Current Snowpack
2018 Snowpack

Inches of water equivalent:
- > 30
- 20 to 30
- 18 to 20
- 16 to 18
- 14 to 16
- 12 to 14
- 10 to 12
- 8 to 10
- 6 to 8
- 4 to 6
- 2 to 4
- 1 to 2
- trace to 1
Monthly Temperatures
Water Year 2018 / 2019 Comparison

Temperature Departure
October 2018

Temperature Departure
November 2018

Temperature Departure
December 2018

Temperature Departure
October 2017

Temperature Departure
November 2017

Temperature Departure
December 2017

Creation Time: Thursday, Nov 1, 2018 Northwest River Forecast Center

Creation Time: Saturday, Dec 1, 2018 Northwest River Forecast Center

Creation Time: Tuesday, Jan 1, 2019 Northwest River Forecast Center

Creation Time: Wednesday, Nov 1, 2017 Northwest River Forecast Center

Creation Time: Friday, Dec 1, 2017 Northwest River Forecast Center

Creation Time: Monday, Jan 1, 2018 Northwest River Forecast Center
Temperature & Precipitation
January, 2019

Temperature Departure
Jan 1, 2019 - Jan 09, 2019

Temperature Departure
From Normal (Deg F)
- Below -6
- -6 to -3
- -3 to -1
- -1 to 1
- 1 to 3
- 3 to 6
- Above 6

Current Month Precipitation
Jan 1, 2019 - Jan 09, 2019

Monthly Precipitation
(Percent Normal)
- Below 50%
- 50 – 70%
- 70 – 90%
- 90 – 110%
- 110 – 130%
- Above 130%

Creation Time: Thursday, Jan 10, 2019
Northwest River Forecast Center
Temperature and Precipitation at Boise

KBOI - Oct 2018 Through Sep 2019

Temperature (Deg F)

Precipitation (inches)

Snow (inches)

Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug Sep

Record Min Record Max Normal Below Normal Above Normal

3.64

5.0
Temperature and Precipitation at Burley

KBYI - Oct 2018 Through Sep 2019

Temperature (Deg F)

Precipitation (Inches)

-40 -30 -20 -10 0 10 20 30 40 50 60 70 80 90 100

Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug Sep

2 4 6 8 10

Record Min Record Max Normal Below Normal Above Normal

4.19

Below Normal

Above Normal
Temperature and Precipitation at Pocatello

KPIH - Oct 2018 Through Sep 2019

Temperature (Deg F)

Precipitation (Inches)

Snow (Inches)

Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug Sep

Record Min  Record Max  Normal  Below Normal  Above Normal

3.17

14.3
Temperature and Precipitation at Stanley

KSNT - Oct 2018 Through Sep 2019

Temperature (Deg F)

Precipitation (Inches)

Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug Sep

Record Min Record Max Normal Below Normal Above Normal
Temperature and Precipitation at Lewiston

KLWS - Oct 2018 Through Sep 2019

Temperature (Deg F)

Record Min
Record Max
Normal
Below Normal
Above Normal

Precipitation (Inches)

Snow (inches)

Oct  Nov  Dec  Jan  Feb  Mar  Apr  May  Jun  Jul  Aug  Sep

3.29
0.5

0  2  4  6  8  10  12

-30  -10  10  30  50  70  90  110

0  10  20  30  40  50  60  70  80
Current IR Satellite Imagery
5-Day Precipitation Forecast

Through 4PM 01/15/2019

[Map showing precipitation forecast for various cities and regions]
Low Temperature Forecast

January 12

Temperature Forecast Map for January 12, 2019
8-14 Day Outlook
January 18 - 24

http://www.cpc.noaa.gov/
ENSO Status & Climate Outlook

- ENSO-neutral conditions are present
- Sea surface temperatures are above-average across most of the equatorial Pacific Ocean
- The overall coupled ocean-atmosphere system continues to reflect ENSO-neutral
- El Niño (weak) is likely to form and continue through the winter and spring

El Niño Winter Impacts
NWRFC Water Supply

Official Forecast

Forecasts for Water Year 2018

<table>
<thead>
<tr>
<th>Forecast Period</th>
<th>90%</th>
<th>50%</th>
<th>Average</th>
<th>10%</th>
</tr>
</thead>
<tbody>
<tr>
<td>APR-SEP</td>
<td>2056</td>
<td>2623</td>
<td>3457</td>
<td>2575</td>
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<td>APR-JUL</td>
<td>1934</td>
<td>2480</td>
<td>3257</td>
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<td>JAN-SEP</td>
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<td>JAN-JUL</td>
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<td>3636</td>
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<td>OCT-SEP</td>
<td>3606</td>
<td>4295</td>
<td>5229</td>
<td>3891</td>
</tr>
</tbody>
</table>

