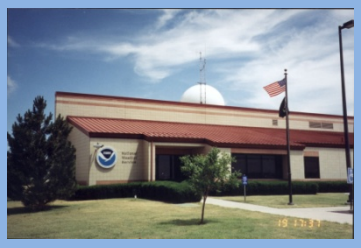

High Plains WIND

(Weather Information News Data)

April 1, 2008
Volume 2 Issue 2

National Weather Service, 920 Armory Road, Goodland, KS 67735
http://www.weather.gov/gld/ w-gld.webmaster@noaa.gov 785-899-7119

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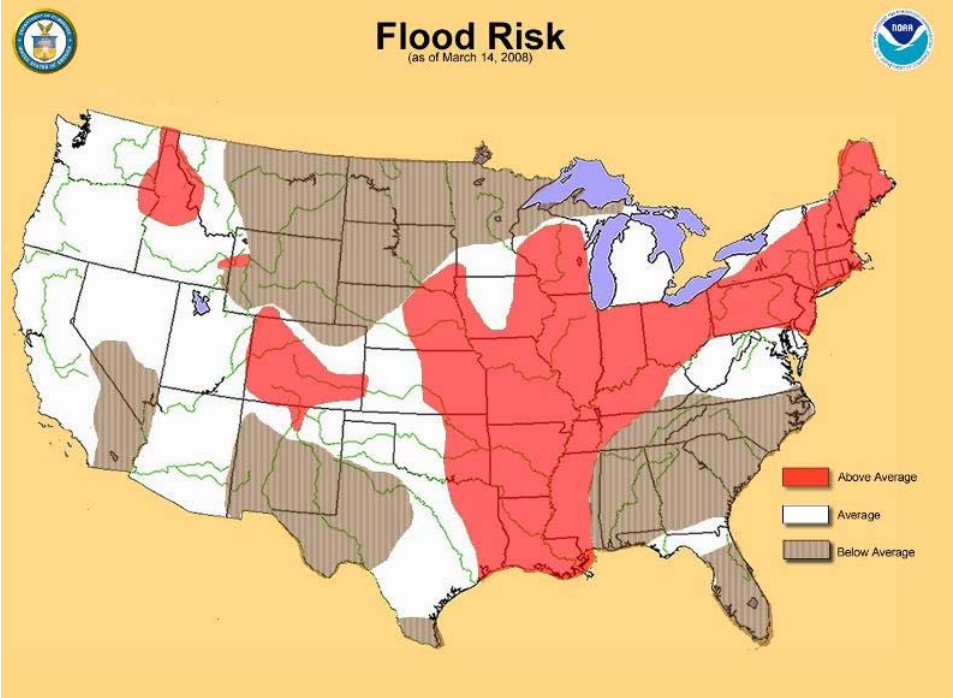
"Here is the current flood risk assessment."

A Message from the Meteorologist-in-Charge

By Scott A. Mentzer

Drought and Flood Outlooks

The Climate Prediction Center of the National Weather Service issues a national spring flood outlook. Some of the considerations that impact these outlooks are: the amount of rain and snow that has fallen during the past winter; the current levels of lakes, rivers, and reservoirs; soil conditions; and predicted temperature and precipitation for the next several months. Here is the current flood risk assessment.



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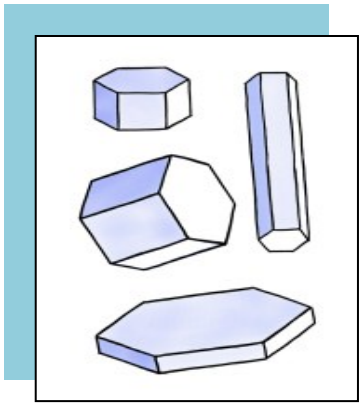
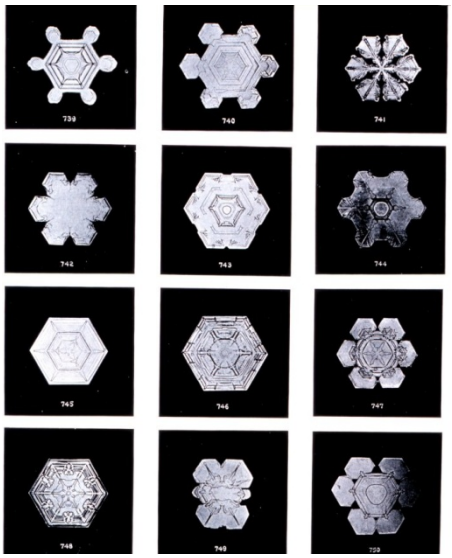
Snowflakes

By Kelly James, Meteorologist Intern

"A snowflake is an aggregate of many single snow crystals that start out as water vapor in the air…"

After much practice measuring snow I thought it might be useful to talk a little about how snow forms and the processes that take place in the clouds. A snowflake is an aggregate of many single snow crystals that start out as water vapor in the air; the water vapor comes from many different sources such as evaporation off of lakes, rivers, and even transpiration from plants. Clouds, which are a visible aggregate of minute water droplets and/or ice particles in the atmosphere above the earth, are composed of mostly liquid water droplets even when the temperature is below freezing. The water in these types of clouds is said to be supercooled, meaning that it remains liquid water at a temperature below the freezing point. As the temperature nears -10°C (14°F) some of the droplets begin to freeze gradually and they become a small particle of ice surrounded by the remaining liquid water droplets of the cloud. The ice then begins to grow as water vapor condenses onto its surface, thus creating a snowflake.





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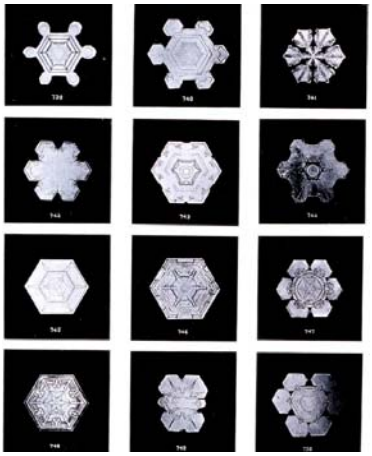
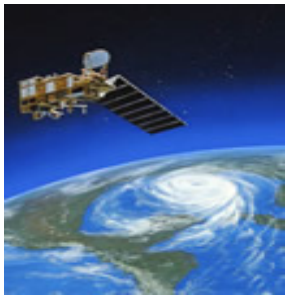
There are many different shapes and sizes to snowflakes, but the most common is the hexagonal prism. By growing snow crystals under laboratory conditions, scientists have found that their shape depends on the temperature and humidity of the atmosphere. Much of the science of snowflakes including the different crystal shapes remains a mystery and continues to be studied. For more information on snowflakes and how they are made please visit the CoCoRaHs website at www.cocorahs.org and click on the "Education" Link. From there you can click on the "Education Links" and find many different websites including the one featuring snow crystals.

"Much of the science of snowflakes, including the different crystal shapes, remains a mystery and continues to be studied."



Will spring bring more snow, or much needed rain? Check this website for the latest outlook:

http://www.spc.noaa.gov/products/outlook/



Attention Students!

Are you interested in a career in meteorology or another science field? Need information about scholarships, or are you looking for a great school? Check out this website for more information!

http://www.careers.noaa.gov/

A Storm Spotter Tip

By David L. Floyd, Warning Coordination Meteorologist

Storm spotters, remember to use clouds to help you anticipate what to expect from a thunderstorm. Here is a quick refresher highlighting some of the clouds you may encounter around a storm.

Shelf Cloud … These clouds are typically long and flat and appear at the leading edge of a storm's outflow. Often times the cloud appears to slope down and away from the storm's rain core. If you observe this type of cloud feature, remember that the storm is announcing to you that outflow is headed your way. Often, spotters will experience a sudden temperature drop and a gusty outflow from the storm when the cloud passes overhead. Passage of a shelf cloud may or may not be accompanied by damaging winds, but be prepared to report such events should they occur.

Wall Cloud … A wall cloud is an abrupt lowering of the bottom of the updraft base of the storm. This is a region of inflow and uplift into the storm. Wall clouds lasting longer than 15-20 minutes should be watched carefully for signs of uplift and slow, organized rotation about a vertical axis. A persistent wall cloud, which is attached to the bottom of the storm's updraft, signifies that the storm has an organized, intense storm updraft, and quite often the vicinity of a wall cloud is a location for tornado formation.

Scud Cloud … These cloud fragments are not attached to the thunderstorm itself, but often accompany storms producing a moderate amount of rain. Scud clouds form more readily when the relative humidity is high, and can often be seen emanating from the rainy downdraft of the storm. Use scud clouds as wind tracers to help you figure out if there is strong inflow or outflow in a particular region of the storm. Remember that scud clouds are often mistaken for other types of features, including tornadoes, funnel clouds and wall clouds.

Continued on page 5

Beaver Tail … This long, flat cloud appears to extend outward horizontally from the bottom of the storm's updraft. It looks like a beaver's tail, hence its name. It signifies that a storm has a persistent, organized and possibly strong updraft. If you observe this type of cloud, which is often seen on the east, northeast or north flanks of the storm, keep an eye on the storm since it may pack a bit more punch than other storms in the area.

Spotter Criteria for Severe Weather:

Tornado (on the ground) or Funnel Cloud (not touching the ground)
Thunderstorm (lightning seen/thunder heard)
Hail penny size or larger
Wind estimated or measured at 50 mph or more
Rainfall one-quarter inch (.25) or more in one hour or two inches in 6 hours
Flooding of any kind
Visibility of less than ¼ mile for any reason
Snowfall of any amount
Weather related damage and/or injuries or deaths

Anytime you observe any of these conditions, please give us a call with a report.

Continued from page 1:

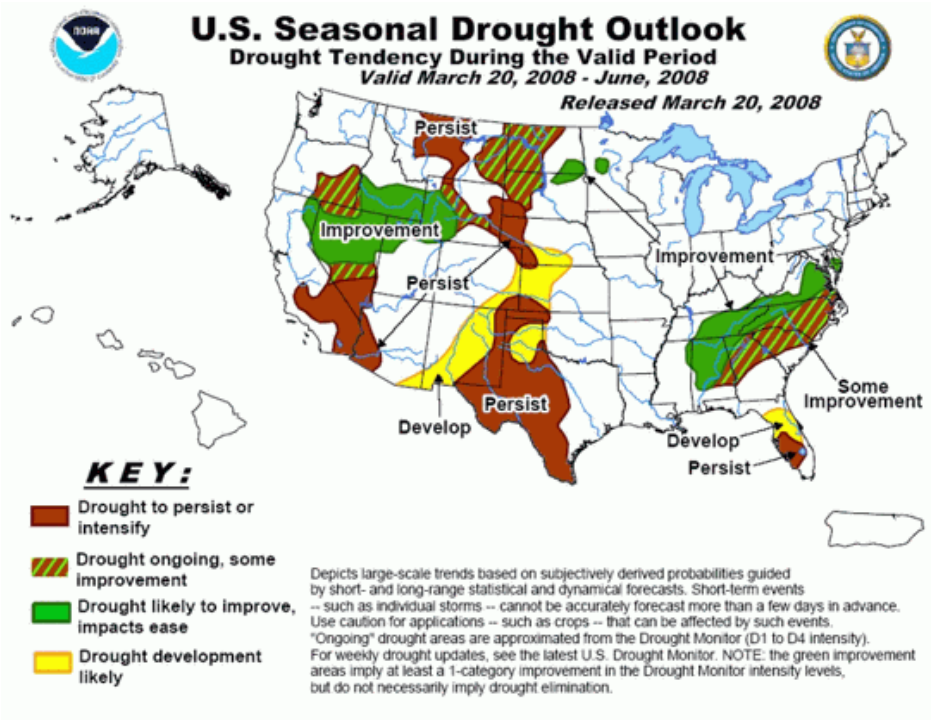
Drought & Flood Outlooks

Note that there is an above average risk of flooding along the Arkansas River in southeast Colorado and southwest Kansas. Locations in the mountains of Colorado have 150 to 200 percent of average water contained in snowpack leading to a higher than normal flood potential. For further information, visit:

http://www.noaanews.noaa.gov/stories2008/20080320_springoutlook.html

The National Drought Mitigation Center publishes drought conditions and forecasts. The forecasts utilize current conditions, predicted seasonal precipitation, the status of subsurface moisture, and many other factors. Here is the latest drought projection through June:

"Drought conditions are expected to develop across the Tri-State area through the early summer."



