Idaho Water Supply
NRCS Snow Survey
Julie Koeberle
January 13, 2011

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*Recap of last year
*Off to a good start!
*Fall precipitation
*Current snowpack
*Streamflow forecasts

Snow draped trees against azure skies near Mores Creek Summit in the Boise Basin, December 21, 2010
Boise River near Boise
2010-2011 Streamflow Forecasts
and Observed Flows

2010
- Apr 1 Snow 67%
- Apr-Jun Prec 131%
- Cool wet, spring
- Apr-Jul Flow 1128 KAF, 80%

Forecast Month and Period: Jan, Feb, Mar and Apr forecast Apr-Jul, May forecast May-Jul
Snake River near Heise
2010-2011 Streamflow Forecasts and Observed Flows

- 90% Exceedance Forecast
- 70% Exceedance Forecast
- 50% Exceedance Forecast
- 30% Exceedance Forecast
- 10% Exceedance Forecast
- Observed Flow

2010
- Mar 1 and Apr 1 Snow 55%
- May 1 Snow 62%
- Apr-Jun Prec 155%
- Apr-Jul Flow 73%, 2600 KAF

Average 3560

Forecast Month and Period: Jan, Feb, Mar and Apr forecast Apr-Jul, May forecast May-Jul
Middle Fork of the Salmon River Hydrograph
Salmon-Challis National Forest
Readings are taken near Middle Fork Lodge

Note: This hydrograph is a very general guide for predicting flows. The lines merely connect daily flow readings. Considerable fluctuation can occur daily, especially on very warm days and after high-intensity rain storms.
Idaho SNOTEL Water Year (Oct 1) to Date Precipitation % of Normal

Jan 13, 2011
Water Year (Oct 1) to Date Precipitation Basin-wide Percent of 1971-2000 Normal

- unavailable *
- <50%
- 50 - 69%
- 70 - 89%
- 90 - 109%
- 110 - 129%
- 130 - 149%
- > =150%

* Data unavailable at time of posting or measurement is not representative at this time of year

Provisional Data Subject to Revision

The water year to date precipitation percent of normal represents the accumulated precipitation found at selected SNOTEL sites in or near the basin compared to the average value for those sites on this day. Data based on the first reading of the day (typically 00:00).

Prepared by the USDA/NRCS National Water and Climate Center Portland, Oregon http://www.wcc.nrcs.usda.gov/gis/
Based on data from http://www.wcc.nrcs.usda.gov/reports/
Science contact: Jim.Marron@por.usda.gov 503 414 3047
Mountain Snowpack as of January 1, 2010

Legend

percent

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

No Survey

Prepared by
USDA, Natural Resources Conservation Service
National Water and Climate Center
Portland, Oregon
http://www.wcc.nrcs.usda.gov
SNOTEL Current Snow Water Equivalent (SWE) Records

Jan 01, 2011

Current Snow Water (SWE) Equivalent Records

- New High
- Near High
- Non-Record
- New Low
- Near Low
- Snow free

Analysis includes sites with more than 20 years of historical data.

"Near" record means that one other year of the period of record is more extreme.

USDA Natural Resources Conservation Service

Provisional Data
Subject to Revision

Prepared by the USDA NRCS National Water and Climate Center
Portland, Oregon http://www.wcc.nrcs.usda.gov/gis/
Based on data from ftp://ftp.wcc.nrcs.usda.gov/data/water/nrsc/gis/data
Science contact: Tom.Pagano@por.usda.gov 503 414 3010
The snow water equivalent percent of normal represents the current snow water equivalent found at selected SNOTEL sites in or near the basin compared to the average value for those sites on this day. Data based on the first reading of the day (typically 00:00).

Idaho SNOTEL Current Snow Water Equivalent (SWE) % of Normal

Jan 13, 2011
Current Snow Water Equivalent (SWE)
Basin-wide Percent of 1971-2000 Normal

- unavailable *
- <50%
- 50 - 69%
- 70 - 89%
- 90 - 109%
- 110 - 129%
- 130 - 149%
- >=150%

* Data unavailable at time of posting or measurement is not representative at this time of year.

Provisional Data
Subject to Revision

Prepared by the USDA/NRCS National Water and Climate Center
Portland, Oregon http://wcc.nrcs.usda.gov/gis/
Based on data from http://wcc.nrcs.usda.gov/reports/
Science contact: Jim.Marron@usda.gov 503 414 3047
As of Monday, January 10, 2011:
SWE Percent of Average: 114
SWE Percent of Seasonal Peak: 56
Percent Needed to Reach Seasonal SWE Peak: 87
<table>
<thead>
<tr>
<th>BASIN or REGION</th>
<th>SWSI Value</th>
<th>Most Recent Year With Similar SWSI Value</th>
<th>Agricultural Water Supply Shortage May Occur When SWSI is Less Than</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLEARWATER</td>
<td>0.3</td>
<td>2006</td>
<td>NA</td>
</tr>
<tr>
<td>SALMON</td>
<td>-0.1</td>
<td>2010</td>
<td>NA</td>
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<tr>
<td>WEISER</td>
<td>0.2</td>
<td>2010</td>
<td>NA</td>
</tr>
<tr>
<td>PAYETTE</td>
<td>0.2</td>
<td>2008</td>
<td>NA</td>
</tr>
<tr>
<td>BOISE</td>
<td>1.2</td>
<td>2008</td>
<td>-1.8</td>
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<tr>
<td>BIG WOOD</td>
<td>1.2</td>
<td>1996</td>
<td>0.1</td>
</tr>
<tr>
<td>LITTLE WOOD</td>
<td>1.0</td>
<td>2005</td>
<td>-1.9</td>
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<tr>
<td>BIG LOST</td>
<td>0.6</td>
<td>2009</td>
<td>0.0</td>
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<tr>
<td>LITTLE LOST</td>
<td>0.2</td>
<td>2010</td>
<td>0.6</td>
</tr>
<tr>
<td>HENRYS FORK</td>
<td>1.6</td>
<td>2006</td>
<td>-3.4</td>
</tr>
<tr>
<td>TETON</td>
<td>1.6</td>
<td>2008</td>
<td>NA</td>
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<tr>
<td>SNAKE (HEISE)</td>
<td>1.4</td>
<td>2009</td>
<td>-1.8</td>
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<tr>
<td>OWYHEE</td>
<td>2.2</td>
<td>1998</td>
<td>-3.5</td>
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<tr>
<td>OAKLEY</td>
<td>0.4</td>
<td>2000</td>
<td>-0.5</td>
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<tr>
<td>SALMON FALLS</td>
<td>2.4</td>
<td>2006</td>
<td>-1.2</td>
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<tr>
<td>BRUNEAU</td>
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<td>2006</td>
<td>NA</td>
</tr>
<tr>
<td>BEAR RIVER</td>
<td>-0.6</td>
<td>2001</td>
<td>-2.8</td>
</tr>
<tr>
<td>Reservoir or Basin</td>
<td>Percent of Capacity December 31, 2010</td>
<td>Percent of Average December 31, 2010</td>
<td>Percent of Average December 31, 2009</td>
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<td>---------------------------</td>
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<tr>
<td>Coeur d'Alene</td>
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<tr>
<td>Dworshak</td>
<td>67</td>
<td>94</td>
<td>96</td>
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<tr>
<td>Payette (2)</td>
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<td>100</td>
<td>97</td>
</tr>
<tr>
<td>Boise (3)</td>
<td>56</td>
<td>100</td>
<td>97</td>
</tr>
<tr>
<td>Magic</td>
<td>42</td>
<td>101</td>
<td>94</td>
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<td>Little Wood</td>
<td>54</td>
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<tr>
<td>Mackay</td>
<td>72</td>
<td>135</td>
<td>135</td>
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<tr>
<td>Henrys Fork (3)</td>
<td>79</td>
<td>100</td>
<td>108</td>
</tr>
<tr>
<td>Jackson &amp; Palisades (2)</td>
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<td>97</td>
<td>112</td>
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<td>Blackfoot</td>
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<td>89</td>
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<tr>
<td>American Falls</td>
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<td>107</td>
<td>122</td>
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<tr>
<td>Oakley</td>
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<td>60</td>
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<td>Salmon Falls</td>
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<td>70</td>
<td>80</td>
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<tr>
<td>Owyhee</td>
<td>30</td>
<td>54</td>
<td>40</td>
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<tr>
<td>Bear Lake</td>
<td>36</td>
<td>57</td>
<td>58</td>
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January 1 Boise Basin Surface Water Supply Index (SWSI)
Boise River near Boise & Anderson, Arrowrock, Lucky Peak

Adequate Irrigation Water Supply Above 1,500 KAF
Spring and Summer Streamflow Forecasts as of January 1, 2011

Percent
1971 to 2000 Normal

- > 180
- 150 - 180
- 130 - 149
- 110 - 129
- 90 - 109
- 70 - 89
- 50 - 69
- 25 - 49
- < 25

No Forecast

Prepared by USDA, Natural Resources Conservation Service
National Water and Climate Center
Portland, Oregon
http://www.wcc.nrcs.usda.gov
This is an automated product based solely on SNOTEL data, provisional data are subject to change. This product is a statistically based guidance forecast combining indices of snowpack and precipitation. Skill is defined as the correlation (squared) between the guidance and observed during calibration. This product does not consider climate information such as El Nino or short range weather forecasts, or a variety of other factors considered in the official forecasts. This product is not meant to replace or supersede the official forecasts produced in coordination with the National Weather Service.

Science Contact: Jim.Marron@por.usda.gov www.wcc.nrcs.usda.gov/wsf/daily_forecasts.html