

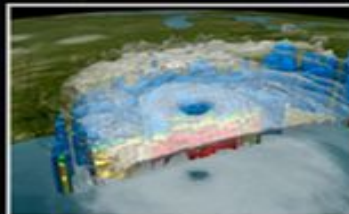
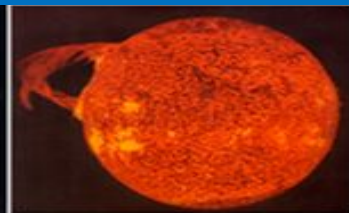
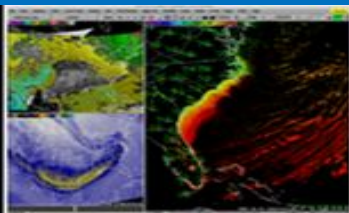


NOAA

**National
Weather
Service**

NWS Partners' Meeting Remarks

Dr. Louis W. Uccellini, NWS Director
Albany, NY - August 15, 2019





Outline



- **AMS Summer Meeting and NWS Partners Summary**
- **The Prediction Challenge**
- **IDP**
- **GFS Upgrade**
- **IDSS**
- **EPIC**
- **Resilient America**
- **Future Needs**



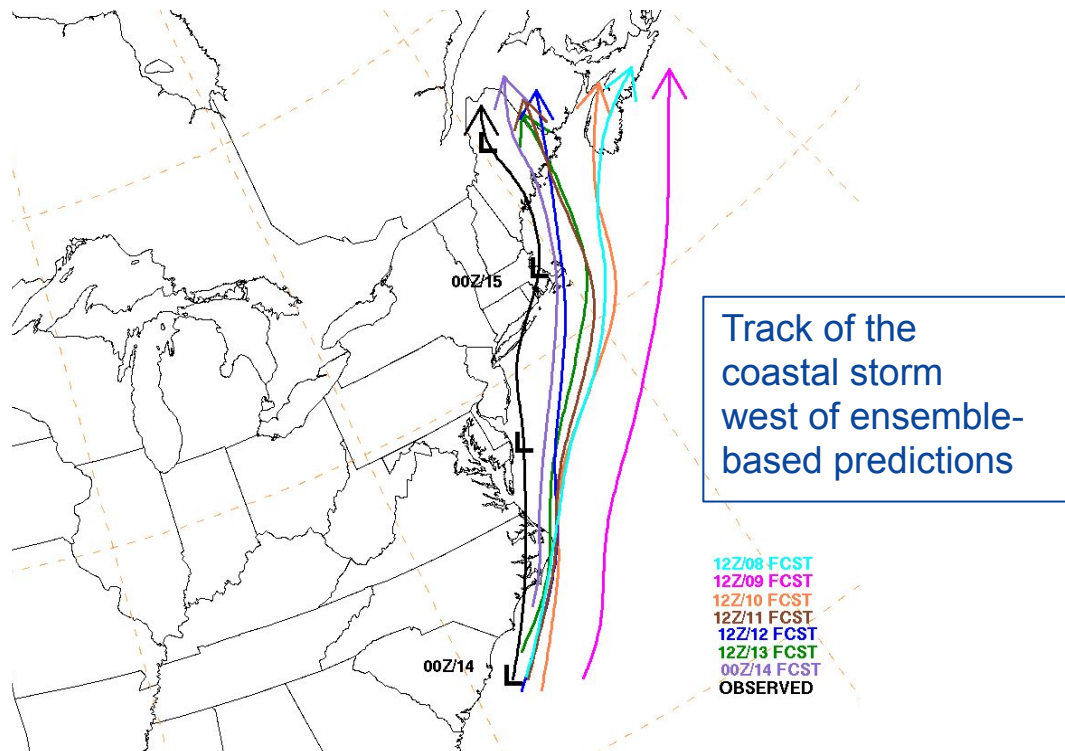


The Prediction Challenge still exists:

Northeast Blizzard March 13-14, 2017

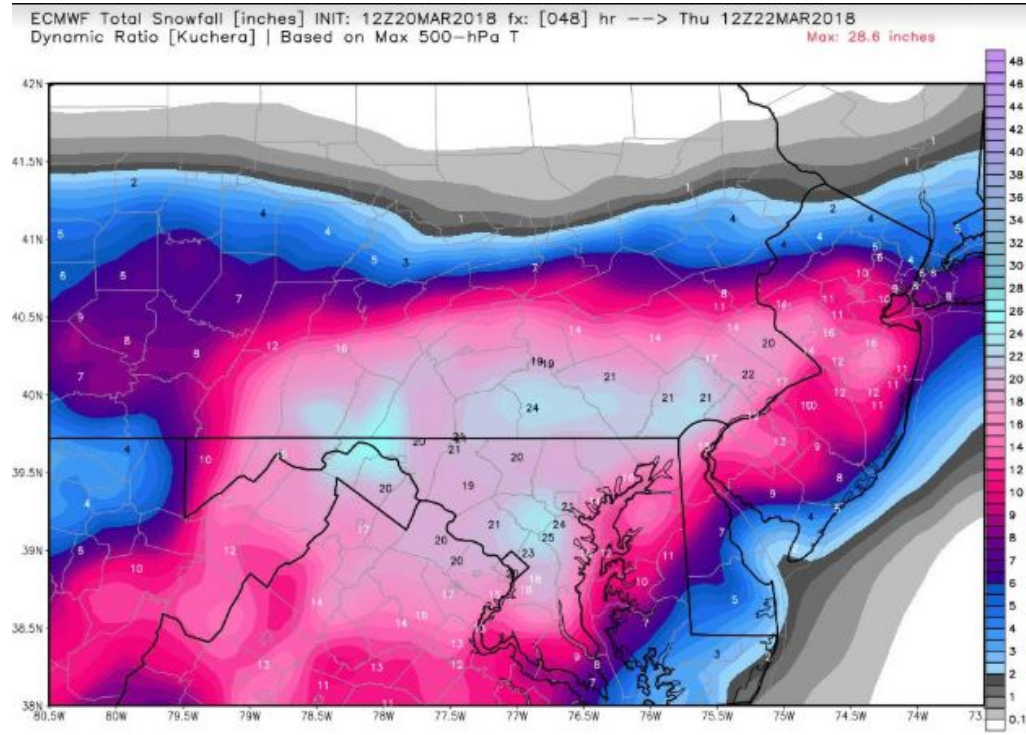
Hour/Day (UTC)	Central Pressure (mb)
00Z/14	1007
06Z/14	999
12Z/14	986
18Z/14	979
00Z/15	976
06Z/15	976

Observed Low (Black) and
WPC forecast track evolution



Opportunities/Challenges

The curse of the automation; forecast derived directly from post-processed models!
The models can still be wrong, even 24 to 48 hours in advance.

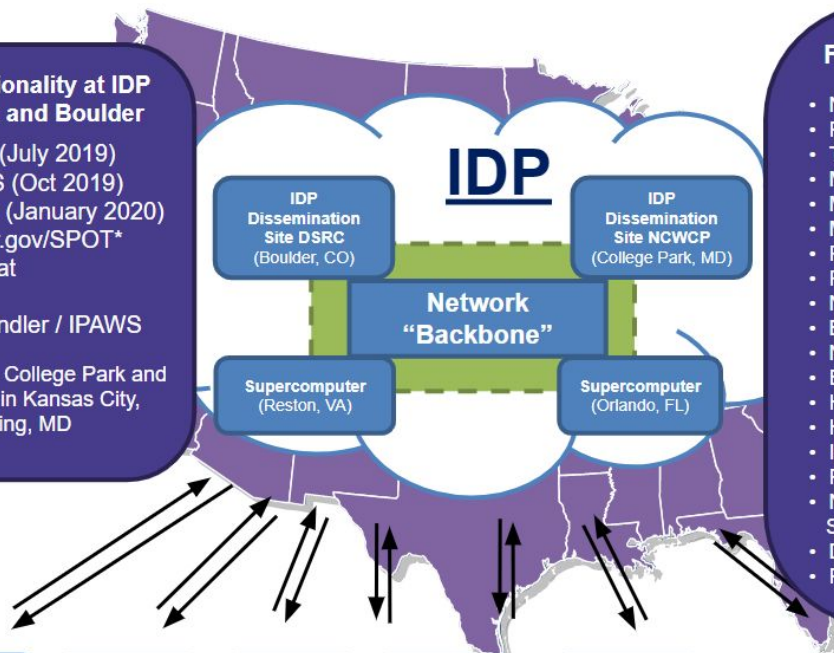




Future Functionality at IDP College Park and Boulder

- EMWIN (July 2019)
- SPADES (Oct 2019)
- RIDGE2 (January 2020)
- Weather.gov/SPOT*
- NWSChat
- AHPS
- CAP Handler / IPAWS

* Available at IDP- College Park and at the Web Farms in Kansas City, MD and Silver Spring, MD



