

# “Worst Since Sandy” An Examination of the Straight Line Wind Event in NJ on 22 July 2019

AMS 2020 PRESENTERS:



**Michael A. Favetta, CCM**  
WeatherPrep, LLC



**Michele M. Powers**  
News 12 New Jersey (WACP-TV)<sup>1</sup>

### BACKGROUND:

A large portion of Central New Jersey had no power for up to a week following a severe straight line wind event, gusting up to 80mph<sup>2</sup>.

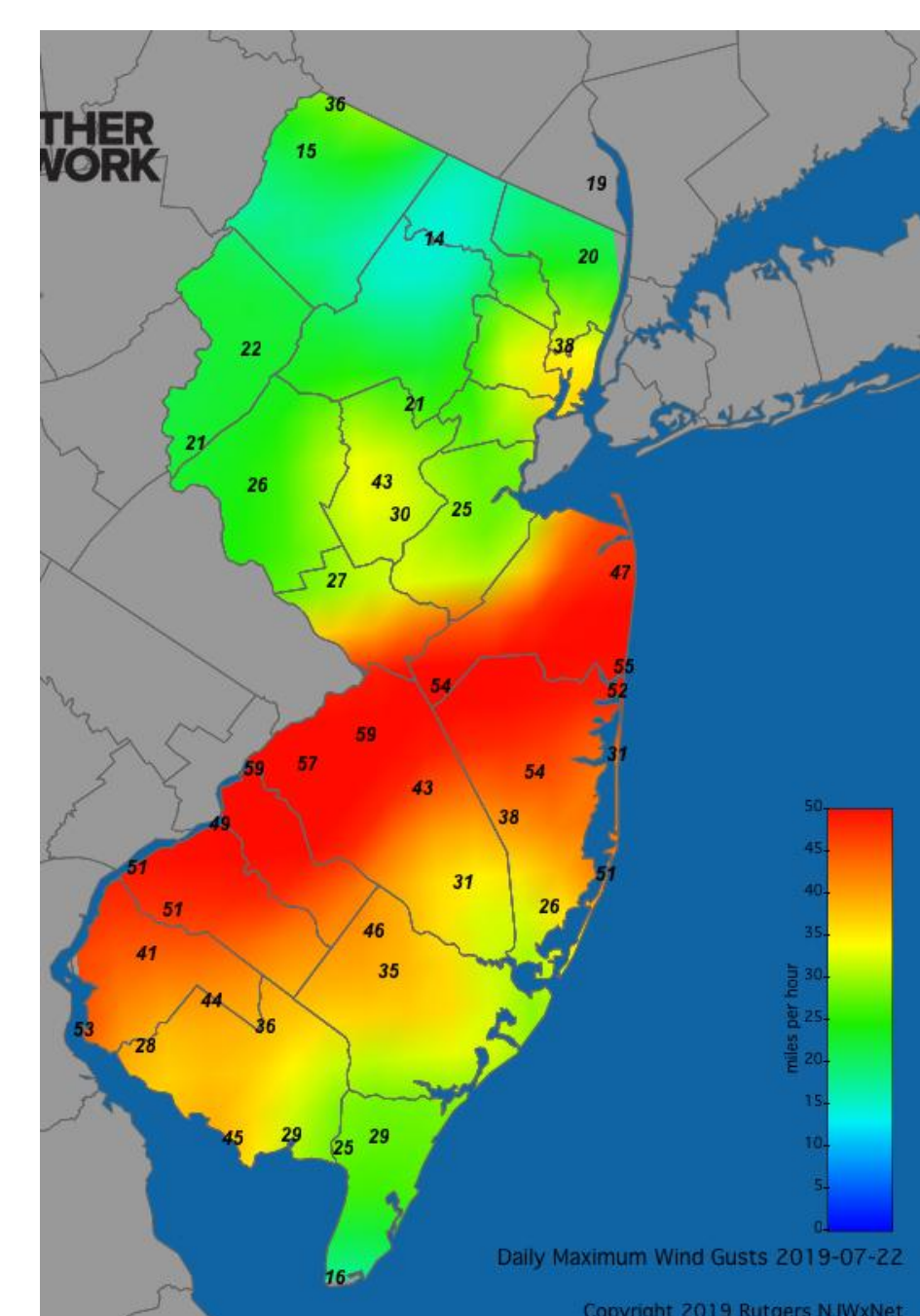
### QUESTION:

Could the messaging have been better for more preparedness in the future?

