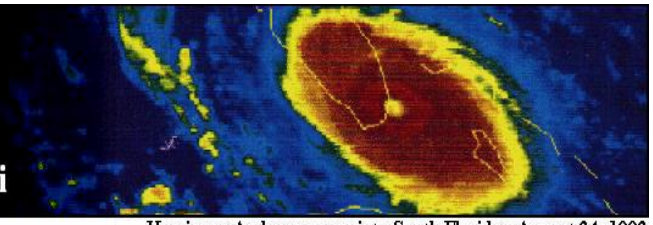
Tropical Winds

The Official Newsletter of WFO Miami



Hurricane Andrew moves into South Florida - August 24, 1992

Issue 5 – Summer 2011

Welcome to the summer issue of the Tropical Winds. The past few months have been a busy and exciting time at WFO Miami with many outreach events occurring including an open house celebrating 100 years of service by the National Weather Service Forecast Office Miami-South Florida. In this issue we will take a look back at some of these events, and take a glance at what a few of the WFO employees have been up to during the spring. Also, June 1st is the start of the 2011 hurricane season, and it is a good time to make an action plan in case a hurricane threatens South Florida. In this issue we will look into NOAA's forecast for the 2011 season.

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Weather Review and Outlook

Everglades National Park - Dan Gregoria

By Evelyn Rivera

I. Spring Review

Drought

Spring 2011 was characterized by the prevalence of a high pressure system across the area, which implies dry and warm conditions. Although a few "cold fronts" moved across the Florida peninsula during this period, they were lacking a significantly cold air-mass and precipitation. Temperatures remained in the warmer-than-normal range across South Florida for spring of 2011. In fact, April 2011 was the warmest April on record for West Palm

Beach, Ft. Lauderdale, and Miami. It was the second warmest April on record for Naples. For more specific information on the record warmth of April, click here.

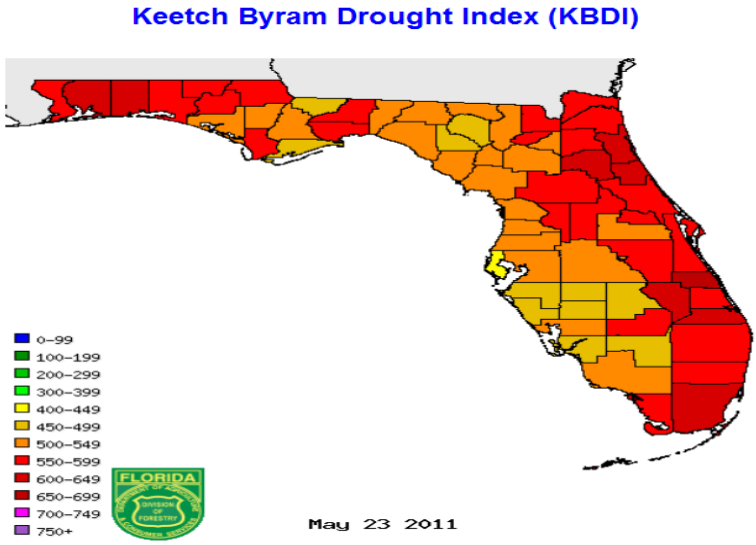
The very warm and dry conditions of this spring have aggravated the drought conditions. Here is a table with the rainfall observations from the major reporting sites across South Florida and the respective departures from normal:

	OCT 1, 2010 – MAY 31, 2011		
Airports	***Rainfall :***	***Departure :***	
NAPLES MUNICIPAL AIRPORT	6.70″	-12.88″	***Record driest***
PALM BEACH INTERNATIONAL	10.45″	-22.64″	***Record driest***
FORT LAUDERDALE INTERNATIONAL	9.27″	-23.07″	***Record driest***
MIAMI INTERNATIONAL	16.56″	-10.63″	

