



High Plains

(Weather Information News Data)

February 17, 2009
Volume 3 Issue 1

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A Message from the Meteorologist-in-Charge

By Scott A. Mentzer

La Niña

As a meteorologist, it is easy for me to focus on weather that will immediately impact the Tri-State area while forgetting that the atmosphere is global. After all, why should I worry about storms in the tropical Eastern Pacific Ocean when thunderstorms are occurring over eastern Colorado? While I shouldn't "worry" about what is happening half a world away, I should, at least, know what is happening there. Why? Since the atmosphere is global, what happens in the South Pacific Ocean has an impact across the rest of the globe.

One large scale, global phenomenon is currently occurring. The sea surface temperatures of the Pacific Ocean near the equator are cooler than normal. This situation is known as a La Niña event, and is usually considered the opposite of the more well-known El Niño situation. Do La Niña episodes impact weather across the United States? You bet. For more information about La Niña, check this web page:

<http://www.elnino.noaa.gov/lanina.html>

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"Since the atmosphere is global, what happens in the South Pacific Ocean has an impact across the rest of the globe."



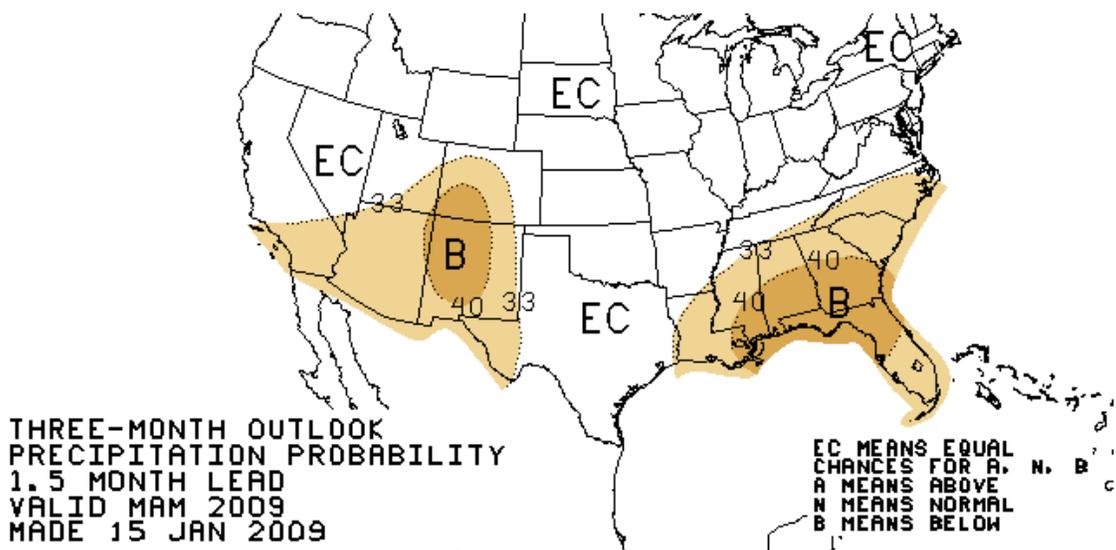
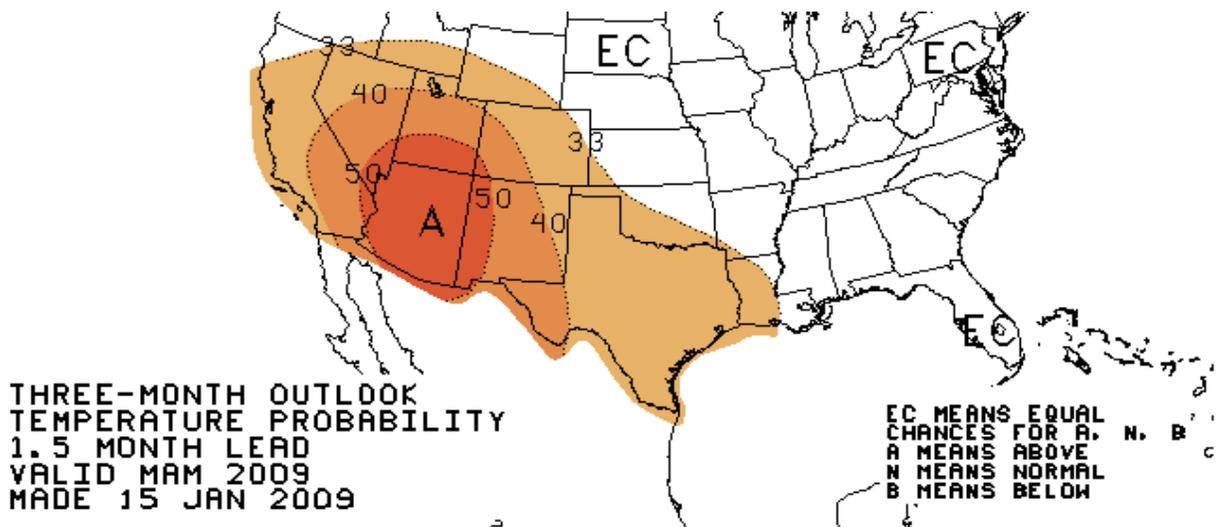


Climate Outlook

by Kelly James



The latest three month (March, April, & May) climate outlook from the Climate Prediction Center (CPC) indicates that the majority of the Tri-State Region will have an equal chance for above, near, or below normal temperatures and precipitation over the spring months. Official 90-day Outlooks are issued once each month near mid-month at 3pm Eastern Time.



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The following tables contain the monthly averages for Goodland, KS

Average Temperatures for March

	High Temperatures (F)	Low Temperatures (F)
March 1 st	49	23
March 15 th	53	26
March 31 st	58	30

Average Temperatures for April

	High Temperatures (F)	Low Temperatures (F)
April 1 st	58	30
April 15 th	63	34
April 30 th	67	40

Average Temperatures for May

	High Temperatures (F)	Low Temperatures (F)
May 1 st	67	40
May 15 th	71	45
May 31 st	78	51

*Don't forget to spring
forward at 2 A.M. on
March 8th!*



Upcoming events this spring...

by David L. Floyd, WCM

Each spring, the National Weather Service office in Goodland participates in numerous outreach efforts to highlight the hazards associated with severe storms. Below is a list of the severe weather awareness campaigns for the three states served by our office. During each week, severe storm safety information will air on NOAA Weather Radio All-Hazards transmitters in the area. In addition, Public Information Statements will be issued daily discussing a different aspect of severe weather each day. Finally, a test Tornado Warning will be disseminated to ensure that communications equipment is working properly. Everyone is encouraged to participate in the tornado drill by treating the test warning as if it were an actual emergency.

Kansas Severe Weather Awareness Week: March 9-13, 2009. All offices serving the state of Kansas will participate in a statewide tornado drill on Tuesday, March 10th at 12:30 pm MDT (1:30 pm CDT). Feel free to visit our web page and download the 2009 Severe Weather Awareness packet (weather.gov/goodland).

Nebraska Severe Weather Awareness Week: April 6-10, 2009. Our office serves Dundy, Hitchcock, and Red Willow counties in southwest Nebraska. All offices serving Nebraska will participate in a test Tornado Warning on Wednesday, April 8th between 9:00-10:00 am MDT (10:00-11:00 am CDT). The test warnings are staggered through this one hour time period, with our office in Goodland issuing at 9:40 am MDT (10:40 am CDT).

Colorado Severe Weather Awareness Week: April 19-25, 2009. Our office serves the counties of Cheyenne, Kit Carson, and Yuma in east central Colorado. The test Tornado Warning for our Goodland counties will be Tuesday, April 21st at 10:30 am MDT.

We also invite you to take advantage of **weather safety seminars** for your classroom, civic organization or workplace. The staff at the National Weather Service office in Goodland is available for talks which can be tailored to any grade level for schools in a time frame that fits your needs. Best of all, we provide this as a public service at no charge! Office tours are also welcome for students in the third grade and higher. For more information, contact Dave Floyd at: david.l.floyd@noaa.gov, or via phone: 785-899-6412. Our web site is weather.gov/goodland. We look forward to hearing from you!