Water Supply Forecasts

ENSO Runoff Adjustments Verification Verify All Years

Monthly Water Supply Forecasts

NF CLEARWATER - DWORSHAK DAM (DWR11)

Officials Forecast

NF CLEARWATER - DWORSHAK DAM

Period: APR to SEP - Water Year 2018

Water Supply Forecasts - 30y Normal


Forecast Period: APR-SEP

Average (1981-2010)

<table>
<thead>
<tr>
<th>Period</th>
<th>Average</th>
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</thead>
<tbody>
<tr>
<td>APR-SEP</td>
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<tr>
<td>APR-JUL</td>
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<tr>
<td>OCT-SEP</td>
<td>3085</td>
</tr>
</tbody>
</table>

APR-OCT-DEC Oceanic Nino Index vs APR-SEP Historical Water Supply Runoff

(DWR11) NF CLEARWATER - DWORSHAK DAM (1951-2017)

- Runoff for Given Water Year
- Current ESP10 Forecast
- ONI vs Runoff Trendline
- 30 Year Normal (1981-2010)

Oceanic Nino Index (ONI)

La Nina Neutral El Nino

Trendline StdErr=710 KAF, Corr(r)=-0.58, n=67

ONI Index Date: 11/01/2017
ESP Forecast Date: 01/11/2018
Created: 01/12/2018 08:20 PST
Southern Oscillation Index (SOI) Precipitation Relationships Idaho

- Variety of precipitation outcomes during El Niño events
Seasonal Outlook

THREE-MONTH OUTLOOK
TEMPERATURE PROBABILITY
0.5 MONTH LEAD
VALID JFM 2019
MADE 20 DEC 2018

THREE-MONTH OUTLOOK
PRECIPITATION PROBABILITY
0.5 MONTH LEAD
VALID JFM 2019
MADE 20 DEC 2018
Seasonal Outlook

THREE-MONTH OUTLOOK TEMPERATURE PROBABILITY 1.5 MONTH LEAD
VALID FMA 2019
MADE 20 DEC 2018

THREE-MONTH OUTLOOK PRECIPITATION PROBABILITY 1.5 MONTH LEAD
VALID FMA 2019
MADE 20 DEC 2018
Seasonal Outlook

TREBLE-MONTH OUTLOOK
TEMPERATURE PROBABILITY
2.5 MONTH LEAD
VALID MAM 2019
MADE 20 DEC 2018
EC MEANS EQUAL
CHANCES FOR A, N, B, C
A MEANS ABOVE
B MEANS BELOW
B MEANS BELOW

TREBLE-MONTH OUTLOOK
PRECIPITATION PROBABILITY
2.5 MONTH LEAD
VALID MAM 2019
MADE 20 DEC 2018
EC MEANS EQUAL
CHANCES FOR A, N, B, C
A MEANS ABOVE
B MEANS BELOW
B MEANS BELOW

Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec
Seasonal Outlook

THREE-MONTH OUTLOOK TEMPERATURE PROBABILITY 3.5 MONTH LEAD
VALID APR 2019
MADE 20 DEC 2018

THREE-MONTH OUTLOOK PRECIPITATION PROBABILITY 3.5 MONTH LEAD
VALID APR 2019
MADE 20 DEC 2018

EC MEANS EQUAL CHANCES FOR A, B, C
A MEANS ABOVE
B MEANS NORMAL
C MEANS BELOW

Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec
Seasonal Outlook

THREE-MONTH OUTLOOK
TEMPERATURE PROBABILITY
4.5 MONTH LEAD
VALID MJJ 2019
MADE 29 DEC 2018

EC MEANS EQUAL CHANCES FOR A, N, B
A MEANS ABOVE
N MEANS NORMAL
B MEANS BELOW

THREE-MONTH OUTLOOK
PRECIPITATION PROBABILITY
4.5 MONTH LEAD
VALID MJJ 2019
MADE 20 DEC 2018

EC MEANS EQUAL CHANCES FOR A, N, B
A MEANS ABOVE
N MEANS NORMAL
B MEANS BELOW

Jan  |  Feb  |  Mar  |  Apr  |  May  |  Jun  |  Jul  |  Aug  |  Sep  |  Oct  |  Nov  |  Dec
Seasonal Outlook

THREE-MONTH OUTLOOK TEMPERATURE PROBABILITY
5.5 MONTH LEAD
VALID JUN 2019
MADE 20 DEC 2018

THREE-MONTH OUTLOOK PRECIPITATION PROBABILITY
5.5 MONTH LEAD
VALID JUN 2019
MADE 20 DEC 2018

Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec