Suncoast Weather Observer

Summer 2011 Issue 1, Volume 17

Inside This Issue...

NWS TBW Forecasters Help Texas with Fire Weather Support

By: Rick Davis

TBW senior meteorologist and Incident Meteorologist (IMET) Rick Davis and TBW meteorologist and IMET trainee Todd Barron worked with the Texas Forest Service (TFS) in Merkel, Texas, providing fire weather decision support services for the entire state from late April through mid-May 2011. They were part of a small group of NWS IMETs to do so during this extremely active spring fire season.

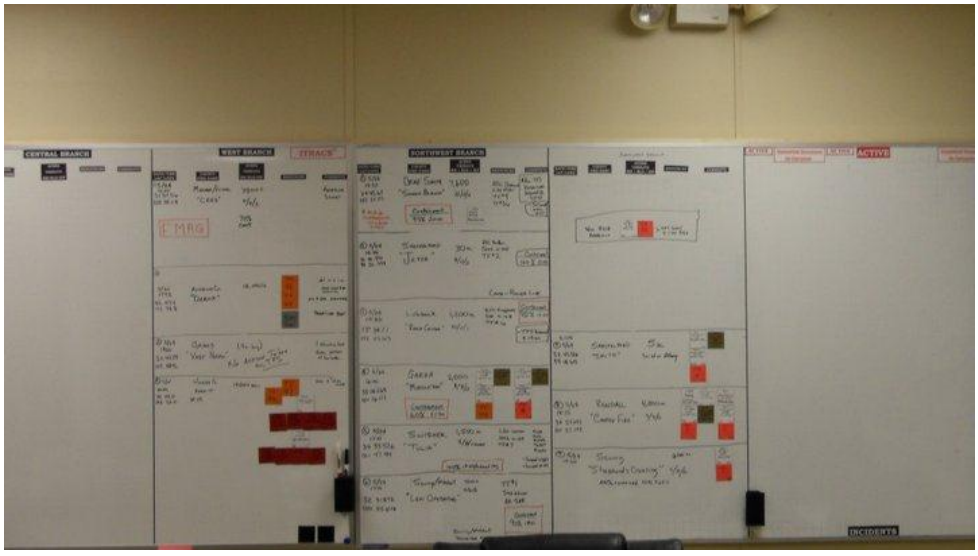
As is typical, La Nina produced warmer and drier than normal winter and spring conditions for Texas. Much of the state has been in a record drought, with extreme to exceptional drought conditions and very little to no rainfall observed, especially in western areas of the state. Numerous storm systems moving through the region also produced high wind events, leading to extremely critical fire weather patterns with very high to extreme fire danger ratings calculated.

Rick and Todd worked long and busy shifts at the Incident Command Post (ICP), producing numerous regional fire weather forecasts and site specific spot forecasts, maintaining a constant weather watch for severe weather, and providing daily weather briefings and maps for aviation assets, operational crews, emergency managers, and the command and general staff planning operations. While on assignment, Rick also hosted and provided an IMET and TFS operations tour and demo to members of the Lubbock, Texas, NWS office including the MIC, SOO, and fire weather program manager.

