

Flooding and the National Weather Service

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Overview

- NWS Flood Products
- Application of NWS Flood Products to Florida
- NWS Tampa Bay Area Flood Product Examples

NWS Flood Products

3 Product Types

Flash Flooding (FF)

Areal Flooding (FA)

River Flooding (FL)

3 Product Significance Levels

Warning

Advisory

Watch

Review of Significance Levels

Warning

Flooding is about to occur or is already occurring. At this level, flooding is dangerous and a threat to life and property.

Advisory

Flooding is about to occur or is already occurring. At this level, flooding is a nuisance but may become a threat to life and property if caution is not taken.

Watch

Ingredients are in place for flooding to occur, but it is not yet occurring.

More information: <https://www.weather.gov/safety/flood-watch-warning>

Flash Flooding

- Occurs after heavy to intense rainfall in a short time-frame, typically 6 hours or less
- Develops quickly and poses the greatest immediate risk to life and property when it occurs
- Can occur in areas that have not received rainfall due to terrain
- Wireless Emergency Alerts (WEAs) are issued for Flash Flood Warnings tagged as considerable or catastrophic

Flash Flood Warning Example 1

BULLETIN - EAS ACTIVATION REQUESTED

Flash Flood Warning

National Weather Service Tampa Bay Ruskin FL

1016 PM EST Wed Nov 11 2020

The National Weather Service in Tampa Bay Ruskin has issued a

* Flash Flood Warning for...

Hillsborough County in west central Florida...

Manatee County in west central Florida...

Southwestern Pasco County in west central Florida...

Pinellas County in west central Florida...

Sarasota County in west central Florida...

* Until 115 AM EST.

* At 1016 PM EST, Doppler radar indicated thunderstorms producing heavy rain across the warned area. Between 3 and 5 inches of rain have fallen. Storm surge is also impacting coastal areas. Flash flooding is ongoing or expected to begin shortly.

HAZARD...Flash flooding caused by rain bands and storm surge.

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.

Flash Flood Warning Example 2

BULLETIN - EAS ACTIVATION REQUESTED

Flash Flood Warning

National Weather Service Tampa Bay Area Ruskin FL

550 PM EDT Sun Sep 13 2020

The National Weather Service in Ruskin has issued a

* Flash Flood Warning for...

Southwestern Lee County in southwestern Florida...

* Until 845 PM EDT.

* At 546 PM EDT, Doppler radar indicated heavy rain falling across the warned area. Radar estimates of over 12 inches of rain have fallen over the last 24 hours and an addition 2 to 3 inches an hour of rain is expected over the next couple hours. Flooding is already occurring.

HAZARD...Flooding caused by heavy rain.

SOURCE...Radar indicated.

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

Areal Flooding

- Occurs after moderate to heavy rainfall over a longer duration
- Typically occurs in low-lying, flood prone areas
- May also occur over larger land areas
- WEAs are not issued for Areal Flood products

Areal Flood Warning Example

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BULLETIN - IMMEDIATE BROADCAST REQUESTED
Flood Warning
National Weather Service Tampa Bay Ruskin FL
135 AM EDT Wed Jul 7 2021

FLC081-115-071900-
/O.NEW.KTBW.FA.W.0001.210707T0535Z-210707T1900Z/
/00000.0.ER.000000T0000Z.000000T0000Z.000000T0000Z.OO/
Manatee FL-Sarasota FL-
135 AM EDT Wed Jul 7 2021

The National Weather Service in Tampa Bay Ruskin has issued a

* Flood Warning for...
  Manatee County in west central Florida...
  Eastern Sarasota County in west central Florida...

* Until 300 PM EDT Wednesday.

* At 135 AM EDT, Doppler radar and automated rain gauges indicated
  heavy rain. Flooding is ongoing or expected to begin shortly in
  the warned area. Between 3 and 6 inches of rain have fallen.

* Some locations that will experience flooding include...
  North Port, Myakka City, Hidden River, Myakka Head, Duette and
  Warm Mineral Springs.

Additional rainfall amounts of 2 to 4 inches are possible in the
warned area. Flooding is expected to continue after the rain has
stopped.
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Areal Flood Advisory Example

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Flood Advisory
National Weather Service Tampa Bay Ruskin FL
454 PM EDT Tue Jun 29 2021

FLC057-101-103-292300-
/O.NEW.KTBW.FA.Y.0021.210629T2054Z-210629T2300Z/
/00000.N.ER.000000T0000Z.000000T0000Z.000000T0000Z.00/
Hillsborough FL-Pasco FL-Pinellas FL-
454 PM EDT Tue Jun 29 2021

The National Weather Service in Tampa Bay Ruskin has issued a

* Urban and Small Stream Flood Advisory for...
Northwestern Hillsborough County in west central Florida...
Southwestern Pasco County in west central Florida...
Pinellas County in west central Florida...

* Until 700 PM EDT.

* At 454 PM EDT, Doppler radar indicated heavy rain due to
thunderstorms. This will cause urban and small stream flooding.
Between 2 and 3 inches of rain have fallen.

* Some locations that will experience flooding include...
Tampa, Clearwater, Largo, Pinellas Park, New Port Richey, Holiday,
Downtown Saint Petersburg, St. Petersburg, Feather Sound, South
Highpoint, Palm Harbor, East Lake, Citrus Park, Tampa
International Airport, Gandy, Keystone, Ridgecrest, Harbor Bluffs,
West And East Lealman and Macdill Air Force Base.

Additional rainfall amounts of 1 to 2 inches are expected over the
area. This additional rain will result in minor flooding.
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River Flooding

- Advisories and Warnings are issued as rivers approach and reach previously determined flood stages
- Typically a longer duration for products as time passes while the river recedes below flood stage
- WEAs are not issued for River Flood products

River Flood Warning Example

BULLETIN - IMMEDIATE BROADCAST REQUESTED

Flood Warning

National Weather Service Tampa Bay Ruskin FL

827 AM EDT Wed Jul 7 2021

...The National Weather Service in Tampa Bay Ruskin FL has issued a Flood Warning for the following rivers in Florida...

Manatee River At Rye Bridge affecting Manatee County.

.Recent heavy rainfall from Elsa will result in rising river levels over the next few days.

For the Manatee...including Rye Bridge...Moderate flooding is forecast.

The National Weather Service in Tampa Bay Ruskin has issued a

- * Flood Warning for the Manatee River At Rye Bridge.
- * Until Thursday afternoon.
- * At 7:15 AM EDT Wednesday the stage was 10.3 feet.
- * Flood stage is 11.0 feet.
- * Moderate flooding is forecast.
- * Forecast...The river is expected to rise above flood stage late this morning to a crest of 12.8 feet this afternoon. It will then fall below flood stage tomorrow morning.
- * Impact...At 12.8 feet, Water reaches the roadbed of the Old Rye Bridge.
- * Flood History...This crest compares to a previous crest of 12.3 feet on 10/03/2007.

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Location	Fld	Observed	Forecasts (8 am EDT)	Thu	Fri	Sat	Sun	Mon
	Stg	Stg Day/Time						
Manatee River								
Rye Bridge	11.0	10.3	Wed 7 am	10.9	8.2	4.2	3.9	3.8

Questions?