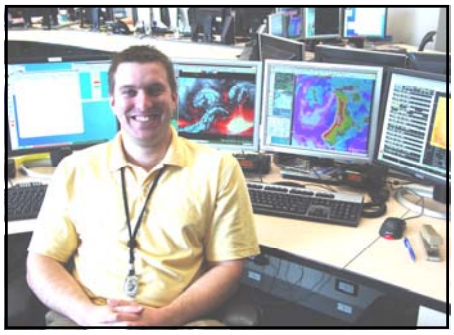
The Southern Plains Cyclone

A Weather Newsletter from your Norman Forecast Office for the Residents of western and central Oklahoma and western north Texas

We Make the Difference When it Matters Most!

Volume 5 | Spring 2007 | Issue 2

Meet Your Weatherman Ty Judd



Hello. My name is Ty Judd. I am a Meteorologist Intern at the National Weather Service in Norman, Oklahoma. I grew up in Cross Lanes, West Virginia which is a suburb of Charleston. I graduated from Nitro High School in 1996 and was accepted into David Lipscomb University in Nashville, Tennessee starting in the fall semester. I transferred to the University of Oklahoma for the fall semester in 1998. I had never been west of Arkansas, never really had seen "flat" land before, and never experienced severe weather on the Southern Plains. I began my weather career volunteering at NWS Norman during spring of 2000. Although my duties were small, it laid the foundation for what was to become a future permanent position. During the summer of 2000, I took a job as an assistant meteorologist at the Western Kansas Weather Modification Program in Lakin, Kansas. This opportunity opened my eyes to a different kind of meteorology - weather modification - which, in fact, is still a controversial subject among many in the

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How often do Tornadoes happen during School Hours?

By Doug Speheger, General Forecaster

Recent headlines have described the problems that can occur when tornadoes strike schools. The most recent example occurred March 1, when eight people were killed in an Alabama high school. This strong tornado (with a rating of EF-3 on the new Enhanced Fujita scale) struck the school just after 1 pm while school was in session.

Fortunately, there have been no significant events at schools in Oklahoma or north Texas during school hours in recent history. However, they have happened in the past and can happen again. In April 1945, a tornado struck the Oklahoma School for the Blind in Muskogee where three people were killed.[1] Just the previous year, a tornado destroyed the Granite, OK High School gymnasium during basketball practice killing one student.[1] One November morning, a tornado struck Camel Creek School in Bethany, OK in 1930 killing five students and a teacher.[1]

Fortunately, the peak time for tornadoes is in the late afternoon

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Weather Radio Warning Alarm Evening Test

By Rick Smith, Warning Coordination Meteorologist

Recently, the National Weather Service in Norman began testing the NOAA Weather Radio warning alarm feature at two different times every Wednesday. Test of the warning alarm are now conducted each Wednesday around noon, and **again** on Wednesday evenings around 7 pm. The evening test was added to help those who are away from their radios during the midday test to ensure their radios are working properly. Either test may be canceled if there is a threat of hazardous weather in the area.

The National Weather Service encourages everyone to use NOAA Weather Radio to receive life-saving warnings and other information from the National Weather Service in Norman. The warning alarm precedes tornado and severe thunderstorms watches, and tornado, severe thunderstorm and flash flood warnings, as well as other emergency messages. It is designed to activate specially designed weather radio receivers, providing audible and/or visual warning signals to homes, schools and businesses in the path of the storm.

For more information about NOAA Weather Radio and the weekly alarm tests, visit the NWS Norman website at *weather.gov/norman*.

Tales, Legends, and Other Sayings

By Mike Branick, Lead Forecaster

Weather-related sayings and stories have been commonplace in many cultures since the beginning of time, many of which have been passed down through the years. Are they truth, or are they myth? Can they really be used to predict the weather? This column will examine a different popular weather saying in each issue, exploring its origins and whether or not there is any real meteorological truth upon which it might be based.

If you have heard of a particular weather-related story or saying that you've always wondered about and would like us to look into it, please e-mail your questions and requests to *Jennifer.Palucki@noaa.gov*.

This Issue's Topic – "Green" thunderstorms indicate the presence of large hail and/or tornadoes.