### DATA:

A severe thunderstorm watch was issued three hours before winds of 76mph hit Central New Jersey. PHI issued a severe thunderstorm warning one hour prior for 80mph straight line gusts. The authors warned of damaging winds beginning one day prior to the event on the most viewed local news channel<sup>3</sup> in the tri-state area, News 12 New Jersey (WACP-TV). The resulting damage was a power outage to 325,000 customers<sup>4</sup> (close to one million individuals) for up to one week, and non-wind damage (flash flooding).

### WIND VERIFICATION:



70-78 mph: 4 public reports

60-69 mph: 4 public reports

50-59 mph: 11 NJWxNet reports

40-49 mph: 9 NJWxNet reports

Image at left and data above: courtesy NJ Weather & Climate Network; public reports from NWS PHI LSRs

<sup>1</sup>News 12 New Jersey is simulcast on WACP-TV M-F, 6-9am in the Philadelphia Nielsen TV Market.

<sup>2</sup>WSR-88D indicated from SVRPHI #271

<sup>3</sup>Pew Research Center, March 2019, <https://www.journalism.org/interactives/local-news-habits/35620/>

<sup>4</sup>Storms leave more than 300K without power”, Noah Cohen, The Star Ledger, 23 July 2019.

# Bad things happen when storm warnings aren't taken seriously... even during New Jersey's “Summer of Severe”



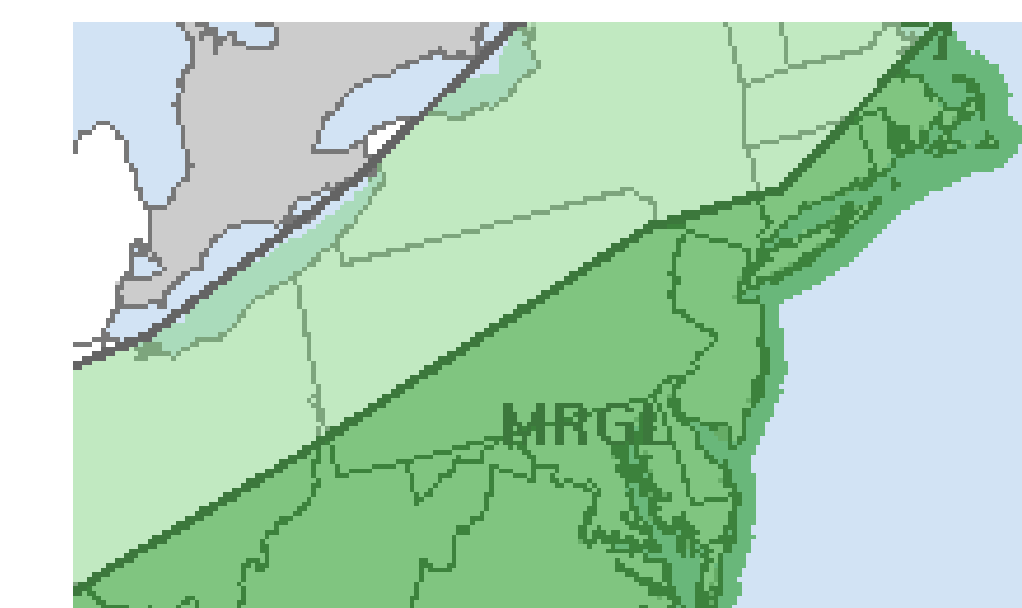
Open regular camera app and **point** here to access the interactive poster (no special app required)



