- Assessment of current water conditions
- Precipitation Forecast
- Recommendations for Drought Monitor
Precipitation/Snowpack Update
Colorado, Utah and Wyoming July 2012 Precipitation as Percentage of Normal

<table>
<thead>
<tr>
<th>jul12_pn</th>
<th>% norm</th>
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<tbody>
<tr>
<td>0</td>
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<td>1 - 10</td>
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<td>11 - 20</td>
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<td>21 - 30</td>
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<td>31 - 50</td>
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<td>51 - 70</td>
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<td>71 - 90</td>
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<td>91 - 110</td>
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<td>111 - 130</td>
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<td>131 - 150</td>
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<td>151 - 170</td>
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<td>201 - 250</td>
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<td>251 - 300</td>
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<td>300+</td>
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</tbody>
</table>
Colorado, Utah and Wyoming Water Year 2012 Precipitation as Percentage of Normal (Oct 2011 - July 2012)
Colorado, Utah and Wyoming 7 Day Precipitation (in)
29 July - 4 August 2012

29jul_4augx
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 - 3.62
Daily Precipitation (inches x.xx), for the 24 hour period ending ~7:00 am

Colorado 8/6/2012
120 Day SPI
4/9/2012 - 8/6/2012

Generated 8/7/2012 at HPRCC using provisional data.

Regional Climate Centers
7-day average discharge compared to historical discharge for the day of the year (Aug 5th)
7-day average discharge compared to historical discharge for the day of the year (Aug 5)
Total Streamflow Volume
Colorado River nr CO/UT State Line
Oct 1, 2011 to August 05, 2012

August 05, 2012
Total runoff:
2.12 M acre-ft
51% of normal
August 5, 2012

Total runoff: 0.69 M acre-ft
46% of normal
7-day average streamflow compared to historical streamflow
Water Demand
Temperature Departure from Normal
07/31/2012 – 08/06/2012

Departure from Normal Temperature (F)
7/31/2012 – 8/6/2012

Generated 8/7/2012 at HPRCC using provisional data.
Regional Climate Centers
CoAgMet Reference Evapotranspiration Stations
Avondale Kimberly-Penman Reference ET (1993 - 2012)

- Average
- 2002
- 1998
- 2012

Date: 4/1, 5/1, 6/1, 7/1, 8/1, 9/1

Kimberly-Penman Reference ET (in)
Lucerne Kimberly-Penman Reference ET (1992 - 2012)

- Average
- 2006
- 2009
- 2012

Graph showing the trend of Lucerne Kimberly-Penman Reference ET from 1992 to 2012, with different years represented by different line styles.
Something to look forward to next week?!
April’s forecast for July-September 2012 (left) was optimistic from AZ into CO, pessimistic for eastern UT and southern NM. The May forecast (2nd) remained guardedly optimistic for most of Colorado. **Operational skill has been best over UT, northwest and eastern Colorado, as well as from southwest to northeast NM. There has been little skill from AZ into southwest Colorado, as well as over southeast NM.** Update in July (3rd) was slightly dry in NW CO, undecided in Front Range, ‘EC’ in eastern plains, and tilting towards a wet monsoon over southern CO. **Observed pattern so far is consistent with thrust of monsoon from AZ into NC Colorado.**
2010-12 La Niña event reached its biggest peak since the mid-70s in late 2010, followed by a brief excursion to ENSO-neutral conditions during mid-2011; it reached a second peak last winter, and is now being followed by a rapid transition to El Niño.

http://www.esrl.noaa.gov/psd/enso/mei
The ECMWF April 2012 forecast (left) showed an astonishing range – with a single member in the moderate-to-strong La Niña category (-1°C) to seven members reaching ‘Super-El Niño-size’ of +2°C or more by October 2012. The mean outcome (close to +1°C) was El Niño by about August 2012.

The ECMWF July 2012 forecast (right) shows a smaller, but still substantial range – with seven members below 0°C and five members reaching ‘Super-El Niño-size’ of +2°C or in next six months. Compared to earlier forecasts, the transition to El Niño is virtually certain this summer, but it may be a short-lived event.
What does El Niño mean for the Upper CO Basin?

Seasonal precipitation amounts (in %iles for 1950-99) for 10 El Niño cases: 1957-8, 65-6, 72-3, 77-8, 82-3, 86-7, 87-8, 91-2, 94-5, and 97-8, based on the MEI in fall&winter. If 8 or more cases out of 10 reside above or below the median, the distribution is shifted significantly. If 4 or more cases reside in the upper (80%) or lower (20%) quintile, there is only a 10% chance that this result is by accident. The 2002-3 El Niño event ended up ranked 10th, pushing 1977-78 into 11th place. In turn, 2006-07 took the 10th place from 2002-03. And, finally, 2009-10 took it from 2006-07!

Seasonal EL NINO PRECIP (NC Mountains)

PERCENTILE

JJA | SON | DJF | MAM

WET  DRY  DRYish

2006-07: √  √  √
2009-10: NO  √  ~
Los Niños since 2002

Last decade had many El Niño events, in 2002-03 (top left), 04-05 (top right), 06-07 (bottom right), and 09-10 (bottom left). Somewhat erratic impacts in the U.S., except for TX where every single one of them ended up on the wet side –

In CO, eastern plains have the best chances for good moisture for October-June, especially Northern Front Range. West slope/Upper Basin will be lucky to get near-normal for the 9-month period!
Connected D4 in SE Colorado with Kansas
INFO

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FORT COLLINS, CO 80523
970-491-8545

NIDIS - UPPER COLORADO BASIN PILOT PROJECT

For more information