



# April 2018 Water Supply Briefing

National Weather Service / Northwest River Forecast Center

Telephone Conference : 1-914-614-3221

Pass Code : 619-465-763

Audio PIN provided when logging into the webinar and will be required if you wish to ask questions at the end of presentation

2018 Remaining Briefing Dates:

May 3 - 10am Daylight Savings Time

June – TBD if needed

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# Water Supply Forecast Briefing Outline



- **Observed Conditions WY2018:**

- Precipitation
- Temperature
- Snowpack
- Runoff

Hydrologic  
model states

- **Future Conditions:**

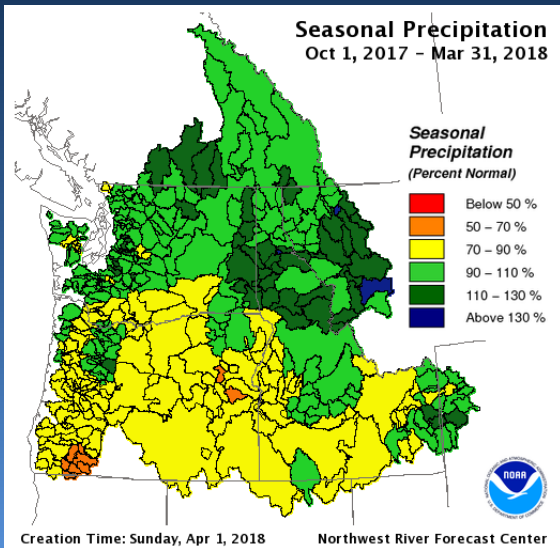
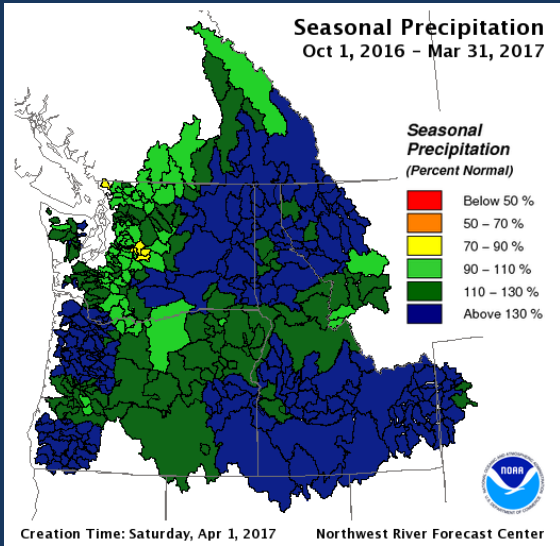
- 10 days of quantitative forecast precipitation (QPF)
- 10 days of quantitative forecast temperature (QTF)
- Historical climate forcings appended thereafter

- **Summary**

Hydrologic  
Model  
Inputs



# Observed Seasonal Precipitation Water Year 2017 / 2018 Comparison



## DIVISION NAME

WY2017  
% Norm

WY2018  
% Norm

Columbia R abv  
Grand Coulee

128

98

Snake R abv  
Ice Harbor

140

94

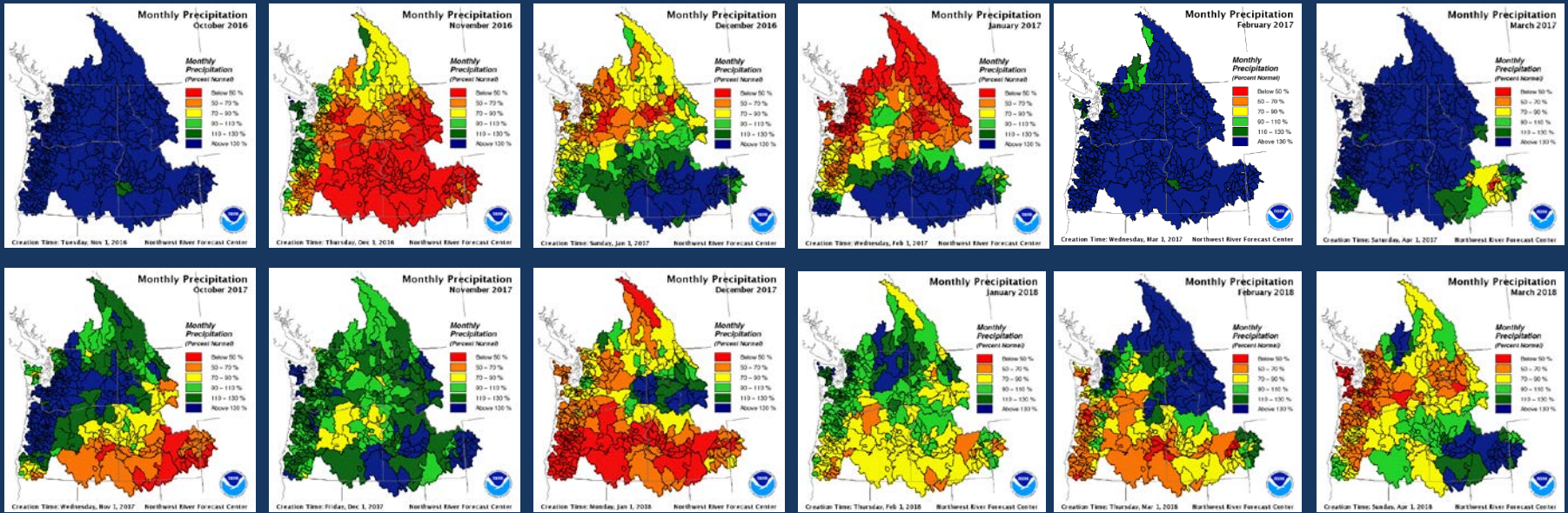
Columbia R abv  
The Dalles

128

98



# Observed Monthly Precipitation Water Year 2017 / 2018 Comparison



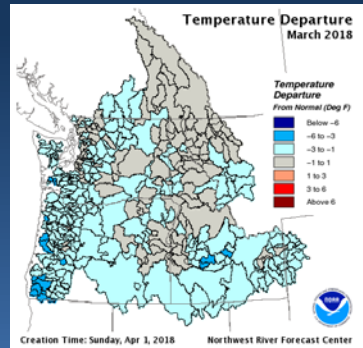
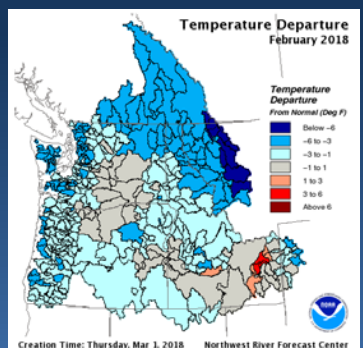
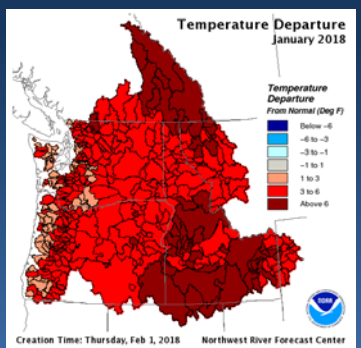
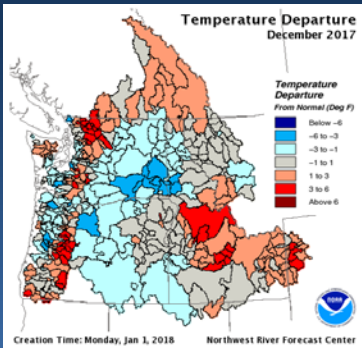
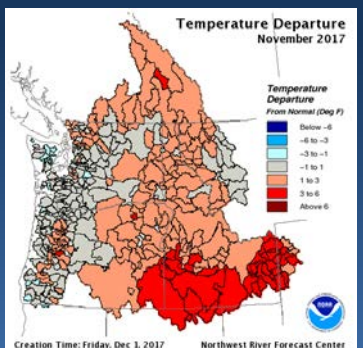
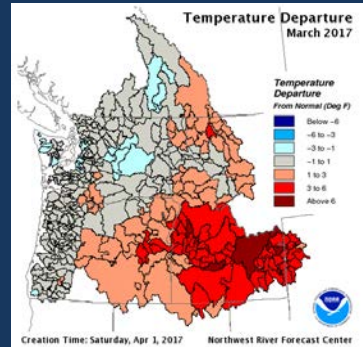
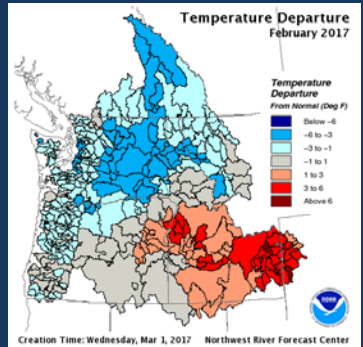
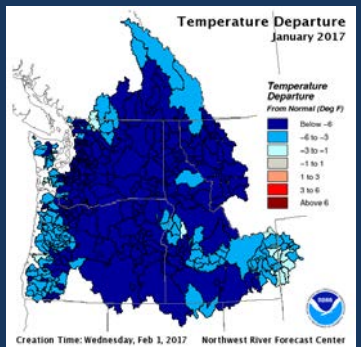
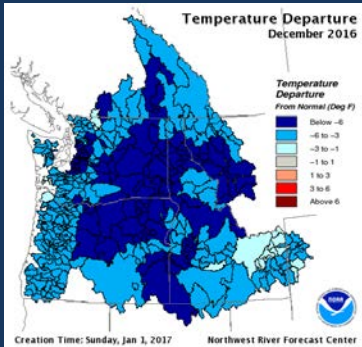
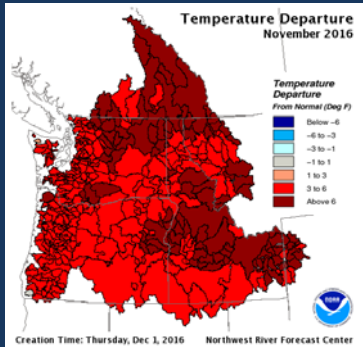
Upr Columbia Precip %Normal – WY2018	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	WY2018
Clark Fork River Basin	81	121	133	82	175	79							112
Flathead River Basin	115	123	99	110	207	76							120
Kootenai River Basin	118	116	73	114	140	87							107
Spokane River Basin	140	118	115	106	147	64							113
Columbia River Basin abv Arrow Dam	118	105	54	92	160	84							98

Snake River Precip %Normal – WY2018	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	WY2018
Henrys Fork River Basin	58	139	54	96	104	133							97
Upper Snake abv American Falls Dam	49	145	57	84	95	135							96
Middle Snake Tributaries	57	133	39	80	59	149							89
Payette River Basin	81	126	45	91	79	110							89
Clearwater River Basin	122	111	127	91	165	79							114
Snake Basin abv Hells Canyon Dam	78	123	70	85	71	108							88





