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!

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Meet Your Weatherman Patrick Burke

Hi! I am Patrick Burke, a general forecaster here at the National Weather Service (NWS) Forecast Office in Norman. I was born in Oklahoma City and raised in Mustang. I've always had my head up in the clouds, staring skyward day and night in hopes of seeing something unique. The Mooreland and Woodward tornado outbreak of April 9th, 1992, broadcast on local television, inspired me to become a meteorologist.

Two years later, and still in high school, a friend took me on my first storm chase where we saw two mean looking storms near Quanah, TX. Since that day, I have been hooked on severe storm chasing and forecasting. While attending the University of Oklahoma (OU), I worked with the National Severe Storms Laboratory (NSSL) where I gained experience with radar, and participated in field research. I was part of a team that drove instrumented vehicles beneath the prolific tornado-producing storms of May 3rd, 1999, just days before my first graduation at OU.

In 2002, I earned a Masters

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2007 Spring and Summer Floods across Oklahoma and north Texas

By Steve Kruckenberg, Service Hydrologist

The drought which had prevailed for over two years in the NWS Norman forecast area was broken in dramatic fashion during the spring and summer of 2007. Above normal precipitation fell over the region from March through mid July. With each successive rainfall event, the soil conditions became more and more saturated. The heavy rainfall along with the saturated soil conditions combined to produce heavy runoff and numerous flash flood and river flood events. High flows into reservoirs also raised pool elevations from near to above the tops of the flood pools for several reservoirs in late June and early July. A summary of the most significant events follows.

Wolf Creek Flood in Northwestern Oklahoma in Late May. Heavy rainfall accumulations of 5 to 6 inches over the upper Wolf Creek basin in the northeastern Texas Panhandle produced a flood crest on Wolf Creek at Lipscomb,

See **Flooding** on page 4

Hazardous Weather Testbed Activities

By Keli Tarp, NOAA Public Affairs Specialist

More than 60 researchers and forecasters from government agencies, academia, and the private sector visited the National Weather Center on the University of Oklahoma's Norman campus this spring to work towards improving forecasts of severe weather.

The Spring Experiment hosted by the National Oceanic and Atmospheric Administration's Hazardous Weather Testbed (HWT) offered an irresistible opportunity for research scientists and operational forecasters to change roles for a week during the active spring severe weather season that affects large parts of the nation.

The exchange allowed researchers to immerse themselves in the challenges of front-line forecasting while giving forecasters a chance to examine emerging scientific and technological advances. The goal was to have both walk away from the experience with increased knowledge of thunderstorm processes that will improve forecasts and vital forecasting tools.

Although it's the seventh year for the experiment, this was the inaugural year for the new Hazardous Weather Testbed facility, strategically located between the operational forecast areas of the Storm Prediction Center and the

See **HWT** on page 7

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 – "Blue Moon" - Is it really the second full moon in a calendar month?

Despite popular convention, the answer is "no."

The term "blue moon," and related phrases, has a storied history that dates back to the 16th century. Over the last 400 years, references to a blue moon have been metaphors for something absurd ("the moon is blue" being similar to " the moon is made of green cheese"), something that will never happen ("I'll marry you when the moon is blue!"), or most commonly, any rare, irregularly occurring event ("once in a blue moon"). "Blue moon" also has been used in song lyrics as a symbol of sadness or loneliness.

Once in a while, the moon really *is* blue. Layers of smoke, dust, or volcanic ash sometimes give the normally gray moon a bluish cast. This happens rarely, and therefore may be the source of the metaphorical meaning of a rare or infrequent event.

As far as astronomy and historical folklore, the "trendy" definition of a blue moon is the second full moon in a calendar month. This meaning happens to fit well with the notion of a rare and irregular event (months with two full moons occur at irregular intervals, and only once every two or three years on average). But research indicated that the original astronomical definition of a "blue moon" actually is *the third full moon in a season which has four*. According to *Maine Farmer's Almanac* for 1937, normally there are three full moons in each astronomical season (spring, summer, fall, winter). By convention, the first, second and last full moon in each season is given a specific name. (For example, the "harvest moon" is the first full moon of the autumn season.) Therefore, on those rare occasions when a season contains a fourth full moon, the *third* one is called the blue moon. The 1937 almanac provides dates of blue moons dating back to the 19th century, all of which occurred on the 19th through 24th of February, May, August or November. (Compilers of the almanac data used a blue colored symbol to denote the third full moon in a season with four; this may be the source of the name.) But the almanac article said nothing about a second full moon within a calendar month.