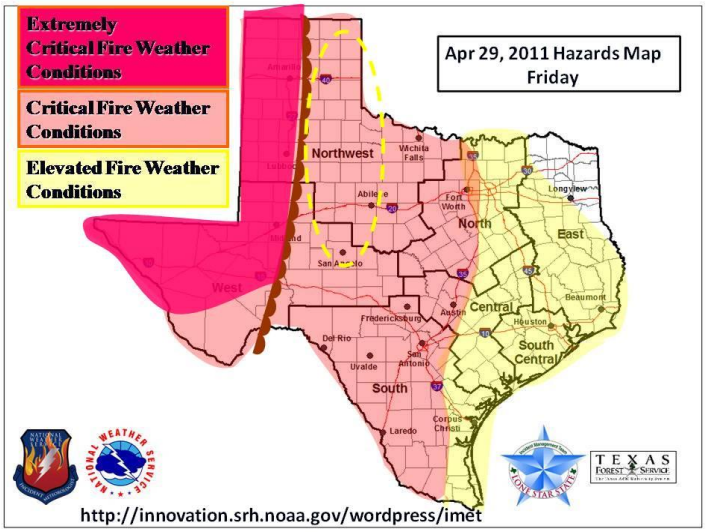
Morning Operations Briefings

Deaton Cole Fire

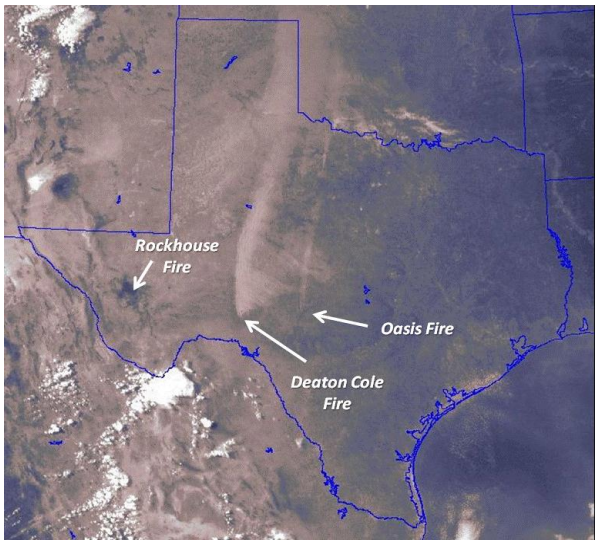
Smoke in Sunset at ICP



Operations Board with new fire starts



Fire Weather Hazards Map



Smoke plumes on Satellite

Lubbock staff visit and tour the ICP in Merkel

PK Complex Fire

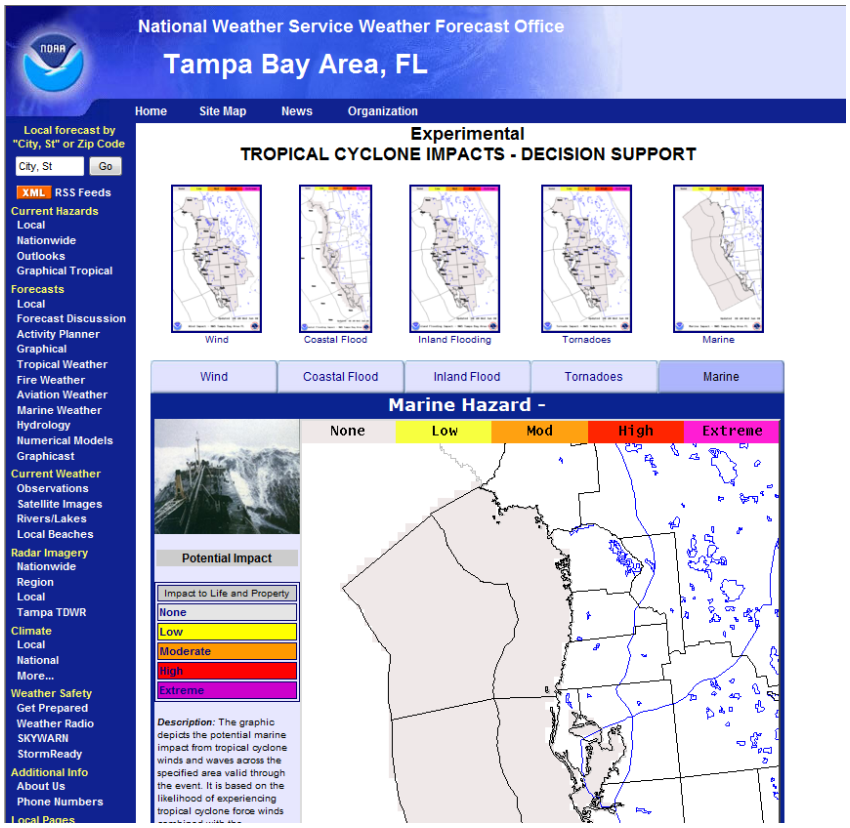
What You Need to Know During a Hurricane

By: Jennifer McNatt

We talk about hurricane preparedness in terms of making sure you have a large supply of water, batteries, medications, and other essentials...but another part of being prepared is knowing where to look for information before, during, and after a storm. Most Floridians are familiar with the National Hurricane Center's (NHC) webpage...and this site should definitely be bookmarked (or even your home page) during Hurricane Season. When you first navigate to www.nhc.noaa.gov you'll see an image of the Tropical Weather Outlook. This gives you a quick look at any areas that the hurricane forecasters are keeping their eye on for development (or any storms that are currently out there).

Once a depression, tropical storm, or hurricane has developed, the NHC will then start producing discussions and a forecast on the tropical cyclone. Those are all available directly below the map.

If a storm threatens the coastline, the local National Weather Service office will begin producing special products for that storm once a Watch or a Warning has been issued. You'll want to look for the Hurricane Local Statement (HLS), which is a text product, or at the Tropical Impact Graphics on the office's webpage. For West Central and Southwest Florida, you'll be looking at our webpage, www.weather.gov/tampabay. Click on the link for "Graphical Tropical" on the top of the left hand toolbar and you'll see a series of images that look like this:



You can scroll through each hazard...wind, coastal flood (storm surge), inland flooding (rainfall), tornadoes, and marine to see what we are expecting for this area. Some new features we've added this year...when you hold your mouse over any of the areas in color, you'll see text pop up which describes in detail what we are expecting. You can also look below the image to see exactly what the different color scales mean. You'll also be able to download these files this year in .kml format to view in Google Earth. That link is directly below the image as well. We update these graphics every six hours, after the NHC issues its updated hurricane forecast.

