
**With Steve LaNore, CBM**
**November 29, 2016**

## Gatlinburg Ablaze: Worst Tennessee Fire in 100 Years

Work begins on picking up the charred pieces of Gatlinburg Tennessee, gateway to American's largest national preserve, the Great Smoky Mountain National Park. Officials believe this horrific fire was due to carelessness; people playing with matches set the initial, small blaze.

The fire began November 23 but had only grown to 50 acres by November 26; then incredibly strong winds on the 28th caused it to spread at an epic rate, literally exploding, to more than 15,000 acres by early on the 29th. Tennessee governor Bill Haslam said it's the worst wildfire in the Volunteer State in more than 100 years.

The location of the fire and fierce winds to 87 mph pushing it forward set the stage for a disaster that killed three, injured 14 and caused damage likely in the hundreds of millions. At least 400 structures were damaged or destroyed in Gatlinburg and surrounding areas of Sevier County, Tennessee.

An entire apartment complex burned to the ground; even a 16-story hotel caught fire. More than 200 homes and cabins were reduced to piles of debris and ashes. In nearby Pigeon Forge, 9 buildings succumbed to the inferno which was largely kept out of the town by tenacious firefighters and rain that arrived just in time to weaken the blazes. "Dollywood", the theme park built by country music star Dolly Parton, was spared but just barely.

Gatlinburg is a big tourist destination because of its natural beauty, the gateway to Smoky Mountain National Park, and its cozy small-town atmosphere. It will take a long time for the town to rebuild and recover, which will cost businesses hundreds of millions more in lost revenue for the economy of eastern Tennessee. It's a true catastrophe in every way.

*This 3-story apartment complex in Gatlinburg a complete loss, millions in losses at just this location / CBS News*

*Many areas of the picturesque town are reduced to a smoking pile of rubble/Tennessee Dept. of Transportation*

*A narrow escape for motorists; some cars caught fire as their drivers fled Gatlinburg / James Spann via Twitter*

The wind-driven fire front was bad enough, but the hurricane-force winds also downed power lines and transformers, sparking even more fires, overwhelming fire-fighting resources. Most of the downtown area survived with relatively minor damage, amazingly. Below is the message sent by the National Weather Service as the situation became dire:

URGENT - IMMEDIATE BROADCAST REQUESTED
EVACUATION IMMEDIATE
SEVIER COUNTY EMERGENCY MANAGEMENT AGENCY
RELAYED BY NATIONAL WEATHER SERVICE MORRISTOWN TN
903 PM EST MON NOV 28 2016

THE FOLLOWING MESSAGE IS TRANSMITTED AT THE REQUEST OF THE SEVIER
COUNTY EMERGENCY MANAGEMENT AGENCY.

