



# THE GOLD and SILVER SPOTTER

Weather Spotter News for Eastern California and Western Nevada  
National Weather Service / Reno, Nevada / Spring & Summer 2008



## Thank You!

Hello spotters! Thanks again for all of your observations and reports this past winter! The National Weather Service looks forward to your continued vigilance and assistance for the upcoming thunderstorm season. You are the eyes and ears of the National Weather Service! Even with the extensive tools of modern technology such as Doppler radar, satellites, web cameras, and surface observations, there are wide gaps in information of what is actually happening on the ground. Your reports **directly** help in saving life and property and in bridging the gap between what we see with instruments and what is occurring across northeast California and western Nevada.

### Spotter Classes

April 22<sup>nd</sup> @ 7 PM – 9 PM  
Carson City, NV

April 28<sup>th</sup> @ 7 PM – 9 PM  
Fallon, NV

April 29<sup>th</sup> @ 7 PM – 9 PM  
Susanville, CA

May 1<sup>st</sup> @ 7 PM – 9 PM  
Lake Tahoe, CA

May 6<sup>th</sup> @ 1 PM – 3 PM  
Hawthorne, NV

## Spotter Training Classes Coming SOON!

Meteorologists from the National Weather Service in Reno will be hosting five weather spotter classes in late April and May this year for our new weather spotters and for those spotters who would like a refresher. The classes will cover topics such as dust storms, severe thunderstorms, tornadoes, the thunderstorm life cycle, thunderstorm downbursts, flooding, and different types of weather to report. The classes will last around 90 minutes with the last 15 minutes of each session set aside for questions. If you know of a location in your area that would be a good site to host a future weather spotter class, please let us know.

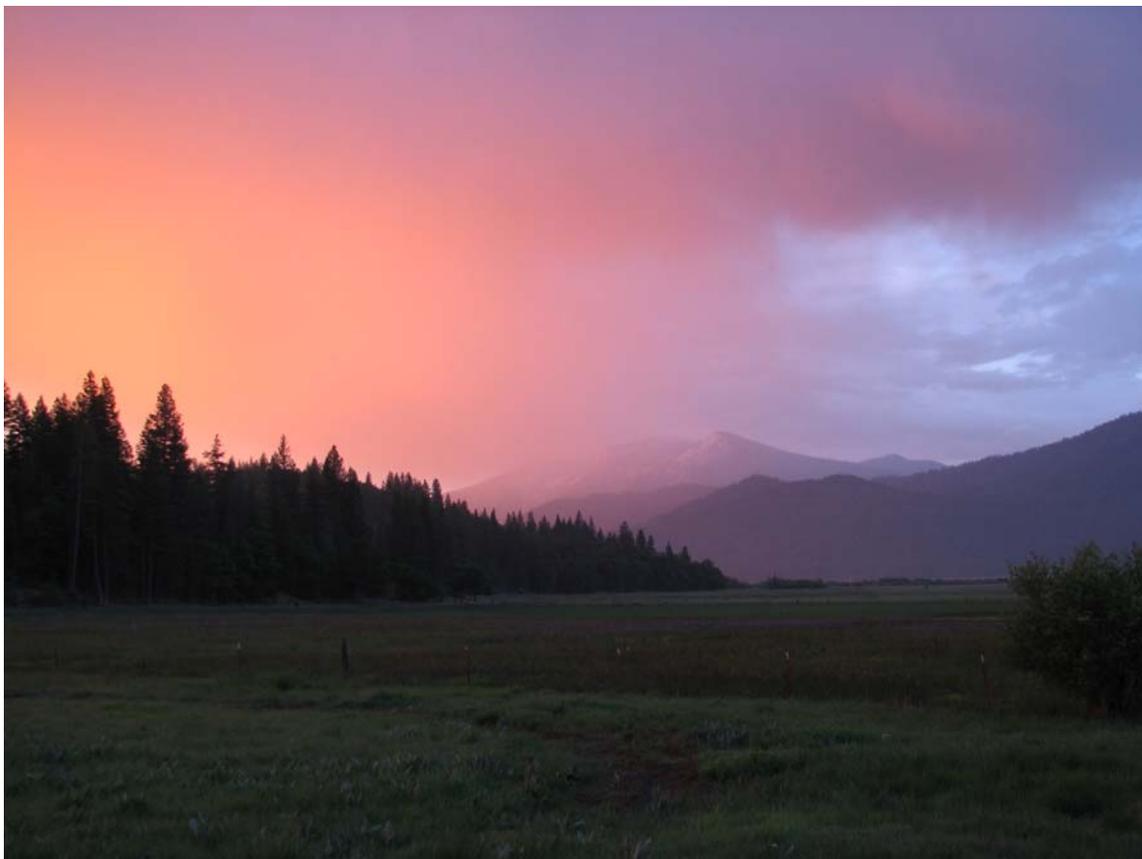
Directions to the training can be found at the end of this newsletter or on our National Weather Service website at <http://www.wrh.noaa.gov/rev>. If you need a spotter guide, you can visit our website at <http://www.wrh.noaa.gov/rev/spotter/spotter.php>. Please contact Wendell Hohmann or Rhett Milne ([Wendell.Hohmann@noaa.gov](mailto:Wendell.Hohmann@noaa.gov) or [Rhett.Milne@noaa.gov](mailto:Rhett.Milne@noaa.gov)) if you have any questions.

## Spotlight on Forecaster Alex Hoon

Howdy Storm Spotters! My name is Alex Hoon, Forecaster here in Reno, NV. I am one of the 14 forecasters that make up our diverse team here at Weather Forecast Office Reno. As the Radar Focal Point, I am in charge of the Doppler Weather Radar Program in our office. This mainly includes duties such as providing training to the other forecasters with regard to updates/upgrades to the radar. I also serve as Assistant Marine and Assistant Aviation Focal point, helping out the Primary Focal Points with their respective programs. I am also very active with outreach to the community. You may even see me at the next spotter training!

I am a proud Texan, born and raised near Houston, TX. My interest in weather started early in life, especially with severe weather! When I was about 10 years old, I got to see a large tornado rip through the countryside. That experience really sparked my interest in weather at an early age, and the image remains with me to this day. I graduated from Texas A&M University with a degree in Atmospheric Science in 2003, where I was commissioned as a Weather Officer in the United States Air Force. I served in the military for 3 years, based at Scott Air Force Base, Illinois. During my service, I was also deployed to the Middle East in 2006, where I was Weather Liaison Officer to the Director of Mobility Forces, Operations Enduring Freedom and Iraqi Freedom. I joined the NWS team here in Reno back in September of 2006, after getting out of the Air Force. Now, I live in Sparks, NV, and I really don't know if I could ever move back east! I have totally fallen in love with Reno, the Sierra Nevada and Lake Tahoe, and hope to be here for a long time to come!

***Spotter Photo Contest Winner....DAVE LELAND!!***



**Our 2007 Photo Contest winner is Dave Leland who lives near the western border of our County Warning Area in Greenville, California, which is located in Plumas County. This picture was taken at sunrise and looks east from the front of Dave's house across Indian Valley toward Grizzly Peak, almost hidden by rain. Mt. Hough ridge is to the right of the picture.**

Thank you to everyone who submitted a photo for the spotter contest in 2007! We had many great entries, but I feel the photo above truly captures some of weather features that are unique to our area: a mixture of clouds, rain, virga, and beautiful sunrises! This is also a great showcase of some of the other obstacles we see out west that greatly affect our weather: mountainous terrain!

Dave has been a 'weather watcher' since childhood. He has always found the weather fascinating and an always changing subject. After moving to Indian Valley (Greenville, CA) six years ago, his interest in weather intensified as he watched the new weather patterns. He moved from Redwood City, CA, where he claims "the weather was much the same from day to day." Three years ago he bought a Davis Vantage Pro weather station. Shortly thereafter, he saw the need for spotters on our website. According to Dave, "The rest has been and is a lot of fun."

Thank you, Dave for your photo entry, and thank you to all our weather spotters who help us every day!

Gina McGuire, Forecaster



## 2006-2007 Winter Weather Highlights

Mark Deutschendorf, Forecaster

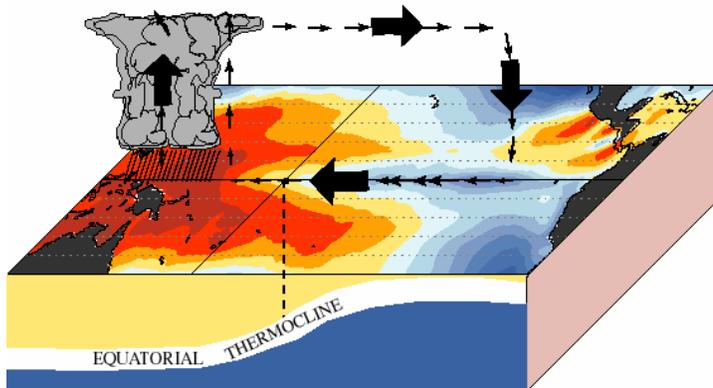
- 1. Dry start to ski season, November-Early December.** Very dry conditions prevailed during this time period, which delayed or limited the opening of many ski resorts until after Thanksgiving. Those able to open during the Thanksgiving weekend relied on man-made snow, until the first significant natural snowfall occurred in the Sierra on December 7.
- 2. "Storm Train", December 17-20.** A series of winter storms brought much needed snow to the Sierra. Snowfall totals ranged from 8-18 inches in the Lake Tahoe basin, with 2-4 feet along the Sierra crest. Over the lower elevations, the main effect was gusty winds to 50 mph with only light precipitation. While these storms gave a needed boost to the early season Sierra snowpack, the snow total only amounted to 45-60% of the seasonal normal through the end of 2007.
- 3. January 4-5, Sierra Blizzard of January 2008.** A well advertised, intense storm produced blizzard conditions in the Sierra. Snowfall totals ranged from 4-8 feet in the Sierra above 7000 feet, with 2-4 feet in the Lake Tahoe basin and northeast California above 5000 feet. Most of this snow fell in less than 48 hours with extreme snowfall rates of 3-6 inches per hour at times. Season-to-date Sierra snowpack totals surged from 45-55% of normal before this event, to 95-115% of normal. Several hours of very strong wind gusts also accompanied the heavy snow producing zero visibility. Storm totals ranged from 8-12 inches in the lower valleys of the Highway 395 corridor including Reno, Carson City, and Susanville, with 1-2 feet in the foothill areas around these cities. Strong wind gusts overnight produced snow drifts up to 3 feet deep.
- 4. Fernley Levee Break and Flood, January 5.** During the early morning of January 5th, a 50 foot section of the levee along the Truckee River canal failed, which sent flood waters up to 3 feet deep over a square mile of a residential area. Nearly 600 homes were affected by the flood, with four of them destroyed and over 100 homes receiving minor to moderate structural damage. Even though the flood occurred quickly in the early morning hours, no serious injuries were reported.
- 5. January 20-28, Cut-Off Low Madness:** A strong cold front passage on the 20<sup>th</sup> brought a burst of snow and cold weather to the region. However, unlike most systems which clear out of the region, an upper level low pressure system then formed and stalled near the central California coast. This system produced periods of light to moderate snow for several days. Heavy Lake Effect snow occurred on the 21st, producing 4-8 inches from Carson City to south Reno, with up to 18 inches near Mount Rose. In Mono county from the 22<sup>nd</sup>-23<sup>rd</sup>, 15-30 inches of lake effect snow from Mono Lake fell in the Lee Vining and June Lake. While the initial low weakened, a second low took its place near the central California coast and produced more moderate snow in the Sierra on the 24<sup>th</sup> and 25<sup>th</sup>. After a break in precipitation on the 26<sup>th</sup>, this system moved onshore during the morning of the 27<sup>th</sup>, producing a band of heavy snow accumulations of 4-8 inches from central Mono County and across Minden, Carson City, and Reno areas. Snowfall totals for the week ranged from 3-5 feet in the Sierra above 7000 feet, with 1-2 feet in most of the Lake Tahoe basin except for locally higher amounts in areas receiving Lake Effect snow. For western Nevada, snowfall totals for the week ranged from 4-10 inches, with locally higher amounts in areas receiving Lake Effect snow.
- 6. February 2-3, Groundhog Day Snowstorm.** A strong storm produced up to 3 feet of snow in less than 24 hours in the Sierra with 1-2 feet of snow in the Lake Tahoe basin. In northeast California, snow amounts around a foot were reported near Portola, with up to 6 inches in eastern Lassen County including Susanville. In western Nevada, up to 4 inches were reported in the valleys around Reno and Carson City, with 4-8 inches in the foothills. Strong winds accompanied this snow with gusts exceeding 150 mph in the Sierra ridges, and frequent gusts of 45-55 mph in lower elevations. Widespread blowing and drifting snow produced near blizzard conditions at times even in the lower elevations. Portions of several major highways were closed during the peak of the storm due to whiteout conditions.
- 7. February 23-24.** A strong low pressure system produced 1-2 feet of snow in the Lake Tahoe basin with 3-4 feet in the higher elevations of the Sierra. In western Nevada, between 6 and 12 inches of snow fell Saturday evening in the valleys and foothills around Reno, Carson City and Minden. By Sunday, strong winds combined with heavy snow showers in the Sierra to produce whiteout conditions at times, with several major highways closed at times due to: poor visibility, avalanche, or multiple vehicle spinouts.

## Effects of this Winter's La Niña

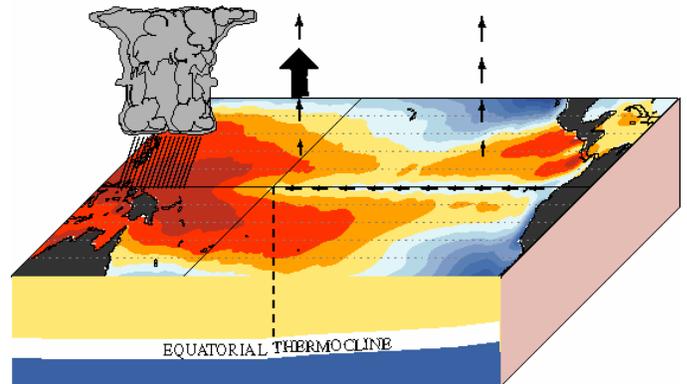
Brian F. O'Hara, Forecaster

Ocean temperatures in the Pacific can affect the climate of regions thousands of miles away. We can see this when we look at atmospheric phenomena such as El Niño and La Niña and the effect they have on the weather and climate of the western United States. These phenomena are usually strongest during the winter. El Niño conditions occur when sea surface temperatures over the eastern Pacific off the coast of Peru are warmer than usual. By contrast La Niña conditions occur with cooler than normal sea surface temperatures. This past winter (2007-08) we have been under the influence of a La Niña.

### December - February La Niña Conditions



### March - May La Niña Conditions



The lower atmospheric pressures associated with the warm El Niño waters tend to steer precipitation systems into the southwestern U.S. and southern California. During La Niñas, the high pressure areas over the eastern Pacific tend to steer moisture laden storms farther north into the Pacific Northwest. The northern and central Sierra and western Nevada are located right in between these two active areas. As a result, there is much less correlation between El Niño/La Niña and the weather that we experience during the winter. This can be seen in the temperatures and precipitation that we record during the winter.

Weather data for Reno extends back over 100 years. We can look at the average winter temperatures and the total precipitation that Reno has experienced during past La Niña periods and see whether they have varied. A study of these conditions shows that they have. This would be expected since the strongest effects of El Niños are felt south of our region across southern California and points east. The strongest effects of La Niñas, as we mentioned above, are seen to our north in the Pacific Northwest. This winter's La Niña has been accompanied by above normal precipitation in Washington and Oregon. Southern California has been relatively dry.

During the three winter months of December 2007 through February 2008 Reno received a total of 4.64 inches of precipitation. This is well above average but it must be noted that 1.91 inches of this total fell on only one day (January 4<sup>th</sup>) during an extreme rain event. Without this anomalously large one-day amount of precipitation Reno's three-month winter total would be only 2.73 inches which is only 0.27 inch below normal for a typical winter. Our average monthly temperature this winter was 35.0° F. This is very close to the normal average temperature of 35.3° F for winter.

What about other La Niña winters? Well, there was a strong La Niña that lasted for a period of two years from the summer of 1998 to the summer of 2000. This La Niña was at its strongest during the winters of 1998-99 and 1999-2000. There was another, although weaker, La Niña during the winter of 1995-96. Strong La Niñas occurred during the winter of 1973-74 and again two years later in 1975-76. How did these winters compare to this last winter? The following table lists the La Niña winters that have occurred since the winter of 1949-50. Also listed are the average temperature and total precipitation we saw in Reno each of those winters along with how much above or below normal those readings were.

La Niña winter	Avg. temperature for the winter (°F)	Amount above or below normal (°F)	Total precipitation for the winter (in.)	Amount above or below normal (in.)
1949-50	33.3	-2.0	2.01	-0.99
1950-51	36.1	+0.8	2.67	-0.33
1954-55	29.7	-5.6	2.76	-0.24
1955-56	32.4	-2.9	8.36	+5.36
1964-65	36.6	+1.3	4.54	+1.54
1970-71	33.0	-2.3	2.73	-0.27
1973-74	35.4	+0.1	3.21	+0.21
1975-76	33.6	-1.7	1.37	-1.63
1984-85	32.8	-2.5	0.99	-2.01
1988-89	31.1	-4.2	1.84	-1.16
1995-96	38.4	+3.1	5.90	+2.90
1998-99	36.4	+1.1	2.05	-0.95
1999-2000	38.3	+3.0	3.19	+0.19
2000-01	35.2	-0.1	0.63	-2.37
2007-08	35.0	-0.3	4.64	+1.64
Average for winter in Reno	35.3	-	3.00	-
Average for La Niña winters	34.5	-0.8	3.13	+0.13

As can be seen from the table, there is no consistent positive or negative effect on Reno's winter precipitation and temperature from La Niñas. From an average of these 15 La Niña winters, Reno is only 0.8 degrees Fahrenheit colder than an average winter and is only 0.13 inch wetter than average.

However, these average values can be misleading because the final results during La Niña winters can vary by so much from one La Niña to another. For example, the average temperature for a La Niña winter has ranged from 3.1° F above normal to 5.6° F below normal, and the precipitation has ranged from 5.36 inches above normal to 2.37 inches below normal! This is why it is so difficult to predict what effect an El Niño or a La Niña will have on the upcoming weather in Reno.

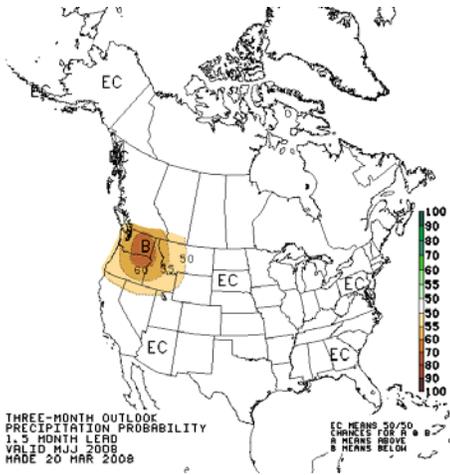
## **What Should We Expect this Summer?**

*Kyle Mozley, Forecast Intern*

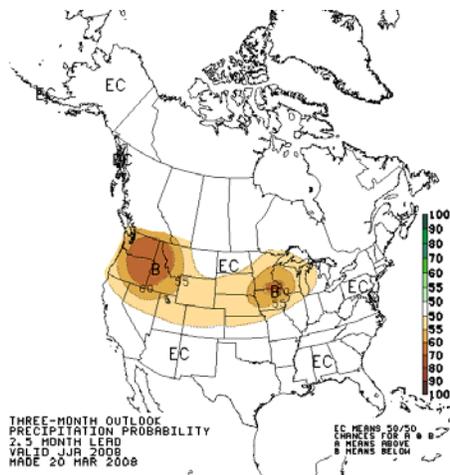
The moderate La Niña conditions that prevailed across the equatorial Pacific Ocean through the winter months are showing the first signs of weakening. The surface of the equatorial Pacific is warming and the mass of cold sub-surface water in the eastern Pacific is decreasing in intensity and volume. These observations are consistent with computer model predictions which show Pacific temperatures gradually warming over the next few seasons. Computer outlooks show temperatures along much of the equatorial Pacific remaining at levels consistent with La Niña until the end of the northern hemisphere spring. For computer models that predict beyond four months, many are predicting La Niña conditions to decay to weak La Niña-to-neutral conditions during the summer months of 2008.

Looking back on past La Niña events of similar magnitude and similar trends forecast by current computer models, the spring and summer months of 2000, 1989, and 1976 can be looked at to see what this summer may bring. The La Niña event that occurred in 1989 most closely matches the current condition and forecast trends for the Pacific. The months of April through July of 1976, 1989 and 2000 were all warmer than normal and had below normal precipitation. August and September of past events saw near to slightly below normal temperatures and above normal precipitation, except in 2000 which saw drier than normal conditions. Overall, warmer and drier conditions can be expected with the possibility of trending to cooler, wetter conditions by summer's end.

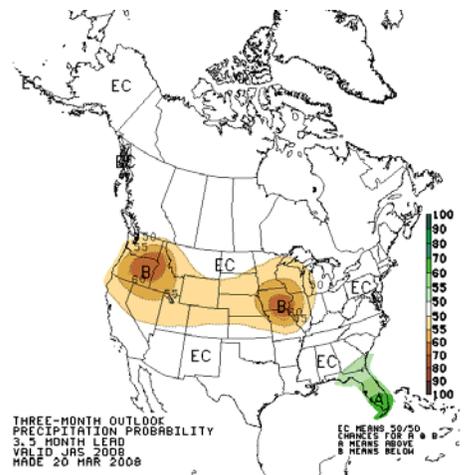
The official NCEP outlook indicates near normal precipitation through the spring months with drier conditions spreading south across northern California and Nevada by this summer. The temperature outlook for northwestern Nevada and the eastern Sierra Nevada shows increasing probability for above normal temperatures through the end of the summer.



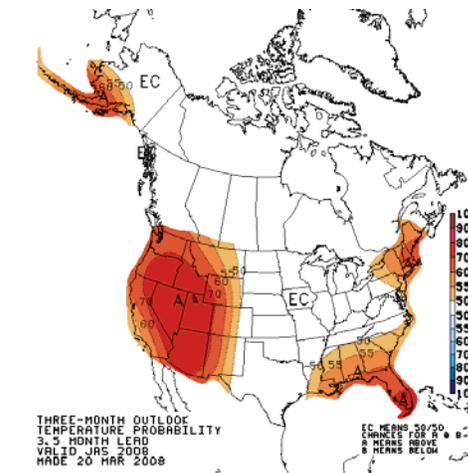
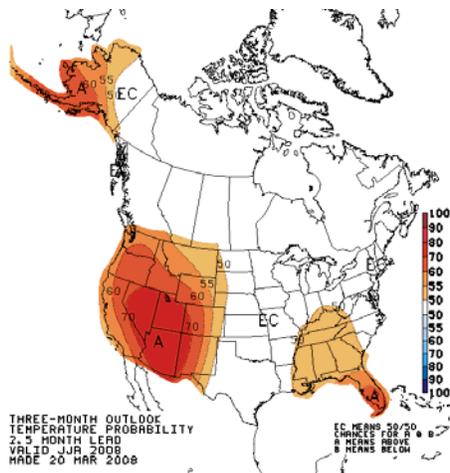
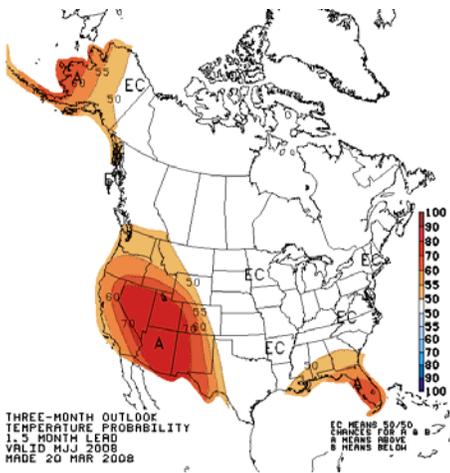
**May-June-July**



**June-July-August**



**July-August-Sept**



Top row: Three Month Outlooks for Precipitation Probability (B=Below Normal, A=Above Normal, EC=Equal Chance)  
 Bottom row: Three Month Outlooks for Temperature Probability (B=Below Normal, A=Above Normal, EC=Equal Chance)

## **Attention Local Boaters!!! New Recreation Forecast Coming Soon!!!**

### **WE NEED YOUR HELP!!!**

*Alex Hoon, Forecaster*

As many of you probably already know, we issue Recreational Forecasts for Lake Tahoe and Pyramid Lake, twice a day, 365 days per year. We also issue Lake Wind Advisories when conditions will create rough chop on the area lakes, endangering boaters. Usage of the area lakes for recreation dramatically decreases during the winter months, but starting Memorial Day, these lakes become packed with boaters from all over the region. Beginning in the next month or so, we will be adding a new feature to the Recreation Forecast – **wave height forecasts!** For you boaters, this should be some welcome news! But, we need **YOUR** help!

If you are a storm spotter and a local boater, we **NEED** reports of lake conditions, whenever you are out on the water. If you happen to be out on one of the local lakes (especially Tahoe and Pyramid), please give us a quick phone call to let us know what the lake conditions are, as well as your location on the lake itself. Since we don't know exactly when you will be out boating, you will have to remember to give us a call whenever you can. This will help us out immensely with the wave height forecasting project! Thanks so much for your help! We can't do it without **YOU**.



## What should you report?

Thank you for your assistance this past winter. As we head through spring and into summer, we have a few tips.

- Please let us know about ANY reports of damage, even if it is many days later. Doing so helps us improve our warning program.
- During an active weather day, we are often very busy monitoring radar, tracking observations, and taking phone calls. When you observe weather fitting any of the criteria, please call us right away. Do not wait for us to call you, as we may never get the chance. ***Please be proactive!***
- See below for spotter reporting criteria. **Remember; if you aren't sure...report it anyway!**

**Reminders:** Now is the time to check and replace the batteries in your weather radio. Even though severe weather occurs infrequently, having an operating NOAA weather radio is important!

### Spotter Reporting Criteria – Summer Season

1. Tornado or Funnel Cloud
2. Winds over 45 MPH or any wind damage
3. Hail of any size
4. Heavy Rainfall (0.25 inch or more in 1 hour)
5. Flooding

**\*\*Please refer to your Storm Spotter Guide (available at our website or at training) for more in-depth information\*\***

### Spotter Training Locations and Times

**Carson City, Nevada:** Tuesday, April 22<sup>nd</sup>, 7 PM – 9 PM

Carson City Fire Department #2 Training Room  
2350 College Parkway, Carson City, NV

- From Highway 395, turn east onto College Parkway. Go about 1 1/2 miles and turn left into Fire Station #2 (next to the airport). Classroom is on the left hand side (**NOT** in the Fire Station Building).

**Fallon, Nevada:** Monday, April 28<sup>th</sup>, 7 PM – 9 PM

Western Nevada Community College, Getto Hall, Room 302  
160 Campus Way, Fallon, NV

**Susanville, California:** Tuesday, April 29<sup>th</sup>, 7PM – 9 PM

Lassen County Fire Station  
1505 Main Street, Susanville, CA

**Hawthorne, Nevada:** Tuesday, May 6<sup>th</sup>, 1 PM – 3 PM

Mineral County Care and Share Senior Center  
975 K Street, Hawthorne, NV 89415

**Lake Tahoe:** Thursday, May 1<sup>st</sup>, 7 PM – 9 PM

Tahoe-Douglas Fire Department  
193 Elks Point Road  
Zephyr Cove, NV 89448

**Become a CoCoRaHS Weather Observer NOW in Nevada**  
***California will be joining the network in October 2008!!***

*Gina McGuire, Forecaster*

***What is CoCoRaHS??***

- CoCoRaHS is an acronym which stands for *The Community Collaborative Hail, Rain and Snow Network*.
- CoCoRaHS is a non-profit, community-based volunteer observing network.
- The network is expanding rapidly across the United States, and, as of March 1, 2008, 29 states were part of the CoCoRaHS network, including Nevada!!
- CoCoRaHS is looking for weather-motivated and interested individuals to join the program!! The process is easy and just takes a few minutes to register and enter precipitation data.
- Once you register, you will receive a station ID number almost immediately, and you will be ready to enter your data, which can then be viewed on a national website!!
- CoCoRaHS is also a great educational tool. Students and teachers can monitor and learn about their local climate and also see their information updated immediately on the internet.

***How can you join CoCoRaHS?***

- Simply first visit the CoCoRaHS **Nevada** website at <http://www.cocorahs.org/state.aspx?state=nv> to find out if you are interested!
- Those interested in the state of California...don't fret! California will be joining the CoCoRaHS network in October 2008! Visit the national CoCoRaHS website for more information on **California** at <http://www.cocorahs.org>
- Next, if you are interested in becoming an observer, you can fill out a quick form to become a volunteer weather observer at <http://www.cocorahs.org/Application.aspx>
- Any questions, feel free to contact Gina McGuire at [gina.mcguire@noaa.gov](mailto:gina.mcguire@noaa.gov).

***Why should you join CoCoRaHS?***

***“Because every drop counts!!”***

***And***

***It's FUN!!!***

***Thanks again to every single spotter for all you do to support the mission of the National Weather Service... to protect LIFE and PROPERTY!!***

