



The Monthly Climate

May 2011

Michael Searcy

Fresh Air. The Scent of Pine.

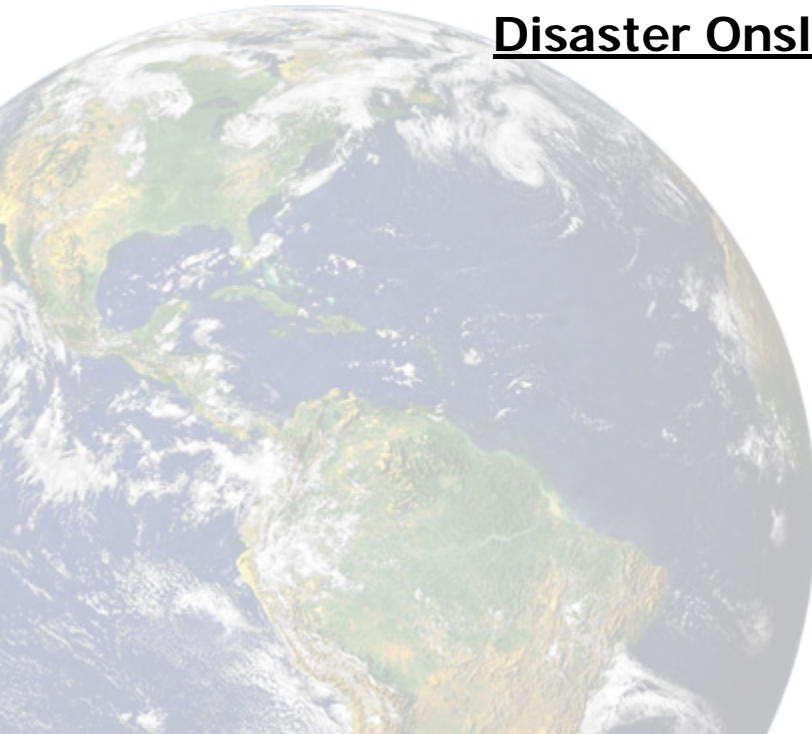
<http://scentofpine.org/2011/06/28/monthly-climate-0511/>

Quotable



The disasters just keep coming... The public truly has been very generous, but the series of tornadoes and floods is really stretching our resources.

Roger Lowe, Spokesman, Red Cross
Disaster Onslaught: Relief Groups Scramble to Cope
May 25, 2011



Highlights

■ News

- [Powerful storms pound several central US states - Yahoo! News](#)
- [Jindal: Decision on opening spillway could come Saturday - CNN.com](#)
- [Mud, debris greet Mississippi residents after flooding | Detroit Free Press | freep.com](#)
- [YouTube - Mississippi River flooding widespread](#)
- [Gallery: Amid Floods, Dwellers Turn Homes Into Islands | Popular Science](#)
- [Coast Guard says 15 miles of Mississippi closed | Reuters](#)
- [Mississippi River Flood Highlights Bailout Costs for Taxpayers - ABC News](#)
- [Corn-Planting Delays Signal Price Gain as U.S. Farmers Switch to Soybeans - Bloomberg](#)
- [Mississippi flooding to affect national economy - The Early Show - CBS News](#)
- [OPINION: After Birds Point: The Army Corps' Missouri Floodway Boondoggle | SwampLand](#)
- [Joplin, Mo., slammed by twister; 116 dead - CBS News](#)
- [Rare infection strikes some in Joplin; death toll rises to 151 | Reuters](#)
- [The Associated Press: Disaster onslaught: Relief groups scramble to cope](#)
- [State Farm storm claims hit nearly 300,000 - KansasCity.com](#)
- [Levee breach swamps insurance plan - USATODAY.com](#)
- [Grimsvotn: Unpronouncable Icelandic Volcano Once Again Causes Travel Delays - TIME NewsFeed](#)
- [Video: Colombia Heavy Rain And Flooding Damages 60 Cars In Pile Up In Barranquilla | World News | Sky News](#)
- [Manitoba breach flooding downsized - UPI.com](#)
- [BBC News - Colombia: Worst flooding in country's history](#)

