

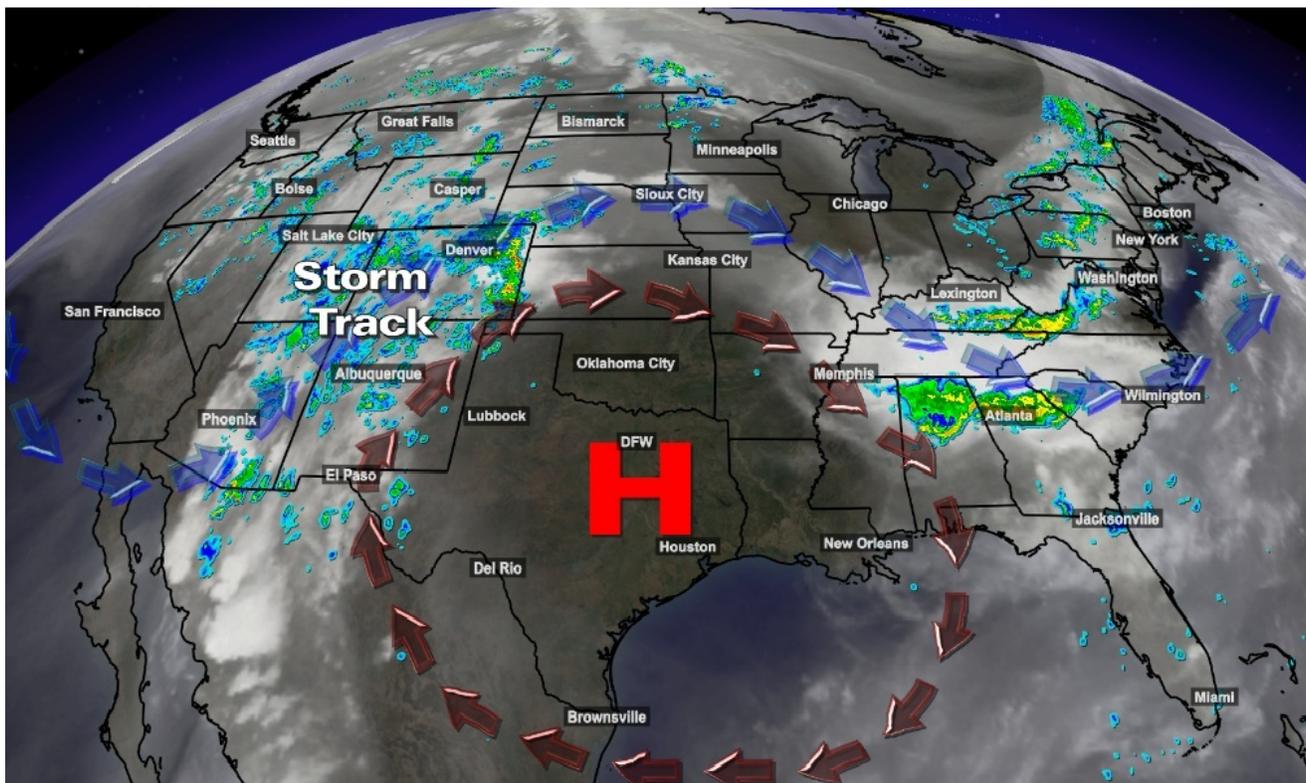
## Waves of Severe Storms Pummel the Eastern U.S.

July is often perceived as just “hot and humid” in the lower 48 as severe weather shifts into southern Canada, with the peak of Canada’s tornado season taking place at this time. In fact, the 2<sup>nd</sup> deadliest Canadian tornado on record took place on July 31, 1987, killing 27 people as it churned through the city of Edmonton:



*Edmonton was struck by an F4 tornado on July 31, 1987. Damage was over \$300 million / Edmonton Sun*

However, July 2015 has been a very violent one in the eastern United States. One reason: a nearly stationary upper high anchored over Texas; wind currents around the top of the high allow cold fronts and unstable air to penetrate southward over the eastern half of the U.S. There’s also been a stronger-than-average jet stream in place. The stormy pattern around upper highs is sometimes called “The Ring of Fire”:



*The “Ring of Fire” is the storm track around the upper high. The eastern side of the “ring” was very active in mid-July.*

Widespread straight-line wind damage spanned more than half a dozen states from Wisconsin to North Carolina on the 13<sup>th</sup> as a huge complex of storms barreled southeast for a thousand miles. These affected large metropolitan areas like Indianapolis and Cincinnati; over 200,000 people lost power during the storms. Trees and power lines were down all over the place with some structures damaged too. Heavy rainfall in the days before the storm weakened trees' ability to withstand the wind, and many of them just fell over according to emergency management officials in the Indianapolis area.