A blue moon photographed by Tom King of Watauga, Texas in October 2003. Reference: *http://science.nasa.gov*

So how did the present day definition come about? It turns out that the answer is based on a mistake - a *misinterpretation* of the definition given to the 1937 almanac article. In 1946, an article in an issue of *Sky and Telescope* magazine referenced the 1937 almanac article. Unfortunately, the author (an amateur astronomer) misinterpreted the almanac's definition, saying, "Seven times in 19 years there were - and still are - 13 full moons a year. This gives 11 months with one full moon each, and one with two. This second in a month, so I interpret it, was called the Blue Moon."

Since then, the wrong interpretation of "blue moon" has taken on a life of its own. In 1980, an episode of *Star Date* on National Public Radio aired the wrong definition after referencing the 1946 *Sky and Telescope* article. From there, it made its way into a 1985 children's book, "*The Kids' World Almanac of Records and Facts*" and a 1986 version of the game "Trivial Pursuit." From there, the wrong definition even appeared in the Oxford English Dictionary. *Sky and Telescope* explained the whole thing and admitted their own mistake in a 1999 article, but by then it was too late - the "genie was out of the bottle."

Which definition of "blue moon" is correct? The popular definition today is, in fact, a modern-day misinterpretation disguised as an historical fact. But even astronomers admit there is no real harm in adopting the second-moon-in-a-calendar-month definition. And now it is so firmly engrained in society that it is highly unlikely that the original intended meaning (third full moon in a season with four) will replace the current one.

Depending on which definition one uses, the next blue moon will be either on May 19-20, 2008 (third full moon of four in Spring 2008) or on December 31, 2009 (second of two full moons in that month).

What is the Heat Index?

By

Jennifer Palucki, Meteorological Intern

Simply put, the heat index is a measure of how hot it really feels when relative humidity (RH) is combined with the actual air temperature. This is sometimes called the apparent temperature. The heat index equation is a complicated one, and actually depends on several other parameters, but these parameters are held as constants in the equation using assumed magnitudes. These variables (and their assumed magnitudes) include, but are not limited to, the dimensions of a human (5' 7" tall, 147 pounds), clothing cover (long pants, short-sleeved shirt), activity (walking outdoors at 3.1 mph), effective wind speed (5 knots), and approximately 15 other variables. Another assumption is that shady conditions exist. Full exposure to the sun can increase the heat index value by up to 15˚F. Additionally, because other parameters are assumed, the heat index does not take into account strong winds, which combined with very hot, dry air, can be extremely hazardous.

Heat Index Chart

TEMP	RELATIVE HUMIDITY (%)												
(°F)	40	45	50	55	60	65	70	75	80	85	90	95	100
110	136												
108	130	137											
106	124	130	137										
104	119	124	131	137									
102	114	119	124	130	137								
100	109	114	118	124	129	136							
98	105	109	113	117	123	128	134						
96	101	104	108	112	116	121	126	132					
94	97	100	103	106	110	114	119	124	129	135			
92	94	96	99	101	105	108	112	116	121	126	131		
90	91	93	95	97	100	103	106	109	113	117	122	127	132
88	88	89	91	93	95	98	100	103	106	110	113	117	121
86	85	87	88	89	91	93	95	97	100	102	105	108	112
84	83	84	85	86	88	89	90	92	94	96	98	100	103
82	81	82	83	84	84	85	86	88	89	90	91	93	95
80	80	80	81	81	82	82	83	84	84	85	86	86	87

Extreme Danger - Heat stroke or sunstroke highly likely.

Danger - Sunstroke, muscle cramps, and/or heat exhaustion likely.

Extreme Caution - Sunstroke, muscle cramps, and/or heat exhaustion possible.

Caution - Fatigue possible.

It should also be known that sweating only cools the body when the water is removed by evaporation. High relative humidity values hinder evaporation. Thus, the best plan is to limit your time outside when it is very hot outside. Drink plenty of water or other non-alcoholic fluids, dress for summer, and take frequent breaks. Choosing not to do so may result in a heat related illness, as shown on the chart above. The elderly, small children, people on certain medications, or people with weight and alcohol problems are especially susceptible to heat reactions.

Weatherman: from page 1

Degree in Meteorology from OU, and published my thesis research on bow echoes, a type of organized thunderstorm complex that often produces damaging winds. Forecasting had always been my primary interest, though, and that dream took me to the NWS offices in Williston, ND, and Goodland, KS, before I came home to the Norman office in fall of 2005. At Williston I learned much about winter weather. I saw frost so thick it became a driving hazard, measured snow depth in temperatures of 30 below, and marveled at the northern lights. At Goodland I was immersed in the climate of the High Plains, where a half inch of snow can create a blizzard and dust storms are common. My experience there has made me a better forecaster in Oklahoma because so much of our weather develops first on the High Plains.

The Norman Forecast Office is truly unique. Upon arriving here I had to adjust to a large forecast area with very active weather. We often have tornadoes, flooding, and sometimes snowfall occurring simultaneously in our region. Although I spend most of my time forecasting, I also like to test new theories and technology, and help refine the way forecasts are produced. Working at the new National Weather Center gives me plenty of opportunities to explore ideas with other meteorologists.

I am also one of a handful of forecasters who go into the community each year to meet with and educate our volunteer storm spotters. Many people ask me if the NWS sends its own meteorologists out to observe storms. That typically is not the case. Instead, we rely heavily on trained storm spotters, including emergency managers, chasers, local media, and researchers. We incorporate their reports with all the environmental, radar, and satellite data we have at the forecast desk to make a "warning decision." That is the most exciting part of my job, working with various dedicated groups to deliver the best information to the public.

Outside of work, my wife and I enjoy hanging out with friends, taking in concerts, and traveling. Much of our family also lives in central Oklahoma, so we drop in to spoil our nieces and nephews as often as possible. As you can tell, we are usually on the go, but when we do manage to settle down at home we like watching movies and sports, and playing board games. I will also take advantage of any clear night to set out my telescope. So no matter what the weather is doing, I'm always entertained!

Flooding: From page 1

Texas. The flood crest eventually moved downstream and generated moderate to major flooding along Wolf Creek in northwestern Oklahoma from near Shattuck in western Ellis County downstream to the headwaters of Fort Supply Lake in western Woodward County.

The flood wave along Wolf Creek spread out on the flood plain to a width of one mile in some areas near Shattuck and inundated agricultural lands and local roads. While the town of Gage was not flooded, one house just upstream and west of Gage was flooded and the residents had to be evacuated. The flood wave eventually made its way into Fort Supply Lake and the rise in the pool elevation eventually closed the reservoir as access roads were flooded and camping areas were inundated.

What is usually no larger than one of the roads shown in the picture, Wolf Creek swelled to near one mile wide in Ellis County, Oklahoma due to heavy rains in the panhandle of Texas. This aerial photo was taken near the Oklahoma - Texas state line. Photo © 2007 Oklahoma Highway Patrol.

As a result of the elevated lake level at Fort Supply, water was released from the reservoir until bankfull conditions were seen along the North Canadian River near the city of Woodward and downstream of the confluence with Wolf Creek. Rainfall totals of 2 to 3 inches over the area on June 1-2 in combination with the high flows from Fort Supply Lake eventually produced a crest above flood stage on the North Canadian River at Woodward on June 2 for the first time in 18 years.

Late March. Conditions in the region during March were relatively dry until about the last 10 days of the month when a series of low pressure systems brought several rounds of heavy rain to the area. These rounds of rainfall produced wetter soil conditions and increased flows in the rivers and creeks in Oklahoma and north Texas. The area was primed for a flood event when an upper level disturbance dropped rainfall totals of 3 to 6 inches over south central and central Oklahoma and western north Texas March 30, generating flash flooding and river flooding across the region.

Flash flooding occurred in the cities of Ardmore, Comanche, Duncan, Lawton and Waurika, as well as Turner Falls Park and the Chickasaw National Recreation Area in Murray County. Flash flooding also occurred in the Oklahoma City metro area causing some creeks and ditches to overflow and some local roads and parks were inundated. The heavy runoff in the Edmond area and northwestern Oklahoma County would eventually route downstream into Bluff Creek and Deer Creek during the late evening of March 30, and several water rescues took place in northwestern Oklahoma County during this time. The floodwaters eventually made their way down to the Cottonwood Creek basin in Logan County producing flooding along Cottonwood Creek in and near Guthrie on March 31 through April 1.

Multiple mainstem rivers and creeks went into flood. Of particular note were Wildhorse Creek near Hoover, OK and Beaver Creek at Waurika, OK, which had their first flood crests above flood stage since the early 1990s. The river flooding along Beaver Creek flooded out one pickup in Waurika, and two teenagers had to be rescued from their vehicle.

March 2007 ended up being an extremely wet month, with some areas receiving rainfall amounts between 250 to 500 percent of normal. The rainfall and runoff began to fill up lower-than-normal reservoirs and brought much needed relief from the drought. Unfortunately, it also set the stage for additional flooding in the future.

On the south side of Waurika, Beaver Creek flooded out of its banks. Not realizing the depth of the water, the driver of this pickup tried to cross the road. The fire department was called to rescue the occupants. Photo © March 2007 Steve Goza, Jefferson County Emergency Manager.

May 8, 2007. Though April was relatively dry across the region, a series of weather systems during the first 10 days of May would bring more flash flooding and river flooding to the area, with the greatest flooding occurring on May 8-9, 2007.

Several rounds of thunderstorms produced heavy rainfall amounts. On May 6-7, rainfall totals of 3 to 6 inches fell over west central and northwest Oklahoma with 2 to 3 inches falling over southwest and central Oklahoma. Flash flooding and river flooding ensued and flash flooding claimed the life of one person in Washita County. The Oklahoma Highway Patrol reported a man drowned during the evening of May 6 following a one-vehicle accident near the town of Canute. The man was driving along a county road two miles west and two miles north of Canute when his car was swept off the roadway during a thunderstorm due to floodwaters from Oak Creek. It was the first flood fatality in the NWS Norman forecast area since October 31, 1998.

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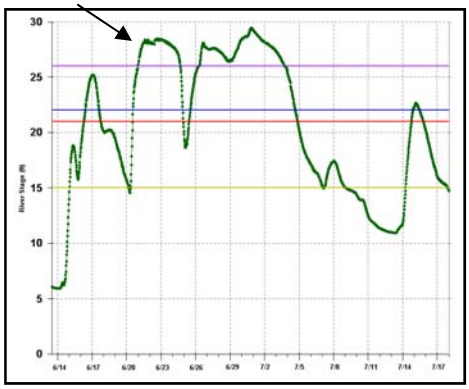
Flooding: continued from page 4

More heavy rainfall of 2.5 to 4 inches occurred during the morning of May 8 over parts of central Oklahoma bringing more flash flooding and river flooding to the area, including the Oklahoma City area. Numerous rivers and creeks overtopped their banks and multiple local roads as well as county, state and federal highways were closed due to floodwaters. Several water rescues took place and some residents were forced to evacuate from their homes.

During the evening of May 8 and early morning of May 9, a mesoscale convective vortex (MCV) moved from southwestern Oklahoma through the western Oklahoma City metro area and generated severe weather and flash flooding. The MCV dropped rainfall amounts of 3 to 5 inches over the Wichita Mountains in Comanche County. The subsequent runoff produced a rise in pool elevation in Lake Lawtonka above its flood pool prompting the opening of its floodgates. A large release of water downstream along Medicine Creek and eventually into East Cache Creek generating flash flooding on both Creeks. Additional flash flooding occurred on Blue Beaver Creek and West Cache Creek. Comanche County emergency management along with several city officials conducted about 17 water rescues during the late evening of May 8 and early morning of May 9 in and near Wichita Mountain Estates, Cache, and Indiahoma. Numerous homes were damaged along the creeks in Comanche County.

Late June 2007. A weak upper low meandered throughout Oklahoma and north Texas during a two-week period in late June and early July and dropped heavy rains over areas with already saturated soil conditions and reservoirs well above their conservation pools. As a result, some areas in Oklahoma saw major flooding including Comanche and Cotton counties, where East Cache Creek remained above flood stage for 16 days during this time, and Jefferson County where releases from Waurika Lake plus local runoff generated two near-record crests on June 27 and June 29 on Beaver Creek at Waurika. Numerous homes were damaged in these areas.

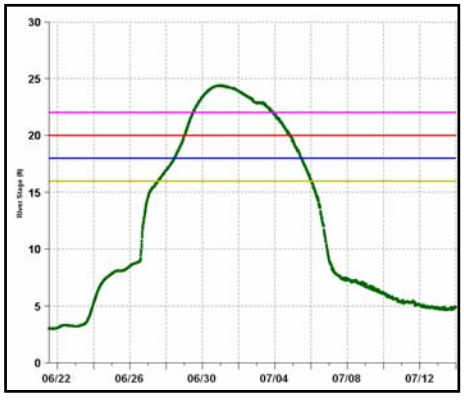
Top: East Cache Creek at Walters at low (normal) flow looking upstream from Highway 53. Bottom: Same view as top photo, but taken on June 21, 2007, when the East Cache Creek at Walters was in major flood. Photos © NWS Norman.



Hydrograph of East Cache Creek at Walters (WLTO2). The yellow line indicates action stage, blue line indicates minor flood stage, red line indicates moderate flood stage and the pink line indicates major flood. Arrow indicates when above photo was taken.

A record flood occurred on the Wichita River at Wichita Falls, TX. The river crested at 24.4 feet on June 30, 6.4 feet above flood stage and 0.4 feet above the previous record which had been set in October 1941. Major flooding also occurred along Beaver Creek near Electra, TX during this period. Multiple homes were flooded and damaged along the Wichita River in the Wichita Falls area. The high flows from all of the tributaries of the Red River in north Texas and southern Oklahoma produced moderate flooding along the Red River and raised the levels at Lake Texoma high enough to overtop the emergency spillway at the lake during mid July for only the third time in its history.

As the river swelled, flood waters surrounded the Holiday Inn in Wichita Falls off Interstate 44. Photo © 2007 Wichita Falls Public Information Office.



Hydrograph of Wichita River at Wichita Falls (WICT2). The yellow line indicates action stage, blue line indicates minor flood stage, red line indicates moderate flood stage and the pink line indicates major flood. The Wichita River crested at 24.4 feet, which set a record crest at this location.

Fire Weather - What is it?

By Scott Curl, General Forecaster and Fire Weather Focal Point

The Fire Weather Program

The fire weather program has come a long way in the past ten years here at the Norman NWS Office. The program has gone from one that is very basic, to one that is very involved and an integral part within the fire community here in Oklahoma and north Texas.

The National Weather Service office in Norman provides daily fire weather forecasts that include important meteorological information pertinent to the fire weather community. These parameters include temperature, humidity, wind, probability of precipitation, type and amount of precipitation, and cloud cover. Other parameters provide details for smoke management, which includes transport winds and mixing heights. These parameters allow our partners to plan burns that will not adversely impact the local town and citizens with potentially dangerous smoke. Detailed forecasts can also be issued for a specific location at the request of our partners. These are referred to as "SPOT" forecasts. All these forecasts are issued to aid the fire community with planning daily and future activities, such as prescribed burning, evaluating wildfire potential, resource allocation, training and other important decision making.

Another import aspect of the fire weather program within the NWS is when potentially dangerous wildfire conditions exist or are forecast to occur. In these events, the NWS issues either Red Flag Warnings or Fire Weather Watches that detail the meteorological conditions the fire community will encounter when they arrive at a fire. This gives the fire community an idea of what type of manpower and equipment they may need to handle any given situation. Our partners in this program consist of, but are not limited to, federal, state and local government agencies, that have a presence in Oklahoma and north Texas. They include the U.S. Forest Service, Bureau of Indian Affairs, Bureau of Land Management, National Park Service, Fish and Wildlife Service, Oklahoma State Forestry, Texas Forestry, as well as the Federal Emergency Management Agency and local city and volunteer rural fire departments. Each year individuals within each of these organizations work with the Norman NWS Forecast Office to accomplish a multitude of activities related to fire suppression and prevention.

This Year vs. Last Year

As with any other aspect of the weather, especially here in Oklahoma, fire weather concerns can change quickly. After a year in which several hundred fires burned several thousand acres across Oklahoma during the winter of 2005 into the spring of 2006, 2007 has had a distinctly different look to the wildfire season. This is due in no small part to the very wet late winter and spring that we have seen across much of the Southern Plains.

During the winter and spring last season an Incident Command Post, or ICP, was set up in Shawnee, Oklahoma. This ICP was set up to aid in dealing with the enormous undertaking of fighting the fires across Oklahoma during the late 2005 and early 2006 fire season. Firefighters not only from Oklahoma, but from some 30 to 35 other states, and as far away as Alaska, made their way here to aid in fighting fires and helping Oklahoma. The NWS also had a presence at the ICP. A meteorologist was at the command post many days providing daily weather briefings in the morning, helping to stage assets for the expected fire activity later in the day. I was fortunate enough to be a part of a great group of individuals that did an outstanding job during this critical time. Having a NWS presence there also allowed constant communication to take place, which allowed us to provide immediate weather information to the crews, both at the ICP and out in the field.

In comparison, 2007 has had very little in the way of wildfire activity, mainly because of the rainfall that has occurred across Oklahoma and north Texas over the past few months. In 2006, the Norman NWS Office issued 1657 Red Flag Warnings for counties either experiencing extreme wildfire conditions or that were forecast to see these conditions develop. So far in 2007, only 76 Red Flag Warnings have been issued. The number of warnings is usually related to the amount of precipitation we receive. For example, in Oklahoma City in 2006, from the beginning of January through the end of May, we received only 9.32 inches of rain, while in 2007, we received 21.78 inches of rain. The normal is just over 13 inches of rain for this timeframe.

Again, tremendous steps have been taken in the evolution of the fire weather program at the Norman NWS Forecast Office over the past decade. The advancement of this program is due in no small part to the efforts of both the forecasters and management here in Norman and to the great partnerships that have been cultivated with the fire community in both Oklahoma and north Texas. This has resulted in a fire program that is continuously improving for the state of Oklahoma and north Texas and its citizens.

Electronic Storm Spotting

By Rick Smith, Warning Coordination Meteorologist

Storm spotters provide an invaluable service to their communities and to the National Weather Service. While technological advances have helped forecasters issue better warnings and forecasts over the recent years, the National Weather Service still relies heavily on storm spotters to relay reports of what is actually happening in and around severe storms. Traditionally, storm spotters have provided information either through telephone or through amateur radio, and these are still great ways to send the information. However, it is now possible to submit storm reports in even more ways!

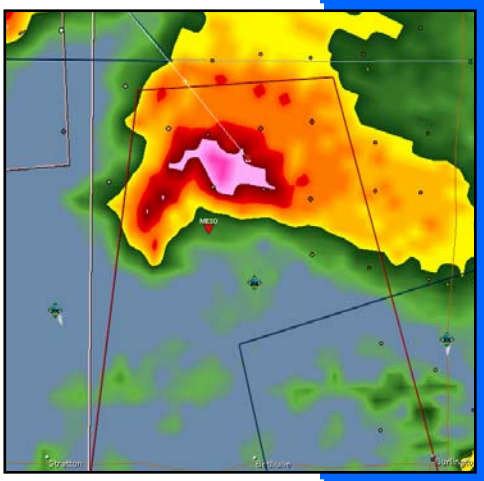
eSpotter. eSpotter is a program that was developed in the Central Region of the National Weather Service. Spotters register with their local NWS Forecast Office and are granted access to the eSpotter network. Once reports are submitted, they are transmitted automatically to the appropriate NWS office, where an audible and visual alarm notifies forecasters that a new report has arrived.

eSpotter also allows the NWS to communicate information to spotters via email.

For more information on eSpotter and to sign up, visit the website at *http://espotter.weather.gov*.

Spotter Network. The Spotter Network takes eSpotter on the road. The Spotter Network, developed by Tyler Allison and Al Pietrycha, allows mobile spotters and chasers to send information directly to the NWS from their vehicles. The network also allows NWS forecasters to monitor the locations of storm chasers and to contact them, if necessary, for reports and information. You can also integrate spotter/chaser location information with radar data using GRLevel 3 and other radar software. Over 1000 spotters nationwide have signed up so far.

Anyone can monitor the Spotter Network website. For more information about the Spotter Network and to sign up, visit the website at *http://www.spotternetwork.org*.



Storm spotters/ chasers (denoted by the diamond shaped car icons) are tracked as they observe a supercell thunderstorm in eastern Colorado.

Meteorologists from near and far participate in the Experimental Warning Program May 23, 2007. Photo © 2007 Spring Experiment.

HWT: From page 1

NWS Norman Forecast Office. These two offices, along with the National Severe Storms Laboratory, let HWT spring experiment activities from mid April through June. In addition, several collaborators provided valuable research and computing resources, some of which were available for the first time, allowing for significant improvements in precision.

There were two main area of emphasis in the 2007 Spring Program, each occupying a different portion of the room.

The Experimental *Forecast* Program participants used output from high resolution computer prediction models to prepare experimental forecasts of severe weather. Teams composed of research scientists and operational forecasters worked to document strengths and weaknesses of the model output. They also explored new data assimilation strategies and their potential impact on analysis and forecasting.

Teams participating in the Experimental *Warning* Program focused on the shorter-term convective weather warning needs of forecasters by testing new hazardous weather services, products and applications in a real-time operational setting. Successful results will help improve the skill of severe weather warnings issued by the NWS. Researchers and forecasters tested new weather surveillance tools, such as NSSL's phased array radar and 3-D Lightning Mapping Array, and the National Science Foundation sponsored CASA radars. Additionally, they tested new scientific concepts that will make severe weather warnings much more specific in space and time.

You can find more information about the 2007 HWT Spring Experiment at *http://hwt/nssl.noaa.gov/Spring_2007/* and on the NOAA Hazardous Weather Testbed at *http://www.nssl.noaa.gov/hwt/*.

Visiting the National Weather Center

By Rick Smith, Warning Coordination Meteorologist

The National Weather Center in Norman has been a very popular place for tourists and visitors since it opened in September of 2006. The National Weather Center, or NWC for short, is the home of the National Weather Service Norman Forecast Office, in addition to the Storm Prediction Center, National Severe Storms Laboratory, NWS Warning Decision Training Branch, and the University of Oklahoma School of Meteorology. For more information on these organizations, please read *The Southern Plains Cyclone* Summer of 2006 edition.

How popular has the building been? Our latest estimates indicate that more than 17,000 people have visited the building in less than a year! We've had visitors representing all 50 states, and at least 27 foreign countries, with ages ranging from 2 weeks old to 102 years old.

If you're interested in seeing the NWC, and learning more about the important work that goes on in weather forecasting, academics and research, we'd love to have you stop by for a visit! Here is some important information about tours.

Individuals and Families. Individuals and families can tour the NWC on most Mondays, Wednesdays and Fridays at 1 pm. The tour is free, lasts around 45 minutes, and includes a comprehensive overview of the NWC and all the groups who work in the building. The tour includes visits to the School of Meteorology, the NWC observation deck, classroom and laboratory facilities, as well as the Storm Prediction Center, the National Weather Service Norman Forecast Office, and the National Severe Storms Laboratory. Space is limited for these tours, so you have to make reservations in advance. If you have more than eight people in your group, you should consider scheduling your own group tour. To reserve your spot on one of the regularly scheduled public tours, contact the NWC Professional Staff Office at tours@nwc.ou.edu or call 405-325-1147.

Groups. Groups are welcome at the NWC. Tours are available for groups of 35 people or fewer, and for ages 3rd grade and above. We'll also try to work with larger groups, but you will need to work out the details in advance. Group tours are typically scheduled on Tuesdays and Thursdays, or mornings only on Mondays, Wednesdays and Fridays. Your group tour of the NWC will last about 1.5 hours and consist of a presentation and video about the science conducted at the NWC, along with a visit to the Storm Prediction Center and the National Weather Service Norman Forecast Office. The tour will be led by a meteorologist. A list of names of all attending the tour is required in advance. Due to high demand, you should schedule your tour at least two to four weeks in advance. Please email Daphne Thompson (daphne.thompson@noaa.gov) or call 405-325-6892 to schedule a tour or for more information.

If you are interested in a more detailed tour focused on a specific unit or subset of units in the NWC building, please contact the following:

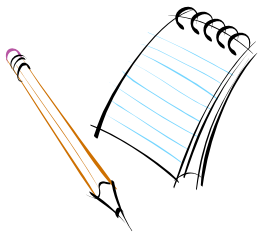
For NOAA Weather Partners (National Severe Storms Laboratory, NWS Norman Forecast Office, Storm Prediction Center, Warning Decision Training Branch and/or the Radar Operations Center) contact Daphne Thompson at daphne.thompson@noaa.gov or by phone at 405-325-6892.

Top: Mike Foster, Meteorologist in Charge, gives a tour of the National Weather Service Office to First Lady Kim Henry and other guests April 24, 2007. Bottom: President David L. Boren and Regents tour the National Weather Center February 7, 2007. This photo was taken outside of the Storm Prediction Center. Both photos © 2007 College of Atmospheric and Geographic Sciences at the University of Oklahoma.

For University of Oklahoma units (School of Meteorology, Center for the Analysis and Prediction of Storms, Cooperative Institute for Mesoscale Meteorological Studies, Oklahoma Climatological Survey, Center for Natural Hazards and Disaster Research, or Center for Spatial Analysis) contact Kevin Kloesel at kkloesel@nwc.ou.edu or by phone at 405-325-3298.

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

By Rick Smith, Warning Coordination Meteorologist



Oklahoma Centennial Climate and Weather History Day - May 10th. Representatives from NWS Norman joined our partners in the Norman weather community to celebrate 100 years of Oklahoma weather in a ceremony at the Oklahoma State Capitol on May 10th. A proclamation was read on the Senate floor, designating May 10th as Oklahoma Centennial Climate and Weather History Day in Oklahoma. Mike Foster, Meteorologist in Charge of the Norman Forecast Office joined Dr. John Snow, Dean of the College of Atmospheric and Geographic Science at the University of Oklahoma to accept the proclamation. Following the ceremony, representatives from many of the Norman Weather Partners manned displays that showcased the valuable weather information services that come from Norman.

2008 National Severe Weather Workshop. Mark your calendars for the 2008 National Severe Weather Workshop. It is set for March 6-8, 2008 at a location still to be determined in the OKC metro area. Plans are already in the works to make this the best workshop yet! Watch future editions of the newsletter and our website for more details.

OKC NWR Transmitter Upgraded. The Oklahoma City NOAA Weather Radio got a major makeover this summer as a brand new transmitter system was installed. The weather radio station, which originally went on the air September 19, 1978, is essentially brand new again, complete with two new 1000 watt transmitters, a new antenna system and new feed line (antenna cable) that connects the transmitter to the antenna. The OKC weather radio broadcast originates from the NWS office in Norman, with the signal broadcast from an antenna at around 500 feet on the KFOR TV tower in north Oklahoma City.

More upgrades are planned for other transmitters in the area over the coming years.

New NWR Transmitter at Guymon, Oklahoma. The NWS installed a new NOAA Weather Radio transmitter near Guymon in the Oklahoma panhandle, and the transmitter went on the air on May 8, 2007. The 1000 watt dual Crown transmitter was provided to the Government through the gracious contribution of the State of Oklahoma Department of Public Safety through a private grant. The station broadcasts on a frequency of 162.525 MHz to parts of the Oklahoma and Texas panhandles and a small part of southwest Kansas.

Did you know... Between January 1st and July 11th, 2007, the Norman forecast office has issued 80 tornado warnings, 735 severe thunderstorm warnings, and 202 flash flood warnings. This is a total of 1017 warnings. 920 of them were issued between March 1st and June 30th. More warnings have already been issued this year than in all of 2006! In 2006, 830 warnings were issued including 44 tornado warnings, 773 severe thunderstorm warnings and 13 flash flood warnings.

A Note from the Editor Jennifer Palucki

It has been my pleasure to be the editor of *The Southern Plains Cyclone* for the last two years. This will be my last edition of the newsletter as I will be leaving the Norman Forecast Office in August to become a general forecaster at the National Weather Service in Albuquerque. Your new newsletter editor will be Patrick Burke. You can read more about him in the Meet your Weatherman section of this newsletter. Please welcome him as your new editor!

Cooperative Observer Notes

Oklahoma City Rainfall Facts

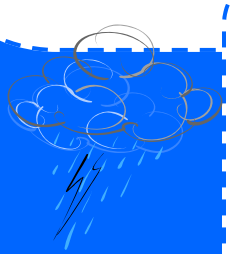
By Jennifer Palucki and Ty Judd, Meteorologist Interns

The sky has opened and dumped rain over and over again this year. Rainfall records have been shattered, and many people are wondering, when is the rain going to end? While the answer to that remains unclear, record rainfall amounts are certain, and here is a list of the records, year-to-date. Records for Oklahoma City date back to 1890.

- 3rd wettest Spring (March-May): 19.08 inches. (Wettest: 20.31 in 1947)
- Wettest March on record: 8.02 inches. (Previous record: 7.85 in 1988)
- 5th wettest June on record: 10.06 inches. (Wettest 14.66 in 1989)
- Daily rainfall records
  - January 14th: 0.76 inches
  - March 29th: 1.43 inches
  - March 30th: 3.50 inches (also wettest March day on record)
  - May 7th: 2.33 inches
- 20 consecutive days with a trace or more of precipitation: June 13th - July 2nd. (Previous record: 14 days from May 29 - June 11, 1937)
- Even with no more rainfall this July, it would still be the wettest January-July period on record with over 37 inches of rain. (Previous record: 34.50 in 1908.) Furthermore, if Oklahoma City received no more rainfall for the rest of July and August, it would still be the wettest January-August period!

So what is the normal precipitation? In an average year, Oklahoma City receives 35.85 inches of rain. That has already been exceeded in 2007 and we are only in July!

So will this be the wettest year on record? Only time will tell. The wettest year on record is 1908 when 52.03 inches of precipitation fell.



What about Wichita Falls?

Similar to Oklahoma City, Wichita Falls has also received more rainfall so far this year than in all of 2006. The 2006 rainfall total was 22.26 inches of precipitation, and this year, more than 24 inches has already been recorded!

Award Recipients

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

Harlan Hinds - 50 years (presented posthumously)
Ruby Hinds - 50 years
Radio Station KCRC - 50 years
Nolan Tanner - 40 years
Dillon Davis - 30 years
Elvin Zeman - 25 years
Bill Wyatt - 20 years
Sue Barnes - 15 years
Ladonna Kleuser - 15 years
Alene Williams - 10 years
Shirley Koehn - 10 years
Virginia Crouse - 10 years
Ruth Clymer - 10 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.

Thanks to our Observers

Thanks to all of our observers for doing an excellent job measuring rainfall this year. We know you've been busy! We appreciate all your hard work!

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

The Norman NWS Cooperative Observer Program Team:

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

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Check out our text-based and graphical forecasts for your county at *weather.gov/norman*.

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.