Highlights

■ News (continued)

- [BBC News - Swinley Forest fire crews step up battle](#)
- [The other news from Britain: heat and drought | UCAR](#)
- [BBC News - Wildfires ravage Slave Lake in Alberta, Canada](#)
- [Drought conditions in Europe 2011](#)
- [Namibian floods affect 400 000: News24: Africa: News](#)
- [Busy 2011 Fire Season in Mexico : Natural Hazards](#)
- [The Canadian Press: As food prices spike again, aid agency warns cost of staples will double in 20 years](#)
- [Google wind farm investment: Google invests \\$55 million in Mojave Desert wind farm - latimes.com](#)
- [Investors Blast 43 Firms for 'Contradictory' Climate Stance - Environmental Leader](#)
- [Chris Christie: Global warming is 'real,' but program is ineffective - Darren Samuelsohn - POLITICO.com](#)
- [New Jersey Gov. Chris Christie pulls out of greenhouse gas effort - The Washington Post](#)
- [NH Senate opts to change, not leave, emission plan - BusinessWeek](#)
- [Texas Files Challenge to EPA "Endangerment Finding" - The Texas Tribune](#)
- [U.Va. to release climate change papers to interest group | HamptonRoads.com | PilotOnline.com](#)
- [Climate Change Suit Challenges U.S. Government - NYTimes.com](#)
- [Boulder County youths sue state over climate change - Boulder Daily Camera](#)
- [Republicans shift on climate change | StarTribune.com](#)
- [Do trees cause global warming? - Darren Samuelsohn - POLITICO.com](#)

Highlights

■ News (continued, 2)

- [U.N. clean energy scheme grows, 3,000 projects so far | Reuters](#)
- [IEA sees record CO2 emissions in 2010 | Reuters](#)
- [Research Panel Says Climate Change Doubts Slow Urgent Action - Bloomberg](#)
- [Ailing UN climate talks jolted by record surge in greenhouse gases | Environment | The Guardian](#)
- [Climate Scientist Fears His "Wedges" Made It Too Easy](#)
- [Nobel Laureates to World: Let's Not Consume Ourselves to Death – National Geographic News Watch](#)
- [Climate Change Tops Agenda At Meteorological Congress - Irish Weather Online](#)
- [U.K. Drops CO2 Offset Quality Program, Carbon Retirement Says - Bloomberg](#)
- [Britain Declares Greenhouse Gas Cuts - Ecocentric - TIME.com](#)
- [Scientists foresee faster sea level rise along New Jersey coast | The Asbury Park Press | APP.com](#)
- [Feds considered hiring PR firm to polish image of oilsands](#)
- [Canada climate report hides oil sands data - UPI.com](#)
- [German nuclear cull to add 40 million tones CO2 per year | Reuters](#)
- [Japan disaster sways Germany to abandon nuclear power | The Tennessean | tennessean.com](#)
- [Combet ends solar panel subsidies early](#)
- [AFP: Australians turning off carbon tax: poll](#)
- [Storm warning : Nature : Nature Publishing Group](#)
- [Gas Firms Dispute Methane Contamination Study](#)

Highlights

■ Reports

- [Spring 2011 U.S. Climate Extremes](#)
- [Ross Garnaut's carbon cash plan for households | Adelaide Now](#)
- [Seas could rise up to 1.6 metres by 2100: study | Reuters](#)
- [Australia Climate Commission - The Critical Decade](#)
- [Study Raises Doubts on Capturing Carbon Dioxide From Air - NYTimes.com](#)
- [Mega-fires may be contributing to climate change, UN report finds](#)
- [Growing a Better Future | Oxfam International](#)



Highlights

■ Research

- [Climate science critic sees paper retracted due to plagiarism](#)
- [Accelerating ice loss from the fastest Greenland and Antarctic glaciers](#)
- [Why does the Antarctic Peninsula Warm in climate simulations?](#)
- [Acceleration and spatial rheology of Larsen C Ice Shelf, Antarctic Peninsula](#)
- [Relative sea-level fall since the last interglacial stage: Are coasts uplifting worldwide?](#)
- [West Coast Sea Level Changes in the Wind : Discovery News](#)
- [Sinking ships: conservation options for endemic taxa threatened by sea level rise](#)
- [Climate change, sea level rise and rice: global market implications](#)
- [Climate Trends and Global Crop Production Since 1980](#)
- [Climate, icing, and wild arctic reindeer: past relationships and future prospects](#)
- [PLoS ONE: Long-Term Climate Forcing in Loggerhead Sea Turtle Nesting](#)
- [Predicting small-mammal responses to climatic warming](#)
- [Fishing impact amplifies the sensitivity of exploited marine populations to climate variability](#)
- [BBC News - Bubbling sea signals severe coral damage this century](#)
- [PLoS ONE: Climate Change Affects Winter Chill for Temperate Fruit and Nut Trees](#)
- [Climate Change Linked to Social Collapses in Greenland Since 800 B.C.: Scientific American](#)
- [Study: Seaports unready for climate change - UPI.com](#)

Highlights

■ Research (continued)

- Seaports need a plan for weathering climate change, say Stanford researchers
- More fatalities predicted from heat waves caused by climate change: study
- Allergies getting worse, but why is unclear - TODAY Health - TODAY.com
- NSF News - Global Warming Will Not Significantly Affect Wind Energy Production
- Assessing climate change impacts on the near-term stability of the wind energy resource over the United States
- Methane Found in Water Near Gas-Drilling Sites, Study Says - TIME
- Empirical Mode Decomposition applied to solar irradiance, global temperature, sunspot number, and CO2 concentration data
- Evidence that cosmic rays seed clouds - physicsworld.com
- Evidence for a weakening of tropical surface wind extremes in response to atmospheric warming
- Predicting El Nino, La Nina & Climate Change - Our Amazing Planet
- Poleward Shift of Subtropical Jets Inferred from Satellite-observed Lower Stratospheric Temperatures
- Recent trends of the tropical hydrological cycle
- Persisting cold extremes under 21st-century warming scenarios
- Beyond ocean acidification : Nature Geoscience : Nature Publishing Group
- Shifts in biogenic carbon flow from particulate to dissolved forms under high carbon dioxide and warm ocean conditions

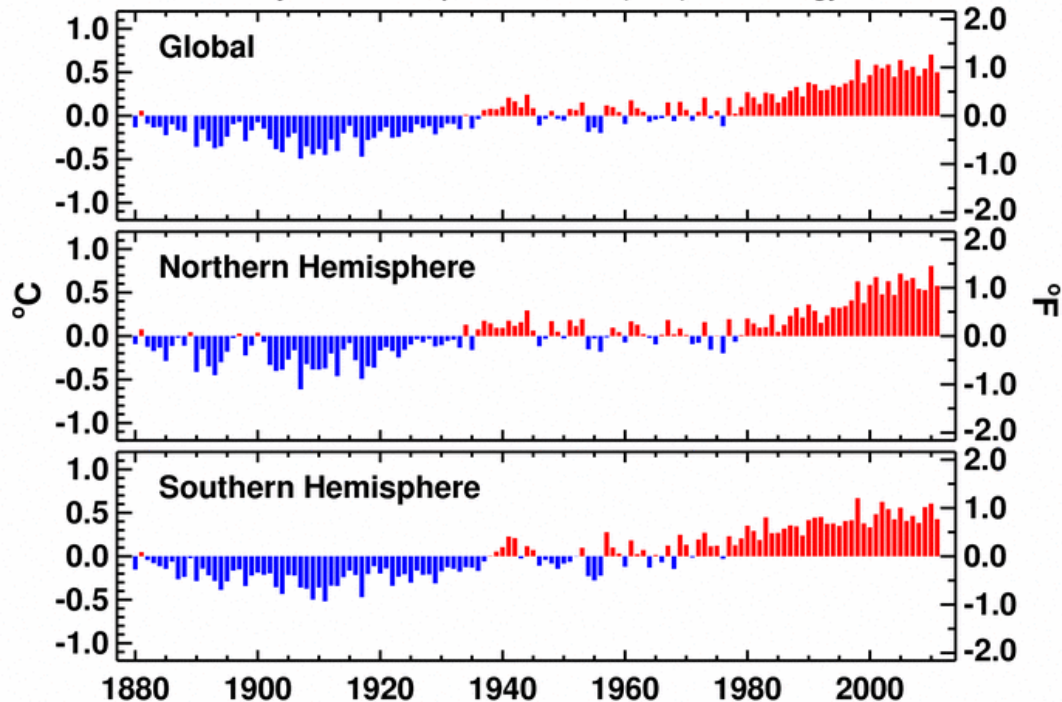
May 2011 – In Brief

Temperature and Precipitation Anomalies

May Land & Ocean Surface Mean Temp Anomalies

NCDC/NESDIS/NOAA

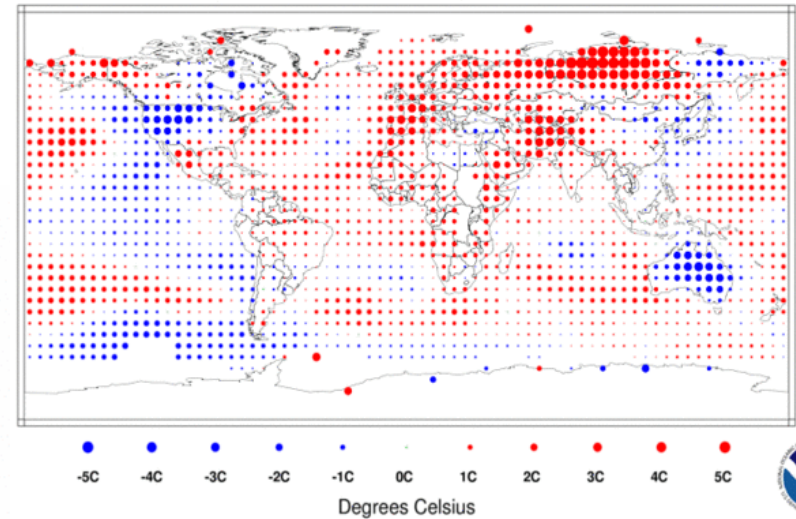
Analysis is based upon Smith et al. (2008) methodology.



Temperature Anomalies May 2011

(with respect to a 1971-2000 base period)

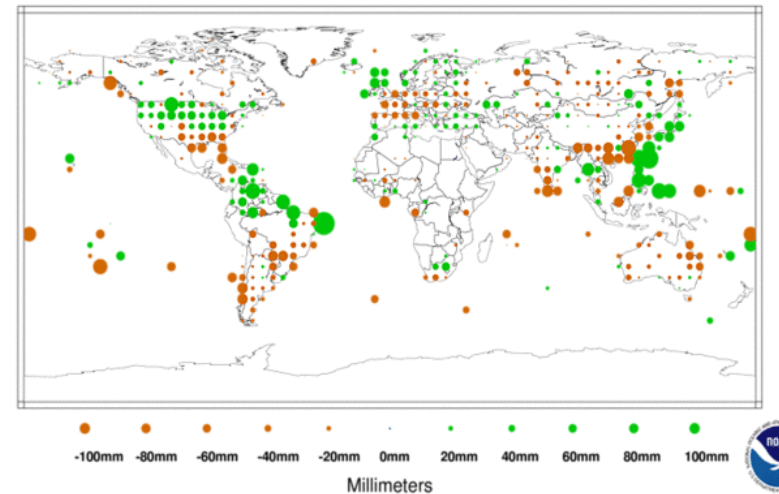
National Climatic Data Center/NESDIS/NOAA



Precipitation Anomalies May 2011

(with respect to a 1961-1990 base period)

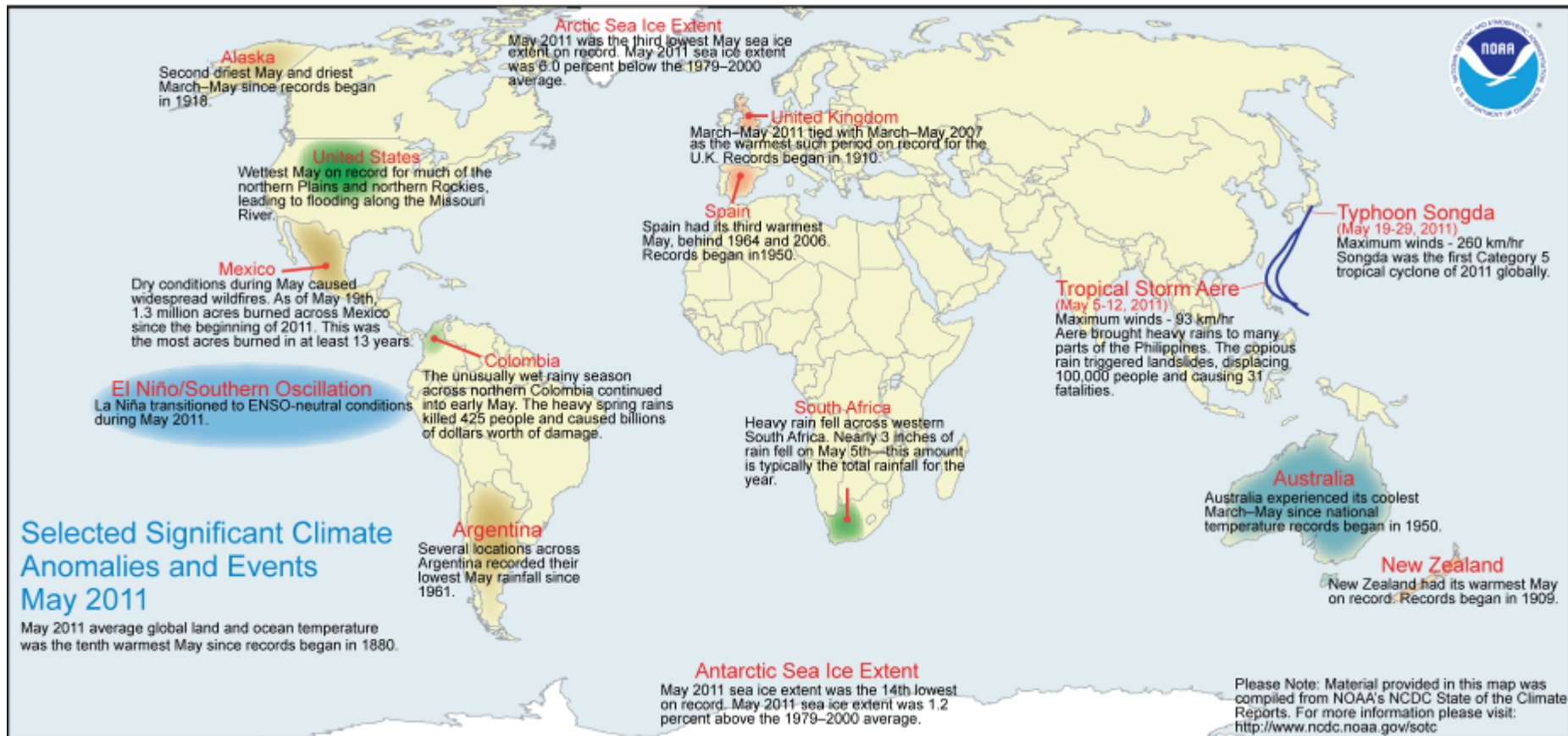
National Climatic Data Center/NESDIS/NOAA



