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CAROLINA SKY WATCHER

WINTER 2006-07 EDITION



WINTER 2006-07 OUTLOOK *By Hal Austin, Forecaster*

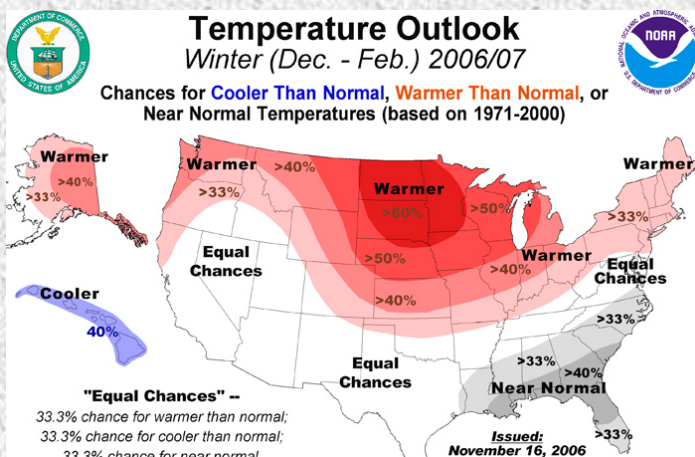
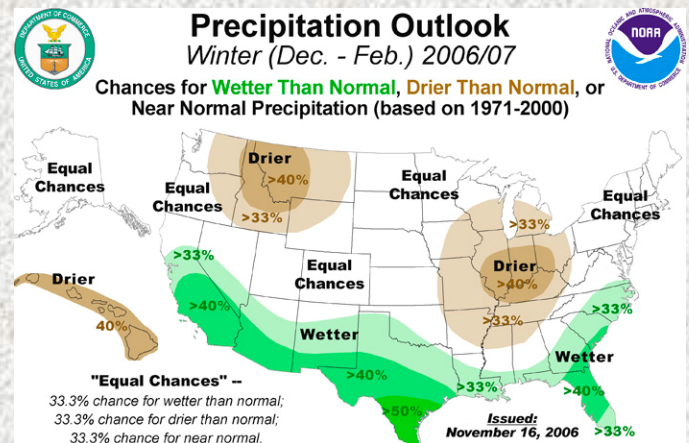
A wetter than normal winter is expected across eastern North Carolina, according to the winter season outlook produced by scientists at the NOAA Climate Prediction Center in Camp Springs, Maryland. The report, released October 10, is calling for a greater than 33% chance that December 2006 through February 2007 will be wetter than normal. Temperatures however, have a 33% chance of being near normal.

Most of the country will see winter temperatures above normal though slightly cooler than last year's very warm winter. Weak El Niño conditions have developed in the tropical Pacific and are expected to persist through the winter, possibly strengthening during the next few months to an event of moderate strength. However, this event is not expected to reach the magnitude of the very strong 1997-1998 El Niño event.

"The strengthening El Niño event will influence the position and strength of the jet stream over the Pacific Ocean, which in turn will affect winter precipitation and temperature patterns across the country," said Michael Halpert, lead forecaster at the NOAA Climate Prediction Center. "This event is likely to result in fewer cold air outbreaks in the country than would be expected to occur in a typical non-El Niño winter."

The winter outlook reflects a blend of factors associated with weak to moderate strength El Niño events across the central and eastern Pacific Ocean, combined with longer-term trends.

