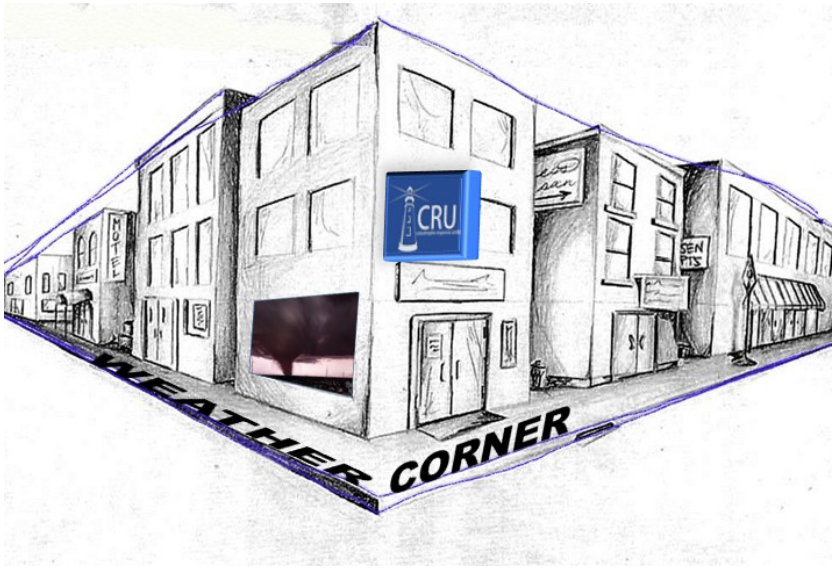


With Steve LaNore, CBM
March 31, 2020

March Madness: No Basketball Required

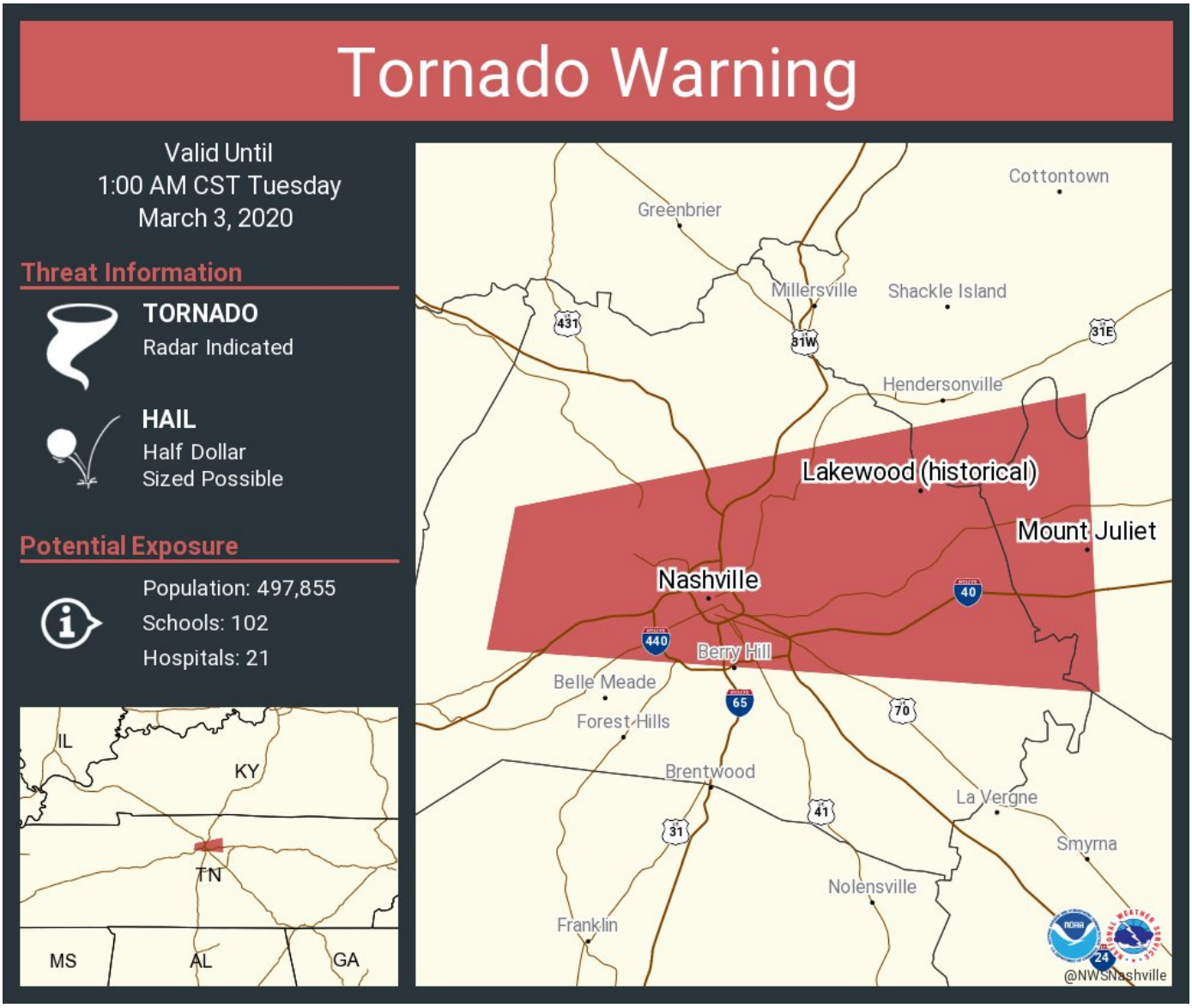
NCAA basketball tournament venues normally packed with amped-up fans sat empty this month due to the evil pestilence known as the COVID-19 virus. Meanwhile, nature had no trouble loading the sky with violent storms, major tornadoes and lots of hail. It was a multi-billion dollar month of meteorological mayhem in the south and Midwest.

