

# **Idaho Water Supply Outlook Report**

## **March 1, 2010**

# **IDWR Water Supply Meeting**

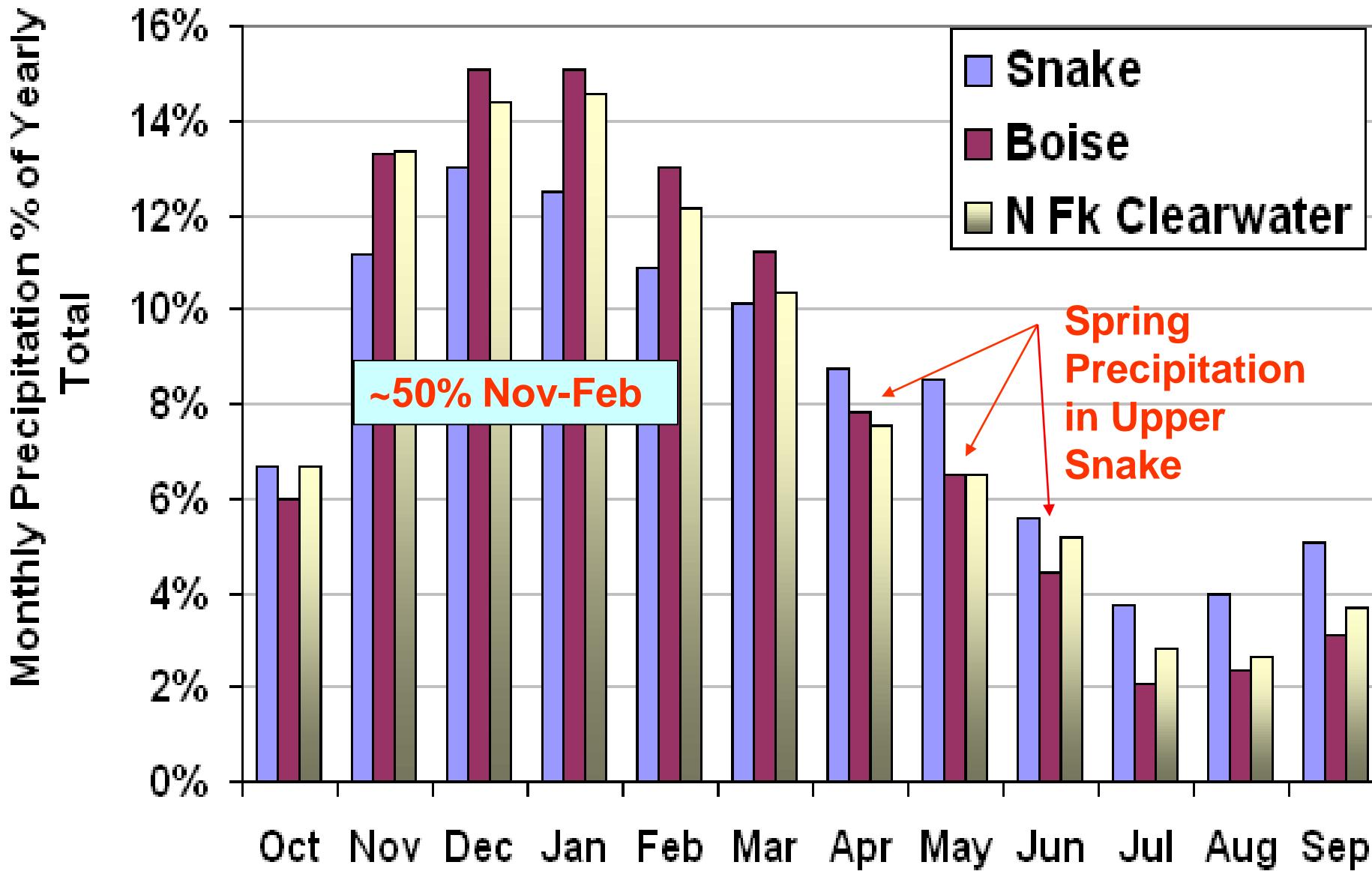
**March 11, 2010**



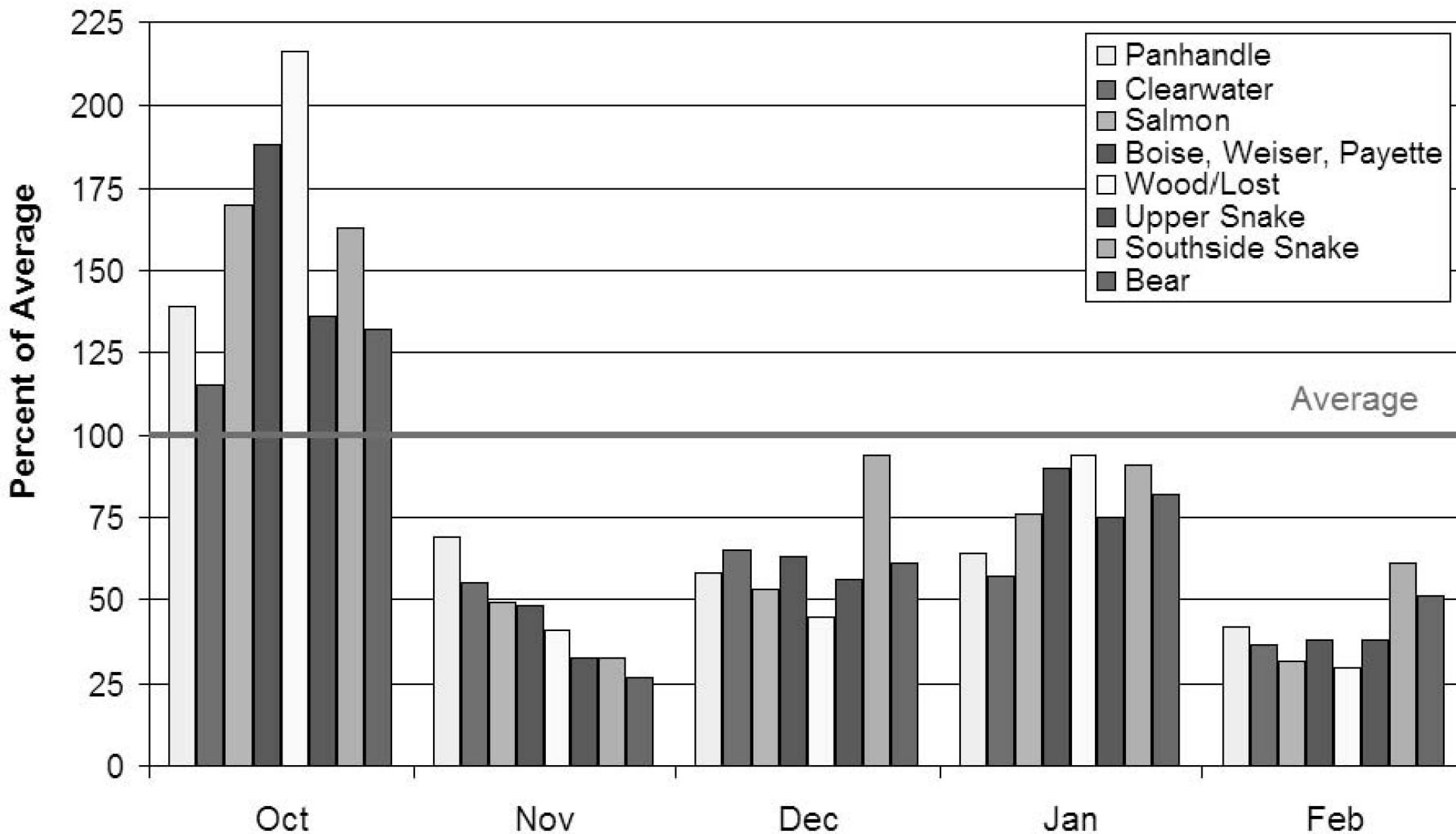
Photo Credit: <http://www.guardian.co.uk>

Snow appropriations are stuck on Capitol Hill this winter. The National Weather Service reported on February 11<sup>th</sup> that Washington DC's seasonal snowfall total stood at 55.9 inches, breaking the previous all-time seasonal snowfall record of 54.4 inches, set in the winter of 1898-99 when William McKinley was president. Official snowfall records for Washington DC date back 126 years to 1884. By contrast it is minimum snow records that are making news in this report. The Upper Snake River basin, critical to many Idaho water users, is having one it's most dismal snow seasons ever. Records that extend back to 1919 indicate that Yellowstone National Park has its third lowest snowpack in 91 years. If this winter's El Nino pattern does not relent, there are a number of basins in the state that could see water shortages this summer.

