



The Topeka Tiller

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National
Weather Service
Topeka, KS

The 2016 NWS Topeka Open House

By Audra Hennecke, Forecaster

NWS Topeka hosted an Open House event on Saturday, October 1st, and it was a huge success with around 500 people attending the event! Those that attended were able to enjoy several activities, including tours of our operations area, hourly weather balloon launches, special weather presentations, and various activities at different partner booths. During the office tour, we provided an overview of NWS operations, showed examples of different weather model output that forecasters analyze to create daily forecasts, and ran through a warning

simulation for the EF-4 tornado that narrowly missed Chapman, KS on May 25th, 2016. Attendees that were interested in learning more about the weather could sit-in on two special presentations: "Forecasting the World's Most Extreme Weather: An Overview of Kansas Tornadoes, Hail, Wind, Flooding, and Fires," and "Basic Weather Forecasting 101: An Overview of How Forecasts are Made." Each weather balloon launch drew a huge crowd as attendees were able



to learn about the valuable weather information gathered from radiosondes that are attached to the weather balloons. The NWS also hosted a booth with various outreach materials and weather experiments, including an interactive flood model, a tornado machine, a Van de Graaff machine, and a guest appearance by Leon the Lightning Safety mascot!

In addition to these NWS activities, there were several booths for various partners of the NWS who play an important role in communicating weather information and in keeping communities safe during and after a hazardous weather event. These partners included KSNT, WIBW, WIBW Radio, City of Topeka Emergency Management, Shawnee County Emergency Management, KDEM, Red Cross, the state climatologist, Air National Guard, and the Kansas Forecast Service.

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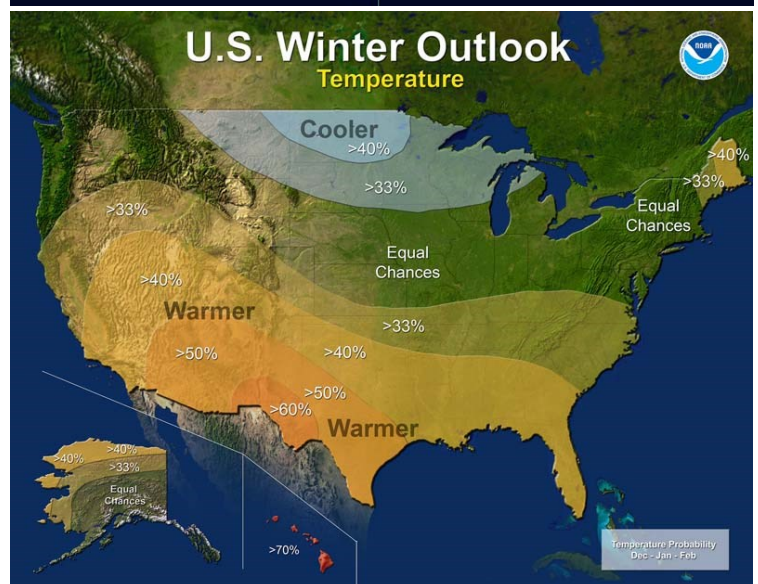
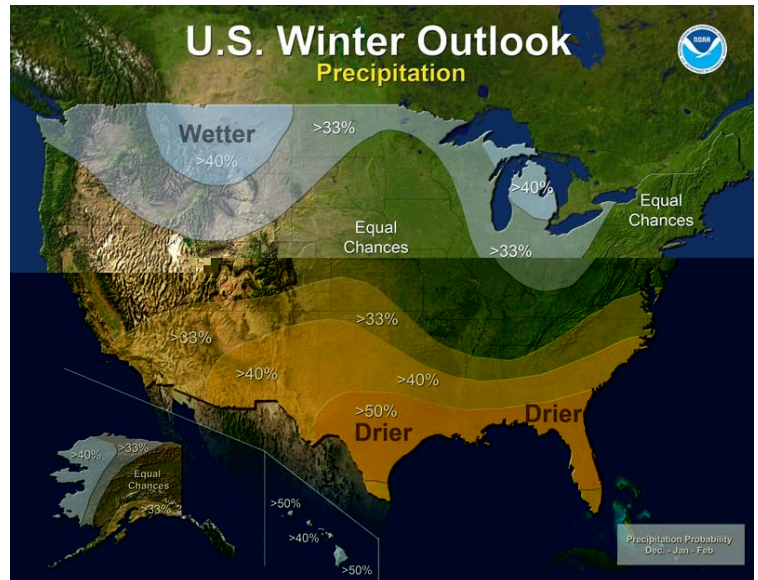


Winter 2016-2017 Outlook

By Kyle Poage, Forecaster

Snowfall during the past two winters was generally below normal, while much above normal snowfall was the rule during the previous two winter seasons. Temperatures during the past few winter seasons have averaged to be both above and below. What kind of winter is anticipated this year?

