

Coastal Martin County Heavy Rainfall Event; Culminating with Two Flash Floods

Event Period: May 24, 2020 (8:00 AM) through June 6, 2020 (8:00 AM)

Episode Summary: A very wet pattern began to set-up on May 24th as a tropical wave brought near-record amounts of Precipitable Water for late May across east central Florida. Low-level convergence was maximized along the Treasure Coast, and combined with upper-level support from a mid-level trough, persistent bands of heavy rainfall were able to set-up across eastern Martin County on both May 24th and 25th. Even after the tropical wave lifted north, deep moisture remained across the area, allowing additional heavy rain to accumulate across eastern Martin County from afternoon showers and thunderstorms through May 28th. A bit of a pattern shift then focused heavier rainfall farther north and also inland from May 29th through June 1st, providing a much needed break to Martin County.

However, on June 2nd another broad mid-level trough of low pressure became established over the western Gulf of Mexico, and a deep layer of west to southwest flow aloft carried tropical moisture into Florida, in association with Tropical Storm Cristobal, located over the southwestern Gulf of Mexico. Beginning early on June 3rd, local wind profilers from Cape Canaveral, showed east to southeasterly flow in the low-levels of the atmosphere immediately met with opposing westerly flow aloft. Deep moisture and strong coastal convergence resulted in multiple rounds of persistent, heavy showers and storms across eastern Martin County once again. With soil conditions across the area nearly saturated due to the heavy rainfall which occurred the previous week, widespread flooding quickly redeveloped. As Tropical Storm Cristobal meandered over the Yucatan Peninsula over the next day or two before slowly lifting northward, and the local weather pattern did not change much. The steady feed of deep moisture continued and resulted in additional heavy rainfall across eastern Martin County through June 5th, worsening the ongoing flooding issues.

Event 1: Heavy Rainfall and Flash Flooding - June 2-3, 2020: Widespread rain totals of 5-10 inches affected portions of Jensen Beach, Stuart, Palm City and Hobe Sound between the evening of June 2 and mid-afternoon on June 3. Excessive rain rates (6 inches in less than 4 hours) occurred within an area of saturated soils from Palm City to Hobe Sound, with peak event total rainfall of 11 to 13 inches measured by a WeatherSTEM site and a SKYWARN spotter, respectively, both in Hobe Sound. Fourteen homes experienced minor damage consisting of several inch depth of water intrusion and an additional eight homes sustained major damage with waters levels up to or beyond interior electrical outlets. Numerous roadways became impassable due to high water throughout the area and were closed to traffic. Additionally, water poured into some homes in Stuart near Manatee Pocket, where heavy rain combined with a high tide period, likely causing water levels to rise along a stream connected to the St. Lucie River.

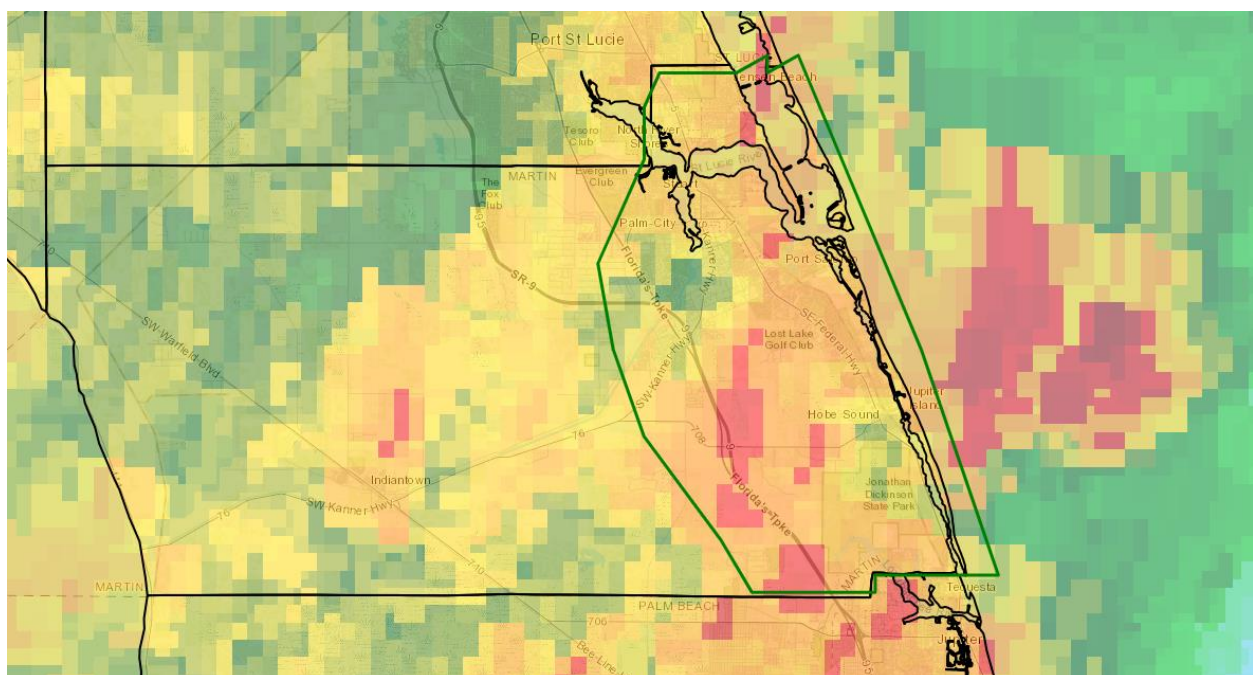
Event 2: Heavy Rainfall and Flash Flooding - June 5, 2020: Two to four inches of rain fell within two hours, across an area which received 7 to 13 inches of rain over the previous three days. With saturated soils and standing water remaining in many areas, flooding quickly redeveloped. Flood waters entered several homes, mainly within Hobe Heights. Some of these homes may have also experienced water intrusion two days earlier from the first period of flooding. Numerous roadways within Hobe Sound became impassable due to high levels of standing water.