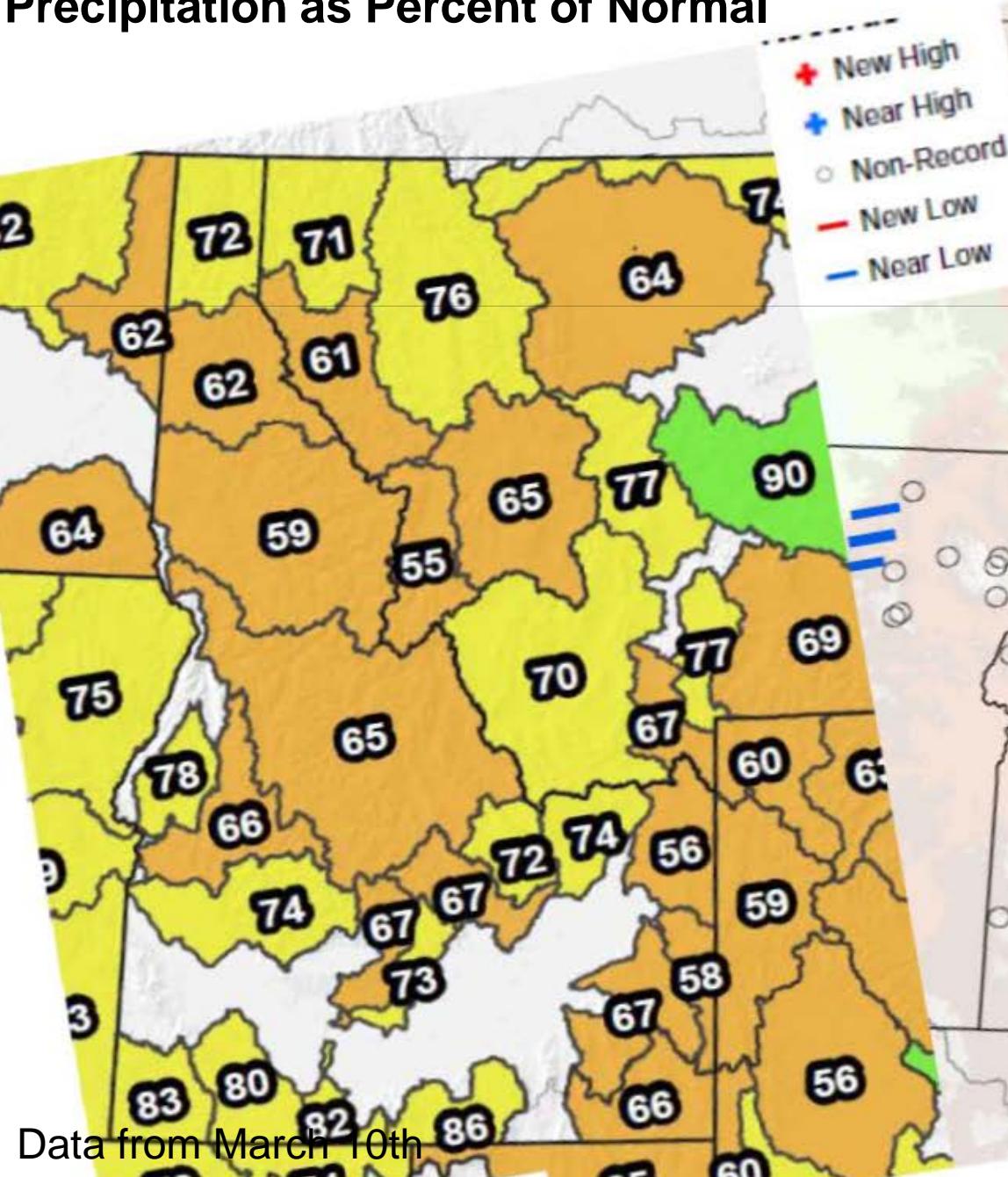
# Monthly SNOTEL Precipitation as a Percent of Average Annual Total