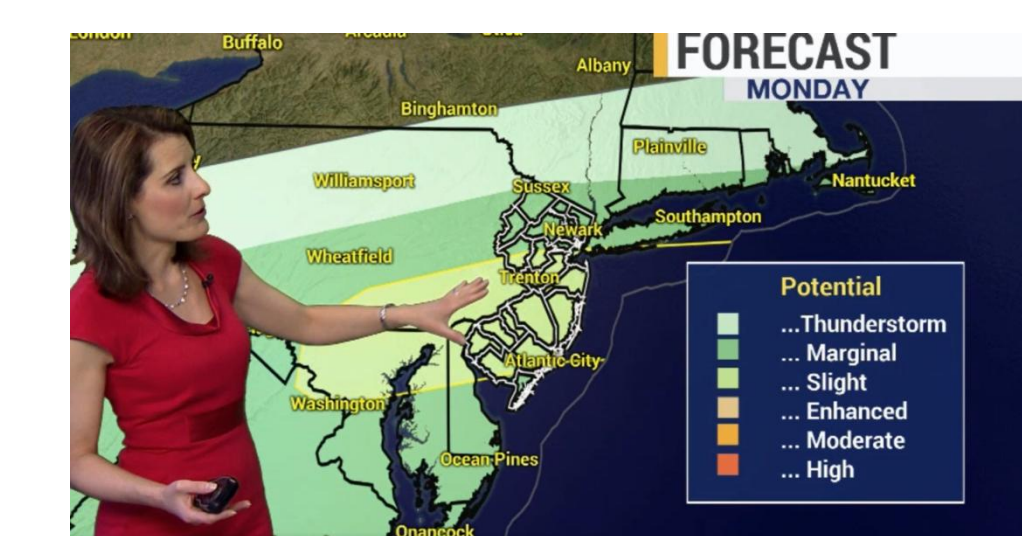
@TweetsTheWx

@MichelePowersWx

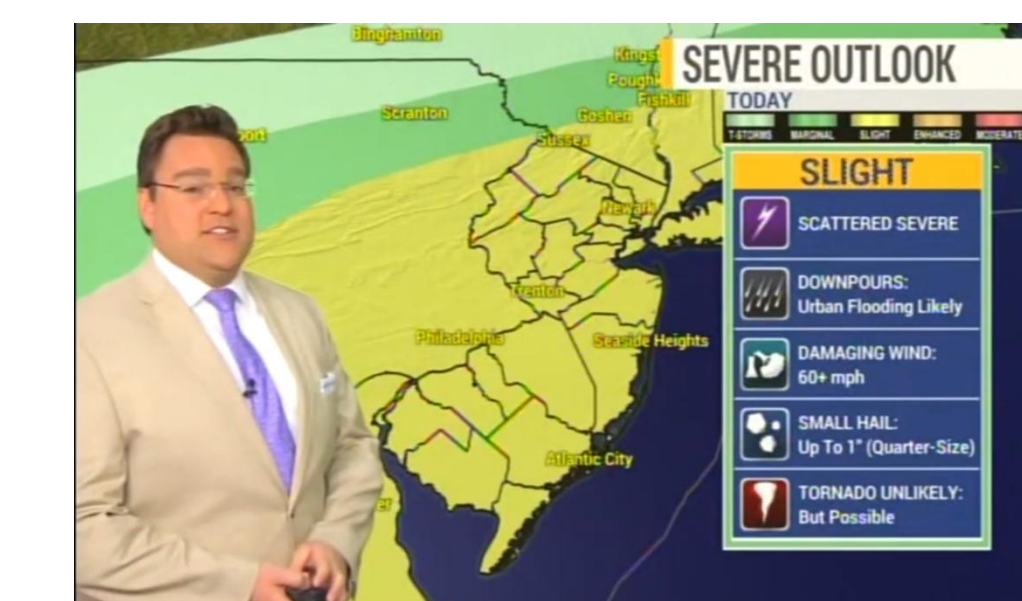
51 hours before event:  
Marginal Risk on SPC  
Day 3 (3:23 am local)



28 hours before event:  
Slight Risk on SPC Day  
2 (1:25 pm local)