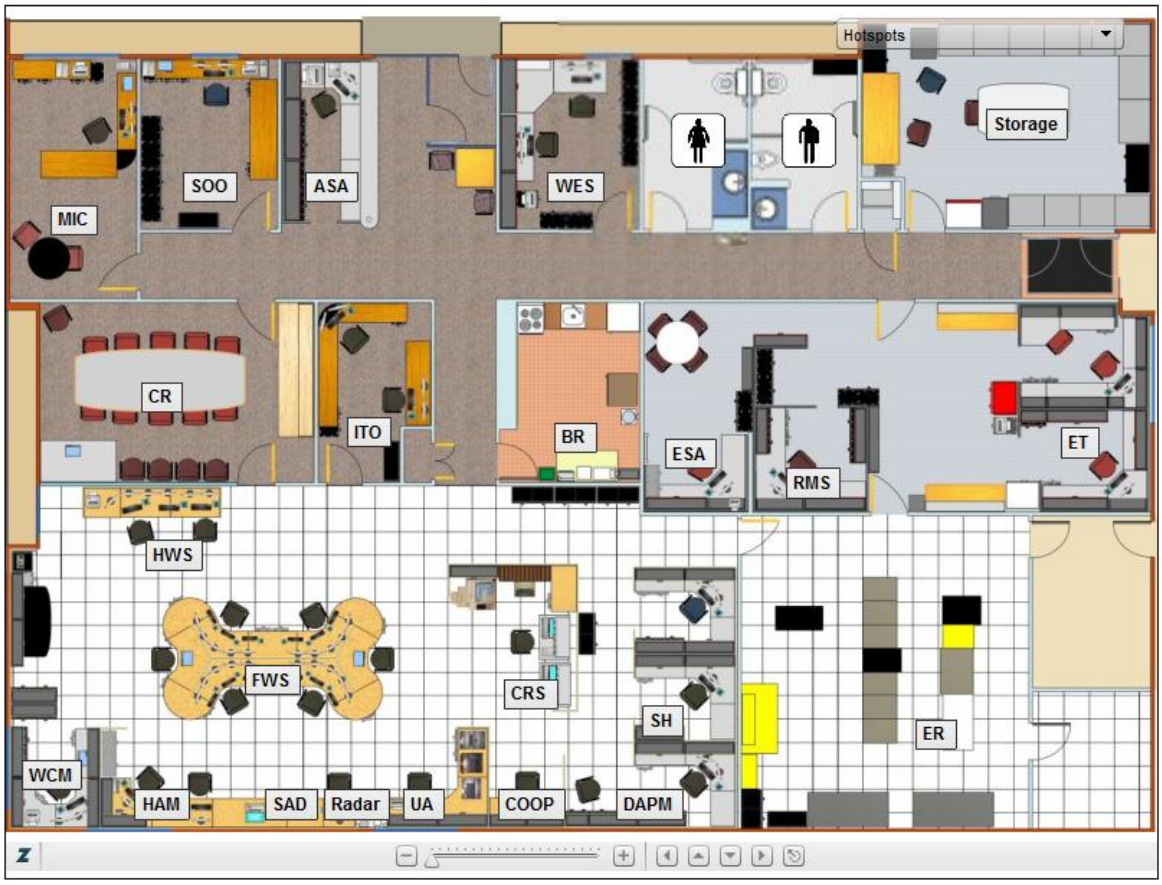
If you prefer looking at a text-only product, you can also view our Hurricane Local Statement (HLS). This is found under our "Tropical Weather" link on the left hand toolbar of our homepage. The HLS will provide information on the storm, the latest forecast, the specific impacts it will have on the local area, any current watches or warnings that are in effect, as well as county website links, when appropriate, to get the latest information on evacuations, shelter availability, road closures, etc. The HLS is also updated about every six hours, after the National Hurricane Center issues a new forecast.

****Remember that the impact graphics and HLS are only produced by the local NWS office when there is a Warning or Watch in effect along the coast.****

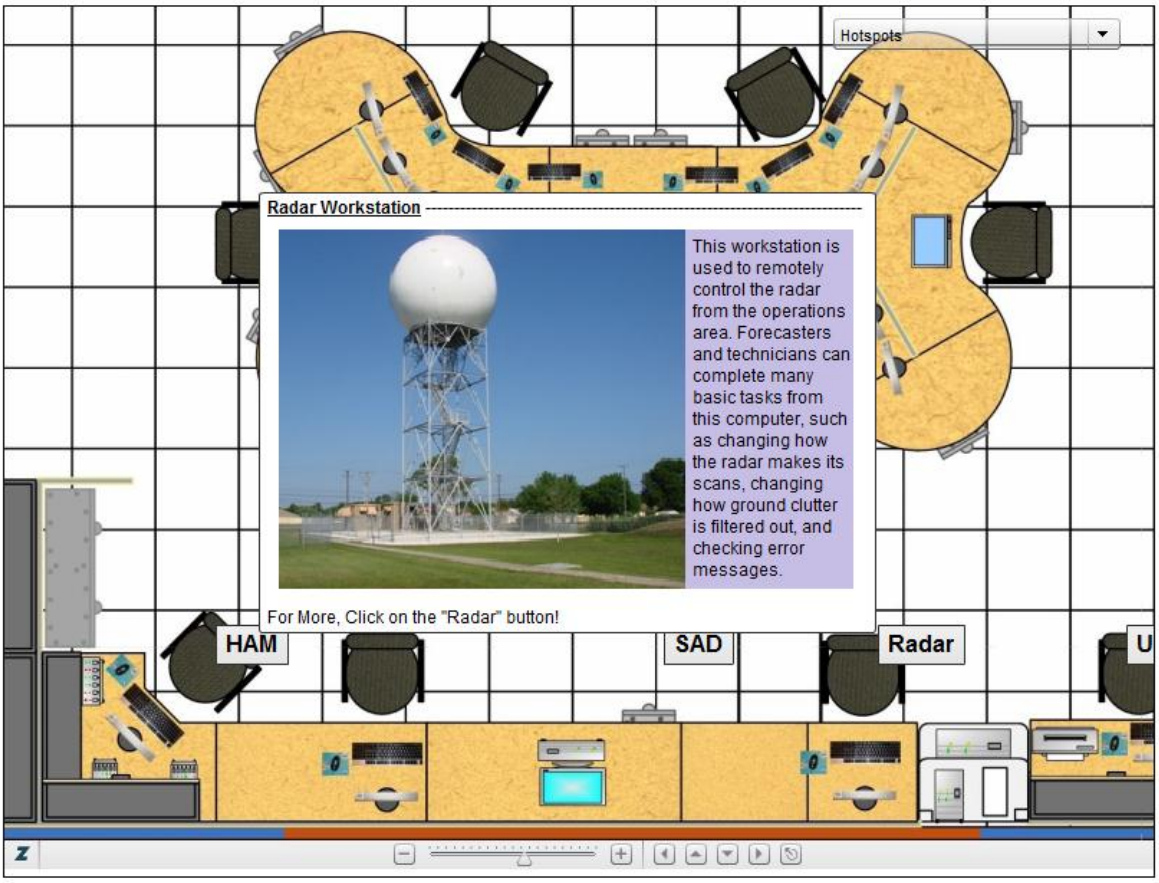
Virtual Tour of the National Weather Service Tampa Bay

By: Tyler Fleming

Have you ever wondered what the inside of a National Weather Service forecast office looks like? We've added a new application to our website called Virtual Tour that lets visitors have a peek at what the inside of the National Weather Service Tampa Bay Area office looks like. With Virtual Tour, you can see an overview of the entire building and zoom in on any area that interests you by clicking on an open space, or by using the scroll bar at the bottom of the screen. A good place to start would be the operations area in the lower left quarter of the screen.



There are also tags (the boxes with text in them) on many of the items of interest around the office. You can find out more about each of these items by holding your mouse over the tag. Most of the tags will have a picture and a brief discription of the item. A few of the tags even link to a short video or another webpage if you click on the tag. Explore the site and see what you can find!

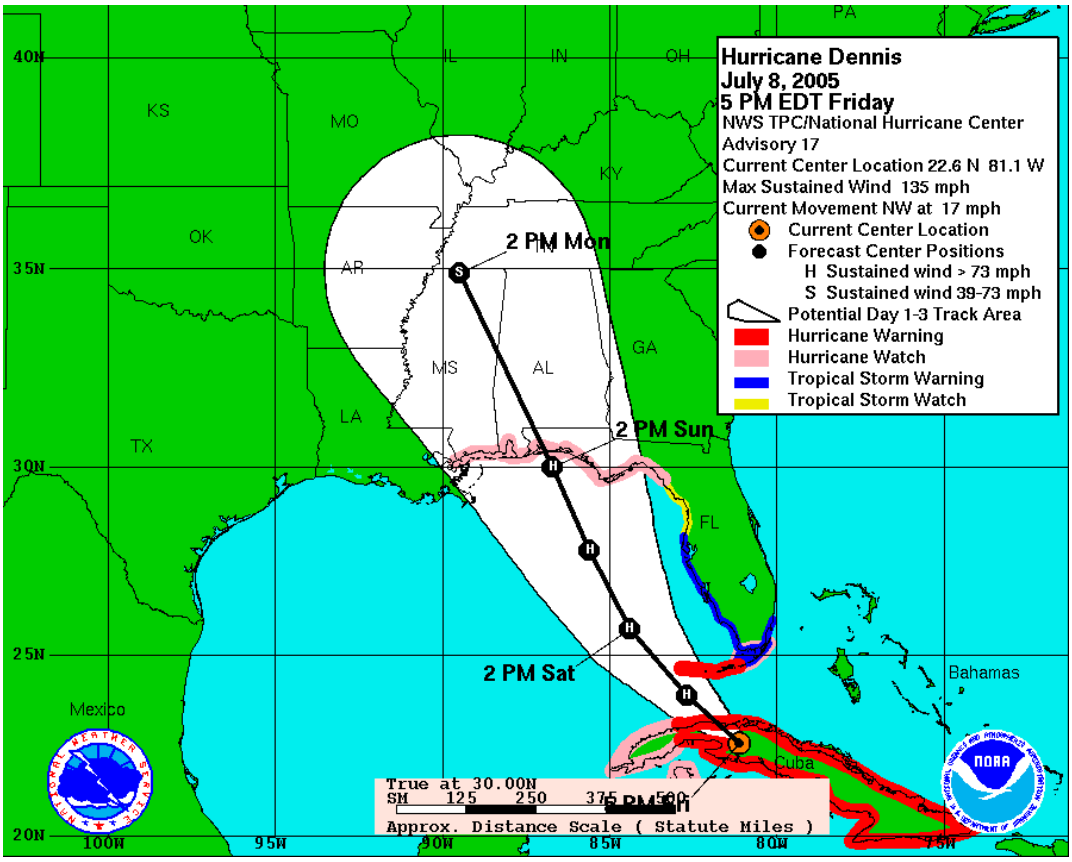


You can get to the Virtual Tour by going to the address below, or clicking the “Virtual Tour” link on the left hand navigation bar of the NWS Tampa Bay homepage.

http://www.srh.noaa.gov/tbw/?n=TampaBayVirtualOffice

What Does the Cone Around the Forecasted Hurricane Track Mean?

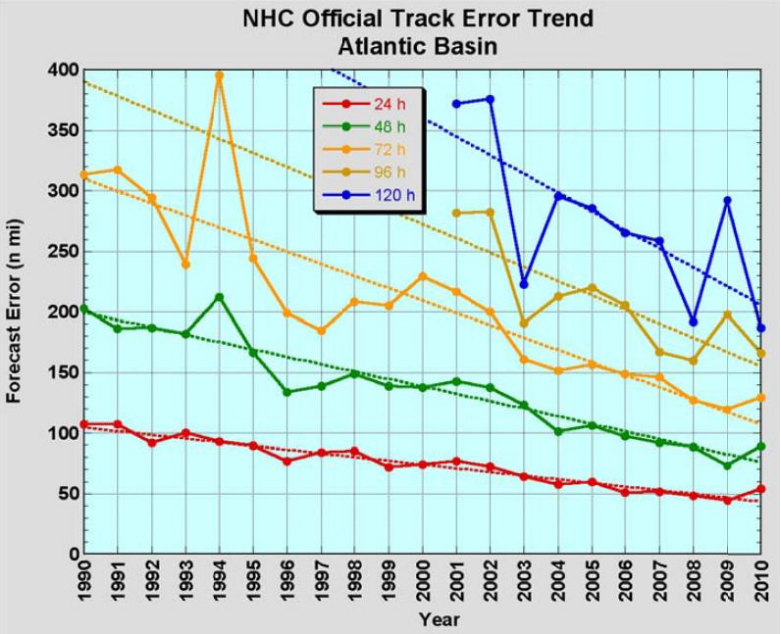
By: Jennifer McNatt



If you've ever been, or listened to a hurricane preparedness talk (from the NWS or from the media), you've probably heard the saying "Don't focus on the black line in the forecast...if you're anywhere inside the cone, you need to be prepared to take action." Do you know what the cone actually represents? Most people understand it to be the uncertainty associated with the forecasted path of the storm, but do you know its size and shape is actually based on science?

The size and shape of the cone is based on a set of imaginary circles placed along the forecast track (at the 12, 24, 36, etc. hour points). The size of each circle is determined by historical official forecast errors over the past five years. Two-thirds of the forecast errors will fall within each circle. Because errors are smaller at the lower-end time frames (12, 24hrs), and larger as we go further out in time, the swath comes out to be cone shaped.

The National Hurricane Center has consistently improved their forecast skill over the past 20+ years (see image right), so the cone has also gotten smaller over the years as a result.



In 2011, the cone is shrinking again! The table below outlines the circle radius for each of the forecast period points.

Forecast Period (hours)	**Circle radius Atlantic Basin (nautical miles)**
12	36
24	59
36	79
48	98
72	144
96	190
120	239

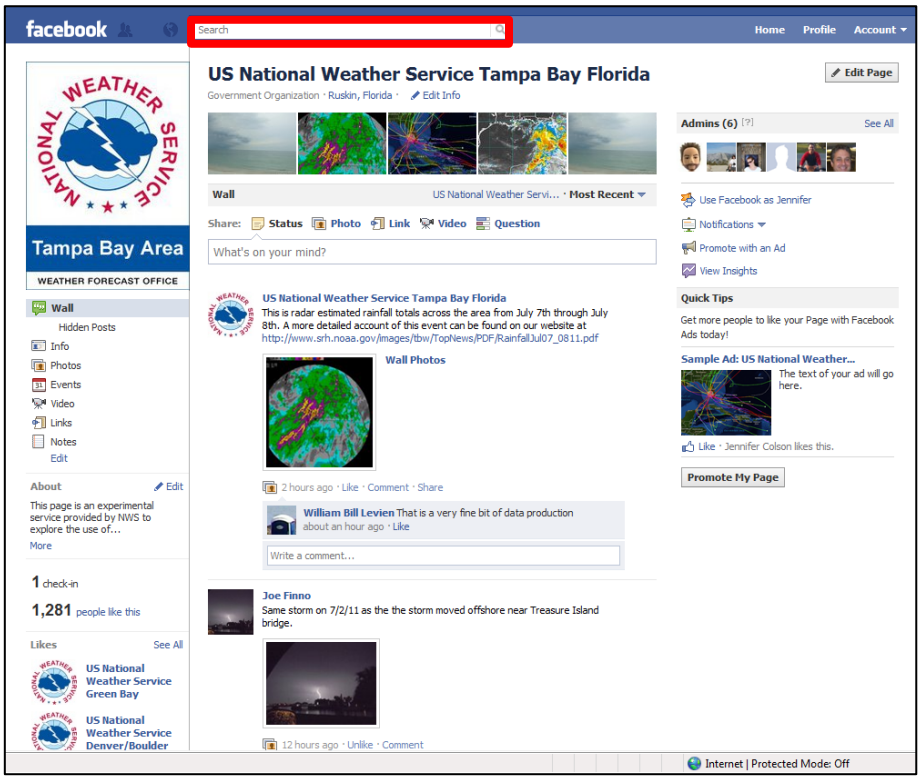
National Weather Service Offices Join Facebook

By: Jennifer Colson

National Weather Service Offices across the country have joined Facebook in recent months. This includes not only local forecast offices, but also Regional and National Headquarters offices, River Forecast Centers, and other National Centers such as the National Hurricane Center and the Storm Prediction Center. You can find these pages by doing a search at the top of the Facebook page (highlighted below with the red box) for "US National Weather Service" and the office name, except for National Centers, where you would search for the Center name such as "US National Hurricane Center".

The Facebook pages will act as a way to highlight expected severe weather events, inform the fans of planned office events such as Skywarn™ trainings, educate fans on weather safety or past weather events, and be a place where fans can interact directly with NWS forecasters. However, for detailed forecasts and site specific information, as well as radar feeds, watch and warning information, etc., you will instead want to visit our regular website, http://weather.gov/tampa. Below is the direct link to the Tampa Bay Area office Facebook page. Thank you for your support!

http://www.facebook.com/US.NationalWeatherService.TampaBay.gov

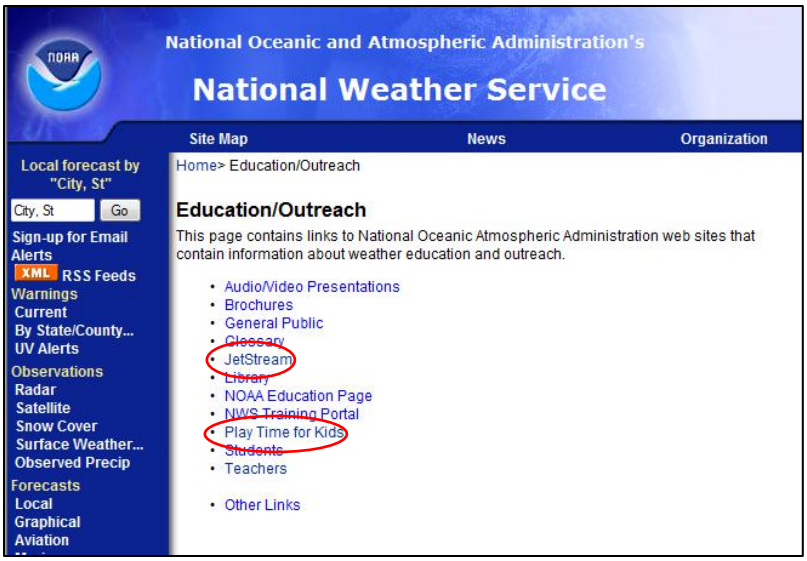


Summer Is a Great Time to Learn About Weather!

By: Jennifer McNatt

If you have kids out of school this summer and you're looking for something to do, it's a great time to increase their weather knowledge! The National Weather Service has some great resources to help you with this endeavor...

Let's start with the NWS's Education Page... www.weather.gov/education.php

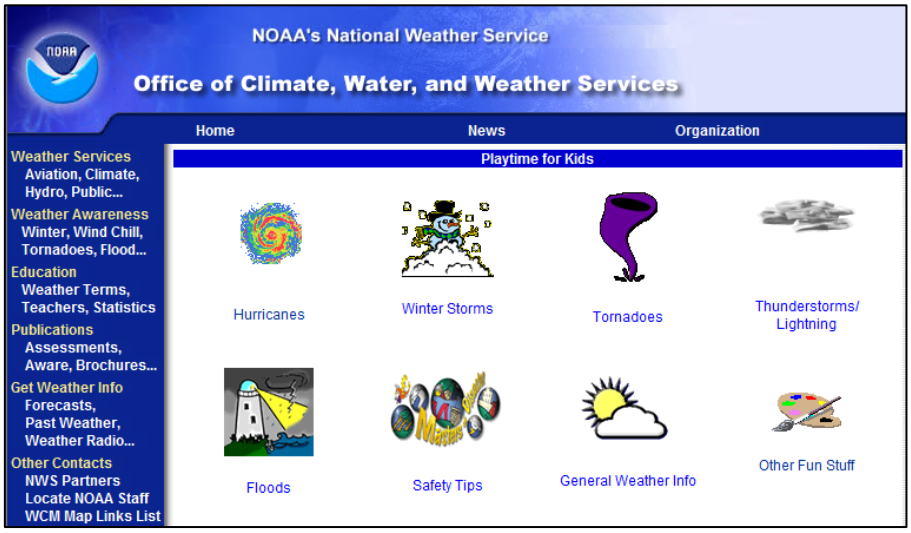


There are two links that this article will highlight, "JetStream" and "Play Time for Kids", but there are many other links that you might find interesting, such as the link for "Teachers" if you happen to need resources during the school year for weather topics.

The JetStream link is a great resource for educators, emergency managers, or anyone interested in learning more about weather and weather safety. Click on "Topic Matrix" once you get to the page and you'll see each individual weather topic for which training is available...with images, activities, and information to go along with it! This is a great resource for increasing your weather knowledge, finding out more information for a project, or creating a fun summertime activity for the kids.

The "Play Time for Kids" link also has some great resources. It contains fun activities and information on a variety of weather topics. A good one for Florida residents in particular this summer is the "Hurricane" link. The very first link under "Hurricanes" is new this year...

"Hurricane Strike! An Interactive Course on Hurricane Science and Safety for Kids and Their Families." You will have to register through the MetEd site (which is free...just fill out the information needed), but you can even have kids complete this activity on their own and have an e-mail sent to you with the final quiz results! Plus the MetEd site contains lots of other great courses that are perfect for homeschoolers, weather enthusiasts, or students looking for formal courses to add to a resume.



If you need any additional materials, are a homeschool group looking for a field trip opportunity, or need more information, you can contact our office for help.

New Thirty-Year Climate Normals Coming Soon!

By: Paul Close

On July 1, 2011, the National Climatic Data Center (NCDC) released the new thirty-year climate normals. These new normals will include data from 1981 to 2010, and therefore drop the 1970s, a decade marked by rather cool temperatures, and add the 2000s, which have been some of the warmest in recorded history. Therefore, many locations will probably see the new thirty-year average temperatures come in a little higher. These new normals will officially start being used on August 1, 2011.

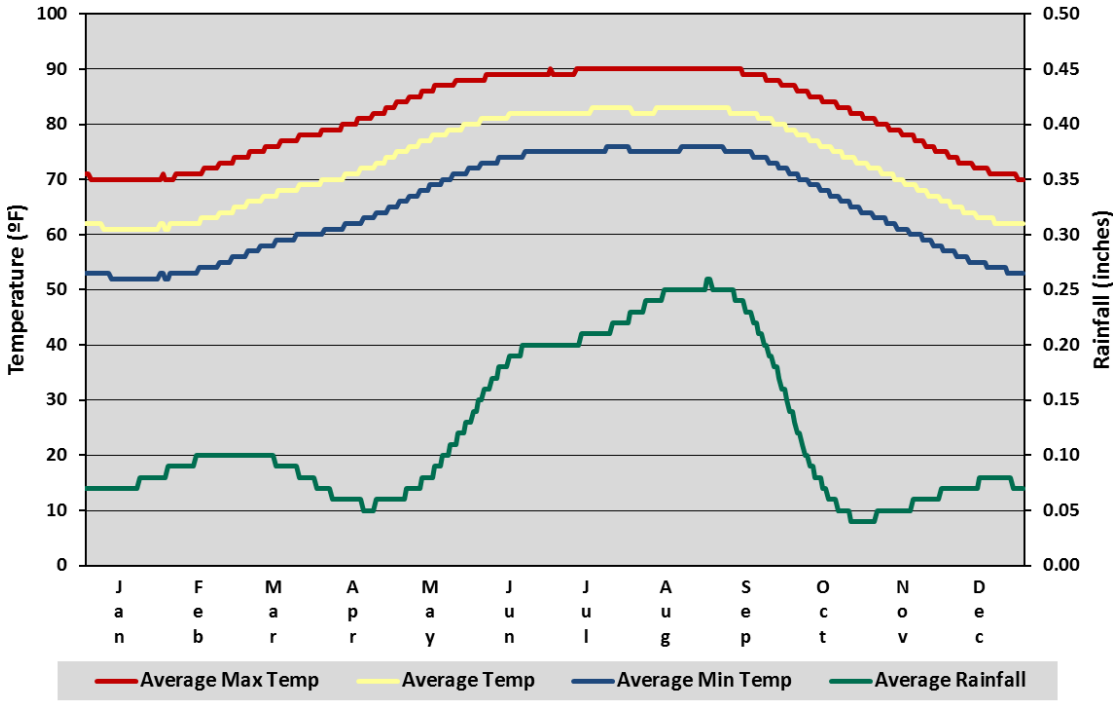


Figure 1- 1971-2000 Daily Normals for Tampa

So what is a Climate Normal? The term climatic "normal" has faced a dilemma since its introduction a century and a half ago. A climate normal is defined, by convention, as the arithmetic mean of a climatological element computed over three consecutive decades (WMO, 1989). Therefore, the normal value is usually not the most frequent value nor the value above or below which half the cases fall. The casual user, however, tends to (erroneously) perceive the normal as what they should expect. Dr. Helmut E. Landsberg, who became Director of Climatology of the U.S. Weather Bureau in 1954 and, later Director of the Environmental Data Service, summarized the dilemma quite well over four decades ago (Landsberg, 1955): "*The layman is often misled by the word. In his every-day language the word normal means something ordinary or frequent. However, when the meteorologist talks about 'normal', it has nothing to do with a common event. For the meteorologist the 'normal' is simply a point of departure or index which is convenient for keeping track of weather statistics. We never expect to experience 'normal' weather*."

It might be "normal" for the weather to swing radically between extremes from day to day and year to year, like it does during the winter months across Florida, but the "climatic normal" is simply an arithmetic average of what has happened at such a "swinging" place. This is why it's important to use a measure of the variability of climate (such as the standard deviation and extremes) in conjunction with the climatic normal when studying the climate of a location (Guttman, 1989).

In accordance with national and international convention, the official climate normals computed for U.S. stations by the NCDC consist of the arithmetic average of a meteorological element over 30 years. The "official" normals are provided solely by NCDC, which should be noted in light of other non-official computations from a myriad of sources. In the United States, normals have been computed for 1971-2000, 1961-1990, 1951-1980, 1941-1970, 1931-1960, and 1921-1950.

Normals are best used as a base against which climate during the following decade can be measured. Comparison of normals from one 30-year period to normals from another 30-year period, as seen in Table 1 below, may lead to erroneous conclusions about climatic change.

	Years	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Avg
30 Yr Normal Temperature	1971-2000	61.3	62.7	67.4	71.5	77.6	81.5	82.5	82.7	81.6	75.8	69.3	63.3	73.1
	1961-1990	59.9	61.5	66.6	71.3	77.4	81.3	82.4	82.4	80.9	74.8	67.5	62.2	72.4
	1951-1980	59.8	60.8	66.2	71.6	77.1	80.9	82.2	82.2	80.9	74.5	66.7	61.3	72.0
	1941-1970	60.4	61.8	66.0	72.0	77.2	81.0	81.9	82.2	80.8	74.7	66.8	61.6	72.2
	1931-1960	61.2	62.7	66.0	71.4	76.9	80.6	81.6	82.0	80.5	74.7	66.8	62.3	72.2
	1921-1950	61.5	62.9	66.0	71.5	76.5	80.4	81.7	82.0	80.5	74.6	66.7	62.7	72.3

	Years	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
30 Yr Normal Rainfall	1971-2000	2.27	2.67	2.84	1.80	2.85	5.50	6.49	7.60	6.54	2.29	1.62	2.30	44.77
	1961-1990	1.99	3.08	3.01	1.15	3.10	5.48	6.58	7.61	5.98	2.02	1.77	2.15	43.92
	1951-1980	2.17	3.04	3.46	1.82	3.38	5.29	7.35	7.64	6.23	2.34	1.87	2.14	46.73
	1941-1970	2.33	2.86	3.89	2.10	2.41	6.49	8.43	8.00	6.35	2.54	1.79	2.19	49.38
	1931-1960	2.13	2.84	3.75	2.84	2.85	7.28	8.62	8.24	6.89	2.78	1.46	1.89	51.57
	1921-1950	1.99	2.50	3.12	2.51	3.29	7.77	8.11	8.06	6.45	3.14	1.04	1.96	49.94

Table 1 - Monthly Normals at Tampa

This is due to changes over the decades in station location, in the instrumentation used, in how weather observations were made, and in how the various normals were computed. An example of these changes can be seen in Table 2 below which list the location and other details about the official Tampa observation since 1933. In this table you can see that several changes were made, from the actual location being moved from Peter O. Knight Airport to Tampa International Airport in 1946, to the observation being taken at different heights, to finally the present use of the Automated Surface Observing System (ASOS) beginning in 1995. The differences between normals due to these non-climatic changes may be larger than the actual differences due to a true change in climate.

Date Began	Date Ended	Lat/Lon	Elevation meters/ feet	COOP ID	WBAN	Type
TAMPA INTL AP						
1-Nov-95	Present	27°58'N 82°32'W	5.8m / 19'	88788	12842	LAND SURFACE COOP ASOS
1-Jan-80	1-Nov-95	27°58'N 82°32'W	5.8m / 19'	88788	12842	LAND SURFACE COOP
1-Jan-52	1-Jan-80	27°58'N 82°32'W	10.1m / 33'	88788	12842	LAND SURFACE COOP WSO
6-Jun-46	1-Jan-52	27°58'N 82°32'W	11.0m / 36'	88788	12842	LAND SURFACE COOP WBAS
TAMPA PETER O KNIGHT AP						
1-Jan-39	6-Jun-46	27°55'N 82°27'W	3.0m / 10'	.	12842	LAND SURFACE WBAS
1-Nov-33	1-Jan-39	27°55'N 82°27'W	2.1m / 7'	.	12842	LAND SURFACE SAWRS

Table 2 – Location of Tampa Observation

Therefore, it is best to think of the climatic normals as a guide to the approximate temperature and amount of rainfall during the year. This is especially true for temperatures across West Central and Southwest Florida during the winter months when we see numerous cold fronts sweep south across the region preceded by warm weather and then followed by rather cold conditions. During the summer months temperatures do not vary far from the normals most of the time as high pressure tends to dominate and cold fronts do not make it this far south.

For more information about Climate Normals visit the following NCDC web page: http://cdo.ncdc.noaa.gov/cgi-bin/climatenormals/climatenormals.pl

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Thank You to all!

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Tyler Fleming - Meteorologist Intern