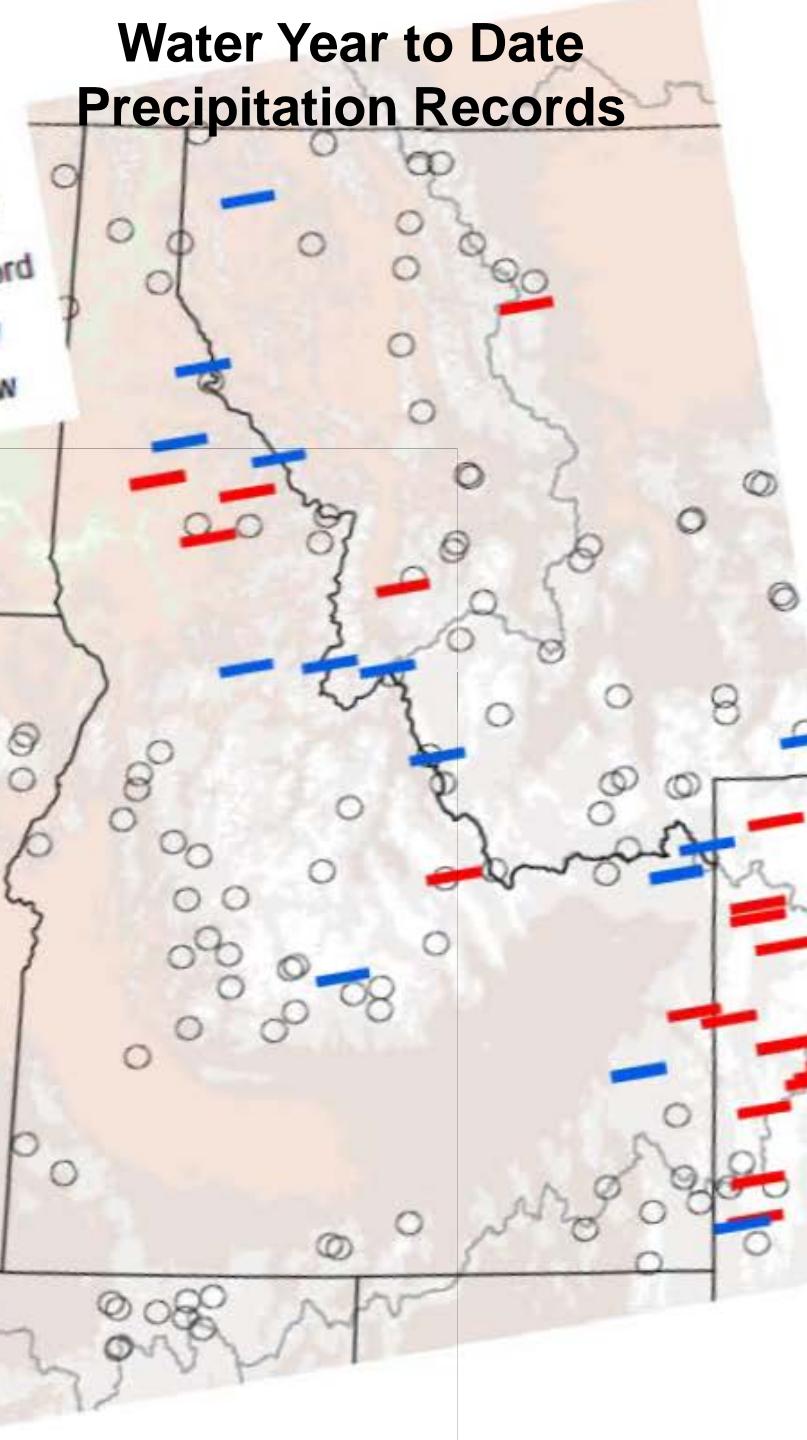
# 2010 Mountain Precipitation



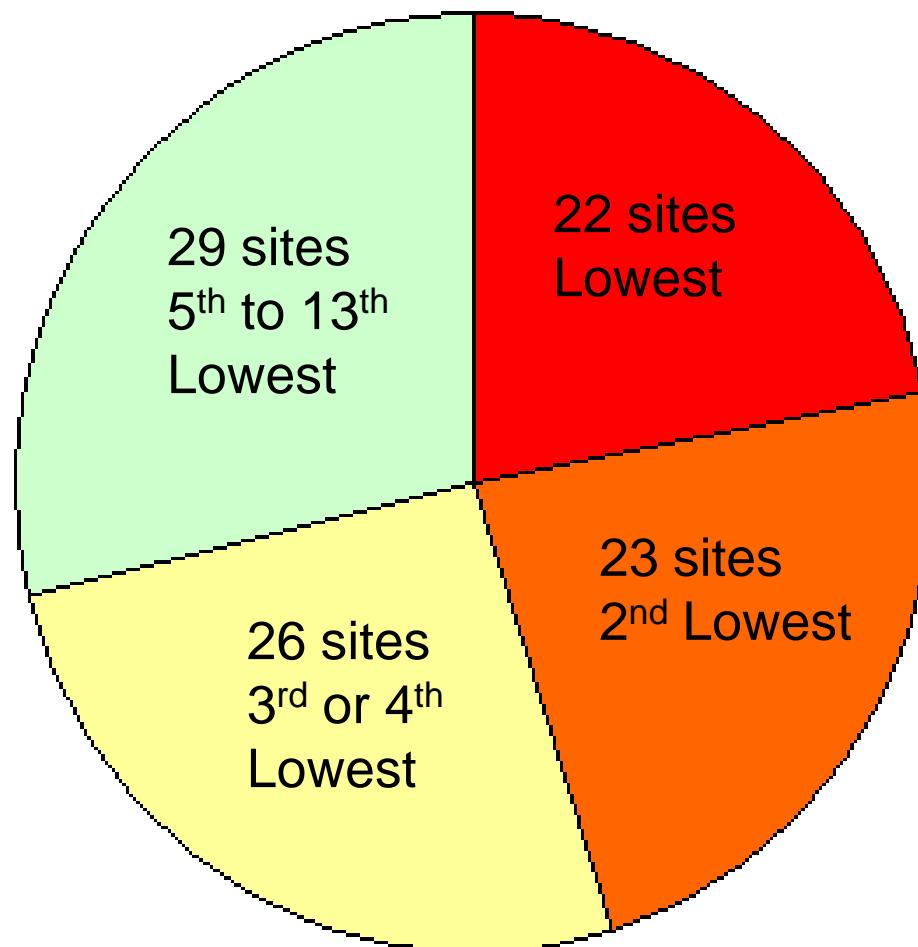
## Water Year to Date SNOTEL Precipitation as Percent of Normal



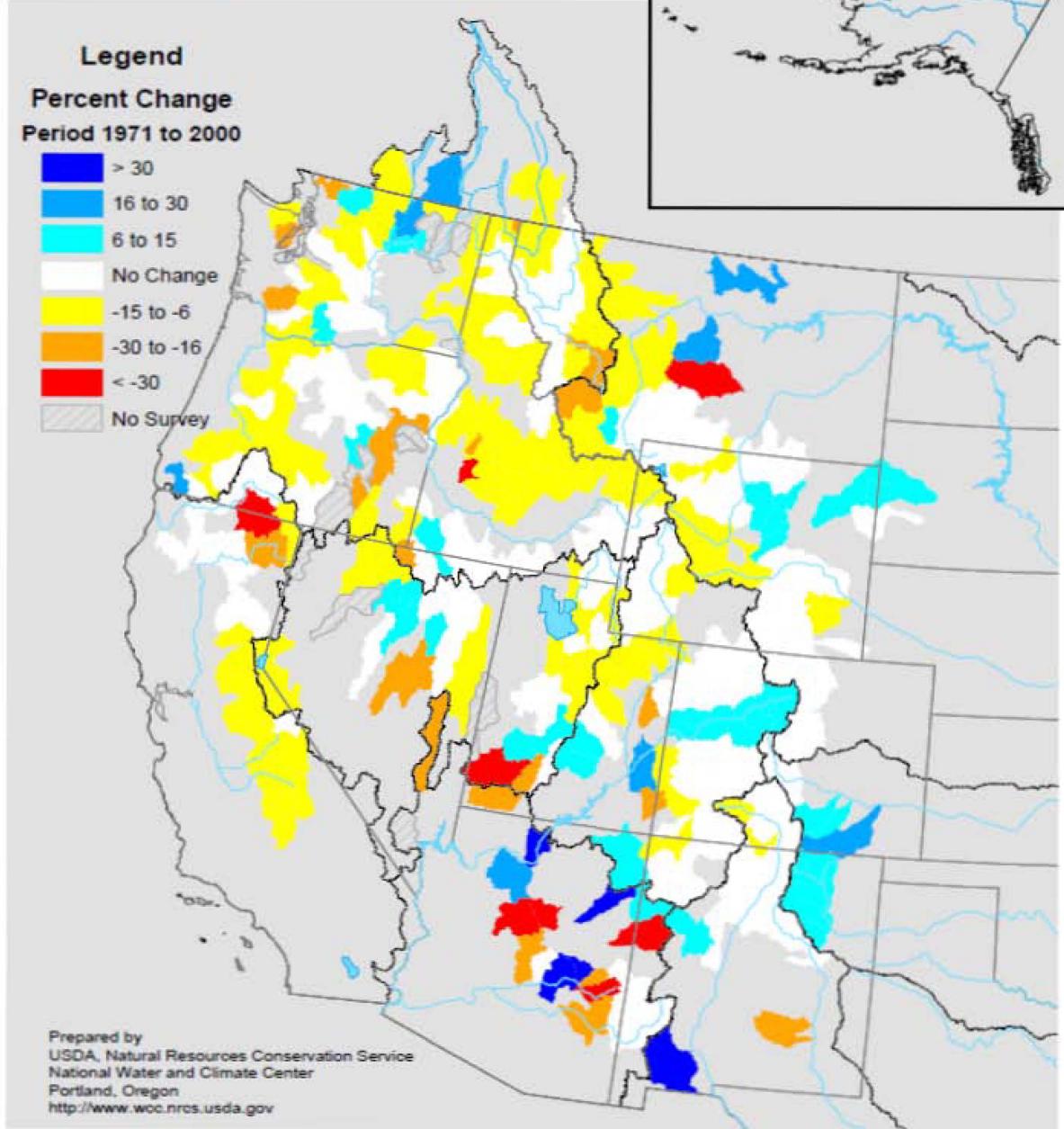
## Water Year to Date Precipitation Records

