

**With Steve LaNore, CBM
January 6, 2021**

2020: A year of “it’s out the window”

I don’t need to waste time convincing you 2020 was an off-the-rails year thanks to the cursed COVID-19 virus.

But, when talking weather, “normal” was also out the window. You might say our atmosphere had its own virus last year. Check it out:

- The 2020 Atlantic hurricane season produced an all-time record 30 named storms.
- Two of the strongest Atlantic hurricanes struck the same spot two weeks apart- never before observed.
- 2020 had the most destructive “Derecho” on record causing billions in damage, Iowa especially hard hit.
- A fierce barrage of lightning storms over California in August helped start several huge fires.
- The 2020 wildfire season saw Colorado’s largest wildfire ever, along with more epic fires in California and Oregon. Nationally, wildfire coverage was about 50% above average:

TOTAL FIRES:	4,643	2,370	238	306	43,871	6,830	58,258
TOTAL ACRES:	928,317	1,081,556	52,738	146,209	3,172,139	4,893,719	10,274,679

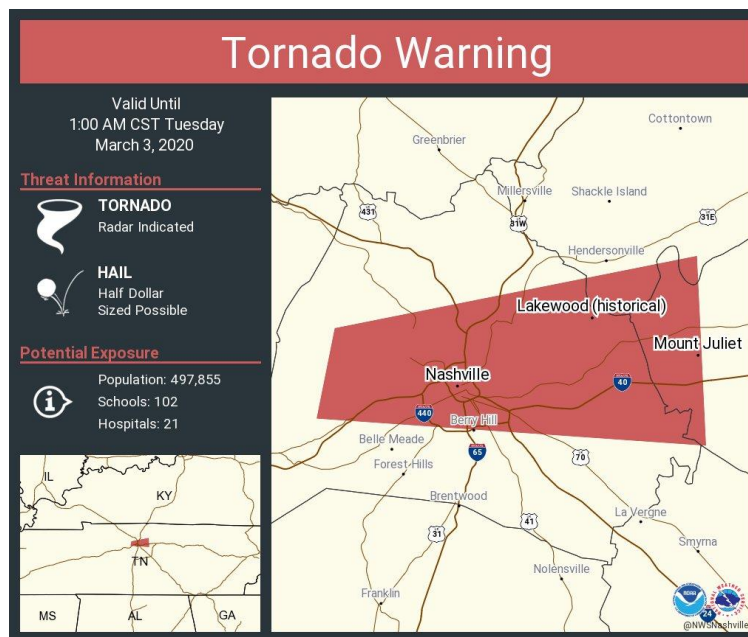
Ten Year Average Fires (2010 – 2019 as of today)	62,882
Ten Year Average Acres (2010 – 2019 as of today)	6,789,149

What’s curious about these figures, look at the “total fires” figure of 58,258 for 2020, below the 10-year average, and yet the total area destroyed by fire was far greater than average. So, this means many fires were larger than the norm in 2020. Why should that surprise anyone? Humor aside, it’s another example of a multi-year western drought, lax forest management, poor power-line maintenance and some degree of climate change.

