

#### **Brad Little** Governor

#### **Jeff Raybould**

Chairman St. Anthony At Large

#### Jo Ann Cole-Hansen

Secretary Lewiston At Large

**Dale Van Stone** Hope District 1

Albert Barker **Boise District 2** 

**Dean Stevenson** Paul **District 3** 

**Peter Van Der Meulen** Hailev At Large

**Brian Olmstead** 

**Twin Falls** At Large

BOISE Water Center Conf. Room 602B 322 E. Front St.

AGENDA

**IDAHO WATER RESOURCE BOARD** 

#### **Upper Snake River Advisory Committee Meeting No. 8-22** Thursday, November 10, 2022 10:00 a.m. (MST)

**Meeting Location(s):** 

**IDAHO FALLS** Eastern Regional Office Main Conference Room 900 N. Skyline Dr.

or ONLINE via Zoom - Click here to join our Zoom Meeting Dial in Option: +1 (253) 215-8782 Meeting ID: 860 8548 7210 Passcode: 673668

- 1. Introduction and Attendance
- 2. Weather Forecast (NOAA)
- 3. Snow Pack / Streamflow Forecasts (NRCS)
- 4. Water Supply / Operations Update (USBR)
- 5. Idaho Power Company
  - a. Operations Update
  - b. Cloud Seeding Update
- 6. Water District 01 Briefing
- 7. IWRB Managed Recharge Operations
- 8. New Business
- 9. Adjourn

Committee Members - Brian Olmstead

Americans with Disabilities: The meeting will be held online. If you require special accommodations to attend, participate in, or understand the meeting, please make advance arrangements by contacting Department staff by email jennifer.strange@idwr.idaho.gov or by phone at (208) 287-4800.



# Weather Outlook

Presenters: Travis Wyatt



## **October Started the Water Year Warm and Dry**







## **Pacific North American Outlook**



You can track the outlook here: https://www.cpc.ncep.noaa.gov/products /precip/CWlink/pna/pna.shtml

We switched to a negative PNA towards the end of October

Negative PNAs generally favored more during La Nina Winters Normally associated with below average temperatures and

November Flipped to Cold and Wet, So Far...









Weather Forecast Office Pocatello, ID Wednesday, November 9

## U.S. Drought Monitor Idaho



(Released Thursday, Nov. 3, 2022) Valid 8 a.m. EDT



#### Intensity:



The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to https://droughtmonitor.unl.edu/About.aspx

#### Author:

Brian Fuchs National Drought Mitigation Center



#### droughtmonitor.unl.edu



# We've Added a lot of Moisture





Precipitation over the last week

Current Snow Depth



# Looking Ahead: Short Term Forecast



## High Elevation Forecast (Teton Pass)



Low Elevation Forecast (Pocatello)



(	Saturday	Saturday Night
udy	Mostly Cloudy	Partly Cloudy
°F	High: 23 °F	Low: 6 °F

	Saturday	Saturday Night
idy	Mostly Sunny	Partly Cloudy
°F	High: 33 °F	Low: 15 °F

## **7 Day Precipitation Forecast**

NOAA



6-10 Day Outlook



8-14 Day Outlook





# Looking Ahead: Seasonal Outlook



## La Nina **Conditions Expected - Again**

WINTERTIME LA NIÑA PATTERN







## **April 1st SWE during ENSO Phases**



Weather Forecast Office Pocatello, ID Wednesday, November 9

# La Nina generally favors wetter conditions



**December - February Outlook - La Nina** 





January - March





# **Thank You Any Questions?**











## Water Supply Update

Upper Snake River Advisory Committee November 10, 2022



Presented by Erin Whorton

### SNOW WATER EQUIVALENT IN SNAKE RIVER ABOVE HEISE









## Soil moisture conditions WY22 vs WY23 Surface zone





## Soil moisture conditions WY22 vs WY23 *Root zone (top 3-ft)*









20 cm Soil Moisture Percentile



https://www.drought.gov/topics/soilmoisture#data-maps-tools

Source(s): NationalSoilMoisture.com

Updates Daily - 11/07/22

### Drought.gov

## To estimate the amount of runoff needed to meet irrigation demand, we need to know...







2. October 1 reservoir storage



## 3. Projected end of winter reservoir storage



4. Median 'normal' amount of runoff each basin historically receives from the snowpack



## - Irrigation demand per watershed (KAF)

- Amount of streamflow needed from the snowpack

- End of winter reservoir storage (projected)
- October 1 reservoir storage



### 1991-2020 Change in Winter Reservoir Storage









## Streamflow (runoff) needed for adequate irrigation

• Need 3,539 KAF observed at Heise for WY23 to meet 4400 KAF demand

Water Year	Observed runoff @ Heise	Water amount (KAF) @ Heise	April 1 snowpack % abv Heise	
WY23	?	3,539	?	
WY22	80%	2,806	72%	
WY21	69%	2,619	89%	
WY20	108%	3,959	112%	
WY19	107%	3,929	104%	
WY18	131%	4,794	118%	
WY17	168%	6,140	144%	

Percent of normal runoff needed for WY23









Idaho Snow Survey - NRCS
Erin Whorton
erin.whorton@usda.gov
208-685-6983



## April 1<sup>st</sup> 2022 streamflow forecasts compared to observed streamflow % of 1991-2020 Median

#### April 1<sup>st</sup> Forecasts (50% Exceedance)

\*Below median forecasts in Idaho except Pend Oreille & Kootenai \*Well below median flows were forecast in southern Idaho



### **April – July Observed Streamflow**

\*Well-above median streamflow observed in northern Idaho \*Below to well-below median streamflow's in southern & central Idaho



## Irrigation water demand (KAF) per basin





Upper Snake River Advisory Committee Meeting Nov 10, 2022



## Idaho Power's Fall Chinook Program



- No significant operations changes since October meeting
- Snake River at Swan Falls still near record daily low flows
- Releasing stable flows of 8,100 cfs at Hells Canyon until 12/9

## WY2023 Fall Chinook Operations







Upper Snake

- 25 IPC Remote Ground Generators
- 1 Aircraft
- 25 Let It Snow Manual Ground Generators

Entire Program

- High Resolution WRF Weather Model
- WRF-WxMod Module
- High Resolution Precipitation gauges and other Wx instruments



### Idaho Collaborative Cloud Seeding Operations WY2022



#### November 1 - April 1 (WY 2022)

	Payette	Во	ise	Wood Henrys Fork		rs Fork	Upper Snake				
Year	WP1	WP2	WP3	WP4	WP5	EP1	EP2	EP3	EP4	EP5	EP6
2022	6.6%	6.5%	5.7%	6.1%	7.1%	5.1%	4.0%	5.8%	5.9%	6.4%	5.4%
Average	11%	12%	11%	10%	9%	5%	6%	10%	9%	9%	8%

## Idaho Collaborative Cloud Seeding Operations WY2023

1	Upper Snake	Through 9 Nov 2022	2
10 m	Number of Generator Hours	90	1 mg
	Number of Flight Hours	11	X
	Number of BIPs	66	
A 12	Number of Ejs	393	
			11.2
	Number of Total Days Where Seeding Occurred	3	
	Number of Days That Ground Seeding Occurred	2	
	Number of Days That Airborne Seeding Occurred	2	



**Questions?**