Source: <http://www.ncdc.noaa.gov/sotc/global/>

May 2011 – In Brief

Select Climate Anomalies and Events



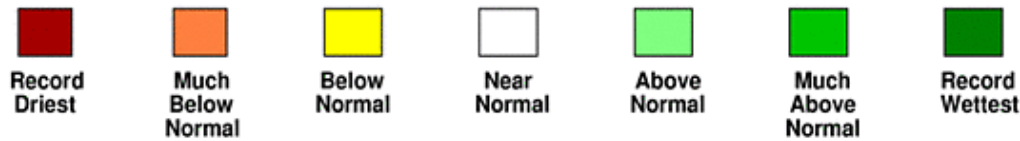
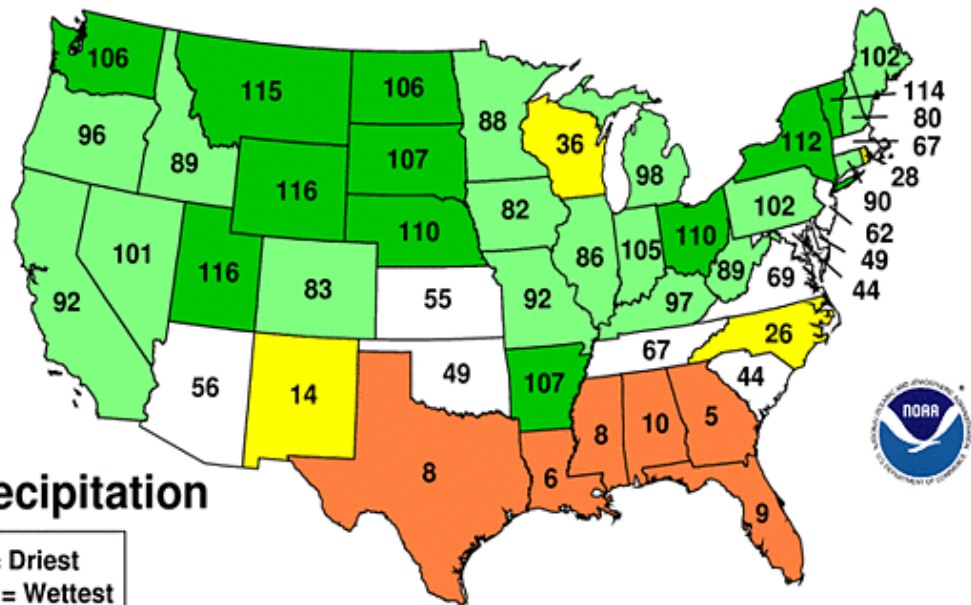
Source: <http://www.ncdc.noaa.gov/sotc/global/>

May 2011 – In Brief

U.S. Divided By Extreme Wet and Extreme Dry Regions

May 2011 Statewide Ranks

National Climatic Data Center/NESDIS/NOAA



Year	Month	US % Severe to Extreme		
		Dry	Wet	Total
1934	7	63.1	0.9	64.0
1934	8	62.0	0.0	62.0
1934	6	55.4	0.7	56.1
1954	9	50.1	4.8	54.9
2011	5	19.5	35.2	54.7

More of the country experiencing severe to extreme wet and dry conditions concurrently than any month since record-keeping began in 1895