The Climate Prediction Center issued the U.S. Winter Outlook in mid-October. One of the major phenomena that guides seasonal outlooks is the existence of an El Niño or La Niña. In an El Niño, abnormally warm ocean water temperatures exist along the Equator in the Pacific Ocean. In contrast, La Niña conditions occur when the water in this same area is colder than normal. Although there are other large-scale conditions that impact long-term weather patterns, El Niño and La Niña are major drivers of atmospheric patterns across large portions of the earth on a seasonal scale. Last winter, a strong El Niño developed, while at this time a weak La Niña is in place and is anticipated to persist for much of this winter. During La Niña, weather patterns exist that typically favor colder than normal winters from the Pacific Northwest to the Great Lakes, wetter than normal winters in the Cascades, and winters that are warmer and drier than normal across much of the southern states. This year's outlook follows these patterns fairly closely, and consequently includes no clear signal for the winter in north central, northeast, and east central Kansas to be wetter, drier, warmer, or colder than normal.



EF-4 Tornado near Chapman, KS

By Bryan Baerg, Meteorologist Intern

The evening of Wednesday, May 25th proved to be a very dangerous evening for many residents across the NWS Topeka forecast area. A powerful supercell thunderstorm marched along Interstate-70 producing numerous tornadoes from 6:00 PM to nearly 11:00 PM. Initiation time of the thunderstorm occurred during the early evening hours across central Ottawa County. Not long after initiation, the supercell produced its first tornado just after 6:00 PM. This particular tornado was weak and only lasted approximately 1 minute; no damage occurred.



Article continues on page 6...

Are you Prepared this Winter Season?

By Jenifer Prieto, Forecaster

The temperatures are mild and skies are sunny – it’s hard to imagine a winter storm could approach in the near future. However, as the season begins to transition from falling leaves to falling snow in next few months, now is the time to start thinking about ways you can prepare yourself and your family to be ready. Looking at the facts, did you know that driving in the ice and snow causes more injuries and fatalities than tornadoes each year in the United States? Each year, on average, more than 6,000 people are killed and more than 480,000 are injured due to weather-related vehicle crashes. It only takes a subtle and intermittent icing on roadways to cause drivers to quickly lose control. To compare with tornado statistics, on average around 2 people each year are killed and far fewer are injured. So now that we understand the dangers of driving during the winter weather season, what can we do now to prepare? Here are a few tips shared from [the National Weather Service Winter Storm Safety Page](#).

⇒ **Check the weather forecast (if a storm is expected) on a regular basis and before a trip.** If you plan to travel and know that wintry conditions are likely, be sure to check the local forecast throughout your trip at www.weather.gov. Winter Storm Watches, Warnings, and Advisories are posted on this website. If you are not sure the difference, here is a quick refresher:

⇒ **Know the terms.** Do you know the difference between freezing rain and sleet? Here are some key winter words and their definitions:

- **Freezing Rain:** Rain that freezes when it hits the ground; creating a coating of ice on roads, walkways, trees, and power lines.
- **Sleet:** Rain that turns to ice pellets before reaching the ground. Sleet also causes moisture on roads to freeze and become slippery.
- **Wind Chill:** A measure of how cold people feel due to the combined effect of wind and cold temperatures.

⇒ **When driving, slow down and relax!** This rule does not just apply to winter weather; it can be for any driving conditions. When planning to drive through wintry weather...

- Prepare mentally to take it slow – not just with speed, but also turning the vehicle, breaking, even hitting the gas pedal. Completing any of these tasks too quickly with even just a light coating of ice can cause the driver to lose control – this includes cars with four wheel drive.
- Try to leave plenty of room to stop (at least three times more space than usual between you and the car in front of you).
- Turn on lights and keep windshields clean for good visibility.

Winter Storm Products

- Winter Storm Warning**
Snow, sleet, or ice expected! Take A Confidence is high that a winter storm will produce heavy snow, sleet, or freezing rain and cause significant impacts.
- Winter Storm Watch**
Snow, sleet, or ice possible! Be prepared. Confidence is medium that a winter storm could produce heavy snow, sleet, or freezing rain and cause significant impacts.
- Winter Weather Advisory**
Wintry weather expected. Exercise caution. Light amounts of wintry precipitation, patchy blowing snow will cause slippery conditions and could affect travel if precautions are not taken.

• Pay attention to the road! Avoid using mobile devices, radios, anything that can distract you from focusing on the road.

⇒ **If you start sliding, turn slightly into the skid and ease lightly onto the breaks (with an emphasis on “lightly”).**

Note: if you do not have anti-lock brakes (ABS), you will need to pump the breaks. By the time you **Article continues on page 5...**

Women in Science Day 2016

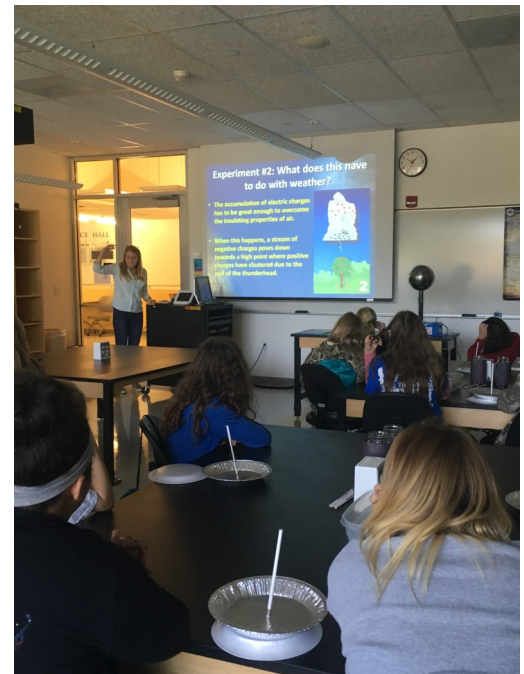
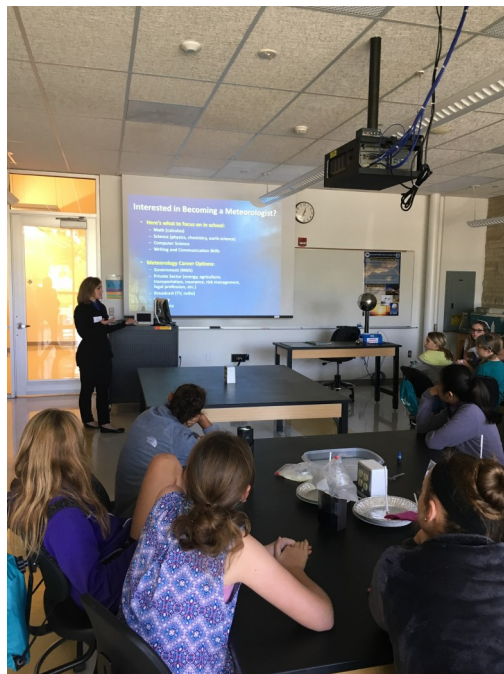
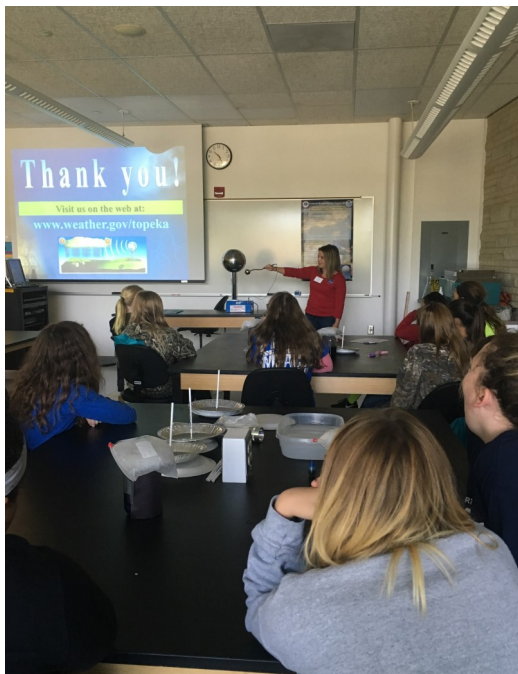
By Emily Heller, Meteorologist Intern

In what has become an annual event, the women of NWS Topeka have once again participated in a day deemed “Women in Science” at Washburn University in Topeka, Kansas. On October 11, 2016, approximately 250 girls in the seventh grade flooded to the Washburn University campus for a day filled with presentations and unique science experiments.

Although the gap between the number of girls and boys taking STEM (science, technology, engineering, and mathematics) classes has narrowed over the years, studies have continued to show that there continues to be a substantial gender gap when looking at these classes in higher education. Another study shows lack of information about career choices and good role models also plays a role in the gap of women in STEM fields. The purpose of the “Women in Science” day is to provide young women with the opportunity to interact with professional women in

science fields, along with actively partaking in experiments to trigger interest in the field of science.

This year, there were two guest speakers along with seventeen different labs! Every girl could pick two labs to attend which ranged from learning about CPR, creating volcanos, and using microscopes to look into what is really inside drinking water. The lab presented by the women of the National Weather Service was called ‘Let’s Make Some Weather’! Three short experiments were performed in this lab. First, the girls answered the question about why the sky is blue using a flashlight, water, and powdered milk. The other two experiments dealt with creating lightning using static electricity from rubbing Styrofoam plates on their heads, and creating fog in a jar using hot and cold water, plus a match. At the very end of the lab, “real” lightning was seen using a Vann de Graff generator. Overall, the day was a success with interactive labs, motivating presenters, and numerous discussions about future careers.



Are you Prepared this Winter Season? (Continued...)

are sliding, you have already lost traction with the road. Turning into the skid slightly and pressing on the brake will reduce the chances of the vehicle spinning out. If you yank the wheel in the opposite direction of the skid while slamming on the brakes, it will actually cause your brakes to lock. You will likely lose all of hope of regaining traction with the road.

⇒ **In the event you are unable to keep driving or become stuck in the snow.** First piece of advice is not to panic. It is a common occurrence for people to pull over when conditions become too dangerous to drive, take a break, and resume driving when the wintry weather improves. If you become stuck however, your best bet is to remain in your vehicle if it is unsafe to exit, and attempt to free yourself. First step is to turn your wheels from side to side in an attempt to push the snow away from the tires. Try to press the gas pedal lightly (do not spin the wheels) to ease yourself out. If this does not work and it is safe to do so, it's time to get out of the vehicle. Hopefully, you have prepared a winter survival kit for your car to assist in these next steps! If not, please see [Figure 1](#) below. Use a shovel to clear the snow away from the wheels and underside of the vehicle. Next, pour non-clumping cat litter or sand in the path of the wheels to help melt the snow and ice while gaining traction.

⇒ **Remember, even the smartest and safest of drivers can be involved in a car accident.** That is why it is so important that you and your family are prepared for the worst case scenario: being stranded in

your vehicle for a period of time. If you keep a winter survival kit in your car or home (for occasions when the power goes out for a few days or road conditions are bad), the risk of being affected by the dangerous cold is significantly reduced. [Figure 1](#) shows common safety items you would want to include.



Figure 2. Dressing For the Cold Weather

⇒ **What if you are inside your home and power goes out?** First off, try to be prepared with an at home survival kit (similar to your vehicle kit). Have matches, flashlights, batteries, firewood, and candles ready in case your power goes out. If you are using heat from a fireplace or space heater, use fire safeguards and properly ventilate. For example, if you have a gas furnace, make sure it is not blocked by the snow. While the power is out, be sure to:

- Close off vents to unneeded rooms to avoid wasting heat
- Stuff towels in cracks under doors to prevent the heat from escaping
- Close blinds and curtains to keep in some of the heat
- Eat and drink to keep the body warm and prevent dehydration.
- Wear layers of loose-fitting, warm clothing ([Figure 2](#)). Remove layers as needed to avoid perspiration and overheating.



Figure 1. Winter Survival Kit

These few important points can help keep you, your family, and fellow passengers safe this winter season. If you want more information on winter safety, blizzards, and ice storms, click this [link](#).

EF-4 Tornado near Chapman, KS (Continued...)

Nearly one hour later, a much larger and violent tornado developed in far southeastern Ottawa County. This tornado quickly grew to a maximum width of 1/2 mile with winds upwards of 180 MPH (EF-4 Rating). Not only was this tornado very strong, but it remained on the ground for an hour and a half. The tornado moved east-southeast, remaining just north of Abilene. Its course then crossed Interstate-70 just west of Chapman, Kansas. With great concern for a direct impact to the city of Chapman, the first ever “Tornado Emergency” was issued from NWS Topeka for the city. Fortunately, the tornado veered slightly south and passed approximately 1/2 to 1 mile south of Chapman. After remaining on the ground for 90 minutes the tornado finally



weakened and dissipated near the Dickinson-Geary County line between 8:35 PM and 8:40 PM. Unfortunately, extensive damage occurred to numerous homes, outbuildings, and farm equipment along its path. Farmers and ranchers also suffered the loss of livestock during the tornado. Maybe the most “impressive” damage occurred just west of Chapman, where railroad tracks were bent and shifted from its original position. The best news however is, there were **NO FATALITIES OR SERIOUS INJURIES!**

Another two tornadoes occurred with the same storm across portion of Morris and Wabaunsee Counties. Only minor damage was reported with these particular tornadoes including: a barn receiving structural damage and power lines being snapped.

Topeka Open House (Continued...)

NWS Topeka had not hosted an Open House event in 20 years, so the staff was happy to welcome in the community and local weather enthusiasts to the office! As meteorologists, we love educating others about the weather, so we truly hope that attendees enjoyed the Open House and were able to learn something new about how National Weather Service meteorologists work tirelessly to serve the community with accurate and timely forecasts and warnings.



COOP Corner

Fall is in the air as temperatures have made their way below freezing for the first time this season. As we approach the winter months, please remember to remove your rain gauge funnels and inner measuring tubes. Snow will not be able enter into the outer collection tube unless these items are removed. If you need a refresher on measuring snow, please check out this YouTube video for a great refresher!

<https://www.youtube.com/watch?v=3yNjIxCjqB4>

Recognition for your work!

I want to thank everyone for a wonderful job this spring and summer season! We had a very wet summer. For the Topeka area, it was considered the 5th wettest spring summer season (April-September) on record. Topeka has had 42.05" of precipitation so far this year, which is just shy of 8 inches below normal.

Awards!

We have several folks to recognize this quarter.

First off, congratulations go out to Alan Winkler of McFarland, KS! Alan was the recipient of the Thomas Jefferson Award. This is the highest award a Cooperative Observer can receive. In order to receive the award, you must have been an observer for 25 years, a recipient of the John Campanius Holm Award, and then wait 5 years beyond the Holm Award to even be considered. Only five very competitive people receive this award nationwide each year. Congratulations Alan!



Pictured (From Right to Left): Greg Painter, former COOP program manager (retired), Ken Harding, Central Region representative and former WFO Topeka MIC, Bill Newman, former Data Acquisition Program Manager (retired), and Alan Winkler.

In October, the NWS Topeka office held an open house. We displayed many CO-OP items at a display table, and we were able to honor another observer with an award. Joseph Kennedy of Circleville received the Dick Hagemeyer Award for 45 years of continuous service. We thank you sir for your long years of dedicated service!



Pictured: Shawn Byrne, Observing Program Leader, and Joseph Kennedy.

Other award recipients included:

Wayne P Griffin for 20 years of service for the river gauge located at Louisville.

Judy Lloyd of Fact for 15 years of service.

Thomas Ryan III of Valley Falls for 15 years of service.

Thank you one and all for all that you do! It does not go unnoticed or unappreciated. If you have any problems or questions, please do not hesitate to contact me at shawn.byrne@noaa.gov or 785-232-1493.



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Winter Weather Spotting Tips:

Weather to Report:

Snowfall depth \geq 1 inch

Any ice accumulation (including roads)

Precipitation type changes (i.e. rain to freezing rain, snow to sleet, etc.)

What to Include in your Report:

Your Name and/or Call Sign (Spotter Number)

Your Location

Time and Date of Event

Location and Duration of Event

Visit the following website for more information:

<http://www.erh.noaa.gov/iln/spotters/measuringsnow.php>

NWS Topeka Staff:

