



# The Snake Plain Weathervane



Fall 2007

SkyWarn Spotter News  
National Weather Service  
Pocatello/Idaho Falls, Idaho

Volume 2 issue 2

## What to expect in this edition:

- A Classic SE Idaho Snowstorm
- The SkyWatch Southeast Idaho E-letter
- The MIC corner
- Spotter E-mail Alerts
- Hazards to Report
- Spotter Quiz
- Staff List
- The Electronic Technician

## Spotter Highlight for Fall 2007

### Gerrit Gulden...Spotter Jefferson County #23

Since the age of ten I have looked up at the sky and wondered "what is the sky telling me today?" My interest rapidly grew after a severe thunderstorm event (funnel cloud & dime sized hail) when I was 14 years old. Since then I have had an obsession to guess the upcoming weather, learn the clouds, etc. At the age of 20, I learned about the Skywarn Program. Once I was officially a Skywarn spotter my Weather Knowledge skyrocketed. Online research, Skywarn meetings, and meeting other Spotters increased my participation in weather safety, weather spotting and even photography. I currently own and manage a website called "SevereIdaho.Com".



Photo credit Gerrit Gulden severeidaho.com

My idea started when I moved to Idaho in 2005. The goal was to share my photography to people all around the world and discuss future and past weather events. My participation in the Skywarn program is very fulfilling. Calling in severe weather reports along with rain and snow totals is a huge way of giving back to the community. Knowing that my reports can save hundreds to thousands of people is the best feeling in the world. I look forward to every storm that affects Southeast Idaho because that means I will be out there watching the weather in anticipation of calling in severe weather, taking photos and the fact that not every storm is the same as the last. I love the weather and love being a part of the National Weather Service Skywarn program.

## Heavy Snow in Southeast Idaho by Greg Kaiser



Wind storm damage in Idaho Falls from March 2007

As we move closer to winter it is time to talk about snow. We have had an early start to the snow season with snow reaching the valleys already a couple of times in late September and early October. This article will take a look at what exactly causes heavy snow in southeast Idaho and mainly in the Snake River Plain and the "lower" elevations where heavy snowfall is much less frequent than in the mountains. Heavy snow is a lot more common above 6,000 feet in the region due to the higher elevations being able to scour out more moisture as upslope conditions prevail in most snowfall scenarios.

One of the killers of snow in the Snake River Plain is a strong southerly wind at the surface. There are several documented cases where all surrounding mountains will receive heavy snowfall, but the southerly wind coming off the mountains to the south is a natural down slope flow which both warms and dries the Snake River Plain considerably. To get major snowfall in the Snake River Plain you need to have at least a wind parallel to the Snake River Plain moving west to southwest as you go west to east or even northwesterly. This creates a more favorable upslope component as opposed to the southerly wind flow at the surface. **Continued on page 6...**

## A Weather Heads-up Straight to Your Inbox

Here at our office we're constantly looking for new ways to use technology to serve the residents and businesses of southeast Idaho. Currently, we're initiating a method to get advanced spotter messages to those of you spotters who have an email address. The basic idea is that every morning as we issue the forecast we would generate an email highlighting the hazardous weather for the day. You would only receive an email if you are located in an area expected to experience the hazard, otherwise you would not receive a message. We've received positive feedback from the prototype messages we've sent out before, and when the question was posed to you during the summer months. Our hope is that these messages will help keep you alert to the possibility of impending severe weather, and will assist us in receiving more reports during and after an event.

Below is an example of a message you might receive...

\*\*Date: August 14<sup>th</sup>, 2007

Weather Highlights in effect:

-Severe Thunderstorm Watch 12pm-8pm

Hazards expected in your area:

-Strong thunderstorm wind gusts

-Large hail

-Flash flooding

Please call the NWS Pocatello if you experience any of these phenomena, and please stay safe!\*\*

If you are interested in the program, but have not sent us an email address by which we can contact you, please send a message with that information to Mike Cantin at [michael.cantin@noaa.gov](mailto:michael.cantin@noaa.gov).

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## Fall/Winter Hazards to Report:

**Snowfall:** Please report any amount, especially amounts greater than 3 inches.

**Freezing Rain:** Any amount, especially amounts at or greater than ¼ inch.

**Strong Winds:** Sustained winds at 30mph or greater, with gusts greater than or equal to 45 mph.

**Ice Jams:** Any visible ice jam.

**Flooding:** Any type or duration.

**Dense Fog:** Dense fog with visibilities less than ½ mile.

**Please call us on the spotter hotline, or at 208-233-0834, once it is safe. Thanks!!**



**American Falls ice  
Winter 2005**

*"Perhaps I am a bear,  
or some hibernating  
animal underneath, for  
the instinct to be half  
asleep all winter is so  
strong in me."*

*-Anne Morrow  
Lindbergh*



For a list of Skywarn Weather Spotter Training Dates go to:

[www.wrh.noaa.gov/pih/Spotter/spottersched.php](http://www.wrh.noaa.gov/pih/Spotter/spottersched.php)

Or click on the link near the top of the page at:

[www.weather.gov/pocatello](http://www.weather.gov/pocatello)

## Southeast Idaho SkyWatcher E-letter

In an effort to keep you, our weather spotters, up to date on current weather events and changes affecting our office, we've created an electronic newsletter entitled the Southeast Idaho SkyWatcher. This newsletter is sent twice monthly to all spotters who have provided their email address to us. A typical newsletter will focus on a local weather event, climate issues, forecast outlooks, spotter photos, or other interesting weather phenomena. Past issues have included information about fire weather, severe weather operations, local mudslide events, etc. We typically like to include pictures, and welcome any submissions you'd like to make. Below is an excerpt from a recent newsletter...



The Lost River Range  
February 2007

**Water Making News Again:** During this very warm and very dry season it seems a bit odd to be talking about too much water, but Mother Nature never ceases to amaze. In fact this past week both dryness and excessive moisture combined for a nasty weather situation. Most of you are probably well aware of the Castle Rock Fire near Ketchum, Idaho. This fire is now contained, but the burn area is expected to cause problems for several years to come. Below is a burn map of the fire courtesy of the California Interagency Incident Management Team 3...



*“One kind word can  
warm three winter  
months”  
-Japanese Proverb*



If you are interested in signing up to receive these newsletters please send your email address to Mike Cantin at [michael.cantin@noaa.gov](mailto:michael.cantin@noaa.gov). If you have given your email address to us in the past you should already be receiving the newsletters.

**Water Cycle Quiz by Sherrie Hebert      Answers on page 7**

1. **What is the origin of energy that drives the water cycle?**

- a. The trees
- b. The water
- c. The sun
- d. The mountains

2. **Which are processes involved in the water cycle?**

- a. Evaporation, condensation, and precipitation
- b. Paddling, swimming, and drinking
- c. Bathing, sunning, and drinking
- d. Evaporation, hibernation, and dehydration

3. **What could happen to our water supply if we do not use water conservation?**

- a. The water supply might someday be depleted.
- b. A method to purify ocean water may be developed in time to save mankind.
- c. Civilization may end due to lack of water.
- d. All of the above

4. **Water is listed as one of the basic**

\_\_\_\_\_.

- a. Needs of animal and plant life.
- b. Solid forms of matter.
- c. Nutrients of kool-aid.
- d. Liquids that people can do without.

5. **If a puddle of water in the yard disappears, where did it go?**

- a. The animals drank it completely up
- b. Mother took all her towels out and dried the puddle completely up.
- c. It evaporated into the air as water vapor.
- d. None of the above.

6. **When warm moist air meets cooler air,**

- a. The process of the water cycle, condensation, takes place to form a cloud.
- b. It is a good time to take a bath.
- c. The process of evaporation takes place.
- d. None of the above

7. **What do you call a natural or man-made lake used for the storage of water?**

- a. Dishpan
- b. Bucket
- c. Reservoir
- d. Soggy sandwich

8. **To sequence the water cycle starting with its origin of energy, this is the correct order:**

- a. The water in the puddle evaporates into the sky (evaporation). The warm moist air meets cooler air causing condensation. The sun shines down. The water is stored in natural or man made reservoirs. Then the whole cycle is all mixed up and you are never sure if it will ever rain again.
- b. The sun shines down. As the clouds get so heavy, water begins to fall as rain, snow, hail or sleet (evaporation). The water in the puddle evaporates into the sky (precipitation). The warm moist air meets cooler air causing condensation. The water is stored in natural or man made reservoirs. Then the whole cycle starts right back over again.
- c. The warm moist air meets cooler air causing condensation. The water is stored in natural or man made reservoirs. Then the whole cycle starts right back over again.
- d. The sun shines down. The water in the puddle evaporates into the sky (evaporation). The warm moist air meets cooler air causing condensation. As the clouds get so heavy, water begins to fall as rain, snow, hail or sleet (precipitation). The water is stored in natural or man made reservoirs. Then the whole cycle starts right back over again.



**Snow-melt flooding in Madison County, 2006**

*“Bad weather always looks worse through a window.”*

*-Tom Lehrer*



**For more great aurora borealis pictures visit...**

**[www.photolib.noaa.gov/historic/nws/nwind17.htm](http://www.photolib.noaa.gov/historic/nws/nwind17.htm)**

# The Snake Plain Weathervane

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## Tell Your Weather Story



After the Castle Rock Fire  
in 2007

Have you ever lived through an extreme weather event? Do have distinct memories of a certain storm, or weather event that got you interested in the weather? We'd like to know what inspired you to become a weather enthusiast. Your stories may even be featured in a future spotter newsletter, or in a SkyWatcher email letter. If you are interested please send your story to Mike Cantin at [michael.cantin@noaa.gov](mailto:michael.cantin@noaa.gov), or to 1985 Beechcraft Ave., Pocatello, ID 83204. Thanks, and we look forward to hearing from you!

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## Community Response Critical To Ensuring Safety By Rick Dittmann

On Wednesday, September 5<sup>th</sup>, 2007, a cold front swept through southeast Idaho bringing heavy rains, flash floods, hail, high winds and tornadoes. On one side of the front, heavy rains fell on the fresh Castle Rock burn area near Ketchum causing debris flows in the Warm Springs area. Roads were blocked by the thick mud and debris and houses were narrowly missed, but no injuries were reported. On the other side of the front, several powerful thunderstorms were producing flash flooding, high winds, hail and even tornadoes.

While warnings issued by our forecasters were timely and accurate, a visit to the impacted communities the next day revealed people not only received the warnings, they took measures to protect themselves, their children and their co workers. That is what I would like to discuss with you here.

In our review of the event, we learned that upon hearing the warnings over the NOAA All Hazards Alert Radio, Monsanto company officials activated their emergency response program and brought everyone indoors. The Agrium plant, north of town, similarly, provided for their employees' safety. Local schools in Soda Springs and Bancroft gathered their children in safe places, including away from windows, during the storm.

*“Hold fast to dreams,  
for when dreams go,  
life is a barren field,  
frozen with snow.”*  
-Langston Hughes



Photo by Mike Riedy, NWS Pocatello

A few of the hundreds of downed trees at the archery range northeast of Soda Springs produced by a devastating downburst September 5<sup>th</sup>, 2007.



Castle Rock Fire 2007

Learning of these actions is especially gratifying for us at your National Weather Service office in Pocatello. We spend a great deal of time speaking with schools, community groups, emergency managers, first responders, and anyone else who will listen about the hazards of severe weather and what measures to take to protect lives. On September 5<sup>th</sup>, 2007, as damaging winds, hail heavy rains and tornadoes enveloped their communities, leaders monitored warning systems and activated their emergency response plans. I have no doubt these actions prevented injuries and perhaps even saved lives. To those of you I say thank you for a job well done!

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## “Heavy Snow” Continued from page 1...

I have spent 7 years in the Pocatello office and have noticed one specific pattern that will cause heavy snowfall in the Snake River Plain. Two of the heaviest snowfalls ever in Pocatello and Idaho Falls occurred on April 15<sup>th</sup>, 2002 and on December 26<sup>th</sup>, 2003. Pocatello received 9 inches during the April storm and 15 inches during the December storm. Idaho Falls received about 15 inches in the April storm and 10 inches in the December storm. What was amazing in these two storms was how identical the weather pattern was.

The upper atmosphere pattern in both cases at 500 millibars (or about 18,000 feet) during the peak of the storms included a very deep low pressure trof running along the Oregon and Idaho border into southern Nevada. This allows a fairly extended period of strong southerly flow aloft to allow deep moisture into southeast Idaho until the trof passes to the east which usually signals the end of the storm. The upper atmosphere setup with the trof allowed the jet stream to track into southern Nevada and allow a strong low pressure system at the surface to develop in eastern Nevada. Heavy precipitation falls to the north and northwest of the track of the surface low pressure system. In both these storms the surface low tracked from eastern Nevada northeast, directly over the Great Salt Lake into extreme southwestern Wyoming then northeast through the state of Wyoming and into central South Dakota. This is not a common track for strong low pressure systems in the Rocky Mountain region, but it is one that will cause heavy snow in the Snake River Plain as it did in both these cases. In both cases at the peak of the storm, the surface low pressure was located just to the northeast of the Great Salt Lake near the Utah/Idaho/Wyoming border. Surface winds generally tend to blow toward low pressure so a low pressure just to the south allows for winds to stay mainly westerly or even northwest eliminating the drying southerly wind which occurs when a low pressure passes to the north as often happens in the winter months. So if you see a forecast with a low pressure system passing over the Great Salt Lake this snow season...beware!!

Below are some pictures from the December 2003 storm in the Pocatello area... **Photos by Vern Preston, NWS**



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Quiz Answers: 1. c 2. a 3. d 4. a  
5. c 6. a 7. c 8. d

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## The NWS Pocatello Staff:

### Meteorologist In Charge:

Rick Dittmann

### Administrative Support Assistant:

Karrie Schmidt

### Science and Operations Officer:

Dean Hazen

### Warning Coordination Meteorologist:

Vern Preston

### Electronic Systems Analyst:

Rick Stork

### Observation Program Leader:

Gary Wicklund

### Electronic Technicians:

Richard Denning & Bryan Tilly

### Information Technology Officer:

Matt Williamson

### Service Hydrologist:

Sherrie Hebert

### Lead Forecasters:

Dawn Harmon, Jeff Hedges, Mike  
Huston, Bob Survick, and Dan Valle

### General Forecasters:

Mike Cantin, Greg Kaiser, Jack Mes-  
sick, Brian Waranauskas, and John  
Keyes

### Hydrometeorological Technicians:

Paul Angel

Dave Phelps

### Meteorologist Intern:

Mike Reidy

## The Electronic Technician by Bryan Tilly

The soggy night sky was suddenly lit up like the Fourth of July, with a mighty bolt of lightning a mere 500 yards in front of our truck. Rick Stork and I were going over the Snake River on the Ferry Butte bridge. We were heading to the WSR-88D Nexrad Weather Radar, near Springfield, Idaho to perform emergency maintenance. The Radar went down due to a failure in the transmitter and we were called out by a forecaster to repair it as soon as possible. There was obviously already a thunderstorm rolling through, and it was imperative that we return the radar to service so our forecasters could track the storm and do their part to protect the public. Fortunately, on this night we were able to deduce very quickly that the trigger amplifier, which amplifies the pulse required to fire the transmitter, was faulty. We had a spare trigger amplifier on site and expeditiously had the radar back up and working for the remainder of that stormy night.

Exciting nights like the one above are rare, but when they do happen it can get a little stressful. That's alright though, as it reassures me that I do play an important role in the National Weather Service. Repairing equipment under some duress also increases my feeling of accomplishment and that keeps my career exciting and meaningful. While putting out fires when equipment fails unexpected is part of my job, the majority of my time is spent doing preventative maintenance. Doing preventative maintenance helps ensure the equipment will operate as flawlessly as possible.

Our Electronic shop here at the National Weather Service in Pocatello is responsible for a large variety of equipment. We service and maintain the Automated Surface Observing Systems (ASOS), F420 Wind Systems, River gauges and many other integrated weather systems. We have recently taken over the maintenance on four NOAA Weather Radio transmitters. These transmitters are all located on mountain tops and they can be a little tricky to get to in inclement weather. This winter we will be using snowmobiles to reach these mountain top radio sites. We have a large area of Idaho that we cover, from Stanley to Montpelier, from Island Park to Burley and a host of towns in between. I enjoy the traveling required to accomplish my duties, it keeps things fresh and interesting and you can't beat the scenic places I get to call my office!

We also are called on to keep all of the computers in the Forecast Office operating smoothly. This allows us to become proficient with computer hardware and software. This career continues to evolve into a more computer oriented position. The days of working on just circuit boards and transistors are long gone! As an Electronic Technician, I need to do my best to evolve with the changes, or be left behind.

So just how did I get here, you may ask? I initially received my Electronic Training during 4 years of active duty in the Air Force as an Electronic Counter Measures (ECM) Technician at Hill Air Force Base near Ogden, Utah. After my 4 years of active duty, I worked full time for the Air Force Reserves in Kansas City, Mo as an ECM Technician working on the A-10 Thunderbolts. I really enjoyed my time working on these magnificent airplanes! I am still impressed by the engineering that went into that aircraft! My one desire at that time was to move back out west. I enjoyed my time in Utah, and was really missing the Mountains. The possibilities for transferring in the Air Force Reserves were not very good at the time. I started hearing about an organization called the National Weather Service and it sounded like a great opportunity. While conducting research on the Weather Service, I realized it was the place for me. In May of 1995 I got a call from the National Reconditioning Center (National Weather Service repair depot) in Kansas City, Missouri offering me a job as a Quality Assurance Technician. I couldn't believe my career in the National Weather Service was finally under way. The National Reconditioning Center repairs all the parts that are sent in from the Weather Forecast Office Electronic Technicians. I worked there for 2 years ensuring quality parts were turned back out for the Electronic Technicians in the field. I learned a lot about the intricate electronic equipment while working there and feel I am a better field technician because of it.

My dream to come back out west finally came to fruition in the Fall of 1997, when I accepted a job at the Weather Forecast Office in Flagstaff, Arizona. That experience taught me how to be more self reliant, as I was the only technician on duty at times because of Leave and other technicians' training schedules. My fellow technicians were also very helpful at sharing what they had learned over the years.

Idaho was a place I always wanted to live, so I accepted a position with the Pocatello Weather Forecast Office in March of 1999. I have been happily working here ever since and will most likely serve out the remainder of my career in Pocatello. While my career is not always perfect, I can honestly say that it is very rewarding and I feel fortunate to be a part of the National Weather Service! I would suggest that anyone interested in the electronics field check out the possibilities in the National Weather Service. You may find out that it is a fitting career for you.

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