Colorado’s Snowpack Monitoring Network

- 115 – SNOwpack TELemetry stations (SNOTEL)
- 93 – Snow Courses
Snowpack Data Collection - Automated

**SNOTEL** – real-time, hourly snow water equivalent (SWE), precipitation, snow depth, and temperature
Snowpack Data Collection - Manual

Snow Course – monthly (Feb. 1st – May 1st) measurements of SWE and snow depth
Colorado Water Supply Outlook Report
April 1, 2018

Bill Kortmann, of the Gunnison Conservation District, collects snowpack data along the Crystal River in the Gunnison River basin. This year, snowpack in the basin is at 40% of normal for April 1st and the snowpack has been lower than normal since the water year started.

Photo by: Andrew Birkhart Date: March 30, 2018

Snowpack
Precipitation
Reservoir Storage
Streamflow Forecasts
Current Snowpack Conditions

Colorado Statewide - 69 percent of normal
2018 Snowpack Summary – Northern Basins

North Platte

- 103% of peak

South Platte

- 89% of peak

Yampa & White

- 90% of peak

Colorado

- 88% of peak
2018 Snowpack Summary – Southern Basins

**Gunnison**
- Max: 39% of peak
- Normal (POR)
- Normal (‘81-’10)
- Min
- Stats. Shading
- 2018
- Historical data for 1981-2018
- For more information visit 5 year norms calculation

**Arkansas**
- Max: 63% of peak
- Normal (POR)
- Normal (‘81-’10)
- Min
- Stats. Shading
- 2018
- Historical data for 1981-2018
- For more information visit 5 year norms calculation

**Rio Grande**
- Max: 53% of peak
- Normal (POR)
- Normal (‘81-’10)
- Min
- Stats. Shading
- 2018
- Historical data for 1981-2018
- For more information visit 5 year norms calculation

**San Juans**
- Max: 52% of peak
- Normal (POR)
- Normal (‘81-’10)
- Min
- Stats. Shading
- 2018
- Historical data for 1981-2018
- For more information visit 5 year norms calculation
### Current Water Year-to-Date Precipitation

<table>
<thead>
<tr>
<th>Region</th>
<th>Precipitation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yampa &amp; White</td>
<td>87%</td>
</tr>
<tr>
<td>North Platte</td>
<td>104%</td>
</tr>
<tr>
<td>South Platte</td>
<td>102%</td>
</tr>
<tr>
<td>Colorado</td>
<td>88%</td>
</tr>
<tr>
<td>Arkansas</td>
<td>64%</td>
</tr>
<tr>
<td>Gunnison</td>
<td>60%</td>
</tr>
<tr>
<td>San Miguel, Dolores, Animas &amp; San Juan</td>
<td>45%</td>
</tr>
<tr>
<td>Rio Grande</td>
<td>52%</td>
</tr>
</tbody>
</table>

Colorado Statewide - 75 percent of normal
2018 Precipitation Summary – Northern Basins

North Platte

South Platte

Yampa & White

Colorado

Statistical shading breaks at 10th, 30th, 50th, 70th, and 90th Percentiles
Normal (‘81–10) - Official mean calculated from 1981 thru 2010 data
Normal (POR) - Unofficial mean calculated from Period of Record data
For more information visit 30 year normals calculation description.
2018 Precipitation Summary – Southern Basins

Gunnison

Arkansas

Rio Grande

San Juans

Statistical shading breaks at 10th, 30th, 50th, 70th, and 90th Percentiles Normal ("81-10") - Official mean calculated from 1981 thru 2010 data Notional (POL) - Unofficial mean calculated from Period of Record data

For more information visit: 30 year normals calculation description
April 1st Reservoir Storage

Colorado Statewide - 115 percent of normal
2018 Reservoir Storage

Colorado Reservoir Storage

Percent of Average Useable Storage

- Oct-17
- Nov-17
- Dec-17
- Jan-18
- Feb-18
- Mar-18

Normal

Gunnison, Colorado, South Platte, Yampa, White & North Platte, Arkansas, Upper Rio Grande, San Miguel, Dolores, Animas & San Juan, Statewide
April 1st Streamflow Forecasts

All Colorado Forecasts Below Normal

Percentages represent high and low forecast points in each basin.
Interpreting Streamflow Forecasts

- The NRCS issues five forecasts for each forecast point
- The entire suite of forecasts should be considered for water supply planning and decision making
- Consider using higher exceedance probabilities for conservative planning
- The greater the spread between the suite of forecasts, the greater the uncertainty
South Platte Streamflow Forecasts

50 Percent Exceedance Forecasts:

- **High**: Cache La Poudre at Canyon Mouth – 215 KAF (96% of Ave)
- **Low**: Bear Creek at Evergreen – 8.1 KAF (49% of Ave)

- Ave: 73% of normal flows
Colorado Streamflow Forecasts

50 Percent Exceedance Forecasts:

High: Willow Creek below the Reservoir – 44 KAF (94% of Ave)

Low: Roaring Fork at Glenwood Springs – 365 KAF (53% of Ave)
  - Ave: 75% of normal flows
### Yampa, White & North Platte Streamflow Forecasts

**50 Percent Exceedance Forecasts:**

- **High:** North Platte at Northgate – 194 KAF (86% of Ave)
- **Low:** Elkhead Creek above Long Gulch – 34 KAF (47% of Ave)
  - Ave: 63% of normal flows
Arkansas Streamflow Forecasts

50 Percent Exceedance Forecasts:

★ High: Arkansas River at Salida– 166 KAF (69% of Ave)

★ Low: Inflow to Trinidad Lake– 7 KAF (20% of Ave)

- Ave: 48% of normal flows
50 Percent Exceedance Forecasts:

- **High:** Slate River near Crested Butte – 52 KAF (63% of Ave)
- **Low:** Surface Creek at Cedaredge – 4.2 KAF (25% of Ave)
  - Ave: 41% of normal flows
## Rio Grande Streamflow Forecasts

### 50 Percent Exceedance Forecasts:

- **High:** Inflow to Platoro Reservoir – 33 KAF (59% of Ave)

- **Low:** Sangre de Cristo Creek – 24 KAF (15% of Ave)
  - Ave: 40% of normal flows
San Miguel, Animas, Dolores & San Juan Forecasts

50 Percent Exceedance Forecasts:

- **High:** Inflow to Gurley Reservoir – 8 KAF (49% of Ave)
- **Low:** La Plata River at Hesperus – 6 KAF (26% of Ave)
  - Ave: 37% of normal flows
Summary

- The snowpack in most major river basins has reached peak accumulation for the year, leaving the southern basins far below normal annual snowpack levels
  - Northern half of state has near-normal snowpack, southern portion close to half of normal
- April-to-date precipitation is above normal for all but the Rio Grande and San Juan basins (half of normal there)
  - Year-to-date precipitation mirrors snowpack trends with record lows in southern CO
- Collective reservoir storage is above normal in all major river basins
- April 1st forecasts at the 50% exceedance level are calling for below normal streamflow volumes at all forecast points in the state
  - Northern streams have a better outlook than southern streams
  - Extremely low flows expected in the Rio Grande and San Juan basins
Looking Ahead

- Chance of precipitation in short-range forecast
- Long-range forecast not favorable for improving water supply outlook
- Next Water Supply Outlook Report published first week of May
Other Resources

**Surface Water Supply Index**
http://water.state.co.us

**Drought Monitor**
http://droughtmonitor.unl.edu

**Colorado Water Availability Task Force**
http://cwcb.state.co.us/public-information/flood-water-availability-task-forces/Pages/main.aspx
Questions?
lexi.landers@co.usda.gov , 720-544-2843

Colorado Snow Survey Website: