

Deadliest Twister Outbreak in 9 Years: Lives Shattered, Billions Lost

They'd lived in their Moss, Mississippi home just a few weeks and now on Easter Sunday a Tornado Watch was posted and forecasters were saying it could be "Particularly Dangerous". That was scary stuff for Andrew Phillips, his wife and their two young children ages two years and six months. One reason Phillips chose their new home was the safe room inside. It was a real estate selection that wound up saving their lives, they had only a minute to hide before the entire structure was flattened by a huge monster of wind and debris. That is, except for their concrete shelter that doubled as a closet, they didn't get a scratch. There are no doubt thousands of other tornado stories from this outbreak that won't be printed; like what may have happened in this South Carolina home from the same system just 14 hours later:



Estill, S.C. – an early morning tornado of EF-4 strength makes this a door to nowhere / Jessie Anderson-Berens / by permission

We know that no one died in the home pictured above. But what a mess, and these folks had plenty of company.

The Easter Sunday Outbreak of April 12-13, 2020 carved an indelible footprint across the south: 139 tornadoes in just 24 hours, the 3rd highest 24-hour tornado total on record. The violent weather spanned nearly a dozen states from Texas on Easter Sunday morning to the Carolinas in the twilight hours of Monday morning.

Nature's fury wielded a heavy hand:

>>> Monroe, Louisiana – An EF-3 tornado came across the west side about lunchtime, damaging or destroying more than 200 structures and numerous small jets at the airport.

>>> Southern Mississippi: The third widest tornado ever recorded in the world churned across southern Mississippi. It was on the ground for 68 miles and reached a maximum width of 2.25 miles...that's 38 football fields wide! This tornado killed 8 people, the count would have been many times that had it been in a densely populated area. It was rated EF-4 with 175 mph winds. An EF-3 paralleled this tornado, just a few miles away and less than a half hour behind. Here you can spot these two massive Supercells as seen from space:



Easter Sunday, 4:24 p.m. CDT / April 12, 2020: two massive tornadic Supercells in tandem over Mississippi / NOAA

>>> A photo from Moss, Mississippi was carried 121 miles by the Supercell storm to Tuscaloosa Co. Alabama!

>>> 139 tornadoes in 24 hours, 3rd highest total ever.

>>> There were 23,448 structures with some measure of tornado damage, property loss at \$3 billion.

>>> An additional 17,000 structures suffered non-tornado (lightning, hail, wind or flood) damage in the same outbreak, bringing the total to 40k, and approx. \$5 billion in losses. 36 people died, hundreds injured.

>>> The most damaging tornado dollar-wise hit the Chattanooga area around midnight with wind speeds up to 145 mph; it accounts for about two-third of the total tornado losses at \$2 billion according to CoreLogic's Tornado Verification Technology.

>>> Two severe tornadoes – an EF4 and EF3 – hit southern Mississippi, impacting upwards of 4,008 structures. These two tornadoes wrought \$200 million in damage, very high considering the relatively sparse population along its route.

>>> Tornadoes that scattered across Georgia impacted about 3,000 structures at a current-value replacement/repair cost of \$260 million.

>>> South Carolina recorded its first-ever EF-4 in the lowlands (near the coast) when one struck the community of Estill, killing five. Nine persons total died in South Carolina during the event. Tornadoes through the state dealt varying blows to about 2,000 structures with a reconstruction cost of about \$200M.



Tornado warnings issued during the outbreak extended from Texas to Virginia / NWS data on custom plot

>>> A high-end microburst wind event slammed Wallace, South Carolina in between the morning tornadoes – these winds pegged out at 110 mph, quite rare for a non-tornado thunderstorm wind.

Losses outlined above were obtained from CoreLogic, which published a hazard update on the Easter storms using its Tornado Verification Model. The model combines a novel comprehensive approach to using all available radar data with the ability to use public and social media reports, backed by the expertise of experienced meteorologists. According to Toby Maloney of CoreLogic, this data is available to customers 15 to 30 minutes after the event. Here's how the Tornado Verification map looked for Chattanooga:





From CoreLogic, a property data and analytics company. By permission.

Trailer Tragedy for one family, super lucky for another

While the Phillips family of Moss, Mississippi was safe in their concrete cocoon, such was not the case in Orangeburg County, S.C. at about half past five the next morning. There, an EF-3 (140 mph winds) twister cut a 37-mile long, ½ mile wide damage path across the region, destroying dozens of homes including the double-wide manufactured residence of Gerald and Doris Chavis. Sadly, both died from blunt force trauma after the tornado threw their home across the road.

While this was not a "trailer" as such, many manufactured homes are not anchored to a permanent foundation nor are they built to the same strength standard as a traditional residence. In fact, only eight percent of Americans live in mobile or manufactured homes and yet 44 percent of tornado fatalities happen in them. If you live in a mobile or manufactured home the best course of action is to invest in a storm shelter, you can get an in-ground one for a few thousand dollars, or locate nearby shelters in advance at a traditional residence, neighbor's shelter, or perhaps a public unit nearby.

Don't ride out a tornado in a mobile home! Another example: Chatsworth, Georgia resident Michael Brehn was literally thrown out of his mobile home as it was tossed by the wind. "It was crazy," he told The Weather Channel. "It just out of nowhere bounced us up in the air and then it fell right back down, and that's where the house starting flipping over. From there, that's where I flew out the window." He was VERY fortunate to not be "one of the 44 percent".