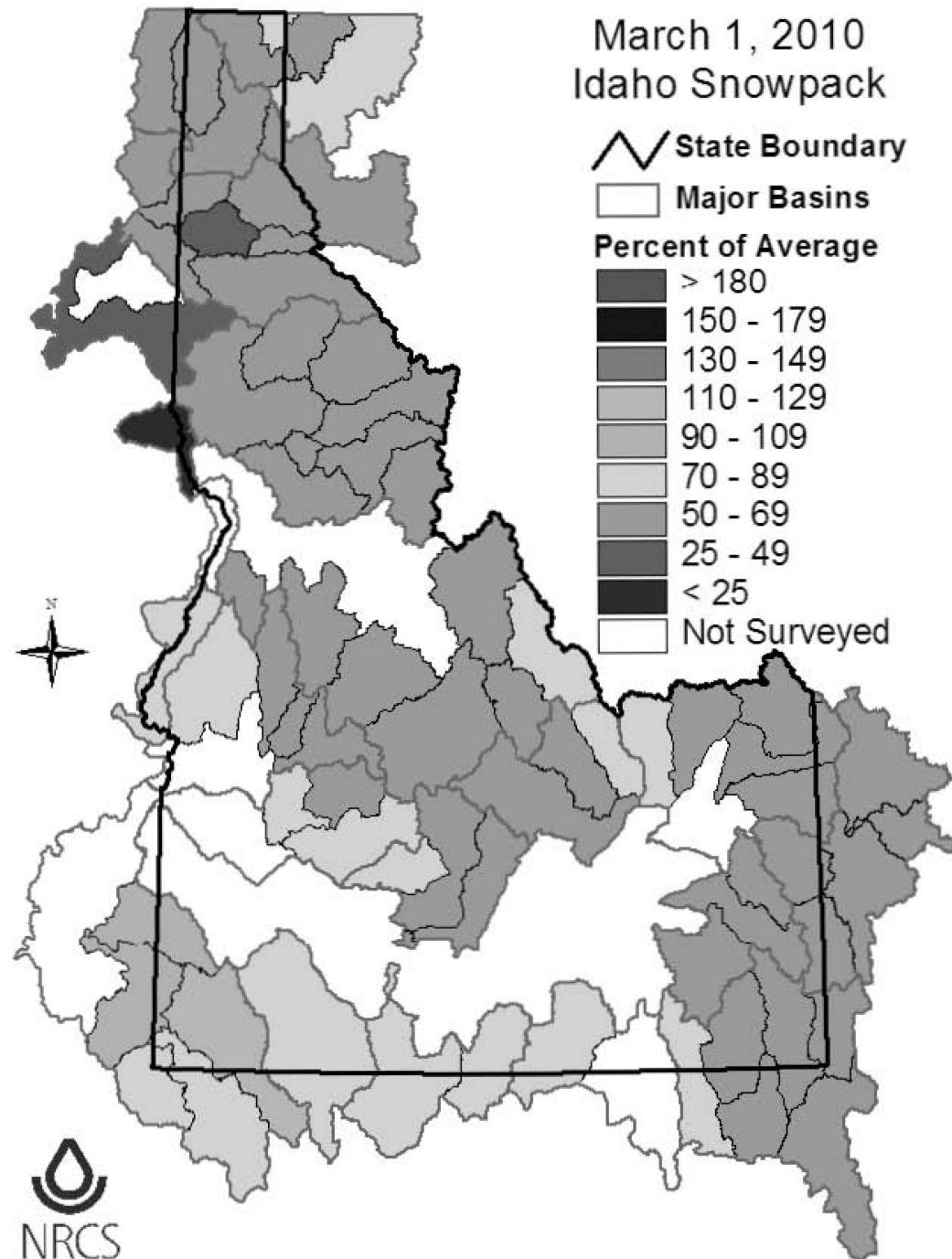


# **2010 Nov-Feb Precipitation Ranked for 100 SNOTEL sites in ID and WY with 20-50 Years of Data**

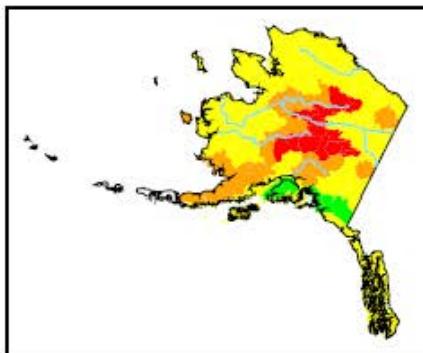


# Mountain Snowpack Change between February 1 and March 1





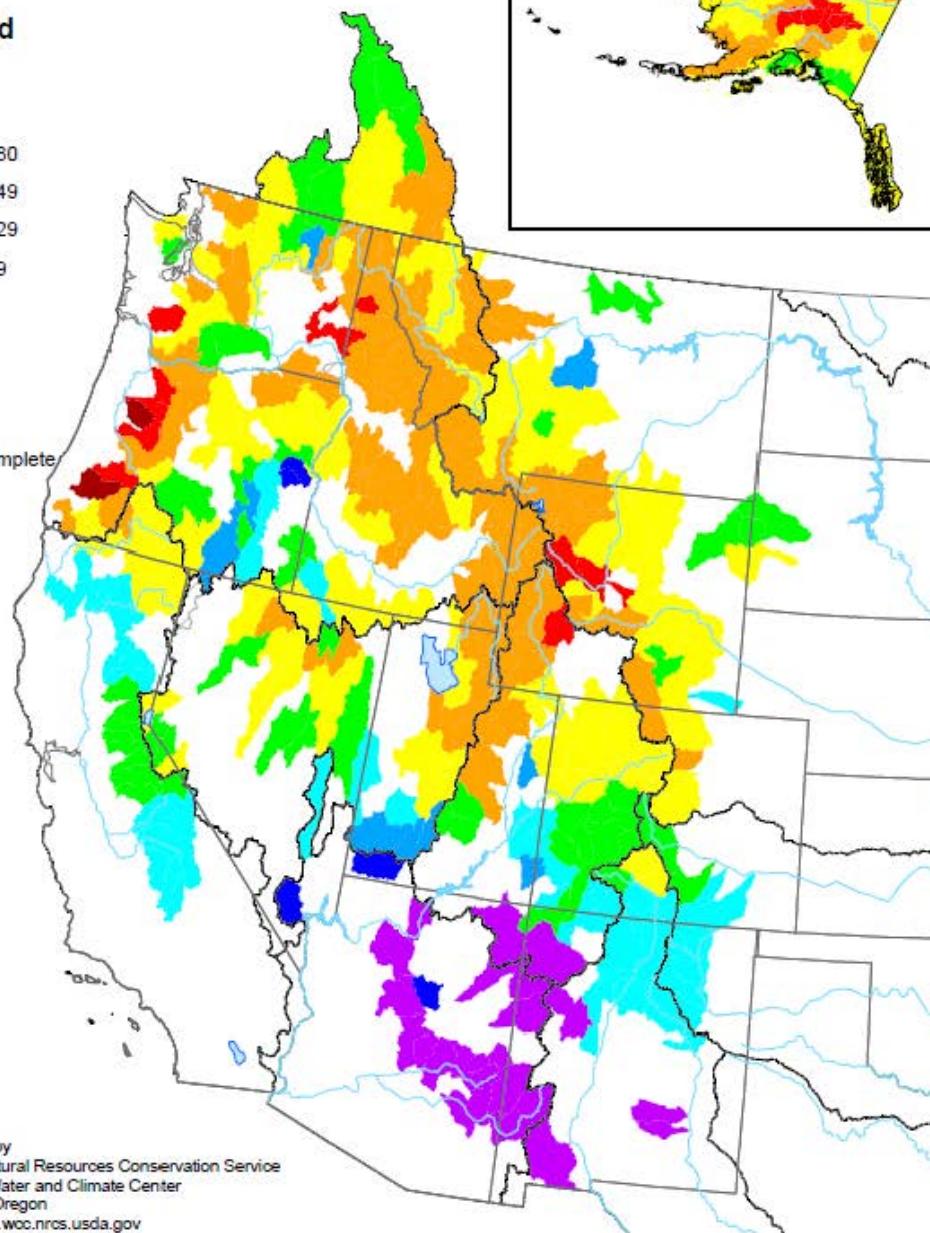
## Mountain Snowpack as of March 1, 2010



Legend

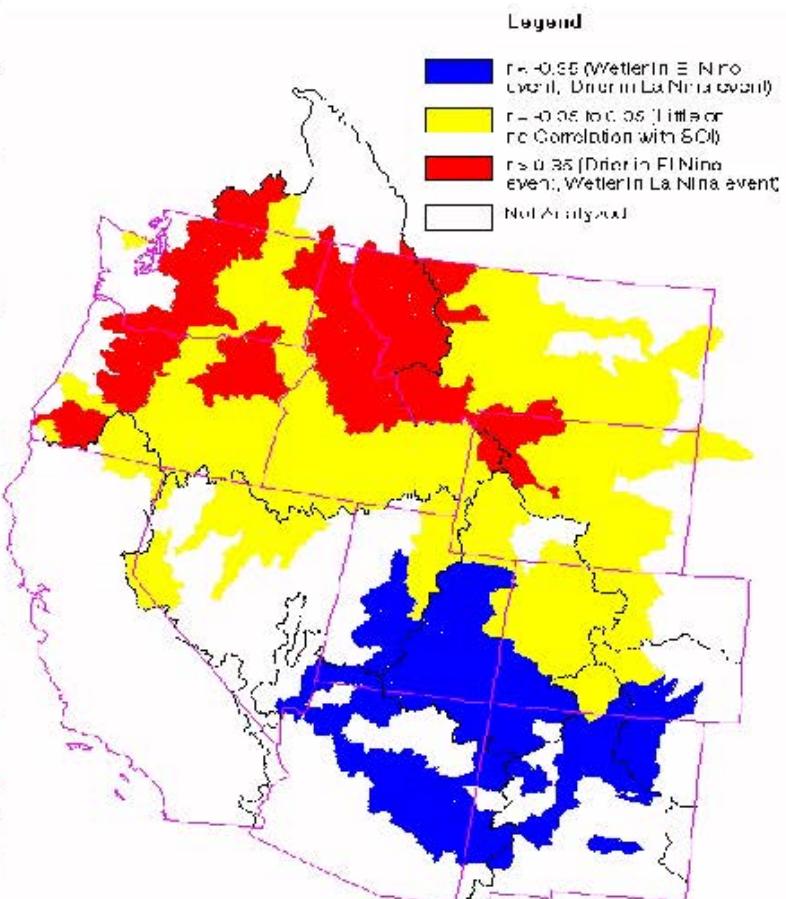
percent

> 180
150 - 180
130 - 149
110 - 129
90 - 109
70 - 89
50 - 69
25 - 49
< 25
Not Complete