Above left: Power flash lights up Nashville during a night of tornado terror March 3 / Nicholas Goodridge
Above right: An EF3 tornado upends life in Jonesboro, Arkansas on March 28 / Derek and Andrew, Arkansas Weather Watchers Storm Intercept Team

Nashville area Smacked hard by an EF3

The night of March 2-3 was a hectic one for Tennessee meteorologists, with a Tornado Watch in effect and at least one tornado-producing storm in the late evening west of Nashville; that storm appeared to weaken and the Tornado Warning was allowed to expire. Still, weather observers knew a dangerous storm was tracking almost due east down Interstate 40 toward the Country Music Capital of the World.

Around 12:30 a.m. March 3rd, radar observers detected an upsurge in wind shear, and a new Tornado Warning was issued, shortly after it was reported on the ground.



NWS Nashville Twitter feed

The twister tore into Tennessee's Capital city, starting near the John C. Tune airport on the west side of town where it did nearly $100 million in damage with planes tossed about like chewed up dog toys, and we're talking Rottweilers not wiener dogs! The tornado remained on the ground for 60 miles, grinding its way through heavily developed areas and severely damaging over one thousand structures. Single family residences, multi-story apartments, churches and industrial facilities were all hammered. The wind speeds within the tornado varied through the EF2 range at this initial point (111 to 135 mph).

Here the tornado is frozen in time within a power flash as it grinds through northeastern Nashville:

Deadly tornado over Nashville illuminated by a power flash as it does major damage / Nicholas Goodridge

The Supercell producing this long-track twister intensified over eastern Nashville as winds slashed away at EF3 (136 to 165 mph) speed. Damage became even more severe in this sector of the city and two people died. The parent thunderstorm tracked more or less right down I-40, with the tornado "cycling" through several phases so it wasn't on the ground the whole time after the first 60 miles. This same storm eventually came upon Cookeville, a community of about 35,000 citizens 80 miles east of Nashville. This is where true tornado tragedy struck – the vortex strengthened to EF4 intensity and 19 persons perished within a mile or two of each other. The devastation was enormous with whole blocks laid waste and entire families wiped out. Eight-eight others were injured in Putnam County.

Remarkably, the vicious EF4 vortex dissipated just blocks from the Cookeville Regional Hospital. Wow.

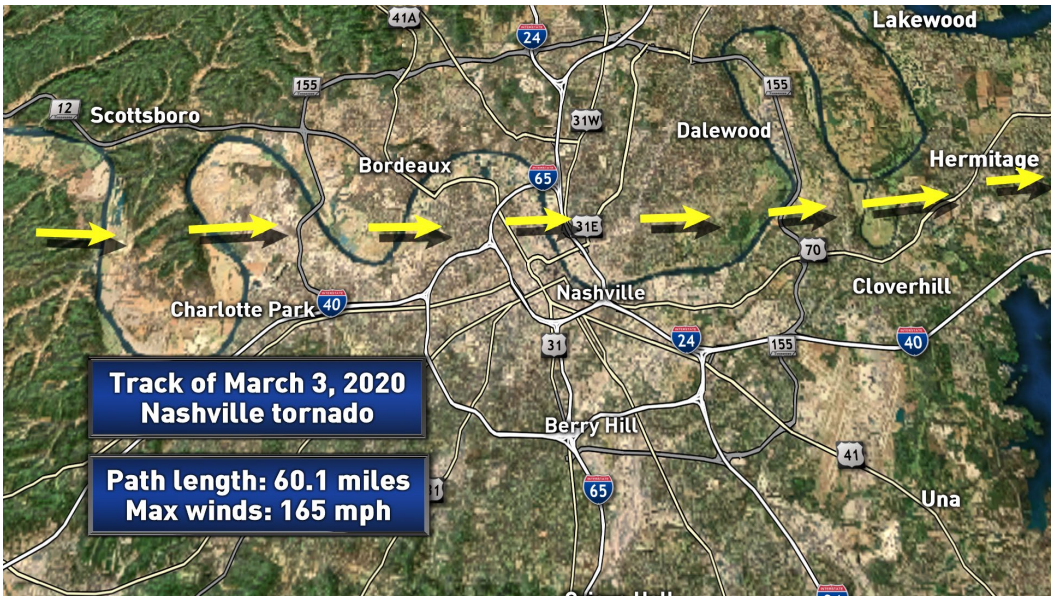
Bullet points of "bad" made this an especially dangerous event:

>>> Late night event with just minutes warning, and most everybody asleep

>>> Storms were moving at 50 to 60 mph, reducing warning and shelter in place time even further

>>> Large, destructive twisters over several counties

>>> EF4 winds caused catastrophic damage in Cookeville area (18 persons killed)



Above left: homes heavily damaged by the Nashville tornado (some total losses); Above right: John C. Tune airport takes a hit. From the Metro Nashville Police Department

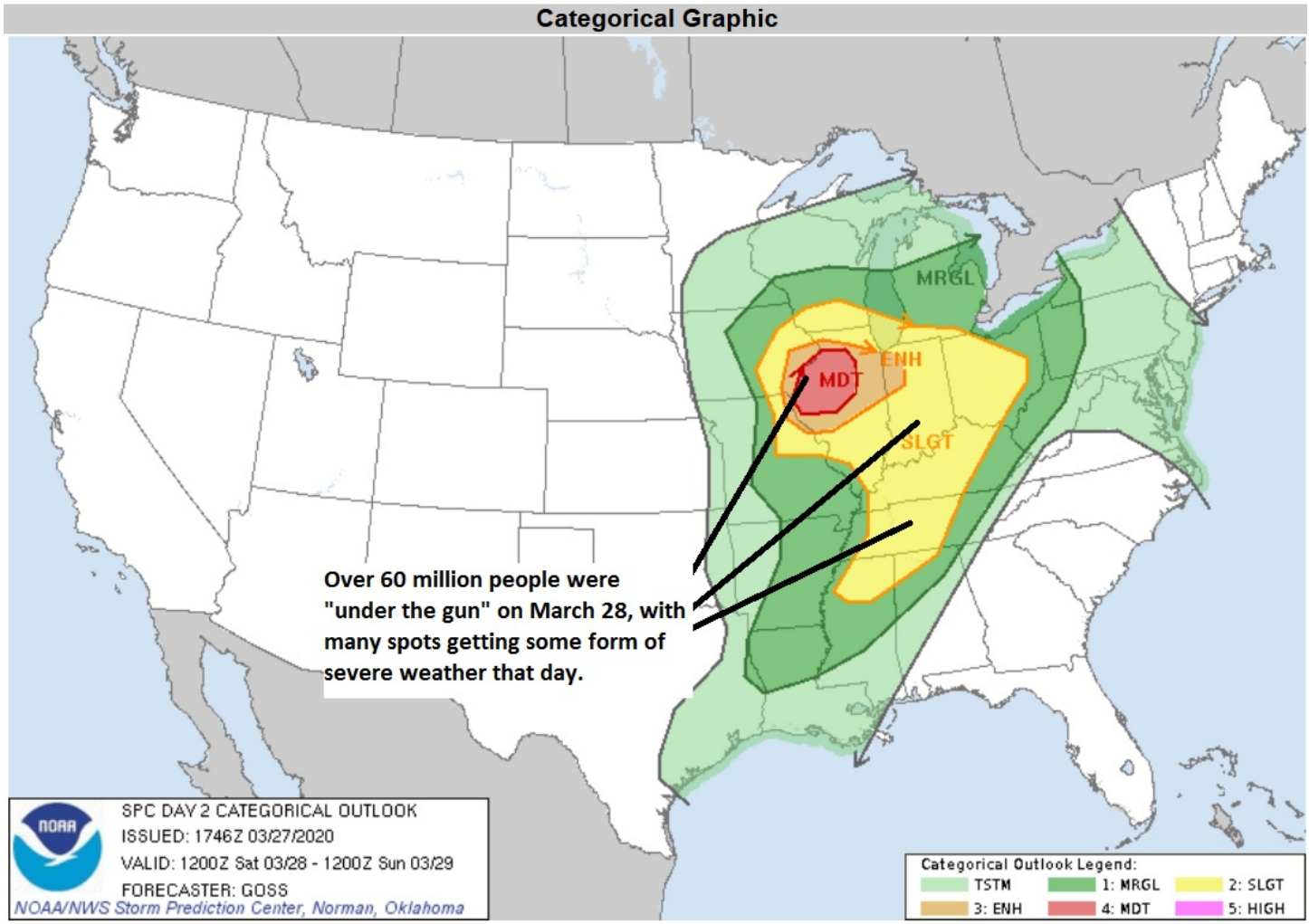
Country music star Dierks Bentley landed at John C. Tune airport just an hour before, he later tweeted, "*wouldn't have been good an hour later that was the cell that turned into the tornado*". I'd say the man should consider taking up poker – he's running pretty good. Of course a lot of folks weren't so fortunate with some 220 injuries and five deaths in the Nashville metro. Nineteen deaths occurred to the east in Putnam County where a separate tornado became the most intense of the night with 175 mph winds.

Metro Nashville Police Department

The Nashville and Putnam County tornadoes account for most of the property losses (there were seven tornadoes total), with well over 1,000 structures destroyed or severely damaged, and another one to two thousand with lesser degrees of damage. The price tag for the Nashville-area event is over a billion dollars and could reach $2 billion, putting it in the top ten for most expensive in U.S. history.

March ends with a Fierce Roar

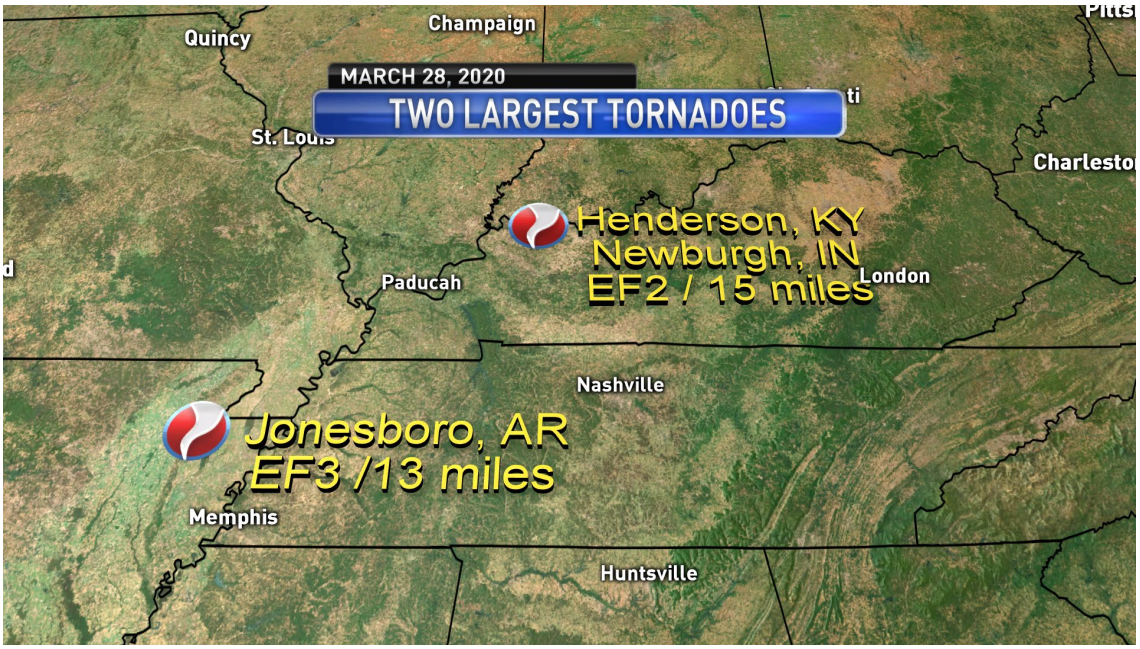
Meteorologists knew that big-time trouble was brewing during the last days of March, all of the ingredients were coming together for a major severe weather outbreak in the Midwest and down into the mid-South. We're talking places like the farmlands of Illinois and Iowa southward all the way to the hills of Tennessee. Here's the SPC risk map issued the day before things got hairy, giving tens of millions a heads up:



Outlook issued March 27 for severe thunderstorm potential on the 28th / Storm Prediction Center

Trouble began taking shape during the afternoon of the 27th as severe thunderstorms took shape in Oklahoma and Kansas, a favorable wind shear environment allowed some of these storms to produce hail for hundreds of miles across Oklahoma and Missouri. One Supercell thunderstorm tracked for at least 300 miles dropping large hail of golfball to softball size in the early morning hours of the 28th. These hail cores collectively affected hundreds of thousands of people along their path. Of course this ran the gamut from "Earl's getting some hail down the road, glad it missed us" to "Yikes! Our windshield just got broken out!"

Later in the day, several tornadoes popped up across Iowa and Illinois but the two most damaging were in Arkansas, and along the Ohio River where Kentucky and Indiana meet:



The Arkansas Weather Watchers Storm Intercept Team was in the right place at the right time – Jonesboro, Saturday, March 28 about 5 p.m. This a textbook perfect time for an intense tornado, late afternoon when heating is at it speak, and that's when this large and violent EF3 tornado with winds to 140 mph began to spin up two miles from Interstate 555. This image was captured just four minutes after the initial much smaller funnel touched down – a sobering picture of how fast these beasts can grow!

Thanks to: Derek and Andrew / Arkansas Weather Watchers Storm Intercept Team / This EF3 mammoth is seen here four minutes after it touched down near Interstate 555 and rapidly expanded to 1/3 mile wide.

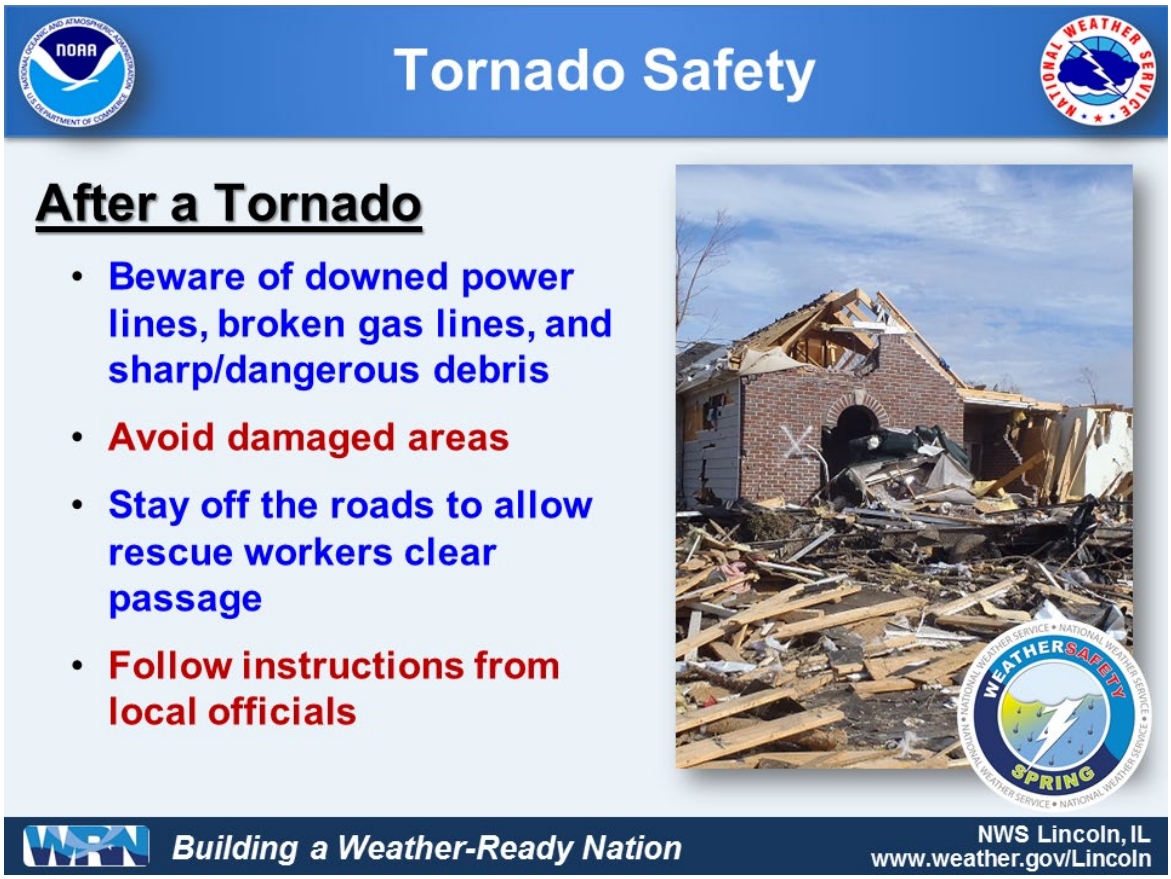
March 27-28 Tornado Damage Tally

According to the Red Cross, the Jonesboro tornado destroyed over 100 homes, damaged 300 more and mauled a shopping mall along with many other businesses. The city of 75,000 citizens is looking at several hundred million dollars in losses according to emergency management and state officials. Twenty two people were hurt, all non-life threatening injuries.

The Henderson-Newburgh tornadoes (two separate twisters, possibly from the same storm) produced moderate to major damage in some spots as well, the Henderson tornado covering 15 miles, the Newburgh churning through a shorter path of about four miles. Precise estimates were unavailable at press time but $50-$100 million for the two tornadoes combined is likely in the ball park. Five people were hurt.

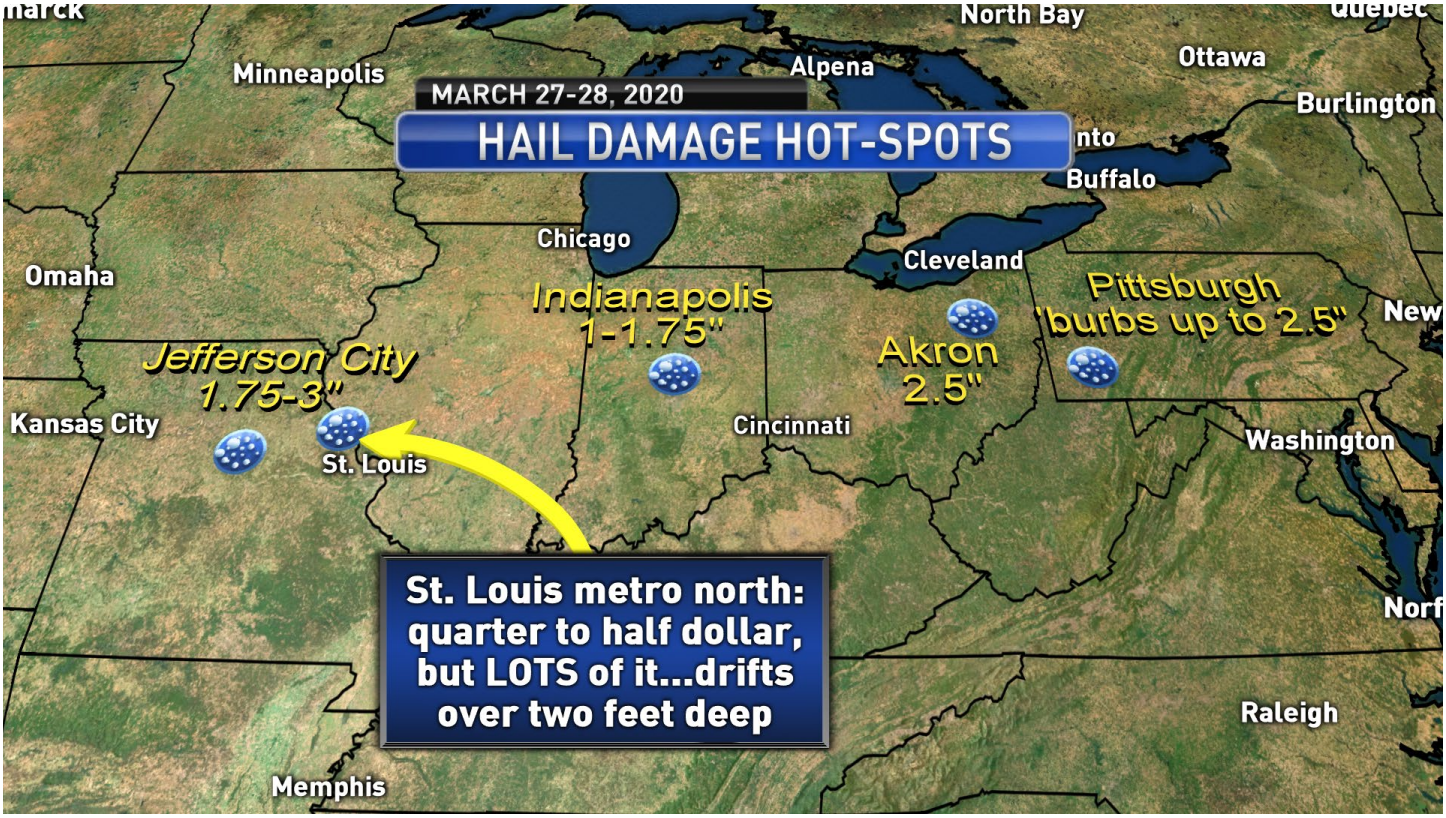
There were several other smaller EF0 and EF1 tornadoes across Iowa and Illinois but property losses associated with these were quite a bit less. Some communities affected by these included Peoria where a twister touched down near the airport, Stillman Valley, Illinois where a few homes took considerable damage and Oelwein, Iowa where tornado winds heavily battered an apartment complex.

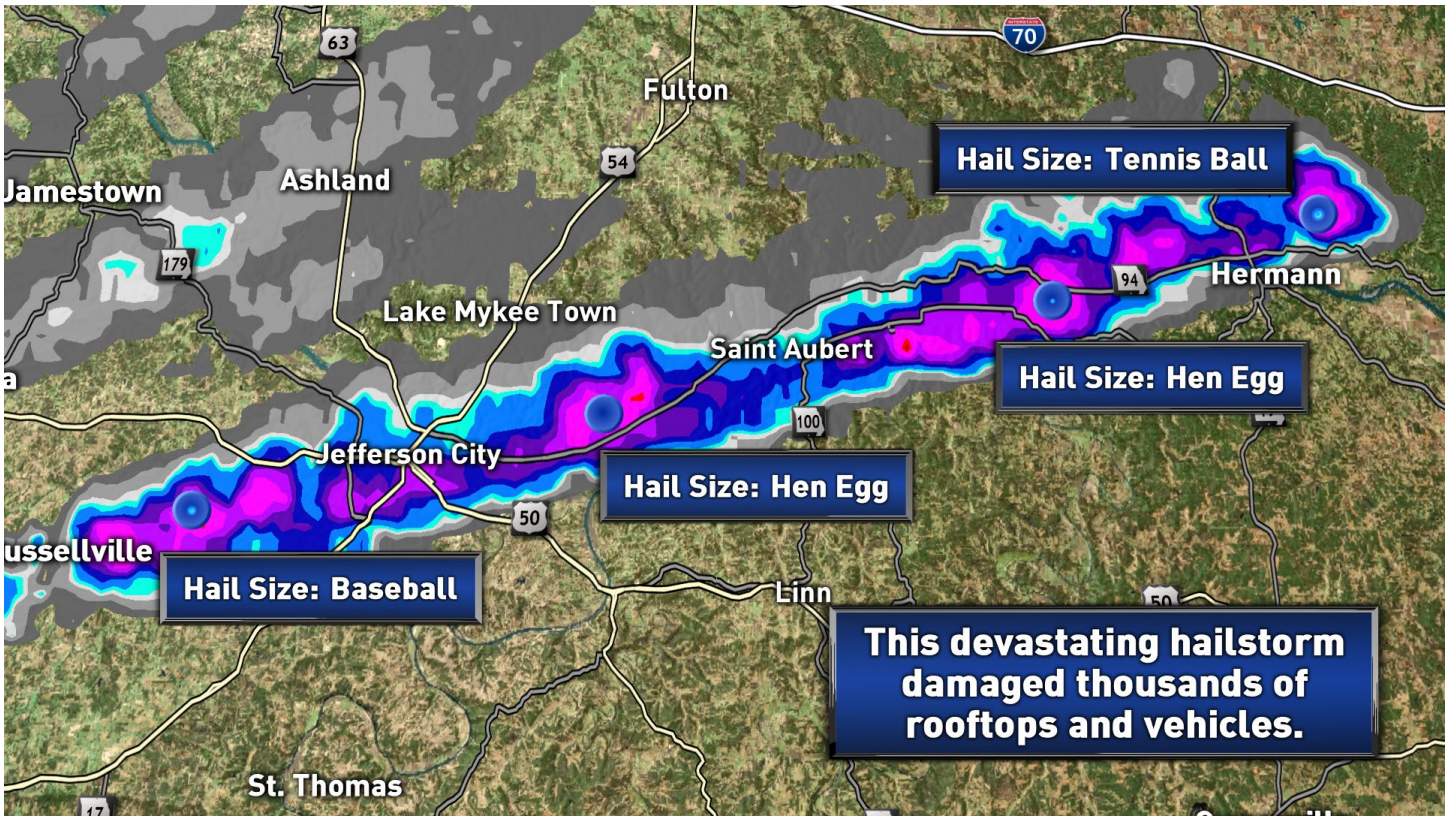
This story of explosive growth (Jonesboro) is just one more reason to take tornado warnings seriously, know where the tornado is in relation to you, its speed and direction and how long you have to seek shelter. Avoid the urge to "run outside and look at it", there are numerous perils besides the tornado itself like flying debris, lightning and possibly hail. And, once the storm is over, be mindful of more hazards:



Good post-twister advice from the National Weather Service!

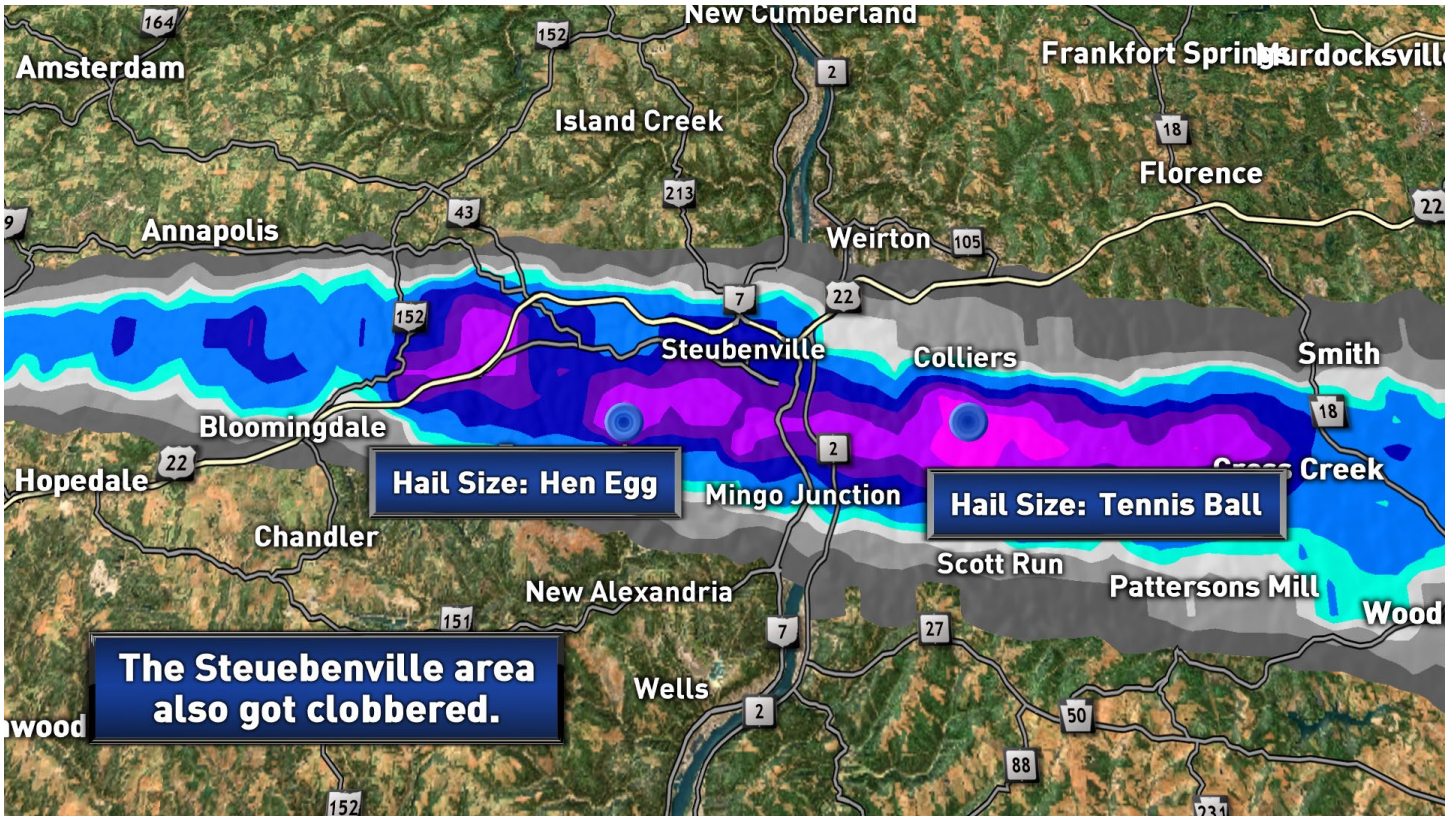
A Hail of a Mess





The most expensive property damage during this two-day event came from the numerous hailstorms, some with huge hail as we outlined earlier. We're talking thousands of roofs totaled across several states, primarily Missouri, Illinois, Indiana and Ohio, Jefferson City (above) getting the most concentrated damage - take just one insurance company, State Farm, who received 3,100 claims by March 31 primarily for Jefferson City and

other points along the path of this monster storm. The claims were 60% for vehicles and 40% for structures. Bear in mind that's just one company with many claims yet to be filed. It's safe to say in the case of Missouri alone we're looking at many thousands of roofs and vehicles totaled or bearing significant damage.



