



May 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 7 – TBD if needed

Kevin Berghoff, NWRFC
W-ptr.Webmaster@noaa.gov
(503)326-7291



Water Supply Forecast Briefing Outline

- **Observed Conditions WY2018:**

- Precipitation
- Temperature
- Snowpack
- Runoff

Hydrologic
model states

- **Future Conditions:**

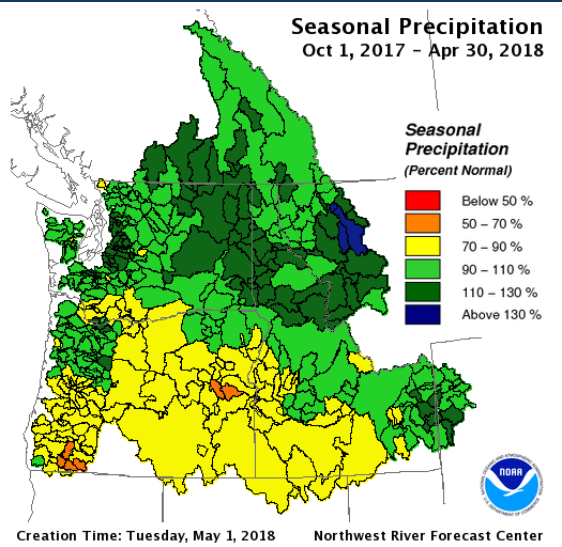
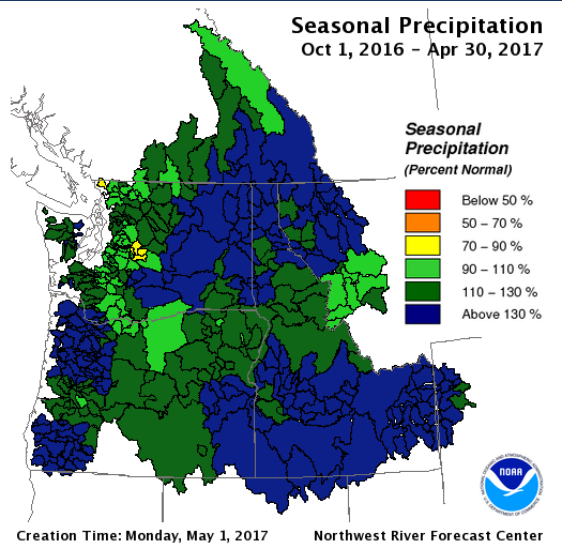
- 10 days of quantitative forecast precipitation (QPF)
- 10 days of quantitative forecast temperature (QTF)
- Historical climate forcings appended thereafter
- CPC Climate Outlook

Hydrologic
Model
Inputs

- **Summary**



Observed % Normal Seasonal Precipitation Water Year 2017 / 2018 Comparison

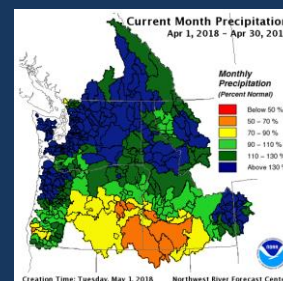
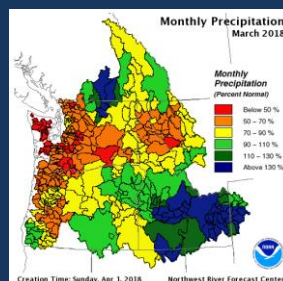
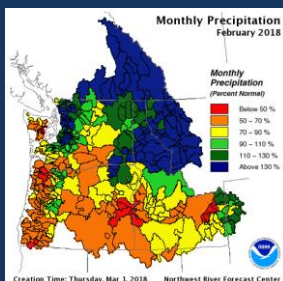
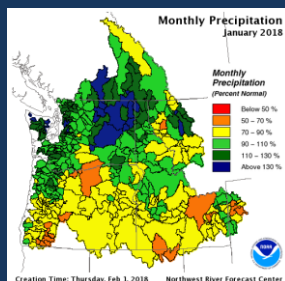
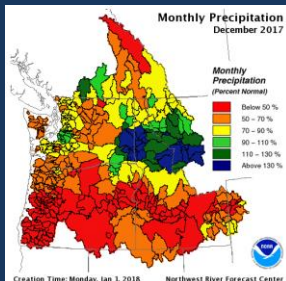
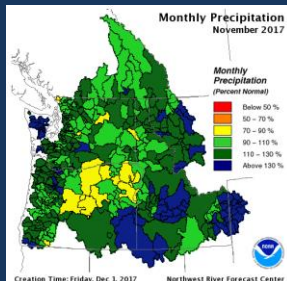
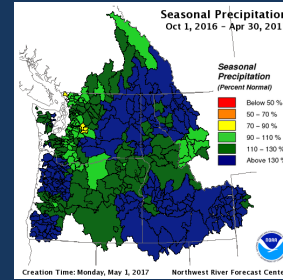
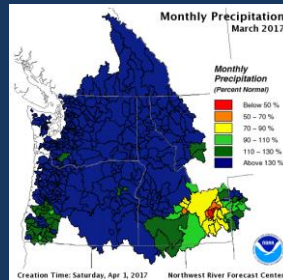
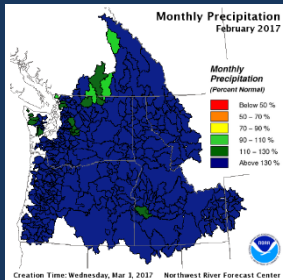
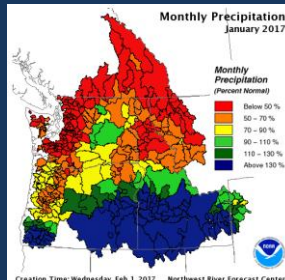
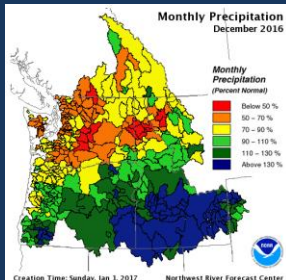
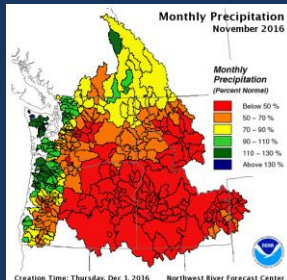


DIVISION NAME	WY2017 % Norm	WY2018 % Norm
Columbia R abv Grand Coulee	128	108
Snake R abv Ice Harbor	138	95
Columbia R abv The Dalles	128	101



Observed % Normal Monthly Precipitation

Water Year 2017 / 2018 Comparison

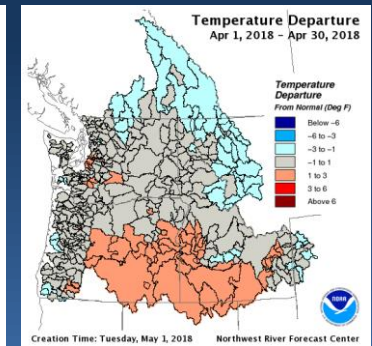
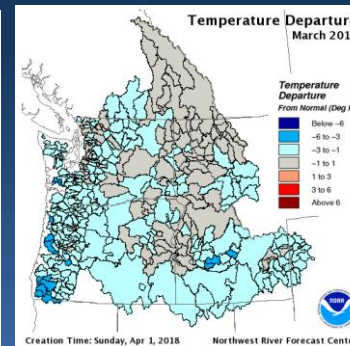
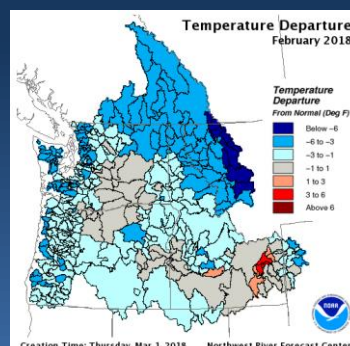
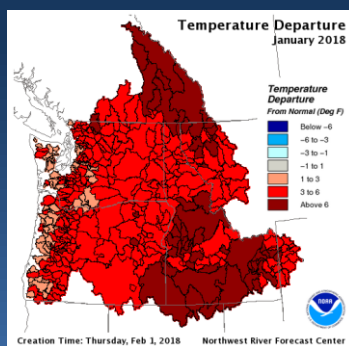
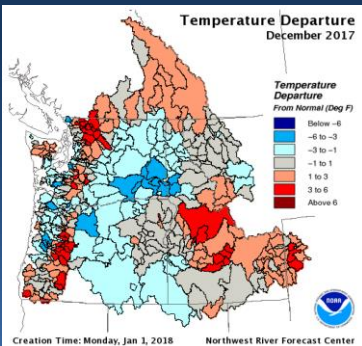
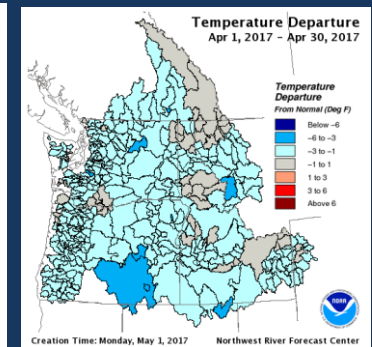
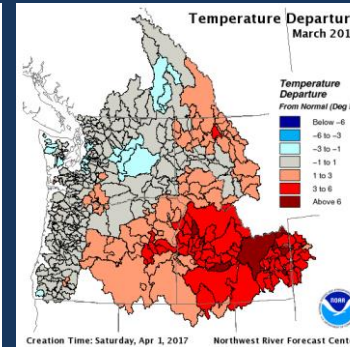
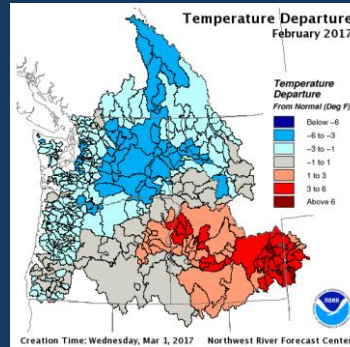
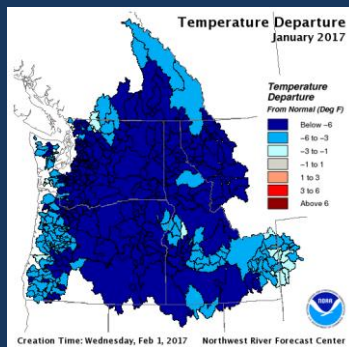
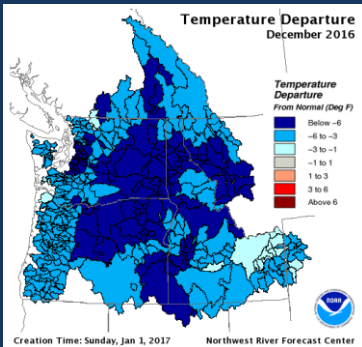


Upr Columbia Precip %Normal – WY2018	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	WY2018
Clark Fork River Basin	81	121	133	82	175	79	127						114
Flathead River Basin	115	123	99	110	207	76	135						120
Kootenai River Basin	118	116	73	114	140	87	133						109
Spokane River Basin	140	118	115	106	147	64	136						115
Columbia River Basin abv Arrow Dam	118	105	54	92	160	84	138						101

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	158						105
Upper Snake abv American Falls Dam	49	145	57	84	95	135	126						99
Middle Snake Tributaries	57	133	39	80	59	149	85						88
Payette River Basin	81	126	45	91	79	110	99						90
Clearwater River Basin	122	111	127	91	165	79	140						117
Snake Basin abv Hells Canyon Dam	78	123	70	85	71	108	94						95



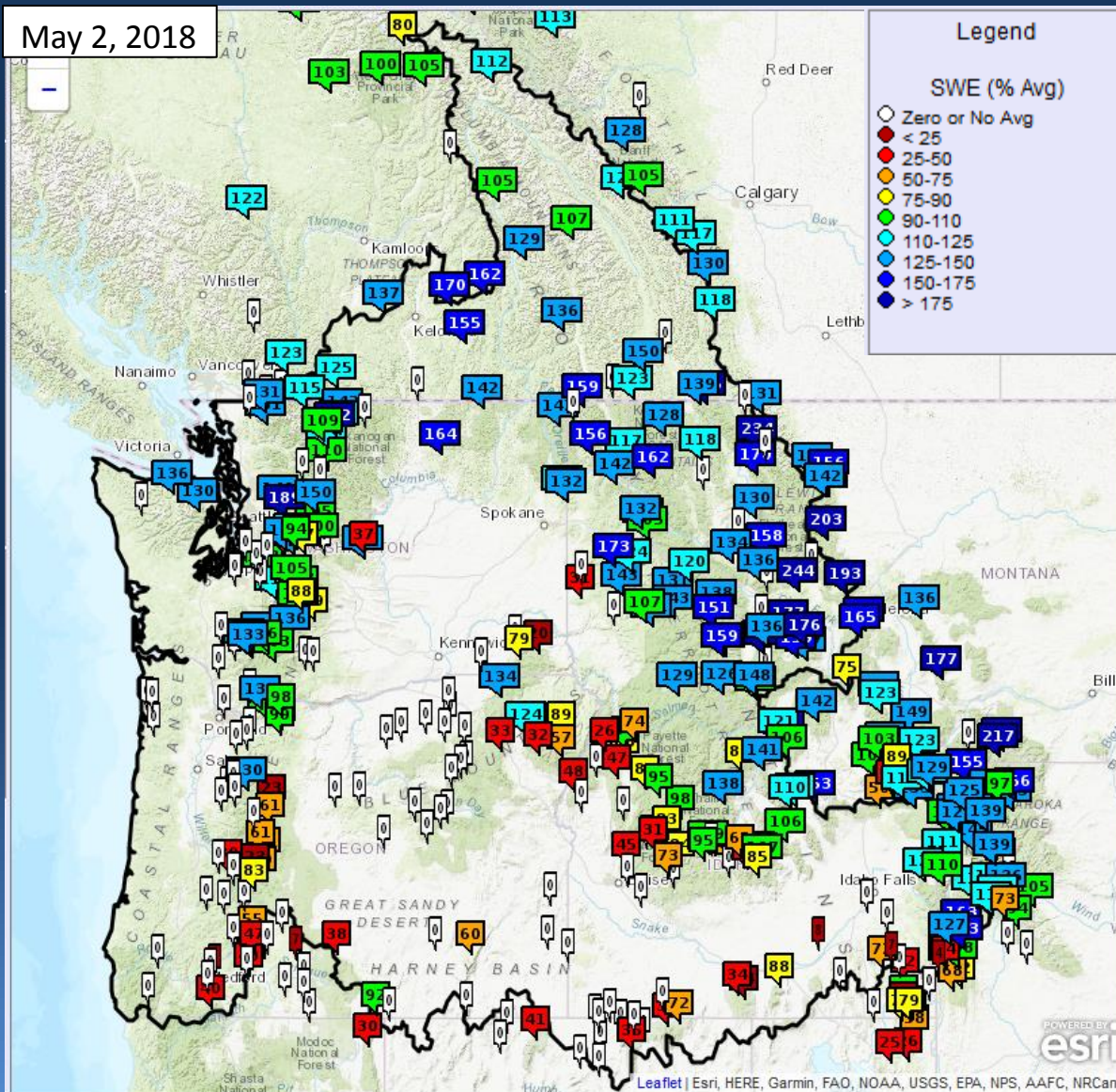
Monthly Temperature Departure from Normal Water Year 2017 / 2018 Comparison



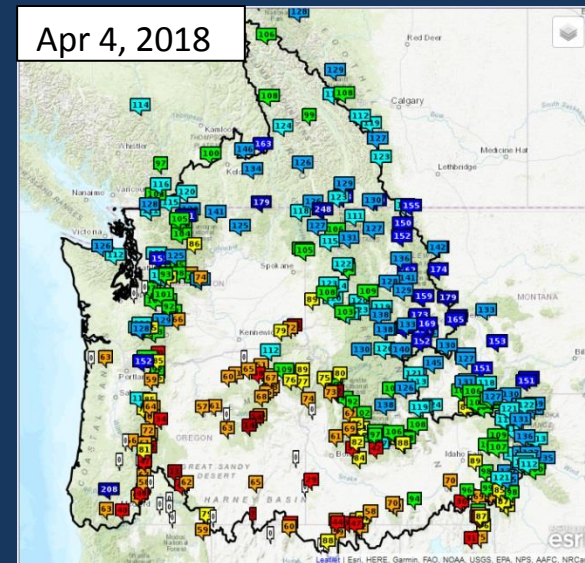
Snowpack Summary

Water Year 2018 April / May Comparison - % of Normal

May 2, 2018



Apr 4, 2018

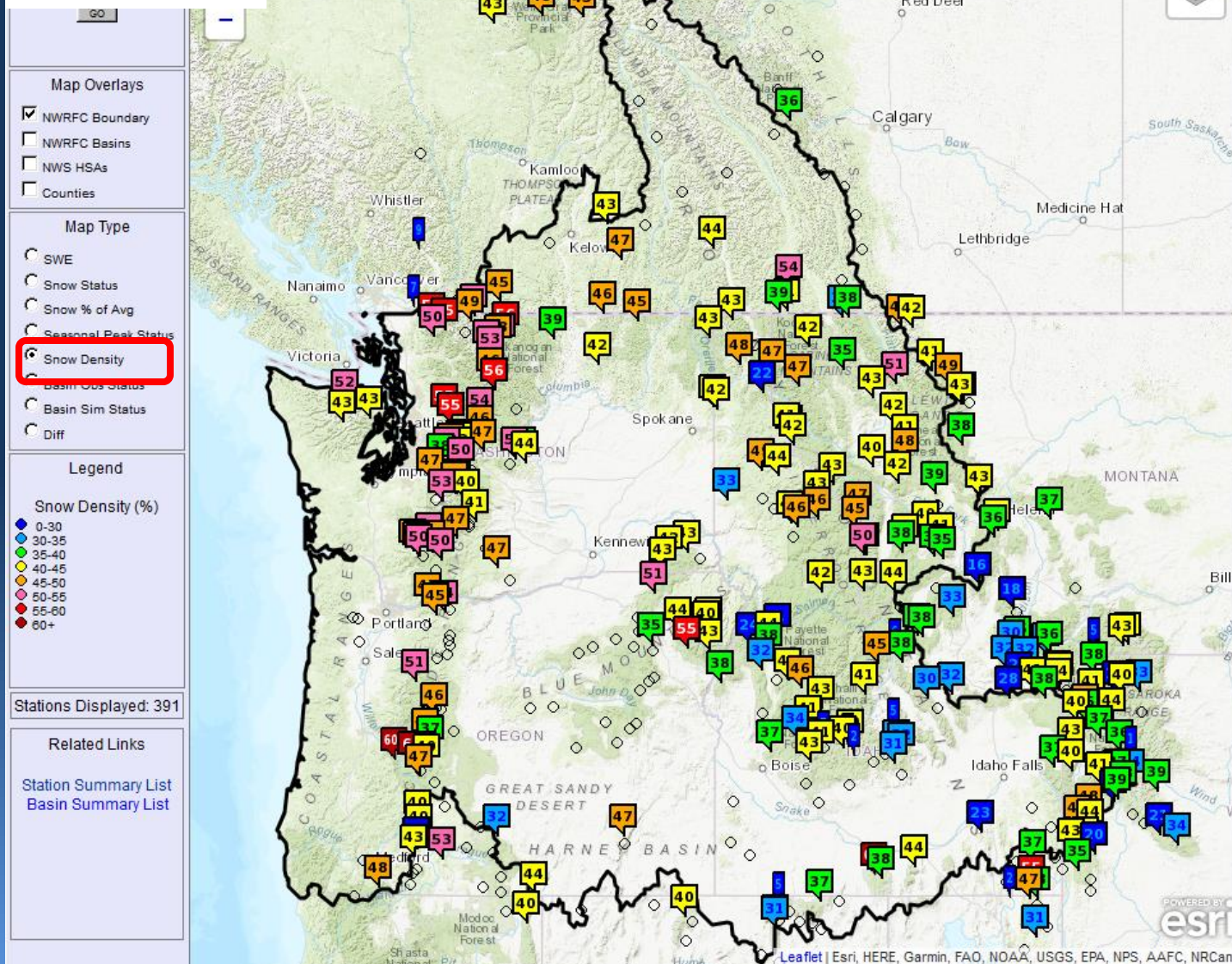


Basin %SWE 2018	Apr 4	May 2
Flathead	141	161
Upr Clark Fork	155	161
Bitterroot	139	167
Snake abv Palisades	123	125
Big/Little Wood	96	95
Big/Little Lost	107	97
Weiser, Payette, Boise	87	83
Clearwater, Salmon	116	125
Owyhee, Malheur	47	15*
Grand Ronde, Powder		
Burnt, Imnaha	83	78*
Willamette	80	69*

Snowpack Density

SWE / Snow Depth

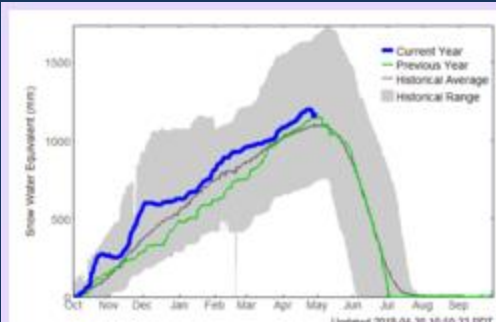
May 2 2018



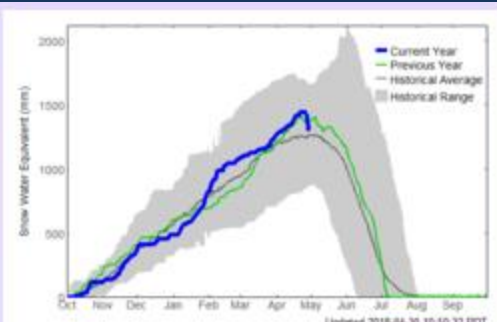


Canadian Snow Pillow Sites Upper Columbia

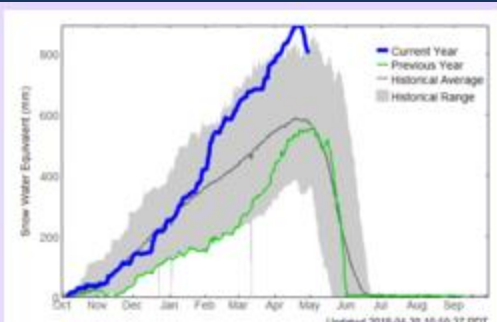
Upper
Columbia



Molson Creek-6332'

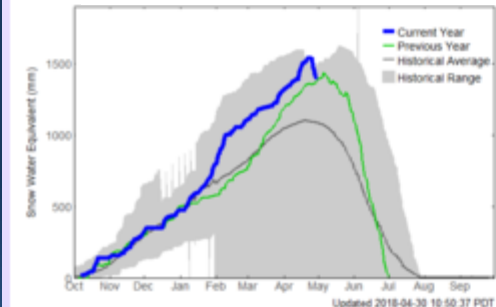


Mt Revelstoke-5807'

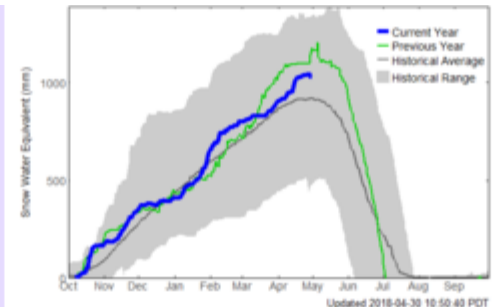


Barnes Creek-5233'

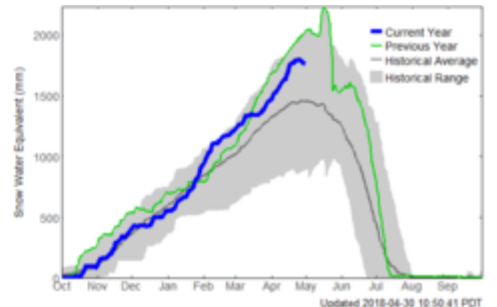
Upper
Kootenay
Above
Duncan,
Queens Bay



St Leon Creek-5978'

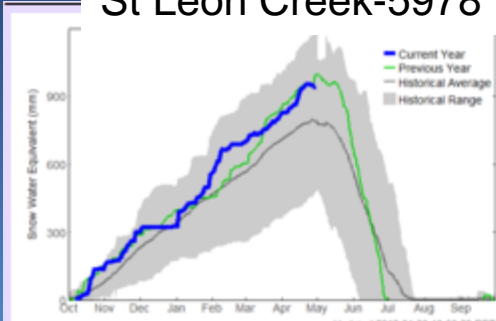


East Creek-6575'

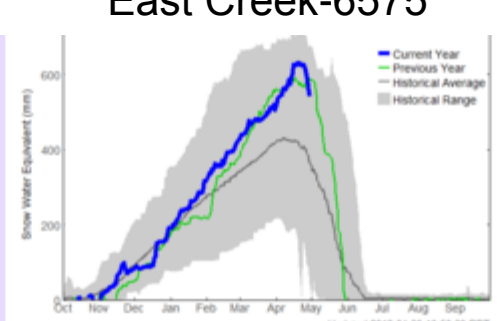


Redfish Creek-6844'

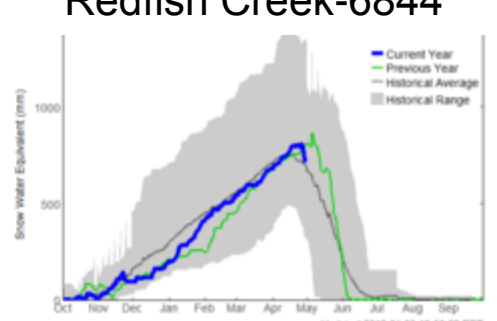
Upper
Kootenay
Above
Libby Dam



Floe Lake-6923'