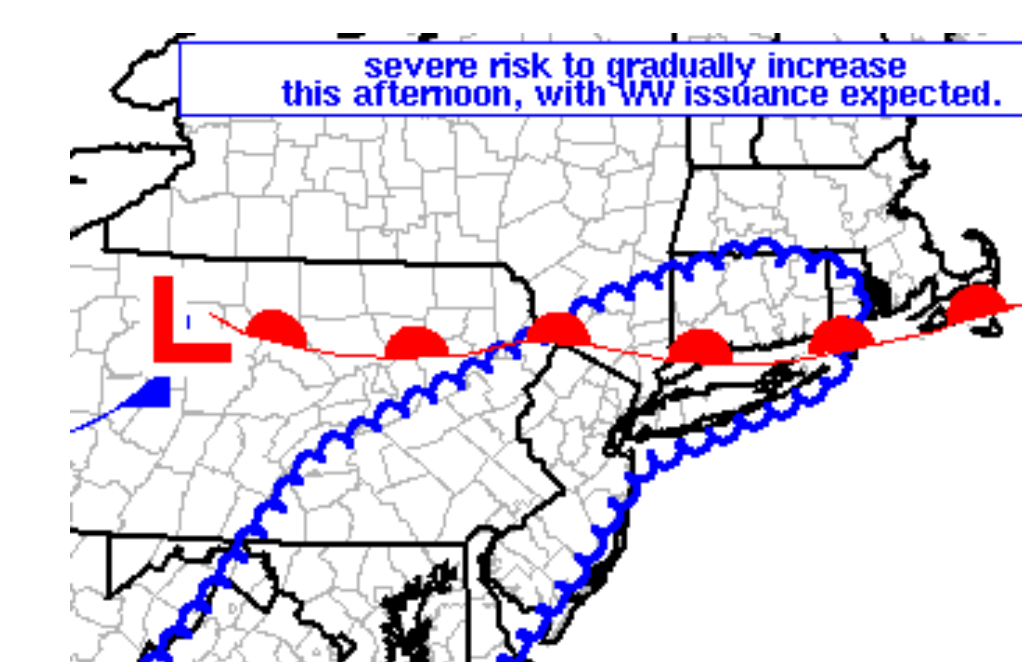
18 hours before event:  
Slight Risk expands on  
SPC Day 1 (1:47am  
local)



7 hours before event:  
“Storm Watch” mode  
with red studio set  
(10:30am local)



5 hours before event:  
Mesoscale Discussion  
for locally damaging  
wind. Watch issuance  
80% within next hour  
(1:11pm local)



3 hours before event:  
Severe Thunderstorm  
Watch issued for  
Moderate Severe  
Wind Risk, gusts to  
70mph. (2:15pm local)

Probability of 2 or more tornadoes	Low (20%)
Probability of 1 or more strong (EF2-EF5) tornadoes	Low (5%)
Probability of 10 or more severe wind events	Mod (60%)
Probability of 1 or more wind events > 65 knots	Low (10%)
Probability of 10 or more severe hail events	Low (<5%)
Probability of 1 or more hailstones > 2 inches	Low (<5%)
Combined Severe Hail/Wind	High (80%)

Favetta, Michael A.  
WeatherPrep, LLC  
Cedar Knolls, NJ  
mike@wxprep.com

Powers, Michele M.  
News 12 New Jersey (WACP-TV)  
Edison, NJ  
mmpowers@news12.com

Special Thanks to Dr. David Robinson at the State Climatologist Office of New Jersey at Rutgers University, New Brunswick for the NJWxNet data and visualizations.

Special Thanks to Dr. Paul J. Croft from Kean University, Union, NJ for his contributions to this poster and professional guidance to the authors.



About WeatherPrep: Founded in 2014, WeatherPrep is a full-service weather consulting firm offering expertise in: climate change risk assessment and mitigation strategy; expert witness testimony in litigation; forensic weather reconstruction; insurance claims support; in-situ incident meteorology; event forecasting; and decision-making support for contingency planning. With offices in New Jersey and Milan, Italy, WeatherPrep has worked with clients in 13 countries.



News 12 New Jersey is the most watched 24-hour local news station in New Jersey, bringing residents the best local news coverage and information about their counties, towns and neighborhoods. News 12 New Jersey provides around the clock access to hyper-local breaking news, traffic, weather, sports, politics, investigative stories and more to Altice USA's 4.9 million residential and business customers.