To read the entire report, go to www.noaaneews.noaa.gov/stories2006/s2716.htm



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BELOW NORMAL HURRICANE SEASON *By Hal Austin, Forecaster*

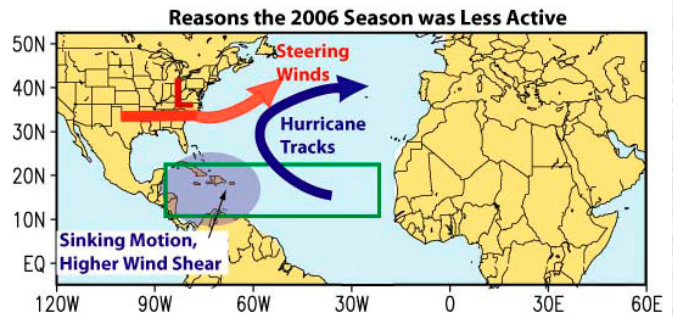
Despite a forecast of above normal tropical activity in 2006, the season ended up being lower than expected. This was due to the rapid development of El Niño, a periodic warming of the ocean waters in the central and eastern equatorial Pacific, which influences pressure and wind patterns across the tropical Atlantic.

The 2006 hurricane season saw a total of 9 named storms, including 5 hurricanes, two of which became major hurricanes of Category 3 strength or higher. An average season has 11 named storms, with 6 becoming hurricanes and 2 becoming major hurricanes. Fortunately, the stronger storms stayed well out to sea.

“The development of El Niño conditions by September helps explain why this Atlantic hurricane season was less active than predicted,” said Gary Bell, NOAA’s lead forecaster on the Atlantic hurricane seasonal outlook team. “El Niño developed quickly and the atmosphere responded rapidly, reducing hurricane activity during an otherwise active era that began in 1995.”

El Niño, combined with the large-scale weather patterns over the southeastern U.S., produced sinking air in the middle and upper atmosphere, along with higher than anticipated wind shear (the change in winds through the atmosphere) over the Atlantic Ocean, Gulf of Mexico and Caribbean Sea. These conditions minimized thunderstorm activity, which inhibited tropical storm and hurricane formation.

To read the entire report, go to: www.noaanews.noaa.gov/stories2006/s2748.htm



1. The reduced activity during 2006 resulted mainly from a rapidly developing El Niño, which produced sinking motion in the middle and upper atmosphere and increased wind shear (Blue shading). These conditions minimized thunderstorm activity across the western half of the main hurricane formation region (Green box), thereby suppressing tropical storm and hurricane formation.

2. A strong low pressure system with enhanced westerly winds across eastern U.S. (Red arrow) steered hurricanes well out to sea without striking the United States (Blue Line).

SKYWARN RECOGNITION DAY *By Hal Austin NC4HA, Forecaster*

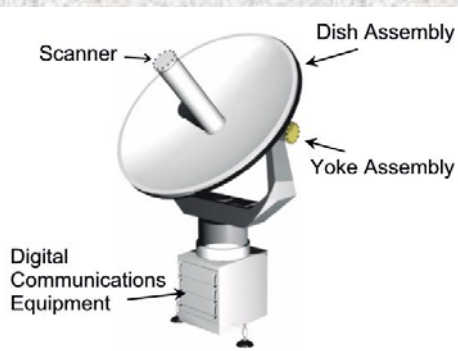


Skywarn Recognition Day 2006 was a huge success! This was the 8th year for SRD, the amateur radio event developed by the American Radio Relay League (ARRL) and the National Weather Service. Its purpose is to celebrate the cooperation between the amateur radio community and the NWS. Four area clubs came and operated NWS Newport’s ham radio equipment (callsign WX4MHX) on December 1-2: Carteret County Amateur Radio Society, New Bern Amateur Radio Club, Brightleaf Amateur Radio Club (from Greenville) and the Onslow Amateur Radio Club. Frequencies used included 2, 20, 40 and 80 meters. A total of 41 contacts were made in 21 states, which includes 15 NWS offices. As in years past, a cookout of hotdogs and hamburgers was held. Fortunately, it was a beautiful day with mostly sunny skies and temperatures in the mid 60s. During the lunch break, Newport Meteorologist-In-Charge Tom Kriehn presented Ken Ball KE4BKR with a Certificate of Appreciation for the many times he’s acted as net controller during severe weather. Thank you for all you do for us Ken!

NEW UPPER AIR SYSTEM AT NEWPORT

By Hal Austin, Forecaster

Twice a day, at 6 am EST (7 am EDT) and 6 pm EST (7 pm EDT), Newport/Morehead City is one of 92 National Weather Service offices that release a weather balloon to collect data from the upper atmosphere. The balloon flight is called a "sounding." A sounding consists of releasing a helium-filled balloon which trails a long length of string. At the end of the string is a parachute and a small, lightweight instrument called a radiosonde.



The 6.5 foot diameter tracking dish receives signals from the radiosonde.

The radiosonde uses a water-activated battery and transmits data to a receiving unit on the ground.

Data from these observations consist of pressure, temperature, dew point temperature, wind direction and speed. This data is used locally and is also transmitted to NCEP (National Centers for Environmental Prediction) for use in development of all short and long range forecast models. This data is the heart of most guidance that meteorologists use. When the data is used locally, it can tell the meteorologists whether conditions are favorable or unfavorable for cloud or thunderstorm

development, and if so, whether the thunderstorms will be severe. High temperatures and wind direction and speed for the day can also be computed with this data.

Since the late 1980's, the National Weather Service has used a system for taking soundings called MicroART (**M**icro**co**mputer **A**utomatic **R**adio **T**heodolite). Technological advances since then have made MicroART outdated. The NWS is in the process of replacing it with the new Radiosonde Replacement System (RRS). Beginning in late January 2007, the Newport/Morehead City office will begin using the RRS.

One of the major features of the RRS is its use of state-of-the-art GPS-equipped radiosondes. The GPS will allow the instrument to be tracked much more precisely. During the radiosonde flight, a workstation in the office continuously monitors the course of the flight. The design of the RRS maximizes data acquisition capabilities whether the radiosonde is at low level elevation angles, or at the zenith relative to the ground receiving antenna.

The workstation displays tabular and graphical radiosonde flight data to aid the operator in evaluating the accuracy, completeness, and consistency of the meteorological data. The operator may delete or edit data, or choose to perform another flight. RRS then generates upper air coded messages for transmission to data users. The overall result will be an even higher quality data for use in forecast models used in daily weather forecasts.



Upper air building. Tracking dish is inside the dome on top. Balloon is inflated inside.



The radiosonde.



The RRS workstation allows the user to display and edit the data from the radiosonde.



NOAA'S NATIONAL
WEATHER SERVICE,
NEWPORT/MOREHEAD CITY

533 Roberts Rd.

Phone: 252-223-5122

Fax: 252-223-3673

Website: www.erh.noaa.gov/mhx



*All of us at National Weather
Service Newport / Morehead
City wish you all the best for
2007. We look forward to
serving you in the new year!*

CLIMO WEB PAGE *By Sarah Jamison, Forecaster*

There are many sources of climate information provided by NOAA, many of which are available on the NWS Newport/Morehead City webpage. To access the information, go to www.erh.noaa.gov/mhx. Once there, the click on **Local** under the climate menu on the left. National Weather Service Forecast Offices issue climate information on a daily and monthly basis. Below you will find descriptions and examples of these reports, what each contain, and how they can be read.

Climatological Report (Daily): CLI

The CLI will be issued at least twice daily. The first mandatory issuance will be between 12:30 a.m. and 5:00 a.m. local time to capture the previous calendar day's data. The second mandatory issuance will be in the late afternoon/early evening, before local newscast times, to capture data for the current day.

Climatological Report (Longer Term): CLM

The CLM will be issued at least monthly, no later than the 5th day of the following month.

Preliminary Local Climatological Data Report: F-6

Your local office will, at a minimum, post on the internet the F-6 data for the entire preceding calendar month no later than the 5th day of the following month. However, the data will likely be posted more frequently (i.e., month to date).

Record Event Report: RER

The Record Event Report (RER) contains meteorological and hydrological events that equal or exceed routine existing records. The RER will be used to report occurrences relating to both maxima and minima records. The RER is event driven and will be issued whenever an existing record is met or exceeded.

To report adverse weather conditions 24/7, please call us at:

1-800-889-6889