May 2011 – In Brief

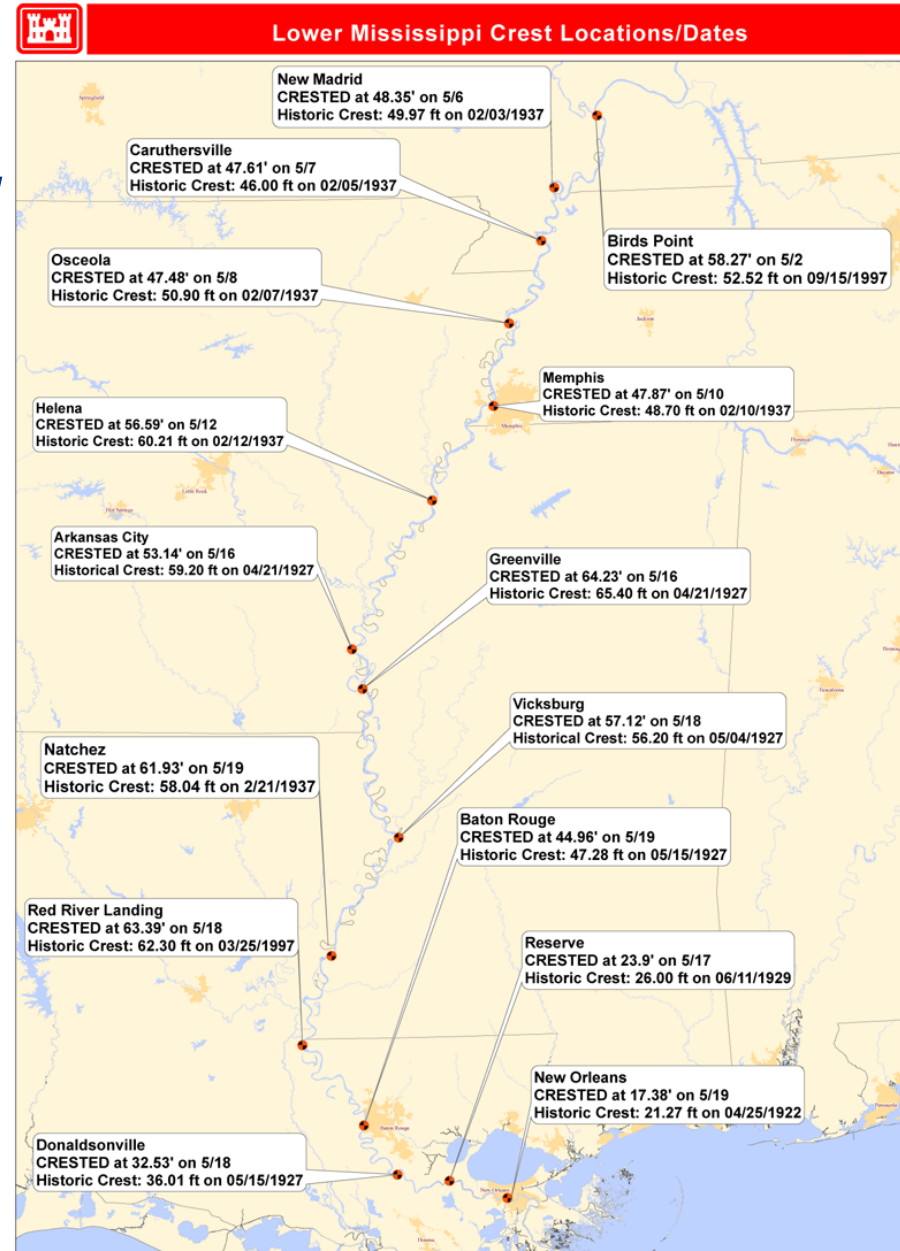
Massive Flooding on Mississippi, Ohio, and Missouri Rivers



Pin Hook, Missouri flooded from Birds Point levee breach

6.8 million acres washed out by flooding including 3.5 million acres of farmland in the lower Mississippi River Valley

Image credit: Steve Zumwalt/FEMA



May 2011 – In Brief

Deadliest Tornado in Modern History Devastates Joplin, MO



Image credit: Google Earth

1,482 preliminary tornado reports in the U.S. since Jan 1. The current record is 1,011 from 2008 for the first five months of the year.

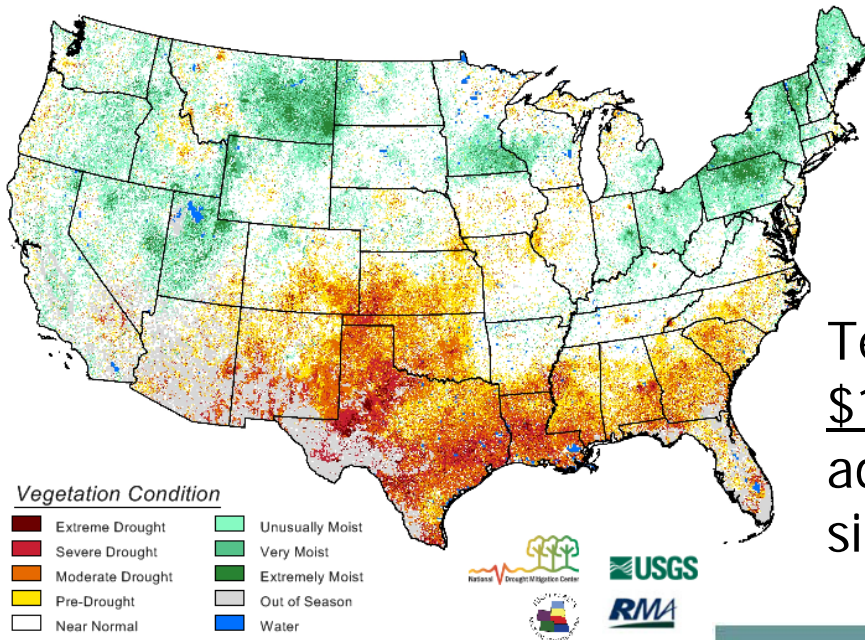
EF-5 tornado responsible for more than 150 deaths and 1,000 injuries

May 2011 – In Brief

Severe Drought Impact to Crop Production

Vegetation Drought Response Index
Complete

May 30, 2011



Severe spring weather events cause estimated \$12 billion in damages



Texas wheat yields drastically reduced or non-existent by drought

Image credit: Robert Burns
Texas Agrilife Extension Service

Texas ranchers lose estimated \$1.2 billion on crops and additional \$1 billion on livestock since Nov 2010

Spring 2011 Billion Dollar Weather Disasters*

Date(s)	Event	Estimated Damages
April 14 th -16 th	Severe Weather Outbreak	~1.7–3 billion U.S. dollars
April 25 th -30 th	Southeast Tornado Outbreak	~5–6 billion U.S. dollars
Spring	Mississippi River Flooding	~2–4 billion U.S. dollars
Spring	Texas Drought	~1.5–3 billion U.S. dollars
May 22 nd	Joplin, Missouri Tornado	~1–3 billion U.S. dollars

May 2011 – In Brief

Extreme Weather Around the World

Namibian desert in Africa receives yearly rainfall amount in a single day



Image credit: Dr. Frank Eckardt
University of Cape Town,

Columbia experiences the nation's worst flooding in history



Image credit: BBC

Firefighters in England battle the largest fire in the country's history



Image credit: sleepymyf / Flickr

May 2011 – In Brief

Ice Loss in Arctic, Antarctica, and Greenland

Significant ice loss from Antarctic Larsen C ice shelf due to thinning and fracturing



Image credit: NSIDC

Greenland ice melt unprecedented in last 50 years and accelerating



Image credit:
Lars Witting / ARC-PIC.COM



Image credit: Ian Mackenzie

Last six years in Arctic warmest ever recorded with melting likely to eliminate interior land access

May 2011 – In Brief

Climate Change to Impact Cities, Ports, and Crops

"It is beyond reasonable doubt that human activities...are triggering the changes we are witnessing in the global climate."

Australia Climate Commission
"The Critical Decade"

Image credit: cammy♥claudia / Flickr



Image credit: Terence Faircloth / Flickr



Image credit: Cyrus Farivar / Flickr



- Corn and wheat production reduced 3.8% and 5.5% from 1980 to 2008
- Cities like Chicago may experience over 2,000 deaths/year from heat waves
- Global seaports unprepared to deal with rising sea levels

May 2011 – In Brief

Ecosystems Impacted

Arctic reindeer populations may be stunted
by limited access to winter food supplies



Image credit: Billy Lindblom / Flickr

Image credit:
Katharina Fabricius



Coral reefs expected to be
severely degraded by 2100 due
to acidifying oceans



North Pacific loggerhead turtle populations
decline while Northwest Atlantic populations
expand under changing climates

Additional Resources

■ Informational Sites

- [NOAA – State of the Climate](#)
- [Fresh Air. The Scent of Pine. – Research Links](#)
- [Skeptical Science](#)
- [NASA – Global Climate Change](#)
- [NOAA Climate Services](#)
- [U.S. Global Change Research Program](#)
- [UK Met Office – Climate Change](#)
- [National Geographic – Global Warming](#)

■ Weekly News & Research Summaries

- [Climate Central](#)
- [The Earth Institute – Columbia University](#)
- [AGW Observer](#)
- [A Few Things Ill Considered](#)