*A lightning strike during the July 13<sup>th</sup> storm makes quite a scare for this Indiana home / Sheila Mullen*

July 13<sup>th</sup> was the most active severe weather day nationwide in almost two years. The pattern repeated on the 14<sup>th</sup>, but farther south with Alabama, Georgia and Tennessee raked by high winds and some large hail. A man in Alabama was killed by a falling tree, pushed over by 60+ mph winds. Over 1,000 severe wind reports were logged across a dozen states during the July 13-14 event. Damage estimates were unavailable at press time but are likely in the hundreds of millions across the dozen-state storm zone.

## **Crazy California Fire Incinerates Cars**

Although California has been spared any catastrophic fires so far in 2015, a fast-growing blaze in mid-July illustrated just how volatile the situation is. On July 17, a small 20-acre fire grew to a 3,500 acre blaze in just four hours in the Cajon Pass area, about an hour east of Los Angeles. The fire “jumped” across Interstate 15, forcing numerous motorists to abandon their cars on the highway and flee up a nearby hill.

Dozens of these vehicles were damaged or destroyed by the fire, which went on to destroy 44 more vehicles, 7 homes and 16 other structures downwind in the town of Baldy Mesa. The “North” Fire, as it is called, reached a total of 4,250 acres, and fortunately is now 100% contained. Unseasonal rainfall from a decaying tropical storm helped get the fire under control, but this rain event will do little to ease the overall drought conditions in California.

As for now, the National Interagency Fire Center reported no large uncontained fires in the state as of press time (July 22).



*July 17, 2015: Motorists in this apocalyptic scene flee flames and smoke on I-15 / Q13Fox News*

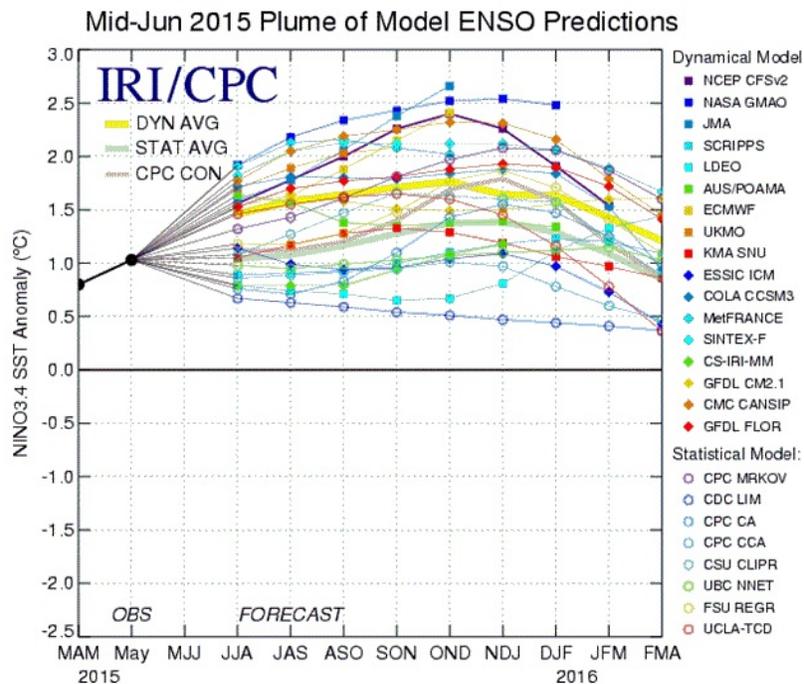


*An abandoned truck explodes on I-15 during the "North" Fire / Jim Dalrymple (From Vine)*

The super-dry conditions contributed to the rapid growth of a much larger fire in the same area in June (which I reported on last month) ; California remains in a severe multi-year drought and a disastrous fire is probably not a question of “if”...but “when”...unless the state is very lucky or gets a lot of rain. The prospect of rain in California is very low this time of year.

## El Nino Intensifies

The Climate Prediction Center (CPC) released their monthly “ENSO” update on July 9, and it paints a picture of an El Nino that has been truly difficult to pin down. The effect seems to be getting stronger every month, and scientists forecasting the long-range pattern now peg chances of it lasting through the winter of 2015-2016 at 90 percent. Computer models did not do a very good job of tracking the changes back in late winter, but now there’s general agreement among them that we’re headed for a high-end moderate to strong El Nino:



**The models have come into much better agreement that we're headed toward a strong El Nino by mid-fall and through the winter / Climate Prediction Center**

For an El Nino to be considered “strong”, ocean temperatures in the monitored zone must be 2.7 degrees F (1.5 C) higher than normal during any three consecutive months. An easy version of this is: a strong El Nino has warmer water in the eastern Pacific than a weak one, and this makes for a greater effect on the temperature and precipitation patterns throughout North America (and Europe too).