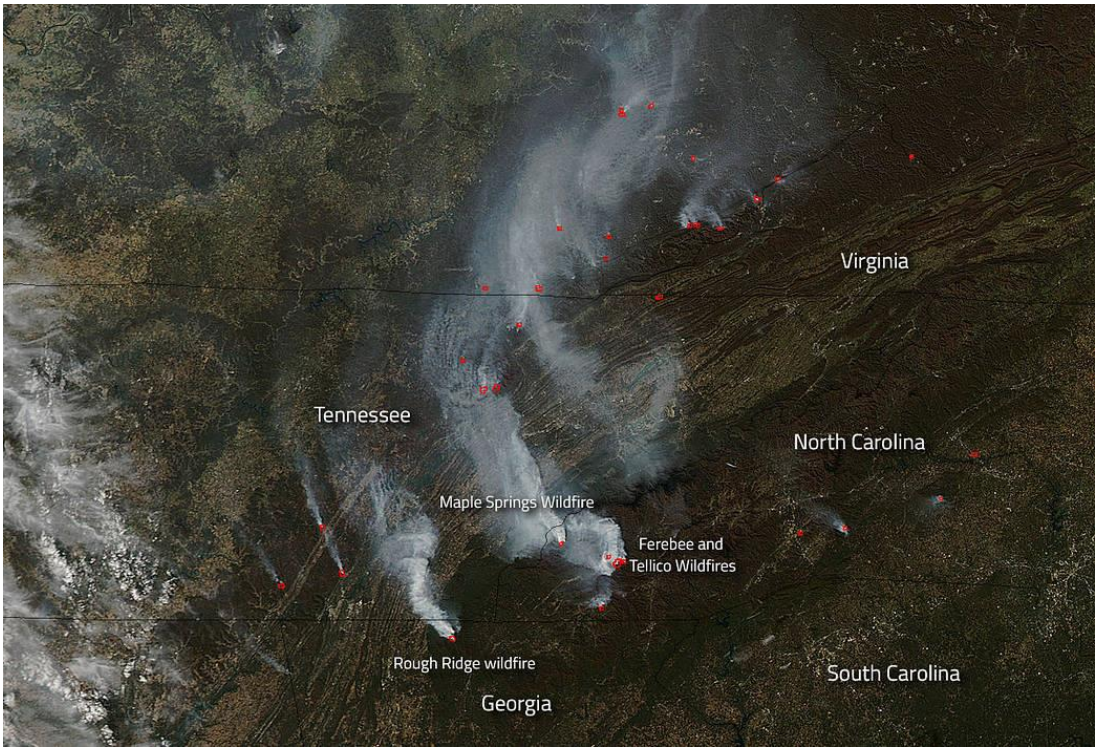
THE CITY OF GATLINBURG AND NEARBY COMMUNITIES ARE BEING EVACUATED
DUE TO WILDFIRES. NOBODY IS ALLOWED INTO THE CITY AT THIS TIME. IF
YOU ARE CURRENTLY IN GATLINBURG AND ARE ABLE TO EVACUATE...EVACUATE
IMMEDIATELY AND FOLLOW ANY INSTRUCTIONS FROM EMERGENCY OFFICIALS.
IF YOU ARE NOT INSTRUCTED TO EVACUATE...PLEASE STAY OFF THE ROADS.

*This National Weather Service message conveys the extreme nature of the emergency.*

## Wildfires Char 100,000 Acres across Six States

In the October newsletter we learned of exceptional drought conditions across the south, especially in Alabama eastward to western North Carolina. This of course contributed to the incredibly fast growth of the Gatlinburg fire on November 28th. A combination of lightning strikes and several careless human events led to the destruction of some 100,000 acres of woodlands in the southern Appalachian region during the past six weeks. Except for the Gatlinburg catastrophe, very few structures, less than a dozen, were affected by these other fires as these fires burned in deep woods or on mountainsides with development very sparse. However, they left parts of several states shrouded in unhealthy smoke sometimes for days at a time.


*A fire rages over western North Carolina's mountains in mid-November.*



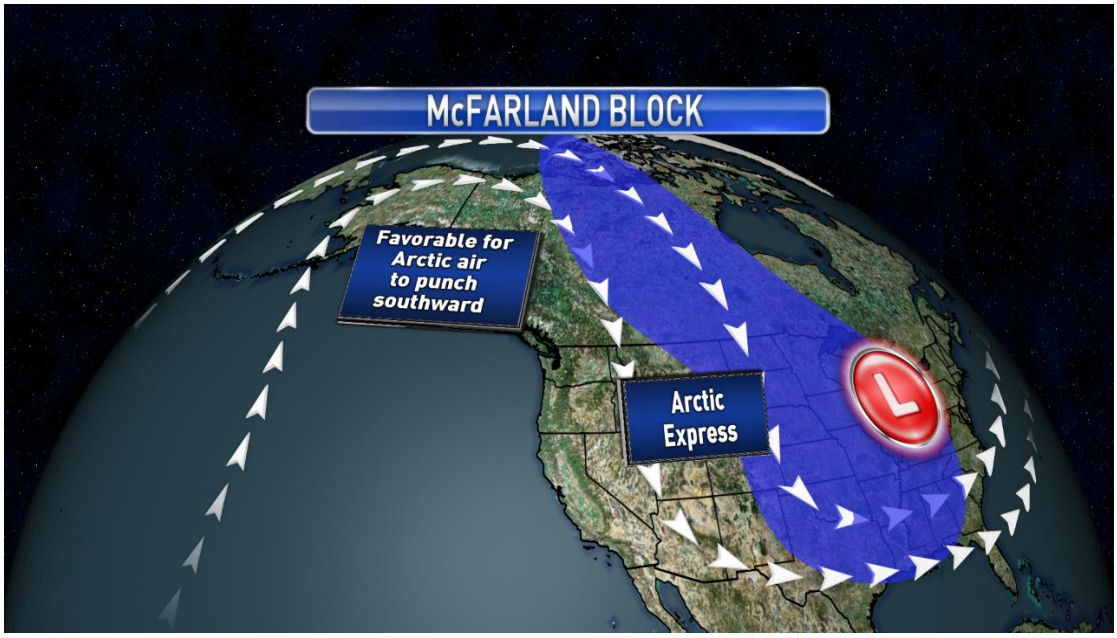

*Huge smoke plumes given off by the Appalachian fires as seen from a NOAA weather satellite.*

## La Nina Talk…

A La Nina pattern favors cold and snowy weather in the northern/eastern U.S. as we get into December. In fact, the first major storm of the winter season dumped more than a foot of snow in parts of the Dakotas November 29th. It's likely a sign of things to come. Here's a typical steering flow pattern during a La Nina, like we're in now:


## McFarland Block

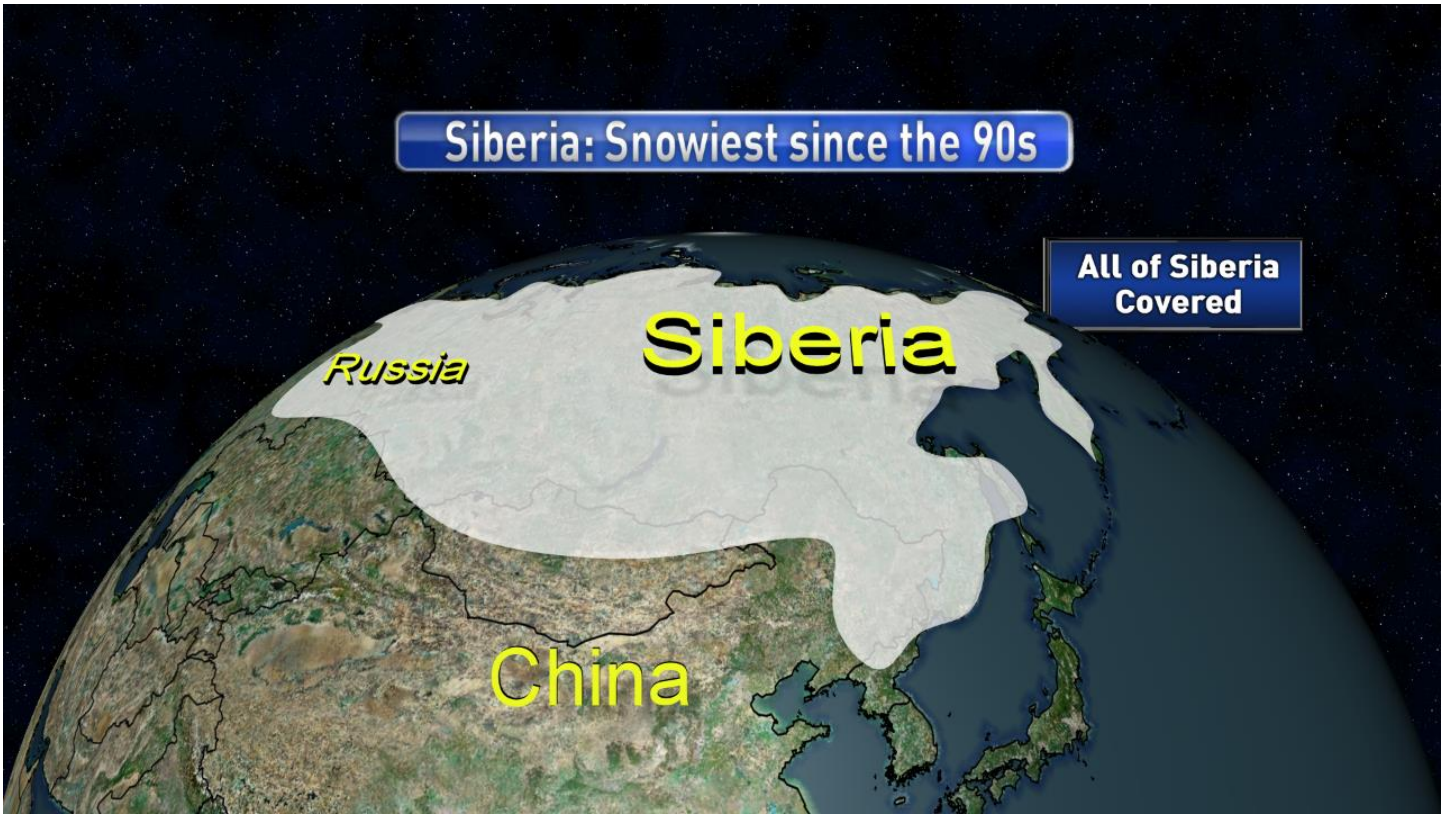
But…hold the phone….the south is not out of the woods on the cold. There's a connection between La Nina winters, especially weak to moderate ones as we're in now, and what is known as a McFarland Block. In this case the typical La Nina flow buckles, creating a pathway for bitterly cold Siberian air to come across the Arctic Ocean and southward deep into North America:




*A high-amplitude event like this tends to be more common during La Nina winters, like in 1983, 1989 and 2013-2014.*

## The Siberian Snow Connection…

Siberia reported extensive snow-cover in October and November, the most in at least 15 years:




*NOAA data through November 24.*

This often plays a role in frigid outbreaks into North America because more snow means frigid air masses can build deeper and colder than over bare ground. This "lurking blob" of coldness is just waiting for the right upper air pattern to transport it across the North Pole and into the U.S.

Of course, it shouldn't be news to you that Siberia is one giant freezer…the key is dislodging that cold air if you want an arctic blast into the central/southern U.S. An intrusion of Siberian air matches up well with the whole high-amplitude McFarland pattern concept. Bottom line – since conditions are favorable for a big chill in Siberia, if this air makes it into the U.S./Canada, it will be, as Steve Ray Vaughan said, a "cold shot" indeed.

Another winter factoid: Tokyo had its first measurable November snow since 1962 on the 24th. It's just another indication of a pattern favoring a snow build-up in northeastern Asia.

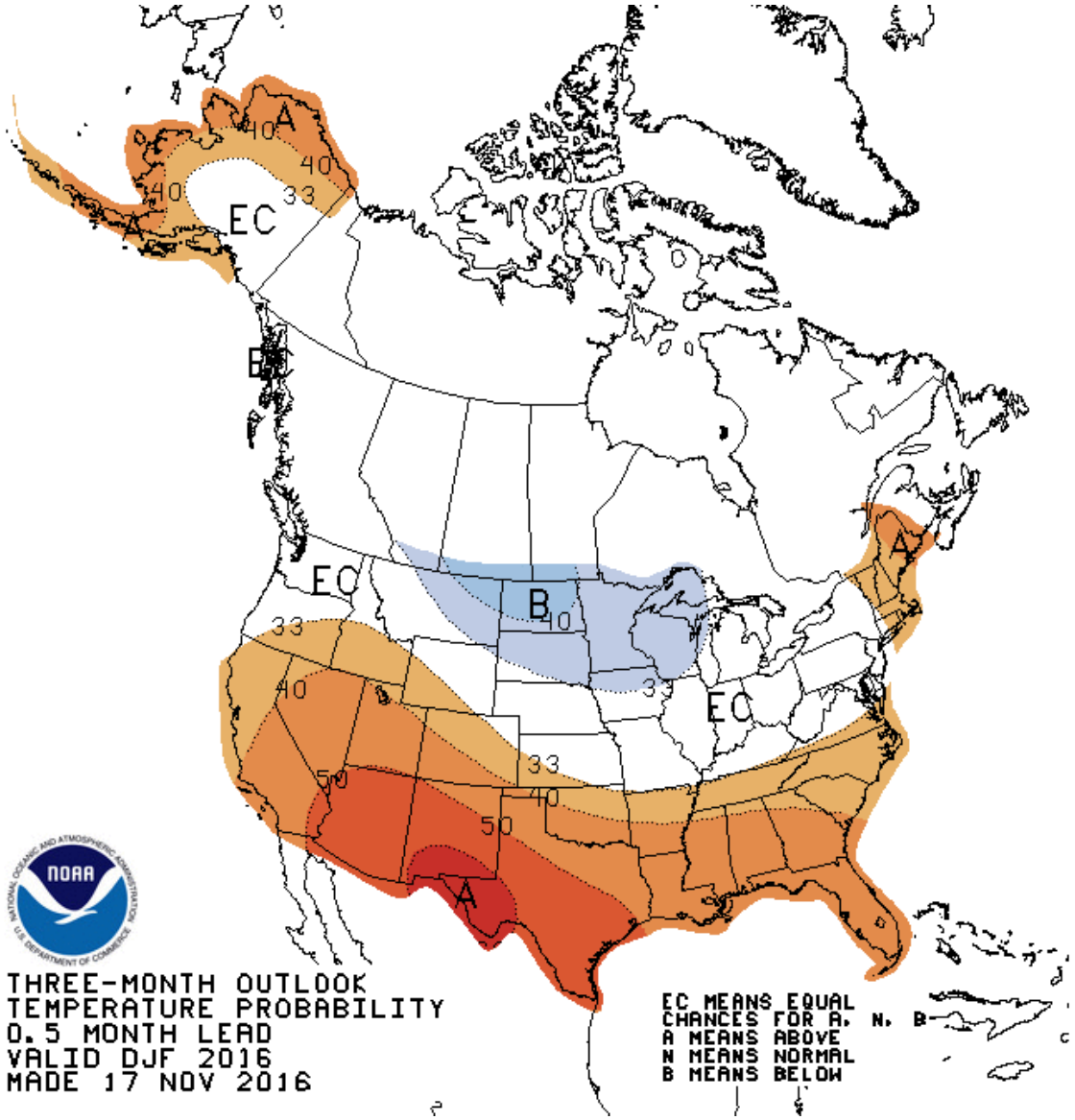
## Not Quite that Simple…

There's a pretty good correlation between heavy Siberian snow and cold winters in the central and eastern U.S., but then last year we had heavy-duty early season snows in Siberia and "bupkus" for cold in the U.S. and southern Canada. That's because the super-charged El Nino cancelled it out. Thus, it's not as simple as saying "Siberian snowcover equals arctic blasts into the central U.S.", but all other factors being equal, it helps along the potential.