Functionality in place on IDP (June 2019)

- NOMADS
- FTTPRD
- TGFTP
- MADIS
- MRMS
- MAG
- Radar Level 2
- Radar Level 3
- NWSTG Switch
- BUFR Migration Tool
- NLETS
- EDIS/FTPmail
- HazCollect Extended
- HazCollect Legacy
- ISatSS
- FTP / SFTP
- NextGEN IT Web Services
- Datastreme
- FTTPUSH
- FTPS In / FTPS Out
- Global Information Center System (GISC)
- IRIS/iNWS
- GMDSS
- SNOTEL
- Hydrometeorological Automated Data System
- HF-FAX
- SOCKET
- NWS GIS Services
- nowCOAST
- AOMC/EM7 Monitoring
- Hurricane Hotline
- OWP Processing
- NOS Chart Tile*
- Weather.gov*
- VLAB*
- SPOT*
- Aviation.weather.gov*
- Tsunami.gov*

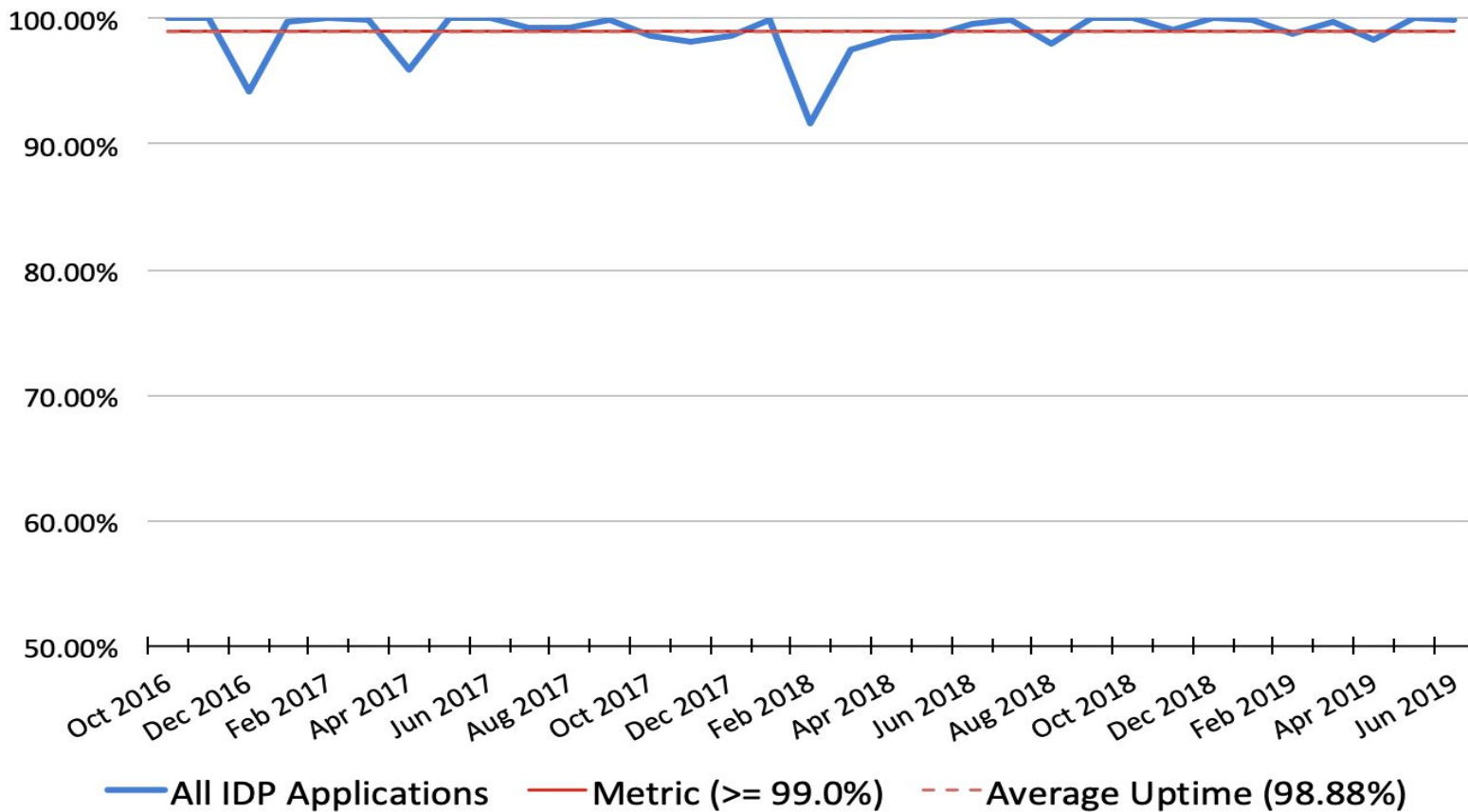


"OneNWS" Network

The OneNWS Network consolidated all operational networks (OPSnet, Regional, etc.) as a single managed network under NCEP Central Operations (NCO).



