# **Reynolds Channel at Pt Lookout**



#### at 11.4 ft MLLW / 10.1 ft NGVD / 6.7 ft MHHW

Coastal communities along Southern Nassau experienced four successive tidal cycle with at least moderate coastal flooding. Widespread record coastal flooding occurring along the Western Great South Bay exceeding the FEMA 100 year base flood elevations. Peak storm tides surpassed all previously documented high water marks, including the October 31, 1991 and December 11, 1992 nor'easters and the recorded peaks from Hurricane Irene in 2011. The storm tide levels along the Southern Nassau County shore resulted from a peak storm surge of about 8 to 9 feet that coincided with normal high tides. This resulted in up to 3 to 5 feet of inundation of communities in and along Southern Nassau County.

The majority of locations south of Merrick Road and Atlantic Avenue were completely inundated, with waterfront communities along creeks and streams being inundated up to Sunrise Highway. Areas of major residential damage were experienced across low lying areas such as Inwood, Meadowmere Park, Bay Harbor, Island Park, Baldwin Harbor, Freeport, and Massapequa.

The most widespread major damage was experienced along the barrier beach communities, where the surge was amplified by the run-up and setup from 15 to 20 ft breakers along the Atlantic Ocean coast. Numerous homes and Atlantic Ocean facing structures, such as boardwalks and piers, in Long Beach and Lido Beach were completely destroyed. Jones Beach - Extensive damage and flooding occurred throughout the park, both on the Atlantic Ocean and Great South Bay side. Just over 1/2 mile of boardwalk was damaged or destroyed. Two fishing piers on the Bay side were damaged or destroyed. Jones Beach Theater was completely flooded, including the orchestra section and up to four feet of water in the promenade and concession areas. Field 6 parking field partially collapsed in one section. The floor also buckled in the Central mall concession stand.

#### Jones Beach Boardwalk

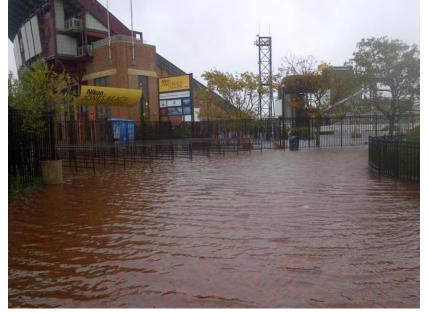


## at 8.4 ft MLLW / 7.1 ft NGVD / 3.7 ft MHHW

Long Beach- Ocean flooded to park avenue in a few places. The bay flooded 1-2 blocks in places. Inundation of at least 7 ft at Long beach and Lido beach. For Long Beach...cars parked near the boardwalk had water over their roofs.(800am 8/28/2011) Water coming over retaining wall at National Boulevard and Shore Rd. (926am 8/28/2011)

# at 8.1 ft MLLW / 6.8 ft NGVD / 3.4 ft MHHW

Jones Beach – 1 to 3 feet of inundation in the Jones Beach Amphitheater (10/29/2012 8-10am)



# at 7.5 ft MLLW / 6.2 ft NGVD / 2.8 ft MHHW (10/27/2018)

Due to the astronomically high tides coming off the October 24th full moon, and generally 2 1/2 to 3 1/2 ft of surge from Easterly Gale to Storm force winds ramping up Friday Night into Saturday afternoon. This was the second tide of this event, so tidal piling was a definite factor as well, with 16 ft@10 sec easterly swells.

<u>Freeport</u> – 1+ ft of inundation at <u>intersection of Front Street and Guy Lombado Blvd</u> (Top left) and at <u>Intersection of Front Street and Woodcleft</u>.(Top right), <u>Nautical mile</u> (middle 2 rows), and intersection of <u>Ocean Ave and Richmond St</u>





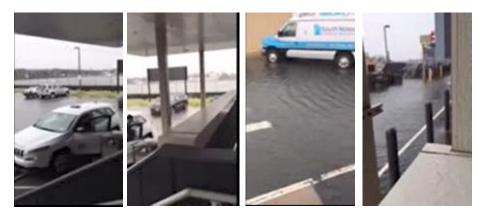


<u>Island Park</u> - Minor inundation at the <u>intersection on Traflagar Blvd and Austin Blvdn</u> (top left), and intersection of <u>Austin Blvd and California Ave</u> (top right), and canal front areas on Austin Blvd (bottom).





Long Beach – Up to 1 ft inundation around Long Beach hospital



Minor flooding along Bay Drive



<u>Jones Beach</u> –

NYSDOT Region 10 observed tidal coastal flooding on <u>WSP near Jones Beach</u>.



Due to elevated water levels and 8-12 ft surf, the beach flooded in various locations on the ocean and bay side of the park.

<u>Jones Beach Amphitheater</u> - Seaweed and debris have been left behind in the orchestra seating area.