# Monthly Temperature Departure from Normal Water Year 2017 / 2018 Comparison





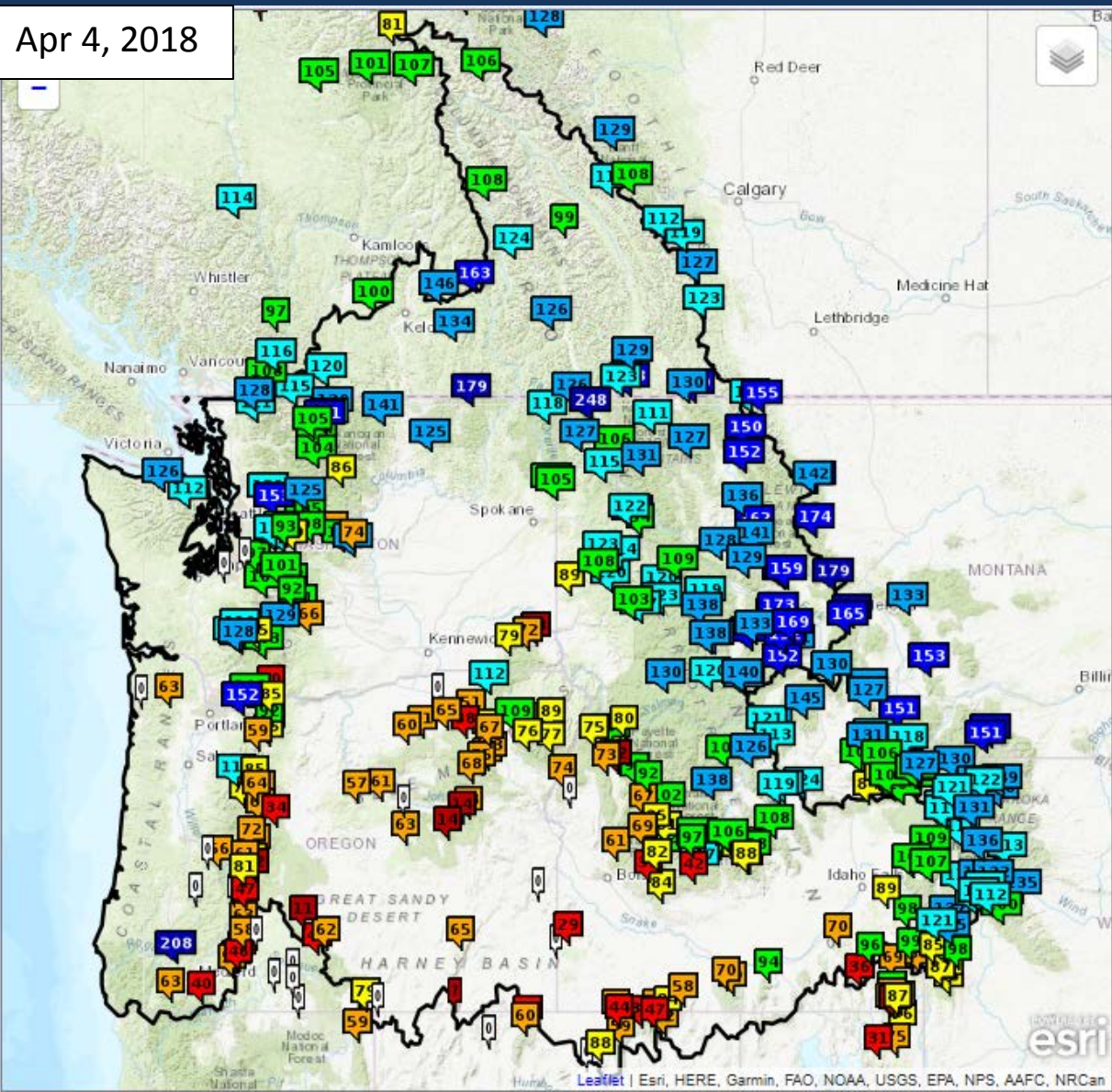


# Snowpack Summary

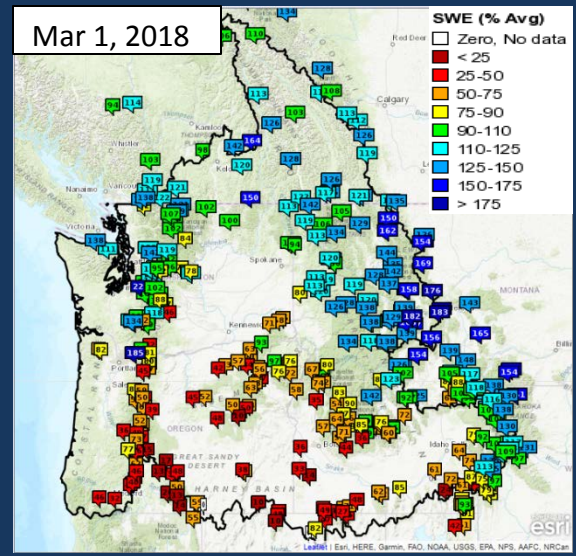


## Water Year 2018 March / April Comparison - % of Normal

Apr 4, 2018



Mar 1, 2018



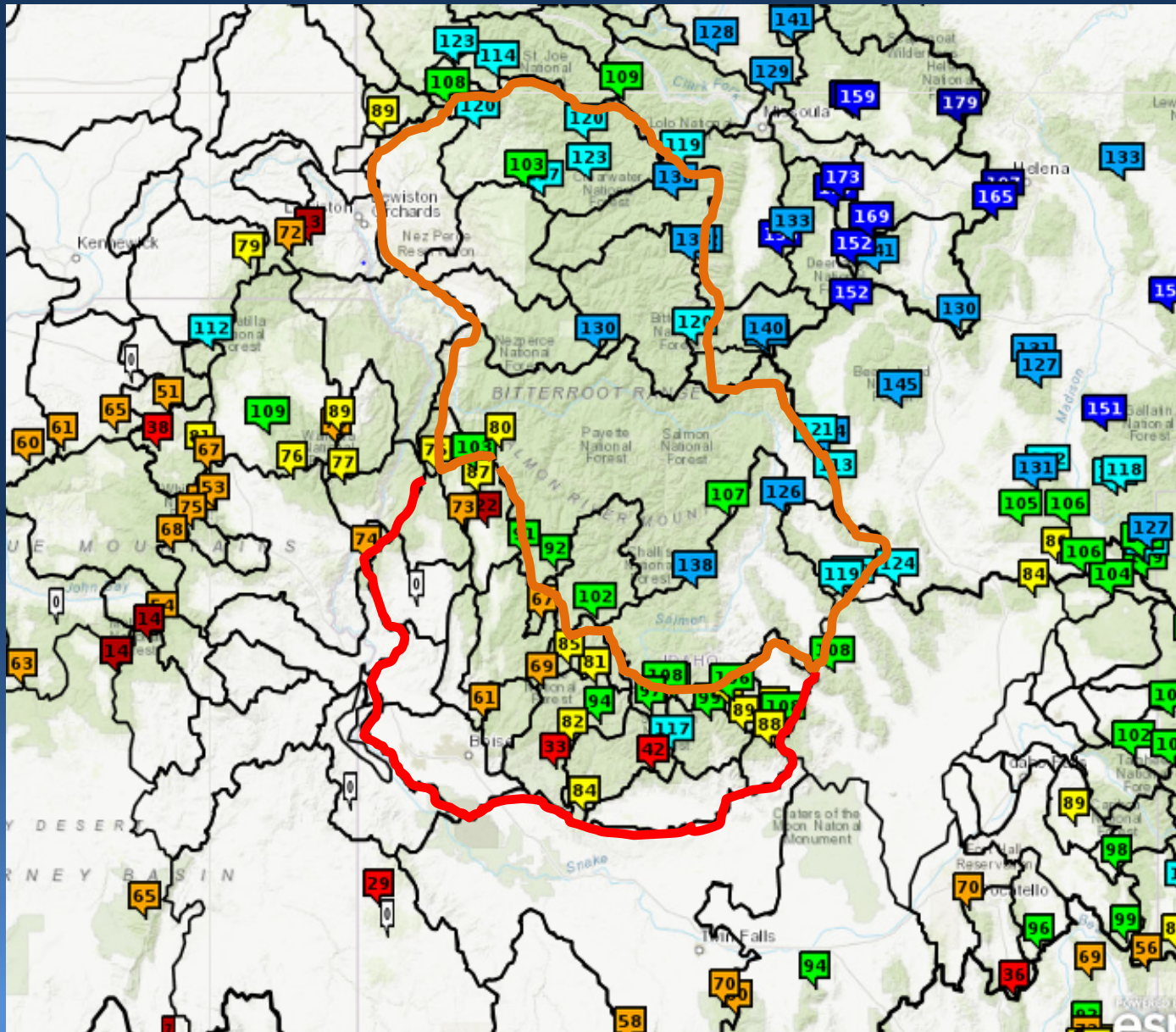
Basin %SWE 2018	Mar1	Apr 4
Flathead	140	141
Upr Clark Fork	157	155
Bitterroot	132	139
<hr/>		
Snake abv Palisades	118	123
Big/Little Wood	73	96
Big/Little Lost	85	107
Weiser, Payette, Boise	78	87
Clearwater, Salmon	113	116
Owyhee, Malheur	44	47
Grand Ronde, Powder		
Burnt, Imnaha	69	83
<hr/>		
Willamette	64	80