IDP Performance: Uptime (percent)





GFS Upgrade

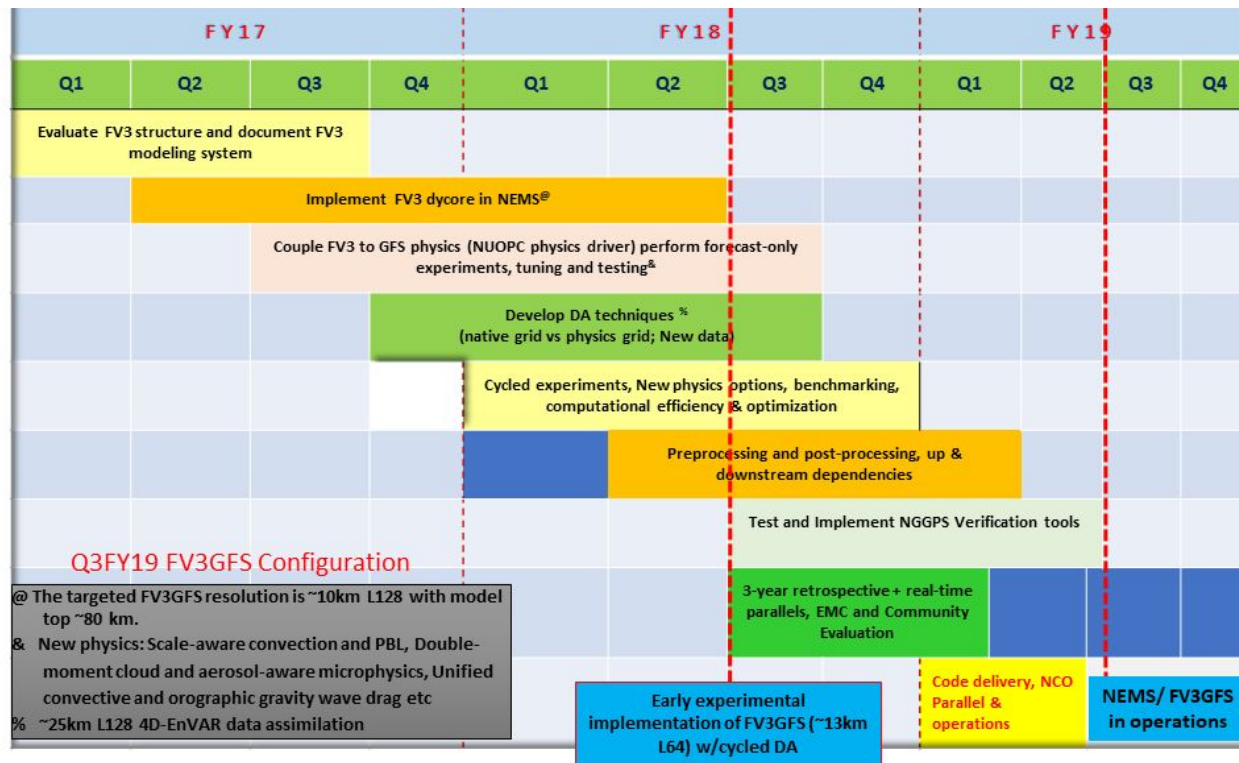


- **FV3 New Dynamical Core**
- **Superior dynamics of global climate modeling with day-to-day reliability and speed of operational numerical weather prediction**
- **NOAA's work with NCAR to build a common infrastructure will help advance the GFS.**



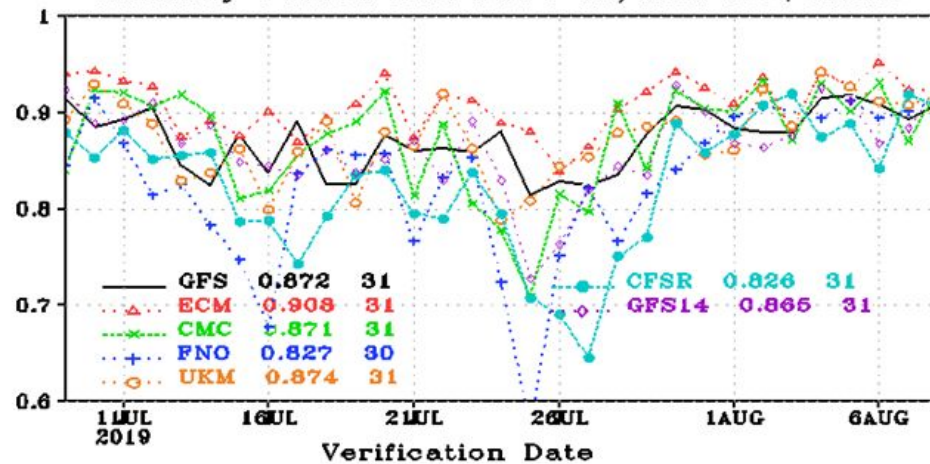


Implementation Plan of FV3GFS (FY17-FY19)

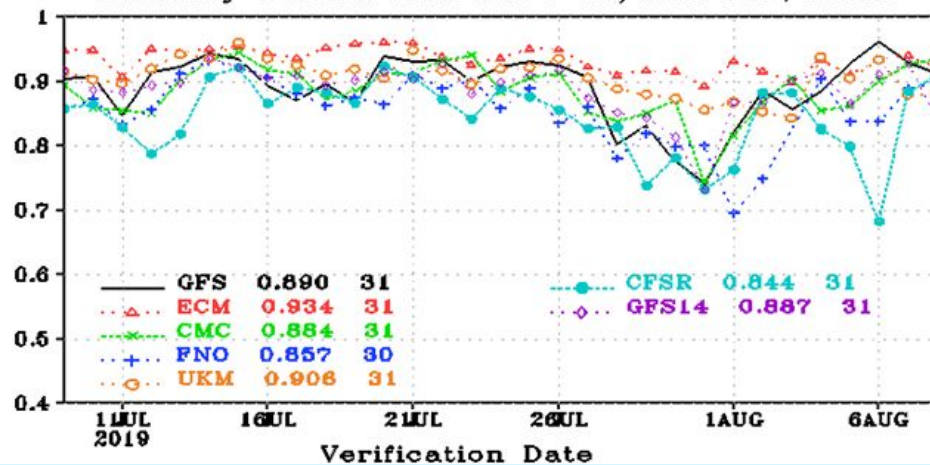




Anomaly Correl: HGT P500 G2/NHX 00Z, fh120



Anomaly Correl: HGT P500 G2/SHX 00Z, fh120





"Ready, Responsive, Resilient"

Becoming a Weather-Ready Nation is about **building community resilience in the face of increasing vulnerability** to extreme weather, water and climate events

***Touching every county every day.
Supporting national security and public safety.***

This requires:

Better forecasts and warnings

Actionable environmental intelligence

Consistent products and services

***Revolutionary change connecting
forecasts to decisions through Impact-***

Based Decision Support Services

We have 9800+ WRN Ambassadors

Involves the entire US Weather, Water and Climate Enterprise WORKING TOGETHER





**Pulling it all together
to build a
Weather-Ready
Nation
and to
accomplish
our mission to save
lives and property**

Ready, Responsive, Resilient

Saving Lives and Property

9800+ WRN Ambassadors

Multi-faceted Communication Strategy

Deep Relationships
Core Partners

To save lives
and property

**NWS Employees Providing Impact-Based
Decision Support Services (IDSS)**

Accurate & Consistent
Forecasts/Warnings

Social Science

Fully-Integrated Field Structure
through a Collaborative Forecast Process

National Blend of Models: Forecast starting point

One NWS, One Dissemination Network

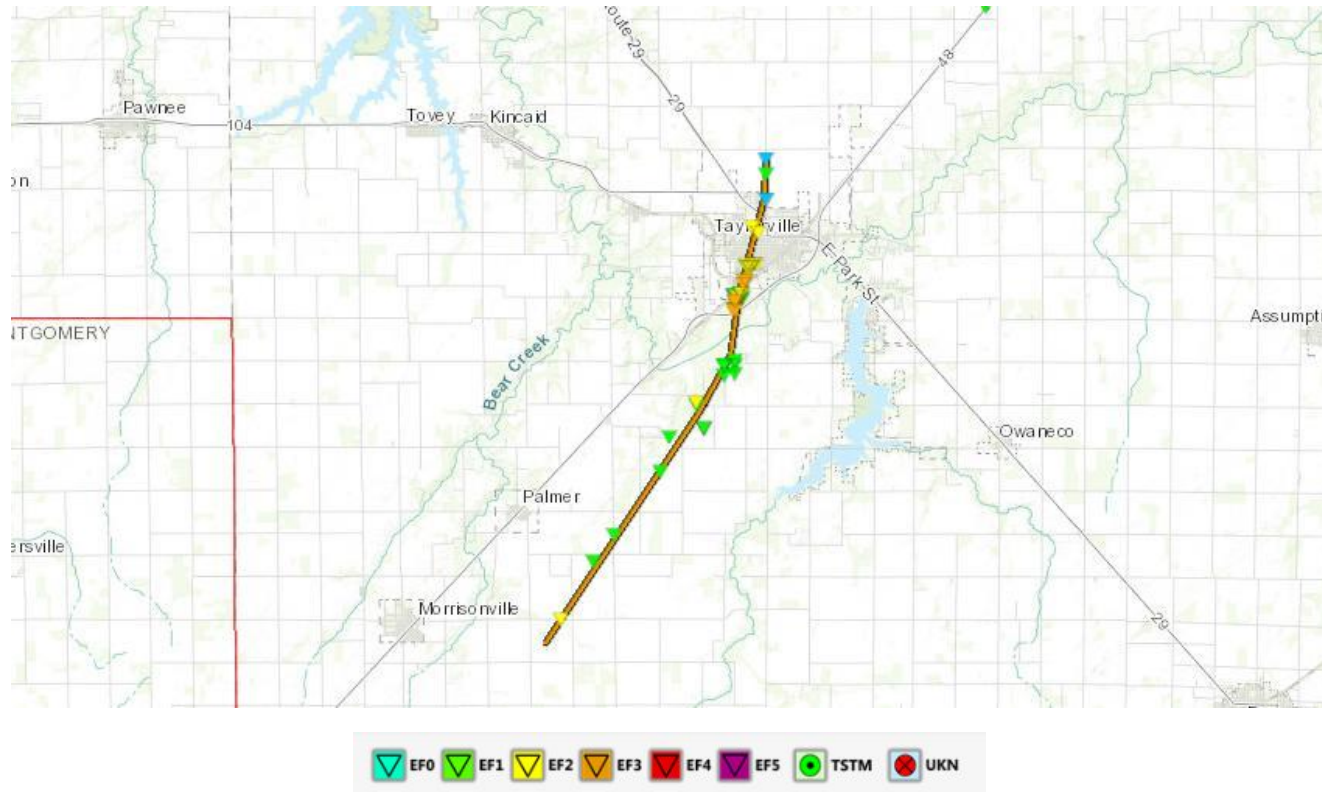
Observations and Numerical Weather Prediction

Provide
observation,
forecasts and
warnings





Taylorville Tornado Track Map





Taylorville Tornado



Date : December 1, 2018

Strength: EF-3

After the event, Mike Crews (Christian County Emergency Manager and Taylorville Fire Chief) stated, “To be clear, my decisions were heavily based on the conversations I had with the NWS Central Illinois office leading up to the storm impact. Having the NWS staff readily available to discuss the likely impact and timeline was crucial. This was especially important as hundreds of parade participants were in place one block away from what ended up being the tornado path. **In my view, the entire decision support program you have long promoted, worked flawlessly.** It’s clear from all the positive feedback we have received since the December 1st tornado event, that other emergency managers, elected officials, media and the community at large share that belief.”

rade

Weather Statement issued at 4:04 pm stated that the storm would be near Taylorville at 6:20 pm.

• At 5:15 pm, WFO ILX upgraded the Tornado Warning to a “Tornado Emergency for Taylorville”.



NE Kansas Tornado

5/29/19

EF-4 on ground for 30+ miles.

NO FATALITIES.

Cappucci

6

DAYS
BEFORE

NWS Storm Prediction Center outlooks Kansas City as having a risk of severe weather on 5/28

4

DAYS
BEFORE

NWS Storm Prediction Center upgrades Kansas City's risk to "enhanced"

3

DAYS
BEFORE

SPC places Kansas City under a "hatched" area for "significant severe weather" potential

9

HOURS
BEFORE

SPC update features a "moderate risk" near Kansas City, emphasizing tornado potential

4

HOURS
BEFORE

SPC issues a **Tornado Watch** for Kansas City, predicting "a couple intense tornadoes possible"

1.5

HOURS
BEFORE

NWS Topeka issues first **Tornado Warning** for Osage County as cell begins to intensify

27

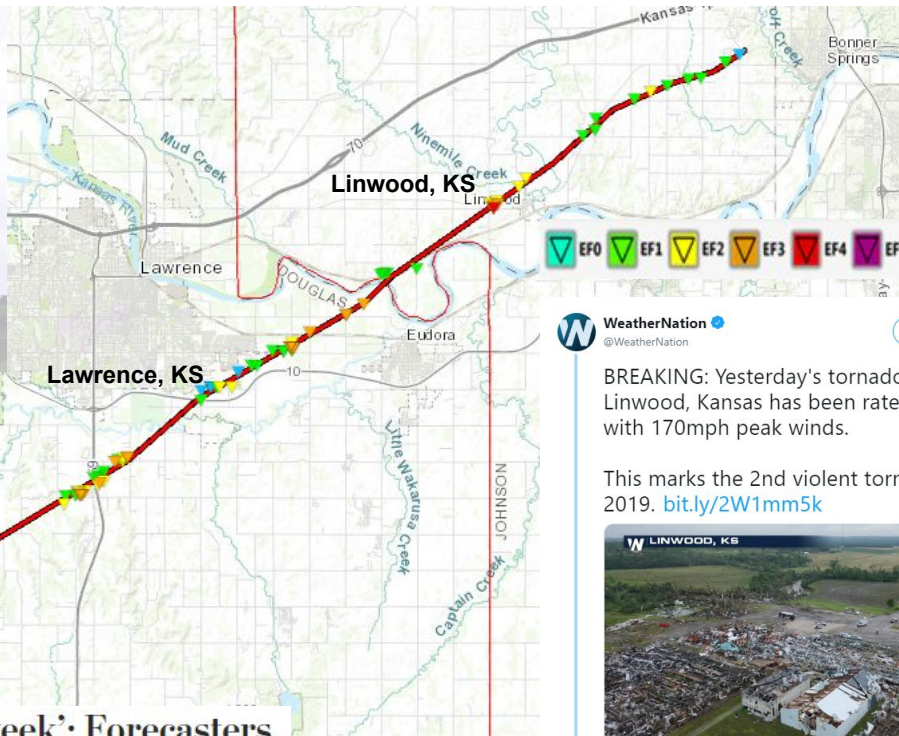
MINUTES
BEFORE

NWS Kansas City issues a **Tornado Warning** for Linwood, calling it a "Particularly Dangerous Situation"

10

MINUTES
BEFORE

NWS Kansas City issues a **Tornado Emergency** for Linwood and areas downwind



WeatherNation
@WeatherNation

Follow

BREAKING: Yesterday's tornado near Linwood, Kansas has been rated an EF-4 with 170mph peak winds.

This marks the 2nd violent tornado of 2019. bit.ly/2W1mm5k



1:30 PM - 29 May 2019

86 Retweets 137 Likes



7

86

137

‘Something incredible happened last week’: Forecasters credited with saving lives in outbreak with 434 tornado reports

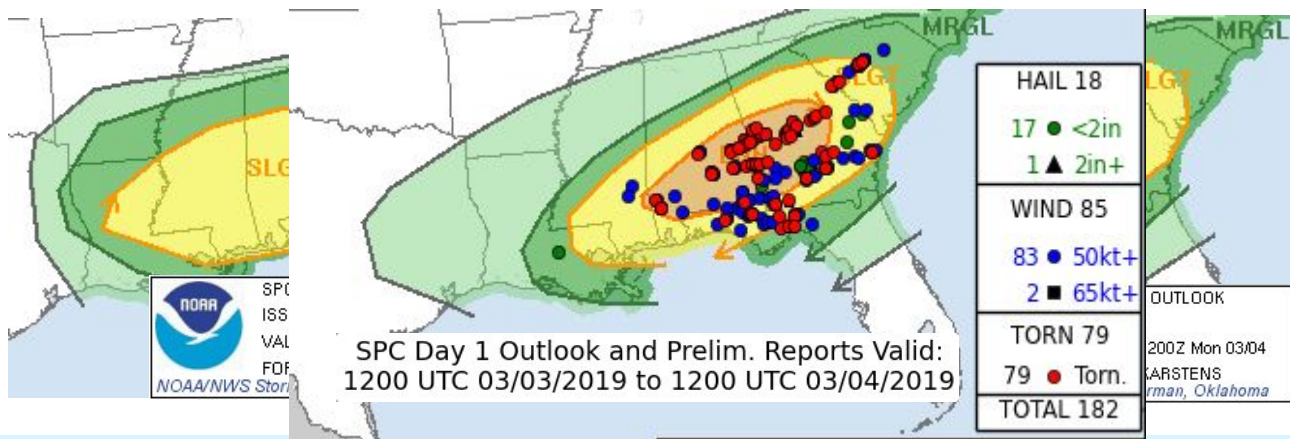
The Washington Post



Lee County Alabama Tornado



Date :	March 3, 2019
Strength:	EF-4
Track Width:	1/4 mile
Tornado Track Length:	23 miles
Warning lead time:	Average: 18.5 minutes
Injuries	93
Fatalities:	23





Comments on EPIC

Resilient America



Future Needs

- A skilled, highly trained workforce is essential to build a Weather-Ready Nation.
- Earth System Science:
 - Atmosphere
 - Land/Hydrology
 - Ocean
 - Cryosphere
 - Mapping/GIS
- Forecast Frontiers:
 - HAB, Hypoxia
 - Health Vectors
 - Renewable Energy
 - Arctic
- Improved Quality Control and Data Assimilation for Multi-Model Ensembles
- IT/Security; Engineers...for system reliability
- Social Sciences are crucial for linking forecast to Decision Support and addressing changing risk preferences before/during/after an extreme event.

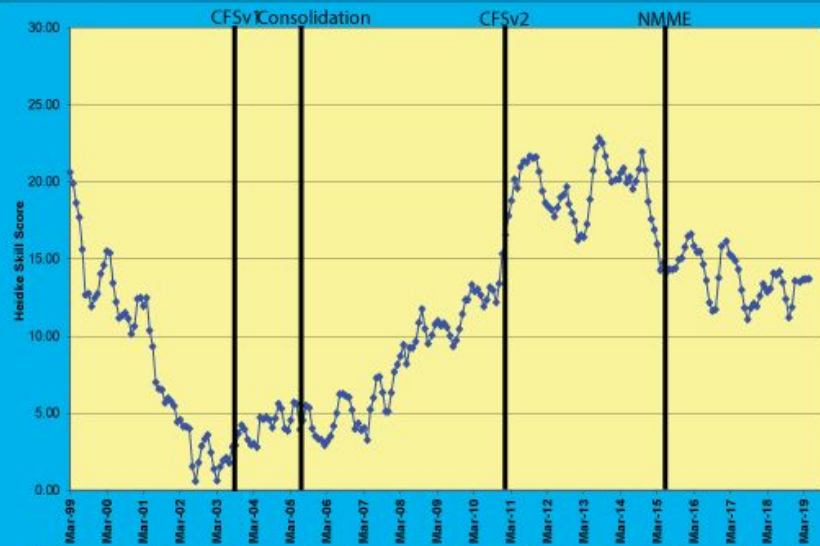


Thank you!



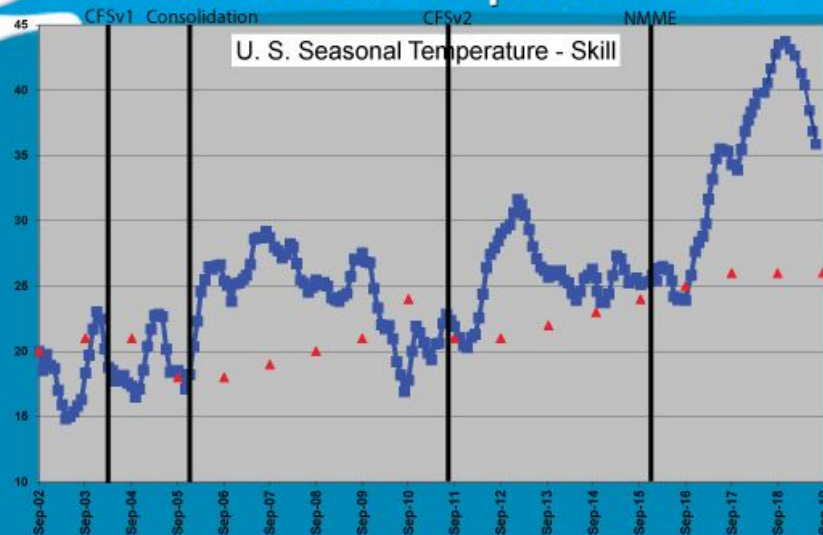


U. S. Seasonal Precipitation - Skill



"America's Weather Enterprise: Protecting Lives, Livelihoods, and Your Way of Life"

U.S. Seasonal Temperature - Skill



"America's Weather Enterprise: Protecting Lives, Livelihoods, and Your Way of Life"

