STORMBUSTER

A Newsletter for Emergency Managers & Storm Spotters

Spring Edition, 2002

Our WEB Page is Moving!

By Ken LaPenta

We have begun moving the Albany National Weather Service web site to: http://www.nws.noaa.gov/er/aly/index.html. The entire NWS is in the process off adopting a new standardized home page format. The new format is being designed to provide easier access to the complete suite of NWS products generated on both local and national scales. Each office's home page will have a similar banner on the top and a menu on the left hand side. Each local Weather Forecast Office (WFO) will tailor the menu on the left side to highlight weather products of local interest. By late Spring, you will see a new graphical interface in the center of our home page that has been set up to guide you to NWS Products. You can preview this graphical interface at http://www.srh.noaa.gov/fwd/. You can zoom out to get forecast and warning information for any spot in the country, or zoom back in to concentrate on our eastern New York and western New England area. Click on a point on the map and you will find a forecast (text and graphical), current weather observations for nearby locations, and imagery from the nearest radar site. The map includes color coding that will highlight areas under watches, warnings, advisories or special weather statements.

If you have comments on the new web page format you can e-mail NWS Headquarters at: NWSWebimage.Feedback@noaa.gov. If you prefer to e-mail comments to the Albany office of the NWS we can be reached at: Alywebmaster@noaa.gov.

If you want to send your severe weather report via the internet directly to the WFO in Albany, there is also a new location for the report form. It is at: http://cstar.cestm.albany.edu:7775/Severe_WX/svrwx.htm. Be sure to enter your spotter ID, so we know the report is from a trained spotter. Then fill out the rest of the form and click on submit.

The 2002 ENSO

by Tom Wasula

El Niño/Southern Oscillation (ENSO) is an ocean-atmospheric phenomenon that can impact global weather. El Niño is the abnormal equatorial warming of Pacific ocean water near the coasts of Ecuador and Peru. Warm counter currents off the cold Peruvian coast typically occur in late December, which is why the local residents call this event, El Niño, which means "the child", after the Christ child. Every 3 to 7 years these counter currents of warm water are exceptionally strong for an extended period of time, setting up an anomalously strong pool of warm water over the central and eastern Pacific. In the past few decades, these events have been occurring more frequently. Strong El Niño episodes can cause extreme weather in different parts of the world.

When an El Niño occurs, the surface air pressure over the western Pacific near northern Indonesia and Australia significantly increases, while the pressure over the southeastern Pacific dramatically decreases. When an El Niño terminates, those pressure patterns reverse. The seesaw atmospheric pressure pattern between the eastern and western Pacific is called Southern Oscillation (SO). Thus the overall phenomenon is called El Niño/ Southern Oscillation in the scientific community, or ENSO for short. An index is calculated, and averaged on a monthly basis to measure ENSO. The Southern Oscillation Index (SOI), is a difference in pressure measured at Darwin, Australia and at the south Pacific Island of Tahiti. When the SOI is positive, there is a La Niña (or abnormal oceanic cooling in the eastern Pacific), but when the index is negative an El Niño (or abnormal oceanic warming in the eastern Pacific) is occurring. These periodic pressure reversals impact the trade winds. The northeast and southeast trade winds are much weaker than normal and may even reverse direction during ENSO. This allows the warm water that builds up in the western Pacific to slide on eastward along the equator to the eastern Pacific.

One of the strongest ENSOs on record occurred in 1982-83. That year, heavy rains and flooding occurred across normally dry portions of Ecuador and Peru. In some areas that normally receive only 4 to 5 inches of rainfall annually, over 140 inches of precipitation fell during that ENSO! Severe droughts were recorded in Australia, Indonesia and the Philippines. Warm water that built up over the eastern Pacific inhibited the upwelling of colder, nutrient-filled water, resulting in starvation of anchovies, severely impacting Peruvian fishing economies. Across parts of North America, one of the warmest winters on record occurred, followed by one of the wettest springs over much of the United States. Powerful storms struck the California coast and brought on catastrophic flooding, landslides and beach erosion. Heavy snowfall in the Sierra Nevada and central Rocky mountains led to mudslides and flooding in Utah and Nevada, as well as along the Colorado River in the spring of 1983. The Gulf of Mexico region also saw unusually heavy rainfall with flooding in the Gulf states and Cuba.