## 90-Day Outlooks: All is not what it Seems

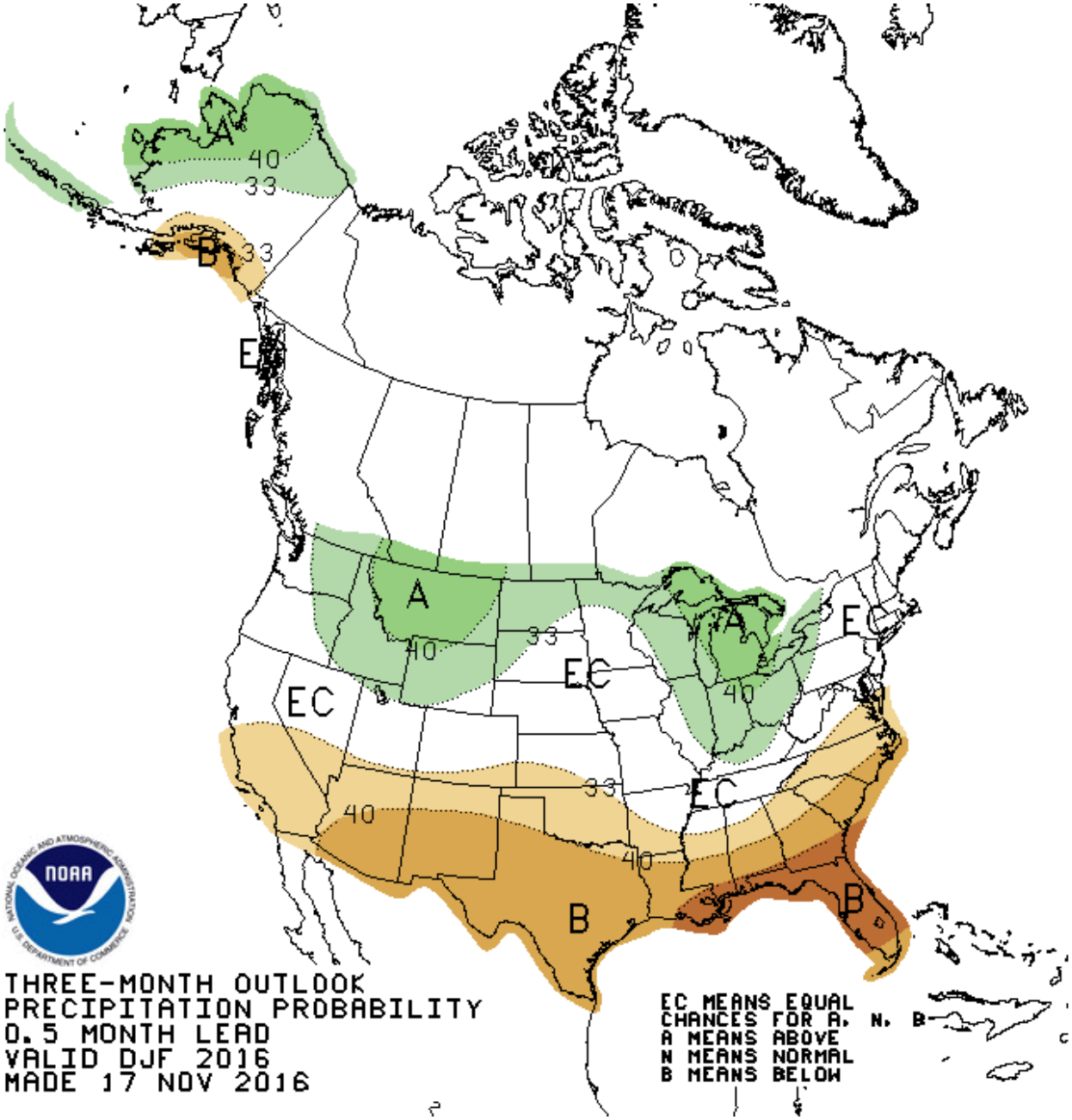
Let me say first that I agree with the 90-day outlooks from the Climate Prediction Center shown below. This is consistent with the weak-to-moderate La Nina pattern and these outcomes are certainly better than an even-money prospect.

Below is the winter temperature outlook December through February:




Well, you say, what happened to your Siberian Invasion? Answer: Nothing. On average, temperatures will likely be above normal over the southern U.S. A week of intense cold wouldn't be enough to skew the average for the winter as a whole to below average, but it could still make for a lot of claims.

As for precipitation (below), again we see the signal for some good snows in southern Canada, the northern Rockies and the Great Lakes, while it's less certain for the New England area. A lot will depend on the week-to-week storm track and individual low-pressure areas, and that's not forecastable this far in advance. Expect LOTS of lake-effect snow this winter; the lakes are very warm and we'll see plenty of cold air crossing them.




## Best Guess….A “Bear” of a Forecast

As in Russian Bear, I do think we’ll see some super-cold air this winter in the central and eastern U.S., with a warm and dry southwestern U.S. This means more bad news for drought-ravaged California, while Washington State and British Columbia may be dealing with excessive rain and snow. Some major snows are expected around the Great Lakes and northern Plains, a lesser chance of an east coast Mega-Storm but still something to watch.

Farther east, things are running very mild in November but will return to more typical readings in December and perhaps below normal in temperatures and above normal in precipitation for January. Translation: snowy and cold if the weather gears mesh like I’m expecting. The south could get a deep killing freeze from the McFarland-Siberia connection, possibly affecting the citrus crops in Florida and Texas. There’s an adjuster visit in there somewhere. Burst pipes, damaged foundations and the like would also join the freeze party and it may well be a real mess.

## Holiday Gifts for Science Lovers….

I invite you to check out my books on Amazon; one for kids 8 to 12, and one for teens to adults interested in tornadoes and disasters. They're rated 5 stars, are a good deal, and are both available in Kindle or paperback.

Have a Wonderful Christmas Season and I'll touch base just before the beginning of 2017 for a review of a wild and wacky weather year…and a mid-winter outlook.

Take Care,

Steve LaNore, CBM

**Christmas Gift Slam-Dunk**
**for weather and science lovers!**


**For adults** **For the kids**

Available on Amazon.com