96.97495	114.31
734	140	10	5	L5	27.94131	-96.97495	114.31
735	155	10	5	L5	27.94131	-96.97495	114.31
736	170	10	5	L5	27.94131	-96.97495	114.31
737	185	10	5	L5	27.94131	-96.97495	114.31
738	200	10	5	L5	27.94131	-96.97495	114.31
739	80	15	5	L5	27.94131	-96.97495	120.26
740	95	15	5	L5	27.94131	-96.97495	120.26
741	110	15	5	L5	27.94131	-96.97495	120.26
742	125	15	5	L5	27.94131	-96.97495	120.26
743	140	15	5	L5	27.94131	-96.97495	120.26
744	155	15	5	L5	27.94131	-96.97495	120.26
745	170	15	5	L5	27.94131	-96.97495	120.26
746	185	15	5	L5	27.94131	-96.97495	120.26
747	200	15	5	L5	27.94131	-96.97495	120.26
748	80	20	5	L5	27.94131	-96.97495	126.8
749	95	20	5	L5	27.94131	-96.97495	126.8
750	110	20	5	L5	27.94131	-96.97495	126.8
751	125	20	5	L5	27.94131	-96.97495	126.8
752	140	20	5	L5	27.94131	-96.97495	126.8
753	155	20	5	L5	27.94131	-96.97495	126.8
754	170	20	5	L5	27.94131	-96.97495	126.8
755	185	20	5	L5	27.94131	-96.97495	126.8
756	200	20	5	L5	27.94131	-96.97495	126.8

Table 2.4.5-4
Synthetic Hurricane Parameters
(Sheet 29 of 54)

Storm ID	Bearing (Θ)	Rmax (nm)	T (kt)	Landfall	Lat	Long	∆P (mb)
757	80	25	5	L5	27.94131	-96.97495	133.1
758	95	25	5	L5	27.94131	-96.97495	133.1
759	110	25	5	L5	27.94131	-96.97495	133.1
760	125	25	5	L5	27.94131	-96.97495	133.1
761	140	25	5	L5	27.94131	-96.97495	133.1
762	155	25	5	L5	27.94131	-96.97495	133.1
763	170	25	5	L5	27.94131	-96.97495	133.1
764	185	25	5	L5	27.94131	-96.97495	133.1
765	200	25	5	L5	27.94131	-96.97495	133.1
766	80	5	10	L5	27.94131	-96.97495	105.42
767	95	5	10	L5	27.94131	-96.97495	105.42
768	110	5	10	L5	27.94131	-96.97495	105.42
769	125	5	10	L5	27.94131	-96.97495	105.42
770	140	5	10	L5	27.94131	-96.97495	105.42
771	155	5	10	L5	27.94131	-96.97495	105.42
772	170	5	10	L5	27.94131	-96.97495	105.42
773	185	5	10	L5	27.94131	-96.97495	105.42
774	200	5	10	L5	27.94131	-96.97495	105.42
775	80	10	10	L5	27.94131	-96.97495	110.4
776	95	10	10	L5	27.94131	-96.97495	110.4
777	110	10	10	L5	27.94131	-96.97495	110.4
778	125	10	10	L5	27.94131	-96.97495	110.4
779	140	10	10	L5	27.94131	-96.97495	110.4
780	155	10	10	L5	27.94131	-96.97495	110.4
781	170	10	10	L5	27.94131	-96.97495	110.4
782	185	10	10	L5	27.94131	-96.97495	110.4
783	200	10	10	L5	27.94131	-96.97495	110.4

Table 2.4.5-4
Synthetic Hurricane Parameters
(Sheet 30 of 54)

Storm ID	Bearing (Θ)	Rmax (nm)	T (kt)	Landfall	Lat	Long	∆P (mb)
784	80	15	10	L5	27.94131	-96.97495	116.3
785	95	15	10	L5	27.94131	-96.97495	116.3
786	110	15	10	L5	27.94131	-96.97495	116.3
787	125	15	10	L5	27.94131	-96.97495	116.3
788	140	15	10	L5	27.94131	-96.97495	116.3
789	155	15	10	L5	27.94131	-96.97495	116.3
790	170	15	10	L5	27.94131	-96.97495	116.3
791	185	15	10	L5	27.94131	-96.97495	116.3
792	200	15	10	L5	27.94131	-96.97495	116.3
793	80	20	10	L5	27.94131	-96.97495	123.14
794	95	20	10	L5	27.94131	-96.97495	123.14
795	110	20	10	L5	27.94131	-96.97495	123.14
796	125	20	10	L5	27.94131	-96.97495	123.14
797	140	20	10	L5	27.94131	-96.97495	123.14
798	155	20	10	L5	27.94131	-96.97495	123.14
799	170	20	10	L5	27.94131	-96.97495	123.14
800	185	20	10	L5	27.94131	-96.97495	123.14
801	200	20	10	L5	27.94131	-96.97495	123.14
802	80	25	10	L5	27.94131	-96.97495	130.42
803	95	25	10	L5	27.94131	-96.97495	130.42
804	110	25	10	L5	27.94131	-96.97495	130.42
805	125	25	10	L5	27.94131	-96.97495	130.42
806	140	25	10	L5	27.94131	-96.97495	130.42
807	155	25	10	L5	27.94131	-96.97495	130.42
808	170	25	10	L5	27.94131	-96.97495	130.42
809	185	25	10	L5	27.94131	-96.97495	130.42
810	200	25	10	L5	27.94131	-96.97495	130.42

**Table 2.4.5-4
Synthetic Hurricane Parameters
(Sheet 31 of 54)**

Storm ID	Bearing (Θ)	Rmax (nm)	T (kt)	Landfall	Lat	Long	∆P (mb)
811	80	5	15	L5	27.94131	-96.97495	101.74
812	95	5	15	L5	27.94131	-96.97495	101.74
813	110	5	15	L5	27.94131	-96.97495	101.74
814	125	5	15	L5	27.94131	-96.97495	101.74
815	140	5	15	L5	27.94131	-96.97495	101.74
816	155	5	15	L5	27.94131	-96.97495	101.74
817	170	5	15	L5	27.94131	-96.97495	101.74
818	185	5	15	L5	27.94131	-96.97495	101.74
819	200	5	15	L5	27.94131	-96.97495	101.74
820	80	10	15	L5	27.94131	-96.97495	106.64
821	95	10	15	L5	27.94131	-96.97495	106.64
822	110	10	15	L5	27.94131	-96.97495	106.64
823	125	10	15	L5	27.94131	-96.97495	106.64
824	140	10	15	L5	27.94131	-96.97495	106.64
825	155	10	15	L5	27.94131	-96.97495	106.64
826	170	10	15	L5	27.94131	-96.97495	106.64
827	185	10	15	L5	27.94131	-96.97495	106.64
828	200	10	15	L5	27.94131	-96.97495	106.64
829	80	15	15	L5	27.94131	-96.97495	112.59
830	95	15	15	L5	27.94131	-96.97495	112.59
831	110	15	15	L5	27.94131	-96.97495	112.59
832	125	15	15	L5	27.94131	-96.97495	112.59
833	140	15	15	L5	27.94131	-96.97495	112.59
834	155	15	15	L5	27.94131	-96.97495	112.59
835	170	15	15	L5	27.94131	-96.97495	112.59
836	185	15	15	L5	27.94131	-96.97495	112.59
837	200	15	15	L5	27.94131	-96.97495	112.59

Table 2.4.5-4
Synthetic Hurricane Parameters
(Sheet 32 of 54)

Storm ID	Bearing (Θ)	Rmax (nm)	T (kt)	Landfall	Lat	Long	∆P (mb)
838	80	20	15	L5	27.94131	-96.97495	119.42
839	95	20	15	L5	27.94131	-96.97495	119.42
840	110	20	15	L5	27.94131	-96.97495	119.42
841	125	20	15	L5	27.94131	-96.97495	119.42
842	140	20	15	L5	27.94131	-96.97495	119.42
843	155	20	15	L5	27.94131	-96.97495	119.42
844	170	20	15	L5	27.94131	-96.97495	119.42
845	185	20	15	L5	27.94131	-96.97495	119.42
846	200	20	15	L5	27.94131	-96.97495	119.42
847	80	25	15	L5	27.94131	-96.97495	126.8
848	95	25	15	L5	27.94131	-96.97495	126.8
849	110	25	15	L5	27.94131	-96.97495	126.8
850	125	25	15	L5	27.94131	-96.97495	126.8
851	140	25	15	L5	27.94131	-96.97495	126.8
852	155	25	15	L5	27.94131	-96.97495	126.8
853	170	25	15	L5	27.94131	-96.97495	126.8
854	185	25	15	L5	27.94131	-96.97495	126.8
855	200	25	15	L5	27.94131	-96.97495	126.8
856	80	5	20	L5	27.94131	-96.97495	100
857	95	5	20	L5	27.94131	-96.97495	100
858	110	5	20	L5	27.94131	-96.97495	100
859	125	5	20	L5	27.94131	-96.97495	100
860	140	5	20	L5	27.94131	-96.97495	100
861	155	5	20	L5	27.94131	-96.97495	100
862	170	5	20	L5	27.94131	-96.97495	100
863	185	5	20	L5	27.94131	-96.97495	100
864	200	5	20	L5	27.94131	-96.97495	100

Table 2.4.5-4
Synthetic Hurricane Parameters
(Sheet 33 of 54)

Storm ID	Bearing (Θ)	Rmax (nm)	T (kt)	Landfall	Lat	Long	∆P (mb)
865	80	10	20	L5	27.94131	-96.97495	103.07
866	95	10	20	L5	27.94131	-96.97495	103.07
867	110	10	20	L5	27.94131	-96.97495	103.07
868	125	10	20	L5	27.94131	-96.97495	103.07
869	140	10	20	L5	27.94131	-96.97495	103.07
870	155	10	20	L5	27.94131	-96.97495	103.07
871	170	10	20	L5	27.94131	-96.97495	103.07
872	185	10	20	L5	27.94131	-96.97495	103.07
873	200	10	20	L5	27.94131	-96.97495	103.07
874	80	15	20	L5	27.94131	-96.97495	108.87
875	95	15	20	L5	27.94131	-96.97495	108.87
876	110	15	20	L5	27.94131	-96.97495	108.87
877	125	15	20	L5	27.94131	-96.97495	108.87
878	140	15	20	L5	27.94131	-96.97495	108.87
879	155	15	20	L5	27.94131	-96.97495	108.87
880	170	15	20	L5	27.94131	-96.97495	108.87
881	185	15	20	L5	27.94131	-96.97495	108.87
882	200	15	20	L5	27.94131	-96.97495	108.87
883	80	20	20	L5	27.94131	-96.97495	115.71
884	95	20	20	L5	27.94131	-96.97495	115.71
885	110	20	20	L5	27.94131	-96.97495	115.71
886	125	20	20	L5	27.94131	-96.97495	115.71
887	140	20	20	L5	27.94131	-96.97495	115.71
888	155	20	20	L5	27.94131	-96.97495	115.71
889	170	20	20	L5	27.94131	-96.97495	115.71
890	185	20	20	L5	27.94131	-96.97495	115.71
891	200	20	20	L5	27.94131	-96.97495	115.71

Table 2.4.5-4
Synthetic Hurricane Parameters
(Sheet 34 of 54)

Storm ID	Bearing (Θ)	Rmax (nm)	T (kt)	Landfall	Lat	Long	∆P (mb)
892	80	25	20	L5	27.94131	-96.97495	123.14
893	95	25	20	L5	27.94131	-96.97495	123.14
894	110	25	20	L5	27.94131	-96.97495	123.14
895	125	25	20	L5	27.94131	-96.97495	123.14
896	140	25	20	L5	27.94131	-96.97495	123.14
897	155	25	20	L5	27.94131	-96.97495	123.14
898	170	25	20	L5	27.94131	-96.97495	123.14
899	185	25	20	L5	27.94131	-96.97495	123.14
900	200	25	20	L5	27.94131	-96.97495	123.14
901	80	5	5	L6	27.80377	-97.07635	109.17
902	95	5	5	L6	27.80377	-97.07635	109.17
903	110	5	5	L6	27.80377	-97.07635	109.17
904	125	5	5	L6	27.80377	-97.07635	109.17
905	140	5	5	L6	27.80377	-97.07635	109.17
906	155	5	5	L6	27.80377	-97.07635	109.17
907	170	5	5	L6	27.80377	-97.07635	109.17
908	185	5	5	L6	27.80377	-97.07635	109.17
909	200	5	5	L6	27.80377	-97.07635	109.17
910	80	10	5	L6	27.80377	-97.07635	114.31
911	95	10	5	L6	27.80377	-97.07635	114.31
912	110	10	5	L6	27.80377	-97.07635	114.31
913	125	10	5	L6	27.80377	-97.07635	114.31
914	140	10	5	L6	27.80377	-97.07635	114.31
915	155	10	5	L6	27.80377	-97.07635	114.31
916	170	10	5	L6	27.80377	-97.07635	114.31
917	185	10	5	L6	27.80377	-97.07635	114.31
918	200	10	5	L6	27.80377	-97.07635	114.31

Table 2.4.5-4
Synthetic Hurricane Parameters
(Sheet 35 of 54)

Storm ID	Bearing (Θ)	Rmax (nm)	T (kt)	Landfall	Lat	Long	∆P (mb)
919	80	15	5	L6	27.80377	-97.07635	120.26
920	95	15	5	L6	27.80377	-97.07635	120.26
921	110	15	5	L6	27.80377	-97.07635	120.26
922	125	15	5	L6	27.80377	-97.07635	120.26
923	140	15	5	L6	27.80377	-97.07635	120.26
924	155	15	5	L6	27.80377	-97.07635	120.26
925	170	15	5	L6	27.80377	-97.07635	120.26
926	185	15	5	L6	27.80377	-97.07635	120.26
927	200	15	5	L6	27.80377	-97.07635	120.26
928	80	20	5	L6	27.80377	-97.07635	126.8
929	95	20	5	L6	27.80377	-97.07635	126.8
930	110	20	5	L6	27.80377	-97.07635	126.8
931	125	20	5	L6	27.80377	-97.07635	126.8
932	140	20	5	L6	27.80377	-97.07635	126.8
933	155	20	5	L6	27.80377	-97.07635	126.8
934	170	20	5	L6	27.80377	-97.07635	126.8
935	185	20	5	L6	27.80377	-97.07635	126.8
936	200	20	5	L6	27.80377	-97.07635	126.8
937	80	25	5	L6	27.80377	-97.07635	133.1
938	95	25	5	L6	27.80377	-97.07635	133.1
939	110	25	5	L6	27.80377	-97.07635	133.1
940	125	25	5	L6	27.80377	-97.07635	133.1
941	140	25	5	L6	27.80377	-97.07635	133.1
942	155	25	5	L6	27.80377	-97.07635	133.1
943	170	25	5	L6	27.80377	-97.07635	133.1
944	185	25	5	L6	27.80377	-97.07635	133.1
945	200	25	5	L6	27.80377	-97.07635	133.1

Table 2.4.5-4
Synthetic Hurricane Parameters
(Sheet 36 of 54)

Storm ID	Bearing (Θ)	Rmax (nm)	T (kt)	Landfall	Lat	Long	∆P (mb)
946	80	5	10	L6	27.80377	-97.07635	105.42
947	95	5	10	L6	27.80377	-97.07635	105.42
948	110	5	10	L6	27.80377	-97.07635	105.42
949	125	5	10	L6	27.80377	-97.07635	105.42
950	140	5	10	L6	27.80377	-97.07635	105.42
951	155	5	10	L6	27.80377	-97.07635	105.42
952	170	5	10	L6	27.80377	-97.07635	105.42
953	185	5	10	L6	27.80377	-97.07635	105.42
954	200	5	10	L6	27.80377	-97.07635	105.42
955	80	10	10	L6	27.80377	-97.07635	110.4
956	95	10	10	L6	27.80377	-97.07635	110.4
957	110	10	10	L6	27.80377	-97.07635	110.4
958	125	10	10	L6	27.80377	-97.07635	110.4
959	140	10	10	L6	27.80377	-97.07635	110.4
960	155	10	10	L6	27.80377	-97.07635	110.4
961	170	10	10	L6	27.80377	-97.07635	110.4
962	185	10	10	L6	27.80377	-97.07635	110.4
963	200	10	10	L6	27.80377	-97.07635	110.4
964	80	15	10	L6	27.80377	-97.07635	116.3
965	95	15	10	L6	27.80377	-97.07635	116.3
966	110	15	10	L6	27.80377	-97.07635	116.3
967	125	15	10	L6	27.80377	-97.07635	116.3
968	140	15	10	L6	27.80377	-97.07635	116.3
969	155	15	10	L6	27.80377	-97.07635	116.3
970	170	15	10	L6	27.80377	-97.07635	116.3
971	185	15	10	L6	27.80377	-97.07635	116.3
972	200	15	10	L6	27.80377	-97.07635	116.3

Table 2.4.5-4
Synthetic Hurricane Parameters
(Sheet 37 of 54)

Storm ID	Bearing (Θ)	Rmax (nm)	T (kt)	Landfall	Lat	Long	∆P (mb)
973	80	20	10	L6	27.80377	-97.07635	123.14
974	95	20	10	L6	27.80377	-97.07635	123.14
975	110	20	10	L6	27.80377	-97.07635	123.14
976	125	20	10	L6	27.80377	-97.07635	123.14
977	140	20	10	L6	27.80377	-97.07635	123.14
978	155	20	10	L6	27.80377	-97.07635	123.14
979	170	20	10	L6	27.80377	-97.07635	123.14
980	185	20	10	L6	27.80377	-97.07635	123.14
981	200	20	10	L6	27.80377	-97.07635	123.14
982	80	25	10	L6	27.80377	-97.07635	130.42
983	95	25	10	L6	27.80377	-97.07635	130.42
984	110	25	10	L6	27.80377	-97.07635	130.42
985	125	25	10	L6	27.80377	-97.07635	130.42
986	140	25	10	L6	27.80377	-97.07635	130.42
987	155	25	10	L6	27.80377	-97.07635	130.42
988	170	25	10	L6	27.80377	-97.07635	130.42
989	185	25	10	L6	27.80377	-97.07635	130.42
990	200	25	10	L6	27.80377	-97.07635	130.42
991	80	5	15	L6	27.80377	-97.07635	101.74
992	95	5	15	L6	27.80377	-97.07635	101.74
993	110	5	15	L6	27.80377	-97.07635	101.74
994	125	5	15	L6	27.80377	-97.07635	101.74
995	140	5	15	L6	27.80377	-97.07635	101.74
996	155	5	15	L6	27.80377	-97.07635	101.74
997	170	5	15	L6	27.80377	-97.07635	101.74
998	185	5	15	L6	27.80377	-97.07635	101.74
999	200	5	15	L6	27.80377	-97.07635	101.74

Table 2.4.5-4
Synthetic Hurricane Parameters
(Sheet 38 of 54)

Storm ID	Bearing (Θ)	Rmax (nm)	T (kt)	Landfall	Lat	Long	∆P (mb)
1000	80	10	15	L6	27.80377	-97.07635	106.64
1001	95	10	15	L6	27.80377	-97.07635	106.64
1002	110	10	15	L6	27.80377	-97.07635	106.64
1003	125	10	15	L6	27.80377	-97.07635	106.64
1004	140	10	15	L6	27.80377	-97.07635	106.64
1005	155	10	15	L6	27.80377	-97.07635	106.64
1006	170	10	15	L6	27.80377	-97.07635	106.64
1007	185	10	15	L6	27.80377	-97.07635	106.64
1008	200	10	15	L6	27.80377	-97.07635	106.64
1009	80	15	15	L6	27.80377	-97.07635	112.59
1010	95	15	15	L6	27.80377	-97.07635	112.59
1011	110	15	15	L6	27.80377	-97.07635	112.59
1012	125	15	15	L6	27.80377	-97.07635	112.59
1013	140	15	15	L6	27.80377	-97.07635	112.59
1014	155	15	15	L6	27.80377	-97.07635	112.59
1015	170	15	15	L6	27.80377	-97.07635	112.59
1016	185	15	15	L6	27.80377	-97.07635	112.59
1017	200	15	15	L6	27.80377	-97.07635	112.59
1018	80	20	15	L6	27.80377	-97.07635	119.42
1019	95	20	15	L6	27.80377	-97.07635	119.42
1020	110	20	15	L6	27.80377	-97.07635	119.42
1021	125	20	15	L6	27.80377	-97.07635	119.42
1022	140	20	15	L6	27.80377	-97.07635	119.42
1023	155	20	15	L6	27.80377	-97.07635	119.42
1024	170	20	15	L6	27.80377	-97.07635	119.42
1025	185	20	15	L6	27.80377	-97.07635	119.42
1026	200	20	15	L6	27.80377	-97.07635	119.42

Table 2.4.5-4
Synthetic Hurricane Parameters
(Sheet 39 of 54)

Storm ID	Bearing (Θ)	Rmax (nm)	T (kt)	Landfall	Lat	Long	∆P (mb)
1027	80	25	15	L6	27.80377	-97.07635	126.8
1028	95	25	15	L6	27.80377	-97.07635	126.8
1029	110	25	15	L6	27.80377	-97.07635	126.8
1030	125	25	15	L6	27.80377	-97.07635	126.8
1031	140	25	15	L6	27.80377	-97.07635	126.8
1032	155	25	15	L6	27.80377	-97.07635	126.8
1033	170	25	15	L6	27.80377	-97.07635	126.8
1034	185	25	15	L6	27.80377	-97.07635	126.8
1035	200	25	15	L6	27.80377	-97.07635	126.8
1036	80	5	20	L6	27.80377	-97.07635	100
1037	95	5	20	L6	27.80377	-97.07635	100
1038	110	5	20	L6	27.80377	-97.07635	100
1039	125	5	20	L6	27.80377	-97.07635	100
1040	140	5	20	L6	27.80377	-97.07635	100
1041	155	5	20	L6	27.80377	-97.07635	100
1042	170	5	20	L6	27.80377	-97.07635	100
1043	185	5	20	L6	27.80377	-97.07635	100
1044	200	5	20	L6	27.80377	-97.07635	100
1045	80	10	20	L6	27.80377	-97.07635	103.07
1046	95	10	20	L6	27.80377	-97.07635	103.07
1047	110	10	20	L6	27.80377	-97.07635	103.07
1048	125	10	20	L6	27.80377	-97.07635	103.07
1049	140	10	20	L6	27.80377	-97.07635	103.07
1050	155	10	20	L6	27.80377	-97.07635	103.07
1051	170	10	20	L6	27.80377	-97.07635	103.07
1052	185	10	20	L6	27.80377	-97.07635	103.07
1053	200	10	20	L6	27.80377	-97.07635	103.07

Table 2.4.5-4
Synthetic Hurricane Parameters
(Sheet 40 of 54)

Storm ID	Bearing (Θ)	Rmax (nm)	T (kt)	Landfall	Lat	Long	∆P (mb)
1054	80	15	20	L6	27.80377	-97.07635	108.87
1055	95	15	20	L6	27.80377	-97.07635	108.87
1056	110	15	20	L6	27.80377	-97.07635	108.87
1057	125	15	20	L6	27.80377	-97.07635	108.87
1058	140	15	20	L6	27.80377	-97.07635	108.87
1059	155	15	20	L6	27.80377	-97.07635	108.87
1060	170	15	20	L6	27.80377	-97.07635	108.87
1061	185	15	20	L6	27.80377	-97.07635	108.87
1062	200	15	20	L6	27.80377	-97.07635	108.87
1063	80	20	20	L6	27.80377	-97.07635	115.71
1064	95	20	20	L6	27.80377	-97.07635	115.71
1065	110	20	20	L6	27.80377	-97.07635	115.71
1066	125	20	20	L6	27.80377	-97.07635	115.71
1067	140	20	20	L6	27.80377	-97.07635	115.71
1068	155	20	20	L6	27.80377	-97.07635	115.71
1069	170	20	20	L6	27.80377	-97.07635	115.71
1070	185	20	20	L6	27.80377	-97.07635	115.71
1071	200	20	20	L6	27.80377	-97.07635	115.71
1072	80	25	20	L6	27.80377	-97.07635	123.14
1073	95	25	20	L6	27.80377	-97.07635	123.14
1074	110	25	20	L6	27.80377	-97.07635	123.14
1075	125	25	20	L6	27.80377	-97.07635	123.14
1076	140	25	20	L6	27.80377	-97.07635	123.14
1077	155	25	20	L6	27.80377	-97.07635	123.14
1078	170	25	20	L6	27.80377	-97.07635	123.14
1079	185	25	20	L6	27.80377	-97.07635	123.14
1080	200	25	20	L6	27.80377	-97.07635	123.14

Table 2.4.5-4
Synthetic Hurricane Parameters
(Sheet 41 of 54)

Storm ID	Bearing (Θ)	Rmax (nm)	T (kt)	Landfall	Lat	Long	∆P (mb)
1081	80	5	5	L7	27.66018	-97.17836	109.17
1082	95	5	5	L7	27.66018	-97.17836	109.17
1083	110	5	5	L7	27.66018	-97.17836	109.17
1084	125	5	5	L7	27.66018	-97.17836	109.17
1085	140	5	5	L7	27.66018	-97.17836	109.17
1086	155	5	5	L7	27.66018	-97.17836	109.17
1087	170	5	5	L7	27.66018	-97.17836	109.17
1088	185	5	5	L7	27.66018	-97.17836	109.17
1089	200	5	5	L7	27.66018	-97.17836	109.17
1090	80	10	5	L7	27.66018	-97.17836	114.31
1091	95	10	5	L7	27.66018	-97.17836	114.31
1092	110	10	5	L7	27.66018	-97.17836	114.31
1093	125	10	5	L7	27.66018	-97.17836	114.31
1094	140	10	5	L7	27.66018	-97.17836	114.31
1095	155	10	5	L7	27.66018	-97.17836	114.31
1096	170	10	5	L7	27.66018	-97.17836	114.31
1097	185	10	5	L7	27.66018	-97.17836	114.31
1098	200	10	5	L7	27.66018	-97.17836	114.31
1099	80	15	5	L7	27.66018	-97.17836	120.26
1100	95	15	5	L7	27.66018	-97.17836	120.26
1101	110	15	5	L7	27.66018	-97.17836	120.26
1102	125	15	5	L7	27.66018	-97.17836	120.26
1103	140	15	5	L7	27.66018	-97.17836	120.26
1104	155	15	5	L7	27.66018	-97.17836	120.26
1105	170	15	5	L7	27.66018	-97.17836	120.26
1106	185	15	5	L7	27.66018	-97.17836	120.26
1107	200	15	5	L7	27.66018	-97.17836	120.26

**Table 2.4.5-4
Synthetic Hurricane Parameters
(Sheet 42 of 54)**

Storm ID	Bearing (Θ)	Rmax (nm)	T (kt)	Landfall	Lat	Long	∆P (mb)
1108	80	20	5	L7	27.66018	-97.17836	126.8
1109	95	20	5	L7	27.66018	-97.17836	126.8
1110	110	20	5	L7	27.66018	-97.17836	126.8
1111	125	20	5	L7	27.66018	-97.17836	126.8
1112	140	20	5	L7	27.66018	-97.17836	126.8
1113	155	20	5	L7	27.66018	-97.17836	126.8
1114	170	20	5	L7	27.66018	-97.17836	126.8
1115	185	20	5	L7	27.66018	-97.17836	126.8
1116	200	20	5	L7	27.66018	-97.17836	126.8
1117	80	25	5	L7	27.66018	-97.17836	133.1
1118	95	25	5	L7	27.66018	-97.17836	133.1
1119	110	25	5	L7	27.66018	-97.17836	133.1
1120	125	25	5	L7	27.66018	-97.17836	133.1
1121	140	25	5	L7	27.66018	-97.17836	133.1
1122	155	25	5	L7	27.66018	-97.17836	133.1
1123	170	25	5	L7	27.66018	-97.17836	133.1
1124	185	25	5	L7	27.66018	-97.17836	133.1
1125	200	25	5	L7	27.66018	-97.17836	133.1
1126	80	5	10	L7	27.66018	-97.17836	105.42
1127	95	5	10	L7	27.66018	-97.17836	105.42
1128	110	5	10	L7	27.66018	-97.17836	105.42
1129	125	5	10	L7	27.66018	-97.17836	105.42
1130	140	5	10	L7	27.66018	-97.17836	105.42
1131	155	5	10	L7	27.66018	-97.17836	105.42
1132	170	5	10	L7	27.66018	-97.17836	105.42
1133	185	5	10	L7	27.66018	-97.17836	105.42
1134	200	5	10	L7	27.66018	-97.17836	105.42

Table 2.4.5-4
Synthetic Hurricane Parameters
(Sheet 43 of 54)

Storm ID	Bearing (Θ)	Rmax (nm)	T (kt)	Landfall	Lat	Long	ΔP (mb)
1135	80	10	10	L7	27.66018	-97.17836	110.4
1136	95	10	10	L7	27.66018	-97.17836	110.4
1137	110	10	10	L7	27.66018	-97.17836	110.4
1138	125	10	10	L7	27.66018	-97.17836	110.4
1139	140	10	10	L7	27.66018	-97.17836	110.4
1140	155	10	10	L7	27.66018	-97.17836	110.4
1141	170	10	10	L7	27.66018	-97.17836	110.4
1142	185	10	10	L7	27.66018	-97.17836	110.4
1143	200	10	10	L7	27.66018	-97.17836	110.4
1144	80	15	10	L7	27.66018	-97.17836	116.3
1145	95	15	10	L7	27.66018	-97.17836	116.3
1146	110	15	10	L7	27.66018	-97.17836	116.3
1147	125	15	10	L7	27.66018	-97.17836	116.3
1148	140	15	10	L7	27.66018	-97.17836	116.3
1149	155	15	10	L7	27.66018	-97.17836	116.3
1150	170	15	10	L7	27.66018	-97.17836	116.3
1151	185	15	10	L7	27.66018	-97.17836	116.3
1152	200	15	10	L7	27.66018	-97.17836	116.3
1153	80	20	10	L7	27.66018	-97.17836	123.14
1154	95	20	10	L7	27.66018	-97.17836	123.14
1155	110	20	10	L7	27.66018	-97.17836	123.14
1156	125	20	10	L7	27.66018	-97.17836	123.14
1157	140	20	10	L7	27.66018	-97.17836	123.14
1158	155	20	10	L7	27.66018	-97.17836	123.14
1159	170	20	10	L7	27.66018	-97.17836	123.14
1160	185	20	10	L7	27.66018	-97.17836	123.14
1161	200	20	10	L7	27.66018	-97.17836	123.14

Table 2.4.5-4
Synthetic Hurricane Parameters
(Sheet 44 of 54)

Storm ID	Bearing (Θ)	Rmax (nm)	T (kt)	Landfall	Lat	Long	∆P (mb)
1162	80	25	10	L7	27.66018	-97.17836	130.42
1163	95	25	10	L7	27.66018	-97.17836	130.42
1164	110	25	10	L7	27.66018	-97.17836	130.42
1165	125	25	10	L7	27.66018	-97.17836	130.42
1166	140	25	10	L7	27.66018	-97.17836	130.42
1167	155	25	10	L7	27.66018	-97.17836	130.42
1168	170	25	10	L7	27.66018	-97.17836	130.42
1169	185	25	10	L7	27.66018	-97.17836	130.42
1170	200	25	10	L7	27.66018	-97.17836	130.42
1171	80	5	15	L7	27.66018	-97.17836	101.74
1172	95	5	15	L7	27.66018	-97.17836	101.74
1173	110	5	15	L7	27.66018	-97.17836	101.74
1174	125	5	15	L7	27.66018	-97.17836	101.74
1175	140	5	15	L7	27.66018	-97.17836	101.74
1176	155	5	15	L7	27.66018	-97.17836	101.74
1177	170	5	15	L7	27.66018	-97.17836	101.74
1178	185	5	15	L7	27.66018	-97.17836	101.74
1179	200	5	15	L7	27.66018	-97.17836	101.74
1180	80	10	15	L7	27.66018	-97.17836	106.64
1181	95	10	15	L7	27.66018	-97.17836	106.64
1182	110	10	15	L7	27.66018	-97.17836	106.64
1183	125	10	15	L7	27.66018	-97.17836	106.64
1184	140	10	15	L7	27.66018	-97.17836	106.64
1185	155	10	15	L7	27.66018	-97.17836	106.64
1186	170	10	15	L7	27.66018	-97.17836	106.64
1187	185	10	15	L7	27.66018	-97.17836	106.64
1188	200	10	15	L7	27.66018	-97.17836	106.64

Table 2.4.5-4
Synthetic Hurricane Parameters
(Sheet 45 of 54)

Storm ID	Bearing (Θ)	Rmax (nm)	T (kt)	Landfall	Lat	Long	∆P (mb)
1189	80	15	15	L7	27.66018	-97.17836	112.59
1190	95	15	15	L7	27.66018	-97.17836	112.59
1191	110	15	15	L7	27.66018	-97.17836	112.59
1192	125	15	15	L7	27.66018	-97.17836	112.59
1193	140	15	15	L7	27.66018	-97.17836	112.59
1194	155	15	15	L7	27.66018	-97.17836	112.59
1195	170	15	15	L7	27.66018	-97.17836	112.59
1196	185	15	15	L7	27.66018	-97.17836	112.59
1197	200	15	15	L7	27.66018	-97.17836	112.59
1198	80	20	15	L7	27.66018	-97.17836	119.42
1199	95	20	15	L7	27.66018	-97.17836	119.42
1200	110	20	15	L7	27.66018	-97.17836	119.42
1201	125	20	15	L7	27.66018	-97.17836	119.42
1202	140	20	15	L7	27.66018	-97.17836	119.42
1203	155	20	15	L7	27.66018	-97.17836	119.42
1204	170	20	15	L7	27.66018	-97.17836	119.42
1205	185	20	15	L7	27.66018	-97.17836	119.42
1206	200	20	15	L7	27.66018	-97.17836	119.42
1207	80	25	15	L7	27.66018	-97.17836	126.8
1208	95	25	15	L7	27.66018	-97.17836	126.8
1209	110	25	15	L7	27.66018	-97.17836	126.8
1210	125	25	15	L7	27.66018	-97.17836	126.8
1211	140	25	15	L7	27.66018	-97.17836	126.8
1212	155	25	15	L7	27.66018	-97.17836	126.8
1213	170	25	15	L7	27.66018	-97.17836	126.8
1214	185	25	15	L7	27.66018	-97.17836	126.8
1215	200	25	15	L7	27.66018	-97.17836	126.8

Table 2.4.5-4
Synthetic Hurricane Parameters
(Sheet 46 of 54)

Storm ID	Bearing (Θ)	Rmax (nm)	T (kt)	Landfall	Lat	Long	∆P (mb)
1216	80	5	20	L7	27.66018	-97.17836	100
1217	95	5	20	L7	27.66018	-97.17836	100
1218	110	5	20	L7	27.66018	-97.17836	100
1219	125	5	20	L7	27.66018	-97.17836	100
1220	140	5	20	L7	27.66018	-97.17836	100
1221	155	5	20	L7	27.66018	-97.17836	100
1222	170	5	20	L7	27.66018	-97.17836	100
1223	185	5	20	L7	27.66018	-97.17836	100
1224	200	5	20	L7	27.66018	-97.17836	100
1225	80	10	20	L7	27.66018	-97.17836	103.07
1226	95	10	20	L7	27.66018	-97.17836	103.07
1227	110	10	20	L7	27.66018	-97.17836	103.07
1228	125	10	20	L7	27.66018	-97.17836	103.07
1229	140	10	20	L7	27.66018	-97.17836	103.07
1230	155	10	20	L7	27.66018	-97.17836	103.07
1231	170	10	20	L7	27.66018	-97.17836	103.07
1232	185	10	20	L7	27.66018	-97.17836	103.07
1233	200	10	20	L7	27.66018	-97.17836	103.07
1234	80	15	20	L7	27.66018	-97.17836	108.87
1235	95	15	20	L7	27.66018	-97.17836	108.87
1236	110	15	20	L7	27.66018	-97.17836	108.87
1237	125	15	20	L7	27.66018	-97.17836	108.87
1238	140	15	20	L7	27.66018	-97.17836	108.87
1239	155	15	20	L7	27.66018	-97.17836	108.87
1240	170	15	20	L7	27.66018	-97.17836	108.87
1241	185	15	20	L7	27.66018	-97.17836	108.87
1242	200	15	20	L7	27.66018	-97.17836	108.87

Table 2.4.5-4
Synthetic Hurricane Parameters
(Sheet 47 of 54)

Storm ID	Bearing (Θ)	Rmax (nm)	T (kt)	Landfall	Lat	Long	∆P (mb)
1243	80	20	20	L7	27.66018	-97.17836	115.71
1244	95	20	20	L7	27.66018	-97.17836	115.71
1245	110	20	20	L7	27.66018	-97.17836	115.71
1246	125	20	20	L7	27.66018	-97.17836	115.71
1247	140	20	20	L7	27.66018	-97.17836	115.71
1248	155	20	20	L7	27.66018	-97.17836	115.71
1249	170	20	20	L7	27.66018	-97.17836	115.71
1250	185	20	20	L7	27.66018	-97.17836	115.71
1251	200	20	20	L7	27.66018	-97.17836	115.71
1252	80	25	20	L7	27.66018	-97.17836	123.14
1253	95	25	20	L7	27.66018	-97.17836	123.14
1254	110	25	20	L7	27.66018	-97.17836	123.14
1255	125	25	20	L7	27.66018	-97.17836	123.14
1256	140	25	20	L7	27.66018	-97.17836	123.14
1257	155	25	20	L7	27.66018	-97.17836	123.14
1258	170	25	20	L7	27.66018	-97.17836	123.14
1259	185	25	20	L7	27.66018	-97.17836	123.14
1260	200	25	20	L7	27.66018	-97.17836	123.14
1261	80	5	5	L8	27.503425	-97.260625	109.17
1262	95	5	5	L8	27.503425	-97.260625	109.17
1263	110	5	5	L8	27.503425	-97.260625	109.17
1264	125	5	5	L8	27.503425	-97.260625	109.17
1265	140	5	5	L8	27.503425	-97.260625	109.17
1266	155	5	5	L8	27.503425	-97.260625	109.17
1267	170	5	5	L8	27.503425	-97.260625	109.17
1268	185	5	5	L8	27.503425	-97.260625	109.17
1269	200	5	5	L8	27.503425	-97.260625	109.17

Table 2.4.5-4
Synthetic Hurricane Parameters
(Sheet 48 of 54)

Storm ID	Bearing (Θ)	Rmax (nm)	T (kt)	Landfall	Lat	Long	∆P (mb)
1270	80	10	5	L8	27.503425	-97.260625	114.31
1271	95	10	5	L8	27.503425	-97.260625	114.31
1272	110	10	5	L8	27.503425	-97.260625	114.31
1273	125	10	5	L8	27.503425	-97.260625	114.31
1274	140	10	5	L8	27.503425	-97.260625	114.31
1275	155	10	5	L8	27.503425	-97.260625	114.31
1276	170	10	5	L8	27.503425	-97.260625	114.31
1277	185	10	5	L8	27.503425	-97.260625	114.31
1278	200	10	5	L8	27.503425	-97.260625	114.31
1279	80	15	5	L8	27.503425	-97.260625	120.26
1280	95	15	5	L8	27.503425	-97.260625	120.26
1281	110	15	5	L8	27.503425	-97.260625	120.26
1282	125	15	5	L8	27.503425	-97.260625	120.26
1283	140	15	5	L8	27.503425	-97.260625	120.26
1284	155	15	5	L8	27.503425	-97.260625	120.26
1285	170	15	5	L8	27.503425	-97.260625	120.26
1286	185	15	5	L8	27.503425	-97.260625	120.26
1287	200	15	5	L8	27.503425	-97.260625	120.26
1288	80	20	5	L8	27.503425	-97.260625	126.8
1289	95	20	5	L8	27.503425	-97.260625	126.8
1290	110	20	5	L8	27.503425	-97.260625	126.8
1291	125	20	5	L8	27.503425	-97.260625	126.8
1292	140	20	5	L8	27.503425	-97.260625	126.8
1293	155	20	5	L8	27.503425	-97.260625	126.8
1294	170	20	5	L8	27.503425	-97.260625	126.8
1295	185	20	5	L8	27.503425	-97.260625	126.8
1296	200	20	5	L8	27.503425	-97.260625	126.8

Table 2.4.5-4
Synthetic Hurricane Parameters
(Sheet 49 of 54)

Storm ID	Bearing (Θ)	Rmax (nm)	T (kt)	Landfall	Lat	Long	∆P (mb)
1297	80	25	5	L8	27.503425	-97.260625	133.1
1298	95	25	5	L8	27.503425	-97.260625	133.1
1299	110	25	5	L8	27.503425	-97.260625	133.1
1300	125	25	5	L8	27.503425	-97.260625	133.1
1301	140	25	5	L8	27.503425	-97.260625	133.1
1302	155	25	5	L8	27.503425	-97.260625	133.1
1303	170	25	5	L8	27.503425	-97.260625	133.1
1304	185	25	5	L8	27.503425	-97.260625	133.1
1305	200	25	5	L8	27.503425	-97.260625	133.1
1306	80	5	10	L8	27.503425	-97.260625	105.42
1307	95	5	10	L8	27.503425	-97.260625	105.42
1308	110	5	10	L8	27.503425	-97.260625	105.42
1309	125	5	10	L8	27.503425	-97.260625	105.42
1310	140	5	10	L8	27.503425	-97.260625	105.42
1311	155	5	10	L8	27.503425	-97.260625	105.42
1312	170	5	10	L8	27.503425	-97.260625	105.42
1313	185	5	10	L8	27.503425	-97.260625	105.42
1314	200	5	10	L8	27.503425	-97.260625	105.42
1315	80	10	10	L8	27.503425	-97.260625	110.4
1316	95	10	10	L8	27.503425	-97.260625	110.4
1317	110	10	10	L8	27.503425	-97.260625	110.4
1318	125	10	10	L8	27.503425	-97.260625	110.4
1319	140	10	10	L8	27.503425	-97.260625	110.4
1320	155	10	10	L8	27.503425	-97.260625	110.4
1321	170	10	10	L8	27.503425	-97.260625	110.4
1322	185	10	10	L8	27.503425	-97.260625	110.4
1323	200	10	10	L8	27.503425	-97.260625	110.4

Table 2.4.5-4
Synthetic Hurricane Parameters
(Sheet 50 of 54)

Storm ID	Bearing (Θ)	Rmax (nm)	T (kt)	Landfall	Lat	Long	∆P (mb)
1324	80	15	10	L8	27.503425	-97.260625	116.3
1325	95	15	10	L8	27.503425	-97.260625	116.3
1326	110	15	10	L8	27.503425	-97.260625	116.3
1327	125	15	10	L8	27.503425	-97.260625	116.3
1328	140	15	10	L8	27.503425	-97.260625	116.3
1329	155	15	10	L8	27.503425	-97.260625	116.3
1330	170	15	10	L8	27.503425	-97.260625	116.3
1331	185	15	10	L8	27.503425	-97.260625	116.3
1332	200	15	10	L8	27.503425	-97.260625	116.3
1333	80	20	10	L8	27.503425	-97.260625	123.14
1334	95	20	10	L8	27.503425	-97.260625	123.14
1335	110	20	10	L8	27.503425	-97.260625	123.14
1336	125	20	10	L8	27.503425	-97.260625	123.14
1337	140	20	10	L8	27.503425	-97.260625	123.14
1338	155	20	10	L8	27.503425	-97.260625	123.14
1339	170	20	10	L8	27.503425	-97.260625	123.14
1340	185	20	10	L8	27.503425	-97.260625	123.14
1341	200	20	10	L8	27.503425	-97.260625	123.14
1342	80	25	10	L8	27.503425	-97.260625	130.42
1343	95	25	10	L8	27.503425	-97.260625	130.42
1344	110	25	10	L8	27.503425	-97.260625	130.42
1345	125	25	10	L8	27.503425	-97.260625	130.42
1346	140	25	10	L8	27.503425	-97.260625	130.42
1347	155	25	10	L8	27.503425	-97.260625	130.42
1348	170	25	10	L8	27.503425	-97.260625	130.42
1349	185	25	10	L8	27.503425	-97.260625	130.42
1350	200	25	10	L8	27.503425	-97.260625	130.42

Table 2.4.5-4
Synthetic Hurricane Parameters
(Sheet 51 of 54)

Storm ID	Bearing (Θ)	Rmax (nm)	T (kt)	Landfall	Lat	Long	∆P (mb)
1351	80	5	15	L8	27.503425	-97.260625	101.74
1352	95	5	15	L8	27.503425	-97.260625	101.74
1353	110	5	15	L8	27.503425	-97.260625	101.74
1354	125	5	15	L8	27.503425	-97.260625	101.74
1355	140	5	15	L8	27.503425	-97.260625	101.74
1356	155	5	15	L8	27.503425	-97.260625	101.74
1357	170	5	15	L8	27.503425	-97.260625	101.74
1358	185	5	15	L8	27.503425	-97.260625	101.74
1359	200	5	15	L8	27.503425	-97.260625	101.74
1360	80	10	15	L8	27.503425	-97.260625	106.64
1361	95	10	15	L8	27.503425	-97.260625	106.64
1362	110	10	15	L8	27.503425	-97.260625	106.64
1363	125	10	15	L8	27.503425	-97.260625	106.64
1364	140	10	15	L8	27.503425	-97.260625	106.64
1365	155	10	15	L8	27.503425	-97.260625	106.64
1366	170	10	15	L8	27.503425	-97.260625	106.64
1367	185	10	15	L8	27.503425	-97.260625	106.64
1368	200	10	15	L8	27.503425	-97.260625	106.64
1369	80	15	15	L8	27.503425	-97.260625	112.59
1370	95	15	15	L8	27.503425	-97.260625	112.59
1371	110	15	15	L8	27.503425	-97.260625	112.59
1372	125	15	15	L8	27.503425	-97.260625	112.59
1373	140	15	15	L8	27.503425	-97.260625	112.59
1374	155	15	15	L8	27.503425	-97.260625	112.59
1375	170	15	15	L8	27.503425	-97.260625	112.59
1376	185	15	15	L8	27.503425	-97.260625	112.59
1377	200	15	15	L8	27.503425	-97.260625	112.59

**Table 2.4.5-4
Synthetic Hurricane Parameters
(Sheet 52 of 54)**

Storm ID	Bearing (Θ)	Rmax (nm)	T (kt)	Landfall	Lat	Long	ΔP (mb)
1378	80	20	15	L8	27.503425	-97.260625	119.42
1379	95	20	15	L8	27.503425	-97.260625	119.42
1380	110	20	15	L8	27.503425	-97.260625	119.42
1381	125	20	15	L8	27.503425	-97.260625	119.42
1382	140	20	15	L8	27.503425	-97.260625	119.42
1383	155	20	15	L8	27.503425	-97.260625	119.42
1384	170	20	15	L8	27.503425	-97.260625	119.42
1385	185	20	15	L8	27.503425	-97.260625	119.42
1386	200	20	15	L8	27.503425	-97.260625	119.42
1387	80	25	15	L8	27.503425	-97.260625	126.8
1388	95	25	15	L8	27.503425	-97.260625	126.8
1389	110	25	15	L8	27.503425	-97.260625	126.8
1390	125	25	15	L8	27.503425	-97.260625	126.8
1391	140	25	15	L8	27.503425	-97.260625	126.8
1392	155	25	15	L8	27.503425	-97.260625	126.8
1393	170	25	15	L8	27.503425	-97.260625	126.8
1394	185	25	15	L8	27.503425	-97.260625	126.8
1395	200	25	15	L8	27.503425	-97.260625	126.8
1396	80	5	20	L8	27.503425	-97.260625	100
1397	95	5	20	L8	27.503425	-97.260625	100
1398	110	5	20	L8	27.503425	-97.260625	100
1399	125	5	20	L8	27.503425	-97.260625	100
1400	140	5	20	L8	27.503425	-97.260625	100
1401	155	5	20	L8	27.503425	-97.260625	100
1402	170	5	20	L8	27.503425	-97.260625	100
1403	185	5	20	L8	27.503425	-97.260625	100
1404	200	5	20	L8	27.503425	-97.260625	100

Table 2.4.5-4
Synthetic Hurricane Parameters
(Sheet 53 of 54)

Storm ID	Bearing (Θ)	Rmax (nm)	T (kt)	Landfall	Lat	Long	∆P (mb)
1405	80	10	20	L8	27.503425	-97.260625	103.07
1406	95	10	20	L8	27.503425	-97.260625	103.07
1407	110	10	20	L8	27.503425	-97.260625	103.07
1408	125	10	20	L8	27.503425	-97.260625	103.07
1409	140	10	20	L8	27.503425	-97.260625	103.07
1410	155	10	20	L8	27.503425	-97.260625	103.07
1411	170	10	20	L8	27.503425	-97.260625	103.07
1412	185	10	20	L8	27.503425	-97.260625	103.07
1413	200	10	20	L8	27.503425	-97.260625	103.07
1414	80	15	20	L8	27.503425	-97.260625	108.87
1415	95	15	20	L8	27.503425	-97.260625	108.87
1416	110	15	20	L8	27.503425	-97.260625	108.87
1417	125	15	20	L8	27.503425	-97.260625	108.87
1418	140	15	20	L8	27.503425	-97.260625	108.87
1419	155	15	20	L8	27.503425	-97.260625	108.87
1420	170	15	20	L8	27.503425	-97.260625	108.87
1421	185	15	20	L8	27.503425	-97.260625	108.87
1422	200	15	20	L8	27.503425	-97.260625	108.87
1423	80	20	20	L8	27.503425	-97.260625	115.71
1424	95	20	20	L8	27.503425	-97.260625	115.71
1425	110	20	20	L8	27.503425	-97.260625	115.71
1426	125	20	20	L8	27.503425	-97.260625	115.71
1427	140	20	20	L8	27.503425	-97.260625	115.71
1428	155	20	20	L8	27.503425	-97.260625	115.71
1429	170	20	20	L8	27.503425	-97.260625	115.71
1430	185	20	20	L8	27.503425	-97.260625	115.71
1431	200	20	20	L8	27.503425	-97.260625	115.71

Table 2.4.5-4
Synthetic Hurricane Parameters
(Sheet 54 of 54)

Storm ID	Bearing (Θ)	Rmax (nm)	T (kt)	Landfall	Lat	Long	∆P (mb)
1432	80	25	20	L8	27.503425	-97.260625	123.14
1433	95	25	20	L8	27.503425	-97.260625	123.14
1434	110	25	20	L8	27.503425	-97.260625	123.14
1435	125	25	20	L8	27.503425	-97.260625	123.14
1436	140	25	20	L8	27.503425	-97.260625	123.14
1437	155	25	20	L8	27.503425	-97.260625	123.14
1438	170	25	20	L8	27.503425	-97.260625	123.14
1439	185	25	20	L8	27.503425	-97.260625	123.14
1440	200	25	20	L8	27.503425	-97.260625	123.14

Table 2.4.5-5
SLOSH Grid Cell Indices, Latitude, and Longitude of Locations Selected for Model Validation, Verification, and Analysis

Location	SLOSH Grid Cell	Latitude (deg. N)	Longitude (deg. W)
Long Mott Site	(89,28)	28.5278	96.7611
Seadrift, TX (NOAA ID 8773037)	(99,38)	28.3997	96.7218
Port O'Connor, TX (NOAA ID 8773701)	(85,68)	28.4525	96.3868
Port Lavaca, TX (NOAA ID 8773259)	(66,37)	28.6427	96.5951
Aransas Wildlife Refuge (NOAA ID 8774230)	(116,39)	28.2218	96.8043
Rockport, TX (NOAA ID 8774770)	(135,33)	28.0194	97.0338

Table 2.4.5-6
Modeled (SLOSH) and Observed (NOAA) Maximum Total Water Elevation and Time of Maximum Total Water Elevation for Hurricane Harvey

Location	SLOSH		Observed	
	Maximum Total Water Elevation (ft. NAVD88)	Time (UTC)	Maximum Total Water Elevation (ft. NAVD88)	Time (UTC)
Seadrift, TX	4.58	26-Aug-2017 07:42:00	5.76	26-Aug-2017 11:24:00
Port O'Connor, TX	3.50	25-Aug-2017 23:54:00	3.24	26-Aug-2017 01:48:00
Port Lavaca, TX	5.90	26-Aug-2017 04:24:00	7.19	26-Aug-2017 08:42:00
Aransas Wildlife Refuge, TX	5.50	26-Aug-2017 02:54:00	5.05	26-Aug-2017 02:12:00
Rockport, TX	4.00	26-Aug-2017 02:00:00	Failed[a]	Failed

(a) The tide gauge at Rockport stopped collecting data during Hurricane Harvey; therefore, maximum total water elevation observations are not available for this location.

Table 2.4.5-7
SLOSH-Modeled Maximum Total Water Elevation versus Observations for Hurricane Carla

Location	SLOSH Maximum Total Water Elevation (ft. NAVD88)	Observed Maximum Total Water Elevation (ft. NAVD88)
Seadrift, TX	6.0	10.8
Port O'Connor, TX	9.3	12.3
Port Lavaca, TX	19.0	22.0
Aransas Wildlife Refuge, TX	4.8	6.3
Rockport, TX	1.0	Not reported

Table 2.4.5-8
Storms Selected for Detailed ADCIRC+SWAN Modeling

ID	STORM ID	Maximum Total Water Elevation (ft. NAVD88)[(a)]	Inundation Depth (ft.) [(b)]
COL A	COL B	COL C	COL D
1	671	41.47	10.47
2	492	39.93	8.93
3	670	39.38	8.38
4	537	38.94	7.94
5	436	38.50	7.5
6	311	38.06	7.06
7	310	37.62	6.62
8	312	37.18	6.18
9	390	36.74	5.74
10	193	36.30	5.3
11	195	35.86	4.86
12	260	35.42	4.42
13	300	34.98	3.98
14	30	34.54	3.54
15	84	34.10	3.1

a) increased by 10% for SLOSH uncertainty.
b) COL D = COL C – 31 ft., where 31 ft is nuclear island finish grade

Table 2.4.5-9
Maximum Values of ADCIRC+SWAN Production Runs at LMGS Site

Storm ID(#)	Water Surface Elevation (m NAVDBB)	Wind Speed (mis)	Sig. Wave Height(m)	Wave Direction (deg N, from)	Peak Wave Period (s)
260	11.09	83.8	1.23	41	2.8
492	9.61	81.8	0.75	286	2.7
671	9.56	71.2	0.66	287	2.2
436	8.99	77.4	0.43	335	1.6
670	8.73	74.8	0.26	318	1.4
84	8.47	77.5	0.23	311	1.6
390	8.37	79.8	0.21	27	2.9
195	8.35	74.2	0.18	36	2.2
312	8.33	72.6	0.14	325	1.1
30	8.33	78.8	0.17	32	3.2
300	8.31	80.7	0.12	306	1.1
310	8.30	76.8	0.16	287	7.3
311	8.29	75.3	0.15	271	2.3
537	8.24	71.8	0.11	263	4.8
193	0.00	65.9	0.00	N/A	N/A

Figure 2.4.5-1
Long Mott Generating Station Site Location and NOAA Tide Gauge Locations

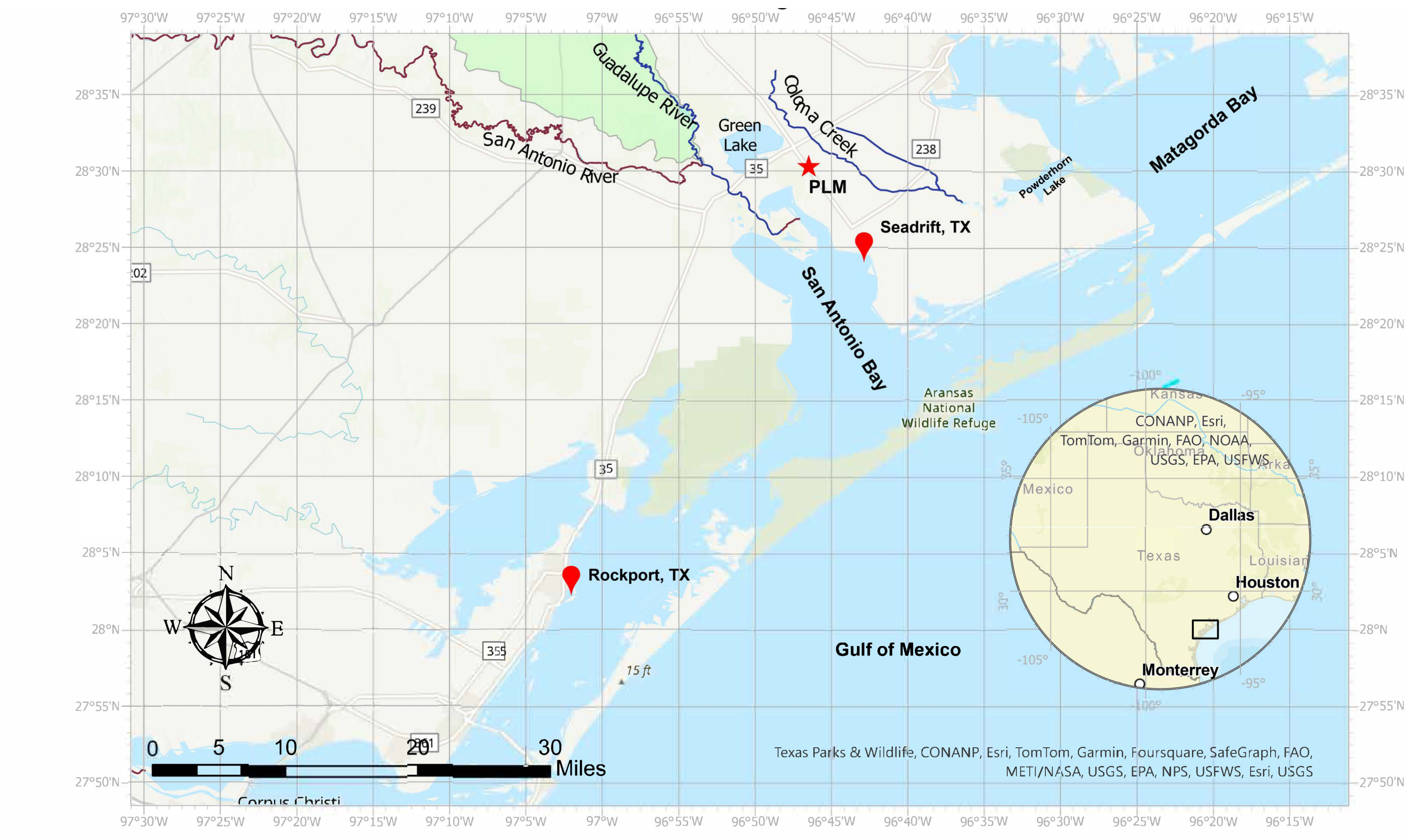
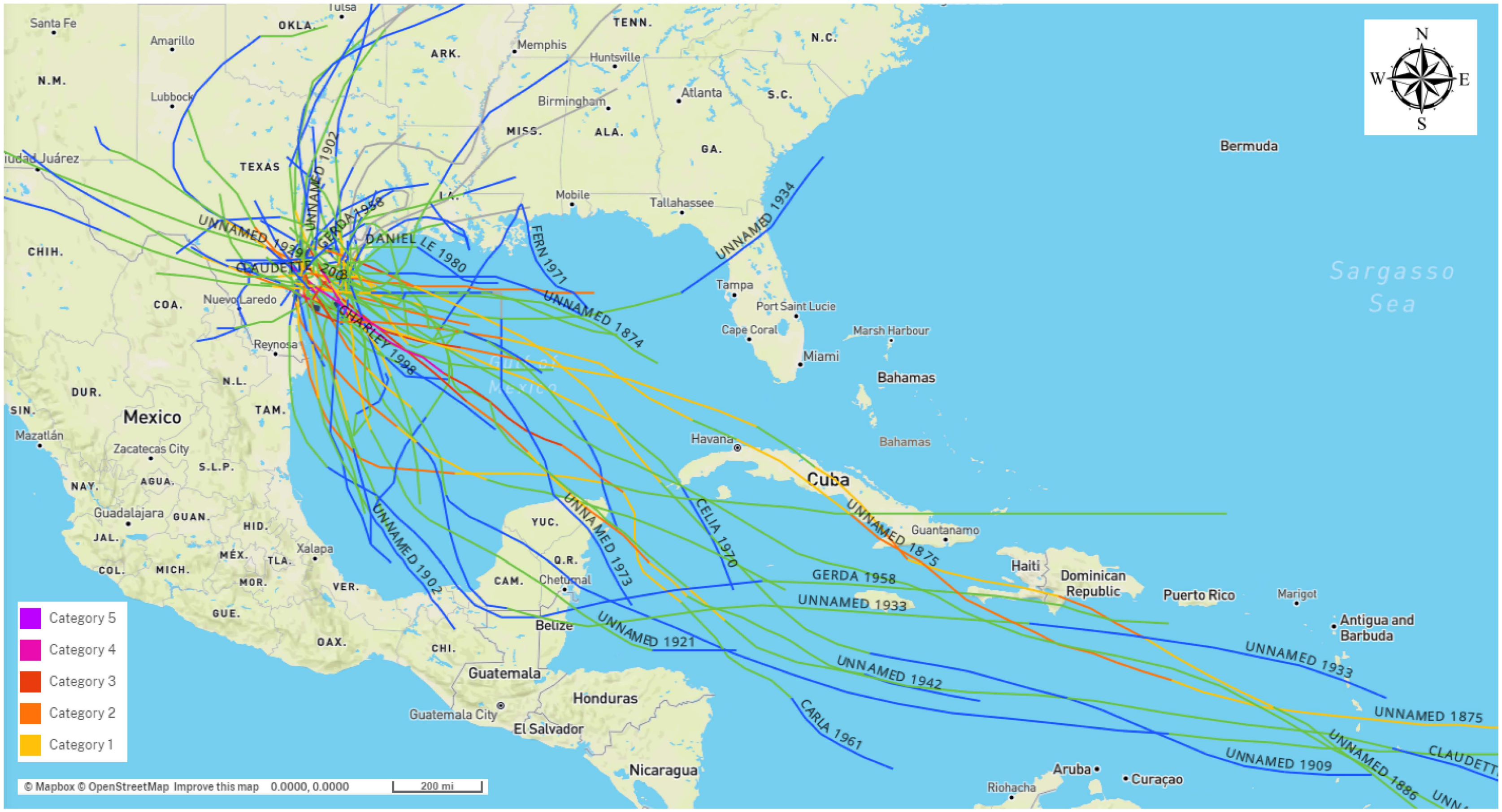
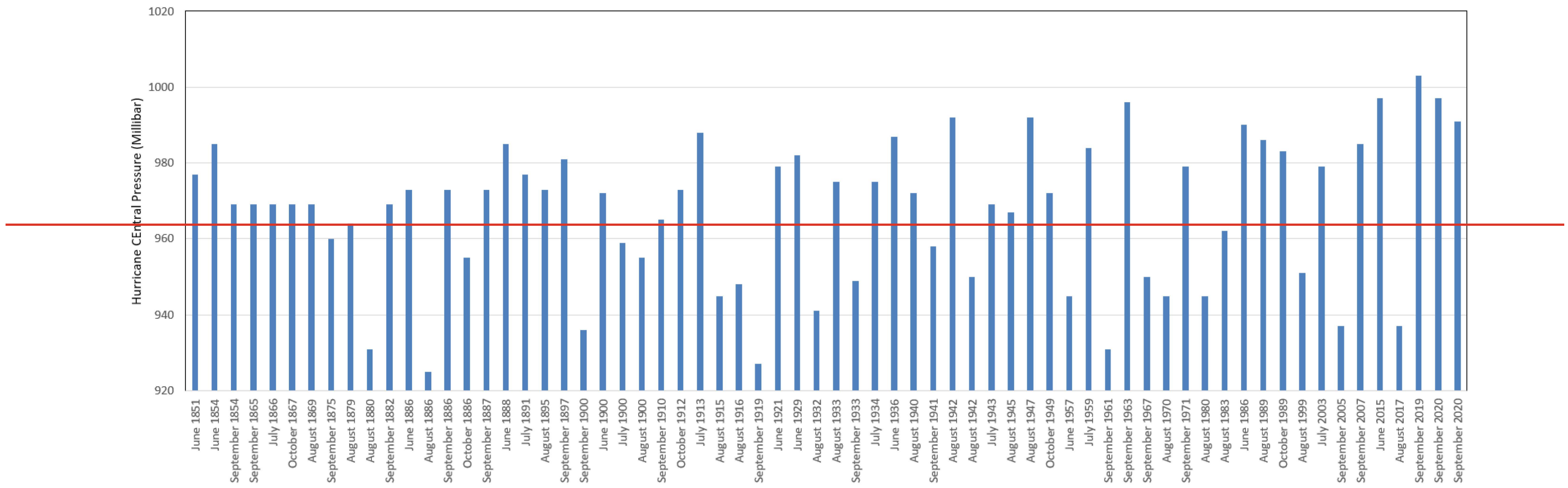


Figure 2.4.5-2
Historical Hurricane Tracks Intersecting the Study Area (200 Km Radius from Seadrift, TX)



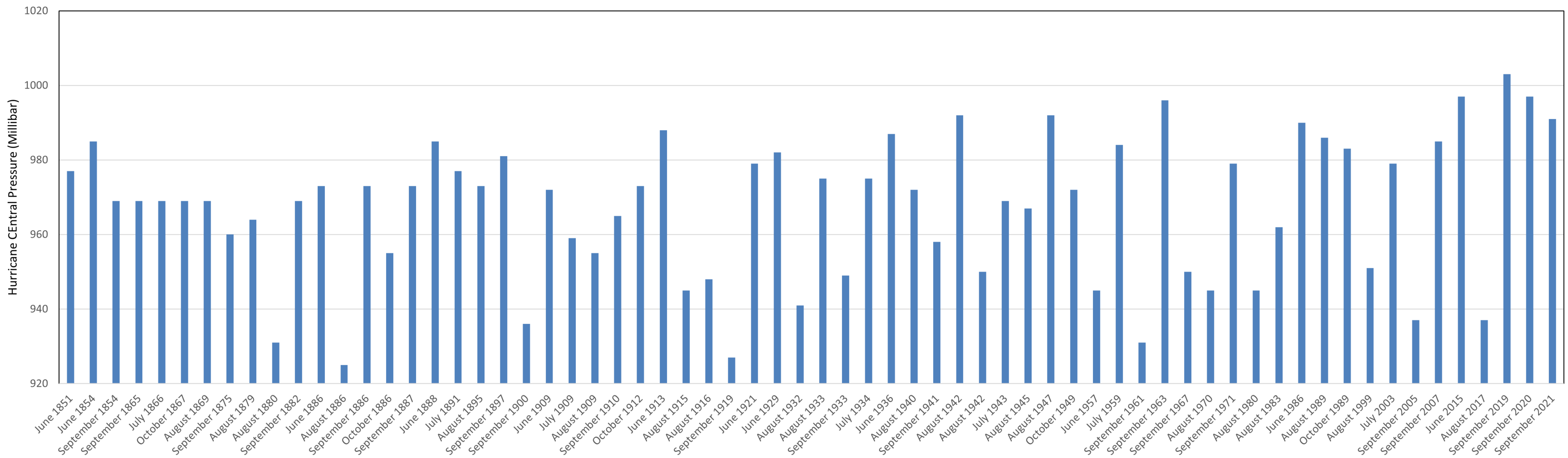
Source: NOAA, 2024a

~~Figure 2.4.5-3~~
~~Distribution of Hurricane Central Pressure at Landfall for Hurricanes that Made Landfall on the Texas Gulf Coast~~



Source: Blake et al., 2007 and NOAA, 2024

Figure 2.4.5-3
Distribution of Hurricane Central Pressure at Landfall for Hurricanes that Made Landfall on the Texas Gulf Coast



Source: Blake et al., 2011, and NOAA, 2024a

Figure 2.4.5-4
Alignment of Synthetic Storm Tracks

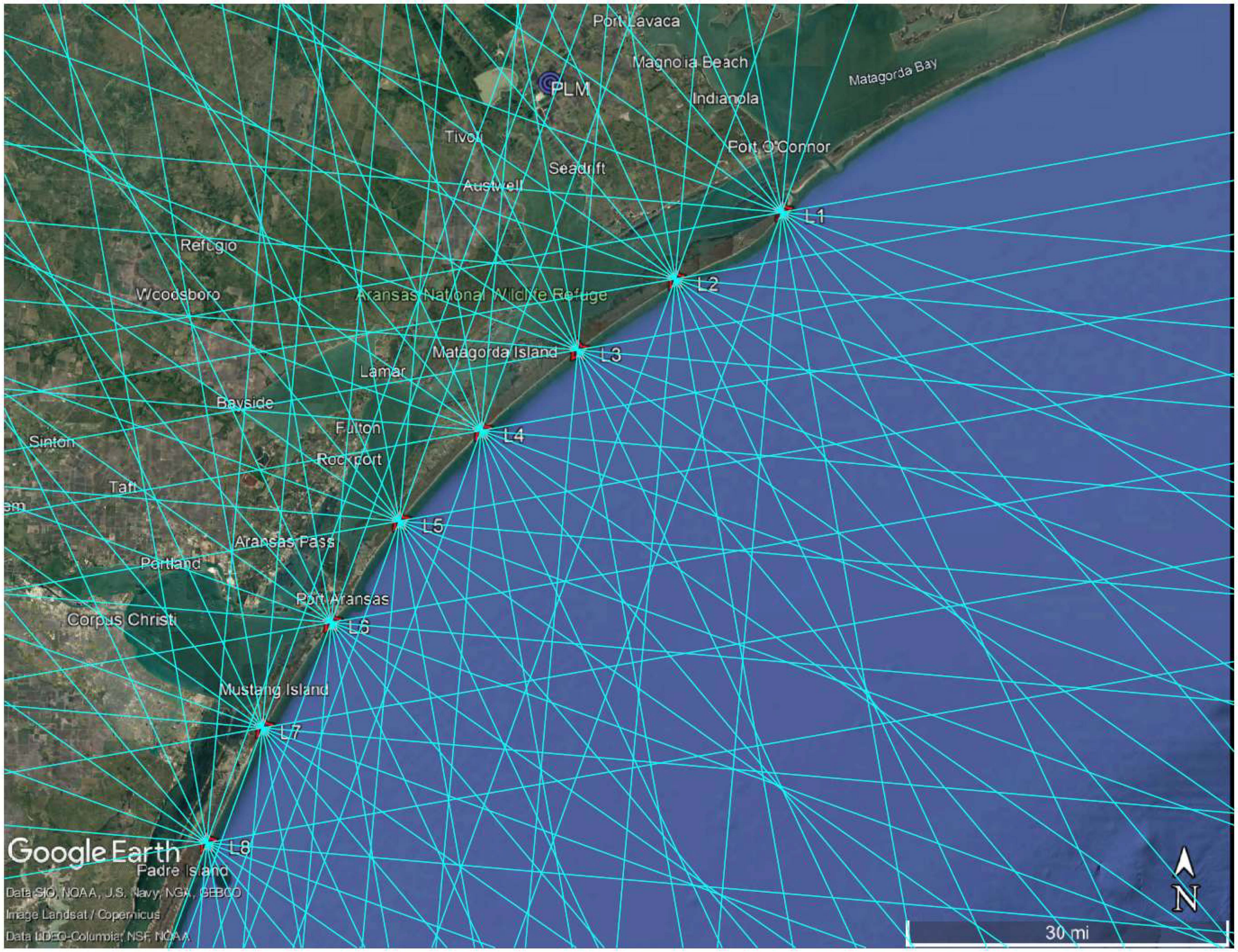


Figure 2.4.5-5
Hypothetical Landfall Locations

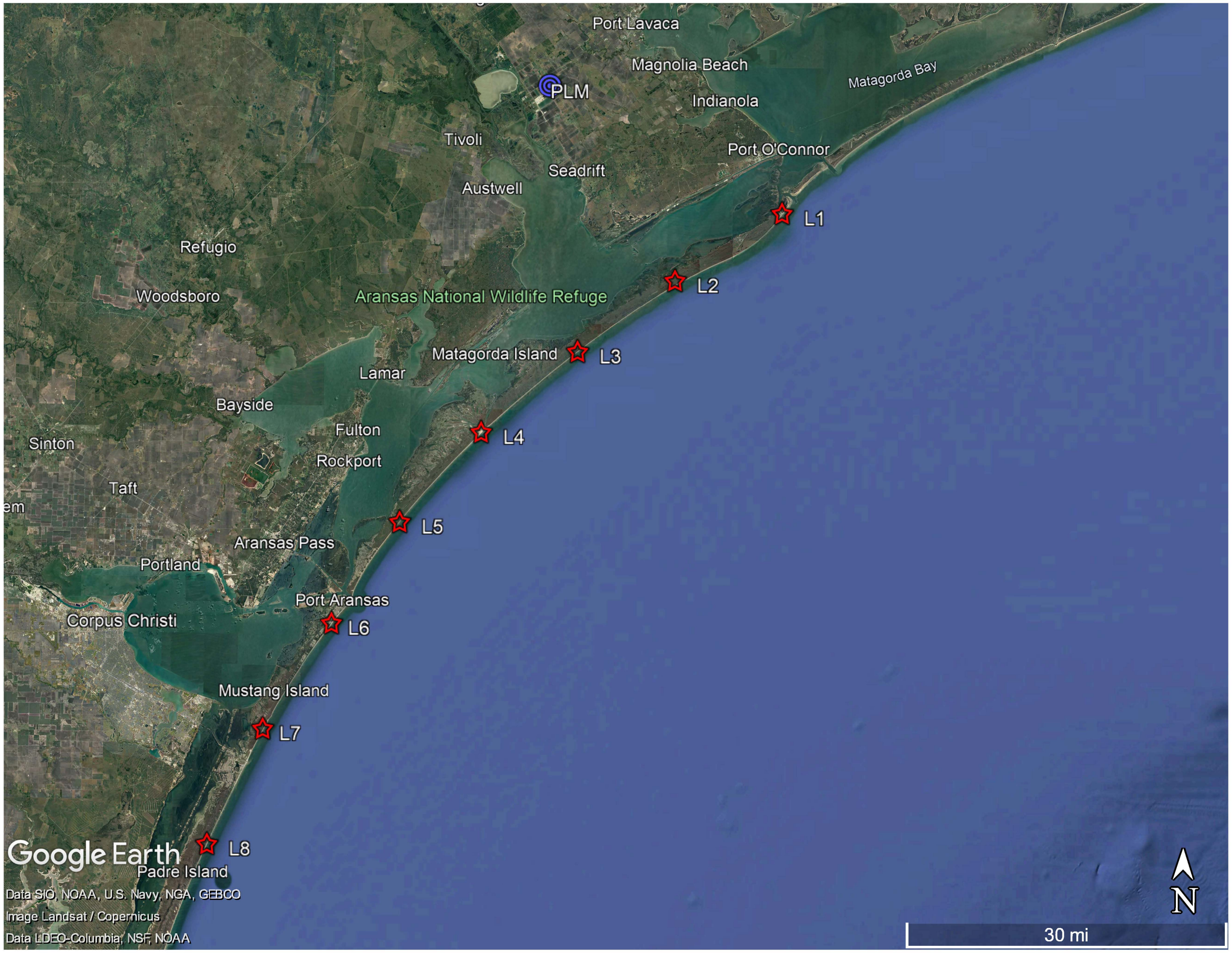


Figure 2.4.5-6
Matagorda Bay (2007) Basin with Long Mott Generating Station Site Identified as Dry

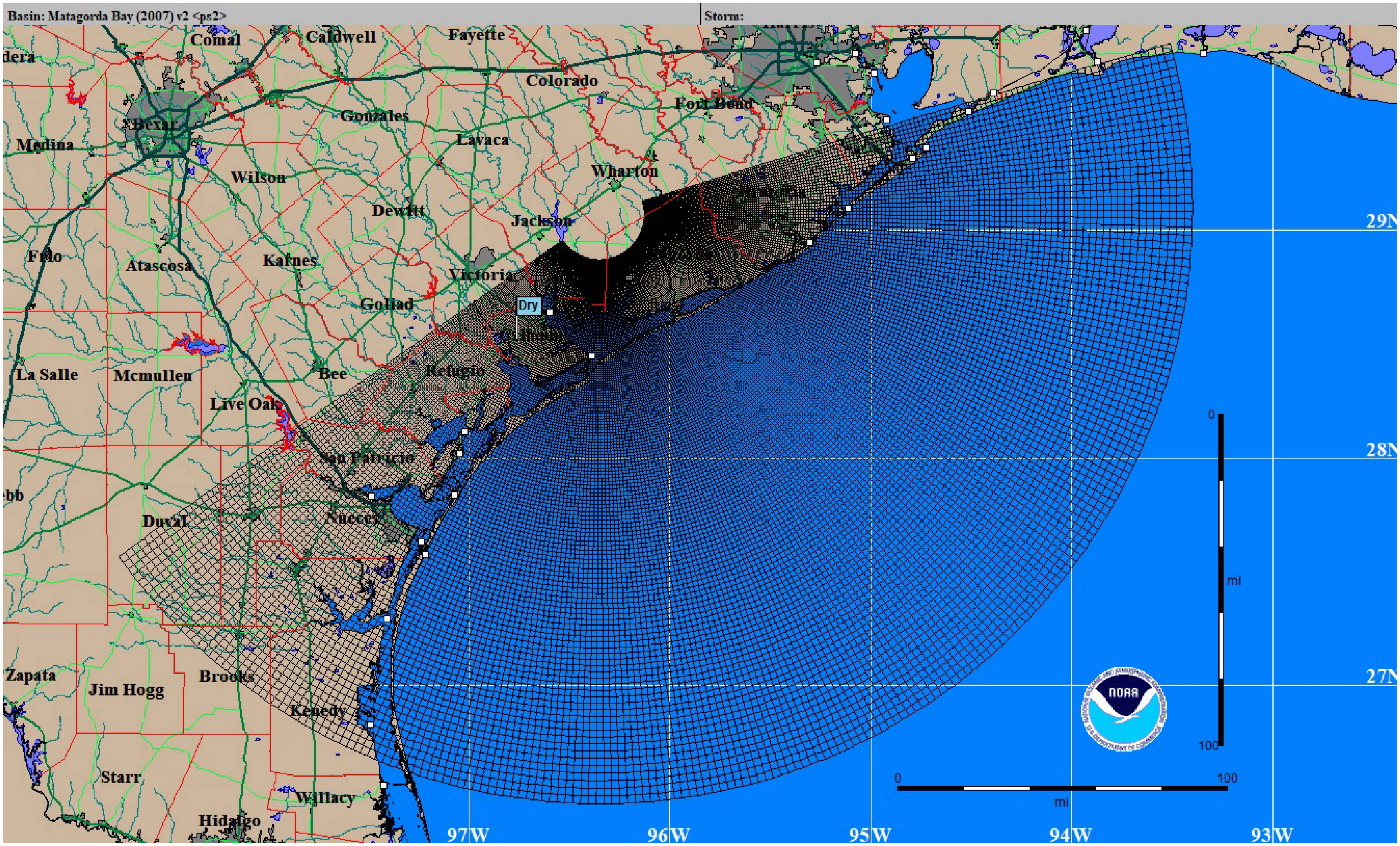
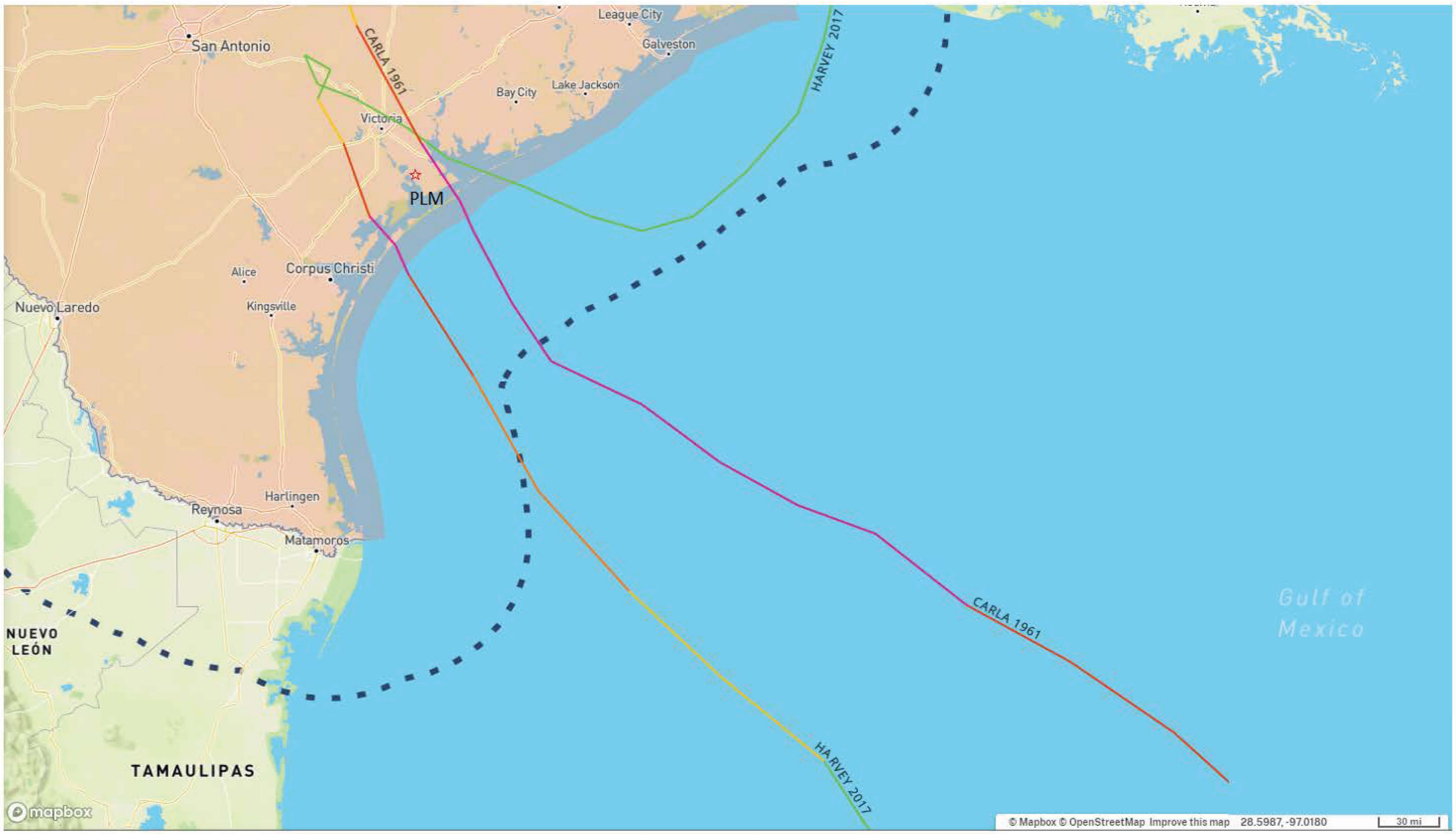


Figure 2.4.5-7
Storm Tracks for Hurricanes Harvey (2017) and Carla (1961)



Source: NOAA, 2024a

Figure 2.4.5-8
Modeled (SLOSH) and Observed (NOAA) Total Water Elevation at Seadrift, Texas for Hurricane Harvey

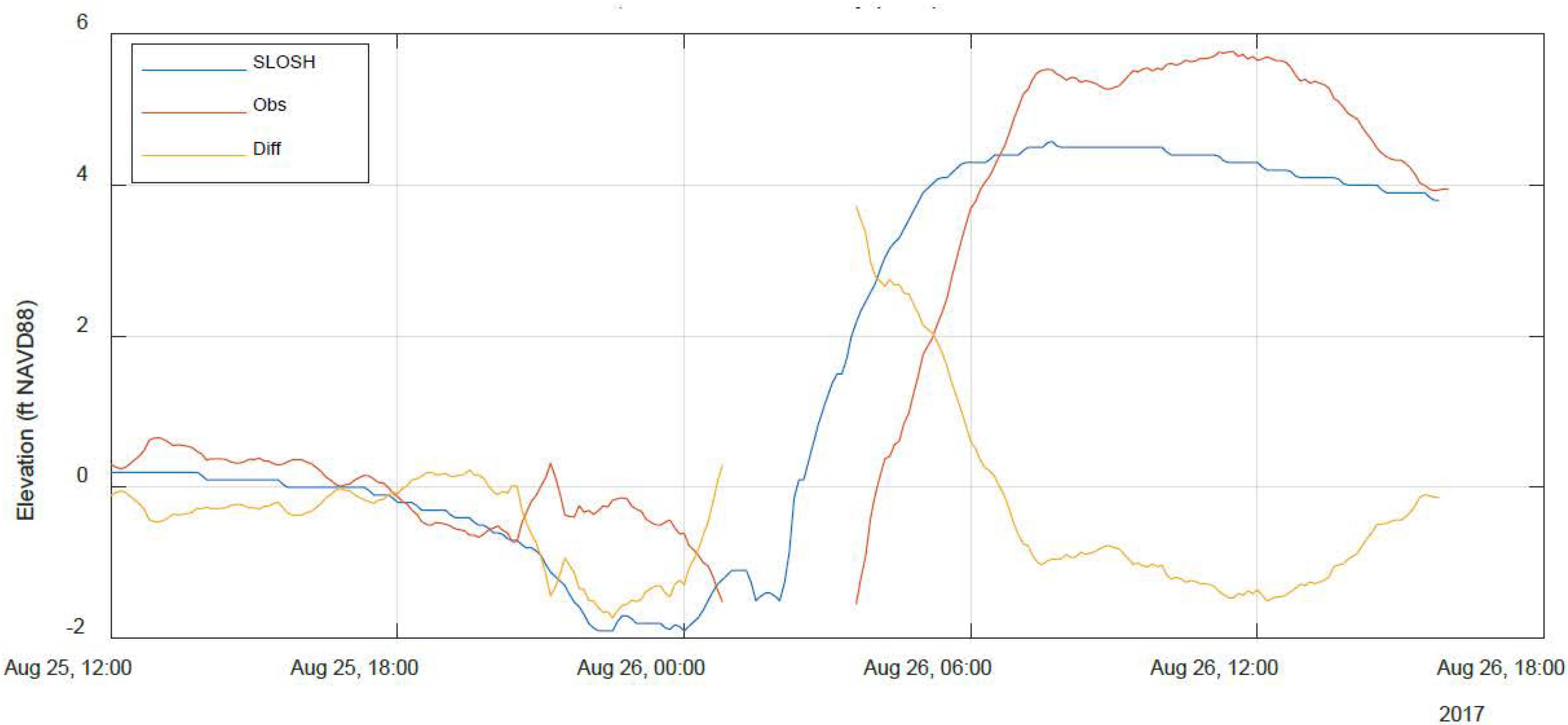


Figure 2.4.5-9
Modeled (SLOSH) and Observed (NOAA) Total Water Elevation at Port O'Connor, Texas for Hurricane Harvey

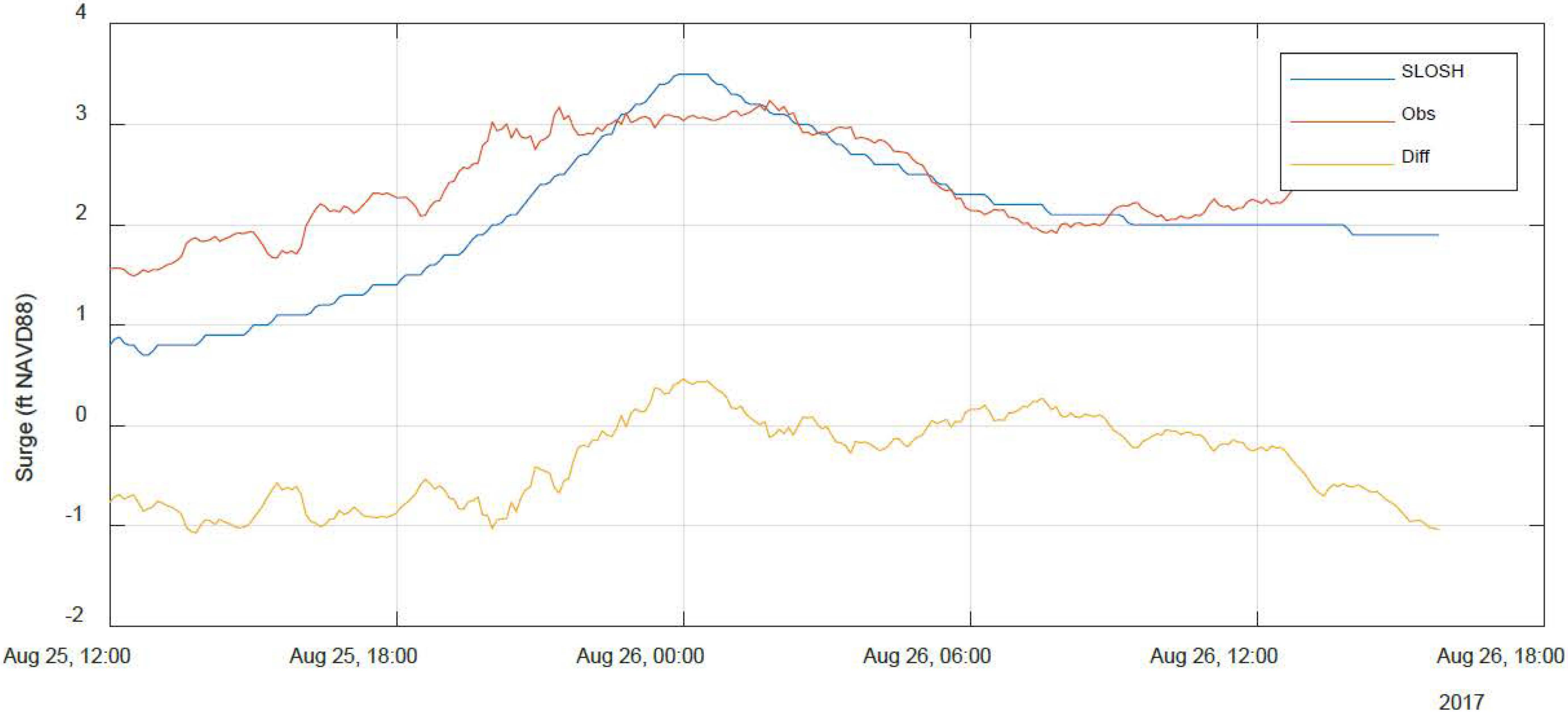


Figure 2.4.5-10
Modeled (SLOSH) and Observed (NOAA) Total Water Elevation at Port Lavaca, Texas for Hurricane Harvey

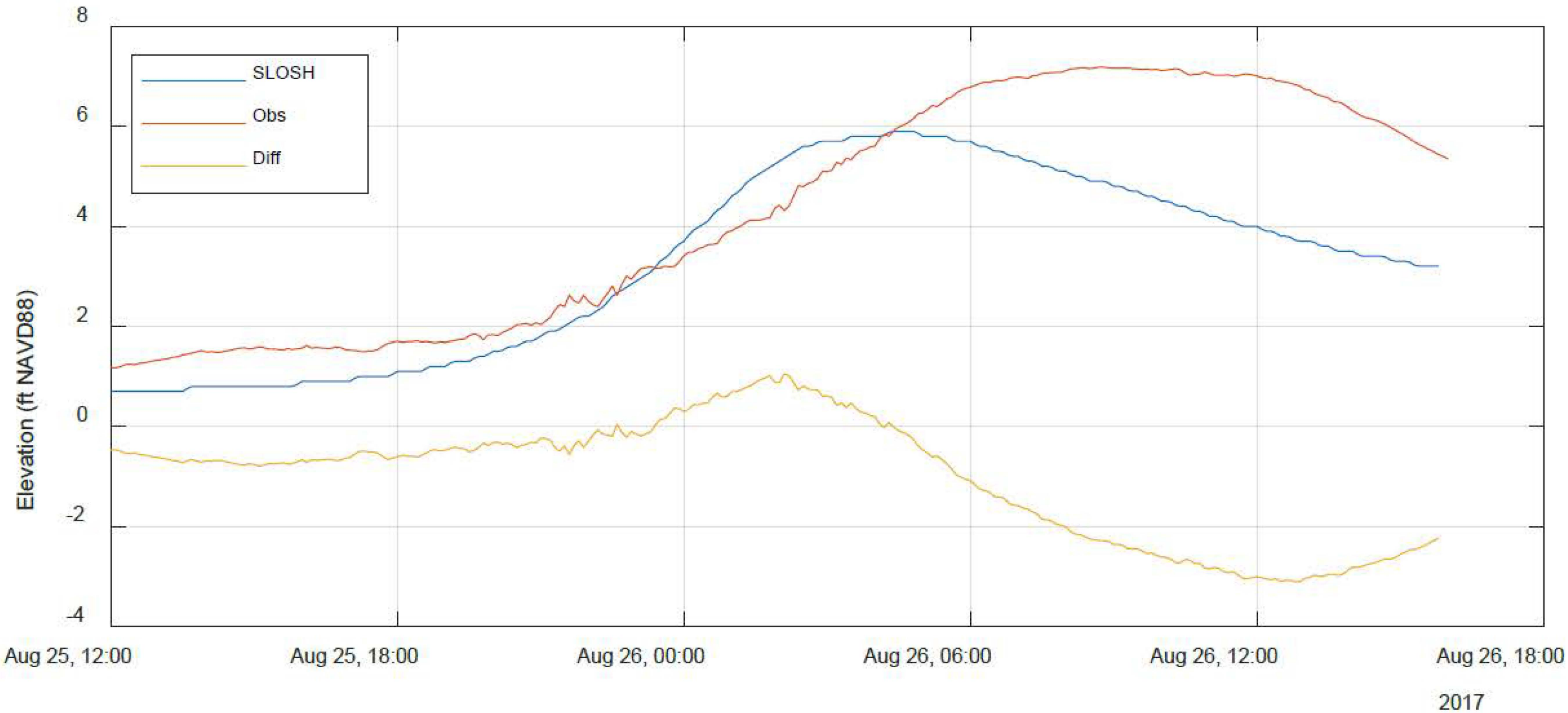


Figure 2.4.5-11
Modeled (SLOSH) and Observed (NOAA) Total Water Elevation at Aransas Wildlife Refuge, Texas for Hurricane Harvey

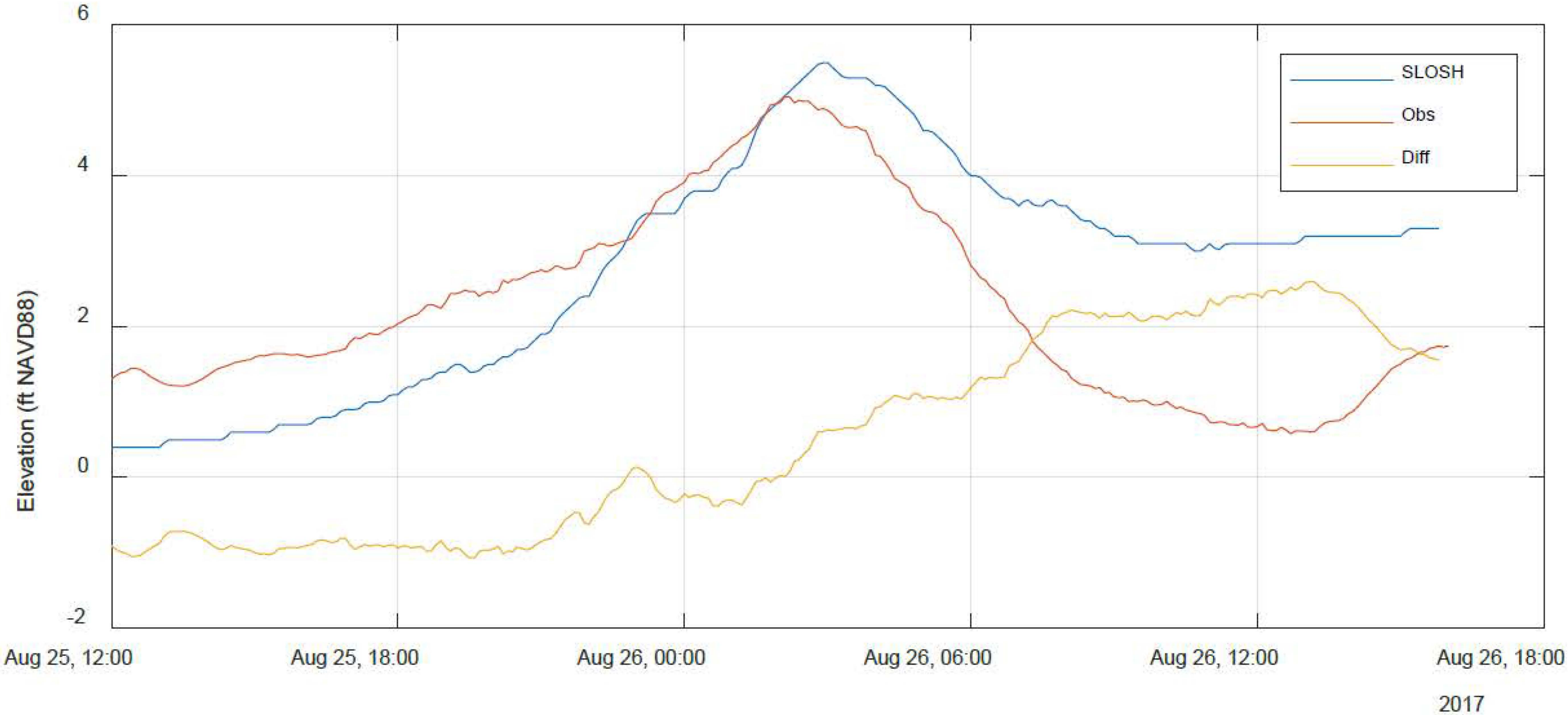


Figure 2.4.5-12
Modeled (SLOSH) and Observed (NOAA) Total Water Elevation at Rockport, Texas for Hurricane Harvey

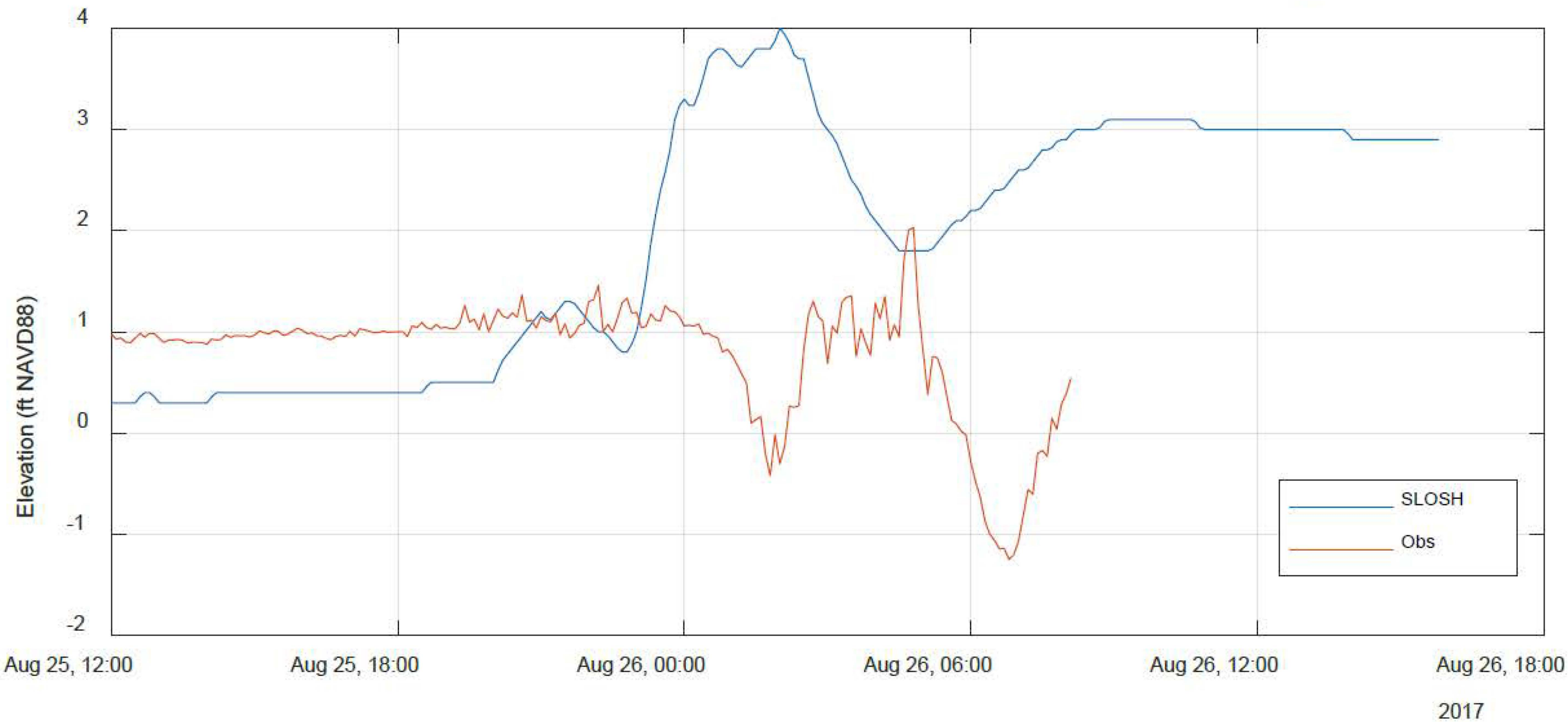
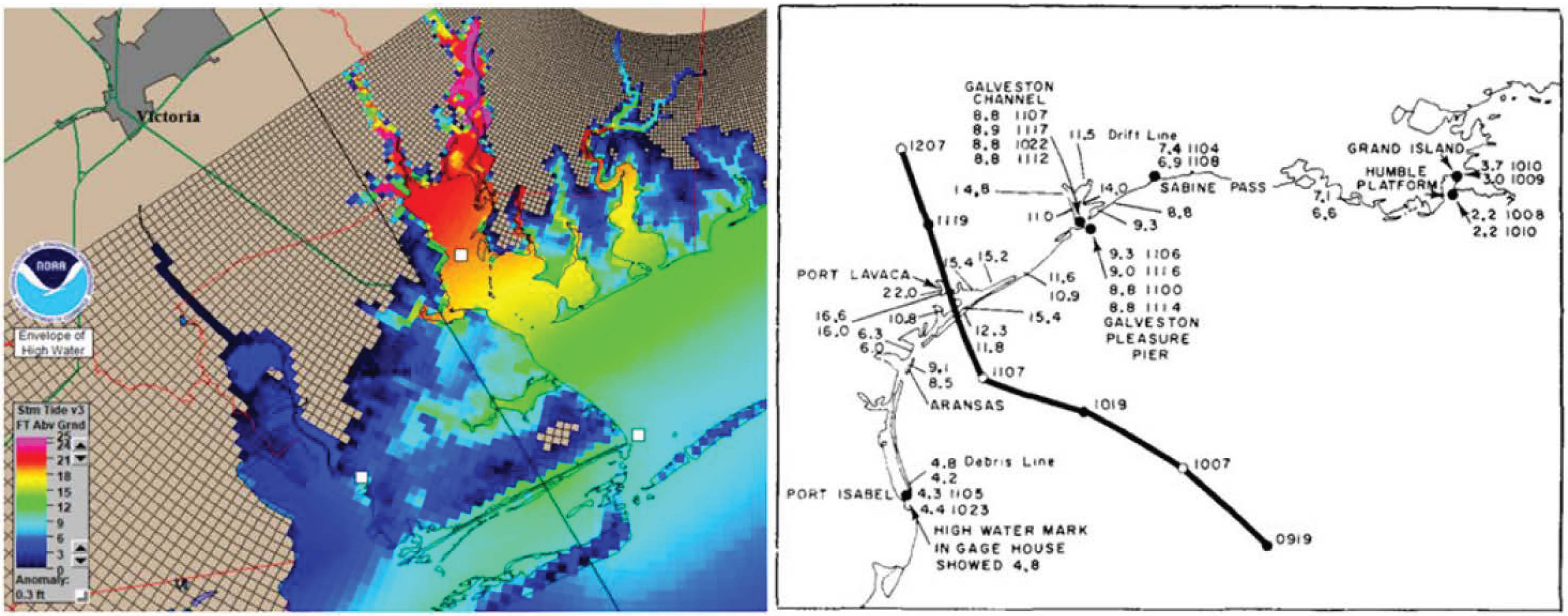


Figure 2.4.5-13
SLOSH Maximum Surge from Hurricane Carla Compared to Historical Observations



Source: Sugg & Pelissier, 1968

Figure 2.4.5-14
Hurricane Carla (1961) SLOSH-Modeled Total Water Elevation (in Ft. NAVD 88) at Seadrift, Port O'Connor, Port Lavaca, Aransas Wildlife Refuge, and Rockport

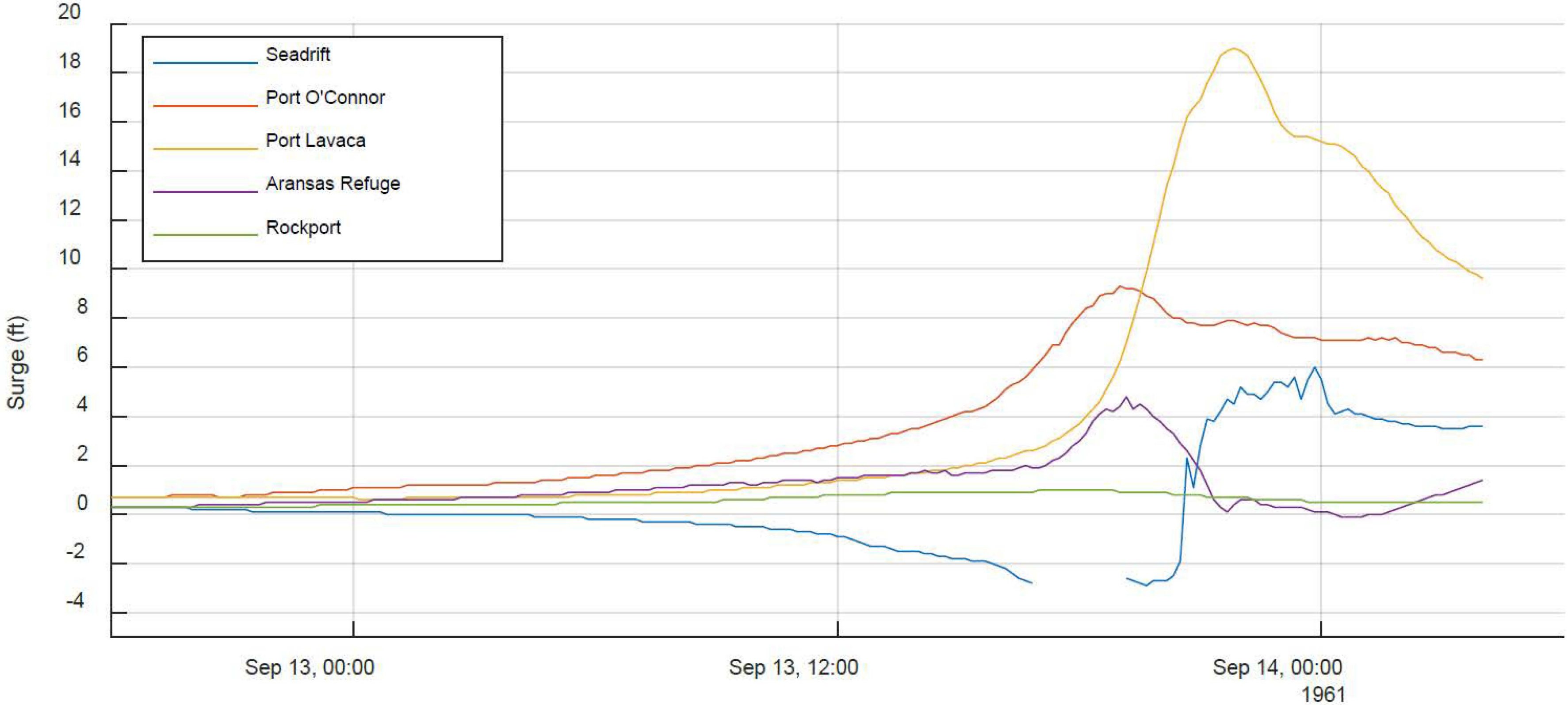
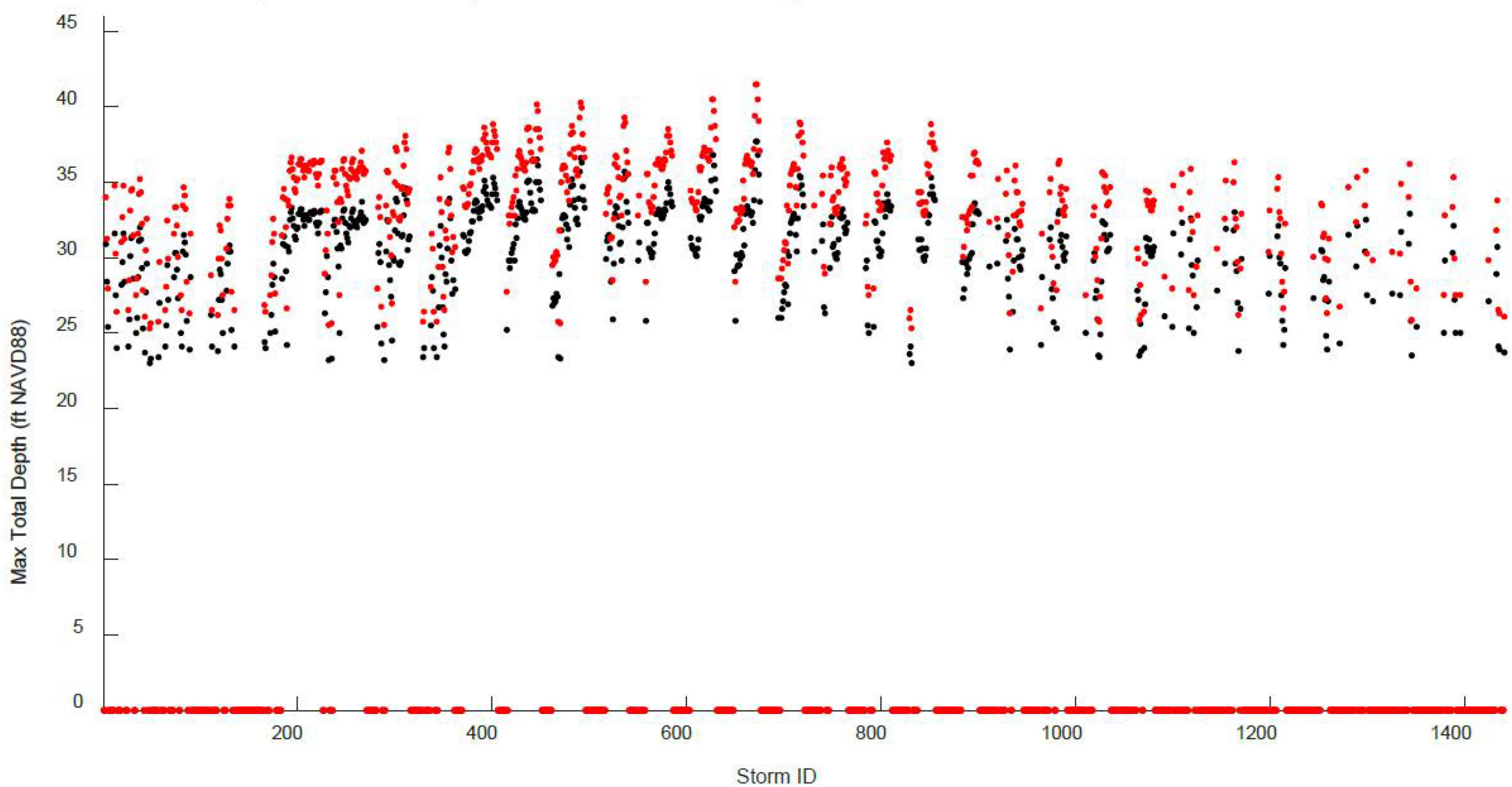


Figure 2.4.5-15
SLOSH-Modeled Maximum Total Water Elevation for All 1440 Production Runs (Variable Central Pressure Difference Case)



Note: Black dots represent the maximum total water elevation extracted at the Long Mott site cell; and red dots represent a 10 percent water elevation increase to account for the SLOSH model uncertainty.

Figure 2.4.5-16
Full Domain Grid Spacing of the NOAA HSOFS Grid

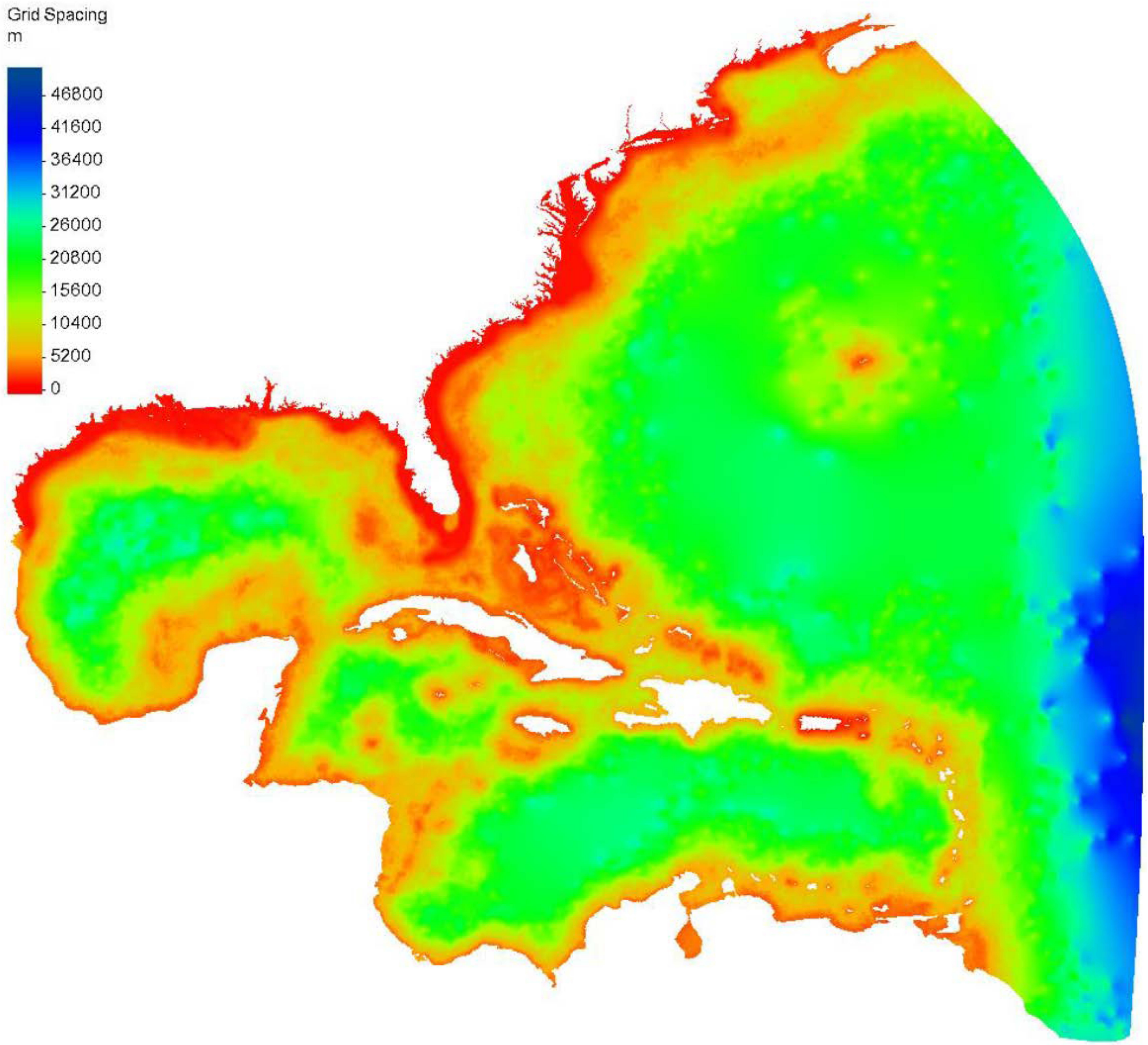


Figure 2.4.5-17
Grid Spacing of HSOFS Grid in Matagorda Bay and San Antonio Bay Area

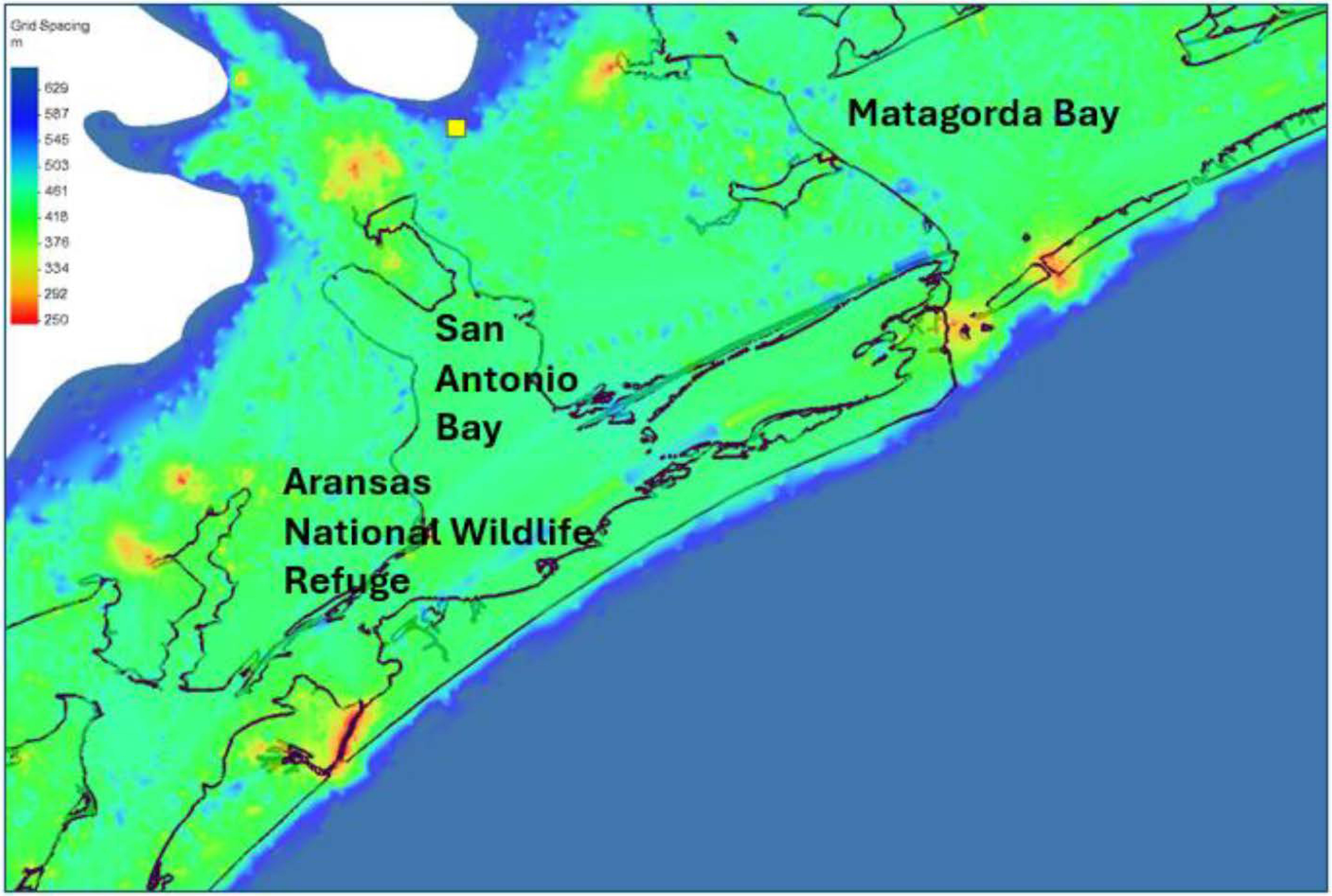


Figure 2.4.5-18
Bathymetry and Topography of Improved HSOFS Grid in the Area of Increased Resolution

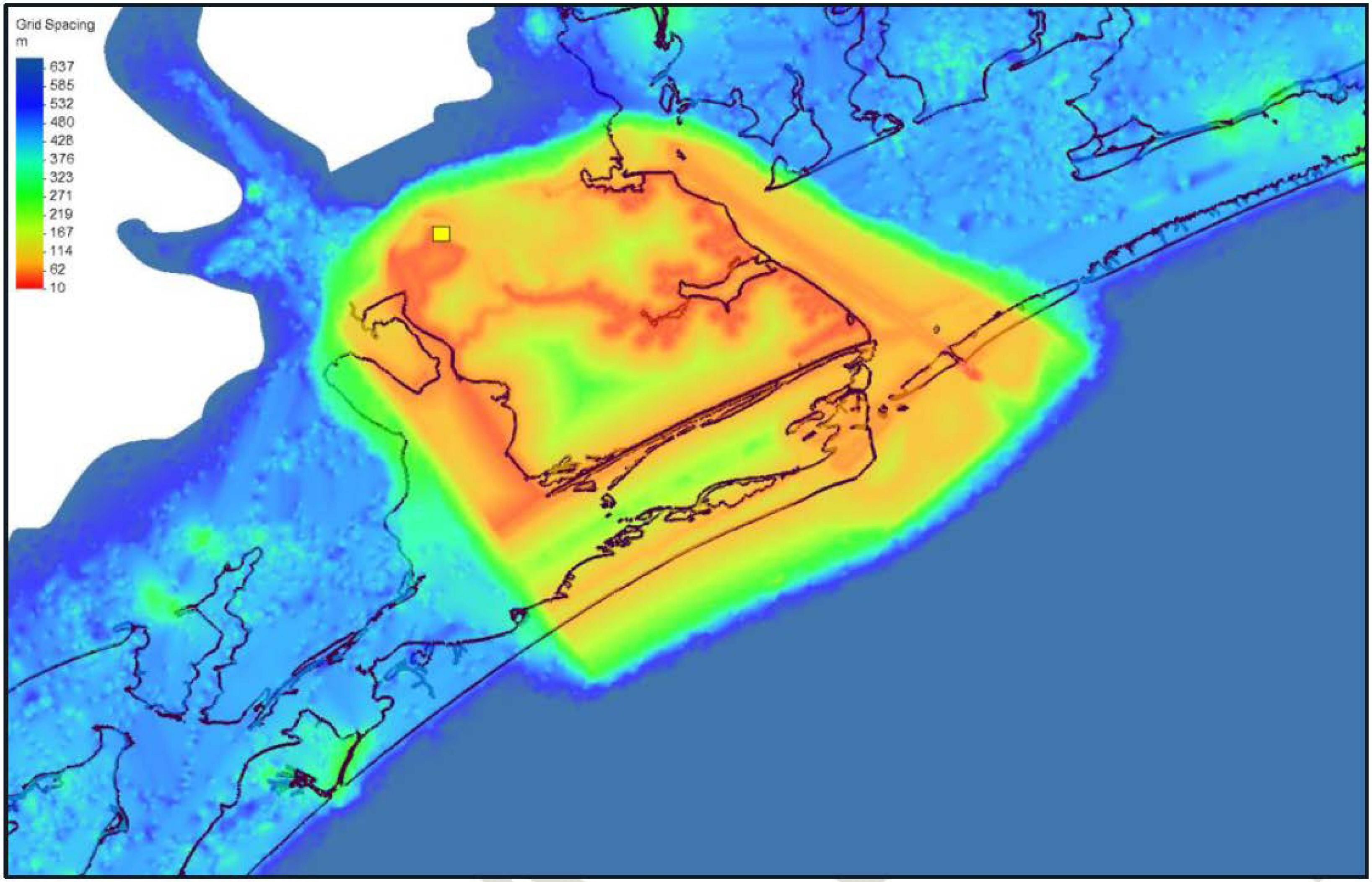


Figure 2.4.5-19
Detail of Topography of Improved HSOFS Grid in the Area of Increased Resolution

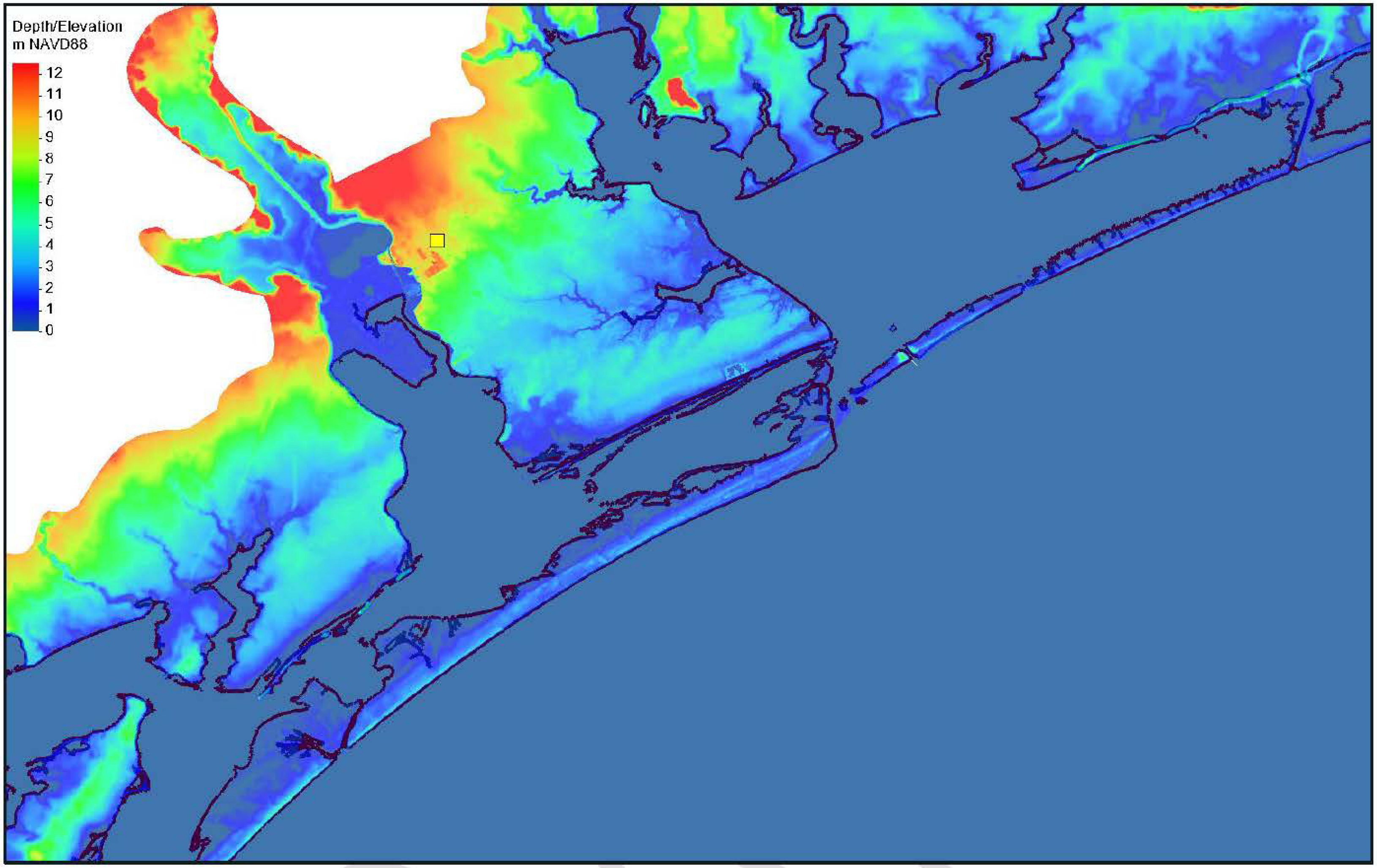


Figure 2.4.5-20
Hurricane Harvey Track and Location of Validation Sites (Triangles for Water Level and Squares for Waves)

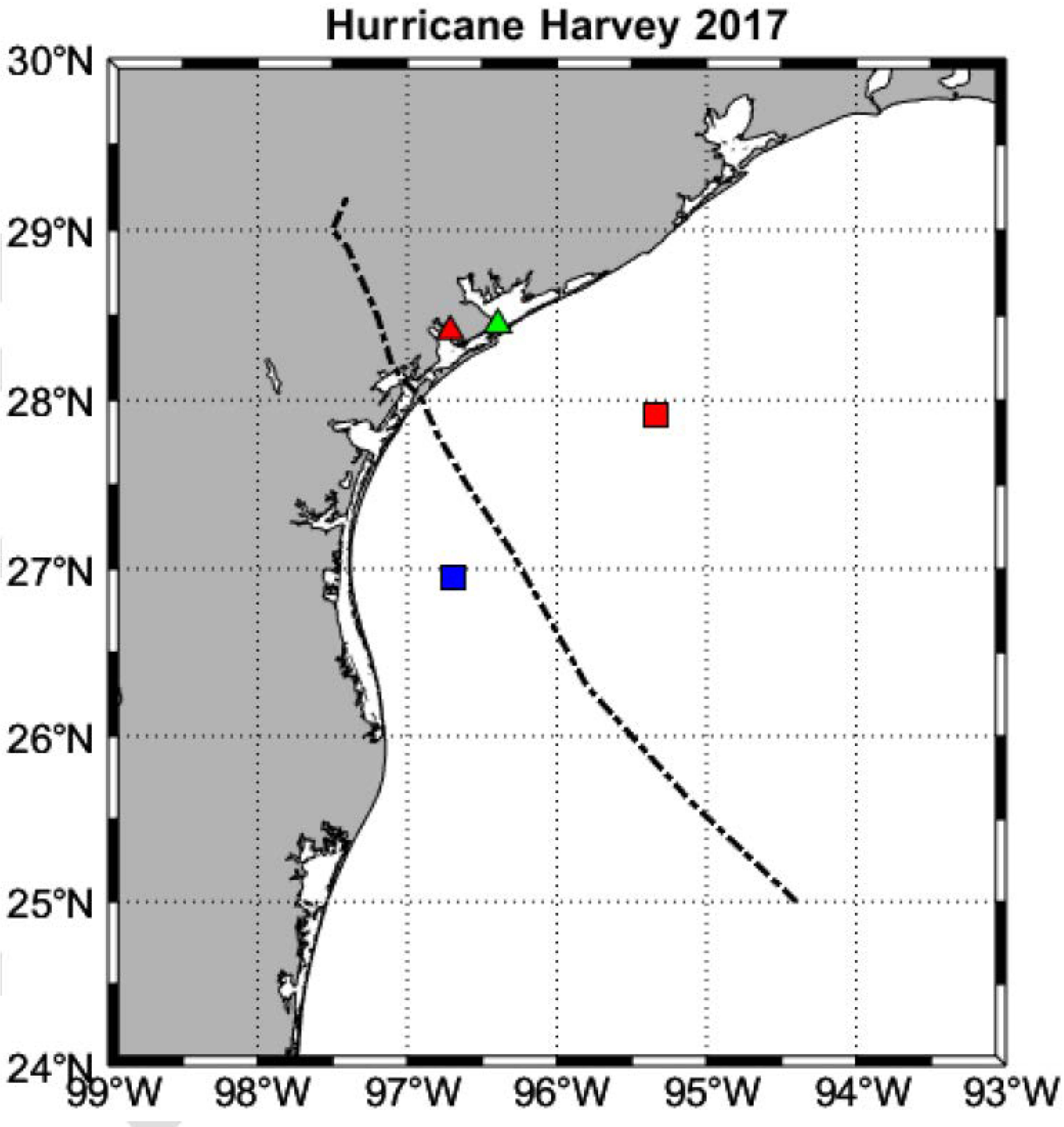


Figure 2.4.5-21
Comparison of Storm Surge Model Results with Observations at Seadrift and Port O'Connor Due to Hurricane Harvey

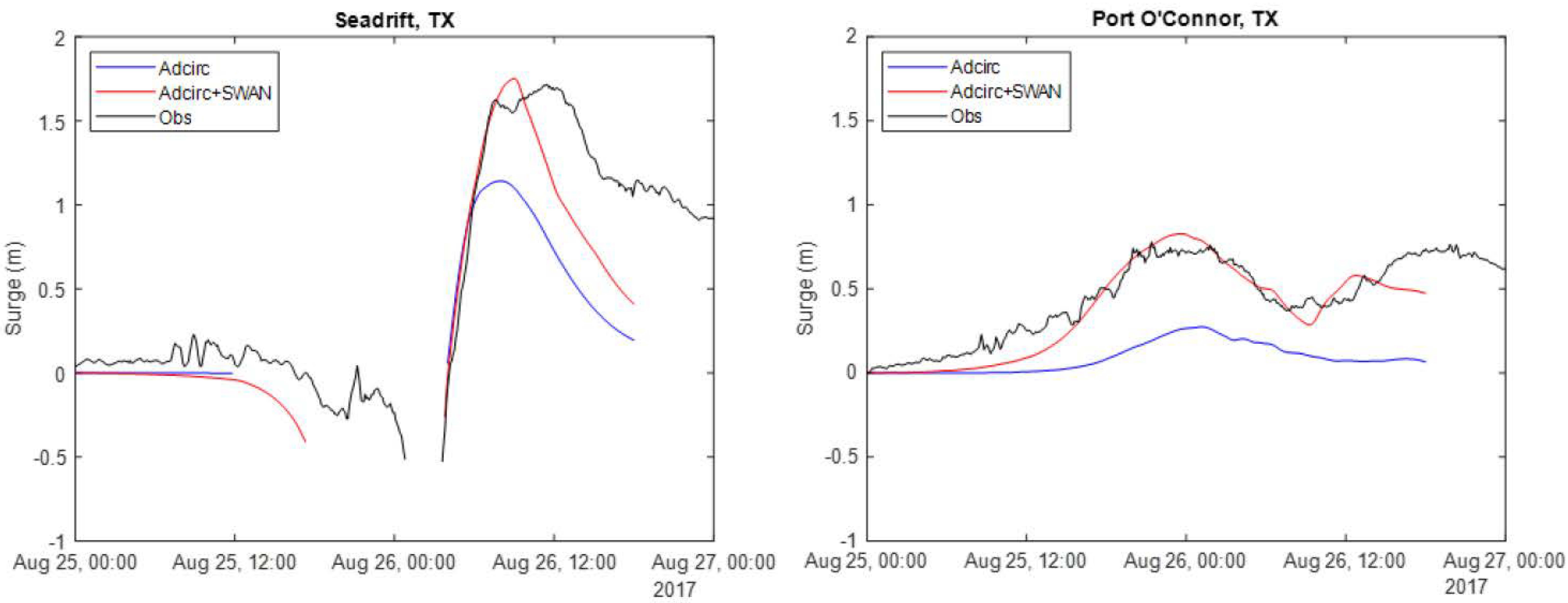


Figure 2.4.5-22
Comparison of Significant Wave Height Model Result and Observations at NDBC Stations 42020 and 42019 Due to Hurricane Harvey

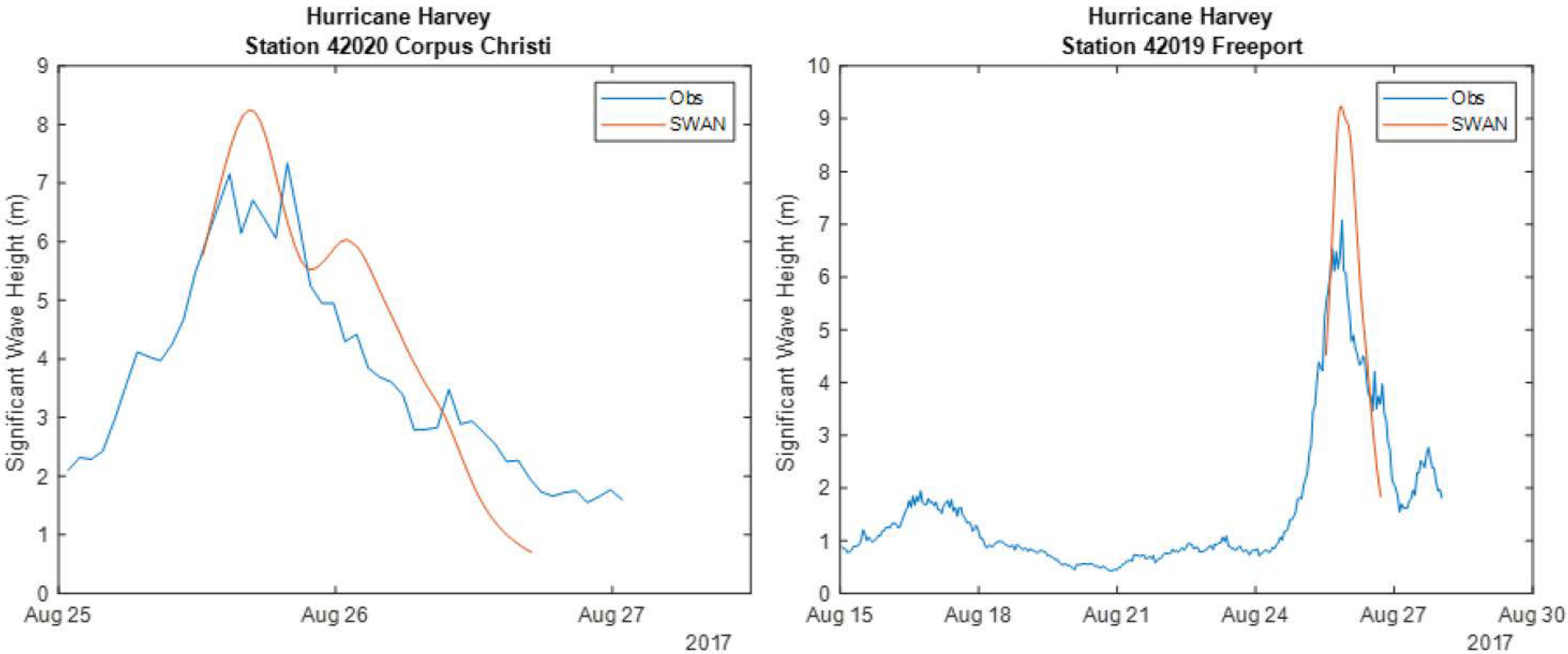


Figure 2.4.5-23
Hurricane Nicholas Track and Location of Validation Sites (Triangles for Water Level and Squares for Waves)

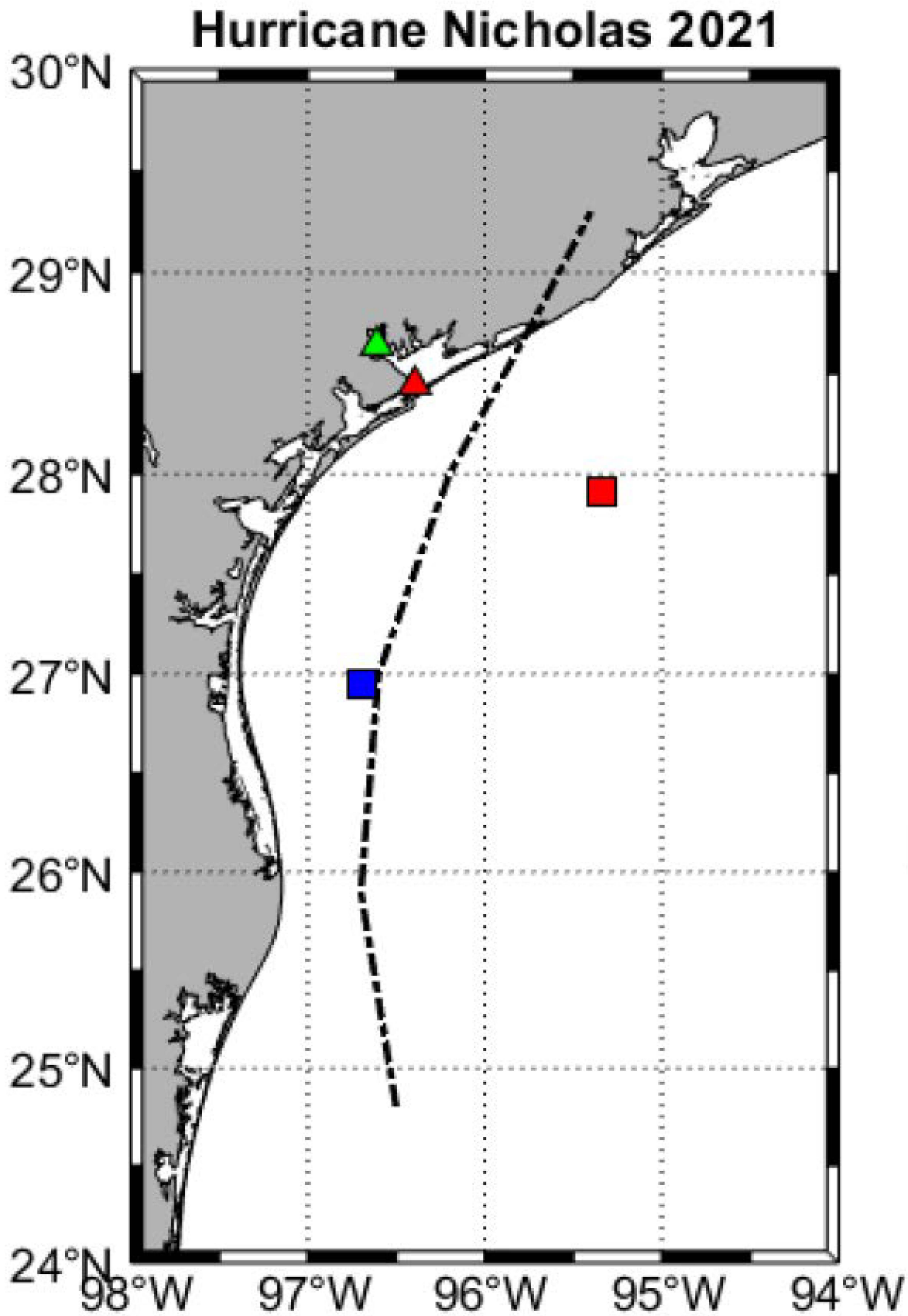


Figure 2.4.5-24
Comparison of Storm Surge Model Results and Observations at Port O'Connor and Port Lavaca for Hurricane Nicholas

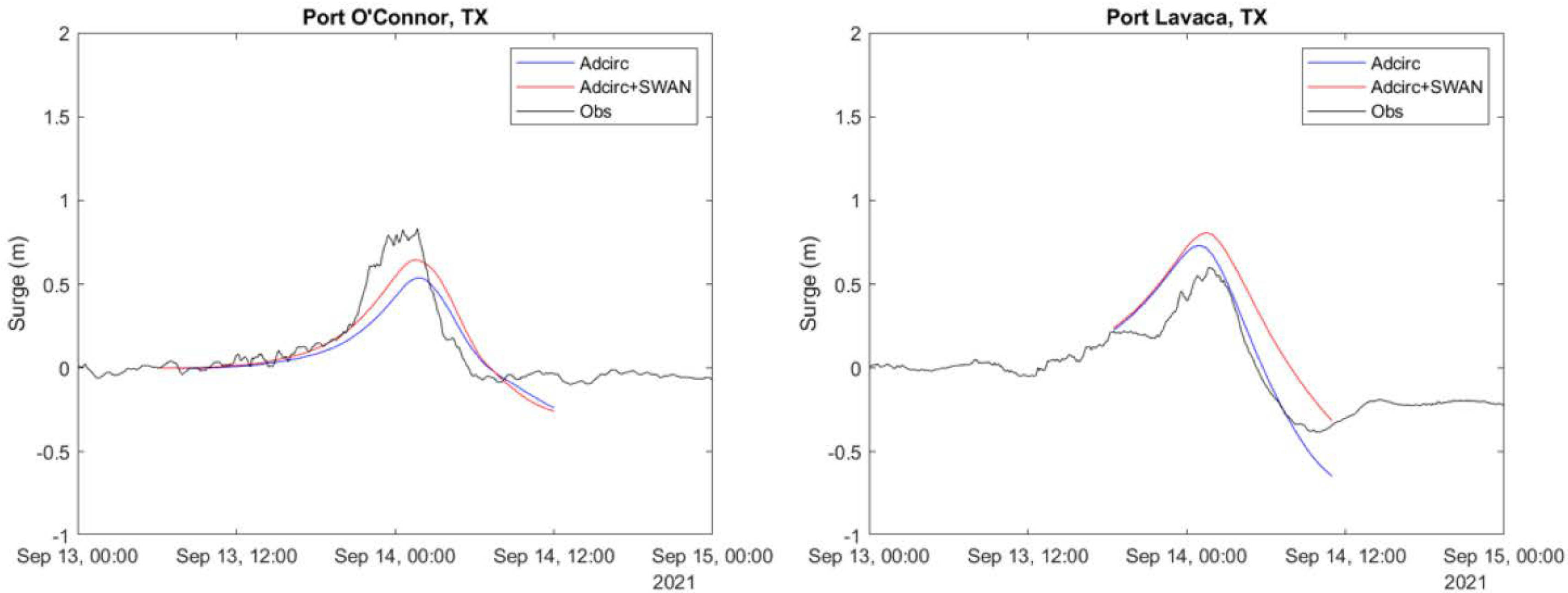


Figure 2.4.5-25
Comparison of Significant Wave Height Model Results and Observations at NDBC Stations 42020 and 42019 for Hurricane Nicholas

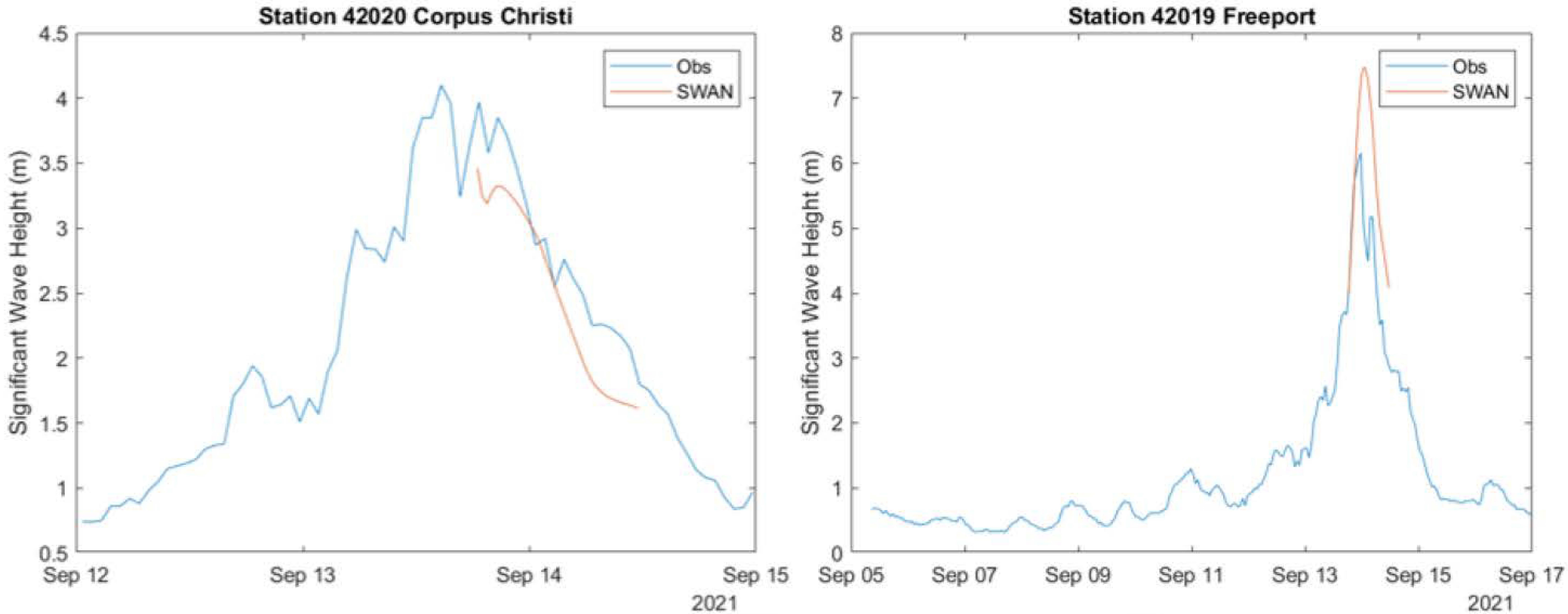


Figure 2.4.5-26
ADCIRC+SWAN Predicted Time Series of Water Surface Elevation, Significant Wave Height, Wind Speed, and Current Speed at LMGS for Storm 260

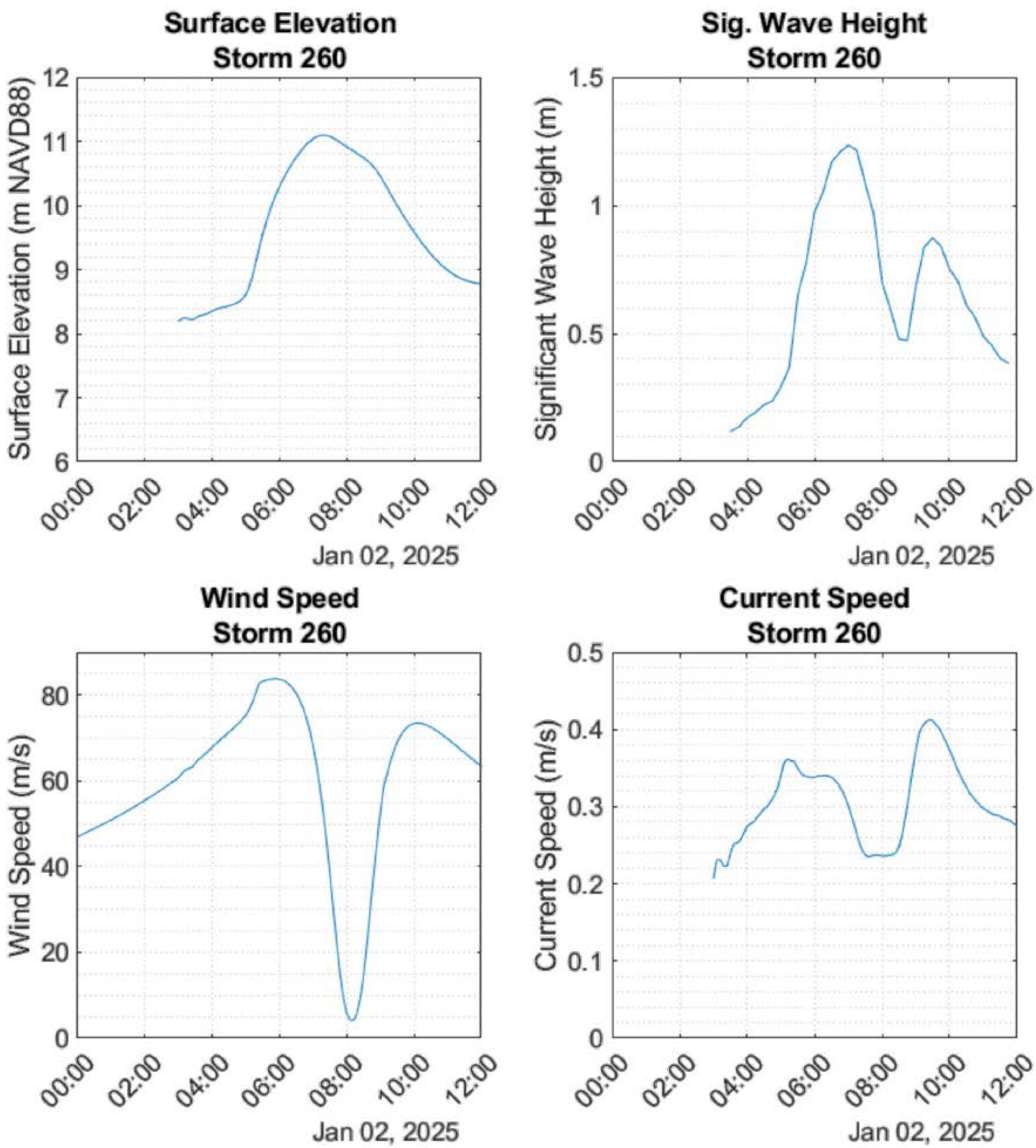


Figure 2.4.5-27
Hydrostatic and Hydrodynamic Forces on Safety-Related Structures