Prepared by  
USDA, Natural Resources Conservation Service  
National Water and Climate Center  
Portland, Oregon  
<http://www.wcc.nrcs.usda.gov>

# Classic El Niño Geographic Distribution



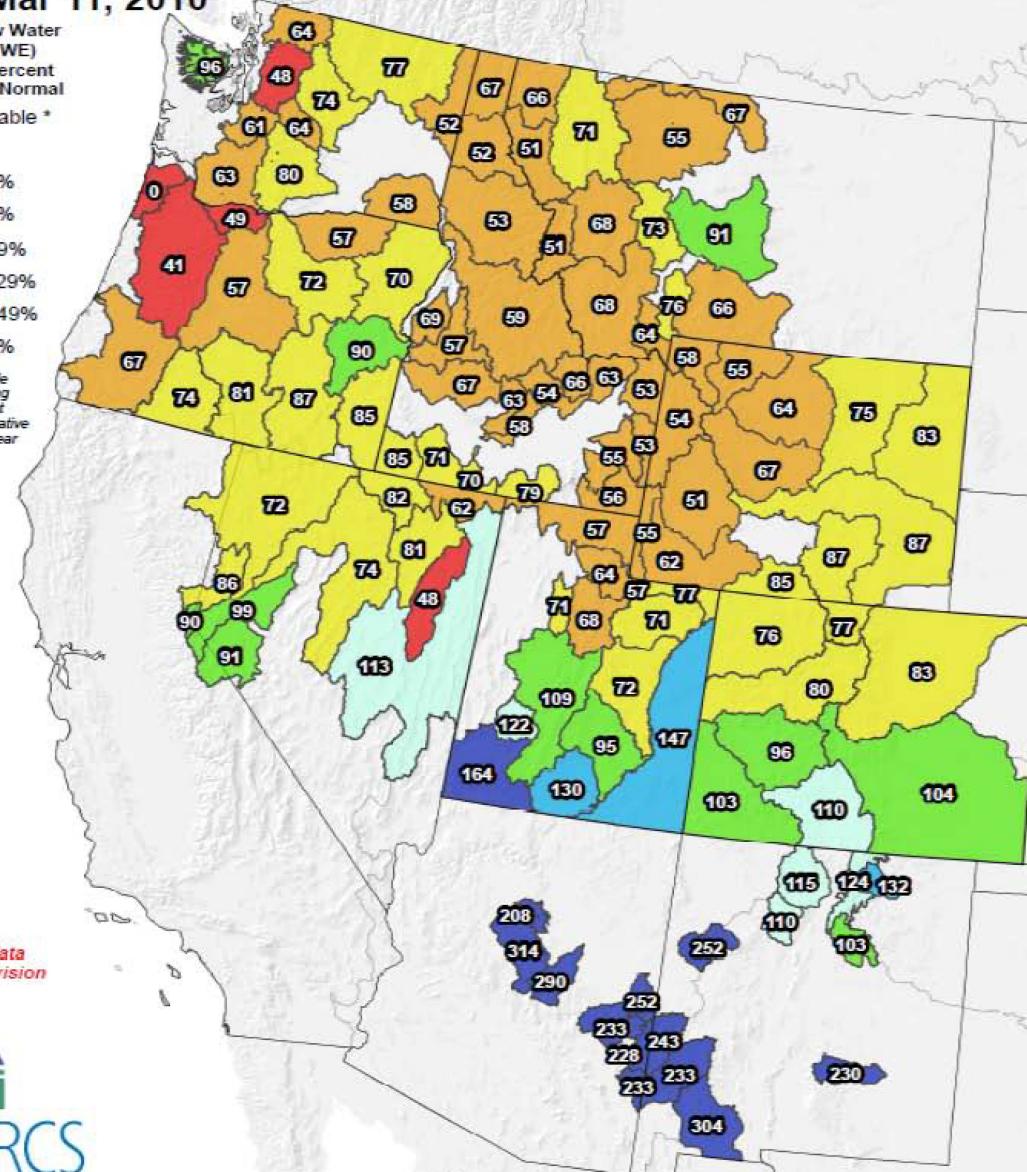
## Westwide SNOTEL Current Snow Water Equivalent (SWE) % of Normal

Mar 11, 2010

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



0 75 150 Miles 300

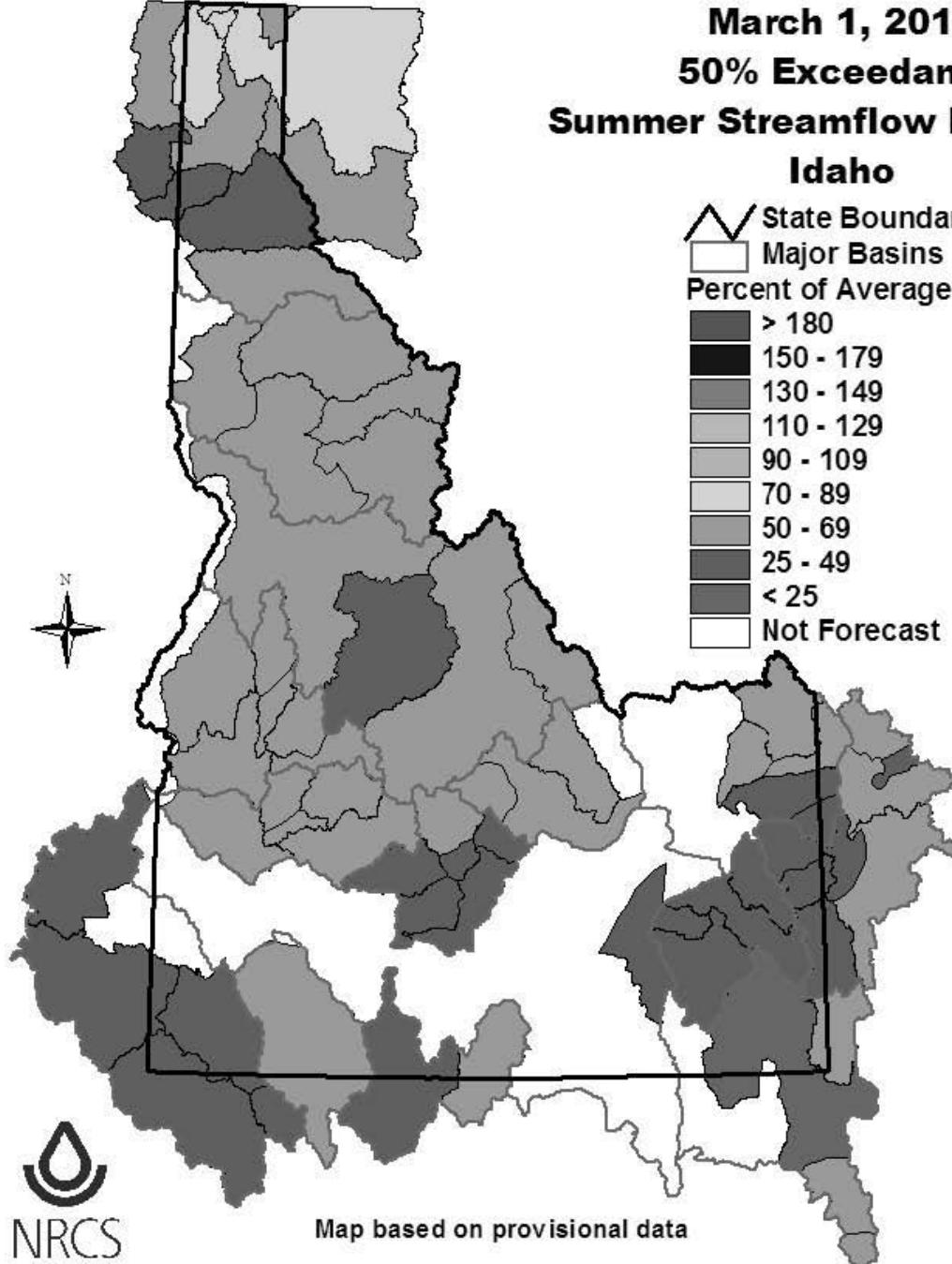
The snow water equivalent percent of normal represents the current snow water equivalent found at selected SNOTEL sites in or near the basin compared to the average value for those sites on this day. Data based on the first reading of the day (typically 00:00).

