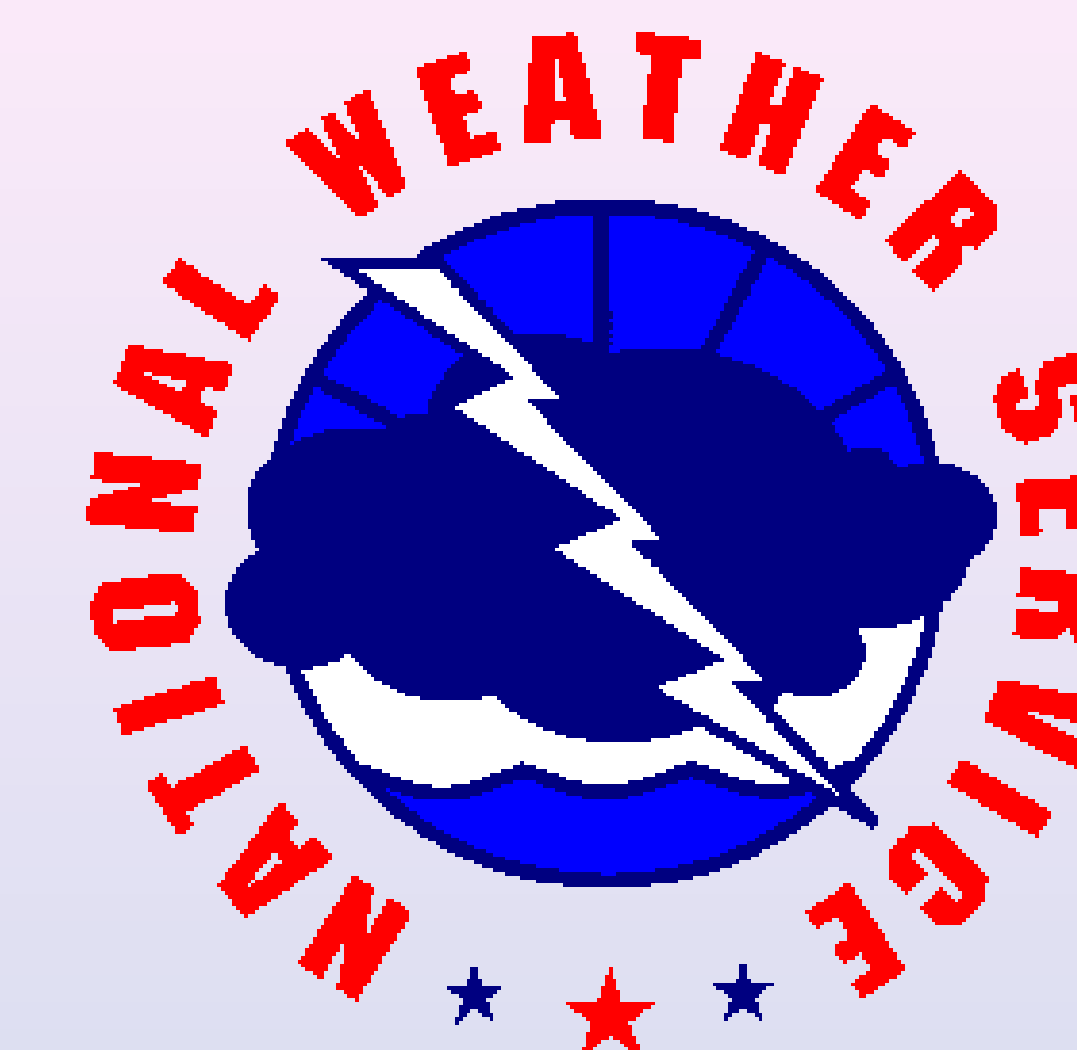


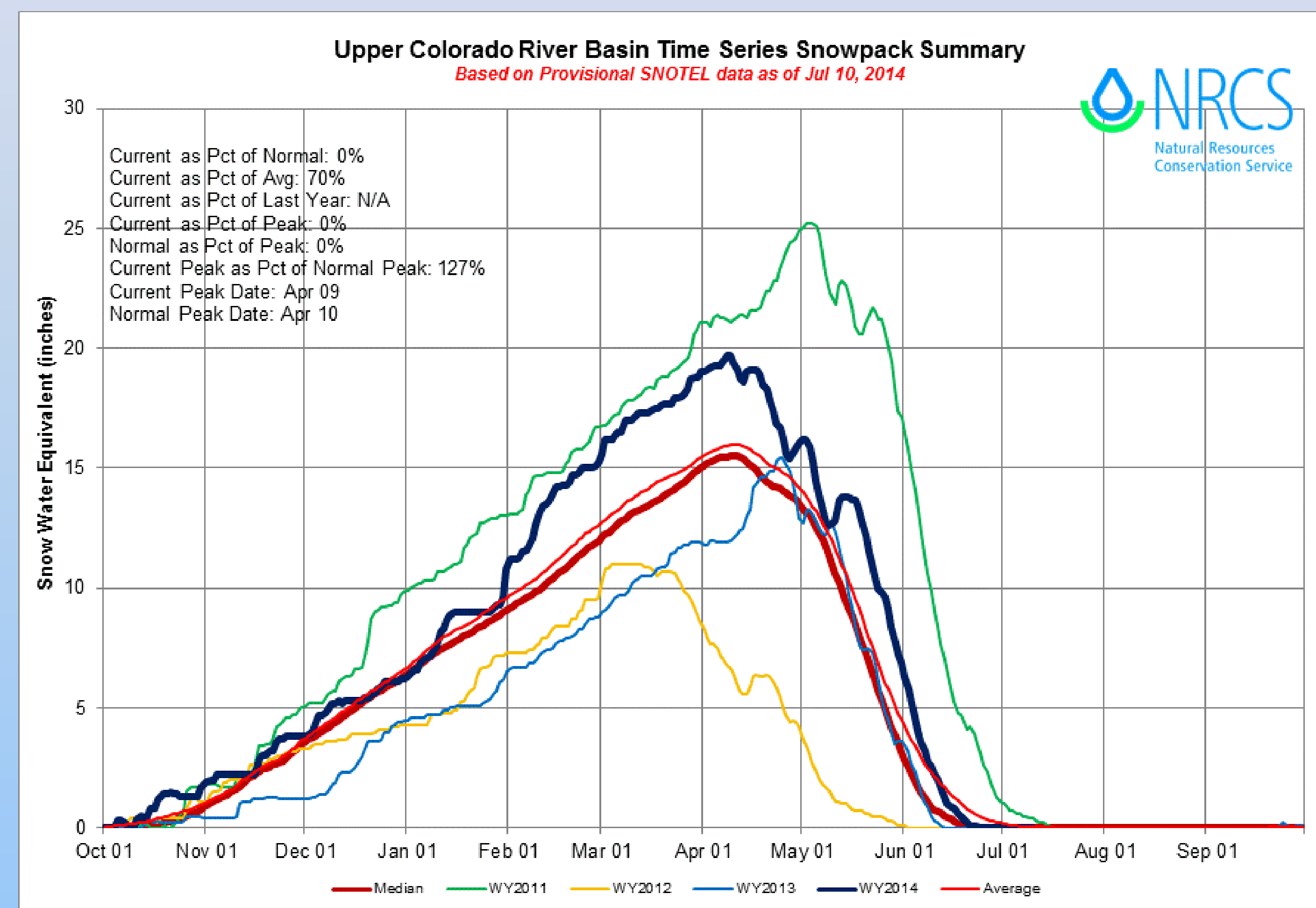
The 2014 Water Year for Western Colorado and Eastern Utah: Impacts and Mitigation



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Overview

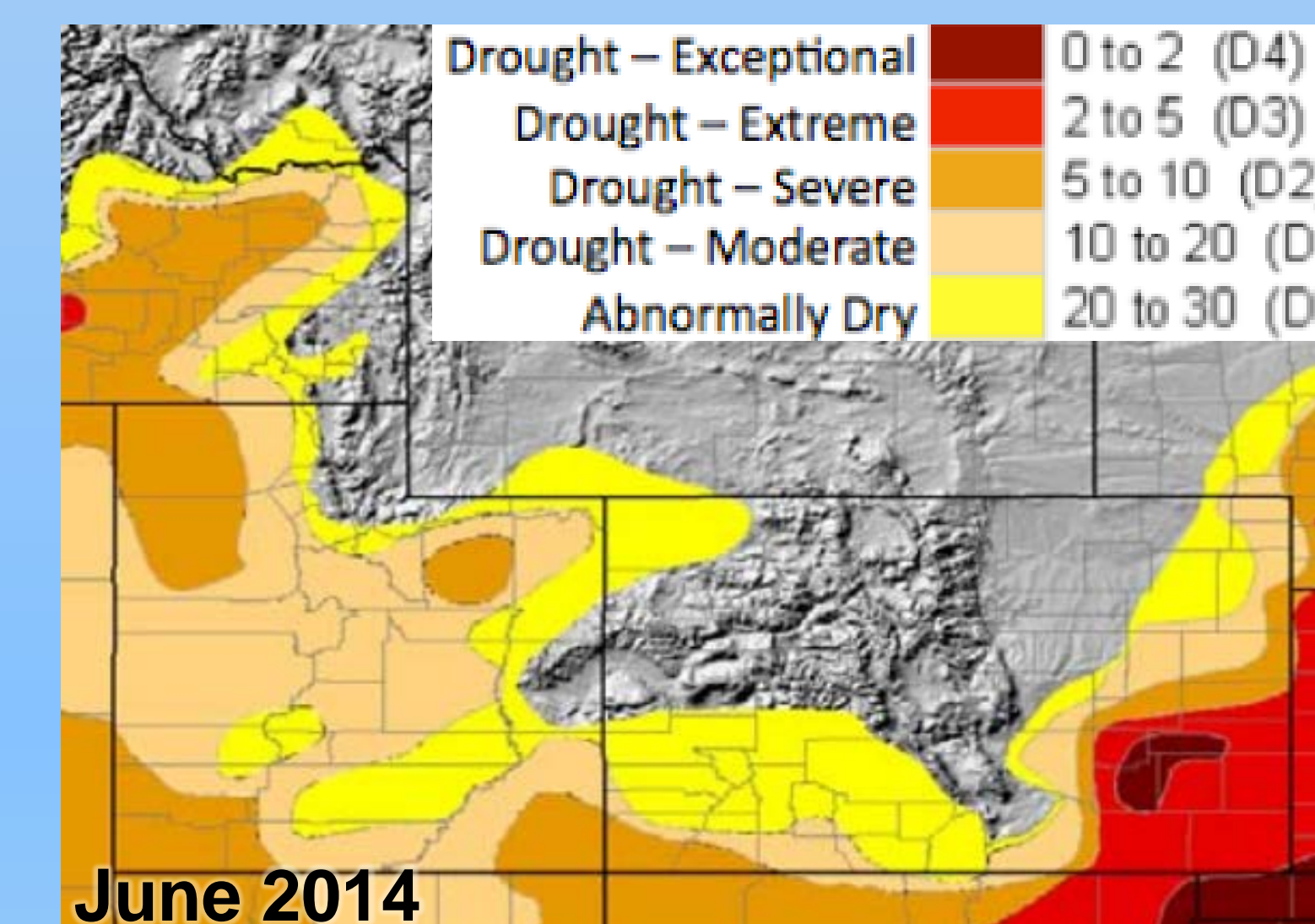
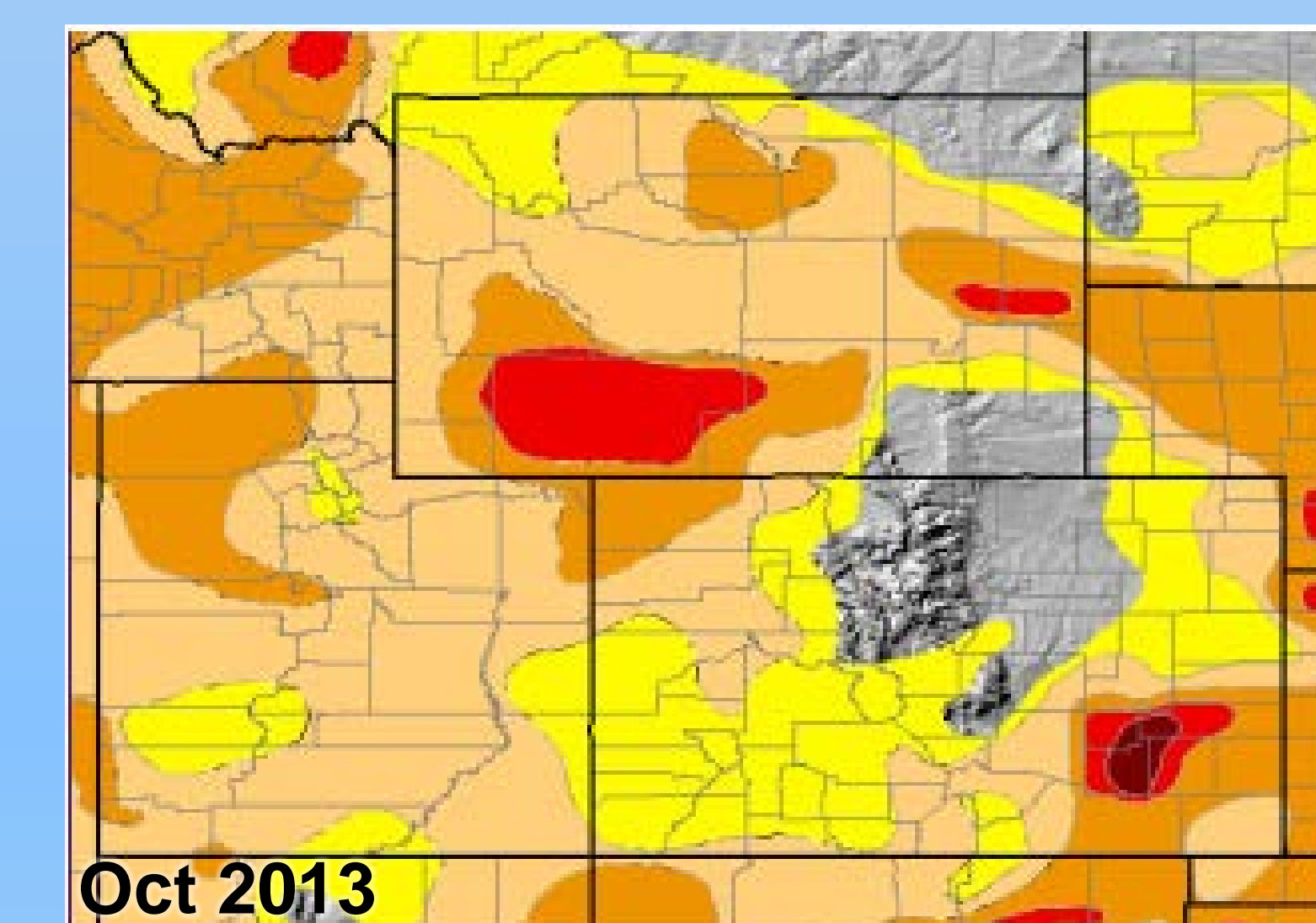
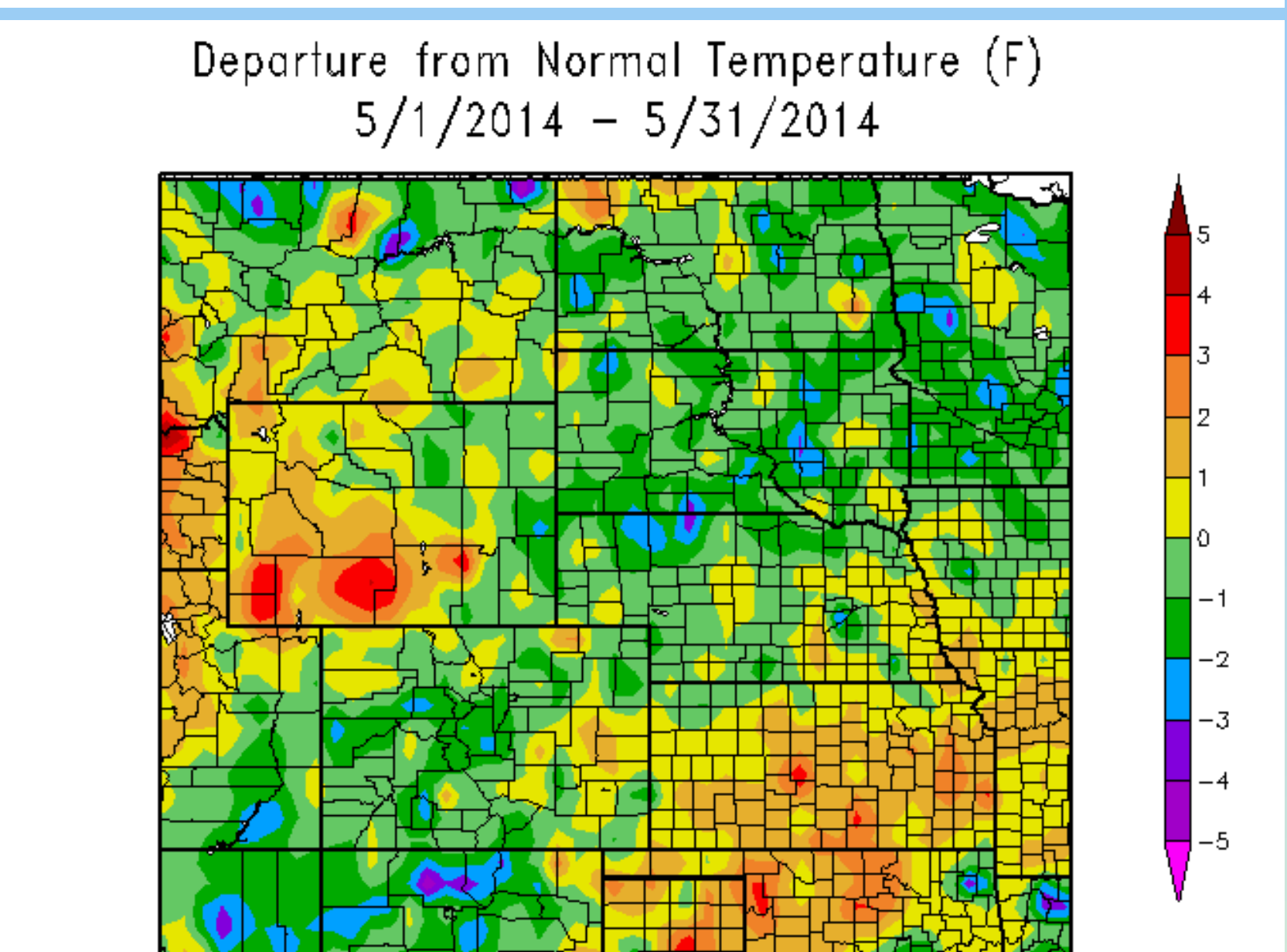
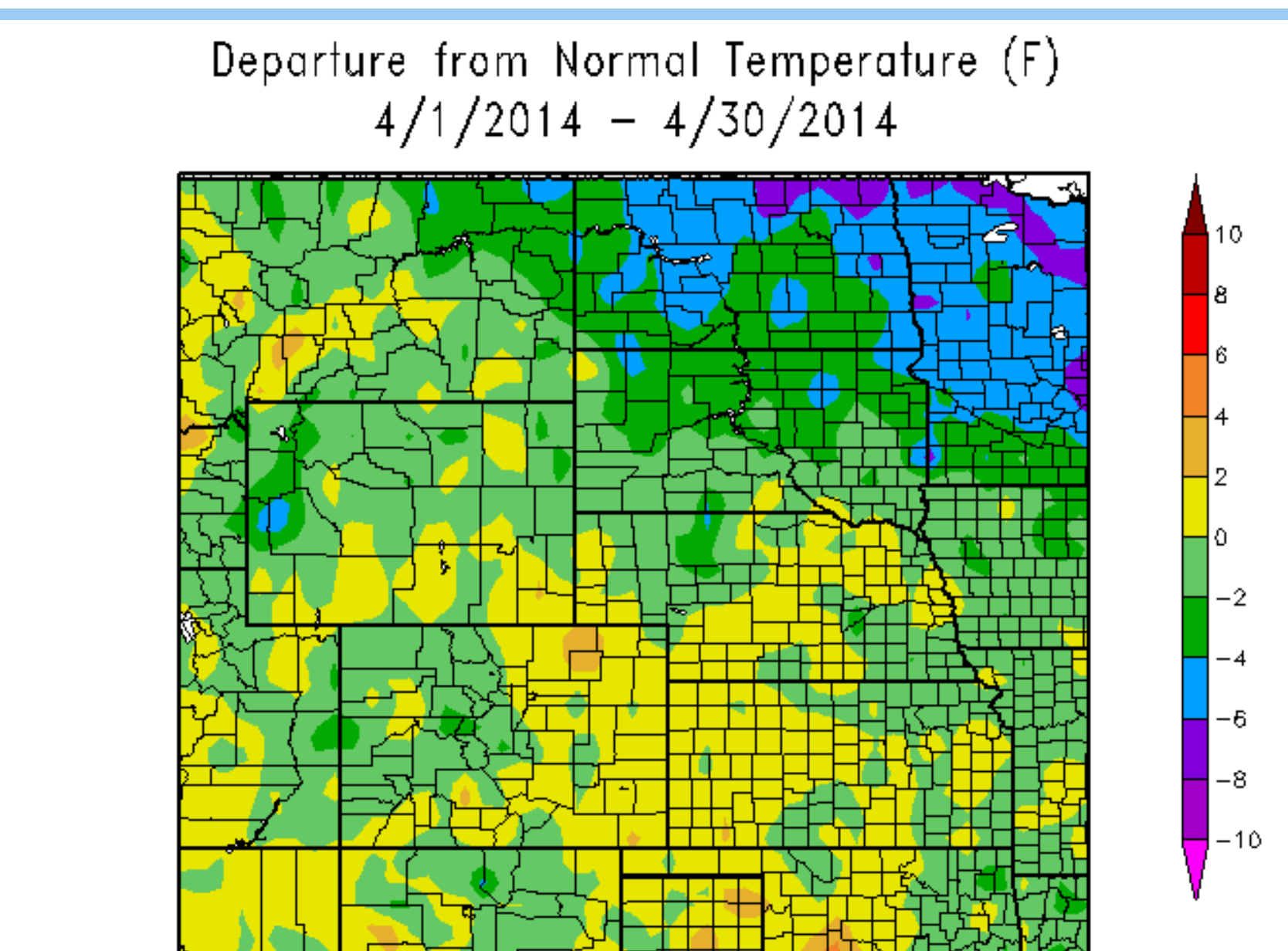
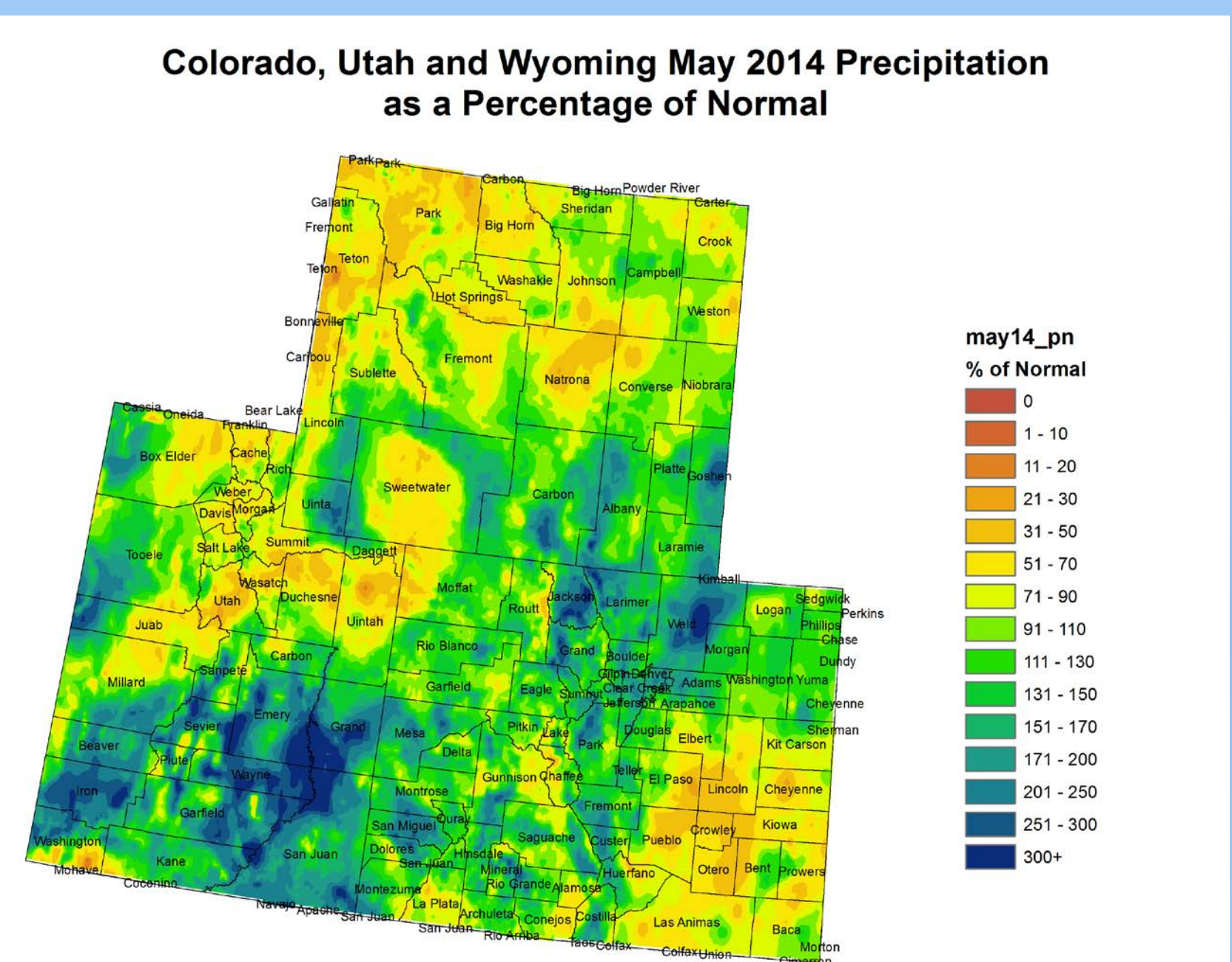
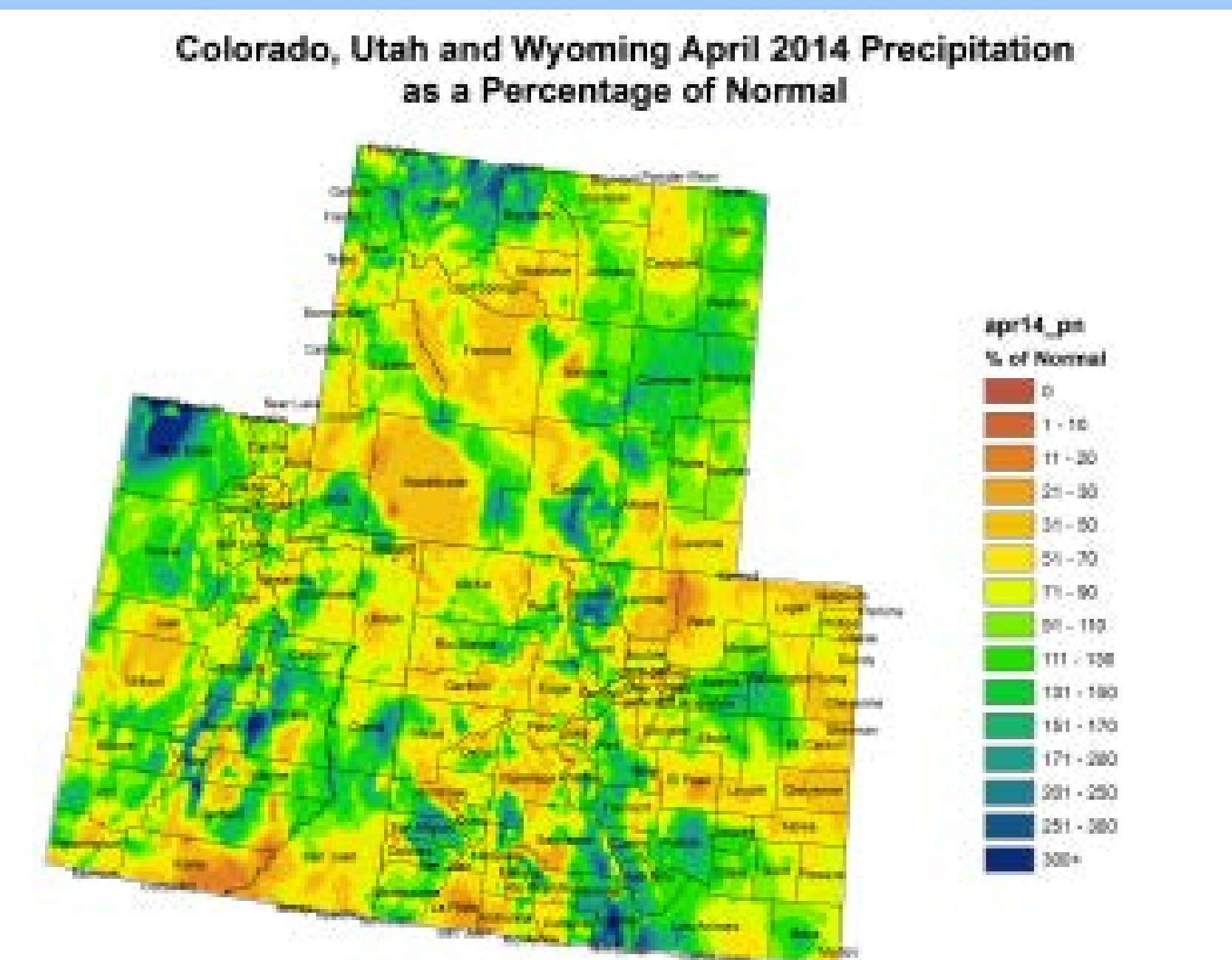
- Above normal precipitation occurred during the late summer/early fall 2013 providing abundant antecedent soil moisture.
- Very active storm track which produced an anomalously heavy snowpack by spring.
- Cool and wet spring allowed snowpack to run off more gradually.
- Significant “dust on snow” deposition occurred, accelerating lower snowpack melt, but higher snowpack was refreshed more often with frequent storms in the spring.
- River flood highlights were issued for 22 consecutive days, but no severe flooding was observed.
- Drought conditions improved over the northern two-thirds of eastern Utah and western Colorado due to a surplus of precipitation during the water year.



- Above normal precipitation occurred during September and October 2013.
- Above normal snowfall (February into the spring) wet period.
- Central to northern mountains of western Colorado and southwestern Wyoming well above normal snowpack.
- Southwest Colorado and eastern Utah below to well below normal snowpack.

Mitigation and Impacts

- Provided river forecast/outlook and weather forecast/outlook to support to Emergency management and water agency operations during spring runoff season.
- Facilitated conference calls
- Mass e-mails
- Individual phone calls
- Presentations at meetings: Aspinall, Mesa County Emergency Manager (EM), Uncompahgre Valley water users. Regional EM
- Participated in a regional dam break exercise.
- Decision support for large landslide. Provided technical and weather support.
- CROS (Coordinated Reservoir Operations) weather/climate outlook support.
- Aspinall Unit Spring Operations – had target flows on the lower Gunnison River to reach. Coordinate with natural flows and releases to reach targets and not flood Grand Junction CO. Weather/climate outlook support. CBRFC - water supply forecasts.



- The U.S. Drought Monitor map is shown above for October 2013 (left) and June 2014 (right).
- The 2014 water year precipitation provided a surplus across the northern two-thirds of western Colorado and eastern Utah improving drought concerns in those areas.
- Areas near the Four Corners region showed some degradation down to the D2 category.

May 25, 2014 Landslide



- The photographs above, (left) Grand Mesa and (right) Independence Pass in the central Colorado mountains show the profound dust deposition which occurred during the 2014 spring months.
- Ten dust events occurred during the water year with the first on February 24th and the last on June 19th.
- Significantly altered snow albedo across the region.
- Photos courtesy of Center for Snow and Avalanche Studies (www.codos.org).



On May 25, 2014, a large landslide occurred near the town of Collbran covering an area three miles long and three-quarters of a mile wide. It claimed the lives of three people. Rainfall estimates near the slide were ~ 1 inch (2.5 cm). However, antecedent moisture, moist ground due to runoff, and unstable geology were believed to be the main factors which caused the slide.

- April precipitation was above normal across east-central Utah, the northern mountains of Colorado and areas of southwest Colorado, and at or below normal elsewhere.
- May precipitation was above to much above normal for most of the region with amounts 300% of normal in some areas. Below normal precipitation was observed in northeast Utah and northwest Colorado.
- Average monthly temperatures remained 1 to 2 degrees (F) below normal for both April and May.