Storm Spotter Class Schedule

by David L. Floyd, WCM



The month of March is particularly busy at our office...it's "storm spotter month"! The National Weather Service works closely with county emergency managers each year to set up spotter training classes for county personnel, police and fire officials as well as the general public. The classes are designed to give students a basic understanding of thunderstorm structure, the hazards they pose, how to communicate that threat to the National Weather Service, and safety information.

Classes in 2009 will be structured a bit different than in past years. All classes this year will be a combination basic-advanced class, with basic storm structure and safety information given during the first half of the class, followed by a more in-depth look at storms during the second half. Classes will last about 2 ¼ hours, and they are open to anyone interested in learning more about severe storms.

Here is the spotter training schedule for 2009. All classes will begin at 6:30 pm local time with a 15 minute break midway through the class.

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Storm Spotter Training Schedule			
Day	City, State	Time	Location
03	Kit Carson, CO (Cheyenne County)	6:30pm MST	Kit Carson School 102 W 5th Ave
04	Hill City, KS (Graham County)	6:30pm CST	Frontier Stage 321 E Main St
05	Burlington, CO (Kit Carson County)	6:30pm MST	High School Commons 380 S Mike Lounge Dr
09	Atwood, KS (Rawlins County)	6:30pm CDT	Prairie Developmental Center 208 S 4th
10	St Francis, KS (Cheyenne County)	6:30pm CDT	High School Cafeteria 100 S College
11	Stratton, NE (Hitchcock County)	6:30pm CDT	Firehouse Just south of Hwy 34
12	Quinter, KS (Gove County)	6:30pm CDT	EMS Building 400 block Main St across from City Hall
16	Benkelman, NE (Dundy County)	6:30pm MDT	High School Distance Learning Room - 400 9th Ave W
17	Norton, KS (Norton County)	6:30pm CDT	Prairie Land Electric Coop Downstairs - 1101 W Hwy 36
18	Goodland, KS (Sherman County)	6:30pm MDT	National Guard Armory 720 E Armory Road
19	McCook, NE (Red Willow County)	6:30pm CDT	McCook Senior Center 1400 W 5th St
20	Sharon Springs, KS (Wallace County)	6:30pm MDT	CAB Building Fairgrounds south of town
23	Colby, KS (Thomas County)	6:30pm CDT	Community Building Downstairs 285 E 5th
24	Wray, CO (Yuma County)	6:30pm MDT	Ambulance Building 304 W 3rd (Hwy 34) at corner of Blake St.
25	Oberlin, KS (Decatur County)	6:30pm CDT	Gateway Building 1 Morgan Drive
26	Oakley, KS (Logan County)	6:30pm CDT	Courthouse Downstairs 710 W 2nd
27	Tribune, KS (Greeley County)	6:30pm MDT	EMS/Fire Building Greeley Ave west of 27
30	Leoti, KS (Wichita County)	6:30pm CDT	Firehouse 4th Street (Hwy 25) 2 blocks north of Hwy 96
31	Hoxie, KS (Sheridan County)	6:30pm CDT	Bowen Scout House 1041 Sheridan St

Cooperative Observer News

A FEW REMINDERS ABOUT MEASURING WINTER PRECIPITATION



By Mike Lammers, OPL

Remember that when reporting solid winter precipitation observers should report three values which include:

- The snowfall (**snow, ice pellets**) since your previous snowfall observation
- Depth of snow on the ground at your normal observation time
- Water Equivalent of snowfall since the previous day's observation

Don't forget to measure the greatest amount of snowfall that has accumulated on your snowboard (wooden deck or ground if a board is not available) since your previous snowfall observation. You should take this observation at least once a day but can be taken every 6 hours up to 4 times a day. This should be the greatest accumulation of new snow (reported in inches and tenths such as 3.9 inches) since your last observation.

If you cannot watch the snow accumulation at all times of the day and night, use your best estimate based on a measurement of snowfall at your usual observation time. If you were not around at all to witness the snowfall, talk with other people (maybe neighbors) who were nearby during the snow event. If you did not measure the snowfall, be sure to put in the remarks section "**snow amount based on estimate**".



"Don't forget to measure the greatest amount of snowfall that has accumulated on your snowboard."

If snowfall occurred several times during the period, and each snowfall melted either completely or in part before the next snowfall, record the total of the greatest snow depths of each event and enter in remarks "**snowfall melted during the OBS period**".

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As an example, let's suppose that you had three separate snowfalls (2.8, 2.3, and 1.5 inches) and each melted off before the next snow accumulation and you do not have any snow left on the ground at your usual observation time. To get the total snowfall for that reporting 24-hour day, you would add together the three amounts (6.6 inches) with snow depth at the OBS time being zero. If snow melts continually as it lands and accumulation never reaches 0.1 inch, then report a trace (T) and record in your remarks "snow melted as it landed".

I am sure that by now you have several selected places where you prefer to take snowfall and snow depth observations. Just be aware that you want a good location where snow accumulates uniformly and is least affected by blowing and drifting by the wind. In open areas when windblown snow cannot be avoided, be sure to take several measurements and average the depth. Do not include the largest drifts.

Also remember to avoid taking measurements under trees as large amounts of snow can accumulate on the trees and never reach the ground. You can take snowfall observations every 6-hours if you have time but if not and you can only take an observation once-a-day follow these same guidelines. If you take observations every 6 hours, clear off the snowboard but do not clear it off more often than every 6 hours. Record the **frequency of observations during the day in the remarks section of your report**. Never add together more than four, six-hourly observations for your 24-hour snowfall total. Remember that if you experience freezing rain, report this as liquid precipitation not as snowfall.

Determine the total depth of snow, ice pellets, or ice on the ground once-a-day at your usual observation time using a measuring stick. Measure the total depth of snow either near a snow stake or take several measurements and average them together. The measurement should reflect the average depth of snow, ice pellets, and glaze ice on the ground at your usual measurement site (undisturbed by human activities). By the way, hail accumulation is never entered with snow and ice pellets. Enter hail accumulation in the "remarks" section citing the amount and diameter (inches and tenths) of the stones.



Weather Coder Monthly Closeout

By Christina Henderson, HMT

WxCoder supports a mechanism allowing an observer and an admin user (WFO) to "close out" a month of observations recorded in WxCoder. This is handled on a per station per month basis and must be closed out by both the observer and an admin user. A close out done by an observer is referred to as a "user-close-out", and by an admin user, an "admin-close-out". After a user-close-out, no further additions or modifications to observations for the month will be accepted from observers. Admin users may still make modifications until the admin-close-out. An admin user may reverse a user-close-out, but an admin-close-out is not reversible. An admin-close-out is the signal for WxCoder to send the data to NCDC, the digital equivalent of putting forms in a sealed envelope and dropping it in the mail.

On the monthly entry form (online B-91) page, a button is presented to the observer to close the month currently displayed. This comprehensive page gives the observer a last chance to review and change any observation data.

If a user-close-out or admin-close-out has been done and WxCoder receives an observation from IV-ROCS for the closed-out month, WxCoder will discard the observation, since no data for the month can be accepted after a month has been closed.

On the 10th of every month, if a user-close-out has not been done for the previous month, WxCoder will automatically close-out the previous month. A similar process will occur for an admin-close-out on the 20th.

Do I still record my observations as usual and mail them in to the National Weather Service?

NWS Form B-91 (Record of River and Climatological Observations) is digitally available through WxCoder. You are welcome to print this form out for your use throughout the month. Currently, paper copies are still required for submitting your data. However, policy changes in the near future will eliminate the need for you to submit B-91 forms by mail. Instead, you will have the ability to electronically certify your observations at the end of the month for official submission to NWS and NCDC.

The benefits of electronic submission are numerous, and include ease of use, timeliness, and quality assurance and control feedback. Be on the lookout for the announcement of when you can stop sending in paper forms.

TIP: If someone takes observations for you in your absence, they can be recorded on a printed B-91 form to be entered into WxCoder by you when you return.

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What kinds of quality assurance are performed on the observations as I enter them?

Integral to the WxCoder web interface, a series of basic internal consistency checks are immediately applied to data entries. In the event of an entry problem, the observer will be provided with an efficient and immediate opportunity to either re-enter or confirm their entry before the data is transmitted. Assuring efficiency for the observer must be balanced with the opportunity to address data errors to the maximum extent possible at the point of entry for the observation.

Basic quality assurance includes (but is not limited to) the following:

- * Gross limits checks (values cannot exceed physical limits);
- * Temperature consistency checks (e.g., maximum temperature cannot be less than minimum temperature for the same observing period, etc.);
- * Precipitation consistency checks (e.g., precipitation values cannot be negative);
- * Winter precipitation consistency checks (e.g., if snowfall exceeds three inches, snow depth must increase, etc.)



We were sorry to learn that former employee Esther Studer passed away on January 20, 2009. Some of you may remember her from her years at the National Weather Service, beginning in 1944. Read more about her at:

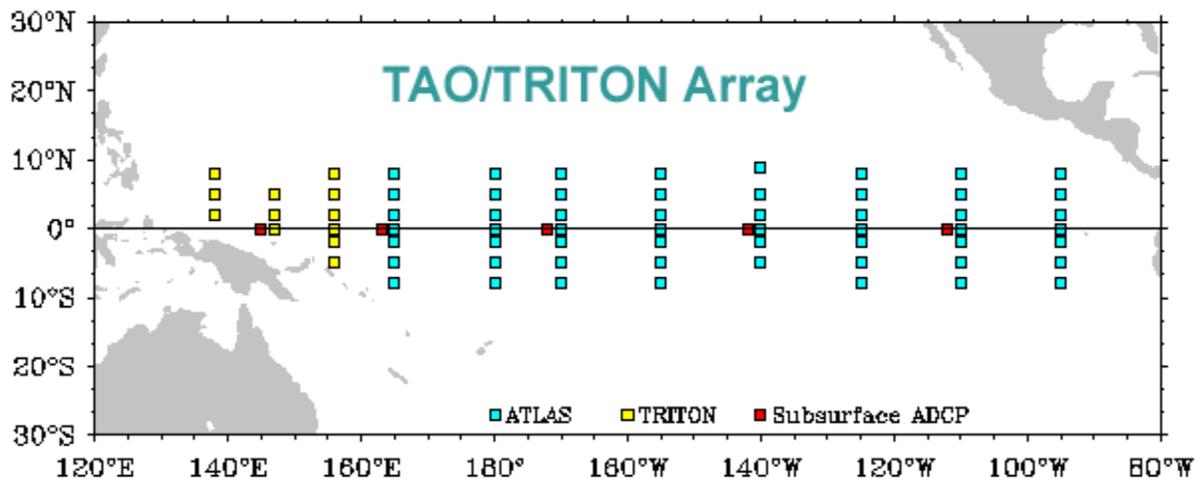
<http://www.crh.noaa.gov/gld/?n=/diversity/nwswomen.php#Studer>

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Current observational trends, climate data, and global atmospheric models support the projection that this current La Niña event will last into the spring. Based on these data, long range projections are made for the United States. You can view the latest seasonal forecast elsewhere in this newsletter.

How do scientists know that a La Niña episode is occurring? Satellite imagery provides data on tropical rainfall, wind, and temperatures. Ocean buoys located in the Southern Pacific track sea surface temperatures through the Tropical Atmosphere and Ocean Project. (TAO). Computer models ingest and reformat all this data so that it is usable for scientists to interpret.

The temperature outlook for the late spring and early summer shows warmer than normal readings are forecast for the southwestern United States. Below normal precipitation is forecast across Utah and western Colorado.

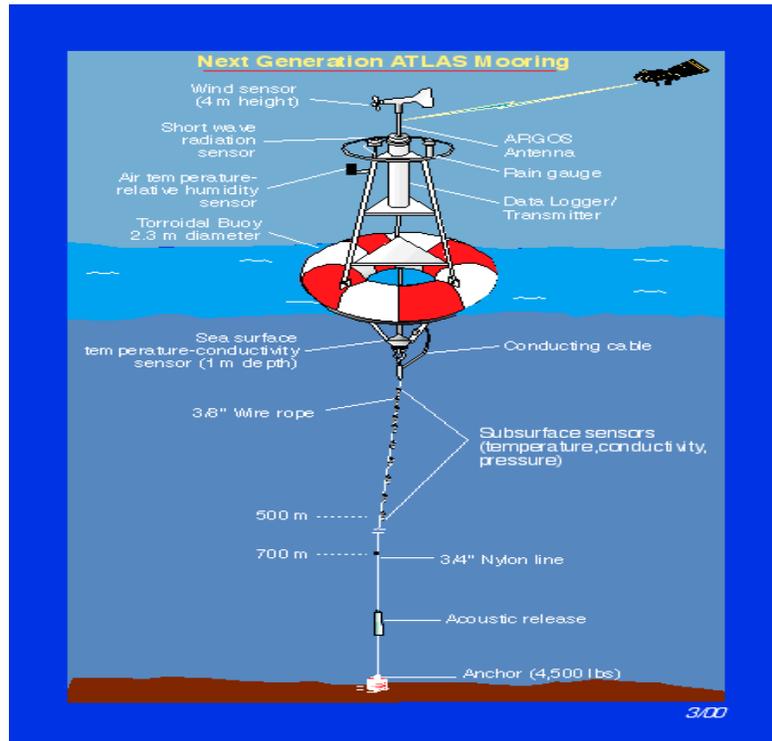


Buoy Locations near the Equator

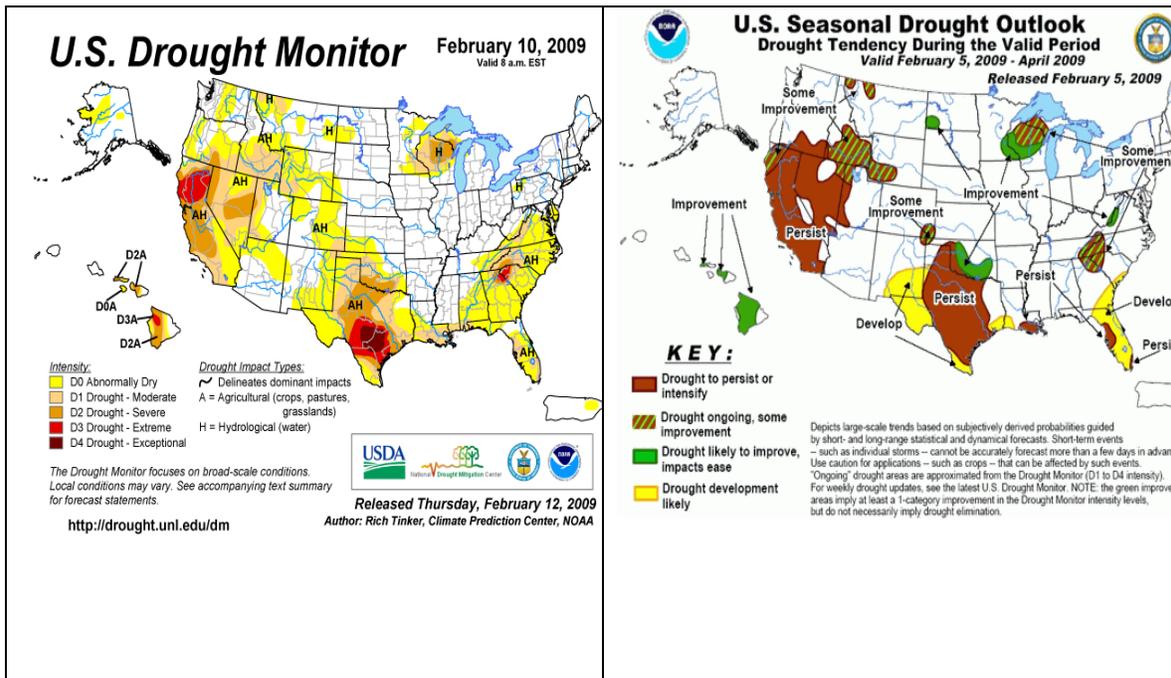
Better predictions of the potential for extreme climate episodes like floods and droughts could save the United States billions of dollars in damage costs. Predicting the life cycle and strength of a Pacific warm or cold episode is critical in helping water, energy and transportation managers, and farmers plan for, avoid or mitigate potential losses. Advances in improved climate predictions will also result in significantly enhanced economic opportunities, particularly for the national agriculture, fishing, forestry and energy sectors, as well as social benefits.

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Typical Configuration of a Buoy in the South Pacific



The Drought Monitor is based on actual, observed precipitation data. The Drought Outlook, however, is partially based on long range, model derived precipitation forecasts that consider global conditions like La Niña.

Can lightning strike twice in the same place?

Yes! The old adage of lightning never striking twice in the same place is totally false. Lightning is not limited to a one-bolt action. Many lightning flashes are of a multiple variety and may strike repeatedly in a few seconds. Up to 22 consecutive lightning strokes have been observed in a multiple flash.



Pictured above is Herbert Queen receiving a 20 Year Service Award from Mike Lammers, OPL, Christina Henderson, HMT, and Katie Burtis, Meteorologist. Staff members presented the award to Mr. Queen for his dedicated service in reporting precipitation and temperatures in Grainfield, Kansas. Citizens, including Herbert's father, have been reporting from Grainfield since 1892!

Meet Our Electronics Staff



We would like to introduce the Electronics staff and share with you what they do. We have two Electronics Technicians (ETs), John McCracken and Rodney Nelson and one Electronics Systems Analyst, Grady Bonsall.

The Electronics Program provides support to the office in many areas. The responsibilities of this program are to keep all the equipment operational and at its best and provide the availability and reliability of weather data to the forecasters and public. This includes performing routine maintenance and emergency maintenance, performing equipment modifications to include hardware and software upgrades, performing system calibrations and alignments, and whatever necessary to keep the equipment operational within the NWS guidelines.

There are many different systems that we are responsible for throughout the area we serve. They include the WSR 88D radar, four Automated Surface Observing Sites (ASOS), five NOAA Weather Radio Transmitters, a Console Replacement System, Advanced Weather Interactive Processing System (AWIPS), Wind Profiler, and Local Area Network to include all PC's and devices, communication systems, and other weather instruments/equipments within our area.

We travel as far north to McCook, NE, as far east to Hill City, KS, as far west as Bethune, CO, and as far south to Tribune, KS to maintain the equipment. We normally work Monday through Friday but we are on call in the event there is an equipment outage or malfunction. Our daily tasks vary from day to day depending on status of equipment and what weather events are occurring. It's an adventure every day.

John McCracken is our Senior ET and has been here since 2003. John is retired from the US Navy and received his electronics experience and training through the US Navy and is our lead tech on the WSR 88D radar system and other systems we maintain.

Rodney Nelson is our newest ET; he's been in the NWS for 6 months. Rodney also received most of his electronics experience and training in the US Navy as well as working as a contractor for Raytheon. Rodney is currently learning all the systems we maintain and will have the responsibility as the lead tech for ASOS.

Grady Bonsall is the Electronics System Analyst and has been with the NWS since 1996. Grady served 8 years with the US Air Force where he gained his experience and training before becoming an ET in the NWS. Grady is the supervisor for the Electronics Program and is responsible for all the computer systems as well as all other systems. With over 50 years of electronics experience the staff does an excellent job of keeping all the equipment operational.

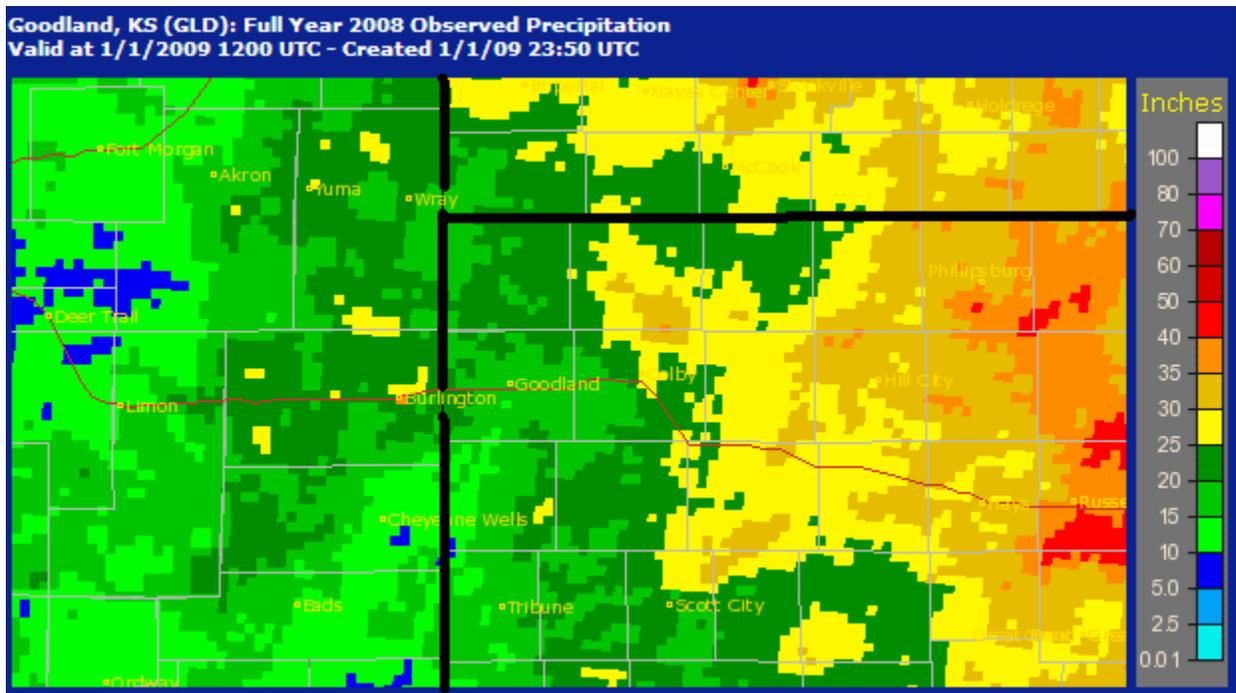
Winter Storm Guide

Even though spring may be right around the corner, it is still winter. Winter storms can bring an onslaught of snow, frigid temperatures and dangerous driving conditions. Here are some simple steps to be safe during winter weather!

<p>For home:</p> 	<p>For your car:</p> 
<p>Prepare a storm safety kit with flashlights, matches, first-aid supplies and other items.</p>	<p>Inspect and winterize your vehicle. Install snow tires and always keep your gas tank full.</p>
<p>Keep enough supplies in the house for three days. Include no-cook, high energy snack foods, plenty of water, extra medicine and baby items.</p>	<p>Keep your mobile phone charged and buy a car charger.</p>
<p>Winterize your home. Clear rain gutters, insulate walls and pipes, keep heating tanks full, and have an alternate heat source ready(space heater/fireplace).</p>	<p>Pack an auto winter storm survival kit with items like blankets, a flashlight, a first aid kit, snack food, water, extra clothing, a windshield scraper and a shovel. More tips at: http://www.weather.gov/om/winterstorm/winterstorms.pdf</p>
<p>Create and implement a family disaster plan. For more information check out http://www.redcross.org/disaster/disasterguide/</p>	<p>Check forecasts and always let someone know your estimated time of arrival and the route you plan to take.</p>
<p>Now you are ready for anything! For the latest forecasts and complete information on winter storm preparation check out our website at http://www.weather.gov/gld</p>	



RADAR ESTIMATED PRECIPITATION FOR THE YEAR 2008



For more information on 2008 weather events check out our [website](#)

Welcome to our newest meteorologist,
Gregory Guillot.



Greg joined the staff at the Goodland office in December of 2008

National Weather Service

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Please don't forget, if you have pictures or video to share of any severe weather events that take place this year, please contact

david.l.floyd@noaa.gov



With your permission, your pictures and video will provide information and training materials for future storm spotters and meteorologists!

The **National Weather Service** provides weather, hydrologic, and climate forecasts and warnings for the United States, its territories, adjacent waters and ocean areas, for the protection of life and property and the enhancement of the national economy.

NWS data and products form a national information database and infrastructure which can be used by other governmental agencies, the private sector, the public, and the global community. It is accomplished by providing warnings and forecasts of hazardous weather, including thunderstorms, flooding, hurricanes, tornadoes, winter weather, tsunamis, and climate events. The NWS is the sole United States OFFICIAL voice for issuing warnings during life-threatening weather situations.