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: Tom.Pagano@por.usda.gov 503 414 3010

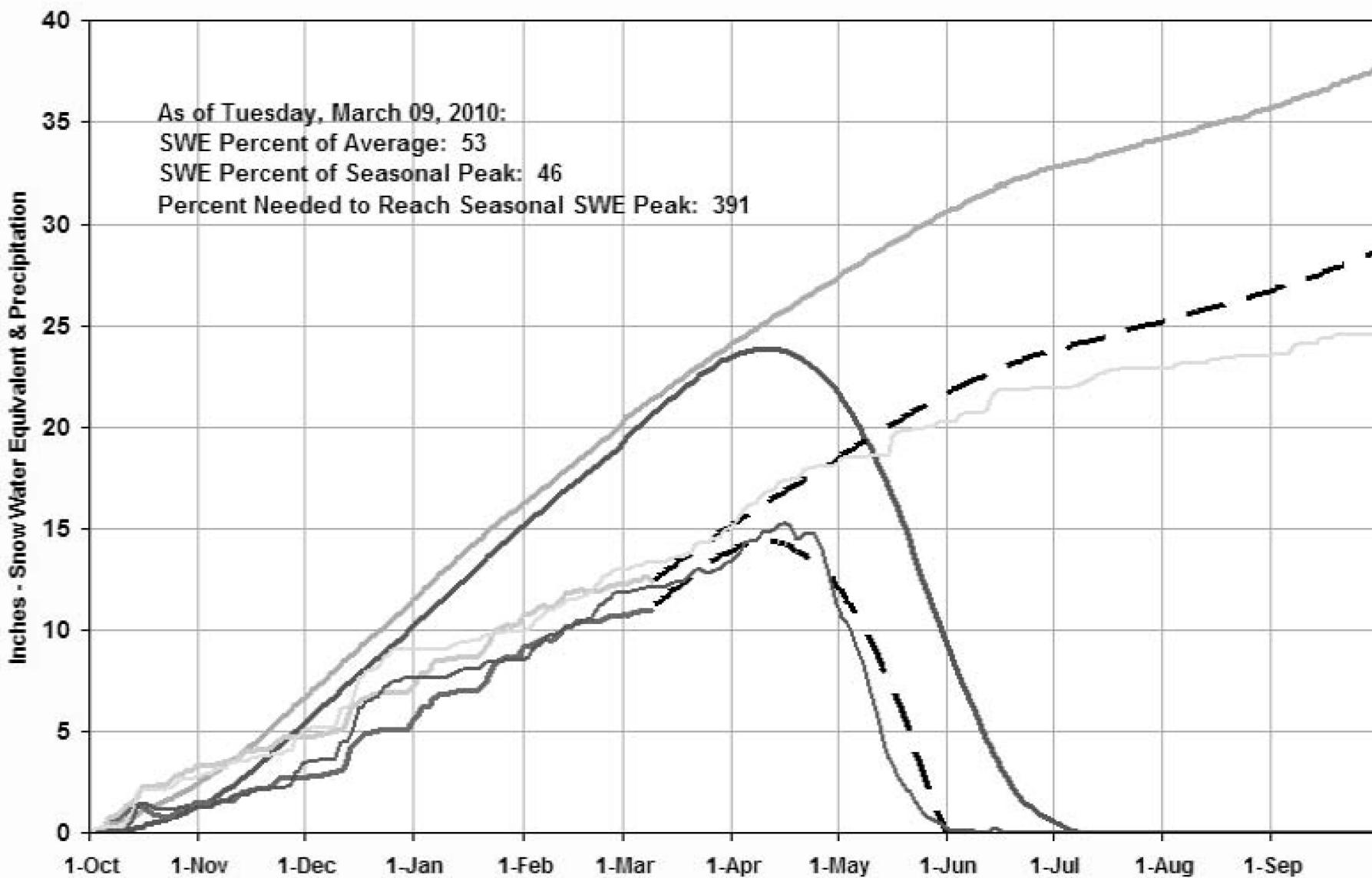
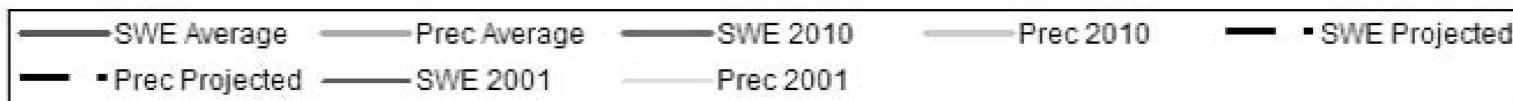
**March 1, 2010**  
**50% Exceedance**  
**Summer Streamflow Forecasts**

**Idaho**

	<b>State Boundary</b>
	<b>Major Basins</b>
<b>Percent of Average</b>	
	> 180
	150 - 179
	130 - 149
	110 - 129
	90 - 109
	70 - 89
	50 - 69
	25 - 49
	< 25
	<b>Not Forecast</b>

