June 15, 2010

NIDIS - UPPER COLORADO BASIN PILOT PROJECT

Weekly Climate, Water & Drought Assessment
- Assessment of current water conditions
- Precipitation Forecast
- Recommendations for Drought Monitor
Precipitation/Snowpack Update
Colorado, Utah and Wyoming May Precipitation (in)

**may_10_ppt**

**PPT**
- 0.00
- 0.01 - 0.10
- 0.11 - 0.25
- 0.26 - 0.50
- 0.51 - 1.00
- 1.01 - 2.00
- 2.01 - 3.00
- 3.01 - 4.00
- 4.01 - 5.00
- 5.01 - 6.00
- 6.01 - 7.00
- 7.01 - 7.88
Colorado, Utah and Wyoming May Precipitation as Percent of Average

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Colorado, Utah and Wyoming 7 Day Precipitation (in)
6 - 12 June 2010

Extract_6_12_2010
PPT
- 0.00
- 0.01 - 0.10
- 0.11 - 0.25
- 0.26 - 0.50
- 0.51 - 1.00
- 1.01 - 1.50
- 1.51 - 2.00
- 2.01 - 3.00
- 3.01 - 4.00
- 4.01 - 4.85
Upper Colorado Headwaters 91% of average
1 Week Change in Snotel WYTD Precipitation % Average
Snotel Percentile Rankings (at least 25 years of data)
Green River Basin above Flaming Gorge
Basin Snowpack: 102%
Peak snowpack: 64% of average peak
WYTD Precipitation percent of average: 86%
Indian Creek

**INDIAN CREEK SNOTEL for Water Year 2010**

***Provisional Data, Subject to Change***
Duchesne River Basin

Display Options
- Show NWS ID
- Show Data

Snow Point %Avg SWE
- No Data
- < 25
- 25-50
- 50-75
- 75-90
- 90-110
- 110-125
- 125-150
- 150-175
- > 175

Snow Point Options
- All
- < 7000
- 7000-8000
- 8000-9000
- 9000-10000
- > 10000

NATIONAL WEATHER SERVICE
Colorado Basin River Forecast Center
Basin snowpack: 28%
Peak snowpack: 81% of average peak
WYTD Precipitation percent of average: 82%
Upper Colorado above Kremmling
Basin Snowpack: 4%
Peak snowpack: 79% of average peak
WYTD Precipitation percent of average: 91%
Berthoud Summit

BERTHOUD SUMMIT SNOTEL for Water Year 2010

*** Provisional Data, Subject to Change ***
San Juan Basin
Basin Snowpack: 14%
Peak snowpack: 97% of average peak
WYTD Precipitation percent of average: 92%
Wolf Creek Summit

Display Options
- Show NWS ID
- Show Data

Snow Point %Avg SWE
- No Data
- < 25
- 25-50
- 50-75
- 75-90
- 90-110
- 110-125

WOLF CREEK SUMMIT SNOTEL for Water Year 2010

*** Provisional Data, Subject to Change ***

Graph showing precipitation and snow water equivalent (SWE) trends over time.
7-day average streamflow compared to historical streamflow for the day of the year (Upper Colorado)
Below normal 7-day average streamflow compared to historical streamflow for the day of the year (Upper Colorado)
June 13
Percentage of Streamgages per Percentile Class
7-day Average Streamflow
Lake Granby Reservoir Storage

Max Capacity

- Thousand AF
- Lake Granby Res, Levels
- Actual Level
- 1971-2000 Ave
- Max Capacity

WY 2000 - Current

Oct, Nov, Dec, Jan, Feb, Mar, Apr, May, Jun, Jul, Aug, Sep, Oct, Nov, Dec, Jan, Feb, Mar, Apr, May
Temperature Departure from Normal
6-10 Day Outlook 20-24 June

6-10 Day Outlook
Precipitation Probability
Made 14 Jun 2010
Valid Jun 20 - 24, 2010

Dashed black lines are climatology.
Shaded areas are FCS values above (+) or below (-) median.
Unshaded areas are near-median.
8-14 Day Outlook 22-28 June
Recommendations