Severe Weather of 2020: Another Testament to an odd Year

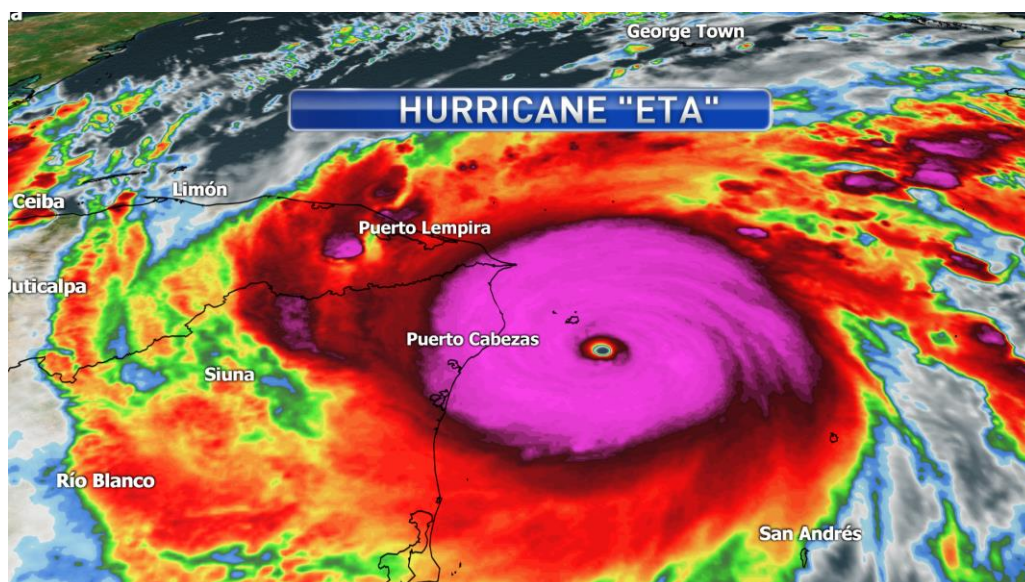
The year 2020 brought the lowest number of May tornadoes since 1970, but near-record numbers in April. Overall there were few large, destructive tornado events, a notable exception was the Nashville event.

The Nashville tornado outbreak of March 3 was easily the most expensive tornado event of the year and the deadliest. A long-track supercell sliced right across the heavily populated sector of Tennessee's capital city in the middle of the night; a second deadly tornado struck Cookeville killing 18 people. The Cookeville EF4 contained 175 mph winds and was the strongest U.S. tornado in three years. Overall the Nashville-area tornadoes were the 6th most costly in U.S. history at \$1.6 billion USD (NCDC data).

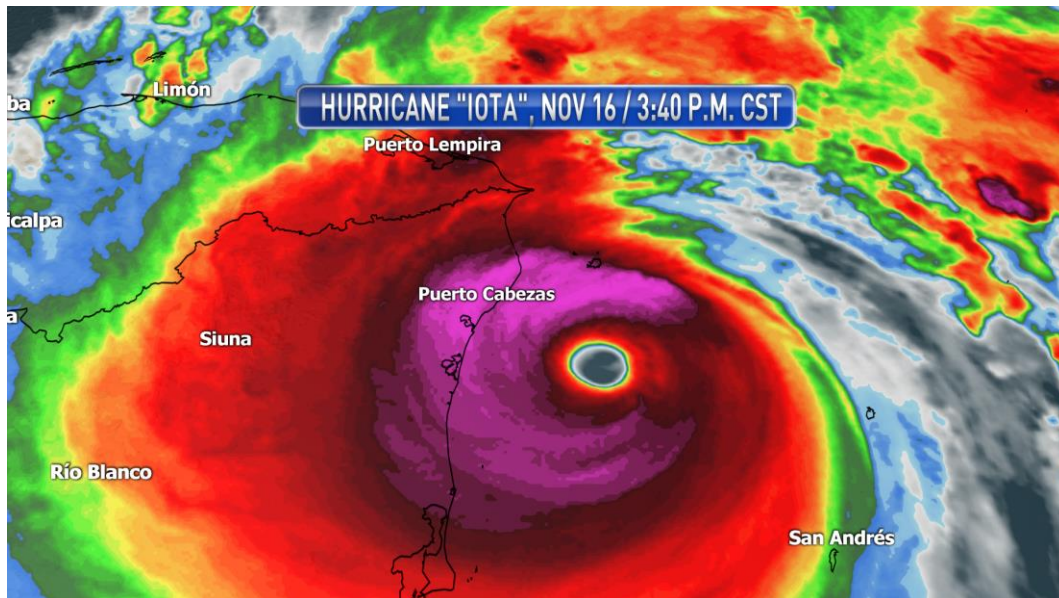


2020 Hurricane Event, and what's ahead for 2021

On November 3, Hurricane "Eta" made landfall near Puerto Cabezas, Nicaragua as a Category 4 storm with 140 mph winds.



A second punch to the Central American gut came just two weeks later when an equally powerful hurricane, “Iota”, made landfall in virtually the same spot near Puerto Cabezas. This is the only known occurrence ever in the Atlantic basin, for two major (Cat 3 or greater) hurricanes to strike the same location so close in time.