This is where the Chavis' home stood before the EF-3 tornado literally picked it up and slammed it to the ground across the highway, killing its two occupants / National Weather Service, Columbia S.C. / by permission

What makes this outbreak different than the Mega-Outbreak of 2011 (200 tornadoes) and the Super Outbreak of 1974 (148 tornadoes) is much lower loss of life – 36 perished - where hundreds died in the other two events. A few likely reasons:

- 1.) There were fewer intense tornadoes in the mix compared to the other outbreaks.
- 2.) Many of the strongest tornadoes missed heavily populated areas this go-round (Chattanooga being a notable exception).
- 3.) This is the first outbreak of its size where the majority of mobile phone users had smartphones that run weather apps, making it very easy to get warnings quickly. Of course that wasn't the case for everybody as we saw. Perhaps Mr. and Mrs. Chavis would have had time to leave their home and seek shelter elsewhere if they had received the warning.

There's no way to know now, but at 5:30 on Easter Sunday morning most folks were likely asleep. Without a NOAA all hazards radio or a cell phone app to alert them, they would have had very little time to escape. This goes back to many of the tornadoes missing densely populated areas; had this one for instance gone through a sizable town at night, with people sleeping and no warning, it would have been far worse – perhaps it's just dumb luck this didn't happen.

Early May Breather

A few random severe storms or tornadoes may pop up the first few days of May, but a strong cold front coming across the south on May 5/6 should end that; unseasonably dry and cool air should hold severe outbreaks to below normal levels into the second week of the month:



After that all bets are off. Mid-May through mid-June is the heart of tornado season, typically the threat area shifts steadily northward with the jet stream:



The Storm Prediction Center's (SPC) tornado probability in mid-May....



...and in mid-June. These are 30-year averages and NOT a forecast for this year.

If you look at the stock market these past two months, it's been a dizzying ride of up-and-down surges. Good grief! Unfortunately, in "La Nada" years, in other words No El Nino, no La Nina, just Neutral, it's a bit like that; we're much less certain on what we're going to get as far as jet stream patterns and the like. However, there's been a cyclical nature to the changes the past few months so I would suggest to you that late May through mid-June should be very active storm-wise as we're expecting a warm and wet pattern once the cool air gives up the ghost.

This doesn't necessarily mean tornadoes, it may be hail or high winds, or floods...but sumpin'. Well that's my Texan getting the better of me.

Hurricane Season 2020 Outlook

Observations show that we've had weaker than normal surface winds across the tropical Atlantic this past winter which means there's been less "stirring" of the ocean surface. This allows for warmer-than-average sea surface temperatures since the water is not getting mixed up. There's also been lower pressure over the tropical basin than average, and low pressure helps jump-start tropical systems as we get into June and July. When we look at these factors plus fairly weak wind shear over the tropical development zones, it makes sense to expect above normal activity.

I've been following Dr. Philip Klotzbach for years, he's the protégé of former hurricane forecasting great Dr. William Gray. His Colorado State Tropical Meteorology project puts out some of the best long-range hurricane season outlooks anywhere, and their group also expects an active season. Here are their numbers which I bring for your consideration:

Atlantic Hurricane Season forecast for 2020 from Dr. Klotzbach and his group:

The first part speaks only of chances for a storm to FORM: Named Storms: 16 (average is 12) Hurricanes: 8 (average is 6) Major Hurricanes: 4 (average is 2) A "major" hurricane is one that reaches the Category 3 threshold, that is, winds of 111 mph or greater.

This forecast points to a considerably above average season.

Chance for major hurricane anywhere along U.S. coast in 2020: 69% Long-term average: 52%

U.S. East Coast Including Florida around to Tampa in 2020: 45% Long term average: 31%

Gulf Coast from the Florida Panhandle Brownsville in 2020: 44% Long-term average: 30%

Bear in mind, there's no way to know specifically where these storms will strike, but as you can see the odds are quite elevated this year along all coasts.

Floods and Fires

The long-range outlook continues to favor excessive rainfall in the Ohio and Mississippi River valleys for late spring and early summer. This is consistent with my forecast for a rough ride of severe weather later in May and through at least half of June; floods will also be in the mix.

As for fires, we're talking out west, winter rains have been quite good in southern California and this area is drought-free. However, there are some worries in the northern part of the state. Southern Colorado/northern New Mexico and northern California/Oregon look to be the flash points. Given the outlook of a hot summer, I expect a fairly bad fire season in these areas. Montana is in much better shape than last year with reduced fire risk.



Map released: Thurs. April 30, 2020

Data valid: April 28, 2020 at 8 a.m. EDT

Intensity:



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So, it's been a heck of a ride already this year with two extremely damaging tornadoes, Nashville and Chattanooga, and so many more less damaging in dollars but still awful in human terms, like the twin terrors in Mississippi, wreaking havoc all across the south. Expect this "axis of woe" to shift northward into the Ohio Valley and the central Plains later in the month, and you'd better check on your insurance, make sure it's up to snuff, if you're in hurricane country.

Take Care,

Steve LaNore, CBM