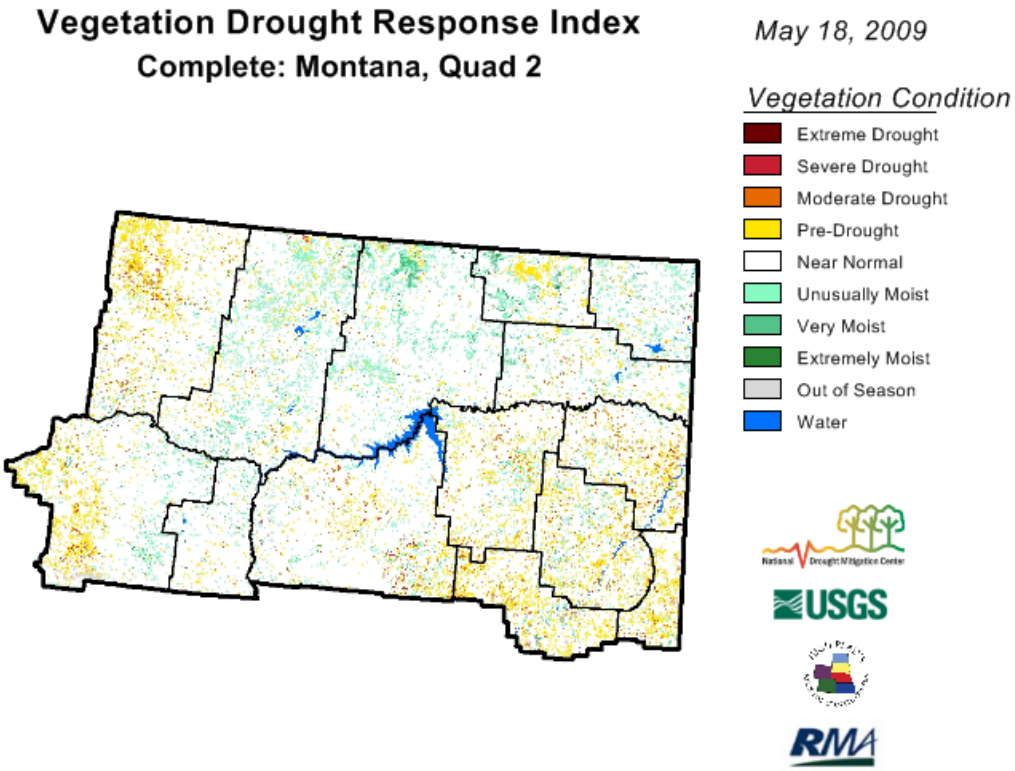
Under the Big Sky E-letter

June 1, 2009

From the oceans in the last edition, to space in this one: One of our former forecasters is now a forecaster at the NWS/NASA Spaceflight Meteorology Group (SMG). Their job is to do the weather forecast support for Space Shuttle takeoffs and landings, as well as other rocket launches that occur from Cape Canaveral. The SMG is located in Houston, TX. Victor Proton recently was one of the forecasters on the STS125 shuttle mission that was done to repair the Hubble Telescope. Victor sent these photos of him working on the forecast, and another the space walk where the astronaut is working on the Hubble. To read more about what they do, you can visit: http://www.srh.noaa.gov/smg/

VegDRI: The National Drought Mitigation Center vegetation status graphics are available again for you this spring. They are available at: http://drought.unl.edu/vegdri/VegDRI_Main.htm?EV

You can see on the graphic below that overall we are doing pretty good. There are a few areas that could use a little more precipitation, but one well placed storm could fix that.



Good news - Lake Levels: Did you know that Fort Peck Reservoir is now at 2217.6 feet, a rise of about 17 feet from a year? Garrison Dam in North Dakota is at 1832.3, a rise of nearly 22 feet from a year ago. We could also see another 3-4 feet of water in Fort Peck this month according to the US Army Corps of Engineers.

E-Spotter: There is a new program available to weather spotters that allow you to send reports to us over the internet rather than calling. You have to sign up for an account, but it's pretty straightforward and easy to use. If you'd like to report over the internet rather than call us, you can sign up at: http://espotter.weather.gov/ We will get your report fairly quickly after you hit the submit button.

Noctilucent Clouds of 2009: Spaceweather.com is reporting that noctilucent clouds are being sighted starting around May 27th in Russia. They generally occur for a 5-10 day period in northern latitude locations, and have been reported in our location. To learn more about them, or to see what you are looking for visit: http://spaceweather.com/ and http://science.nasa.gov/headlines/y2008/25aug_nlc.htm

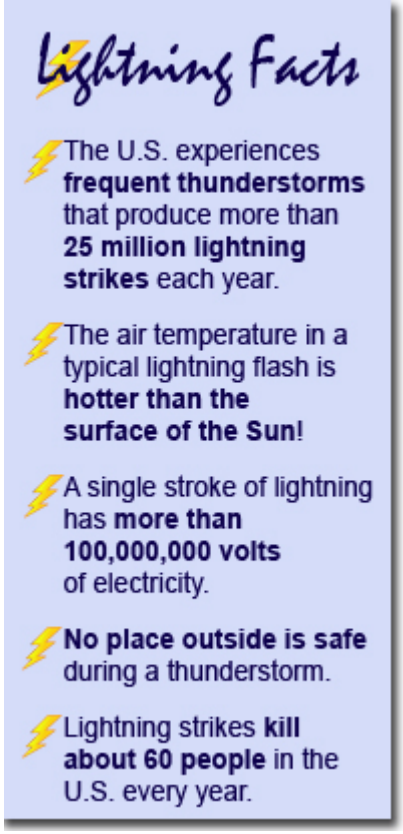
Lightning Safety from NOAA Public Affairs:
http://www.noaa.gov/features/monitoring_0609/lightning.html

"*Summertime, and the livin' is easy*," so the George Gershwin song goes. True, it is a time for picnics in the park, dips in the pool, golf outings, and hikes in the mountains.

But summer weather isn't all fun in the sun.

Violent summer storms can form quickly and stretch for hundreds of miles. Thunderstorms can produce deadly lightning capable of striking up to 10 miles away — so, even if you don't see rain you could be in harm's way.

"When planning outdoor activities, we want you to remember that lightning is extremely dangerous," says John Jensenius, National Weather Service lightning safety expert. "Lightning can kill — and even those who survive a lightning strike are often left with permanent and serious disabilities. The best advice is **'when thunder roars, go indoors'**."

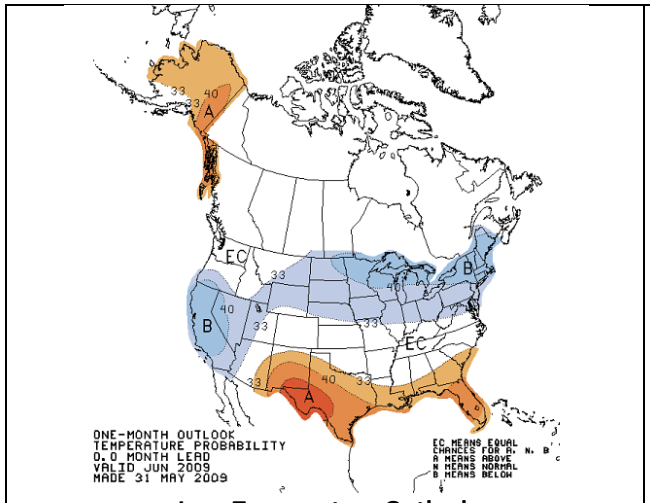


Number of Thunderstorm Watches this year is well below normal: My counterpart at the Storm Prediction Center (SPC) recently sent out an email highlighting some statistics about the low number of severe thunderstorm and tornado watches that have been issued. According to Greg Carbin, SPC issued the fewest watches during May 2009 since 1992. The average number of May watches issued since 1970 is 138. May 2009 had only 100 watches for the entire month, 38 watches fewer than the long-term normal, or about 70% of normal. The last time so few watches were issued was in May was in 1992, when 92 watches were issued during the month.