It is true that some thunderstorms take on a greenish color - usually appearing either bluish-green or yellow-green. But the fact is that some green thunderstorms do not produce large hail or tornadoes at all, and most thunderstorms that do produce hail and tornadoes are not green.

The source of the green color is a matter of debate. One theory was that some thunderstorms reflect the green color from fields or other vegetation below the cloud base. This theory is discounted by observations showing that some storms appear green despite being over areas that lack significant greenery. A more plausible theory is that is all depends on the depth of the cloud, the size of the cloud, precipitation particles within the thunderstorm, and the angle of the sun. More specifically, the water within the cloud scatters blue light (as does the sky, which is why a clear sky is blue in the daytime), which combines the red light from a low sun near sunset to create an overall green coloration. Studies have shown that ice does not have to be present, so the appearance of green within a thunderstorm does not assure the presence of hail.

Furthermore, some studies suggest that the existence of green thunderstorms may be in the eye of the beholder, so to speak. In other words, a given thunderstorm may look greener to one person that it does to another. This is not only a matter of differences in color perception among individuals, but also is likely to affect photography. The overall color in a thunderstorm photograph could be affected by several variables, such as the type and speed of the film, the type of lens, or the use of lens filters. Add in the possibility of an image being "doctored" by graphics software, and one should be cautious in interpreting online photos of thunderstorms - green or otherwise.

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meteorology community. I returned to OU for the fall semester and continued volunteering at the NWS. The next summer, I applied for and was accepted into a student position at the National Weather Service in Billings, Montana. I got to experience several weather phenomena that I had never seen before including snow in May and June, and high plains severe weather. I returned to OU for my senior year and continued to volunteer at NWS Norman. I graduated with a Bachelor's Degree in Meteorology in May of 2002 and became a full-time employee in June.

I wish I had a better story on why I wanted to be a meteorologist, but I don't. Growing up in West Virginia, I experienced different kinds of severe weather ranging from raging snow storms, to the occasional summertime thunderstorms with mainly high winds. Usually once or twice a winter a Nor'Easter would go up the coast, dropping at least a foot of snow where I lived. Sometimes it was much more - the Superstorm of 1993 and the snowstorms of January 1995 come to mind. I would wake myself up every hour during the night to check on how much more snow we had gotten. I also was an avid Weather Channel watcher starting in high school - hoping to see that severe thunderstorm icon show up in the seven day forecast.

Aside from weather, I am a huge sports fan, including soccer, football, basketball, and baseball. Normally on a Saturday afternoon in the fall, you can find me flipping through the many football and soccer games that are on TV that day. I also enjoy watching my one year old daughter, Piper, grow up. She is a handful but my wife does a great job of keeping her (and me) in line. We are also expecting our second child in October, which we are very excited about.

April 9, 1947 The Woodward Tornado

The Woodward tornado of April 9, 1947 was the deadliest tornado to ever strike in Oklahoma. Part of a family of tornadoes that stretched over 200 miles, the Woodward tornado produced F5 damage in and near the town of Woodward. It killed over 100 people and injured nearly 1000. This April marks the 60th anniversary of this historic event. For more information on the Woodward tornado, including track maps and photos, please visit *weather.gov/norman/wxevents*.

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and evening hours, or after the regular school day. Only about 14% of the tornadoes that have been documented in the area have occurred between the hours of 8 am and 4 pm.[2] But as the map shows, tornadoes can happen during school hours, and there have been close calls.

While usually there are not as many people in schools after regular school hours, extra-curricular activities can still place a number of people in schools during the time of day where tornadoes are more numerous. The May 3, 1999 tornado in south Oklahoma City and Moore struck a number of schools, including Westmoore High School while an awards ceremony was taking place. There were no injuries at the high school although numerous cars in the parking lot were damaged or destroyed, and many houses in adjacent neighborhoods were destroyed.

