The Dryline

The Official Newsletter of the National Weather Service in Amarillo

Winter 2010

NWS Amarillo Hosts "Decision Support Symposium

By JJ Brost, General Forecaster

On November 3rd and 4th, 2009 the National Weather Service in Amarillo hosted its first ever "Decision Support Symposium." The symposium focused on the relationships between the National Weather Service and decision makers. Representatives from local area emergency management, law enforcement, fire services, national parks, Texas Department of Transportation (TXDot), and school superintendents gathered together for a two day workshop to discuss how the National Weather Service can be utilized to enhance decision making. In addition, National Weather Service forecasters from San Francisco to San Juan, Puerto Rico, traveled to Amarillo to participate in the symposium.

Multiple presenters discussed topics ranging from personal decision making, lessons learned, and the future of decision support services. The nearly 70 participants in attendance then had an opportunity to ask questions or discuss certain points from each presentation. In addition, each day we hosted a "break-out" session where we created a hypothetical situation and discussed how the different agencies would respond. We split the 70 participants into three groups and presented these different situations to each group. In one case, the group had to discuss their roles in preparing for a major music festival. In another case, the group was faced with a major hurricane making landfall that could provide flooding impacts hundreds of miles inland from the coast. After each "break-out" session, the groups gathered back into the main auditorium and discussed their results including some very innovative ideas.

Mark Fox, WFO Fort Worth Warning Coordination Meteorologist (l) and Mark Strobin, Forecaster from WFO San Francisco/Monterey discuss their results from a break-out session.

The information presented at this symposium certainly provided a great deal of insight into the concept of decision support. The most valuable information came

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from our partners who communicated their needs during the decision making process. This will help National Weather Service forecast offices improve support services for our decision makers and first responders.

Major Radar Improvement on the Horizon

By John Cockrell, Senior Forecaster

Beginning in the second half of 2010, the entire fleet of weather surveillance radars (also known as WSR-88D or NEXRAD), will undergo a significant upgrade. This includes 121 radars operated by the National Weather Service (NWS), 12 operated by the Federal Aviation Administration, and 26 radars operated by the U. S. Air Force and the U. S. Army.

Conventional weather radars, including the WSR-88D, which represented a major advancement to operational meteorology since its deployment to the NWS in the early 1990s, transmit pulses of electromagnetic energy (radio waves) into the atmosphere. When these pulses reach a meteorological target, such as rain, hail or snow, some of the energy will be scattered back to the radar, producing a graphical depiction of the areal extent and intensity of the precipitation. The transmitted radio wave pulses which detect the weather features have a horizontal orientation. This horizontal orientation allows for horizontal measurements within clouds and precipitation to be made.

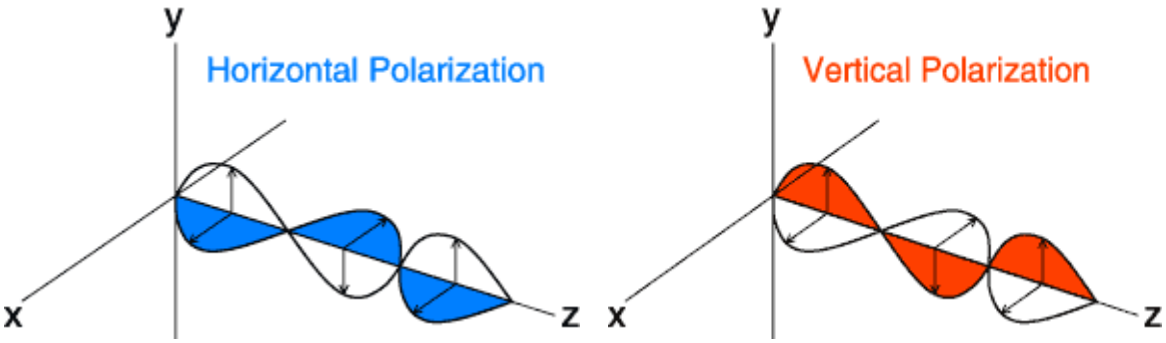
Our new radar upgrade will transform the WSR-88D into polarimetric radar, which is also known as a dual-polarization radar. For more than 20 years, researchers have been developing dual-polarization radar, and the benefits of their work will soon be made available to all the people of the United States. Dual-polarization means that vertically oriented radio waves will also be transmitted and scattered back to the radar. The vertical orientation of the pulses will enable vertical measurements of the atmospheric phenomena to be made. With the radar's high-speed multi-tasking computer ingesting these new measurements as input to new algorithms, a variety of new data sets will be made available to NWS meteorologists.

The enhancements to the radar will allow for a new way to detect small-scale features such as hail cores, heavy rain cores, and tornadic debris. The radar's new capabilities will also provide improved accuracy in estimating ground-level precipitation amounts. The new analysis schemes will offer NWS meteorologists an improved method to determine precipitation type, differentiating rain from sleet, freezing rain, and snow, as well as differentiating very heavy rain from hail. These enhancements will provide valuable information to NWS meteorologists when making the decision to warn for severe thunderstorms, tornadoes, flash flooding, winter storms and floods.

Polarimetric radar detection of ice crystals within thunderstorms is expected to provide information on a given storm's lightning potential. Conditions leading to aircraft icing are expected to be better detected and identified. The new radar also promises to allow an easier identification of non-meteorological targets, including insects, birds, anomalous propagation, ground clutter and chaff.

The overall quality of radar data is expected to be improved. Polarimetric radar data will be less prone to attenuation, partial beam blockage, and miscalibration. This means that erroneous storm measurements resulting from radar limitations will be less common.

The NWS meteorologists in Amarillo will undergo extensive training prior to the new radar's deployment. We are confident that the citizens of the Panhandles will receive improved forecasts and warnings as a direct result of the radar's new detection capabilities.



Cooperative Observer Receives Dick Hagemeyer Award

Forty-five years is a long time to be a cooperative weather observer, but that is exactly how long Darral Watson from Wayside, TX has been measuring and recording precipitation data at his location. On December 3rd, Tabatha Tripp, OPL, Steve Drillette, WCM, and Lance Goehring, senior forecaster traveled to Wayside to present Darral the Dick Hagemeyer award, a pin and a 45 year length of service award. The National Weather Service gives length-of-service awards to cooperative observers every five years, after their first ten years of service. The Dick Hagemeyer award is awarded to an observer for 45 years of service and is named after a National Weather Service employee whose career spanned 51 years, which included serving as a cooperative program manager.

After the award presentation, Tabatha, Steve, and Lance upgraded the old punch tape in Darral's rain gauge with a new data logger and memory card.

WCM Steve Drillette (l) presents an award to the Wayside, TX cooperative observer

2009 Weather Year in Review

The year 2009 started out dry as the Panhandles did not see much precipitation January and February. A historic blizzard slammed into the Panhandles at the end of March but it wasn't until July and August when Amarillo finally received some drought relief. Over eleven inches of rain fell over the two months, which ranked as second wettest of all time for that two month period. The aforementioned blizzard was perhaps the most noteworthy event of 2009 and this storm brought most of the year's snowfall. This storm produced a whopping 11 inches of snow in Amarillo, which was the 5th largest snowfall event ever recorded in March. Some other locations across the Panhandle received over 20 inches of snow with Follett, Texas, breaking a state record! The year ended on a wet note as a few snowstorms brought a couple of inches of snow on Christmas Eve and then again on New Year's Eve. The blizzard and the late summer rainfall contributed to 2009 finishing above normal in terms of both rainfall and snowfall.

Since it was a dry spring, it was a relatively quiet severe weather season. Although the Panhandles received its share of hail and strong winds, only thirteen tornadoes were documented in 2009. Out of the thirteen, ten were short lived EF0s. Fortunately, no fatalities were reported with these tornadoes however there was one injury from a tornado that stuck just east of Pampa, TX.

The year started out warm with temperatures well above normal January through March. In fact this first quarter of the year ended up being the 8th warmest quarter on record. Temperatures trended below normal by late summer and continued into fall which coincided with the onslaught of rainfall during this period. The period from August through October was the 5th coolest on record during this time frame. However, after averaging out the warm start of the year and this cool period, the year ended up slightly above normal.

YEAR 2009 SUMMARY FOR AMARILLO

High for the year: 106°, July 9th
Low for the year: 4°, January 27th
Average High Temperature: 71.4° (1.1° above normal)
Average Low Temperature: 43.3° (0.3° below normal)
Average Annual Temperature: 57.4° (0.4° above normal)
Annual precipitation: 21.13 inches (2.5 inches above normal)
Annual snowfall: 18.4 inches (0.5 inches above normal)

To see a complete breakdown month by month of the year 2009 visit:
http://www.srh.noaa.gov/ama/?n=2009_weather_review

Since 2009 wraps up the decade, staffers at the Weather Service office in Amarillo came together to discern the top ten weather events that occurred over the decade. Amarillo has certainly seen its share of wild weather and perhaps there are some that immediately spring to your mind. Check our list to find out at:
http://www.srh.noaa.gov/ama/?n=top10_events_decade

Weather Review and Outlook

By Rich Wynne, Science and Operations Officer

REVIEW OF FALL 2009

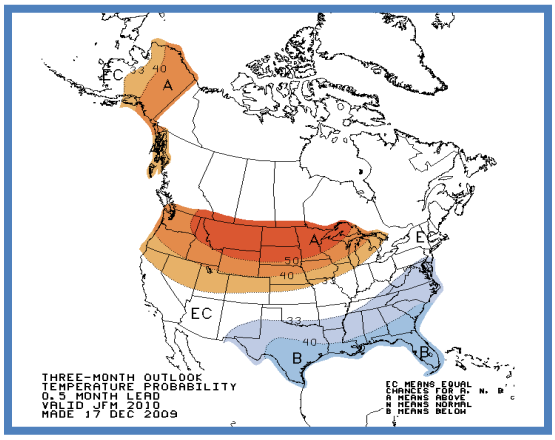
Several weather systems moved across the northern and central Great Plains and the Midwest during the Fall. These systems brought colder air southward into the Panhandles, especially during October. Average temperatures for the month were significantly below normal. The growing season came to an end in many parts of the Panhandles on the weekend of October 10th and 11th when temperatures fell below freezing. The first freeze for Amarillo is normally around October 20th. The averages for November turned out to be higher than normal and were actually closer to October averages. Wintry conditions appeared near the end of the month when the city of Amarillo received 2.1 inches of snow. A colder than normal pattern returned during December which led well below normal temperatures, and resulted in the 13th coolest December on record. In addition, three inches of snow was recorded in Amarillo. The most notable weather for December was the blizzard conditions in the southeast Texas Panhandle on Christmas Eve with blowing snow, near zero visibilities, and low wind chill values.

	AVG HIGH	AVG LOW	AVG TEMP	PRECIP	#MINS <32
OCT	66.6 (-5.2)	40.1 (-4.5)	53.4 (-4.8)	1.42 (-0.08)	8 (+5.7)
NOV	65.0 (+6.6)	35.8 (+4.0)	50.4 (+5.3)	0.26 (-0.42)	13 (-2.9)
DEC	44.9 (-4.9)	20.3 (-3.8)	32.6 (-4.4)	0.61 (-0.36)	30 (+3.0)

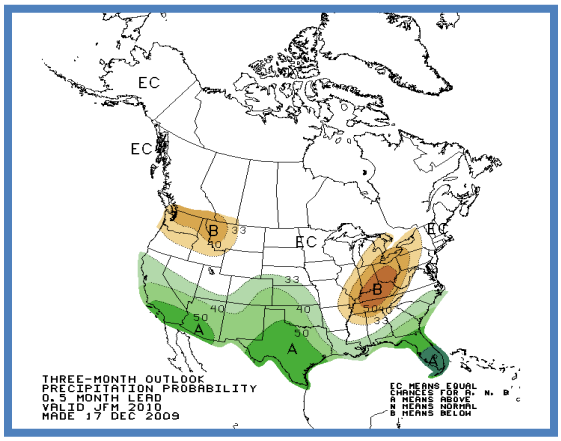
Table 1. Fall 2009 statistics for Amarillo, TX

OUTLOOK FOR WINTER 2010

The Climate Prediction Center has issued the three-month outlook for January, February, and March. The temperature outlook indicates equal chances for above, near, or below normal temperatures through the winter. The precipitation outlook indicates an enhanced chance for above normal precipitation across Texas. El Niño conditions developed in the Eastern Pacific Ocean this summer and the El Niño is expected to strengthen and last through the winter. Climate experts continue the El Niño pattern through March. El Niño often results in a more active weather pattern impacting the Panhandles, leading to more precipitation and snowfall. The increased cloud cover also results in cooler daytime temperatures.



JAN-FEB-MAR 2010 Temperature Outlook



JAN-FEB-MAR 2010Precipitation Outlook

Amarillo Staffer Earns National Cline Award

Stephen Bilodeau, a Hydrometeorological Technician at the National Weather Service in Amarillo, was recently recognized with a National Issac Cline Award for Outreach. As the team leader of Amarillo's Marketing and Outreach team, Mr. Bilodeau was recognized for his outstanding efforts in developing and overseeing outreach educational events. Mr. Bilodeau has been instrumental in working with partners and customers, to convey hazards and promote understanding, in order to protect life and property and to support the nation's economy and the growing need for environmental information.

The Cline award is named for Isaac M. Cline, who had a lengthy career in the U.S. Weather Bureau distinguished by his innovative forecasting, and his development of dissemination techniques, combined with outstanding public service efforts. The most noteworthy and most difficult time of Mr. Cline's career came during the Galveston hurricane of 1900, the deadliest weather event in the history of the United States. His acute understanding of concurrent weather conditions, his advance predictions, and his heroic forecast and hurricane warnings saved several thousand lives. The National Weather Service (NWS) Isaac M. Cline Awards were established to identify and recognize operational excellence of employees in the delivery of products and services supporting and enhancing the achievement of NWS strategic and operating plans.

In order to qualify for the national award, Mr. Bilodeau was also recognized with a Regional Level Issac Cline award. Mr. David Wilburn, an Electronics Technician in the Amarillo office, was also recognized with a Regional Level Cline this year for his outstanding work in the electronics program at the Amarillo office.

The Regional Clines marked the 6th and 7th time, since the award began in 1999, that individuals at the Amarillo office have been recognized at this level for their accomplishments. The regional level award encompasses all offices in the NWS Southern Region which extends from New Mexico to Florida. The national award encompasses all offices and programs across the entire National Weather Service. Mr. Bilodeau's national award is the 2nd for Amarillo. Meteorologist in Charge, José Garcia was recognized with the first National Cline award for Leadership in 1999.

2010 Spotter Training

The 2010 Severe Weather Season is almost here! The National Weather Service will again be hosting Spotter Training sessions at many locations in the Texas and Oklahoma Panhandles from late February through April. If you would like to schedule a spotter training class please email Steve Drillette at steve.drillette@noaa.gov or call (806) 335-1421. If you would like to help the National Weather Service by becoming a storm spotter, please attend one of the spotter training classes this season. To see when there is a storm spotter training class near you, visit: www.srh.noaa.gov/ama/?n=spottertalks. We have just started scheduling classes this year so check back often.

SKYWARN

Farwell to Amarillo Staffer

There always seems to be a little turnover in staff, but the good news is folks always seem to be moving in an upward direction. This month, the office bids farewell to Meteorologist Intern, Chris Kimble. Chris came to Amarillo in 2006, fresh from graduating at the University of Oklahoma and serving as Student Employee. He has been an outstanding individual and became one of our premier climate experts for the Texas and Oklahoma Panhandles. He served as the previous editor of our "Dryline" newsletter and also was the leader for our Winter Weather program here in Amarillo. Chris's winter weather experience should serve him really well as he moves upward in both position and location. Chris has been promoted to a Journeyman Forecaster position in Gray, Maine. We will miss Chris and wish him the best in his future National Weather Service career!

It's Chili Time!

Folks who live in Texas know and love their chili. So when the Veteran's Administration in Amarillo threw a chili cook-off to raise money for the Combined Federal Campaign (CFC), ET Dave Wilburn and HMT Steve Bilodeau jumped at the chance to participate. There were around 43 entries and in the end, Dave took first place for the hottest chili which contained several different types of peppers including the ghost pepper which is one of the hottest peppers on earth. Steve took home a first place trophy for the most unusual chili. His was similar to a New England clam chowder. Both Dave and Steve are not new to taking home top honors at a chili cook-off as they have won other trophies in previous chili cook-offs that the VA held.

Steve Bilodeau (l) and Dave Wilburn pose at the VA's chili cook-off

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