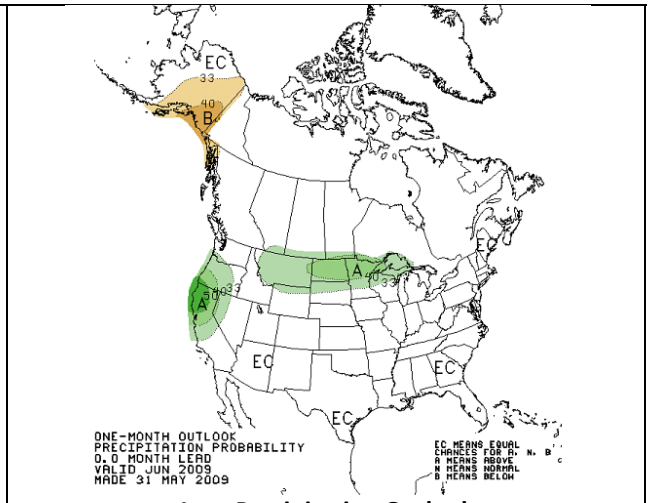
MAY	SVR Watches	TOR Watches	All Watches
2009	69	31	100
2008	61	103	164
2007	58	54	112
2006	124	34	158
2005	122	23	145
2004	141	85	226
2003	132	129	261
2002	127	46	173
2001	125	35	160
2000	119	53	172
1999	100	57	157
1998	132	87	219
1997	94	56	150
1996	147	88	235
1995	123	118	241
1994	104	32	136
1993	88	44	132
1992	58	34	92
1991	138	70	208
1990	101	74	175
1989	120	99	219
1988	62	35	97
1987	68	30	98
1986	51	46	97
1985	57	52	109
1984	30	51	81
1983	49	68	117
1982	31	90	121
1981	32	42	74
1980	42	54	96
1979	20	24	44
1978	36	63	99
1977	22	68	90
1976	19	49	68
1975	53	73	126
1974	49	53	102
1973	30	88	118
1972	38	30	68
1971	55	72	127
1970	64	49	113

Photos by Tom Warner

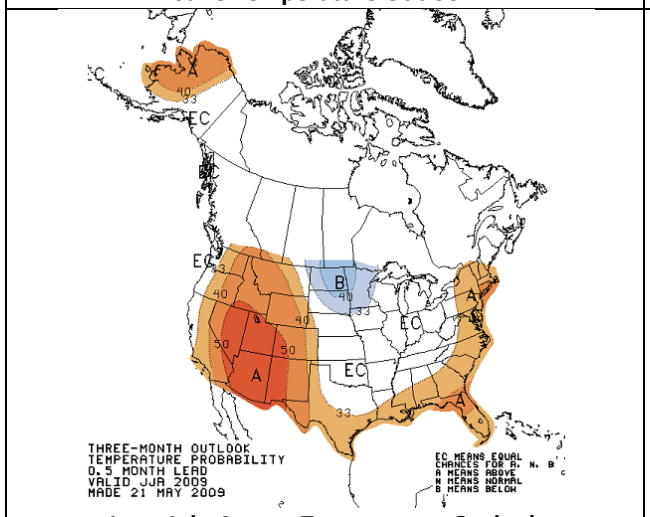
Climate Prediction - Summer 2009 and Winter 2009-2010 Outlook: The Climate Prediction Center (CPC) has released the latest outlooks for this summer. One item of interest is that it looks like the Pacific Ocean equatorial region is warming, indications that we may see an El Nino event developing. El Nino traditionally brings us warmer and drier winter conditions, and the recent outlooks from CPC are leaning that direction as well.



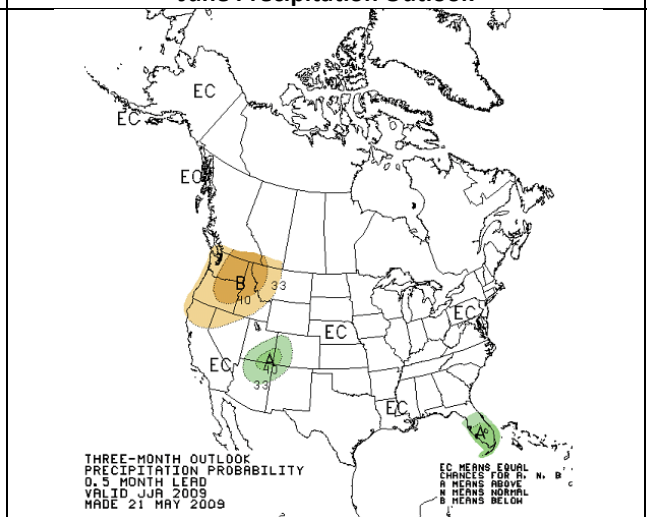
June Temperature Outlook



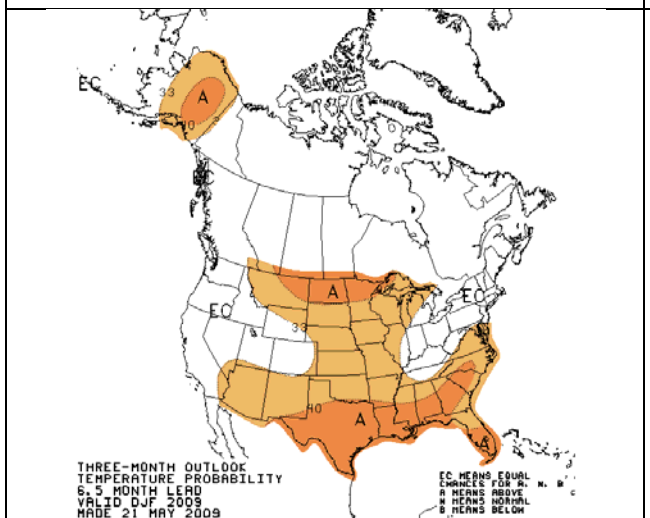
June Precipitation Outlook



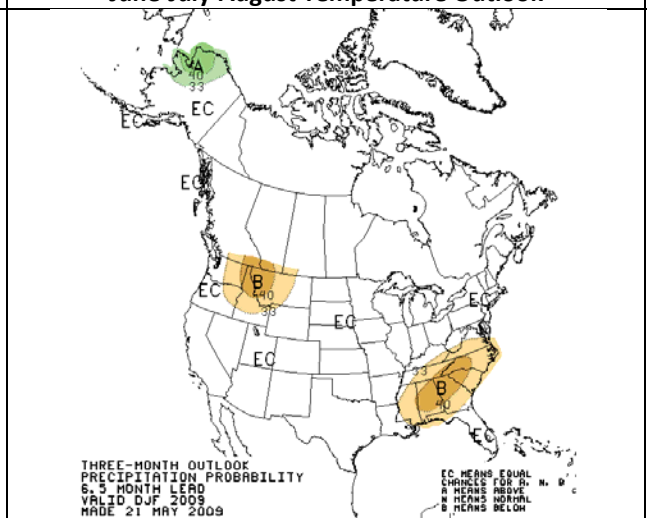
June-July-August Temperature Outlook



June-July-August Temperature Outlook



Dec-Jan-Feb Temperature Outlook



Dec-Jan-Feb Precipitation Outlook

Weather Around the Globe:

Slow start to US Hurricane season: http://www.msnbc.msn.com/id/30930221/

Generators and Video Games, Another Storm Hazard?
http://www.usatoday.com/news/health/2009-05-25-generators_N.htm?csp=34

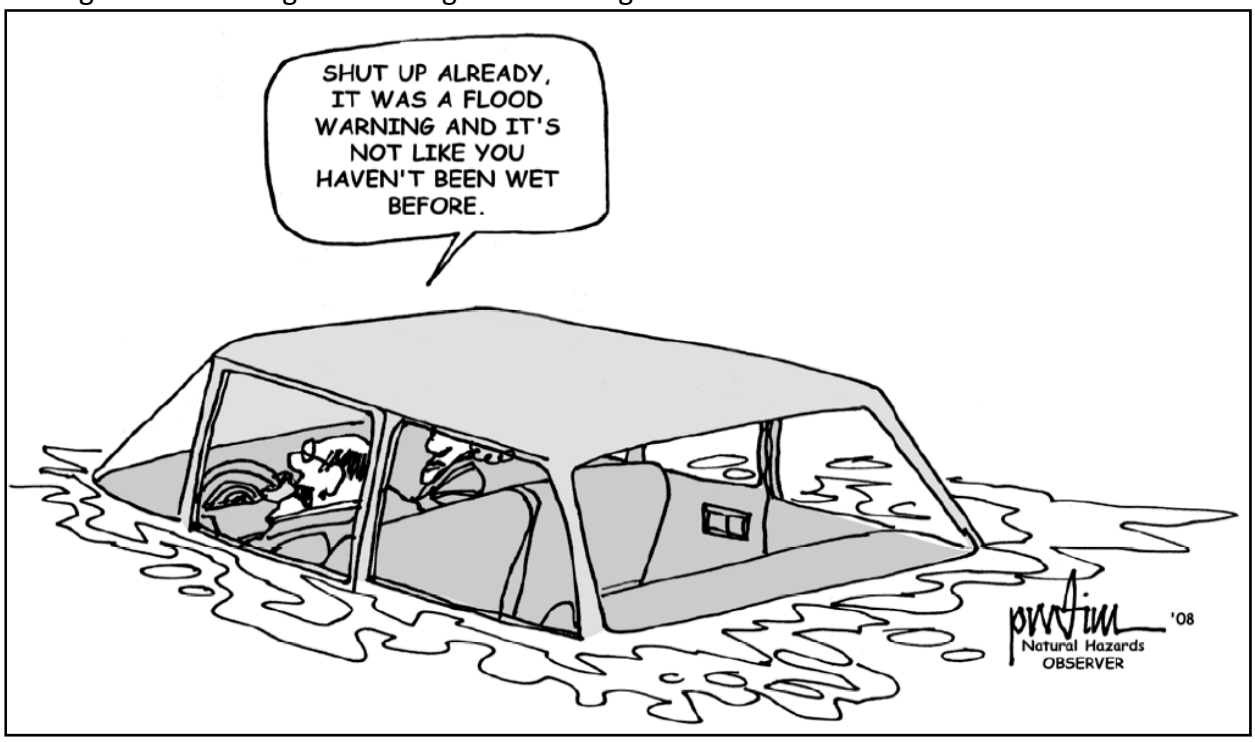
Amazon River flooding impacts and climate change:
http://www.usatoday.com/weather/2009-05-25-amazon-drought-and-floods_N.htm?csp=34

North Dakota farmland, too wet to plant: http://www.msnbc.msn.com/id/30853607/
18 million…number of sandbags used in ND: http://www.msnbc.msn.com/id/30872094/

Heavy Rains on Australia's East Coast, some areas under 30 feet of water:
http://www.msnbc.msn.com/id/30886460/

Cyclone Aila kills almost 200 people in India and Bangladesh: Mudslides from heavy rains and flash flooding destroy thousands of homes and villages. What is interesting to point out is that while these deaths are one of the biggest events of the year, it doesn't come anywhere close to the nearly 150,000 deaths from Cyclone Nargis that hit Myanmar (Burma) last May. India and Bangladesh are much better prepared to notify the public and respond to events. Although the death toll was low, there are still 2.3 million people affected directly or stranded by it.
http://www.msnbc.msn.com/id/30930221/

Humor for the Week: Given that our June precipitation outlook is for above normal in our area, I thought it would be good to bring in something flood related. ☺



Interesting United States Weather Facts and Extremes: One of the instructors at the Fort Peck Tribal College sent me the following email. While I haven't checked every one for validity, it does give you an overall feel for weather differences and similarities across the US.

Top 10 cities with most weather variety - Based on temperature variation, precipitation, wind, severe weather: 1. Springfield, Missouri 2. Topeka, Kansas 3. Rochester, Minnesota 4. Wichita, Kansas 5. Columbia, Missouri 6. Des Moines, Iowa 7. Lincoln, Nebraska 8. Madison, Wisconsin 9. Concordia, Kansas 10. Sioux City, Iowa

Top 10 cities with least weather variety - Based on temperature variation, precipitation, wind, severe weather: 1. San Francisco, California 2. San Diego, California 3. Los Angeles, California 4. Santa Barbara, California 5. Eureka, California 6. Long Beach, California 7. Honolulu, Hawaii 8. Santa Maria, California 9. San Luis Obispo, California 10. Kahului, Hawaii

Top 10 Tornado states - Avg number of tornadoes per 10,000 square miles, occurring from 1953-2004: 1. Florida 9.4 2. Oklahoma 8.2 3. Kansas 6.7 4. Iowa 6. 6 5. Illinois 6.2 6. Indiana 6.1 7. Mississippi 5.7 8. Maryland 5.7 9. Louisiana 5.6 10. Texas 5.2

