"Because every drop counts"

Community Collaborative Rainfall, Hail, and Snow Network

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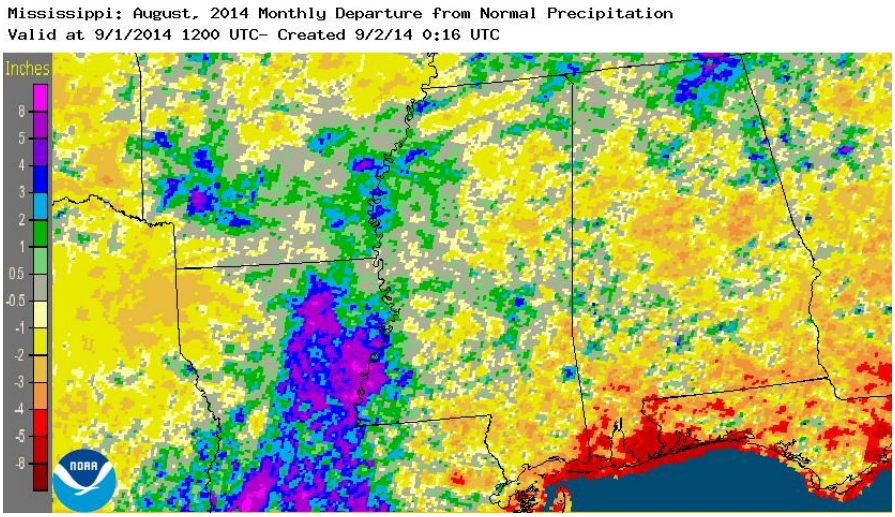
South Mississippi CoCoRaHS Newsletter

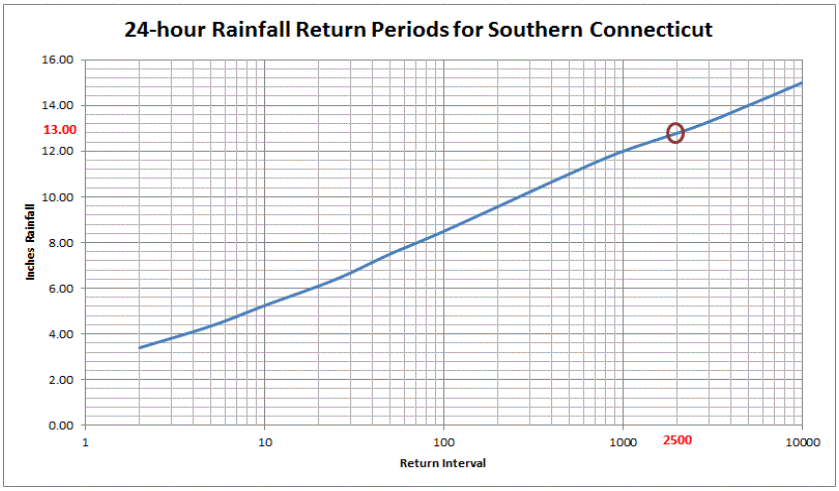
Southwest Mississippi Wet—Coastal Mississippi Dry



The month of August saw many rain days, 25 in all with at least 0.01" measured somewhere in the Magnolia State. However, most of the rain days were of relatively light amounts from typical summer showers and storms closer to the coast. The western half of the state, however, benefitted from a few frontal zones that settled into the region during the month. This pattern set up several heavy rain days in the delta and the counties along the Mississippi River. The wettest location was Grenada 7.9 NNW (MS-DG-9), which received 12.05 inches on 28 reports in August. Picayune 5.6 ENE managed 7.10 inches on 27 reports, but this was quite isolated in an area of otherwise drier than normal conditions. The image above shows the departure from normal for August rainfall, with the yellow-orange-red colors indicating dry, the green-blue-purple hues are wetter than normal.

Big Rain Mathematics

On August 13th, Islip, NY, located on Long Island across the sound from Connecticut, measured a single day total of 13.02 inches. This computes to approximately a 1-in-2500 year event. What does this actually mean. Read a description on the back page and find out how frequently can it happen in south Mississippi.



Comment of the Month - From Kiln 6.6 N (MS-HC-13) on August 17, 2014.

"Temperature at time of observation was 80 degrees Fahrenheit. Barometric pressure was 30.09 in. Skies were clear with cumulonimbus starting to develop on the south horizon. No condensation was on the gauge."

This observer typically provides great detail on daily reports, and contributed a large portion of the 399 reports that were tallied in August statewide. This particular observation described a nearly normal mid-August day, much different than what the observation may have read like 45 years prior, when Hurricane Camille was making her approach to the Gulf Coast in 1969.

AUGUST STATISTICS

Wettest/Driest/Hail/Reporting

- Wettest Month, State— 12.05" on 28 reports at Grenada 7.9 NNW (MS-GD-9)
- Wettest Month, Local — 7.10" on 27 reports at Picayune 5.6 ENE (MS-PR-4)
- Wettest Day, State — 5.71" on the 11th at Pearl 2.0 W (MS-RN-40)
- Wettest Day, Local—3.15" on the 4th at Ocean Springs 3.3 E (MS-JC-2)
- Number of Rain Days—25 with at least 0.01" average on a given day in the state.
- Driest Month, State—1.09" on 17 reports at Kosciusko 0.2 W (MS-AT-2)
- Driest Month, Local—2.46" on 26 reports at Pass Christian 3.5 NE (MS-HR-10)
- Hail Reports: none
- Snow Reports: none
- Stations Reporting: 167; Number of Reports: 3974; Average per day: 128.2
- Busiest Reporting Day: 10th, average: 0.48", max amount: 2.68", number of reports: 145
- Wettest Reporting Day: 31st, average 0.84", max amount 4.90", number of reports: 126
- Number of perfect 30 report observers: 60 stations statewide

Big Rains across the Nation: How CoCoRaHS observers help define an event

So how do climatologists, meteorologists and hydrologists make use of your valuable reports across these three disciplines? Over the past month, there have been several big news rain events across various parts of the nation. I decided to take a sampling to demonstrate how some of this data source is used for placing events into historical perspective. In August, the largest rainfall total measured by CoCoRaHS observers in a single day was 13.02 inches on August 13th at Islip 0.2 NW on Long Island, New York. There is a statistical reference that engineers, hydrologists and others use to depict rain events, called a return frequency or frequency/duration/interval studies. These are computed by taking historical rain events at a particular location for the various durations that took place, ranging from minutes to hours to a full day. These are typically plotted as a scatter diagram on a lin-log graph, where the time scale is logarithmic, and the accumulation is linear. In southern Mississippi, the 13.02 inches in 24 hours would be equivalent to a 50 year return, or a 2 percent chance of occurring in any given year. In Islip, NY, the same amount has an estimated return of 2500 years or 0.04 percent chance of occurring in any year. This was indeed a rare event for that location, and it was not due to a tropical system. The diagram on the front shows a return period graph that plots rainfall accumulations at various intervals, ranging from 1 year to 10000 years.

In August, there were 157 CoCoRaHS observers across 28 states that recorded a daily precipitation total at or greater than 5 inches in a 24 hour period. These occurred on 20 of the 31 days. A 5 inch daily rainfall has a 2 year return along the Mississippi Coast, or a 50 percent chance of occurring in any given year.

Keep the DAILY rainfall reports coming!