U.S. Drought Monitor

June 15, 2010
Valid 8 a.m. EDT

DRAFT #1

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

http://drought.unl.edu/dm

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NIDIS - UPPER COLORADO BASIN PILOT PROJECT

For more information
NIDIS Weekly Climate, Water and Drought Assessment Summary

Upper Colorado River Basin

June 15, 2010
For the last week, much of the northern part of the Upper Colorado River Basin (UCRB) received good amounts of moisture, primarily from the last two days of the week (Fig. 2). The southern portion of the basin (southern Utah and southern Colorado) continued to dry out and missed the majority of the storms that passed.

After a very warm beginning to last week, most of the basin saw very quick snow meltoff, with the majority of stations now reporting very little to no snowpack. Thanks to the extended period of widespread precipitation last week, the Green River basin in Utah and Wyoming and the Colorado and Yampa-White basins in Colorado all saw significant increases in their water-year-to-date (WYTD) precipitation percent of averages from last week (Fig. 4).
The San Juan-Dolores basin in southwest Colorado continued to see decreases in its WYTD precipitation percent of averages (Fig. 4), with several of the stations showing percentile rankings in the D0 category (Fig. 3). Percentile rankings across the rest of the basin have improved, though some of the percentiles are still fairly low.
Streamflow

Most of the sites in the UCRB reached their peak flows by Wednesday of last week, with many of the stations recording record flows. The Colorado River at the Colorado-Utah state line peaked on June 9th with a peak streamflow around 30,000 cfs, which is above the normal peak. The record peak for that station is near 70,000 cfs in 1984. The 7-day averages across the basin show 90% of the sites are at normal (25-75% range) or above normal, with only 15 stations recording below normal flows (Fig. 5).

This however is likely to change over the next couple of weeks as rivers return to base flow. Real-time data already show many of the stations returning to below normal flows, especially in Utah, Wyoming and in the San Juans. Also, the total accumulated runoff on the Colorado River at the Colorado-Utah state line is only at 78% of normal.

Fig. 5: USGS 7-day average streamflow compared to historical streamflow for June 14th.
Water Supply and Demand

All of the major reservoirs in the UCRB remain above average levels for this time of year (though Lake Powell in the lower part of the basin is below average), and the majority of the reservoirs saw increases in their levels over the past two weeks. Outflow into the Blue River from Lake Dillon has been increased in the last week to compensate for the spillage that has been occurring (after it reached maximum capacity in late May). Flaming Gorge, which had previously experienced a large release to match the peak flows of the Yampa River, has begun to rise again as the Yampa River flows return to normal.

Temperatures across southwestern WY remained cooler than average for last week, while across western CO, conditions were warmer than average. However, with several days of steady rain and below normal temperatures in the northern part of the basin, soils are being replenished and demand for west slope water were reduced.

Precipitation Forecast

Over the next five days, southwesterly flow will prevail, moving very warm and dry air into the region. The next storm system from the west will move in our direction around Wednesday or Thursday, but will be too far north to bring moisture to the most of the basin. Long range forecasts from the Climate Prediction Center (CPC) show good possibility for below normal precipitation over the next two weeks.
Drought and Water Discussion

Fig. 6: June 10 release of U.S. Drought Monitor

Very wet conditions throughout much of the region has led to flooding in Utah and Colorado. There are definite signs of improvement in northern Utah and the Colorado headwaters region. However, while considering long term impacts, and low peak snowpack numbers, D0 will remain throughout most of the region. Any category changes made in Utah and Wyoming should be coordinated with those state experts. In Colorado, it was recommended to remove the D0 around the headwaters of the Yampa River in Routt County and parts of Moffat County, as flows have made an excellent recovery and have been doing well for nearly a month now. It has also been suggested to remove D1 from Moffat County as some nearby stations are reporting slightly below normal precipitation, but possibly not low enough to warrant D1. Conditions continue to deteriorate in southwest Colorado, but as this is their dry season, status quo has been recommended for that region.