State of the River (Eagle) Climate and Water Supply Update 2016

Nolan Doesken
Colorado Climate Center
Colorado State University

16 May 2016
Edwards, CO
Think back to last year

• A decent winter
• Warm spring (March-April)
• Snowmelt started early
• Western Drought Expanding
• Spring forecast called for cool and wet, but many doubted
• We were worried – a little.
Upper Colorado River Basin Time Series Snowpack Summary
Based on Provisional SNOTEL data as of Mar 06, 2015

March 6, 2015

Current as Pct of Normal: 97%
Current as Pct of Avg: 93%
Current as Pct of Last Year: 77%
Current as Pct of Peak: 79%
Normal as Pct of Peak: 82%
Pct of Normal Needed to Reach Peak: 114%
Normal Peak Date: Apr 10
Total Precipitation Anomaly: May 2015
Period ending 31 May 2015
Base period: 1981-2010
(Map created 15 Jul 2015)
Colorado May 2015 Precipitation as a Percentage of Normal

may15_pnCO
Precip % of Normal
- 0
- 1 - 10
- 11 - 20
- 21 - 30
- 31 - 50
- 51 - 70
- 71 - 90
- 91 - 110
- 111 - 130
- 131 - 150
- 151 - 170
- 171 - 200
- 201 - 250
- 251 - 300
- 300+
Eagle River below Gypsum Daily Streamflow

Streamflow (cubic feet per second)

- Daily Streamflow
- Average Daily Streamflow (1947-2015)

Dates:
- 10/1/2014 to 9/1/2015
Eagle River at Gypsum 2015
Streamflow Volume Forecast
An unexpected good year for water

Eagle - Gypsum- Bio (GPSC2)
2015-06-01 Apr-Jul Official 50% Forecast: 310 kaf (93% of average)
ESP is Unregulated and No Precipitation Forecast Included

From Colorado River Basin Forecast Center
How about this year
Eagle AP Daily Max/Min and Normal Temperature

Temperature (degrees F)

Date

Upper Colorado River Basin High/Low Snowpack Summary
Based on Provisional SNOTEL data as of May 12, 2016

- Current as Pct of Normal: 124%
- Current as Pct of Avg: 113%
- Current as Pct of Last Year: 144%
- Current as Pct of Peak: 82%
- Normal as Pct of Peak: 66%
- Current Peak as Pct of Normal Peak: 103%
- Current Peak Date: Apr 03
- Normal Peak Date: Apr 10
Upper Colorado River Basin Monthly Snowpack Summary
May 1, 2016

Total Colorado: 112% of Median 155% of Last Year

Plateau Creek 100%
Roaring Fork 101%
Eagle River 115%
Upper Colorado 117%
Blue River 118%
Colorado Monthly Reservoir Storage Summary
End of April 2016

Statewide:
- 112% of Average
- 66% of Capacity
- Last Year: 109% of Average

Reservoir Storage
Percent of Average

- Navy: >= 150
- Dark Green: 130 - 149
- Medium Green: 110 - 129
- Light Green: 90 - 109
- Yellow: 70 - 89
- Orange: 50 - 69
- Red: < 50

Map legend:
- Reservoir

Colorado:
- Yampa & White: 115% of Average, 95% of Capacity, LY: 120% of Average
- North Platte: 108% of Average, 87% of Capacity, LY: 115% of Average
- South Platte: 115% of Average, 71% of Capacity, LY: 130% of Average

Gunnison:
- 117% of Average, 71% of Capacity, LY: 123% of Average

San Miguel, Dolores, Animas & San Juan:
- 106% of Average, 81% of Capacity, LY: 85% of Average

Upper Rio Grande:
- 91% of Average, 31% of Capacity, LY: 76% of Average

Arkansas:
- 118% of Average, 43% of Capacity, LY: 79% of Average
7 day average streamflow – May 16, 2016

Click map to obtain more detailed drought information for the state

<table>
<thead>
<tr>
<th>Explanation - Percentile classes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
</tr>
<tr>
<td>&lt;=5</td>
</tr>
<tr>
<td>6-9</td>
</tr>
<tr>
<td>10-24</td>
</tr>
<tr>
<td>Insufficient data for a hydrologic region</td>
</tr>
</tbody>
</table>

- Extreme hydrologic drought
- Severe hydrologic drought
- Moderate hydrologic drought
- Below normal
Eagle River at Gypsum 2016
Streamflow Volume Forecast

From Colorado River Basin Forecast Center
Weekly Climate Updates
Available
Upper Colorado Regional Drought Early Warning
If you’re tired of getting so few e-mails and would like one or two each week

Give me your business card today, and we can put you on our weekly update list
Climate Update
Colorado River Drainage Average Temperature

October - April

2016: 32.5°F
2.3°F above average.
19th warmest (1895-2016)
Colorado River Drainage Precipitation
October - April

2016: 13.79”
0.77” above average
43rd wettest (1895-2016)
U.S. Drought Monitor

May 12, 2015

May 10, 2016
What to Expect this Summer

JJA Temperature

JJA Precipitation
When in doubt, measure!

If you are interested in weather and the variations in precipitation, please join the Community Collaborative Rain, Hail and Snow Network

http://www.cocorahs.org

or see me today
For information and to volunteer, visit the CoCoRaHS Web Site

http://www.cocorahs.org

Support for this project provided by NSF Informal Science Education Program, NOAA Environmental Literacy Program and many local charter sponsors.