Drought conditions are expected to develop across the Tri-State area through the early summer. Some locations in southwest Nebraska are already technically experiencing drought conditions. Further information on drought conditions may be found at:

http://www.drought.unl.edu/dm/monitor.html

Questions?

We're as close as your email. Please write to us at:
w-gld.webmaster@noaa.gov

Or call us at

785-899-7119

Weather Folklore?

By Kelly James, Meteorologist Intern

Meteorologists are not the only ones who predict weather! For centuries everyday people have studied different weather patterns and made their own predictions, sometimes they put these predictions into clever sayings or rhythmic songs. Many times these folklores contain some truth and are often passed down through generations. We will explore some common folklore containing animals and insects, some of which are provided by Eric Sloane, author of *Folklore of American Weather.*

Sea gull, sea gull, sit on the sand; It's a sign of a rain when you are at hand.

Generally speaking, birds will roost more during low pressure than during high-pressure. Before a hurricane great flock of birds will be seen roosting. Perhaps the lowering of pressure or thinning of air density makes flying so much harder; the lessening of natural updrafts would also account for the birds "resting it out."

If corn husks are thicker than usual, a cold winter is ahead.

The Pennsylvanians said, "When the corn wears a heavy coat, so must you." A thicker corn husk is the result of a wetter, warmer summer; a swing of the pendulum to a colder, dryer winter would seem in order in this case.

When ants travel in a straight line, expect rain; when they scatter, expect fair weather.

There seems no logical reason for this to be true, however many people still use it as a weather sign. In the Ozarks they say, "Bugs march when the rain is near," and in Maine there is a saying that "Flies scatter in good weather." The saying that "a straight line of ants brings on a rain" is possible a combination of those sayings.

Crickets are accurate thermometers; they chirp faster when the weather is warm and slower when it is cold.

Crickets are actually pretty accurate thermometers. Count their chirps for fourteen seconds, then add forty and you have the temperature of wherever the cricket is.

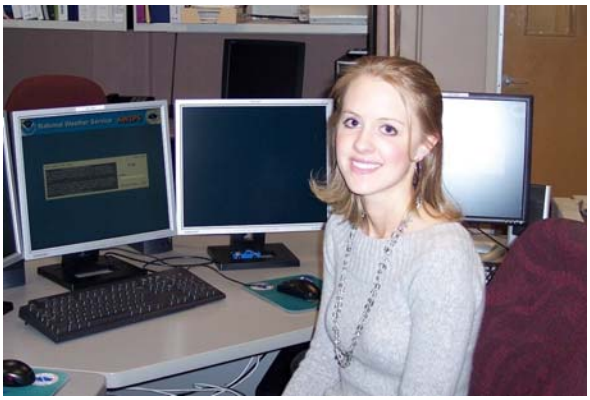
When squirrels lay in a big store of nuts, look for a hard winter.

This is hard to determine, but squirrels do the best they can with the nut season each year. Yet, many people still believe the squirrels' activity is a sign of the winter to come.

Flies bite more before a rain.

This rule doesn't always apply, but insects do seem to come calling more during moist weather, as flying is more difficult. Heat causes human sweating, which makes you more of an appetizing target and these two factors may increase the odds of flies being more bothersome just before a rain.

Don't forget to tune into weather radio in the spring! Although not as common during the early spring, severe weather can occur any time!



Meet Kelly…

My name is Kelly James and I am an intern at the National Weather Service forecast office in Goodland, KS. I have been in this area a little over a year, but I'm not far from my hometown of Burlington, Colorado. I attended college in Greeley, Colorado where I earned my Bachelor of Science degree in meteorology. I am the CoCoRaHS coordinator for Northwest Kansas, so please feel free to contact me anytime you have a question or concern!

Cooperative Observer News

By Mike Lammers, OPL

Observer Changes

Long time observer Wight Sims of Mingo, KS has retired.
Our new observer at this location is Jason Sowers. Welcome Jason!

Also retiring was Willis Brandberry. His station is now being operated by his son Stanley Brandberry. Thanks Stanley!

In addition, Darrel Davis of Joes, CO has also retired. Enjoy your travels to visit those grandchildren!

Hope everyone is enjoying a good start to spring. Old man winter will soon be behind us for another season. Here at the office we are looking forward to those warm days of spring.

I do have a few reminders to pass along to all of you who continue to take our precipitation and temperature observations each day. First, for those of you who have the Fischer Porter rain gauge, I will be making visits to each of you in the middle of April as it will be time to remove the old oil and antifreeze and add new oil for the warm season. Please don't forget to replace the top with the small hole to the top of the Fischer Porter rain gauge for those days we have rainfall.

For those who have an 8-inch standard rain gauge, please replace the funnel and tube by the middle of April so that it will be ready to catch liquid precipitation.

Spring and summer brings us the time for thunderstorms. Some of those storms will probably become severe at one time or another. If you have any hail on your property during one of these storms, don't forget to phone in your report and also log this information on your B91 form. This is very important information and people sometimes forget to do this.

If you have any problems, including issues with your WxCoder III software, please call me at the office at 1-800-272-7811 or email me at michael.lammers@noaa.gov. If you send your reports by way of IV-ROCS this information also gets into the WxCoder III system. We also like to see the data here at the office and it can be set up so that it will go into a B91 form. However in order for us to do this we need to have an email address, if you have a computer. Of course, if you have no other way to get your weather information to us, feel free to call us and someone at the office will take your information.

All of you are doing a great job. Keep up the great work and have a wonderful spring and summer!

Upcoming Events

Nebraska Severe Weather Awareness Week safety campaign is coming up in April. Our office, serving Dundy, Hitchcock, and Red Willow counties in Nebraska, in cooperation with emergency management officials, have designated the week of April 7-11, 2008 as Nebraska Severe Weather Awareness Week.

We encourage Colorado residents to participate in the **Colorado Severe Weather Awareness Week** safety campaign. Our office serves the counties of Cheyenne, Kit Carson, and Yuma in the state of Colorado. In cooperation with emergency management officials, the week of April 13-19, 2008 has been designated as Colorado Severe Weather Awareness Week.

We invite you to take advantage of **weather safety seminars** for your classroom, 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 or any time frame that fits your needs. Best of all, we provide this as a public service, free-of-charge! Office tours are also welcome for students third grade level 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!

Ask a Meteorologist!

Each month we will feature a question asked by one of our readers.

This month's question comes from a spotter in Atwood, Kansas. He asked, "Is it really safe to take shelter under a bridge during a tornado?"

No, it is not safe to take shelter beneath a bridge or overpass. Quite often, wind velocities are actually higher in these areas, and in addition, they are collection points for debris. Many folks remember the 1991 video from Andover, KS where a news crew and family took shelter beneath a highway overpass. They survived, but they were lucky. On May 3, 1999, several people lost their lives when taking shelter beneath a bridge near Oklahoma City.

David L. Floyd,
Warning Coordination Meteorlogist

Do you have a question?
If so, write us at
w-gld.webmaster@noaa.gov
and we'll include your question in a future issue.

Calling All Kids!

Get Fun Free NOAA Science Stuff

To receive free NOAA science stuff, send an e-mail to **outreach@noaa.gov** and include your age or grade level with your complete mailing address.

Let us know if you want specific materials on oceans, fish, marine animals, weather, climate, or satellites. We can provide one copy of each publication.

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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.

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!

Meet **Chris**:

Watch your mailboxes for the next newsletter featuring one of our talented Meteorologists, Chris Foltz!