

Under the Big Sky e-Letter September 29th, 2009

Solar Cycles: Space Weather at its best! The image above on the left is the sun today with a small spot near the upper right side called Sunspot 1027, which is part of the new Solar Cycle 24. This cycle repeats about every 11 years with the sun going from an inactive period to an active period. Scientists within NASA and NOAA predict that we'll reach the peak for cycle 24 in 2013. The image on the right is showing the coronal hole, which releases a solar wind, expected to impact Earth later this week. Perhaps we'll see some increased chances for the aurora borealis by the weekend. Our aurora activity has been pretty low the past few years, but that is something we can expect an increase of in the next few years as the solar cycle ramps up again. While the Aurora Borealis is one of the obvious visible space weather phenomena out there, other events are actually more significant and could cause very significant impacts. Take the 1859 Carrington Event, from the website below:

The 1859 storm--known as the "Carrington Event" after astronomer Richard Carrington who witnessed the instigating solar flare--electrified transmission cables, set fires in telegraph offices, and produced Northern Lights so bright that people could read newspapers by their red and green glow. A recent report by the National Academy of Sciences found that if a similar storm occurred today, it could cause \$1 to 2 trillion in damages to society's high-tech infrastructure and require four to ten years for complete recovery. For comparison, Hurricane Katrina caused "only" \$80 to 125 billion in damage.

http://science.nasa.gov/headlines/y2009/29may_noaprediction.htm

Recent sunspot article:

http://www.msnbc.msn.com/id/32904448/ns/technology_and_science-space/

For information on space weather, visit the following two sites:

<http://www.swpc.noaa.gov/>

<http://spaceweather.com/>

Cruise control and wet roads – Not a good mix: When it's raining, or you're driving on snow, it's a good idea to turn off your cruise control! This discussion recently came up on a list-serv for my counterparts across the NWS. Read more about it at:

<http://www.snopes.com/autos/techno/wetroad.asp>

Recruiting CoCoRaHS observers! The final state, Minnesota, has finally joined the Community Collaborative Rain, Hail and Snow (CoCoRaHS) network. Their new goal is to now get every county in the country to have an observer reporting rainfall. In northeast Montana, we need observers in Petroleum, Garfield, McCone, Prairie and Wibaux Counties. If you have any family in those locations, we'd appreciate you mentioning to them that the program is really looking to expand and add more people (and data) into Montana. If you are already an NWS weather spotter, perhaps you'd also consider joining the CoCoRaHS community in Montana! We'd love to have you!! <http://www.cocorahs.org/>

NWS Glasgow Happenings:

Sidney Air Show: David Shallenberger and Andrew Zimmerman got to attend the first day of the air show, and neither had ever had the chance to see the Canadian Snowbirds, or any of the other great acts before. They were able to talk to the attendees about the NWS Aviation Services, and demonstrate some of the NWS aviation related websites available.



MT Dept of Ag Sprayer Recertification: People who spray chemicals in Montana need to be certified by the state in order to do so. Glasgow hosted one of four of these recertification workshops this week, and I was asked to give a presentation on how weather could impact what they do. With a room of 75 people, I was pretty amazed at how many people who are involved in this area, from the Orkin man, to the USFWS, and many more. The room was packed with private, state and federal representatives.

Weather and Climate in the News:

Australian Dust Storms: Australia has had several significant dust storms in the past few weeks. Sydney was covered in red dust with visibilities so poor that international flights had to be diverted to other area. <http://www.msnbc.msn.com/id/32978412/ns/weather/>

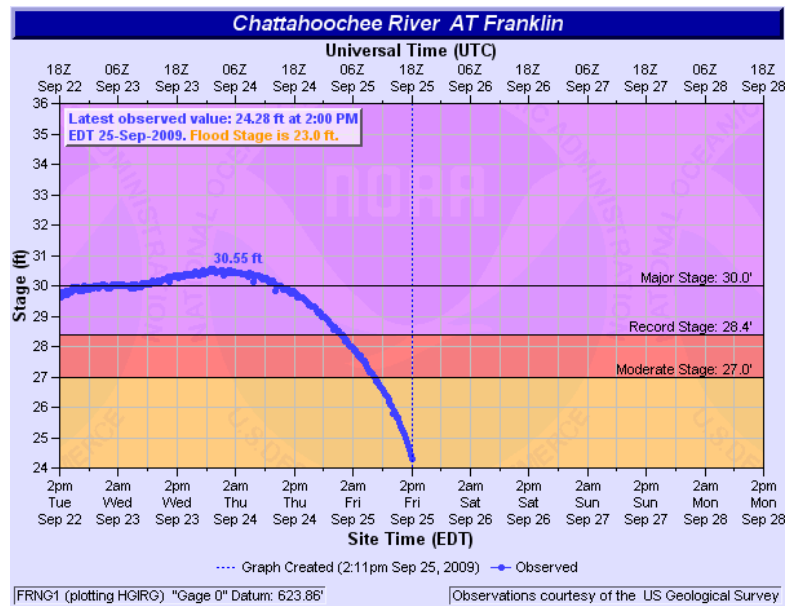
There's an amazing video on You Tube that was posted showing the sky turning from yellow to red to black. <http://www.youtube.com/watch?v=BrID22HwPvI>



Above: Satellite image from Sept 12 showing the dust blowing into the South Pacific off of Australia
Left: Sydney Opera House during dust storm, and without the storm: Photo submitted by Reuters to USAToday

Major Flooding in Atlanta:

Areas in and around the Atlanta metro area and along the Chattahoochee River have seen from 10 to 12 inches of rain in the past week. Major flooding has been occurring and at least 11 deaths have resulted. Many of the river gages along the Chattahoochee River have seen record flooding, to the extent not seen in 90 years.



More on Atlanta Flooding:

A slideshow of photos from the area:

<http://www.wsbtv.com/slideshow/weather/20925552/detail.html>

Floods set records: http://www.upi.com/Science_News/2009/09/28/Last-weeks-Atlanta-flooding-set-records/UPI-21461254159156/

Tropical Storm Ketsana hits the Philippines: Hundreds of thousands of people are displaced in the Phillipines after Tropical Storm Ketsana dropped 15 to 20 inches of rain across the island. The death toll stands at 240 people, and some areas are inaccessible to rescuers. Parts of Manila were 20 feet underwater during the storm as well.

<http://www.voanews.com/english/2009-09-29-voa10.cfm>

Arctic Warmth and Tropical Wetness Likely Cause for Methane Increases: (Cows are not getting the blame) http://www.noaaneews.noaa.gov/stories2009/20090925_arctic.html

Arctic Sea Ice in 2009 is the 3rd lowest on record:

http://www.usatoday.com/weather/climate/2009-09-17-arctic-sea-ice-minimum_N.htm?csp=34

http://www.msnbc.msn.com/id/32902977/ns/us_news-environment/

Beer Budget Students beat NASA for Space Photos: Two students from MIT recently invested \$148 and were able to get photos from space without a rocket or space shuttle or satellite, but rather they used a weather balloon. To find out how, go to:

<http://www.wired.com/gadgetlab/2009/09/the-150-space-camera-mit-students-beat-nasa-on-beer-money-budget/>

Weather Humor for the week:

