



Shade Tree News

Your source for weather information - tailored to your needs

A quarterly publication from Shade Tree Meteorology, LLC

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- #SafePlaceSelfie Campaign
- Phenology

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Data sources and Forensic Meteorology

In November 2016, NOAA launched the GOES-16 satellite into orbit. Billed as 'the next generation of satellite instruments', the satellite boasts far greater resolution and scanning speed than its predecessors. Additionally, the satellite also has an instrument which maps lightning, which, alongside current ground-based lightning detection software, will help forecasters identify rapidly intensifying and potentially severe storms. In rapidly changing weather situations, forecasters will be able to zoom in on key areas and images as frequently as every 30 seconds.

These capabilities will also prove very useful in forecasting hurricane tracks and intensity.

From a forensic meteorology perspective, the satellite will prove useful for looking at past weather events as well. In particular, the satellite's rainfall estimates may prove useful in cases which involved flooding or flash flooding.

The satellite instruments are currently being tested and are expected to be fully operational by the end of this year. We at Shade Tree Meteorology will continue to stay up-to-date on this new technology and look forward to being able

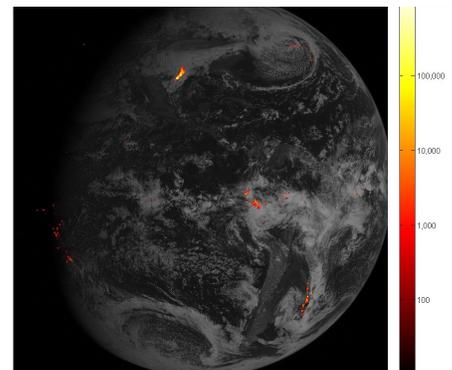


Fig. 1: Some of the initial images from the GOES-16 lightning mapper which show lightning over approximately one hour on February 14, 2017 (image courtesy NOAA).

to use it in cases where it can improve our analyses.

Source: <http://www.noaa.gov/media-release/goes-r-heads-to-orbit-will-improve-weather-forecasting>



News from NOAA: March 2017 Statistics

Many of us located in the Northeast US thought that spring had arrived early as a result of very warm temperatures which occurred during the last week of February 2017. However, cold air soon moved back into the United States and a blizzard brought double-digit snowfall accumulations and high winds to parts of New York and New England. Despite these conditions, the average temperature across the continental United States during March 2017 was 46.2 degrees Fahrenheit, which is 4.7 degrees above the 20th century average.

“The average temperature across the continental United States during March 2017 was 46.2 degrees Fahrenheit”

Regional differences did occur, and in fact the average temperature during March 2017 was actually colder than the monthly average temperature during February 2017 here in Albany, New York. However, record

warmth occurred in some states in the plains and Rockies, including Colorado and New Mexico.

Source: <http://www.noaa.gov/news/us-had-2nd-warmest-year-to-date-and-9th-warmest-march-on-record>

U.S. Selected Significant Climate Anomalies and Events for March 2017

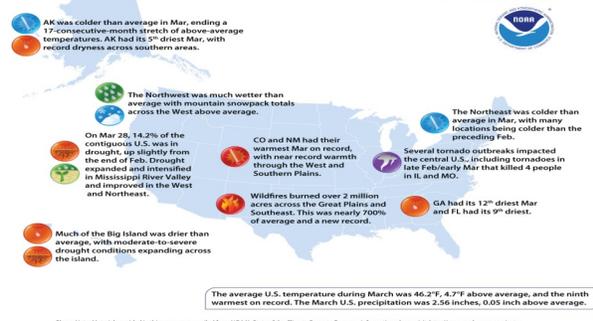


Fig. 2: Significant weather events of March 2017 across the United States.

Building a Weather-Ready Nation

NOAA’s Weather Ready Nation initiative exists to help facilitate communication to the public about hazardous weather preparation. The Spring Safety campaign is currently running and focuses on weather hazards which are particular to spring in the United States. There are numerous resources available on the Weather Ready Nation website, including articles about beach and boating safety (<https://www.weather.gov/wrn/spring-articles>). Additionally, there are video presentations available which discuss general spring safety practices as

well as tsunami safety (<https://www.weather.gov/wrn/spring-articles>). As a Weather Ready Nation ambassador, we at Shade Tree Meteorology have committed to communicate National Weather Service messages about forecast and ongoing weather



Shade Tree Meteorology, LLC is proud to serve as a Weather-Ready Nation Ambassador

hazards, as well as educate our clients on appropriate weather preparedness practices. If you have any questions or are interested in having us stop by your office for a seminar on these topics, please feel free to send one of us an e-mail.

Hazardous Weather Preparedness

NOAA, as part of the Spring Safety campaign, ran the #SafePlaceSelfie program during the week of April 3-6, 2017. The National Weather Service encouraged individuals to submit pictures of themselves in their safe places at home, at work, and out and about.

Do you know where to go in the event of a tornado? Lightning? A Hurricane?

During a tornado or other type of high-wind event, one should seek safety in a basement or windowless interior room. If you are outdoors, a vehicle is not a safe place as debris could potentially fly

through window glass. The best course of action is to drive to the nearest safe shelter. During any thunderstorm (which, by definition, will produce lightning), remember the slogan “When Thunder Roars, Go Indoors”. If finding indoor shelter is not possible, one should stay away from water and tall objects, avoid open fields, and make one-

self as small as possible; lightning will tend to strike the tallest object in the vicinity. If you live in a hurricane-prone area and a tropical storm or hurricane is approaching, one should prepare by boarding up windows in advance of the storm, and stay up-to-date with local emergency management officials on potential evacuation orders and follow directions promptly.



Image source: http://www.nws.noaa.gov/com/weatherreadynation/news/172103_safe_place_selfie.html

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Did you know: Phenology

At press time here in upstate New York, the trees are just beginning to show buds, and some shrubs and smaller plants are in bloom. Lawns have once again turned green, and spring is finally arriving. Did you know that the National Phenology Network is a network of researchers, students, and volunteers that keep track of seasonal indicators such as bird migrations, leaf-

drop of various types of plants, and emergence of various types of insects. Yearly and decadal changes in these regularly occurring phenomenon can be studied to determine how the climate has changed. Additionally, the data can be used in real time to predict seasonal allergy conditions as well as aid in determining planting times for crops. The map shown is a leaf index which uses observations to com-

pare the onset of spring compared to the 30-year (1981-2010) average. The index indicates that spring has arrived up to three weeks early in parts of the Midwest, Southeast, and Plains, but is at or behind schedule in the Northeast and the Pacific Northwest.

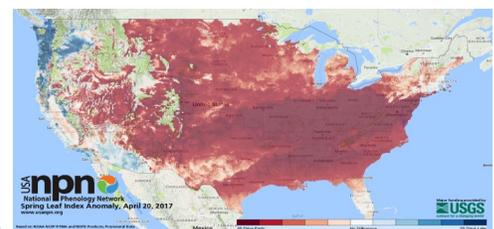


Fig. 3: Spring Leaf Index Anomaly as of April 20, 2017



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From the President's Desk

The start of 2017 has brought some major changes here at Shade Tree Meteorology. As many of you may know, Dick has phased into retirement and I have assumed ownership of our company. Dick will continue to consult as he desires, and looks forward to contributing regular updates of his travels and activities to our newsletter in our new column, Tales of a Meandering Meteorologist. We trust that the transition has been seamless for you, our valued clients. I look forward to continuing our long-standing relationship with you as the years go forward, and will continue our commitment to producing high-quality, scientifically sound weather analyses explained in plain English. As a reminder, please feel free to submit new case requests via our Case Conflict Check website at <http://www.shadetreemeteorology.com/forensicCaseConflictCheck.php>. One of us will get back to you within a day to discuss your case. As always, we do thank you for your business!

We have extensive experience issuing forecasts and radar-based severe weather warnings translates into exceptional skill at reconstructing weather events as an expert weather witness. Our clear, non-technical (but scientifically sound) explanations of the what, where, when, and why in thunderstorm events, flooding events, and winter storm events have proven extremely useful to clients in pretrial and courtroom testimony.

Our associates' credentials include:

- **Four decades of experience as an operational weather observer, forecaster and forensic meteorologist**
- **Over a decade of experience as a researcher and teacher in the field of meteorology**

Tales of a Meandering Meteorologist

Well, Alicia bought Shade Tree Meteorology on December 15 as promised, but the semi-retirement was slow getting started. January was eaten up by the wind down of payroll and tax paperwork. February, though, was very retirement like – my wife and I spent three weeks in Key West, Florida where it was sunny and dry with the exception of one intense afternoon and night of thunderstorms. Then, after a couple of weeks back home catching up and turning over the last of the tax documents to the accountant, we were off on an intense twelve day Road Scholar trip to Costa Rica (where we saw a cloud forest without clouds and heard about a warming climate causing the flora and fauna to migrate toward higher terrain) and Panama (where we experienced the first Panama wide power outage in several decades.)

Then came the “semi” part of the retirement again with prep for a trial appearance in Boston while hosting our two young granddaughters for a two week visit. Now we are looking at a possible Alaska cruise, as well as planning our next semi-annual visit to Germany. This is what happens when a nomad retires, I think? Anyone care to toss out ideas for our future travels?

Note:

All articles contained in this newsletter are authored by our associates, and are the property of Shade Tree Meteorology, LLC, unless otherwise noted.

If you would like to disseminate all or a portion of this newsletter, we request that you contact us and we would be happy to work with you.

Do you have a question you would like answered in an upcoming issue of “Shade Tree News”? Please let us know!