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SKYWARN Training Season in Full Swing

By: Dan Noah



SKYWARN

Become a volunteer for your National Weather Service or just come to learn more about weather. SKYWARN is a program consisting of trained weather spotters who provide reports of hazardous weather to local National Weather Service Offices. The training will focus on weather safety, thunderstorm formation, severe weather cloud identification, reporting, supercell thunderstorms and hurricanes.

Check out the link below for currently scheduled trainings. Check back often as this list is updated throughout the year. You can also friend us on FaceBook to receive training notifications.

<http://weather.gov/tampa/?n=tampabayskywarctraining>

<https://www.facebook.com/US.NationalWeatherService.TampaBay.gov>

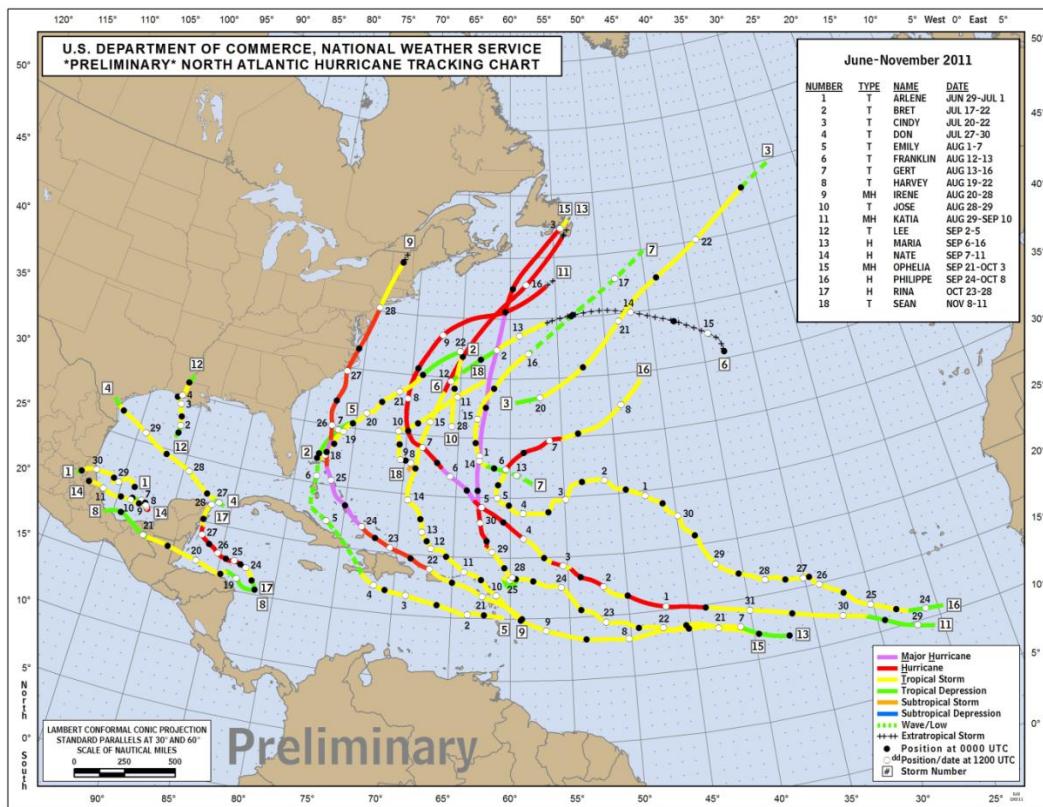
2011 Hurricane Season Review

By: Jennifer Colson

The 2011 hurricane season was an active one, but thankfully the Tampa Bay Area was kept in the clear. There were a total of 19 tropical storms this season, of which seven became hurricanes, including three major hurricanes. An average hurricane season will see eleven named storms and six hurricanes, including two major hurricanes (Category 3 or greater).

The 19 tropical storms that occurred ties for the third highest total (tied with 1887, 1995, and 2010) since records began in 1851. This year's totals include a post-storm upgrade of Tropical Storm Nate to a hurricane, and the addition of a short-lived unnamed tropical storm that formed in early September between Bermuda and Nova Scotia. This unnamed storm, along with several other weak, short-lived named storms, could have gone undetected without modern satellite technology. This season also marks a record sixth straight year without a major hurricane making landfall in the United States.

A preliminary map of the track of all of the tropical activity for the 2011 season is below. There were four tropical storms and two hurricanes that moved through the Gulf of Mexico. All of these storms remained in the western Gulf of Mexico. There were also two tropical storms and one major hurricane that caused some minor impacts to the southeastern Florida coast as they lifted north of that area.



The major hurricane to pass near southeast Florida, Hurricane Irene, was the only storm to make landfall in the United States since 2008. Irene strengthened to a major hurricane on August 24th over the southern Bahamas, and as it turned north just to the east of the state on the 25th and 26th it gradually weakened back down to a category 2 storm. Irene then made landfall on the 27th near Cape Lookout, North Carolina as a category 1 storm and continued north moving through several New England states before becoming extra tropical on the 28th. Irene caused 41 fatalities in the U.S. alone, with more than half of those due to rainfall-induced flooding.

Here are some Inland Flooding safety tips, good information for both hurricanes and other rainfall-induced flooding:

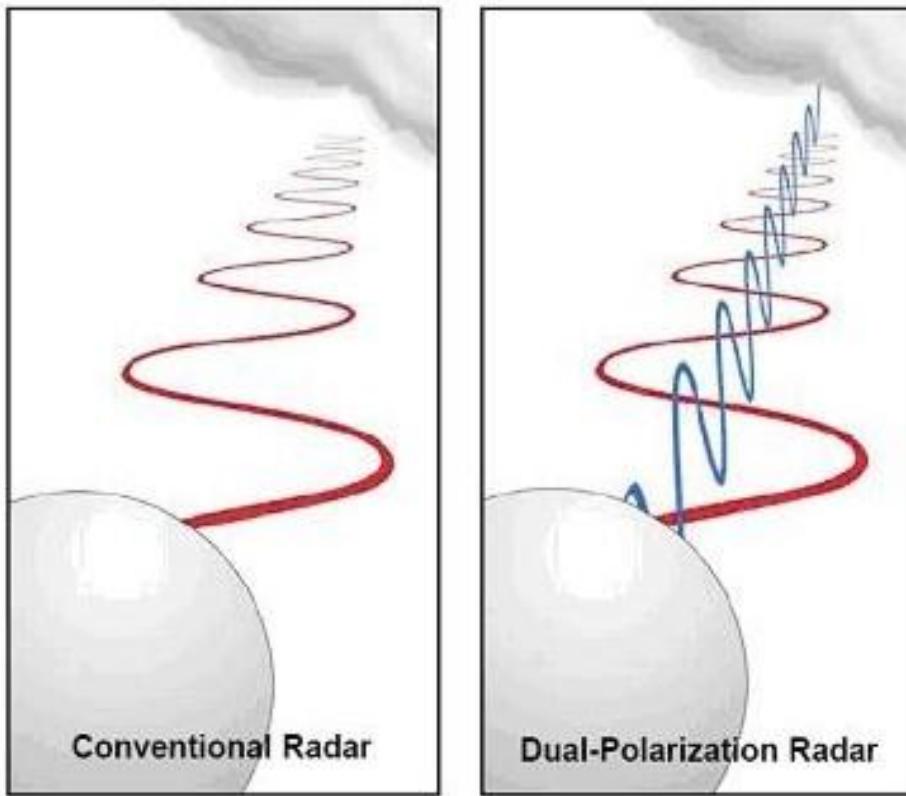
- Determine ahead of time whether you live in a potential flood zone.
 - If advised to evacuate, do so immediately.
 - Be aware of streams, drainage channels, and areas known to flood so you or your evacuation routes are not cut off.
 - Do not drive into water of unknown depth. Moving water can quickly sweep your vehicle away.
 - Stay away from downed power lines.
 - Restrict children from playing in flooded areas.
-

NWS Tampa Prepares for Dual Polarization Radar Upgrade

By: Logan Johnson

Beginning February 27, 2012, the National Weather Service Tampa Bay area will begin the 2 week process of upgrading our radar to a Dual Polarization Radar. The WSR-88D system has been in place for 17 years at the office, and this will be the most significant upgrade since then. All NWS radar systems across the United States will receive this important upgrade during the multi-year installation, set to finish in 2013.

The current radar system works by emitting a horizontal pulse of energy that bounces off of things in the atmosphere like rain drops, snowflakes, or hail stones. The new dual polarization system is different, because it emits horizontal and vertical pulses. This second pulse will allow for meteorologists to study the insides of storms like never before. Several new radar products will now be available, as well as enhancements to ones we're already familiar with, making many of them more accurate than before.



The greatest service improvements are expected to be from improved estimation of rainfall, increased detection of hail and areas of heavy rain, and more accurate data on precipitation types. The end results will be for an enhancement to warnings for severe weather and flash flooding, while aviation users will find aircraft icing conditions more easily detected with the new system. This will be due in part to the new system facilitating better identification of the melting layer in storms.

Technicians will take the radar offline at the Tampa Bay Area forecast office on Monday, February 27. The system will be completely out of service for two weeks during the installation and upgrade procedure. During that time, your local NWS meteorologists will continue to utilize radar data from surrounding weather service offices and FAA radar systems to provide critical services to the residents of west central and southwest Florida. Your spotter reports will be extra important during this time, and we encourage everyone who reports weather conditions to the office to keep an eye to the sky in late February and early March.

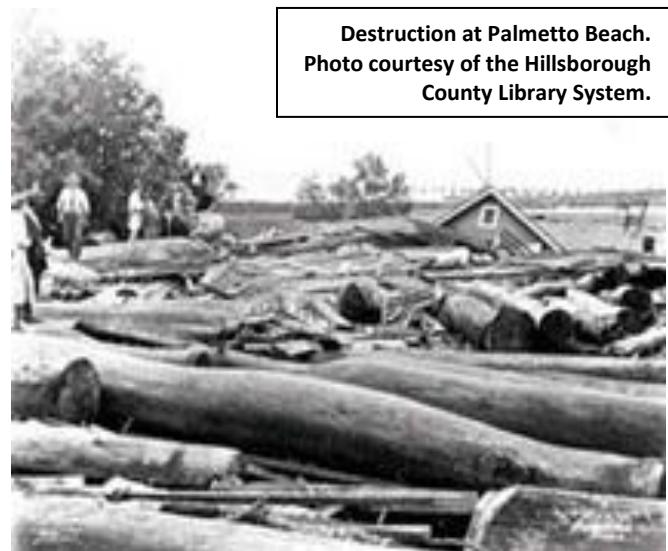
Further information will be coming from the NWS Tampa Bay area office as the date approaches. All of the adjacent offices in Florida will be receiving this upgrade during the year, and most of them will do so during the first three months of this year.

Visit our informational Dual Polarization website at:
<http://www.srh.noaa.gov/tbw/?n=tampabaydualpol>

90th Anniversary of the 1921 Tarpon Springs Hurricane

By: Jennifer Colson

On October 25th, the National Weather Service Tampa commemorated the 90th anniversary of the 1921 hurricane that made landfall in Tarpon Springs. This category 3 storm caused 8 fatalities and an estimated \$5 million (more than \$60 million today when adjusted for inflation) across the Tampa Bay area. The citrus industry was hit hard by the storm, destroying entire crop fields, and numerous ships were destroyed as the storm surge smashed the vessels against the docks. The powerful winds also reduced several structures to rubble along the coast in Palmetto Beach, Edgewater Park, and the Hendry Knight Channel.



Destruction at Palmetto Beach.
Photo courtesy of the Hillsborough County Library System.

The population across the Tampa Bay area has grown by near 2,000% since this storm and become highly urbanized. Imagine the devastation that a similar storm could do today. It is very important that all Florida residents make sure to take proper precautions before, during, and after hurricane season to ensure their personal safety, as well as mitigate property damage as much as possible. Please visit the following website for more information about the 1921 hurricane and general hurricane information. There is also a video about the 1921 hurricane, produced locally here at the National Weather Service Tampa.

<http://www.srh.noaa.gov/tbw/?n=tampabay1921hurricane#>

NWS Tampa and a Weather Ready Nation: Integrating Environmental Support Services

By: Mike Gittinger

In the past decade we have seen devastating natural disasters rock the United States. Most recently, in April of 2011, two historic tornado outbreaks occurred across the southern United States, killing a stunning total of 384 residents. By the end of 2011, 1748 tornadoes had killed 546 residents. These high death tolls occurred despite excellent forecast and warnings issued by the various NWS Offices. This prompted the leaders of the NWS to question, "What more can we do?" What they came up with was the Weather Ready Nation initiative.

The Weather Ready Nation (WRN) initiative builds on ongoing efforts by the NWS forecast offices to provide increased Decision Support Services for local emergency management officials and the general public during extreme and dangerous weather events. As part of this movement, the NWS will also continue to explore new products and services in support of weather critical events such as HAZMAT incidents, wildfires, and even large outdoor events where the public can quickly be placed in harm's way by rapidly changing hazardous weather conditions. In support of the WRN initiative, several NWS pilot projects have been established at various locations across the nation in order to explore new concepts, products and services. The NWS Tampa Office was chosen to host one of these pilot projects – Integrating Environmental Support Services.

The goal of the pilot project will be to explore additional services that promote healthy ecosystems and environmental sustainability efforts. The pilot team will collaborate with local, state and regional agencies to identify service requirements and engage opportunities for research and new service implementation. In addition, the team will lead

initiatives in environmental decision and ecological support activities while assisting in the development and implementation of services on a multiagency level. Harmful algae blooms, fish and wildlife kills, and ocean dead zones are just some of the ecological issues facing this country that have a strong connection to the weather. This pilot is designed to improve collaboration between scientists working to mitigate these issues and the NWS.

In order to accomplish the mission described above, three new positions called Emergency Response Meteorologists (or ER Met) were filled. In recruiting for these specialized positions, the Tampa Bay Meteorologist-in-Charge, Brian LaMarre, led a committee of experts to review, interview and select top talent for the new assignments. The committee included Tracy Rouleau, management analyst and ecological forecasting subject matter expert from NWS Headquarters, along with Warning Coordination Meteorologist Dan Noah and Science and Operations Officer Charlie Paxton, both from the NWS Tampa Office. The candidates chosen to fill these ER Met positions were Todd Barron, Rick Davis and Mike Gittinger. This team collectively has over 30 years of experience in the NWS, with most of the time spent in coastal locations. This will be an office-wide effort to expand on the top-notch Decision Support Services already performed by the NWS Tampa Office.

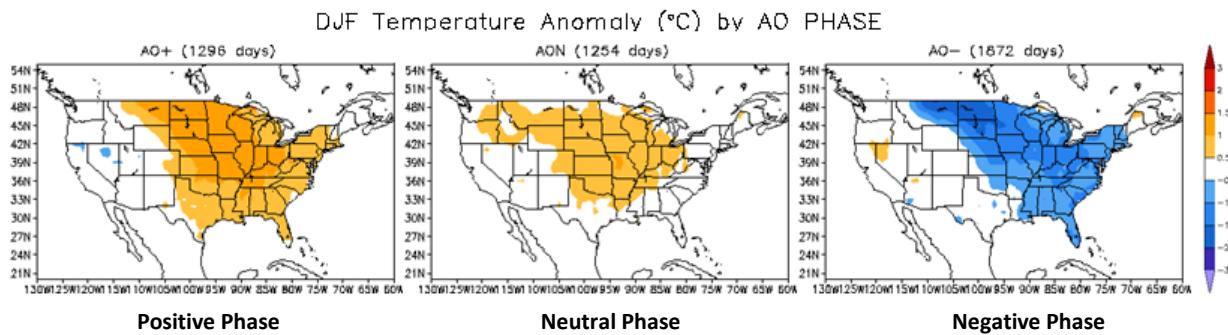
Many concepts and services prototyped at each pilot project, including the NWS Tampa Office, will spread across the NWS. These are exciting times as these pilot projects will play a major role in shaping the future of the NWS while working toward the goal of a truly Weather Ready Nation.



December 2010 vs. December 2011

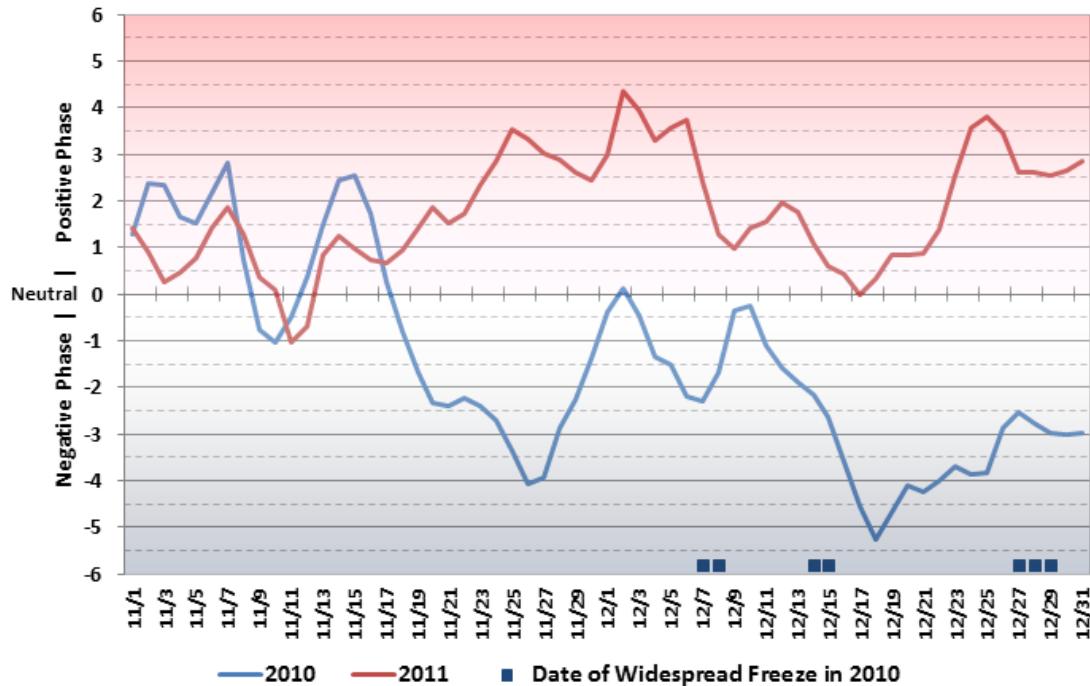
By: Paul Close

What a difference a year makes! December 2010 was the coldest on record across almost all of West Central and Southwest Florida (see Table 1), but one year later December 2011 saw some spots end up in the top ten warmest. So what changed? Both years we were in a La Niña pattern in the tropical Pacific Ocean, but what changed was the Arctic Oscillation (AO). The AO is a rather short term change usually on the order of a few days to a few weeks, compared to El Niño/La Niña which last for months, sometimes years when it comes to La Niña. During the winter months (December/January/February) the negative phase allows cold air to plunge into the Midwestern/Eastern United States and Western Europe, and storms bring rain to the Mediterranean. The positive phase brings the opposite conditions, steering ocean storms farther north and bringing wetter weather to Alaska, Scotland, and Scandinavia and drier conditions to areas such as California, Spain and the Middle East. This correlation during the winter months can be seen in the images below:



So if we take a look at the daily Arctic Oscillation index for November and December of 2010 and 2011 below we see that both start out pretty similar. However, during the middle of November 2010 the AO dropped into the negative phase and for the most part remained there through December 2010 while during the same time in 2011 it stayed in the positive phase.

Daily Arctic Oscillation Index



Thanks to this phase difference, the average temperatures during December 2011 were 11 to 15 degrees warmer than December 2010 as seen in the table below:

Location	Site Identifier	December Average Temperature 2010	December Average Temperature 2011	Difference b/n 2010 & 2011	1981-2010 Normal Temperature	Year Records Began
Arcadia	:ARCF1	51.5*	65.8	14.3	62.4	1899
Archbold Bio Stn	:ACHF1	52.1*	65.0	12.9	62.6	1969
Bartow	:BARF1	53.5+	65.5	12.0	63.7	1892
Brooksville Chin Hill	:BROF1	52.0*	64.9	12.9	62.3	1892
Chiefland 5 SE	:CHIF1	47.7*	59.6	11.9	56.3	1956
Fort Myers/Page Field	:FMY	56.7*	69.8	13.1	66.5	1902
Inverness 3 SE	:INVF1	47.5*	61.4	13.9	58.7	1948
Lakeland Linder Field	:LLDF1	53.2*	65.7	12.5	62.9	1915
Mountain Lake	:LWLF1	53.0+	66.3	13.3	63.5	1935
Myakka River State Park	:MKCF1	53.0*	67.0	14.0	63.7	1956
Plant City	:PLCF1	53.2+	66.4	13.2	62.7	1892
Punta Gorda 4 ESE	:PNTF1	54.7*	67.3	12.6	65.4	1966
Sarasota-Bradenton	:SRQ	53.0*	67.5	14.5	63.5	1911
St Leo	:STLF1	51.6*	64.0	12.4	62.7	1895
St Pete/Albert Whitted	:SPG	55.5*	67.2	11.7	64.1	1914
Tampa Intl Apt	:TPA	53.2*	67.5	14.3	63.1	1890
Tarpon Springs	:TRPF1	50.6*	65.1	14.5	62.0	1892
Venice	:VNCF1	55.1*	69.1	14.0	64.0	1955
Wauchula 2 N	:WAUF1	50.7*	63.6	12.9	63.7	1933
Winter Haven	:WHNF1	52.5*	66.4	13.9	63.1	1941

* Coldest December On Record

+ Second Coldest December On Record Behind 1935

So it would appear that if we monitor the trend in the Arctic Oscillation index on the Climate Prediction Center web site listed below during the winter months we may be able to forecast periods of warm weather or cold weather with pretty good accuracy.

http://www.cpc.ncep.noaa.gov/products/precip/CWlink/daily_ao_index/ao.shtml

Thank You to all!

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