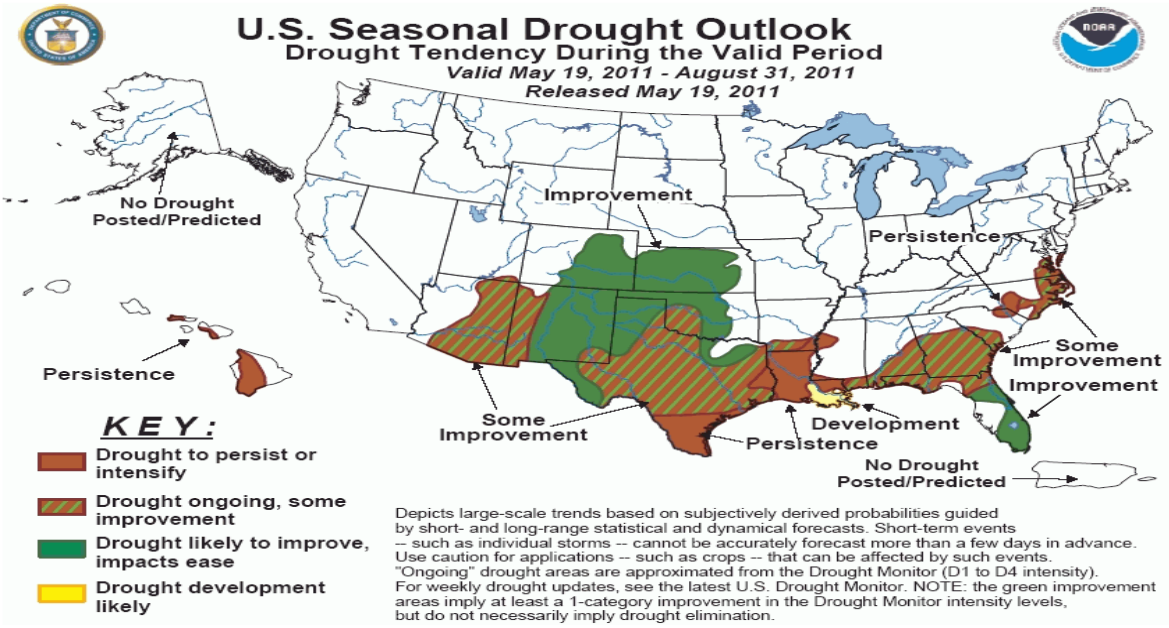
These deficits are substantial. In fact, the period from October 1, 2010 through May 31, 2011 was the driest Oct-May period ever recorded for Naples, West Palm Beach and Fort Lauderdale! The previous driest period occurred in 1971 at all 3 sites.

At this moment, extreme drought conditions (D3) are experienced in Palm Beach, Broward and much of Miami-Dade County extending into the interior. A D3 status means that very dry conditions have been experienced in these areas, with underground water levels low. Western Glades, Western Hendry, Far Western Collier, Southern Miami-Dade and Mainland Monroe Counties remain in a severe drought condition (D2).

Drought conditions are very important not only for water purposes, but for wildfire concerns. In the map below, the Keetch Byram Drought Index (KBDI) is depicted for the Florida peninsula at this moment. A KBDI of 600-650 is shown for most of South Florida, except 650-700 for Palm Beach and Broward Counties, and between 550-600 for Glades and Hendry Counties. This implies that Eastern South Florida is in a high risk of wildfires.



The next map is showing the Seasonal Drought Outlook for the U.S. for the summer 2011. South Florida is showing an expected improvement in drought conditions due to the rainy season.



II. Hurricane Season

The Climate Prediction Center (CPC) is forecasting an above-than-normal hurricane season for the Atlantic basin with 12-18 named storms are expected to form. From these, 6-10 could become hurricanes, with 3-6 possibly developing into major hurricanes. A normal or average hurricane season is defined to have 11 named storms, 6 hurricanes and 2 major hurricanes. Climate factors considered for this outlook were: the multi-decadal high activity era across the Atlantic, a warmer-than-normal Atlantic Ocean, and a weakening La Nina, which will keep a low wind shear prevailing throughout the hurricane season.

Here is the list of the names (and pronunciations) that will be used this hurricane season:

Name	Pronunciation
Arlene	ar-LEEN
Bret	bret
Cindy	SIN-dee
Don	dahn
Emily	EH-mih-lee
Franklin	FRANK-lin
Gert	gert
Harvey	HAR-vee
Irene	eye-REEN

Jose	ho-ZAY
Katia	ka-TEE-ah
Lee	lee
Maria	muh-REE-uh
Nate	nait
Ophelia	o-FEEL-ya
Philippe	fee-LEEP
Rina	REE-nuh
Sean	shawn
Tammy	TAM-ee
Vince	vinss
Whitney	WHIT-nee

What is the SAL?

Backlit anvil of a thunderstorm over the Everglades - Jun 2010 - Andrew Tingler

By Dan Gregoria

Have you ever heard of "SAL"? No, not Sal the person but SAL the "Saharan Air Layer"! The SAL is a warm and very dry airmass which originates from the Saharan Desert of Africa. The prevailing easterly winds transport the SAL from North Africa and across the Atlantic. The SAL lifts up over the maritime airmass as it moves across the Atlantic, and the result is an airmass characterized by a warm layer, or inversion, often located some 5000 feet or higher above the surface. The SAL, due to its dry characteristics, is known to be an inhibiting factor in tropical cyclone formation.

Photo by Dan Gregoria, NWS Miami

Have you ever noticed a hazy, milky sky during the summer months in South Florida? The haze can be dust from the Saharan Desert moving overhead! Pretty cool, huh?! One such time this occurred last year was in late July ahead of Tropical Storm Bonnie.

The three combined images to the right shows ascent through the Saharan Air Layer (from bottom to top). The bottom image is below the SAL, the middle image is within the SAL, and the top image is above the SAL.

Outreach

MacArthur Causeway and Downtown Miami - Dan Gregoria

By Andrew Tingler

We have been very busy over the past few months with various outreach programs and activities ranging from numerous school career day functions across South Florida, skywarn talks, and to manning booths at the Miami-Dade County Fair and the Governor's Hurricane Conference. A few of the highlights from the past few months are listed below.

The Miami-Dade County Fair

The National Weather Service in Miami was proud to attend the Miami-Dade County Fair held at Tamiami Park near Florida International University. Over half a million people attended the fair through the two weeks of operation and many of those fair goers passed through the venders area where the NWS Miami-South Florida booth was located. NOAA Fisheries, Atlantic Oceanographic and Meteorological Laboratory (AOML), and the National Hurricane Center (NHC) also participated with the fair. Severe weather and hurricane preparedness information along with ocean conservation information was displayed and provided.

WFO Miami Open House

It is the Miami-South Florida National Weather Service Forecast Office's 100th anniversary of service, and to celebrate we had an open house on the 16th of April. The tour offered a look behind the scenes of weather forecasting and warnings in the operations center of WFO Miami and also included stops at the National Hurricane Center and the Tropical Analysis and Forecast Branch (TAFB). Several other NOAA, Meteorology, and Emergency Management services were also in attendance including AOML, NOAA's Marine Fisheries, University of Miami Rosenstiel School of Marine & Atmospheric Science (RSMAS), University of Miami American Meteorological Society (AMS) Student Chapter, Red Cross, Florida

International University and Miami Dade Emergency Management, and the State of Florida Emergency Management.

Warning Coordination Meteorologist Rob Molleda delivers the welcoming briefing to a group.

Erica Rule from NOAA's AOML briefs the public on lab activities and mission.

The NOAA P3 Hurricane Hunter Visits Fort Lauderdale

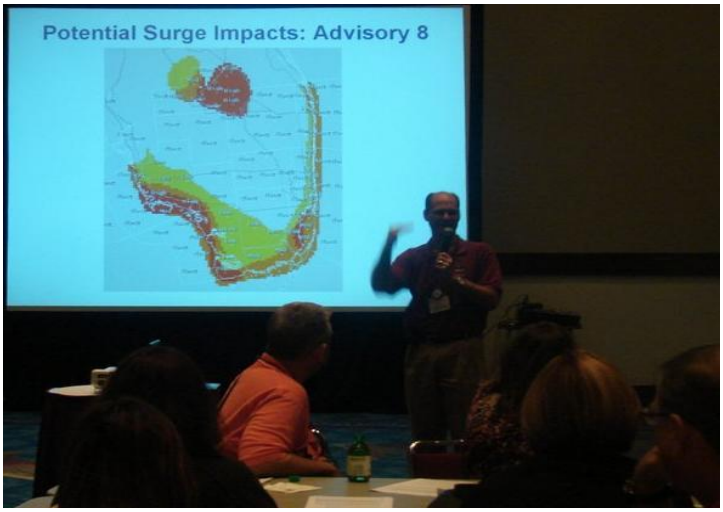
The NOAA P3 Hurricane Hunter Aircraft finished its East Coast Tour with a final stop at the Fort Lauderdale Executive Airport (FXE) The Aircraft is used for hurricane research and reconnaissance 120 days each year, and flies about 300 to 400 hours a year. Data collected from the hurricane hunter dropsondes give meteorologists at the National Hurricane Center and local National Weather Service offices very important information on the winds and pressure of a tropical storm or hurricane which is critical to an accurate forecast. At the stop in Fort Lauderdale around 500 Broward County Elementary, Middle, and High School students and several hundred adults toured the aircraft. The stop at the airport was well attended and included information from area police and fire departments, The Florida Division of Emergency Management, the Atlantic Oceanographic and Meteorological Laboratory, NWS, and the National Hurricane Center.

The NOAA P3 lands at FXE.

The public tour the hurricane hunter aircraft "Kermit".

The Governor's Hurricane Conference

The Governor's Hurricane Conference was established 25 years ago to focus on the unique challenge of the most hurricane prone state in the country, Florida. The conference aims to promote collaboration and cooperation between those who have the responsibility to protect our citizens from tropical events that threaten the safety of Florida, its communities, its businesses and its citizens. This year's theme was "25 years: Learning from the Past, Preparing for the Future".



Walk for Charity

Looking toward Virginia Key from the Rickenbacker Causeway - Dan Gregoria

By Bob Ebaugh and Andrew Tingler

The 2011 NOAA Weather Walkers

The 2011 NOAA Weather Walkers, Bob Ebaugh Miami WFO's Observation Program Leader and recently retired WFO Miami Lead Forecaster Guy Rader, completed the 10 Kilometer walk in approximately 2 hours. The NOAA Weather Walkers collected over $1200 for the National MS Society. Bob also donated his pony-tail which has been growing the past 2.75 years to "Locks of Love", an organization that makes human hair wigs for cancer victims.

Relay for Life

A team of present and past weather service employees and friends and family of weather service employees walked in the Relay for Life at Cypress Bay High School in Weston during the month of April. Team members collected almost $1700 for the Cancer Society. Pictured to the right are Mike Bettwy (Lead Forecaster), Andrew Tingler (Forecaster), Amy Henry Bettwy (formerly a Forecaster at WFO Eureka, CA), Christina Tingler, and Sandy Rentz Billingsley.

Changes at the WFO

Sunset in Doral - Spring 2011 - Dan Gregoria

By Dr. Pablo Santos and Andrew Tingler

Alex Gibbs

Alex has been selected as our new Lead Forecaster to replace Guy Rader. Alex started his career with the Navy where he worked as a weather officer in the late 90s and early 2000s. As part of his Navy career, he also worked at the Joint Typhoon Warning Center (JTWC). He started his career as an intern with the NWS at WFO Guam and in 2006 he was promoted to Journeyman Forecaster at WFO Tallahassee. Congratulations Alex!!!

Andrew Kennedy

Andrew has been selected as our new Journeyman Forecaster behind Mike Bettwy. He started his career as an intern in WFO Marquette, MI a few years ago, and in 2010 he was promoted to Journeyman Forecaster at WFO Corpus Christi, TX. During his short service at WFO CRP he has made significant contributions to the IFPS and AWIPS Programs, and he also developed GIS inundation maps of surge associated with tropical cyclones which have been adopted for wide distribution by the Texas Dept of Emergency Management. Welcome aboard Andrew!

Lizard on a Leaf at the Miami Metro Zoo - 2007 - Andrew Tingler

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