This would be similar to the one in the fall and winter of 2009-2010, a very snowy and cold one for the southern U.S. and dry and mild for the northern states. Of course, that doesn’t mean it will be **exactly** the same this fall and winter.

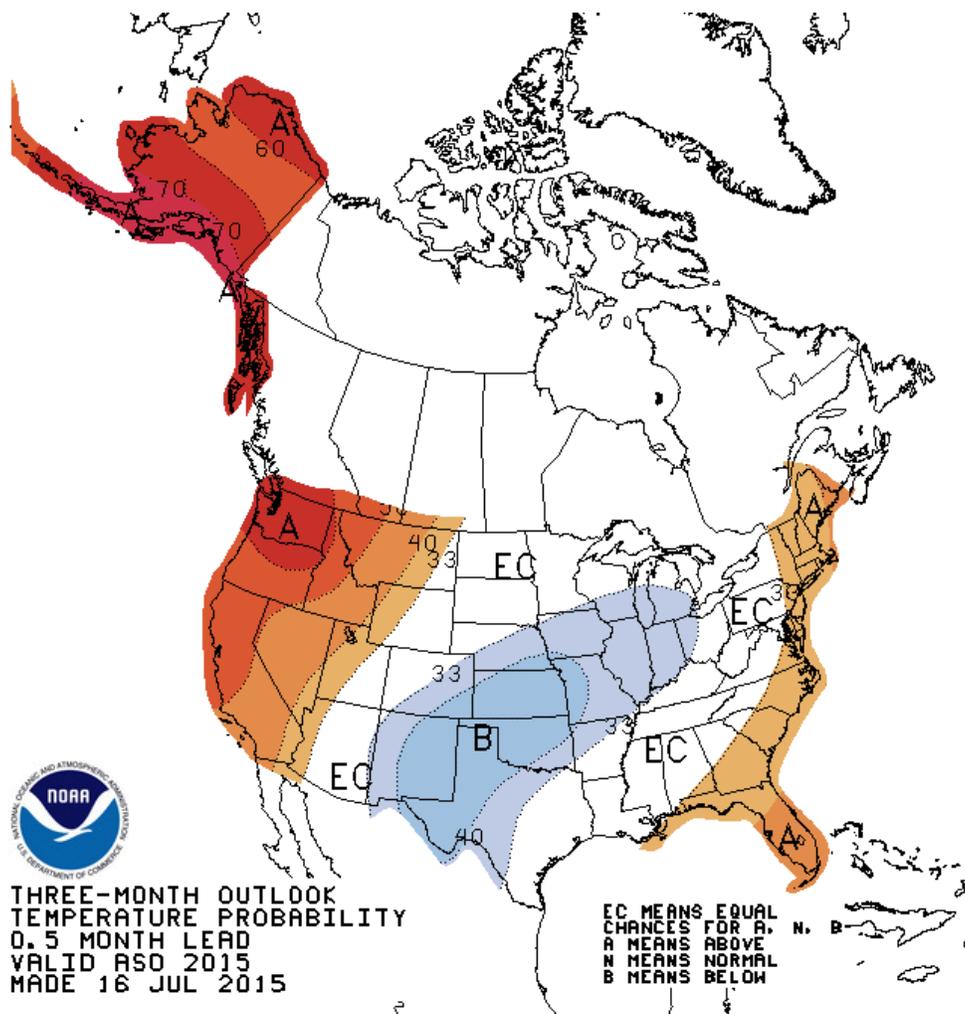
## For August,

It likely means a continued active jet stream with more severe weather episodes than usual. Hurricane activity will probably be limited to some degree but since the current El Nino is still weak, a major event is still a risk. Florida has gone 11 years without a landfalling hurricane; the longest in the modern record. The Sunshine State's luck can't hold forever. So while El Nino offers a limiting factor for hurricanes, remember "Andrew" happened during an El Nino summer (1992) and is the 2<sup>nd</sup> costliest hurricane on record in the U.S.

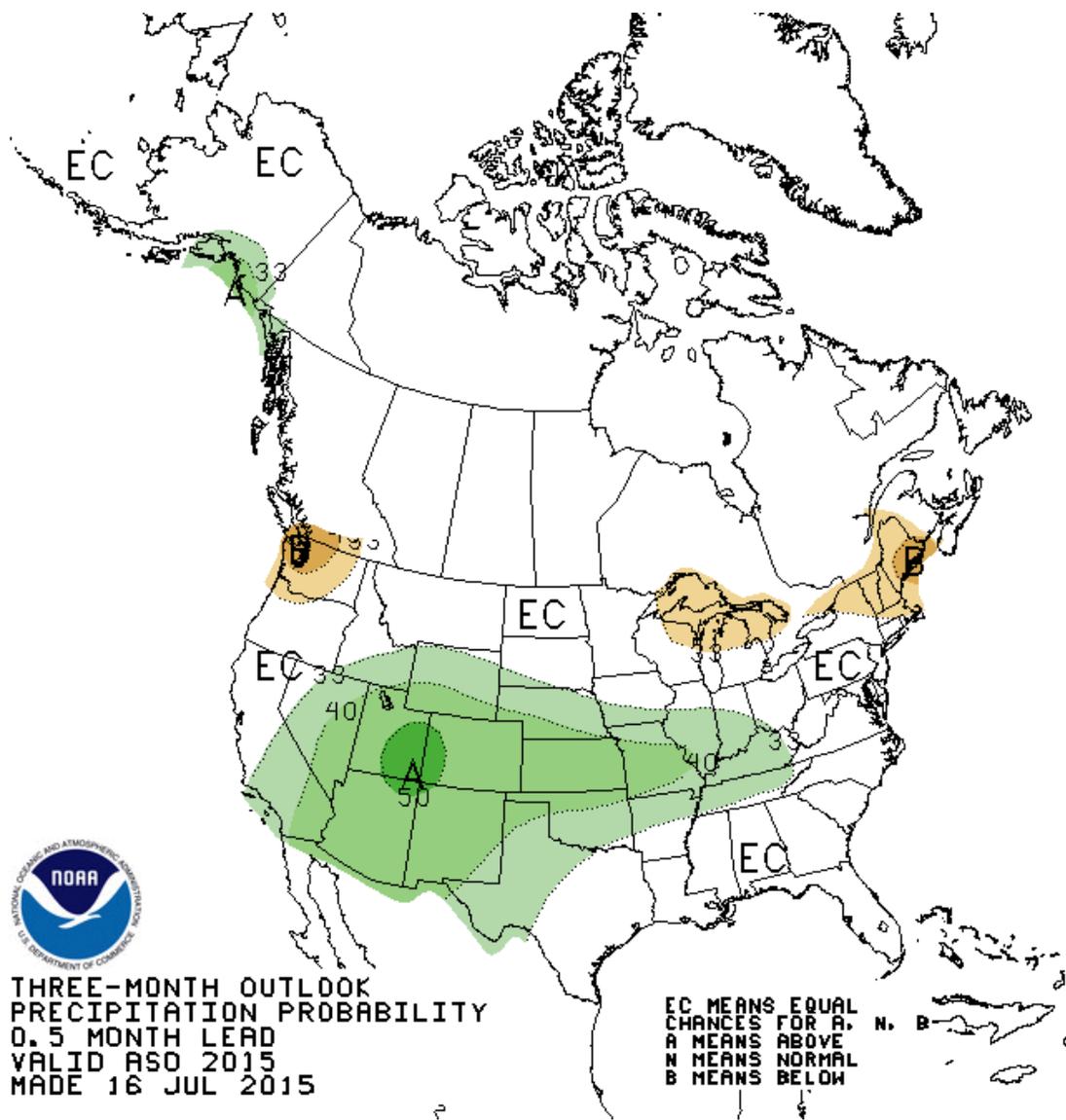
## 90-Day Outlooks: August through October

El Nino will have an increasing effect by mid-fall, and it appears the likely set-up will feature several severe weather events across the southern half of the U.S., especially in October and November. The northern reaches of the U.S. and into southern Canada will likely be drier than normal: not good news for skiers headed to Banff this winter, but happier words for Colorado.

Here, the official Climate Prediction Center Outlooks:



## 90-Day Temperature Outlook Aug-Oct 2015 / Climate Prediction Center



## 90-Day Precipitation Outlook Aug-Oct 2015 / Climate Prediction Center

This outlook makes sense as the jet stream is usually located around Interstate 70 in late summer, which is where we see the “A” for rain and the “B” for temperatures. This area will then move southward to the southern U.S. during the late fall and winter as is typical with a stronger El Nino.

As for hurricane season, don't write it off because of El Nino.

Steve LaNore, Certified Broadcast Meteorologist  
Author of *“Twister Tales: Unraveling Tornado Myths”* and  
*“Weather Wits and Science Snickers”*, both available on Amazon.

---