# Snowpack Summary

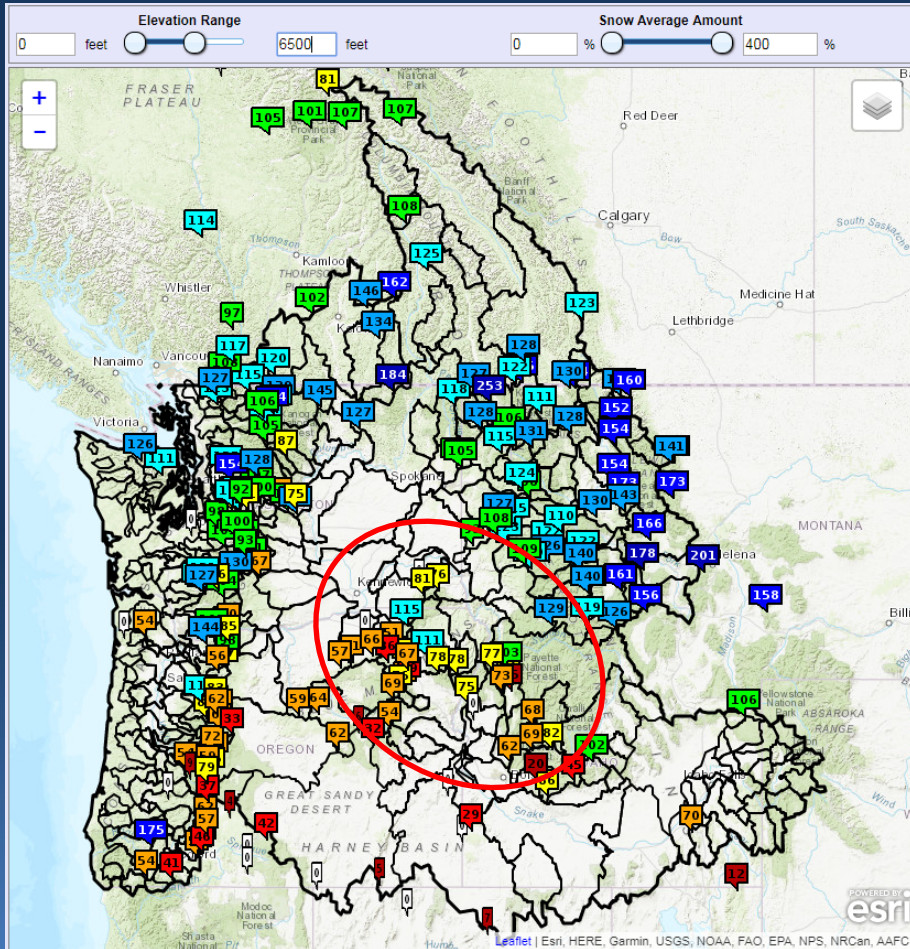
## Middle / Lower Snake Tributaries



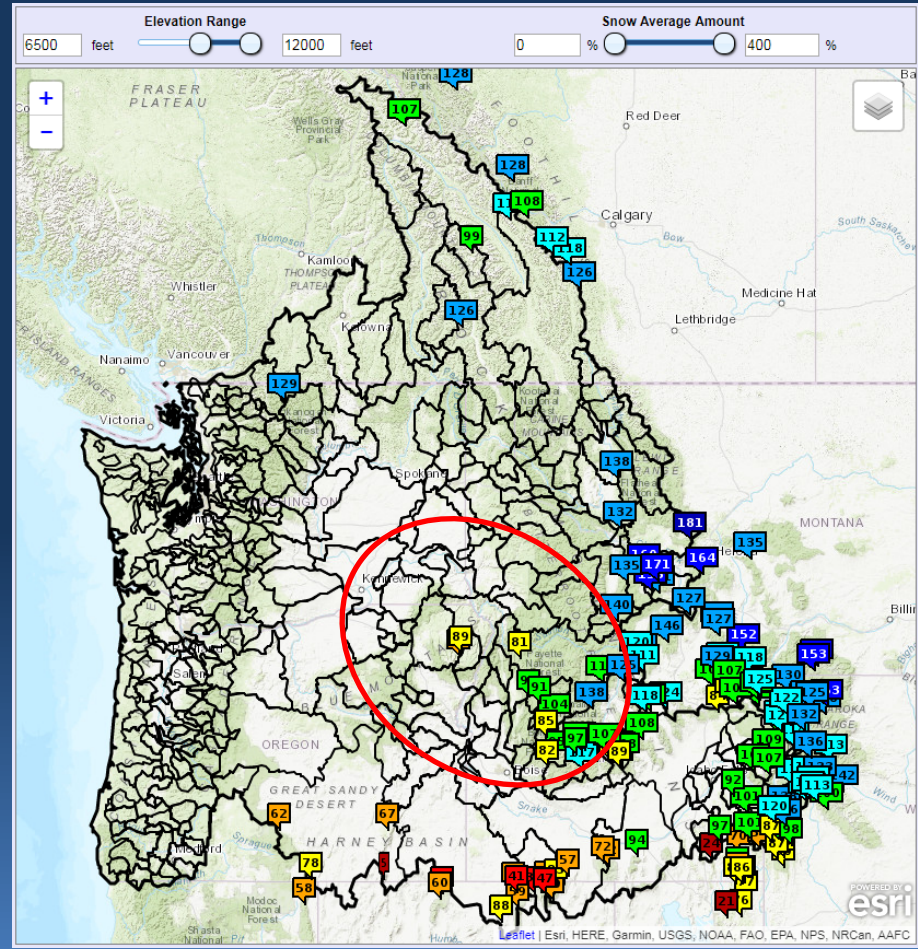


# Snowpack Summary

## Elevation Difference



0 – 6500 ft



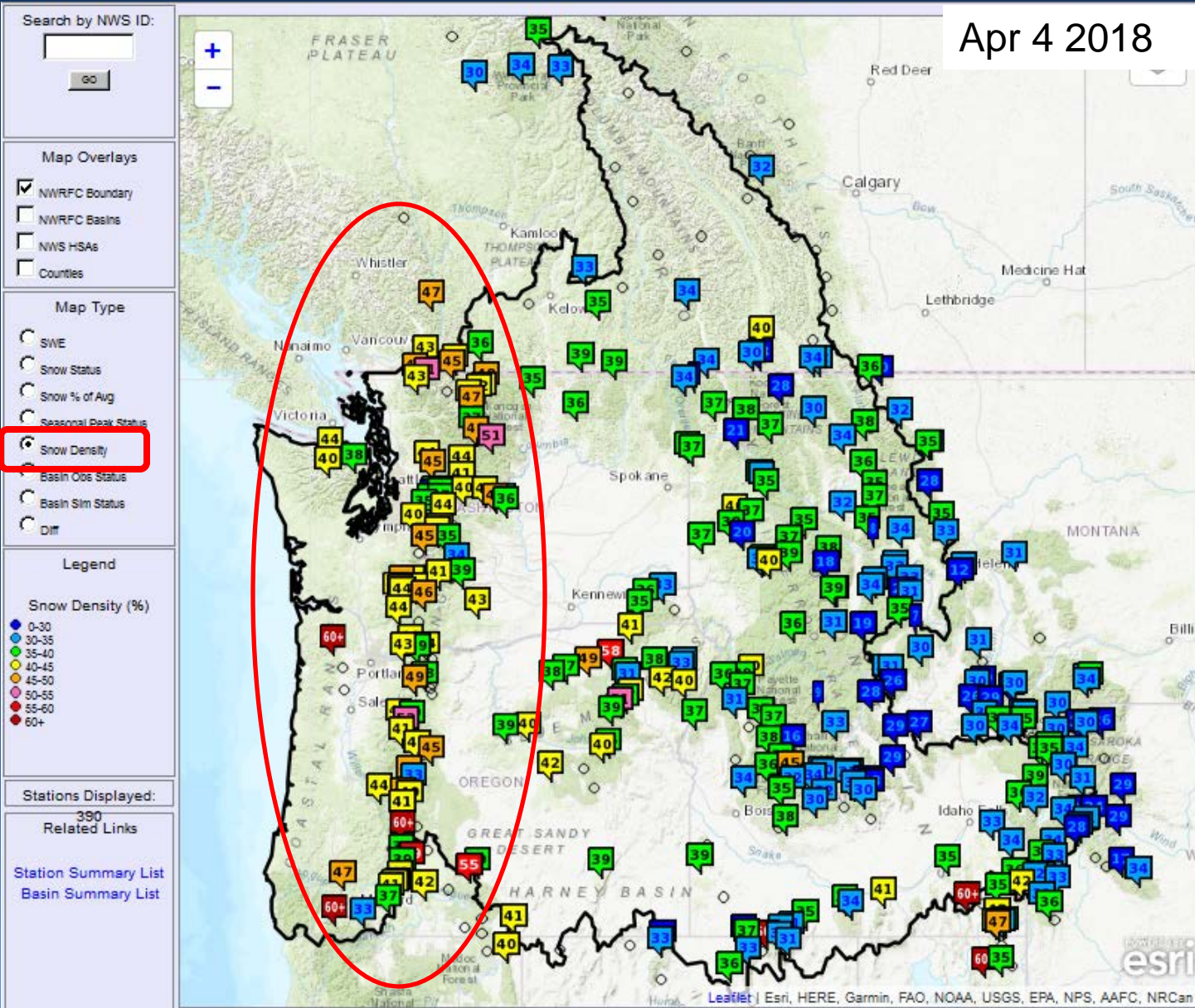
6500 - 12000 ft



# Snowpack Density

## SWE / Snow Depth

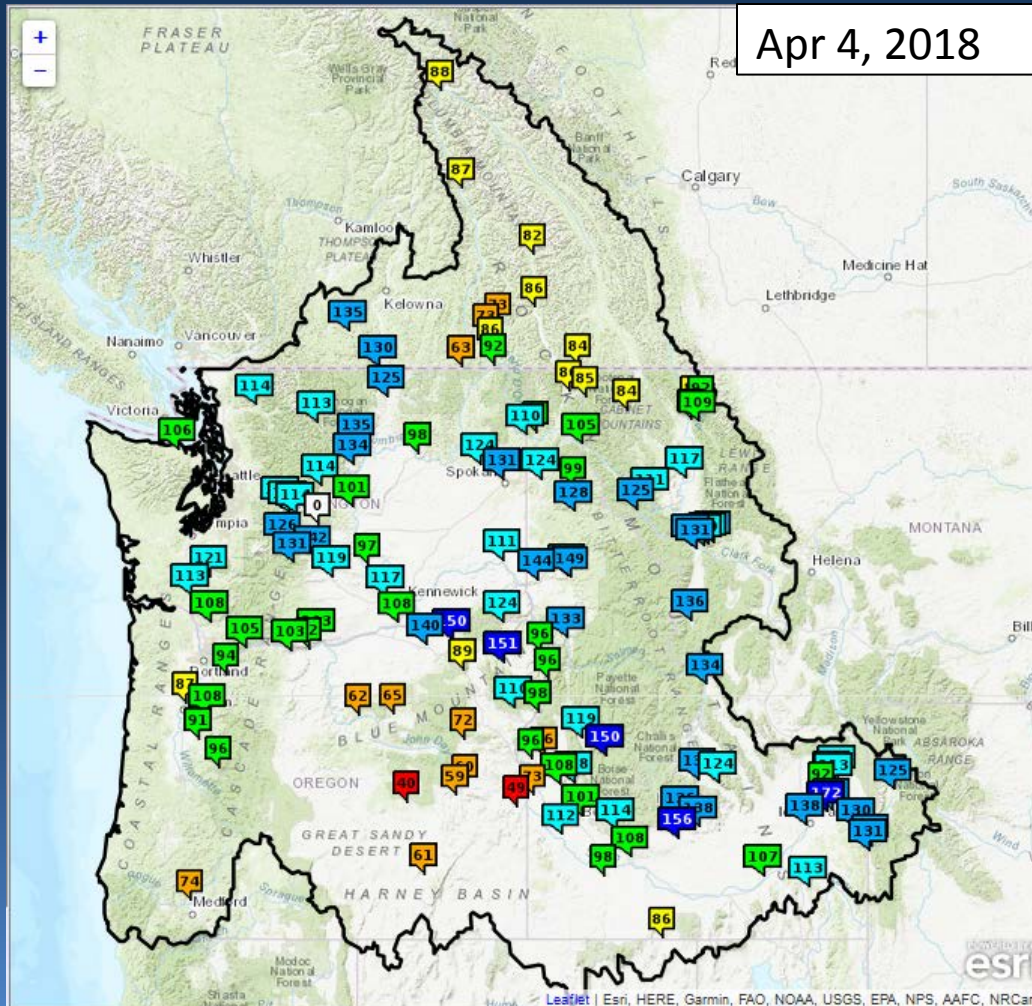
Apr 4 2018





# Current Adjusted Runoff Conditions

## Water Year 2018



Percent of Normal

Oct 1– Apr4

### UPPER COLUMBIA BASIN

MICA	88
DUNCAN	80
QUEENS BAY	86
LIBBY	84
HUNGRY HORSE	110
GRAND COULEE	98

### SNAKE RIVER BASIN

JACKSON LAKE	125
PALISADES	130
DWORSHAK	127
LOWER GRANITE	111

### LOWER COLUMBIA BASIN

THE DALLES	103
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# Water Supply Forecast Briefing Outline



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  - Snowpack
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Hydrologic  
model states

- **Future Conditions:**

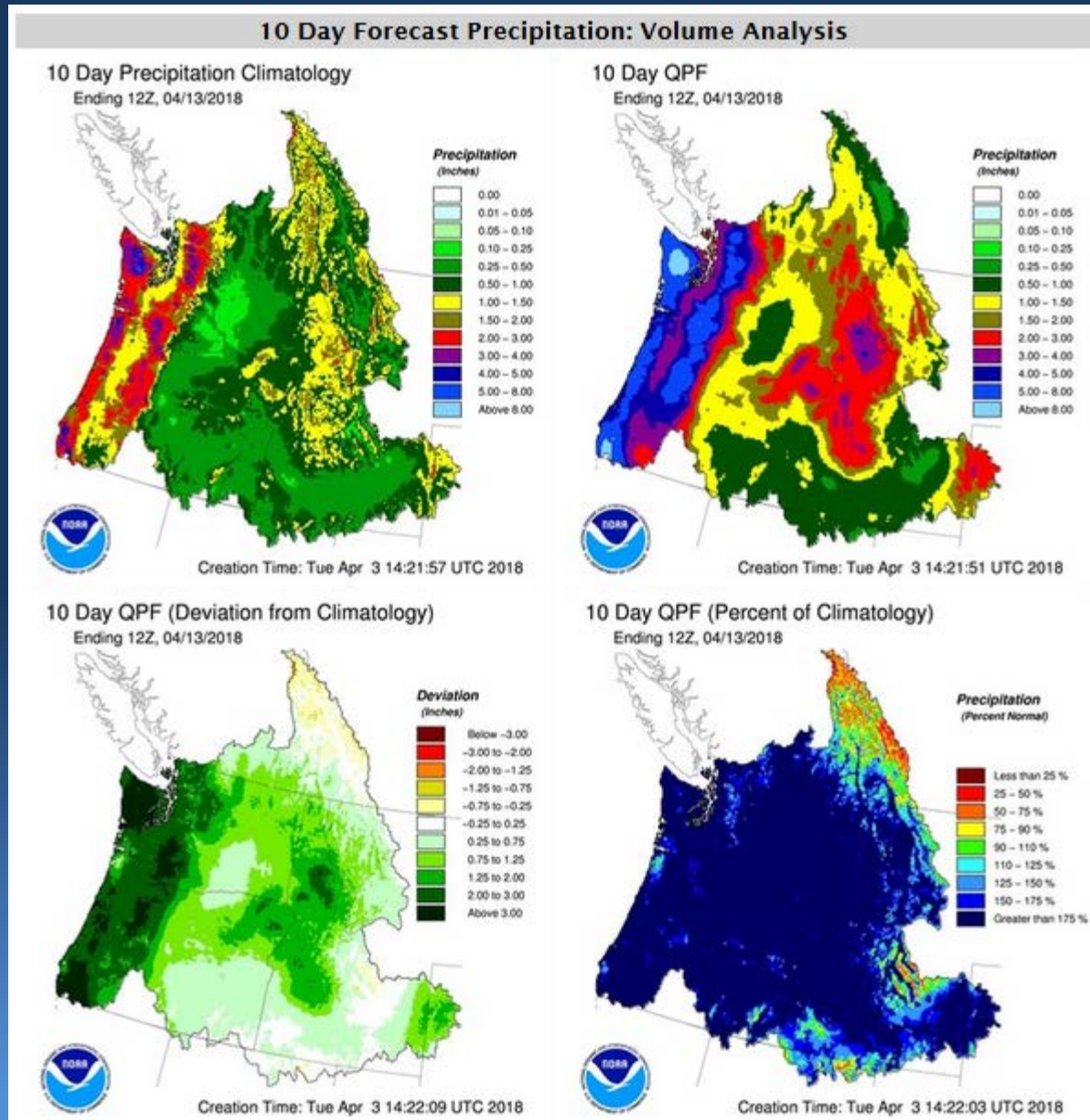
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Hydrologic  
Model  
Inputs

- **Summary**

# Cumulative 10 Day Precipitation Forecast

04/03/2018 – 04/13/2018



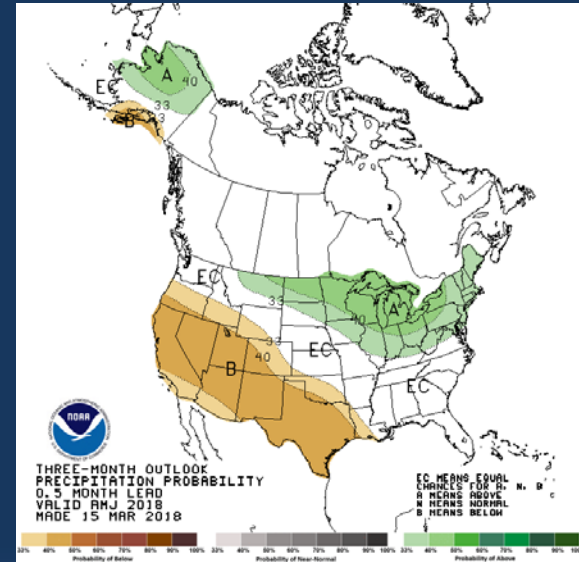
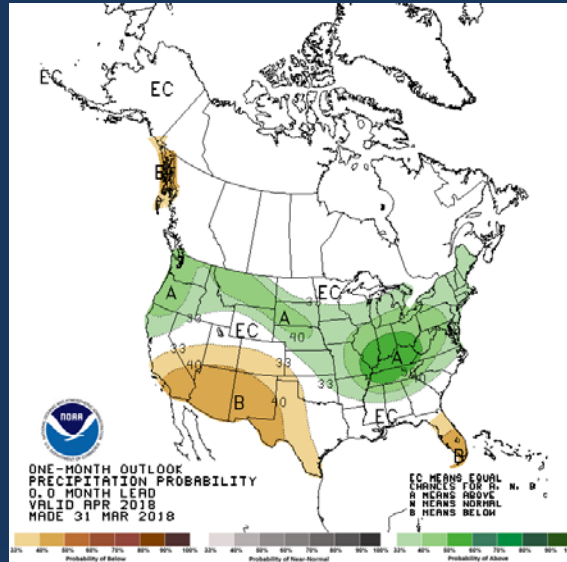


# CPC Climate Outlook

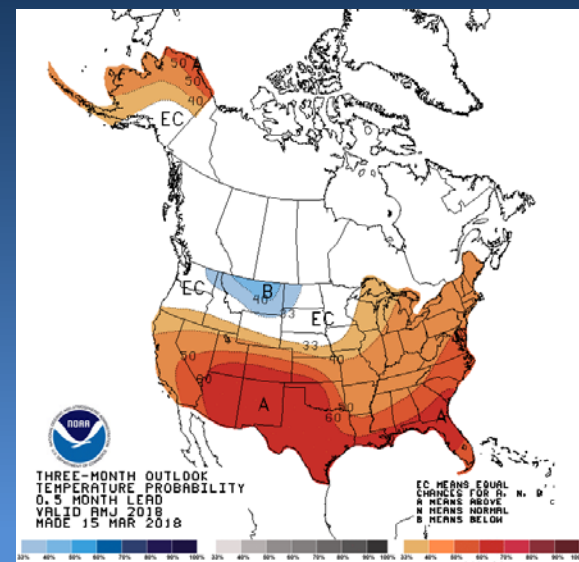
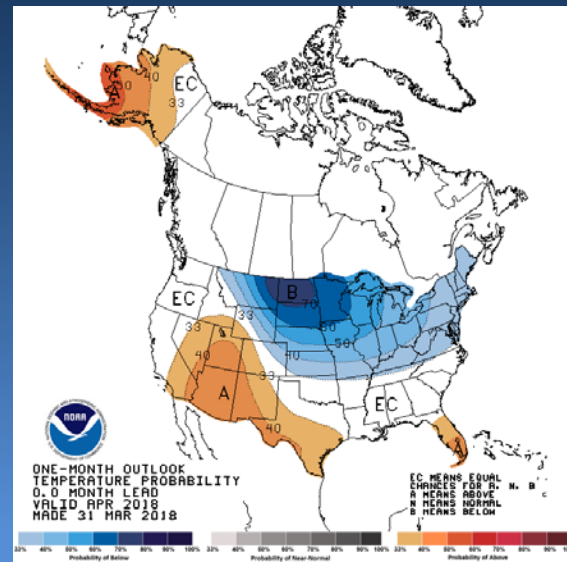
## Current Month Outlook

## Three Month Outlook - AMJ

Precipitation



Temperature

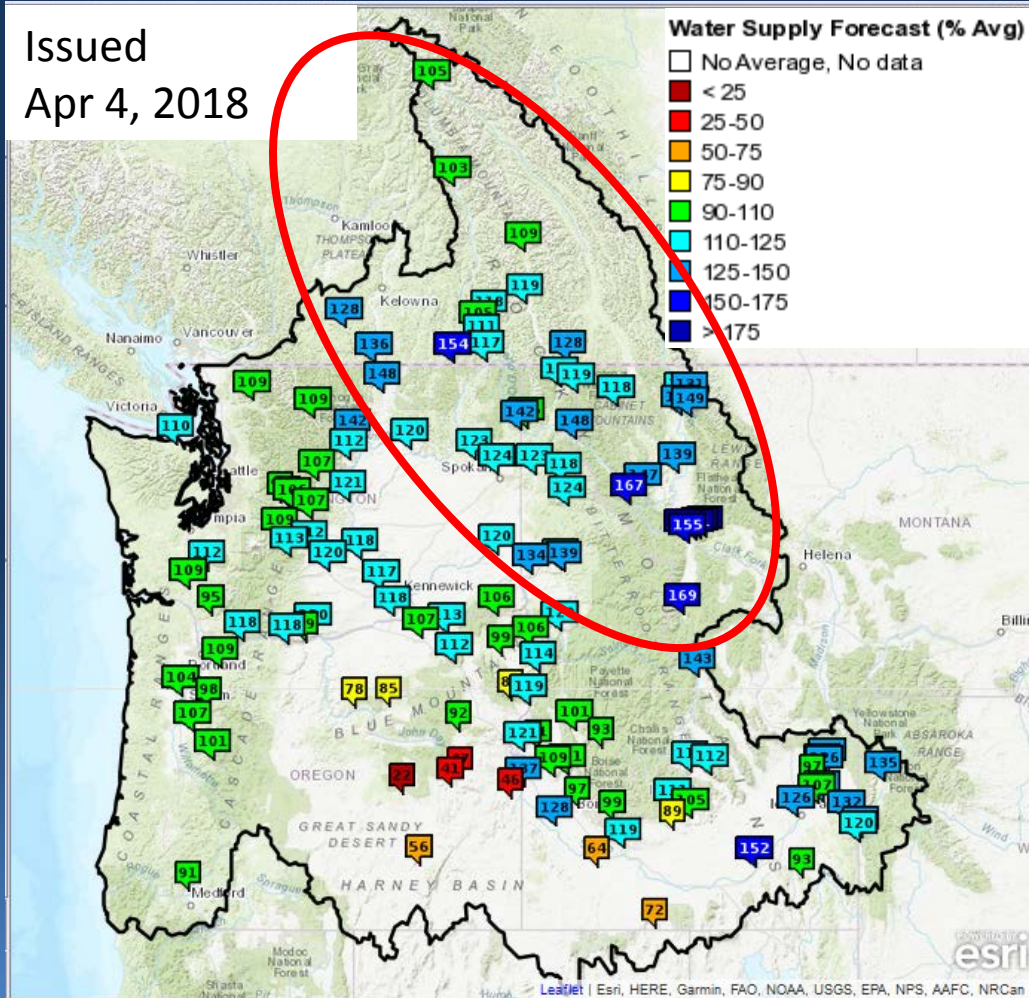




# ESP10 Apr-Sep Water Supply Forecasts Upper Columbia Basin – abv Grand Coulee



Issued  
Apr 4, 2018



<u>Basin</u>	<u>% 30 yr Normal</u>
Columbia River - Mica Dam	105%
Kootenai River - Libby Dam	119%
Coeur d'Alene River - Coeur d'Alene Lake	130%
SF Flathead River - Hungry Horse Dam	151%
Clark Fork River - Above Missoula	205%
Bitterroot River - Above Missoula	158%
Pend Oreille River Albeni Falls Dam	146%
Columbia River - Grand Coulee Dam	121%