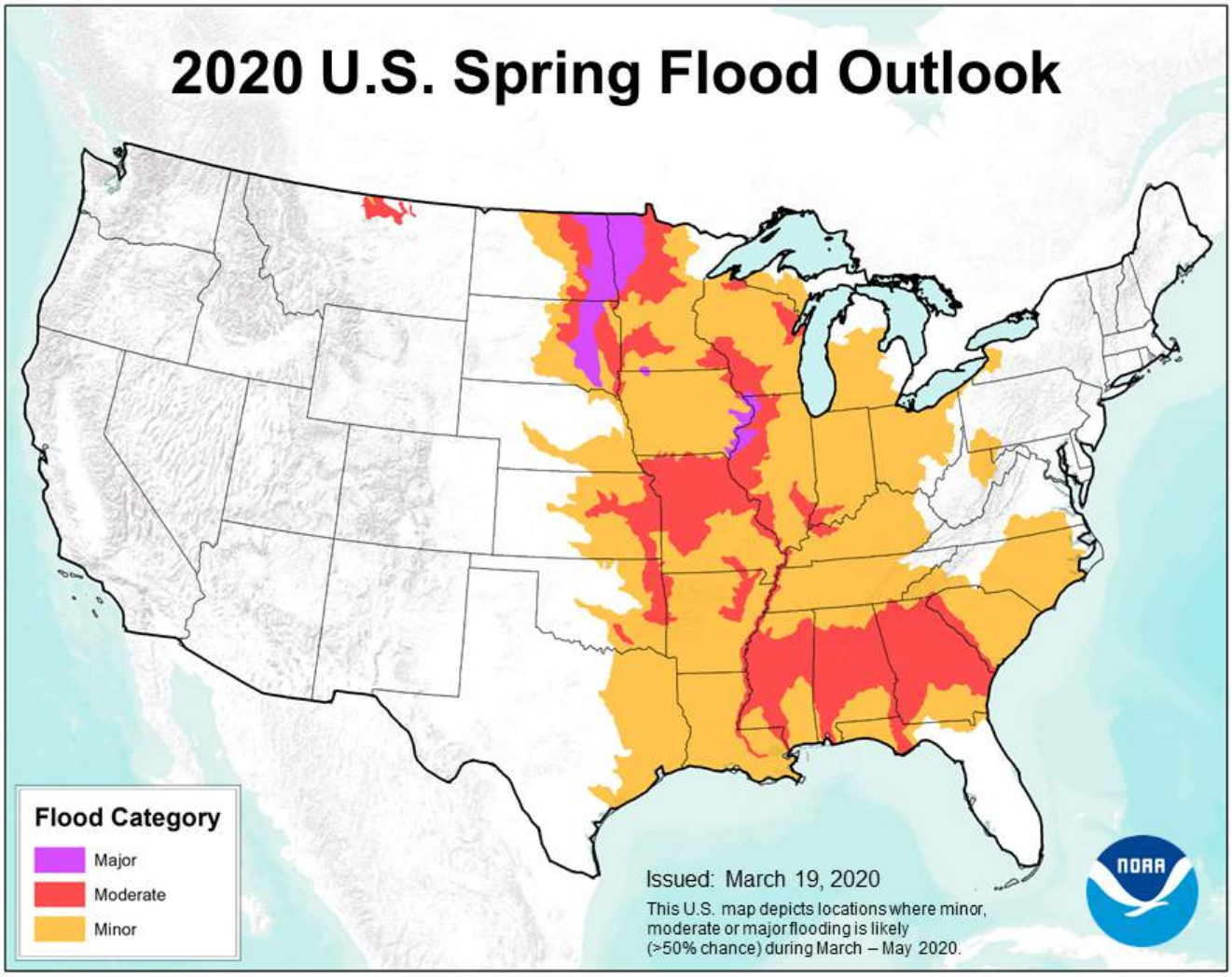
We're looking at about $2 billion minimum for the entire March 27-28 severe weather event.

Spring Projections Update

The National Oceanic and Atmospheric Administration (NOAA) released their annual spring flood outlook March 19 and it should really come as no surprise – flood threats will continue high over the eastern half of the country.

Since the soil is so saturated, any additional rain or snowmelt can't soak into the ground. Instead, it will run off into creeks, streams, rivers, lakes and reservoirs.

The map is probably little optimistic when it comes to the Southern Plains (TX, OK), rainfall of up to 300 percent of normal has left soils soggy and most lakes full. I would put the Dallas, Tulsa and Oklahoma City metros in a moderate to major flood risk between now and the end of June.



Bear in mind that moderate flooding can turn to major flooding with just one round of heavy rain, so it's going to be on the table again this year.

California had a rather "easy" fire season in 2019 with only a few damaging blazes and coming up far short of the apocalyptic years of 2017 and 2018. January and February saw record dry conditions across the southern half of the state while March brought average to above average rains, so it's inconclusive how this year will bear out.

Most major California wildfires run in the July to November time frame, if things get hot this summer the moist March promoting lots of vegetative growth would boost fire potential. Given the lack of a distinct El Nino or La Nina on top of that, I'd say fire risk in California is about average. Farther east, the southern Rockies are very dry so Colorado/New Mexico face a challenge; from an insurance perspective these areas are more thinly populated than California so even a big blaze is less of a strain on the adjuster network.

Severe weather: as we saw in March, we had two intense rounds of thunderstorms and tornadoes three weeks apart, this was a result of two powerful cold fronts spaced in between that kept things rather stable. Expect a similar pattern in April, we're going to have some major outbreaks as we continue as very active patter. Unusually strong high pressure aloft over the Gulf will enhance the warmth further boosting potential with systems that pass through.

Here's wishing you and your family health and prosperity well as we strive to overcome this evil pestilence known as the coronavirus, and look forward to a summer that's hopefully far better than our spring is shaping up.

Stay safe, hang in there and never give up!

Take Care,

Steve LaNore, CBM