Zach Bay - Debris on seawall at Zach's Bay



<u>Boat Basin</u> - 3 boards missing from dock at boat basin. A large buoy that was tied up at the boat basin broke free from one of its lines and floated onto the lower dock



## Oceanfront



# at 7.0 ft MLLW / 5.7 ft NGVD / 2.3 ft MHHW

<u>Freeport</u> - Moderate flooding in <u>Freeport...south of Atlantic Avenue</u>. A few cars towed and people evacuated from their homes.

Some minor flooding along canals across other towns along the south shore of Nassau. (802am 1/29/98)

<u>Jones Beach</u> - Theater Flooded, Water above the orchestra area. Field 10 Fishing Pier has 3 boards missing. No erosion on ocean side and Minimal erosion on bay side. (15ft@ 10 sec e swells at 44025) (1/24/2017)

Robert Moses – 80-90ft of shoreline eroded. (15ft@ 10 sec e swells at 44025) (1/24/2017)

#### At 6.9 ft MLLW / 5.6 ft NGVD / 2.2 ft MHHW

<u>Jones Beach</u> - Coastal flooding north of the Jones Beach circle on the <u>Wantagh State Parkway at</u> <u>Bay Parkway</u>. 2 lanes in both directions were closed due to the flooding. (6/4/2012 830pm-920pm)

#### At 6.8 ft MLLW / 5.5 ft NGVD / 2.1 ft MHHW ... NE/N gales

<u>Robert Moses</u> - Noticeable erosion at Field 5 and the Water Tower beach front. Beach front flooding at Fields 2, 3, and 4. (1/3/2014)

<u>Jones Beach</u> - Moderate flooding along the Field 2 beach front on the ocean side. On the bay side high tide breached the fishing piers at Field 10 but caused no damage. (1/3/2014)

1 to 2 ft. of water from Reynolds Channel flooded over many streets in <u>Long Beach</u> the evening of (03/13/2010)

Flooding from a combination of high tide and heavy rainfall at the south end of the Wantagh State Parkway at Bay Drive, which is just north of the Jones Beach Tower. All three lanes in both directions were flooded from about 0800 on 1/10 until the water receded and the lanes completely reopened a little after 1000. (1/10/2016)

# at 6.7 ft MLLW / 5.4 ft NGVD / 2.0 ft MHHW

<u>Freeport</u> - Moderate flooding in <u>Freeport...south of Atlantic Avenue</u>. <u>Massapequa</u>.- Minor flooding along canals (2/5/98)

# at 6.6 ft MLLW / 5.3 ft NGVD / 1.9 ft MHHW

Long Beach – 1 to 2 ft of inundation on East Pine Street (3/14/2017)





<u>Jones Beach</u> - Coastal flooding north of the Jones Beach circle on the <u>Wantagh State Parkway at</u> <u>Bay Parkway</u>. 1 lane in both directions was closed due to the flooding. (6/4/2012 945pm)

<u>Jones Beach State Park</u> - Low lying flooding at the beach bu is accessible. Minor erosion on the bay side including Zach's Bay and field 10 and west end boat basin areas. Water was approximately 3 ft. high at the high tide in the orchestra section of the theater. **w/ 15 ft @ 9 sec period easterly swells** (3/14/2017)

<u>Robert Moses State Park</u> - Moderate erosion along the oceanfront. All sand gained since January storm had been lost. No critical losses that threaten any structure at this time. No impact on beachfront operations, plenty of sand. **w/15 ft @ 9 sec period easterly swells** (3/14/2017)

<u>Captree</u> - Erosion on the east side of parking field. **w/ 15 ft @ 9 sec period easterly swells** (3/14/2017)

#### At 6.5 ft MLLW / 5.2 ft NGVD / 1.8 ft MHHW...with 6-10 ft easterly swells.

<u>Jones Beach</u> - There was flooding and ponding water on the beachfront from the <u>West</u> <u>Bathhouse to the West End</u> from the water over washing the berm at Jones Beach. There were approximately 3 cuts on the beachfront from the wave action. No significant erosion to report. (12/9/2014 10 am)

Minor flooding on <u>Wantagh State Parkway at Bay Parkway</u>...near the Jones Beach tower.

#### At 6.5 ft MLLW / 5.2 ft NGVD / 1.8 ft MHHW...with 15-18 ft 10 sec easterly swells.

<u>Jones Beach</u> - Minor beach erosion with tidal pooling at Central Mall, West Bathhouse, Field 1 and 2. Pooling of water close to the dune line from the Nature Center to the east side of West End 2. No flooding in the center lane of West End 2. (3/7/2013)

#### At 6.5-6.0 ft MLLW / 5.2-4.7 ft NGVD / 1.8-1.3 ft MHHW ... with 10-14ft@ 11-14 sec e/ese swells

<u>Nassau and SW Suffolk beachfront</u> - Widespread minor to moderate flooding was experienced along the during high tides Tuesday morning into Wednesday morning.

<u>Jones Beach</u> - Major inundation experienced at Jones Beach. Specifically, the entire Jones Beach front from Field 1 through Field 6 was under 2 to 3 ft of water and the Central Mall area including the Administration parking field and former Boardwalk Restaurant parking field were also flooded.

<u>Robert Moses</u> - Minor to moderate flooding and beach erosion were observed during the Tuesday morning to Wednesday morning high tides.

<u>Gilgo Beach</u>- had water up to the dunes during the Tuesday morning to Wednesday morning high tides, causing moderate erosion with a strong littoral drift.

Point Lookout to Wantagh marshland- Almost completely inundated.

(9/19-20/2017 - Jose)

# At 6.4 ft MLLW / 5.1 ft NGVD / 1.7 ft MHHW (1/23/2017)

Long Beach – Just before 11 p.m. Monday in storm-wary Long Beach, <u>Park Avenue in a West</u> End neighborhood near the Reynolds Channel was flooded, as was <u>Broadway near the</u> <u>boardwalk</u>. Pavement was still visible in both areas.

# At 6.4 ft MLLW / 5.1 ft NGVD / 1.7 ft MHHW ...48hrs 20-25ktG30kt...7-9 ft easterly (90-100 deg) waves (4/29-30/2014)

Zachs Bay at Jones Beach - The high tide was up to the seawall at Zachs Bay

<u>Gilgo Beach</u> - Moderate erosion on <u>Gilgo Beach</u> a lot of sand moved west some of the beach that we did not put sand on are back to a flat beach. Areas west of the old coast guard station suffered major erosion.

Robert Moses - Beach flooding at each high tide through Thursday morning.

<u>Jones Beach</u> - Overwash on the beach occurred with standing water on the center areas of the West Bathhouse, Field 2, Field1 and West End 2.

#### At 6.3 ft MLLW / 5.0 ft NGVD / 1.6 ft MHHW...with 5 to 8 ft southeasterly swells.

<u>Jones Beach</u> - Moderate flooding over the berm from Field 6 to Field 1 with ponding of water on the north side of the berm. The center lane at Field 1 is completely flooded.

# At 6.3 ft MLLW / 5.0 ft NGVD / 1.6 ft MHHW ...with 6-8 ft se surf

<u>Robert Moses</u> - Big swells and very rough surf. The flooding was up to the dunes on some portions of the beach fronts. We did sustain noticeable erosion on some other points of the beach fronts as well.

#### At 6.2 ft MLLW / 4.9 ft NGVD / 1.5 ft MHHW

<u>Jones Beach</u> - Coastal flooding north of the Jones Beach circle on the <u>Wantagh State Parkway at</u> <u>Bay Parkway</u>. (2/27/2013 900am)

# at 5.9 ft MLLW / 4.6 ft NGVD / 1.2 ft MHHW

Jones Beach - Flooding at Jones Beach Amphitheater on (8/12/10 at 1110 pm)

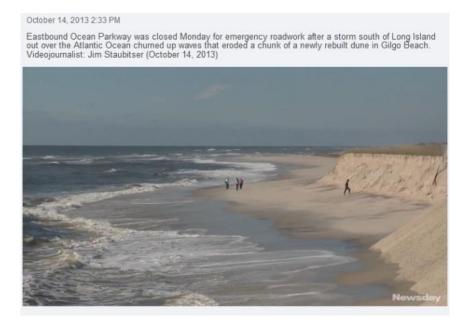


at 5.6-5.8 ft MLLW / 4.3-4.5 ft NGVD / 0.9-1.1 ft MHHW ...with 4 days of 8-11 ft easterly swells and 96 hrs of 050-070 25 g 30 kt

# (10/9-13/2013)

<u>Gilgo Beach</u> - Significant erosion along Ocean Parkway between Jones Beach State Park and Captree State Park. The erosion was within 15 feet of the eastbound roadway along Ocean Parkway at Gilgo Beach, Town of Babylon. This forced closure of some eastbound lanes while emergency repairs were underway. There were other sections along Ocean Parkway also saw significant erosion.

The State 4x4 Areas at Gilgo State Park and Sore Thumb saw high tides with no substantial impacts (protected by Robert Moses)



<u>Robert Moses</u> - Erosion at Robert Moses fields 5 and 4 was fairly significant. We lost all sand that had naturally accrued over the course of the summer season and some of the sand that was placed on the beach at Field # 5. On the Ocean front...the high tides and rough surf did come in much higher than normal resulting in a substantial amount of beach front eroding from Field 5. We also lost some layers of sand on the beach in front of the Robert Moses water tower as well with the tides just about reaching the dune line. On the Inlet side of Robert Moses...the tides were higher than average but with no true impact beyond some minor flooding at Democrat Point.

<u>Jones Beach</u> - Some water going over the berm during the storm but there was no ponding of water along the beach. There seemed to be a scalloping along the shoreline followed be a sand accumulation running east to west, almost in a repeating sequence. We did lose sand and height at the shoreline and there was a drop off at the berm.

# At 5.5 ft MLLW / 4.2 ft NGVD / 0.8 ft MHHW ... w 6-8 ft@14sec SE swells

Jones Beach - Minor beach flooding (9/18/2019 - Jose)