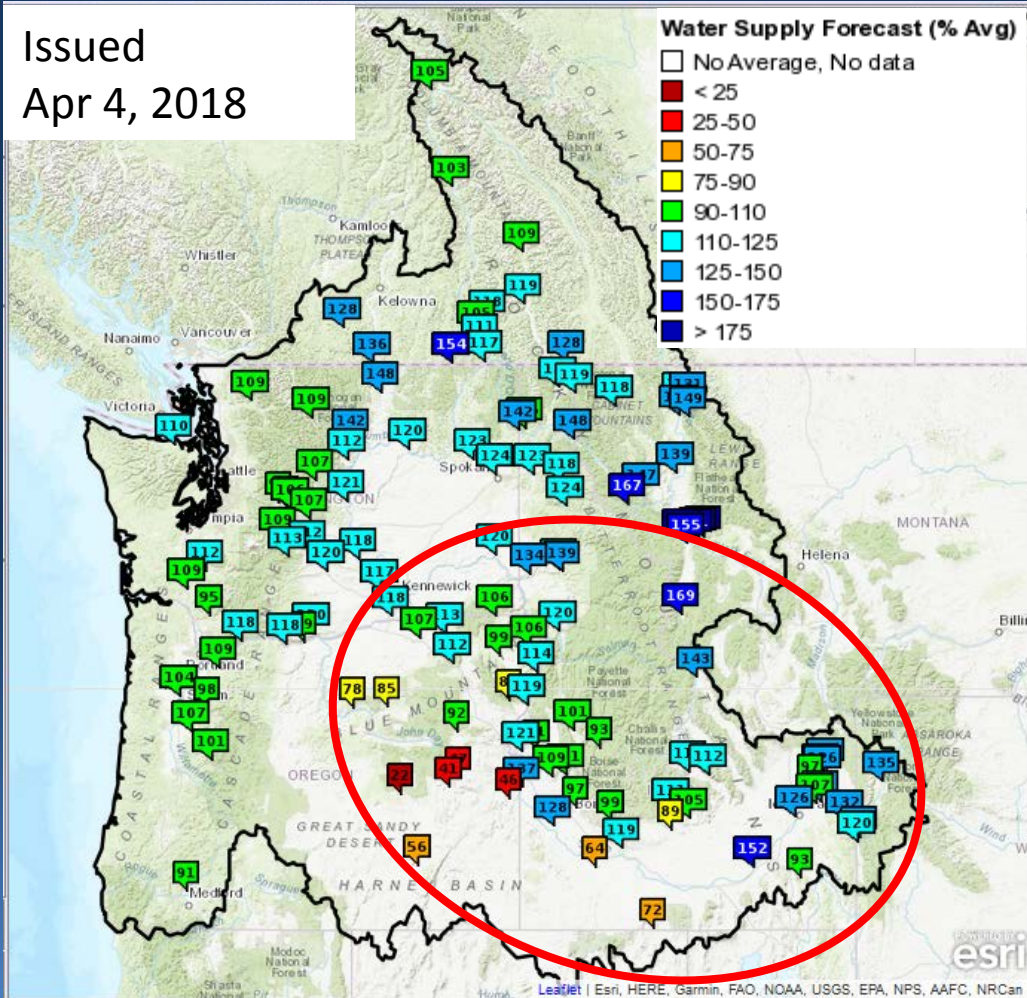


# ESP10 Apr-Sep Water Supply Forecasts

## Snake River Basin and Columbia Mainstem



Issued  
Apr 4, 2018



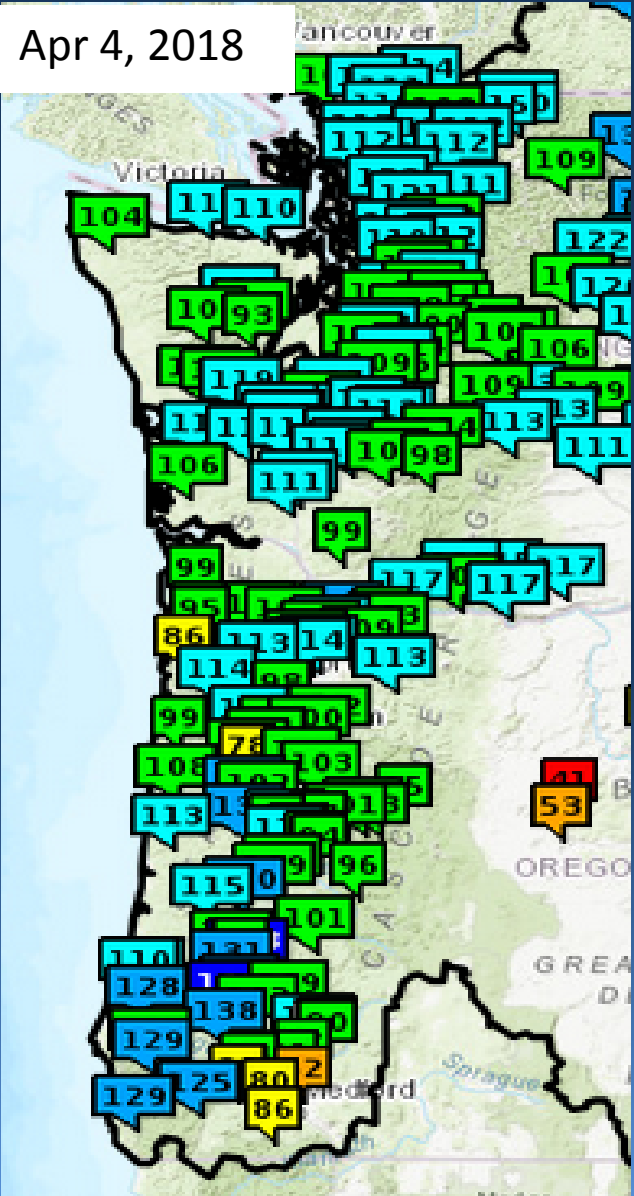
### Basin % 30 yr Normal

- Upper Snake River
  - Jackson Lake Dam 137%
  - Palisades Dam 134%
  - at Heise 135%
- Middle Snake Tribs
  - Lucky Peak Dam 96%
  - Owyhee Dam 49%
  - Bruneau R nr Hot Springs 69%
- NF Clearwater River
  - Dworshak Dam 125%
- Lower Snake River
  - Lower Granite Dam 120%
- Lower Columbia
  - The Dalles Dam 120%



# ESP10 Apr-Sep Water Supply Forecasts

## ESP Natural - Western Oregon and Washington



<u>Basin</u>	<u>% 30 yr Normal</u>
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Skagit River	
- near Concrete	114%

Green River	
- Howard Hanson Res	105%

Cowlitz River	
- Mossyrock Reservoir	114%
- Mayfield Reservoir	114%

North Santiam	
- At Mehama	98%

Willamette River	
- At Salem	94%

Rogue River	
- Applegate Reservoir	79%





# Summary



## Water Year 2018 Summary

- Precipitation generally above normal in the Upper Columbia but below normal in Oregon and Southern Idaho
  - Some recovery in deficient areas since Mar1
- Temperatures were well above normal in Jan – mid Feb across the region but near to below normal since
- Snowpack well above normal in the Upper Columbia, with near record snowpack in the Flathead, Clark Fork, Bitterroot basins
- Snowpack also normal to above normal in the Upper and Lower Snake, but generally below normal in the Middle Snake
  - Very elevation dependent
- Snowpack generally normal to abv normal in western WA, but well below normal in western OR
- ESP water supply forecast
  - Upper Columbia basins above normal
    - Many forecast locations in western MT ranked in the top 5 for the 1971 – 2017 period
  - Snake system above normal, but low to mid elevation tributaries in southern tier are below normal
  - Western WA Cascades above normal, but western OR basins below normal



# NWRFC 2018 Water Supply Briefing Schedule



2018 Schedule for <i>Live Water Supply Briefings</i>					
Jan	Feb	Mar	Apr	May	June
4	1	1	5	3	TBD
<i>All presentations held at 10:00am PDT/PST, unless noted otherwise</i>					
<a href="#">Click here for Registration Information</a>					

Telephone Conference Call Number (same for each month's brief):  
(914) 614-3221  
Pass Code:  
619-465-763

<https://register.gotowebinar.com/rt/7651951505041247747>





# Northwest River Forecast Center Water Supply Forecasts



River and Hydrology

Water Supply

Observations

Weather Forecasts

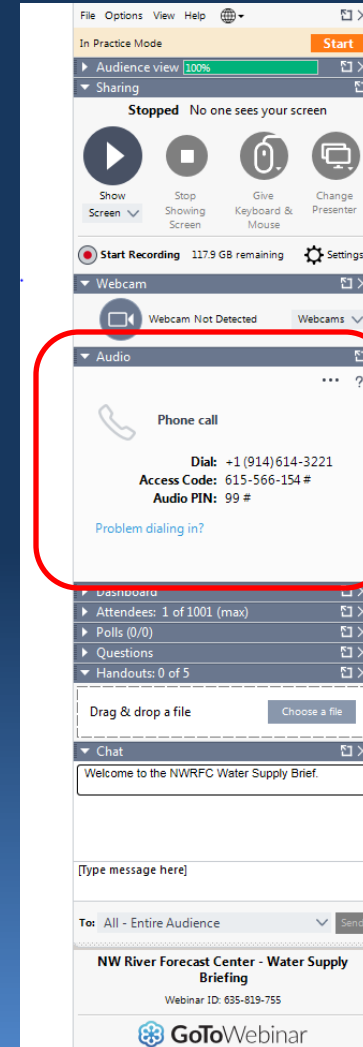
Climate

NWRFC

## Questions?

In order to ask questions using your phone, you will need to enter the **AUDIO PIN** followed by the # sign using your phone keypad. The **AUDIO PIN** was provided when you logged into the webinar. If you need to enter the **PIN** after you are connected, try **#PIN#**

You will be muted until the presenter unmutes you. If you have a question, use the 'Raise Hand' function to let us know to unmute your phone.



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