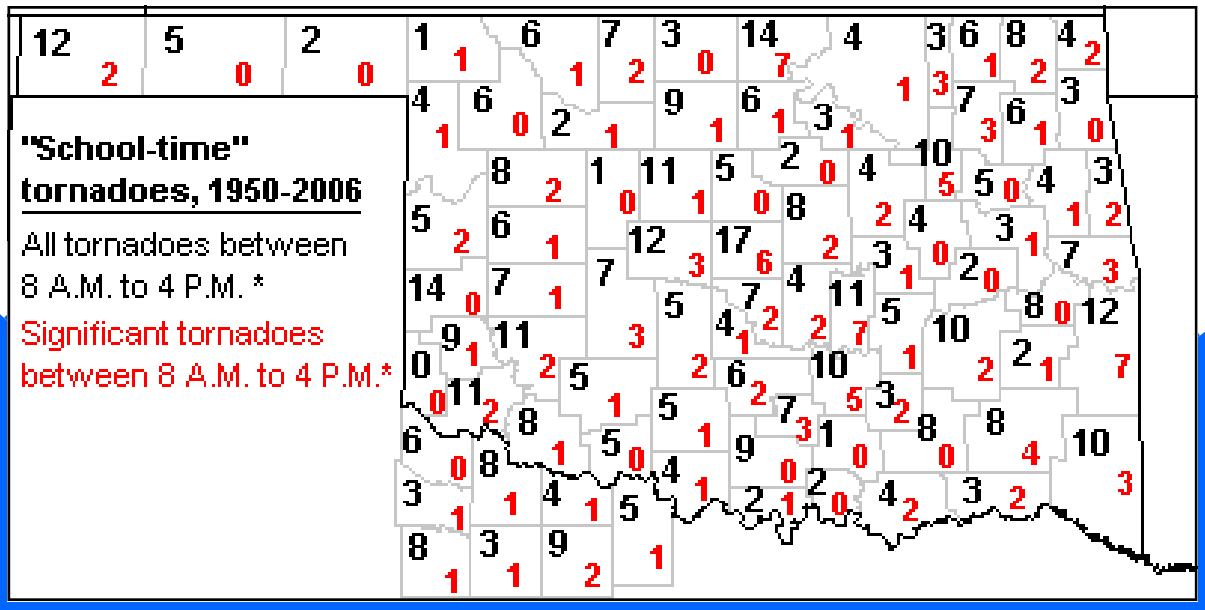
To help schools in receiving weather warnings, a project sponsored by the Department of Commerce National Oceanic and Atmospheric Administration (NOAA, of the National Weather Service is a part), the Department of Homeland Security/Citizen Core and the Department of Education Office of Safe and Drug-Free Schools has distributed NOAA Weather Radios (also known as Public Alert Radios) to over 97,000 public schools in the United States with the goal of having at least one weather radio in each public school. More information about this project can be found in the Winter 2007 edition of the *Southern Plains Cyclone*.

Preparedness is also an essential part of a school's tornado plan, and there are a number of considerations that should be addressed. It is a good idea to have a solid communications plan. Severe weather outlooks and watches should activate successive stages of readiness and preparation so that the school staff is more prepared for when a warning is issued and quick action is needed. Make sure there are ways to receive warnings and communicate with the teachers and students even if the power goes out. Identify at what stage students should be brought in from temporary or portable buildings. Identify the best places to put the students and teachers. Windowless, interior rooms on the lowest floor often offer the best protection, which may include offices or teachers' lounges depending on the specific school layout. Avoid large free-span rooms such as gymnasiums and cafeterias. Roger Edwards of the Storm Prediction Center offers some preparation tips for school administrators at *http://www.spc.noaa.gov/faq/tornado/school.html*. Addressing these issues and having a good tornado plan in place ***and practiced*** will help staff and students know what to do when severe weather threatens.

You can also find more information on Public Alert Radios for public schools at *http://public-alert-radio.nws.noaa.gov*.

[1] Grazulis, T. P., 1993: *Significant Tornadoes 1680-1991*. Environmental Films, St. Johnsbury, VT. 1326 pp.

[2] The actual times used to create this map were from 8 A.M. to 4 P.M. CST from November to March, and 7 A.M. to 3 P.M. CST (8 A.M. to 4 P.M. CDT) from April to October, regardless of when Daylight Savings Time was actually observed that year.