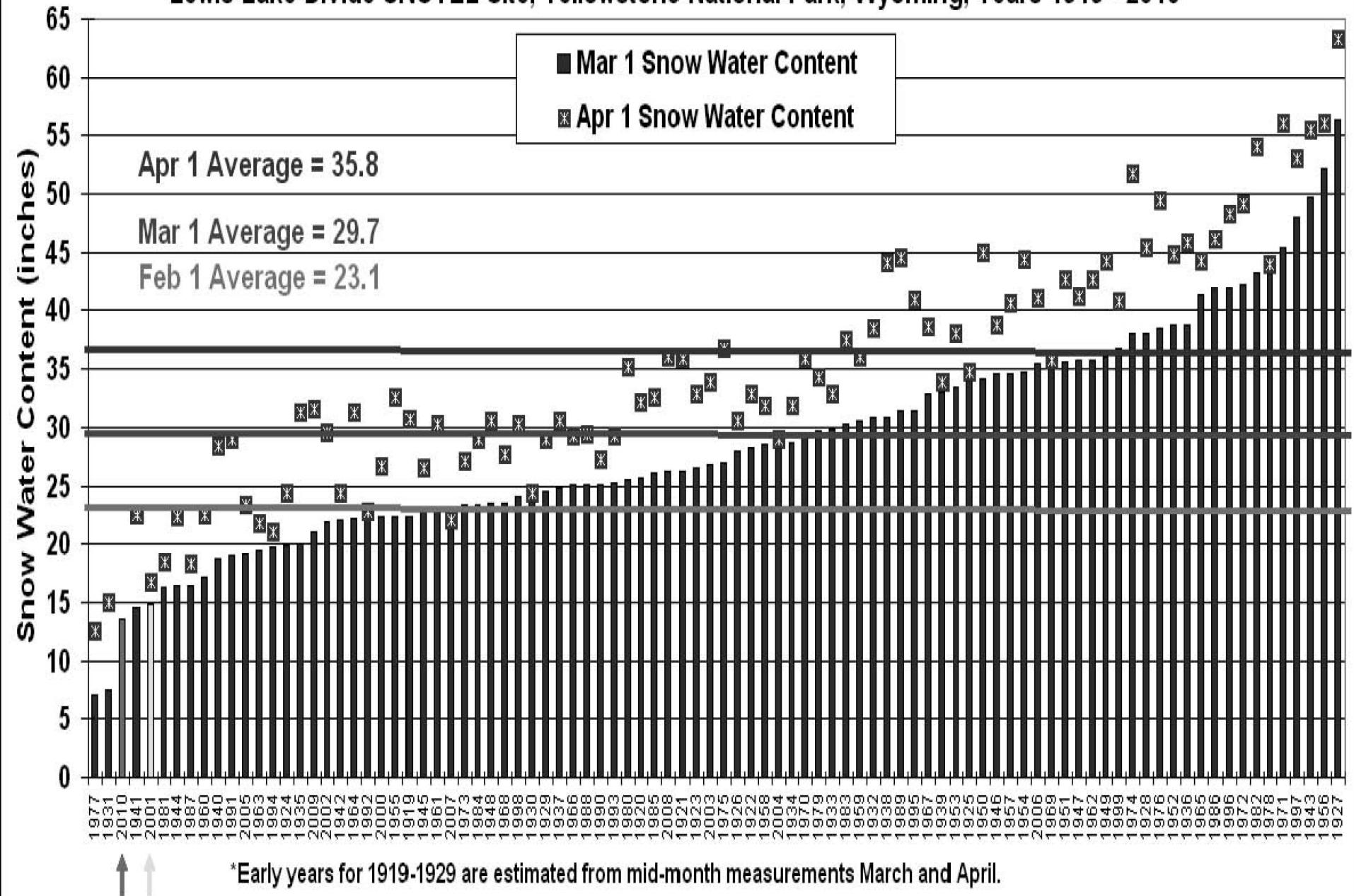


## Snake Basin above Palisades 2010 Snowpack Graph (17 Sites)



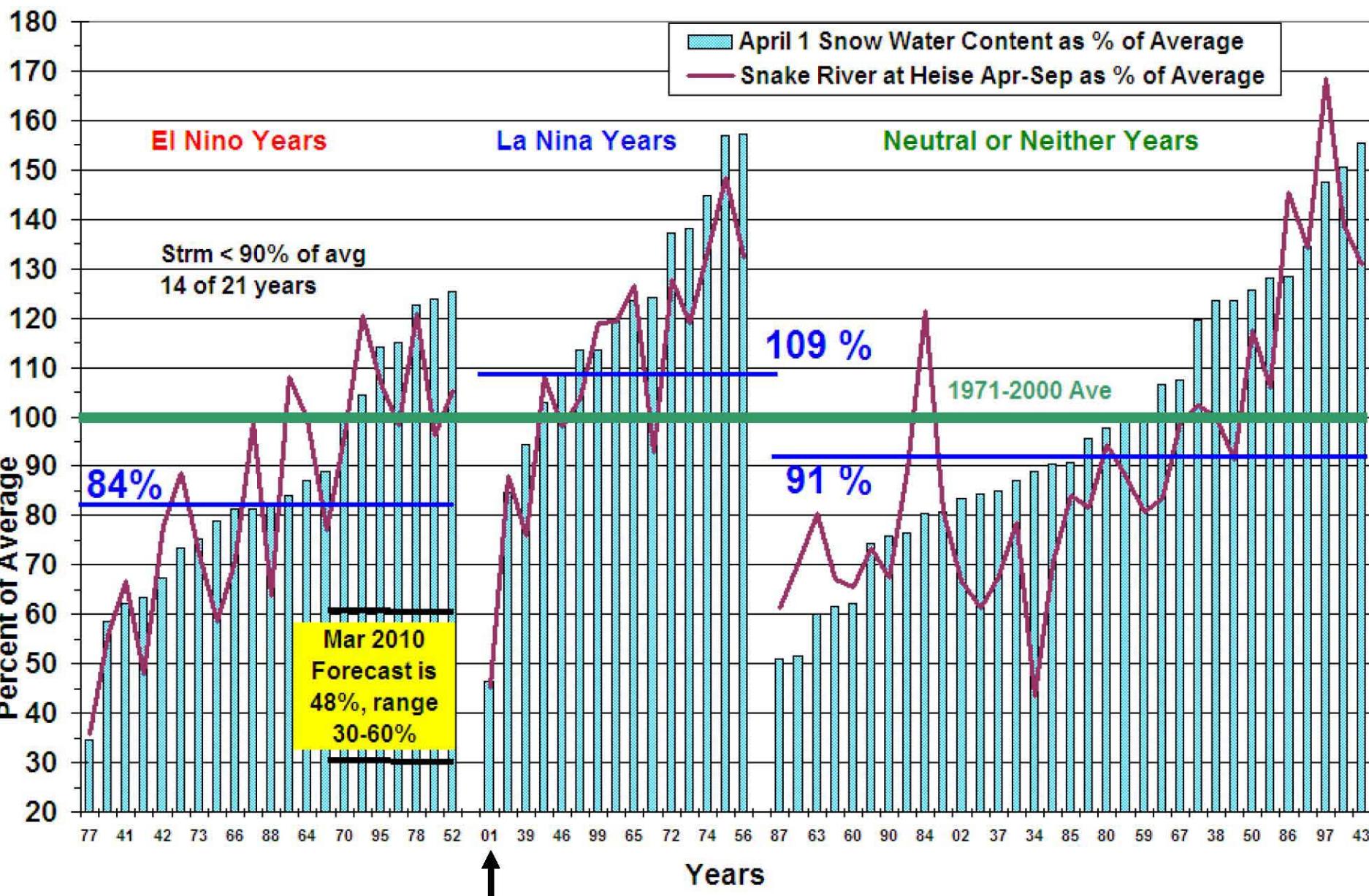
# March 1 & April 1 Snow Water Content compared to Average Monthly Values

Lewis Lake Divide SNOTEL Site, Yellowstone National Park, Wyoming, Years 1919 - 2010\*



Lewis Lake Divide SNOTEL Site Wyoming --- Yellowstone National Park 1934- 2002

April 1 Snow Water Content (bar graph) & Snake River near Heise Apr-Sep Flow (line graph)

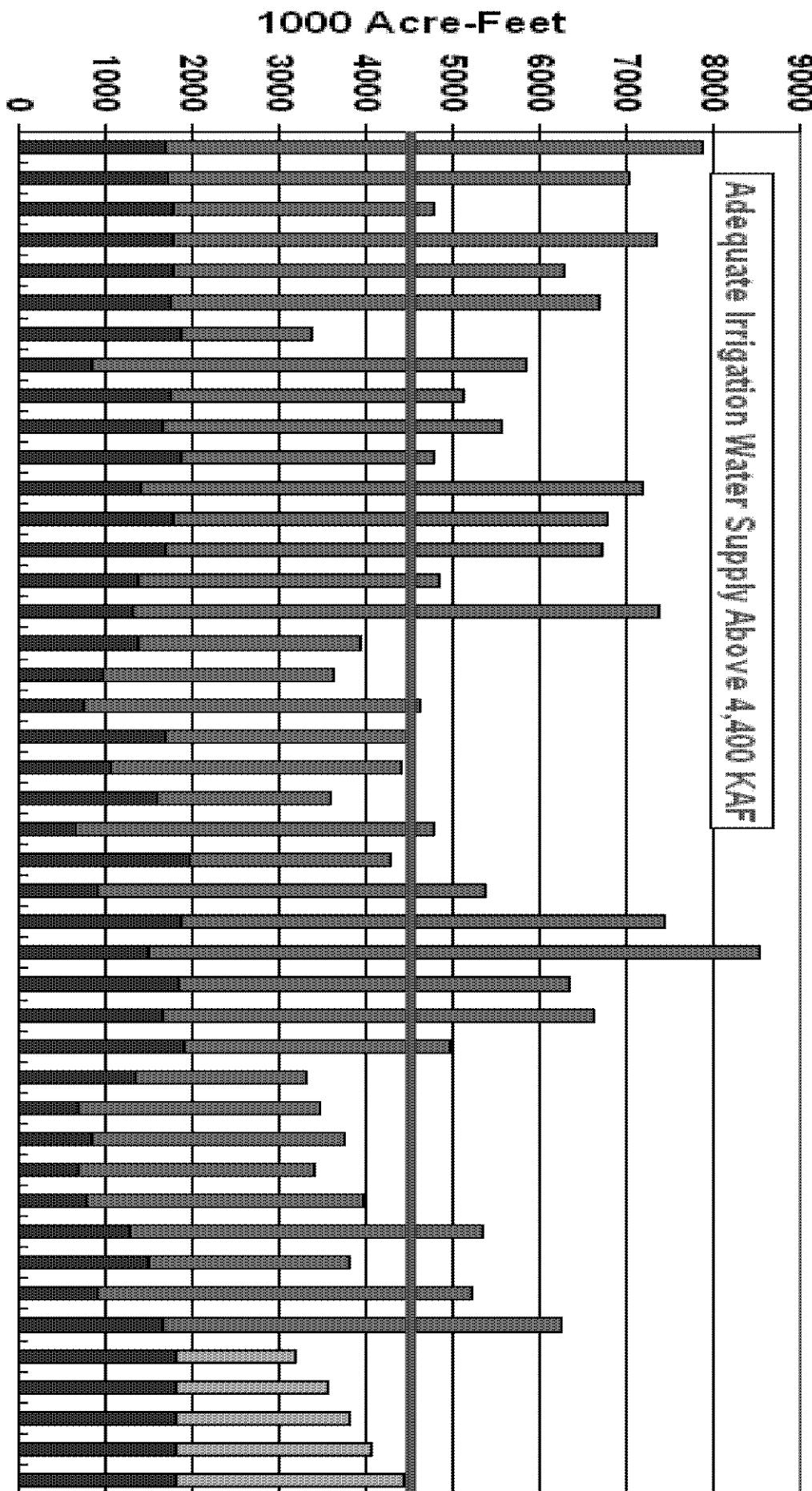


2001 La Niña / warm PDO, 2010 El Nino / cool PDO

# March 1 Surface Water Supply Index (SWSI)

Snake River near Heise & Jackson and Palisades Reservoirs

■ Streamflow Apr-Sep  
■ Reservoir 28-Feb



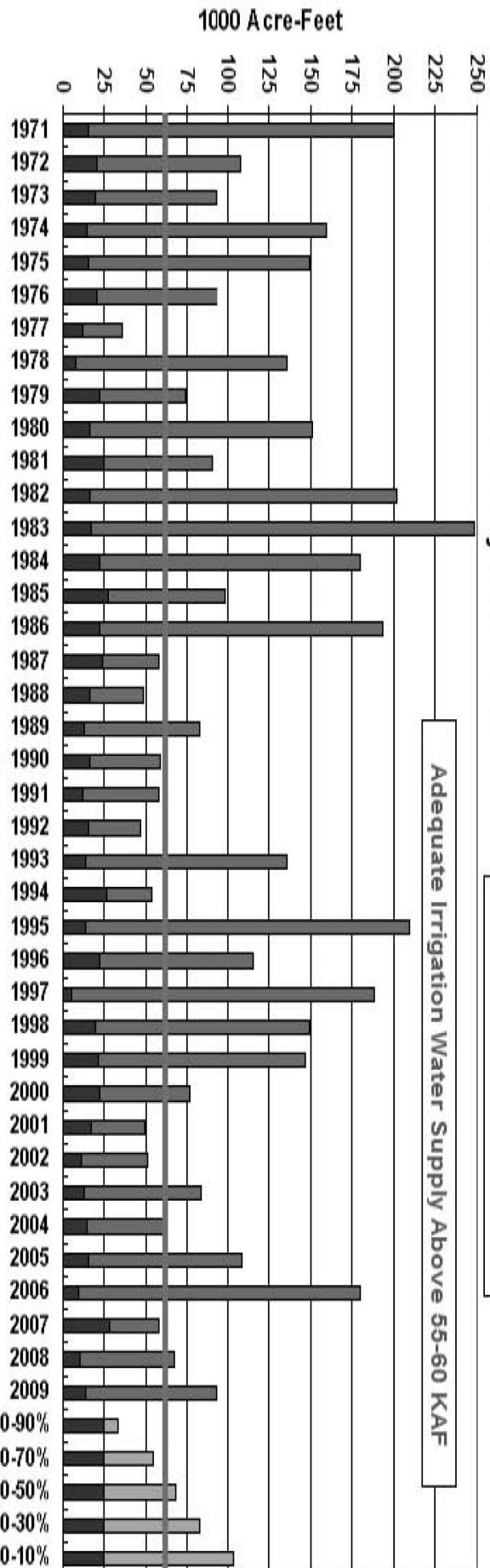
## March 1 Surface Water Supply Index (SWSI)

Little Wood River near Carey & Reservoir

■ Streamflow Mar-Sep  
■ Reservoir 28-Feb



NRCS  
Natural Resources Conservation Service



## March 1 Big Wood Surface Water Supply Index (SWSI) Big Wood River below Magic & Magic Reservoir

■ Streamflow Apr-Sep  
■ Reservoir 28-Feb



NRCS  
Natural Resources Conservation Service

1000

900

800

700

600

500

400

300

200

100

0

Years

Adequate Irrigation Water Supply Above 275 KAF

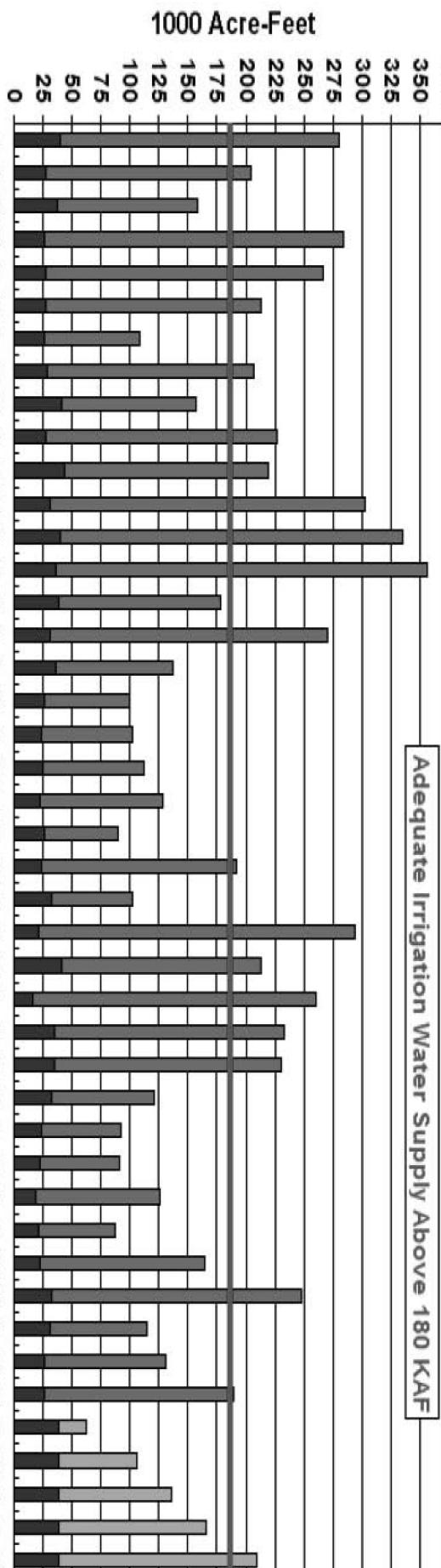
2010-90%  
2010-70%  
2010-50%  
2010-30%  
2010-10%

**March 1 Big Lost Surface Water Supply Index (SWSI)**  
**Big Lost River below Reservoir & Mackay Reservoir**

■ Streamflow Apr-Sep  
■ Reservoir 28-Feb



Natural Resources Conservation Service



**March 1 Surface Water Supply Index (SWSI)**  
**Little Lost River below Wet Creek**

NRCS  
NATIONAL RESOURCE CONSERVATION SERVICE



Years

# March 1 Bear River Surface Water Supply Index (SWSI)



■ Streamflow Apr-Sep  
■ Reservoir 28-Feb

Bear River at Stewart Dam & Bear Lake

1000 Acre-Feet  
1800  
1700  
1600  
1500  
1400  
1300  
1200  
1100  
1000  
900  
800  
700  
600  
500  
400  
300  
200  
100  
0

Adequate Surface Irrigation Water Supply Above 500 KAF

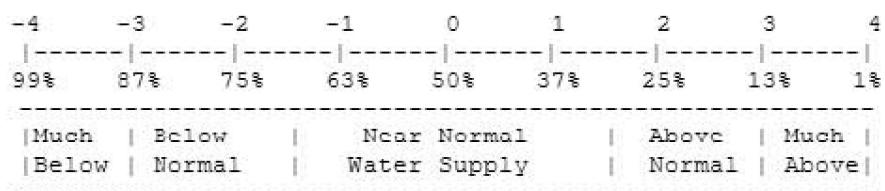
Years

2010-90%  
2010-70%  
2010-50%  
2010-30%  
2010-10%

# March 2010 Idaho Surface Water Supply Index (SWSI)

BASIN or/ REGION	March SWSI Value Based on 50% Exceedance Forecast	March SWSI Value Based on 70% Exceedance Forecast	Agricultural Surface Water Supply Shortage May Occur When SWSI is Less Than
PANHANDLE	-3.2		NA
CLEARWATER	-3.4	-3.8	NA
SALMON	-2.8	-3.2	NA
WEISER	-2.0	-2.4	NA
PAYETTE	2.2	2.8	NA
BOISE	-1.8	-2.4	-1.7
BIG WOOD	-1.4	-2.2	0.0
LITTLE WOOD	-1.6	-2.6	-1.9
BIG LOST	-1.1	-2.6	-0.1
LITTLE LOST	-2.4	-2.6	0.6
HENRYS FORK	-3.4	-3.8	-3.3
TETON	-3.2	-3.6	NA
SNAKE – HEISE	-2.6	-3.2	-1.8
OWYHEE	-3.4	-3.9	-3.4
OAKLEY	-1.4	-2.0	-0.9
SALMON FALLS	-2.4	-2.8	-1.3
BRUNEAU	-2.0	-3.2	NA
BEAR RIVER	-2.0	-2.6	-2.9

## *SWSI SCALE, PERCENT CHANCE OF EXCEEDANCE, AND INTERPRETATION*



Late March view S.F. Boise River below Anderson Dam