10 all-time hottest temperatures - Obtained from state temperature records, NCDC: 1. Death Valley, California 134 2. Lake Havasu, Arizona 128 3. Laughlin, Nevada 125 4. Lakewood, New Mexico 122 5. Alton, Kansas 121 6. Steele, North Dakota 121 7. Ozark, Arkansas 120 8. Tipton, Oklahoma 120 9. Seymour, Texas 120 10. Usta, South Dakota 120

10 all-time coldest temperatures - Obtained from state temperature records, NCDC: 1. Prospect Creek, Alaska -80 2. Rogers Pass, Montana -70 3. Peters Sink, Utah -69 4. Riverside, Wyoming -66 5. Maybell, Colorado -61 6. Tower, Minnesota -60 7. Parshall, North Dakota -60 8. Island Park Dam, Idaho -60 9. McIntosh, South Dakota -58 10. Couderay, Wisconsin -55

10 hottest cities - Average annual temperature: 1. Key West, Florida 77.7 2. Miami, Florida 75.6 3. W Palm Beach, Florida 74.6 4. Ft. Myers, Florida 73.9 5. Yuma, Florida 73.9 6. Brownsville, Texas 73.6 7. Orlando, Florida 72.4 8. Vero Beach, Florida 72.4 9. Corpus Christi, Texas 72.1 10. Tampa, Florida 72.0

10 coldest cities - Average annual temperature: 1. International Falls, Minnesota 36.4 2. Duluth, Minnesota 38.2 3. Caribou, Maine 38.9 4. Marquette, Michigan 39.2 5. Sault Ste Marie, Michigan 39.7 6. Fargo, North Dakota 40.5 7. Williston, North Dakota 40.8 8. Alamosa, Colorado 41.2 9. Bismarck, North Dakota 41.3 10. St. Cloud, Minnesota 41.4

10 driest cities - Avg annual precipitation in inches: 1. Yuma, Arizona 2.65 2. Las Vegas, Nevada 4.19 3. Bishop, California 5.61 4. Bakersfield, California 5.72 5. Phoenix, Arizona 7.11 6. Alamosa, Colorado 7.13 7. Reno, California 7.49 8. Winslow, Arizona 7.64 9. El Paso, Texas 7.82 10. Winnemucca, Nevada 7.82

10 wettest cities - Avg annual precipitation in inches: 1. Hilo, Hawaii 128.00 2. Quillayute, Washington 104.50 3. Astoria, Oregon 69.60 4. Blue Canyon, California 67.87 5. Mobile, Alabama 64.64 6. Tallahassee, Florida 64.59 7. Pensacola, Florida 61.16 8. New Orleans, Louisiana 59.74 9. W Palm Beach, Florida 59.72 10. Miami, Florida 59.55

10 snowiest cities - Avg annual precipitation in inches: 1. Blue Canyon, California 240.8 2. Marquette, Michigan 128.6 3. Sault Ste Marie, Michigan 116.7 4. Syracuse, New York 111.6 5. Caribou, Maine 110.4 6. Mount Shasta, California 104.9 7. Lander, Wyoming 102.5 8. Flagstaff, Arizona 99.9 9. Sexton Summit, Oregon 97.8 10. Muskegon, Michigan 97.0

10 windiest cities - Avg annual wind speed in mph: 1. Blue Hill Observatory, Massachusetts 15.4 2. Dodge City, Kansas 14.0 3. Amarillo, Texas 13.5 4. Rochester, Minnesota 13.1 5. Casper, Wyoming 12.9 6. Cheyenne, Wyoming 12.9 7. Great Falls, Montana 12.7 8. Goodland, Kansas 12.6 9. Boston, Massachusetts 12.5 10. Lubbock, Texas 12.4

Largest annual temperature Variation Change in average temperature between summer and winter: 1. Fairbanks, Alaska 90.8 2. Bettles, Alaska= 20.0 3. International Falls, MN 88.8 4. Fargo, North Dakota 87 5. Williston, North Dakota 86.6 6. Aberdeen, South Dakota 86.5 7. McGrath, Alaska 86.2 8. Bismarck, North Dakota 86.1 9. Alamosa, Colorado 85.9 10. St. Cloud, Minnesota 85

More facts will be in the next newsletter!