CBRFC
April 2013
Peak Flow Forecast Webinar

11 am, April 18, 2013

Greg Smith & Ashley Nielson

These slides: www.cbrfc.noaa.gov/present/present.php
Today’s Presentation

• Brief Precipitation Review
• Current Snow Situation
• Short term weather outlook
• Peak Flow Forecasts
• Mid April water supply update

Web Reference: www.cbrfc.noaa.gov  click on peak map
Snow: The impact of spring weather
Retained and added to the snowpack compared to 2012

April 18 2012

April 18 2013

Snow: April Retention and Building of Snowpack

April 1st 2013

April 17th 2013

Snow Point Classification: ○ Percentiles ○ Percent Average ○ Percent Median

NA < 25% 25-50% 50-75% 75-90% 90-110% 110-125% 125-150% 150-175% >175%

Created: April 1, 2013, 14:30

Created: April 17, 2013, 11:00
Snow: April Retention and Building of Snowpack

Snow Point Classification:
- Percentiles
- Percent Average
- Percent Median
- Not Ranked
- Low
- <10
- 10-25
- 25-75
- 75-90
- >90
- High

Created: April 1, 2013, 14:30

Created: April 17, 2013, 11:15

April 1st 2013

April 17th 2013
April 17 2012

2012 Melt Underway / 2013 Building Snowpack

April 17 2013
Big difference from 2012

Snow Point Classification: 
- Percentiles: < 25%, 25-50%, 50-75%, 75-90%, 90-110%, 110-125%, 125-150%, > 150%
- Percent Average
- Percent Median

- NA

10100 FT

11100 FT

10800 FT
SNOW: Upper Green Basin (above Flaming Gorge)

SNOW: Colorado Mainstem (above Cameo)
Forecast Precipitation

5 day total
4/18 – 4/23

- Additional Storminess Sat through Tue/Wed
- High pressure / warmer temperatures follow later next week
- Less confidence beyond, but maybe trend toward normal

8-14 day
4/25 – 5/1

6-10 day
4/23 – 4/27

Web Reference: www.hpc.ncep.noaa.gov
Forecast Temperature

6-10 day
4/23 – 4/27

8-14 day
4/25 – 5/1
What is a Peak Flow Forecast?

- **Snowmelt Mean Daily Maximum Flow** (April-July)
- **Probabilistic Forecasts**
  - Exceedance Probabilities -10%, 25%, 50%, 75%, 90%
- **Issued** (at least) monthly from March-June (April 16\(^{th}\), May 1\(^{st}\), May 16\(^{th}\) depending upon runoff scenario)
- ~60 forecast points – some unregulated, some regulated
- **Updated as needed**
- **Forecast Users include**:
  - Emergency Managers
  - USGS hydrologists
  - Water Managers
  - River Recreation
Spring Weather Really Matters

- Runoff characteristics are largely determined by the day-to-day spring weather.
  - While large snow pack years increase chances for flooding, it is not an inevitability (dodged a bullet at many sites in 2011)
  - Small snow pack years can flood with the right sequence of spring temperatures and with flows enhanced by precipitation.
  - Rain events may play a larger role in the magnitude of the peak flow during very low snow years.
  - Keep an eye on our web page / daily forecasts
April 17 Peak Flow Forecasts
Peak Flow Forecast Graphic

Accessible from peak flow map, list and CBRFC main web page

Historical yearly peaks are instantaneous, forecasts are mean daily peaks (CFS)
Great Basin

WEBER - OAKLEY, NR (oawu1)
Flow (cfs) for April-July, Forecast run 2013-04-17 16:00 GMT
Plot Created April 17, 13:27 MDT by the Colorado Basin River Forecast Center (NWS/NOAA)

LITTLE COTTONWOOD CK - SALT LAKE CITY, NR (ictu1)
Flow (cfs) for April-July, Forecast run 2013-04-17 16:00 GMT
Plot Created April 17, 13:30 MDT by the Colorado Basin River Forecast Center (NWS/NOAA)
Upper Colorado
### Peak Flow List

New 1981-2010 Averages being used this year.

Click point type or enter search to change points displayed. Click column heading to sort by that data. Click ID to show plot for point.

Download pipe-delimited file of displayed points.

#### Help:
- Introduction
- Definitions
- River Permits
- Additional Information

#### Area:
- CBRFC
- Upper Colorado
- Green
- San Juan
- Great Basin
- Sevier
- Virgin
- Lower Colorado

#### Plots:
- Auto
- Off
- On

#### Peak Flood Probability
- No Forecast
- No Flood Stage
- $<$10
- $>$10
- $>$25
- $>$50

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<th>50%</th>
<th>25%</th>
<th>10%</th>
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April 16th Water Supply Forecast Update (Major Reservoirs)
Change in April-July forecast volumes as a percent of average

5% Increase Upper Green
3% Increase Lake Powell
0-10% Increase Gunnison
No Change San Juan
Peak Flow Forecasts

• Forecast updates planned for:
  – 5/1, 5/17, 6/1? (depending on evolution of the runoff)

• Webinars: 5/6, 6/6 – all at 11 am
  – water supply volumes
  – Peak flow ~ 5/18 if needed
CBRFC Contacts

- Basin Focal Points (Available to discuss forecasts: 801.524.5130)
  - Upper Colorado: Brenda Alcorn
  - Green: Ashley Nielson
  - San Juan / Gunnison: Greg Smith
  - Great Basin: Brent Bernard
  - Virgin / Sevier – Stacie Bender
  - Lower Colorado (below Lake Powell): Tracy Cox
Feedback, Questions, Concerns always welcome....

Greg Smith
CBRFC Senior Hydrologist
Phone: 801.524.5130 ext 332
Email: greg.smith@noaa.gov

Ashley Nielson
CBRFC Hydrologist
Phone: 801.524.5130 ext 333
Email: ashley.nielson@noaa.gov