



Shade Tree News

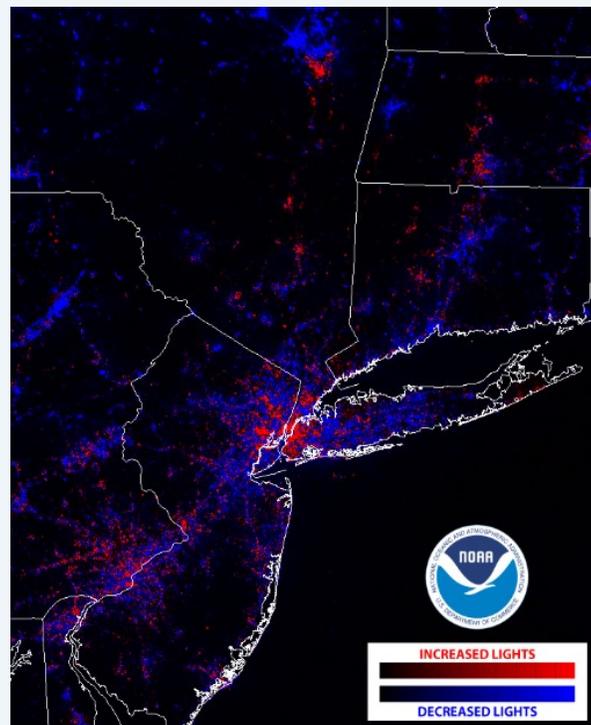
Satellite-Detected Lighting Changes over New York City

Written by: Alicia Wasula

The spread of COVID-19 has impacted human behavior in countless ways which will be studied for years to come. Meteorological sensors, such as the Suomi NPP satellite, picked up changes in lighting patterns over the NYC metro area from February 2020 to March 2020. The image at right (courtesy of NOAA/NESDIS) shows areas of increased lightning in red, and areas of decreased lightning in blue. Interestingly, while western Long Island, Staten Island, and eastern New Jersey showed less nighttime lightning, it has become brighter at night over Manhattan, parts of the Catskills, Massachusetts, and eastern Long Island. In many of these outlying areas, it is suspected that people who have homes outside the city relocated to these more remote locations to quarantine as coronavirus was increasing in New York City. This data can be used to determine what types of businesses have remained open and which have closed during the pandemic in various regions of the country from urban to rural areas.

Studies of this type of data can provide insight into human behavior and help government and other entities plan for future pandemics or other similar events. For more information about how this data and other satellite data is used for non-meteorological research applications, visit NOAA/NESDIS at <http://www.nesdis.noaa.gov>.

Before COVID-19 entered the global landscape late in



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DID YOU KNOW?

July 1 is International Joke Day!



Update on Australia Wildfire Season 2020

Written by: Alicia Wasula

2019, the world's attention was focused on the record-breaking wildfire season raging in Australia through much of 2019. The New York Times reported on March 2 of this year that not one wildfire was burning in New South Wales (where Sydney is located) for the first time in 240 days. The Australian Brush Fires and Natural Hazards Cooperative Research Centres Programme notes that while rainfall is expected to be above normal through June across much of the continent, warmer than normal temperatures are expected to persist across much of northern and eastern Australia (<https://www.bnherc.com.au/hazardnotes/71>). 2019 was one of the driest



Figure 1 : Firefighters battle wildfires in Australia. Courtesy NY Times.

years on record, and was one of several dry years in areas such as New South Wales. Even with normal or above normal rainfall, replenishing such large rainfall deficits will take time and thus there is still significant fire risk. Conditions will continue to be closely monitored by the Bureau of Meteorology as Australia heads from its winter season (our summer) into their hot summer season which extends from December through February.

News from Shade Tree Meteorology

So much has changed since our last newsletter went live in early March 2020. People have fallen ill, plans have been postponed, and businesses have had to rethink how to 'do business' remotely as state after state shut down due to the onslaught of COVID-19. We hope you and your loved ones have been untouched by the virus, although we recognize that everyone has been touched in some way. From a business perspective, we are very fortunate at STM that our infrastructure has always supported a work-at-home setup. We actually work in remote locations, in different states! As such, our business operations have continued largely uninterrupted through the spring. It continues to be our privilege to serve you with high quality meteorological analyses and reports, and when the courts reopen we will continue to provide clearly delivered, scientifically sound testimony. We wish everyone all the best as we continue to recover, physically and economically, from this crisis. Like so many of us, we at STM are reeling from the heinous acts which were committed by law enforcement and resulted in the murder of George Floyd in Minneapolis. We stand with black Americans, marginalized minorities, and all Americans who support and continue to fight for justice, and hope that this movement leads to healing and an increase in understanding across all races and backgrounds.



10 Beach Webcams

(in case your summer travels plans were cancelled or delayed)

1. [Huntington Beach Pier](#) — CA
2. [Maui Seashell Condo](#)—HI
3. [Rehobeth Beach Boardwalk](#)—DE
4. [Pineapple Willy's](#)—FL
5. [Virginia Beach Boardwalk](#)—VA
6. [Naples Pier](#)—FL
7. [Soggy Dollar Bar](#)—BVI
8. [Winstead Inn & Beach Resort](#) — MA
9. [Calypso Towers](#)—FL
10. [LionsDive beach Resort](#)—Curacao

How the National Weather Service Remained Weather Ready in an Active April

Written by Kelly Neugent

April 2020 was characterized by an above average outbreak of severe weather. Beginning around April 6, model guidance began to suggest an active period of severe weather for the Southeastern United States, and local National Weather Service (NWS) forecasters, as well as forecasters at the Storm Prediction Center (SPC) and Weather Prediction Center (WPC) kept a close eye on the data, collaborating with one another to share insight and expertise about the evolving forecast. The goal of NWS is “one event, one forecast,” with over 130 forecast offices, national centers, aviation and river forecast centers all working together to ensure consistent messaging.

The average number of April tornadoes (between 1989 and 2013) is 178. In April 2020, there were 351 preliminary tornado reports. There were 854 hail reports, and 2,261 wind reports. With terrific forecasts, consistent in timing, location, and intensity, local emergency management personnel were able to proactively plan and prepare their communities. For example, (continued on page 4)

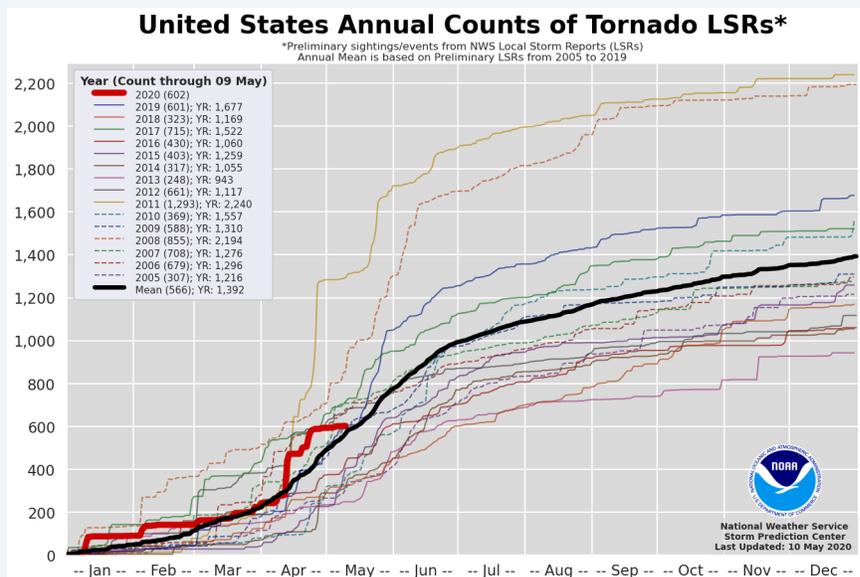


Figure 1 : Tornado counts for years 2005 through 2020 (bold red), along with the annual mean (2005-2019, bold black).



one success story comes from Onalaska, Texas, where an EF-3 tornado crossed through the town on April 22. Over 40 mobile homes were destroyed, but there were zero deaths because everyone that lived there sheltered in the mobile home's storm shelter. This is an excellent example of communication and trust, combined with terrific forecasts, which enables a resilient WeatherReady Nation.

Weather Ready Nation: Keeping Cool in the Heat

Written by Kelly Neugent

Summer officially begins June 20—five days from the publishing date of this newsletter, but many have been feeling the heat already (looking at you, Florida, which ranked warmest months on record for the first four months of the year). As we get into summer and temperatures continue to rise, we thought this would be a good time to send out a refresher on some best practices for heat safety.

Extreme heat, whether in the form of rising long-term average temperatures or highlighted by heat waves, is a global health threat (in fact, in the United States, it is deadlier than all other natural disasters combined). Hotter than average days in the summer increases illness and death by compromising our bodies ability to regulate its temperature. A loss of temperature control can result in heat cramps, heat exhaustion, heatstroke, and hyperthermia, as well as exacerbating chronic cardiovascular, respiratory, and cerebrovascular diseases and diabetes-related conditions. Fortunately, deaths and illnesses due to extreme heat events can be prevented and advances in our understanding of extreme heat risk and our ability to predict it (combined with improved communication and capacity building) can continue to decrease the risk.

Prepare NOW:

- Identify places in your community where you can go to keep cool (some examples: libraries, shopping malls, community centers)
- Keep your home cool:
 - Weather-strip doors and windows, and cover windows with shades or curtains.
 - Use window reflectors, such as aluminum foil covered cardboard, to reflect heat back outside.
 - Learn to recognize the signs of heat-related illness.
- Learn how to recognize signs of heat-related illness. Check [here](#) for more information.

Be Safe DURING:

- Never leave a child, adult or animal alone inside a vehicle on a warm day.
- When outside, wear a wide hat and loose, lightweight, light-colored clothing. Drink plenty of water and avoid high-energy activities.
- Do not use electric fans when the temperature outside is more than 95 degrees, as it could increase the risk of a heat related illness.
- Check on family members and neighbors. Remember that older adults, children, and sick or overweight individuals are at a greater risk from extreme heat.

“Tough times don’t last, but tough people do.” - Robert H. Schuller