



# Nevada CoCoRaHS Newsletter

Because every drop counts even in the driest state!

Summer 2013

## Highlights

Welcome to the summer edition of The Nevada CoCoRaHS Newsletter! First of all, we would like to thank all of our observers from across the Silver State that have taken the time to participate in CoCoRaHS. Your observations really do matter and provide us with valuable information on what the weather has done in your neighborhood. In this issue, we will take a closer look at the monsoon and what it means for CoCoRaHS in Nevada.

## Monsoon Season Is Here

Mid-June through the end of September marks the monsoon season in Nevada, with the start and end time varying depending on which end of the state you live in. The North American Monsoon Season, as it is more formally called can account for up to a quarter of the normal annual precipitation in Nevada, mainly in the southern portion. Showers and thunderstorms sometimes bring high winds in and near them that can cause damage as well as hail. Therefore your reports of what goes on with the monsoon in your neighborhood are very valuable especially since many events are highly localized.

## Help Us With Hail!

While most observers are familiar with sending us reports of how much rain or snow fell, one of the most valuable reports in the monsoon season is hail. Hail is not common in Nevada and your reports of it no matter what size it is are greatly appreciated. Hail that is one inch or greater in diameter is considered severe by the National Weather Service. Thus, your hail reports can be used to verify severe thunderstorm warnings or if received in real-time can help the National Weather Service in their warning process. If possible, you can help record any hail by setting up a hail pad as shown in the photograph below. When reporting hail the most important things to report are the size of the largest hail stone (either measured or referenced to an everyday object), the time it occurred and whether the hail covered the ground and accumulated to an amount that can be measured. You can read more about measuring hail on the CoCoRaHS website at <http://www.cocorahs.org/Content.aspx?page=measurehail>.



# CoCoRaHS And The Official Climate Record

In an ever expanding effort to take advantage of more data, the National Climatic Data Center, also known as NCDC, has started to accept some CoCoRaHS data as part of the nation's long term climate record. For years, the nation's climate network only consisted of observations using equipment that met National Weather Service standards. These weather stations were typically located at airports. However, the largest group of observations into the national climate database comes from observations taken by volunteer weather observers using equipment provided by the National Weather Service. As is the case with CoCoRaHS, cooperative observers take an observation once a day at a specified time that consists of temperature and precipitation over the past 24 hour period. Other parameters such as the weather observed or amount of evaporation may be included in these reports. Cooperative observers are not just located at homes – many are also parks, farms, government agencies and private businesses.

However, with the advent of CoCoRaHS, the opportunity to collect more observations exists. This benefits the climate network by adding in more stations which can give meteorologists and other researchers a better idea of smaller scale variations in climate as well as the scale of a particular precipitation event. CoCoRaHS also allows for stations in areas where we do not currently have cooperative observers.

How does your data become a part of the official climate record? Known as the Global Historical Climatology Network or GHCN, once you submit 100 separate CoCoRaHS observations, your data will become a part of GHCN. Therefore, entering in zeros each day is highly valuable as it allows not only for a better record of the precipitation in your area but also will get your data into the official climate database quicker if you are a new observer. Getting your data into GHCN allows your data to be used in larger scale regional analysis products issued such as maps showing precipitation totals and departures. These maps can be useful in depicting what took place during an event or give a better picture as to how wet or dry an area has been in recent months.

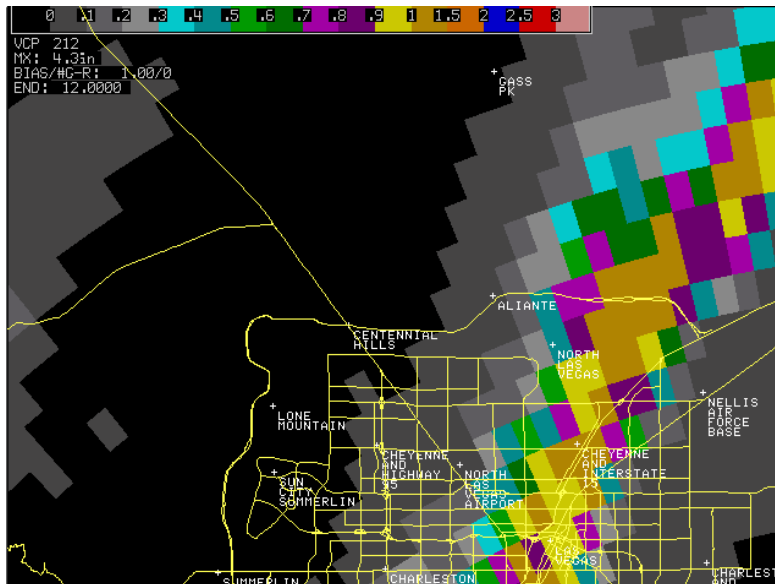
An example of the GHCN weather stations can be seen on the map shown for the Las Vegas Valley below. Red dots show weather stations at area airports used in the climate network. Note how few of these exist! Light blue dots show cooperative weather stations that are part of GHCN. Purple dots show CoCoRaHS observers. Notice how many more weather stations in the climate network are from volunteers! This really shows how valuable volunteer observers are to the nation's climate record.



# Your Zeros Do Matter Especially With A Drought

While we welcome all precipitation reports in CoCoRaHS, many observers often wonder why there is a need to enter in zero precipitation, especially in a dry place such as Nevada. Entering in a zero helps to remove any uncertainty about what may have taken place where you are at. In addition, entering in zero precipitation also helps with longer term statistics for your location such as confirming no precipitation has fallen for a month. It is just as important to know where precipitation fell as where it did not. This is especially true during the monsoon season when thunderstorms can drop heavy rainfall in a small area while only a mile or two away no rain at all can fall.

One source used to compile information on precipitation to assess drought status is CoCoRaHS! Therefore, when you show complete data for your location, people using your data can get a clearer picture of what really took place. This is especially critical when looking at when the last time precipitation fell or how much precipitation has fallen in a given period of several months or year, which are tools used to assess precipitation trends in an area. Precipitation trends are a key component of assessing the area's precipitation surplus or deficit. Precipitation trends are ultimately one of the key factors in determining the drought status for an area.



Precipitation amounts can vary greatly in a short distance as this radar estimate of precipitation during a heavy rain event in September 2011 shows in Las Vegas. Note the swatch of heavy rain in the center of Las Vegas while little to no rain fell just 10 miles to the east and west.

## Keeping Your Account Up To Date

While we would love for all observers to stay with this program, we realize that things change. Many people move or have other changes in their lives that make commitment to being an observer difficult. If you find yourself in one of these positions, we ask that you update your account. If you move to a new address, you will have to obtain a new observer number. This is to keep all your records compatible with the location you took them at. If you no longer wish to observe, then please deactivate your account. Any accounts that do not take observations after a year will eventually be made inactive by the state or regional coordinators if you do not update them yourself. However, all of your information will always remain on file with us. This is to provide us with a record of observers. In addition, the CoCoRaHS database will always maintain all your records even if your station closes.

## Weather Wonder: What Is Graupel?



Graupel in Las Vegas. Photo credit: Ryan Metzger

Graupel is a type of precipitation that starts as snow. As supercooled drops of water collect and freeze on falling snowflake, they form a very small layer of rime. Graupel is often the size of pea and is sometimes confused with sleet. Graupel is usually softer than hail and will often fall apart when touched. Graupel often occurs between the late fall and spring in Nevada when a cold area of low pressure moves through and produce showers and thunderstorms.

### CoCoRaHS Nevada Resources

<http://www.cocorahs.org/state.aspx?state=nv>

#### State Coordinators and Southern Nevada Regional Coordinators

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