The most recent ENSO occurred in 1997-98. It is unclear whether the southern U.S. droughts and heavy monsoons in Asia were ENSO-related. Severe droughts in Australia and flooding in eastern China were shown to be related to ENSO.

ENSOs have a variable impact on weather in the Northeast. Some ENSO winters have produced heavy snowfall and precipitation, while others have produced the opposite effect. The 1997-98 ENSO produced an anomalously warm winter across portions of eastern New York and western New England. For example, Albany, NY, averaged more than 8 degrees above normal in January and February 1998. Research studies have shown winters to generally be warmer than normal during ENSOs across the northern U.S. and Canada. Additionally, the Atlantic basin typically has fewer hurricanes during an ENSO.

The National Oceanic and Atmospheric Administration's Climate Prediction Center is currently predicting an El Niño to be likely in early Spring 2002, based on observed warming of the sea surface temperatures (SSTs) in the central and eastern Pacific during January and February. The SST anomalies are the most significant since the 1997-98 event. NOAA is not yet ready to predict the intensity of this event. Some scientists feel this ENSO will peak in late 2002, which will play a pivotal role in chaotic and abnormal weather patterns in the Northeast and around the world in the Winter of 2002-03.

Winter 01/02: Second Mildest On Record

By Evan Heller and Hugh Johnson

The National Weather Service considers the meteorological winter season as running from December 1st through February 28th, because, unlike true winter, this most closely coincides with the average coldest temperatures of the year. With this in mind, the average temperature this winter at Albany International Airport was 32.3°, 7.8° above the 1971 to 2000 30-year winter normal of 24.5°. This made it the 2nd warmest winter in Albany's history, with only the 1931-32 season average of 32.7° being any warmer. Also noteworthy - for the second year in a row, there were no temperatures of zero or less. This had never before happened in Albany!

December began with unseasonably mild weather right off the bat. The mercury the first three days exceeded 60°. Two daily high temperature records were toppled as the mercury rose to 65° on the 5th and 68° on the 6th, the latter being the warmest day of both the month and the entire winter season. The first seven days of the month reached 50° or greater. This was the first time this had ever happened in Albany in December. Temperatures then plunged, quickly returning to more wintry levels. The season's first snowstorm struck on the evening of the 8th, and continued into the morning of the 9th. The 4.30 on the 8th was a snowfall record for the date. The total snowfall from this first storm was a little over 70 across most of the Capital District. Mild weather quickly returned on the heels of the storm, and, from the 12th on, all days had mean temperatures at or above normal. It snowed only two more days during the month, and the amounts were very light. There was some rain, especially during mid-month, but there was not enough to positively impact the drought, which had begun late last summer. December 25th was a brown one for most folks south of the Adirondacks and southern Vermont, in stark contrast to the very heavy record lake-effect snowfall which buried nearby Buffalo. December closed up shop with an average temperature of 34.1°, 7.6° above normal, finishing just out of the top ten of warmest Decembers. Total rainfall was 1.950, nearly an inch below normal. It was the 5th month in a row with below normal precipitation. Total snowfall was 7.80, about half the normal.

The New Year rang in dry and slightly colder than normal. The first five days had no measurable precipitation. However, the season's second

snowstorm moved in on the evening of the 6th. This storm wound up being the biggest of the entire winter season (at least locally in the Capital District). Between 10 PM and midnight, in excess of 8 inches of snow fell throughout the region, one of the heaviest short-term snowfall events ever. The official Albany snowfall total on the 6th of 12.70 set the second, and last, daily snowfall record of the season. While the snow did taper off overnight into the 7th, another round followed during the day. In a 24-hour period from the 6th to the 7th, 17.40 of water-rich snow fell in Albany, making it the 5th biggest official January snowstorm on record. Then, during the early morning hours of the 8th, with skies clear, and with the new snow cover, temperatures dipped to the lowest levels of the season across most of the region. In Albany, the low was just 1°, and with a mean for the day of only 14°, this was the coldest day of the season, and the only other below normal mean temperature day in January. There was a stretch of unseasonably mild weather from the 23rd through the 29th, with five days of 50+ degree high temperatures noted, four of them in a row, from the 26th to the 29th. The warmest reading was 55° on the 28th, and the high of 54° on the 29th was a new daily record. Several lesser snow events rounded out the month. A storm on the 19th deposited up to 70 of snow across portions of the Mid-Hudson Valley, with lesser amounts toward the north. Albany received just 3.40. The month ended with the last real winter storm of the season. A potpourri of wintry precipitation fell on the 31st, in the form of snow, sleet and freezing rain. While frozen accumulation was light, a glaze of freezing rain on top of the snow and sleet nonetheless produced traveling headaches across the region. The monthly average Albany temperature for January was 31.3°, 9.1° above normal, making it the 8th mildest January on record. The 22.90 snowfall total was well above the 16.60 normal. The precipitation total was 2.770, which was actually slightly (.060) above normal, thus barely reversing the five-month trend of below normal precipitation. However, this had little impact on drought relief. January was the cloudiest of the winter months, with only 28% of the possible sunshine received. The normal sunshine for the month is 46% of possible.

February started out with the latest winter storm still affecting mainly the northern portions of NWS Albany's County Warning Area. Freezing rain resulted in additional accretions of ice as thick as 3/40 across the Lake George/Saratoga region. There was just some spotty freezing drizzle in and around Albany and points south. Behind the departing storm, strong winds followed, beginning on the night of the 1st and continuing on the 2nd. The combination of powerful winds, clocked up to 60 mph, and the buildup of snow and ice brought down many trees and power lines across mainly the northern Mohawk Valley, Adirondacks, Lake George/Saratoga region and southern Vermont. At one point, up to 20,000 customers were without power within this area.

'Seasonable temperatures' was the theme of the first half of the month. Even so, during only two days was the actual mean temperature below normal. Then, much milder weather returned for the balance of the month, as temperatures soared through the 40s, into the 50s, and even reaching 62° for the month's warmest reading on the 26th. No new record high temperatures were recorded, but the 62° value missed being the new daily high temperature record for that date by just one degree. Cold weather returned at the end of the month. The last day of the month (and winter season) turned out to be a little colder than normal, so that it wound up there were only seven days during the 90 days of winter with below normal temperatures. Snowfall was scarce in the Capital District and points south. The 3.70 monthly snowfall total made it the 8th least snowiest February on record, although significantly higher monthly amounts occurred to the north and west. Albany's total monthly precipitation was 1.660, 0.660 below normal. The monthly average was 31.6°, 6.6° warmer than normal. Fifty-two percent of the possible sunshine was received during the month, nearly twice as much as during January. February was the 7th consecutive month of above normal temperatures in Albany.

WCM Words

by Dick Westergard

As usual, the mailing label on your copy of StormBuster contains the date of your last training. If that date is more than 2 years ago, you should plan to attend another training session soon. Once that date is more than 5 years in the past, your name will be purged from our database.

The Spring 2002 SkyWarn Spotter Training session schedule is posted on our new web page at: http://cstar.cestm.albany.edu:7775/skywarn/springsched02.htm The schedule will be updated as new sessions are planned. We expect the schedule to be finalized before the first session on March 30. You can register for the scheduled sessions on line, or call 518-435-9580 with a touch tone phone, and leave your name and phone number on a list for the session you plan to attend. Please note that registering, whether on line or by phone, means we expect to see you at the session. We will only call you back if the session is full or canceled.

StormBuster is primarily a newsletter for our trained SkyWarn spotters. Reader articles, or suggested topics, are always welcome. Do you have any ideas? Drop me an e-mail or a snail mail note.

WX2ALY, our Amateur Radio base station has a new e-mail address. It is: WX2ALY1@aol.com.

Weather Hazards Awareness Week in New York and Vermont is March 17 through 23. We invite you to exercise your severe weather plans with us, as we test our communications systems that week. There will be a test thunderstorm warning on Tuesday and a test tornado warning on Thursday.

As we head into the convective season, (May through October) a reminder of warm season reporting criteria - 1) Tornadoes, water spouts, funnel clouds, wall clouds. 2) Damaging Winds (58 mph or more). 3) Any hail. 4) Damaging lightning. 5) Flooding, including bankfull or near bankfull streams. 6) Measured rainfall - 1.5 inches or more in 4 hours. Get your reports to the National Weather Service by the quickest means possible.

Remember that, should the telephone line be busy, you can report your severe weather observations to the Weather Service at: http://cstar.cestm.albany.edu:7775/Severe_WX/svrwx.htm

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StormBuster is a publication for Emergency Management Officials and Skywarn Spotters in the Albany, New York National Weather Service Forecast Office County Warning Area. For all of your weather information needs, visit our homepage at: **http://web.nws.cestm.albany.edu**