*Impact point of the two storms compared – a first in more than 300 years of Atlantic hurricane records.
GOES 16 colorized infrared image / NOAA*

Hurricane “Laura” was the most expensive American tropical system of 2020, racking up \$14 billion in losses and dozens killed. Lake Charles, LA bore the brunt of the storm with winds clocked to 133 mph. Several weeks later, a less intense Hurricane “Zeta” struck just 50 miles to the east, it was much weaker than “Laura”. It’s an odd coincidence to see two hurricane events in the same season with both pairs of storms close together, but the Eta and Iota storms much more so and thus they are the ones that set the record mentioned above.



Hurricane “Laura”, 2020’s worst, just before landfall around 12 a.m. / Thursday Aug 27 / NOAA data

Epic California Wildfires (again)



September 10, 2020: Modified Copernicus Sentinel data 2020 / Source:
<https://commons.wikimedia.org/w/index.php?curid=94030273>

It was another summer and early fall of monster California fires, the above image shows huge clouds of smoke blown offshore by low-level winds. Over 4 MILLION acres burned, twice the yearly average. The North Complex Fire was the most deadly with 15 killed, statewide 37 died during the season.

Many of the largest ones were started by an unusual “salvo” of lightning from an August thunderstorm event (See September 2020 newsletter for more on this), an especially dry and hot summer provided fertile ground for many fires to burst forth in the days that followed. Overall damage in the state was around 10,000 structures, about half of 2018 but still in the tens of billions. And, Oregon was torched by several large fires, one near Medford burning hundreds of structures. It’s a less common instance than California’s yearly siege of flames.

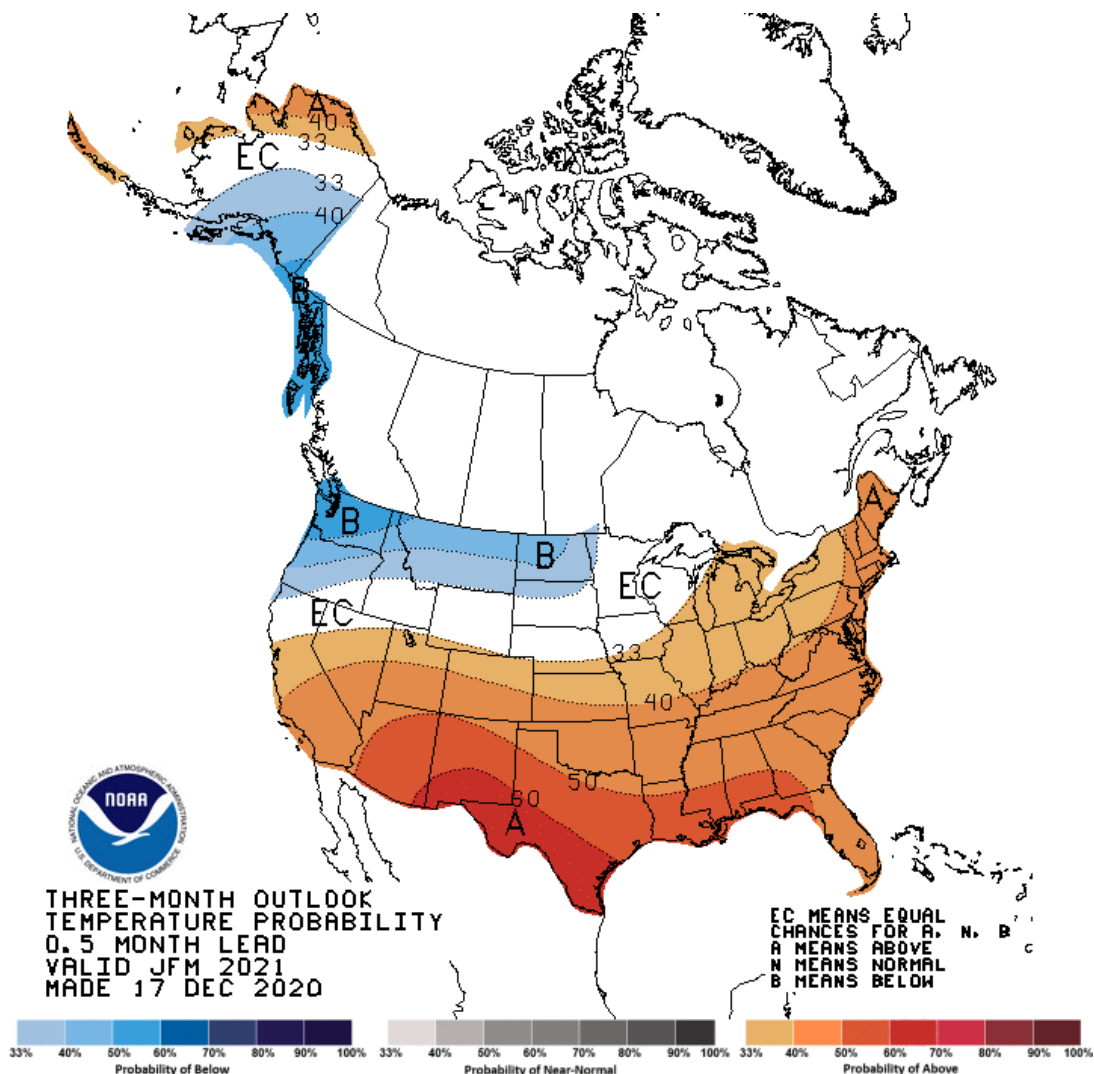
As for 2021...

