A Review of the 2006 Water Year in Colorado

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(Prepared by Odie Bliss)

http://ccc.atmos.colostate.edu
http://www.co.nrcs.usda.gov/snow/
Water Year 2002
Precipitation Percent of Average for 1961-1990 Averages
2003 Water Year Precipitation

2004 Water Year Precipitation

2005 Water Year Precipitation

Water Year 2005 (Oct 04 - Sep 05) precipitation as a percent of the 1971-2000 average.
2006 Water Year

Photo by Lynn Kral, January 2006
Warm autumn

Extreme warmth in January 2006, especially east of mountains

Persistent warmth (above average temperatures) Spring through mid-Summer

Cool end to a warm year
Water Year 2006 temperature departures from 1971-2000 average
Overall, 2006 Water Year warmer than average – again!

Colorado (Oct-Sep) Average Temperatures
From 1896-2006
2006 WY Precipitation Summary

- Very wet October 2005
- Snowy winter Northern and Central mountains, but dry over Southern and Eastern Colorado
- Unsettled March
- Dry April through June Statewide
- Wet July through August, especially Southern Colorado
- Cool and wet September
- Overall, year ended near average except dry near Wyoming-Nebraska borders
Wolf Creek Summit Snotel

Water Year 2006
Mesa Lakes Snotel

Mesa Lakes SNOTEL

Water Year 2006
Berthoud Summit Snotel

Water Year 2006

Berthoud Summit SNOTEL
Colorado Snowpack for 2006

COLORADO SNOWPACK
Summary for 2006

USDA Natural Resources Conservation Service

*Includes Animas, Dolores, San Miguel Basins
April 1 Snowpack

Colorado Snowpack Map

Percent of Average

- > 150
- 130 - 150
- 110 - 129
- 90 - 109
- 70 - 89
- 50 - 69
- < 50

Provisional Data
Subject to Revision

Current as of April 1, 2006

Winter (Oct 2005 – Apr 2006) % of Average

7-month Percent of Average Precipitation: Apr 2006
Provisional Data

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http://www.ocs.oregonstate.edu/prism – Map created May 09 2006
April 1 Snowpack History

APRIL 1 SNOWPACK
COLORADO STATEWIDE
Summer 2006 (May–Sep) precipitation as a percent of average (Prism)

5-month Percent of Average Precipitation: Sep 2006
Provisional Data
Daily Precipitation Accumulation Summer 2006 (May-September)

CoCoRaHS --
Accumulated Summer (May-September 2006) Precipitation

PARK County
WELD County
Water Year 2006 precipitation as a percent of average (Prism)

12-month Percent of Average Precipitation: Sep 2006
Provisional Data

% of Average Precipitation
- 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
- 301+

Copyright (c) 2006, PRISM Group, Oregon State University
http://www.ocs.oregonstate.edu/prism – Map created Oct 12 2006
Colorado Precipitation in Historic Perspective

Colorado Statewide Water Year (Oct-Sep) Precipitation from 1896 - 2006
2006 Streamflow Summary

- Above average streamflow Yampa, Eagle and other river basins in Northern and Central mountains west of the Continental Divide
- Below average streamflow elsewhere
- Some late summer runoff from heavy rains in Southern Colorado
Streamflow vs. Average

Acre Feet (Thousands)

Yampa, Animas, Taylor, Eagle, Purgatoire, Rio Grande, Poudre

2006 vs. Average
Animas River Streamflow

Animas River at Durango, CO

- 2006 Discharge
- Mean Discharge
Colorado River near Dotsero, CO

- 2006 Discharge
- Mean Discharge

Discharge (1000 CFS)

OCT  NOV  DEC  JAN  FEB  MAR  APR  MAY  JUN  JUL  AUG  SEP

Colorado River Streamflow
Cache La Poudre River Streamflow

Cache La Poudre River at Mouth of Canyon

- Mean Discharge
- 2006 Discharge

Discharge, (1000 CFS)

OCT  NOV  DEC  JAN  FEB  MAR  APR  MAY  JUN  JUL  AUG  SEP
2006 Reservoir Storage Summary

- Storage varied, but the dry spring and lower than expected runoff resulted in reductions in stored water especially east of mountains.
- Some improvements late in the year due to summer rains and less demand for water late in the season.
Reservoir Storage by Basin, Oct 1, 2006

*includes the Animas and Dolores basins
Colorado Reservoir Storage Levels

Colorado Statewide Reservoir Levels on October 1st for Years 1997-2005 and Sept 1, 2006
Soaking October storm – especially over Eastern Colorado
Windy, dry winter over Foothills and Eastern Plains
Frequent midwinter snows Northern Mountains
Very warm and dry spring (tough on Agriculture)
Early July soaking
Wet summer over much of southern Colorado
A chilly ending to another warm year
But,

Some cold and windy winter weather, but still warmer than average for many areas for 13th winter in a row
Drought conditions worsened over Northern Plains during 2006

U.S. Drought Monitor

October 3, 2006
Valid 8 a.m. EDT

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

http://drought.unl.edu/dm

Released Thursday, October 5, 2006
Author: Rich Tinker, Climate Prediction Center, NOAA
CoCoRaHS – Community Collaborative Rain Hail and Snow: We’re looking for more volunteers!

Photo by Henry Reges
Heaviest Rain of the Year

Fremont County Precipitation
July 6, 2006

http://www.cocorahs.org
Natural Resources Conservation Service
Snow Survey Office

- Access to snowpack, precipitation, reservoir data and streamflow forecast information available at:
  http://www.co.nrcs.usda.gov/snow/index.html
Data and Power Point Presentations available for downloading

http://ccc.atmos.colostate.edu

click on “Drought”
then click on “Presentations”