Flood Products: The NWS Melbourne office issued a total of 23 flood products for portions of Martin, Saint Lucie and Indian River Counties between May 24 and 28, 2020 and between June 2 and 5, 2020 due to reoccurring heavy rainfall. Specifically, these products included: 15 Flood Advisories, 7 Flood Warnings, and 1 Flash Flood Warning (which was extended one time).

- Previous to this Flash Flood Warning, the last time a FFW was issued for the NWS Melbourne County Warning Area was on October 1, 2017.

Table listing the flood-related products in the order they were issued from May 24 to June 5, 2020.

Product	No.	Counties	Date, Time Issued	Date, Time Expired
Flood Advisory	7	Martin	5/24/20 at 1:43 PM	5/24/20 at 3:15 PM
Flood Advisory	8	Martin, St. Lucie	5/25/20 at 9:12 AM	5/25/20 at 11:15 AM
Flood Advisory	9	Indian River, St. Lucie	5/25/20 at 11:15 AM	5/25/20 at 1:15 PM
Flood Advisory	11	Martin, St. Lucie	5/25/20 at 3:48 PM	5/25/20 at 5:45 PM
Flood Advisory	12	Martin, St. Lucie	5/25/20 at 6:47 PM	5/25/20 at 8:45 PM
Flood Warning	1	Martin, St. Lucie	5/25/20 at 7:51 PM	5/25/20 at 9:30 PM
Flood Warning	2	Martin, St. Lucie	5/25/20 at 9:26 PM	5/26/20 at 12:15 AM
Flood Advisory	14	Martin, St. Lucie	5/27/20 at 4:16 PM	5/26/20 at 5:15 PM
Flood Advisory	19	Martin, St. Lucie	5/28/20 at 11:28 PM	5/29/20 at 1:00 AM
Flood Advisory	27	Martin	6/2/20 at 6:45 PM	6/2/20 at 8:15 PM
Flood Advisory	28	Martin	6/2/20 at 9:19 PM	6/2/20 at 11:15 PM
Flood Advisory	29	Martin	6/2/20 at 11:14 PM	6/3/20 at 1:15 AM
Flood Advisory	30	Martin	6/3/20 at 3:55 AM	6/3/20 at 5:30 AM
Flood Warning	4	Martin, St. Lucie	6/3/20 at 5:09 AM	6/3/20 at 6:30 AM
Flood Warning	5	Martin, St. Lucie	6/3/20 at 6:28 AM	6/3/20 at 8:00 AM
Flood Advisory	31	Indian River, St. Lucie	6/3/20 at 8:10 AM	6/3/20 at 10:00 AM
Flood Warning	6	Martin, St. Lucie	6/3/20 at 9:00 AM	6/3/20 at 11:30 AM
Flood Warning	7	Martin	6/3/20 at 3:06 PM	6/3/20 at 6:15 PM
Flood Warning	8	Martin	6/3/20 at 8:23 PM	6/4/20 at 12:15 AM
Flood Advisory	32	Martin	6/4/20 at 12:18 AM	6/4/20 at 2:15 AM
Flood Advisory	33	Martin	6/4/20 at 2:19 AM	6/4/20 at 6:15 AM
Flood Advisory	37	Martin	6/5/20 at 3:24 PM	6/5/20 at 4:45 PM
Flash Flood Warning	1	Martin	6/5/20 at 4:45 PM	6/25/20 at 10:00 PM



FLASH FLOOD WARNING (green polygon) issued 4:45 PM Friday June 5, 2020

BULLETIN - EAS ACTIVATION REQUESTED

Flash Flood Warning

National Weather Service Melbourne FL

445 PM EDT Fri Jun 5 2020

The National Weather Service in Melbourne has issued a

* Flash Flood Warning for...

Eastern Martin County in east central Florida...

* Until 800 PM EDT.

* At 445 PM EDT, Doppler radar indicated thunderstorms producing heavy rain moving into eastern Martin County. Flash flooding is ongoing or expected to begin shortly.

HAZARD...Flash flooding caused by thunderstorms.

SOURCE...Doppler radar.

IMPACT...Flooding of small creeks and streams, urban areas, highways, streets and underpasses as well as other drainage and low lying areas.

* Some locations that will experience flash flooding include...

Stuart, Jupiter Island, Port Salerno, Hobe Sound, Palm City, Jensen Beach, Sewall's Point, Jonathan Dickinson State Park, North River Shores, Ocean Breeze Park, Hobe Sound Wildlife Refuge, Rio.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

A Flash Flood Warning means that flooding is imminent or occurring. If you are in the warned area move to higher ground immediately. Residents living along streams and creeks should take immediate precautions to protect life and property.

Turn around, don't drown when encountering flooded roads. Most flood deaths occur in vehicles.

Excessive runoff from heavy rainfall will cause flooding of small creeks and streams, urban areas, highways, streets and underpasses as well as other drainage areas and low lying spots.

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LAT...LON 2721 8029 2722 8029 2724 8029 2726 8028

2726 8023 2727 8021 2726 8021 2727 8019

2710 8011 2697 8006 2697 8014 2696 8014

2696 8022 2699 8024 2705 8029 2710 8031

2715 8032

FLASH FLOOD...RADAR INDICATED

EXPECTED RAINFALL...2-4 INCHES IN 2 HOURS

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Kelly

Flash Flooding in Hobe Heights Neighborhood (Hobe Sound, FL)

Pictures courtesy of Martin County Emergency Management

