You wouldn't think that Colorado State University has much to say about tropical weather happenings, but in fact their Tropical Meteorology Project is a top-notch group of both students and researchers, they've been pegging hurricane seasons for decades with darn good accuracy. They have successfully predicted up and down seasons more than 85% of the time, usually many months on advance. They certainly nailed 2020 with their "much above average" activity forecast. So, what do they say for 2021?

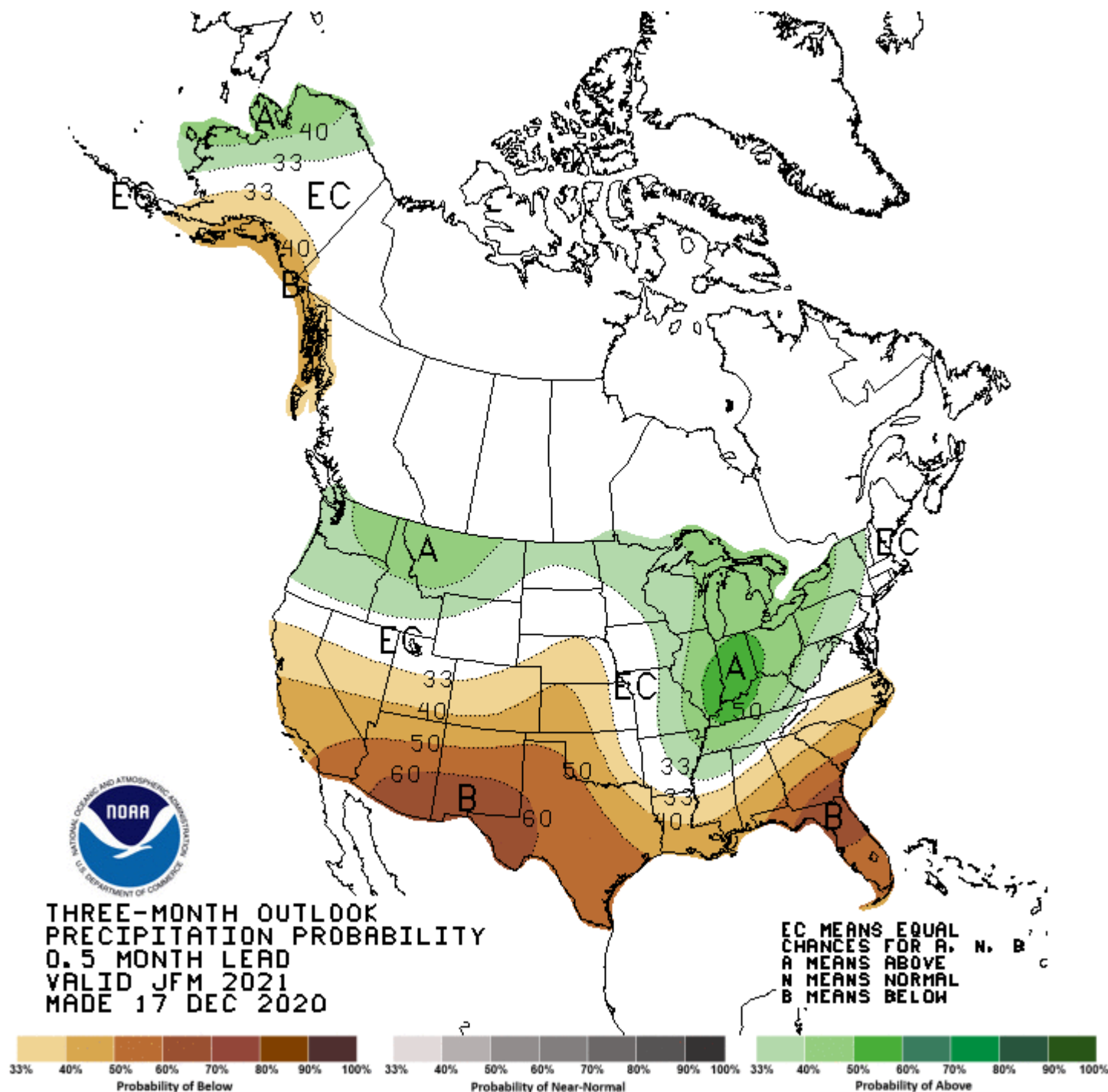
Well...it's too early for a full-blown 2021 hurricane season forecast, that doesn't come until April; **but indications are better than even money, about 60%, for another above average season in 2021.** It is highly unlikely it would be as active as 2020 since last year was the all-time record. We're running hot in the tropics the past few years and long-range indicators (including a weak La Nina) keep things charged up in 2021, but NOT to the extent of 2020.

Meanwhile...

Expect drought and warmth across the southwest and southern states, just what we don't need, with **increasing and above average incidence of wildfires** not only in the usual spots like California but across much of the south from Texas eastward to Florida.



Late winter and early spring temperature outlook compared to average / NOAA



Late winter and early spring precipitation outlook compared to average / NOAA

“Super” dry conditions as depicted here are typical for stronger La Nina episodes.

Tornado Season: Big Trouble

In case you missed it, expect an early and active tornado season 2021, it could easily be the most damaging season in 10 years. There’s a 95% chance of La Nina continuing well into the spring.