McReady Oklahoma

By

Rick Smith, Warning Coordination Meteorologist

Above: McReady Partners gathered at Traub Elementary in Midwest City on April 2nd to help kick off the 2007 McReady Oklahoma campaign. Representatives from OG&E, the Salvation Army, Oklahoma Emergency Management, American Red Cross, McDonald's, National Weather Service and KOCO-TV in Oklahoma City attended the event.

Above: Patrick Burke mans the NWS information booth at the KOCO Severe Weather Safety Fair on April 2nd in Midwest City. Photo by Michelann Ooten.

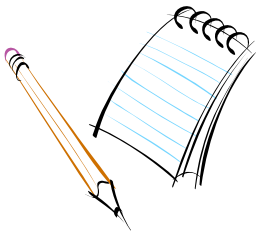
National Weather Service offices in Norman and Tulsa joined with Oklahoma Emergency Management, the American Red Cross, Salvation Army, local broadcasters and Oklahoma McDonald's restaurants for the McReady Oklahoma severe weather awareness and safety campaign. Activities kicked off on April 2nd with a visit to Traub Elementary School in Midwest City, and an evening at a Severe Weather Safety Fair at the Reed Center in Midwest City. NWS personnel assisted in programming weather radios and participated in a panel discussion with other area agencies who deal with severe weather. NWS Norman also participated in a severe weather safety fair at Penn Square Mall on April 14th, assisting in programming weather radios and providing safety information.

Above: Forrest Mitchell with the National Weather Service and Putnam Reiter, State of Oklahoma Emergency Management , help program weather radios in Midwest City. Photo by Michelann Ooten.

McReady Oklahoma began in April of 2004, and has grown each year. The McReady Oklahoma campaign continues through the entire month of April, and features safety and preparedness materials at every Oklahoma McDonald's restaurant, and many other local events. For more information about McReady, visit *mcready.org*.

Norman Office Forecast Notebook - A Complete Look at Events and Happenings

By Rick Smith, Warning Coordination Meteorologist



Ribbon Cutting Ceremony for Chickasha Weather Radio. On April 2nd, a ceremony was held at the National Weather Center to formally dedicate the new weather radio transmitter at Chickasha. Pioneer Telephone Cooperative, who provided the tower and building space for the new transmitter, hosted the ribbon cutting event which was attended by representatives of the NWS Norman Forecast Office, the City of Chickasha and local media.

Pioneer Telephone Cooperative was instrumental in getting the new weather radio transmitter on the air. The new station at Chickasha broadcasts critical warnings and other weather information to seven counties in central and southwest Oklahoma including Grady, McClain, Garvin, Stephens, Comanche, Caddo and Canadian. The new transmitter broadcasts information from the NWS office in Norman on a frequency of 162.450 MHz.

Spotter Training Season Concludes. Forrest Mitchell, the Observation Program Leader with NWS Norman gave the first spotter talk of the 2007 season back on January 18th in Midwest City. Forrest wrapped up the season on March 29th with the last talk of the season in Cherokee, Oklahoma.

Between January 18th and March 29th, Forrest, along with forecasters Doug Speheger and Patrick Burke, and myself, Warning Coordination Meteorologist Rick Smith, conducted 47 storm spotter training classes across the NWS Norman county warning area. The classes, organized and scheduled by local emergency management officials, are designed to give storm spotters the basic information they need to be able to safely observe severe storms, and to make accurate and timely reports to local officials. Nearly 2300 people attended the training sessions this season, which is down just slightly from the 2005 and 2006 seasons.

Spotter training will begin again in January of 2008, but you can find more information about storm spotting on our website at *weather.gov/norman/stormspotting*.

Did you know... That you can hear valuable weather information on your police scanner? Storm spotters and other groups often use amateur radio to communicate during severe weather operations. You can find a list of frequencies to monitor at *http://www.caps.ou.edu/~kbrews/spotfreq/*, which is maintained by Keith Brewster.

What do we mean by *severe* weather? The National Weather Service in Norman issues severe thunderstorm warnings when hail greater than or equal to ¾ of an inch or winds greater than 58 mph is imminent or occurring. Tornado warnings are issued when a storm is capable of producing a tornado or a tornado is already occurring. However, large hail, strong winds and tornadoes are not the only kinds of severe weather. Winter weather, fire weather, and flooding are also considered severe weather. If you witness severe weather happening, we want you to call us at 405-325-3816 or visit us at *weather.gov/norman/enhanced.php* and click on submit storm reports. After you submit your report online, it alarms on our computers within seconds!

Severe Weather Awareness Month in Oklahoma. The month of April is Severe Weather Awareness Month in Oklahoma. The National Weather Service, in partnership with Oklahoma Emergency Management and other agencies is using the month of April as a time to remind Oklahomans about the hazards severe weather can bring and ways you can stay safe. We've set up a special web page to help you learn more about the dangerous storms we can see here, and about ways you and your family can protect yourselves. Visit the severe weather awareness website at *weather.gov/norman/swam*.

Cooperative Observer Notes

March Rainfall

By Jennifer Palucki, Meteorologist Intern

March was a wet month across the western two-thirds of Oklahoma and western north Texas. Several widespread, prolonged rain events occurred, resulting in total monthly rainfall amounts between 5 and 10 inches across much of the area. Our cooperative observers had their work cut out for them. Here are some of the most impressive rainfall totals measured.

Location	Monthly Rainfall Total	Largest One-Day Total
Blackwell	9.86 inches	2.04 inches (20th)
Blanchard	8.29 inches	2.90 inches (31st)
Braman	8.15 inches	2.04 inches (20th)
Crescent	8.05 inches	2.40 inches (31st)
Oklahoma City	8.02 inches	3.50 inches (31st)
Duncan	7.93 inches	4.50 inches (31st)
Elk City	7.55 inches	3.44 inches (23rd)

Showers and strong to severe thunderstorms on the 30th (reported on the 31st) resulted in areas of flash flooding across southern Oklahoma. Roads were closed due to high water and numerous creeks were reported out of their banks. However, there was some good news to all of the rainfall. Widespread high rainfall amounts propelled Oklahoma and western north Texas out of drought conditions. Top soils have been replenished, and any additional rainfall will help raise water levels in rivers and lakes. There are two caveats to this. The first is if we do not receive additional rainfall this spring, drought conditions could resurface. The second is if we receive a lot of additional rainfall, flash flooding and river flooding will be a concern, as antecedent conditions support a lot of runoff. The Climate Prediction Center's one-month outlook calls for above normal precipitation across western Oklahoma and western north Texas, and equal chances of above or below normal precipitation elsewhere. However, the three-month outlook calls for below normal precipitation across much of the area.

There was one other interesting fact this March. Oklahoma City, OK had the wettest March on record (since 1891) while Fort Smith, AR had the driest March on record (since 1901). These two cities are only about 180 miles apart!

Remember to mail the previous month's cooperative observer forms and recording rain gage tapes by the 5th of the month!

New Observers

The NWS Staff would like to welcome David and Kimberley Kennedy of Elmore City and Becky Morton of Hennepin to the NWS Norman cooperative observer program. We look forward to working with these observers for many years to come.

Award Recipients

The following observers have recently received a length of service award:

Wayne Poyner - 20 years
Joe Thompson - 15 years
Cookie Anderson - 15 years

Thank you for the hard work and valuable meteorological data you have collected. We look forward to working with you for many more years.

Observers Needed

Are you interested in weather? Do you live in Thomas, Oklahoma or Henrietta or Seymour, Texas? Call 405-325-3816 for more information about becoming an official NWS cooperative observer.

In Memoriam

In April, Mr. Leroy Patton of Ames, Oklahoma passed away. Mr. Patton took precipitation measurements for NWS Norman since 1970. His family has been taking measurements for the NWS cooperative program since 1939 and his daughter and grandson have elected to continue taking measurements for us. We applaud them for there dedication to the cooperative program and would like to express our sincere condolences for the loss of Mr. Patton.

The Norman NWS Cooperative Observer Program Team:

Daryl Williams **Forrest Mitchell** **Jennifer Palucki** **Ty Judd** **John Pike**

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Please share this with friends, relatives, and colleagues. Comments and suggestions are always appreciated, by phone at 405-325-3816 or by e-mail at Jennifer.Palucki@noaa.gov.