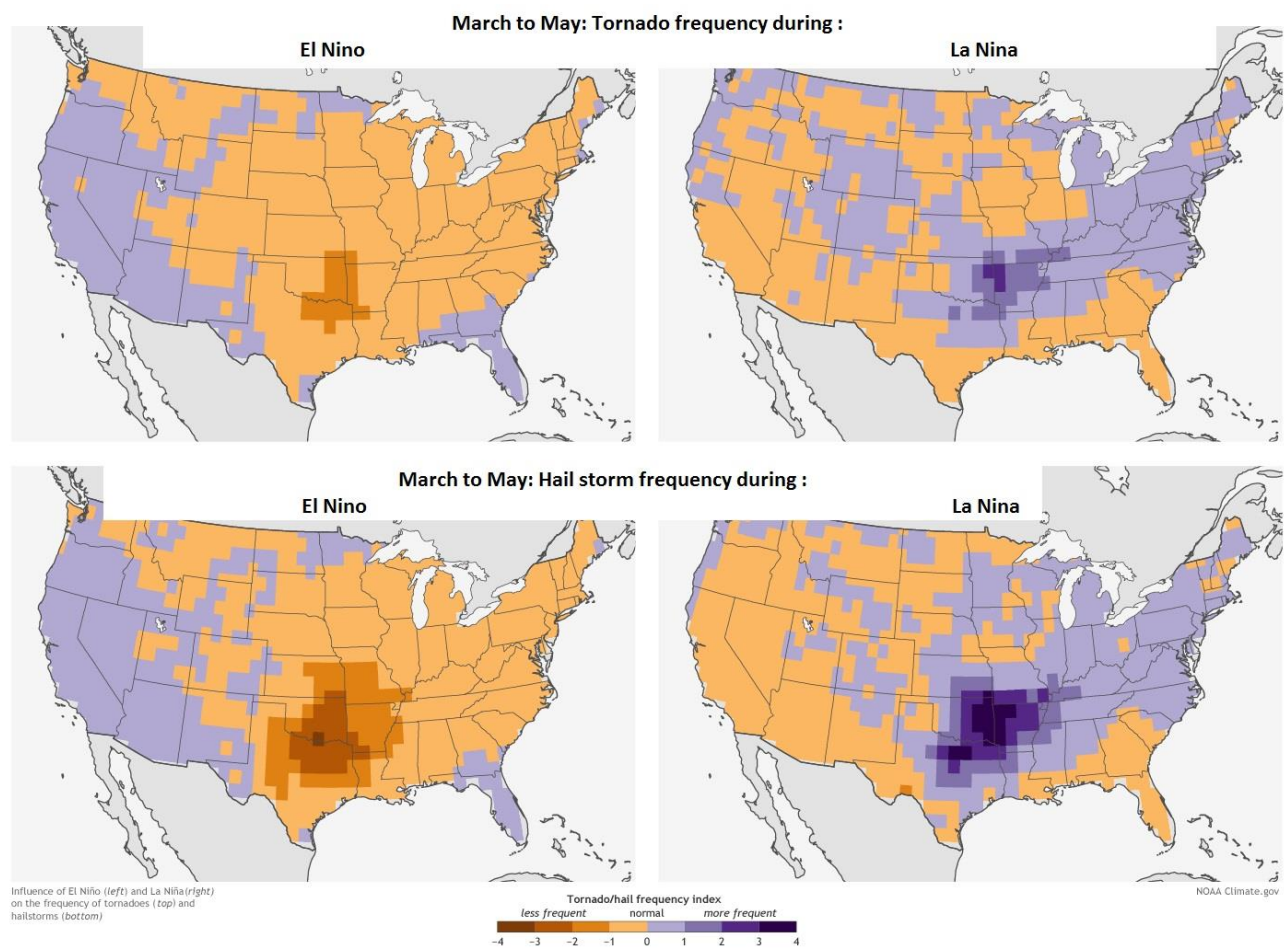
The most dangerous relationship, and the greatest impact on adjusters, comes then. A scientific paper authored by John Allen, Michael Tippett, and Adam Sobel (see map on next page) showed a clear correlation between moderate to strong La Nina’s and higher numbers of damaging spring weather events. Why? La Nina’s influence on the jet stream beefs up the temperature gradient, in

this case the horizontal difference which makes the atmosphere more energetic by boosting both wind shear and lift.

Here are few examples of moderate to strong La Nina years and “famous” tornadoes that go with them:

- April 2-3, 1974: Super Outbreak, 148 tornadoes in 24 hours, **strong La Nina**
- May 3, 1999: Moore tornado, highest wind speed on record, 301 miles per hour, **strong La Nina**
- March 28, 2000: Fort Worth tornado, severe damage to many high-rise buildings, **strong La Nina**
- Feb 5-6, 2008: Super Tuesday outbreak, 87 tornadoes in 15 hours across the Mid-South, including 5-EF4's, **moderate La Nina**
- April 27, 2011: Mega-Outbreak, 200 tornadoes in 24 hours across the south, all time record, over \$5 billion in damage, hundreds killed, **moderate La Nina**

Wow, how depressing! But, for insurance work it means busy adjusters in the spring of 2021.



Red tinted areas represent less frequent, purple more frequent / John Allen, Michael Tippet, and Adam Sobel

Well, that's what we're facing. May you and yours have a prosperous, happy and healthy 2021!

Take Care,

Steve LaNore, CBM