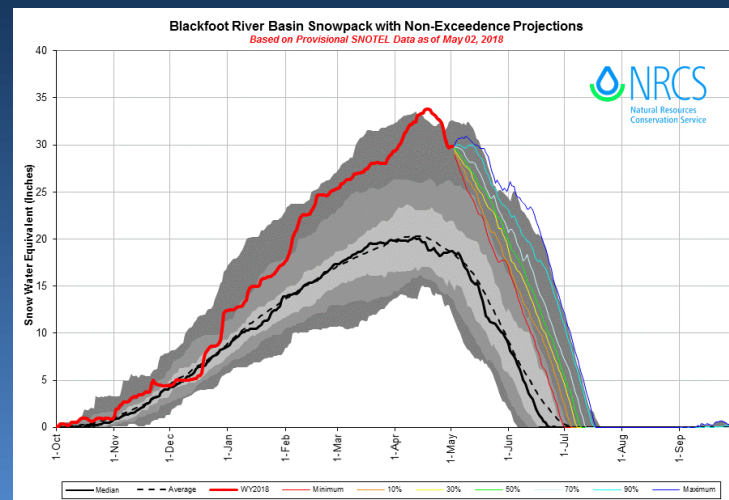
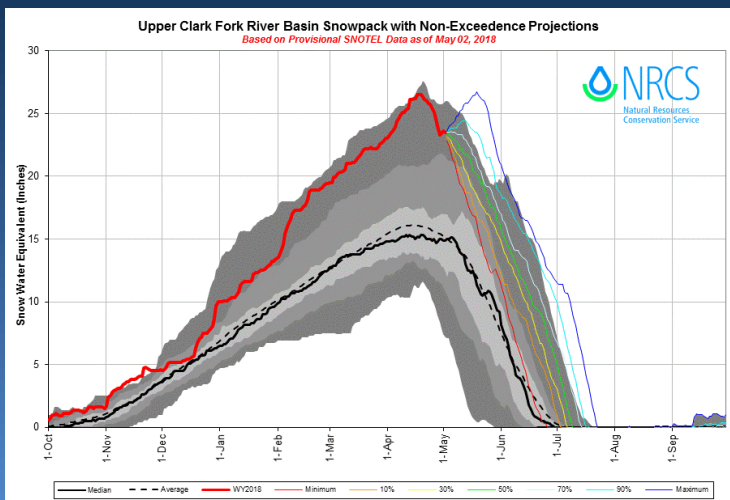
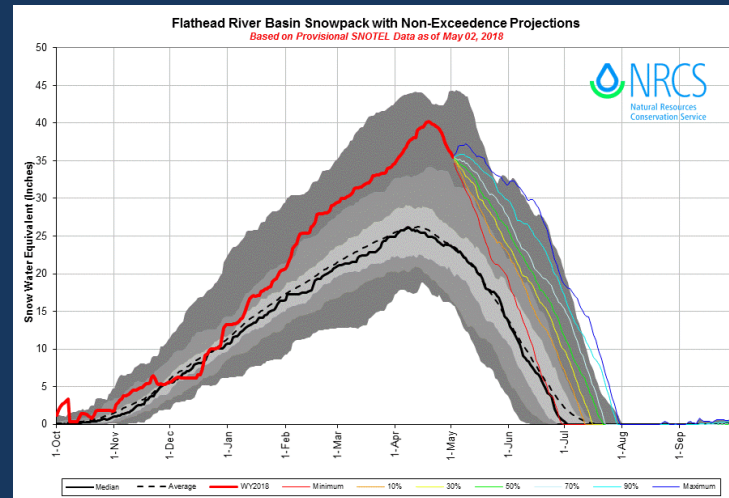
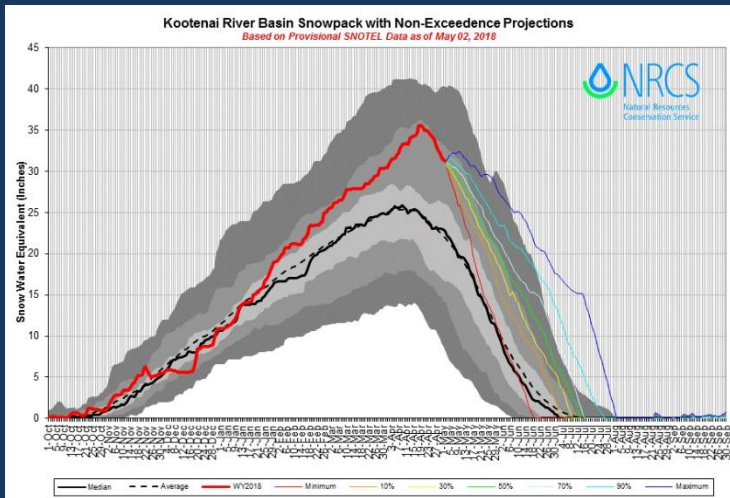
Moyie Mtn-6037'



Morrissey Ridge-6450'

NRCS Basinwide SWE

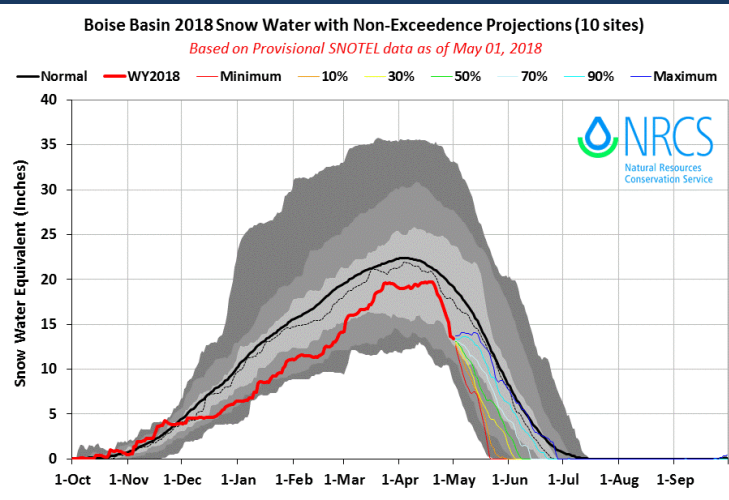
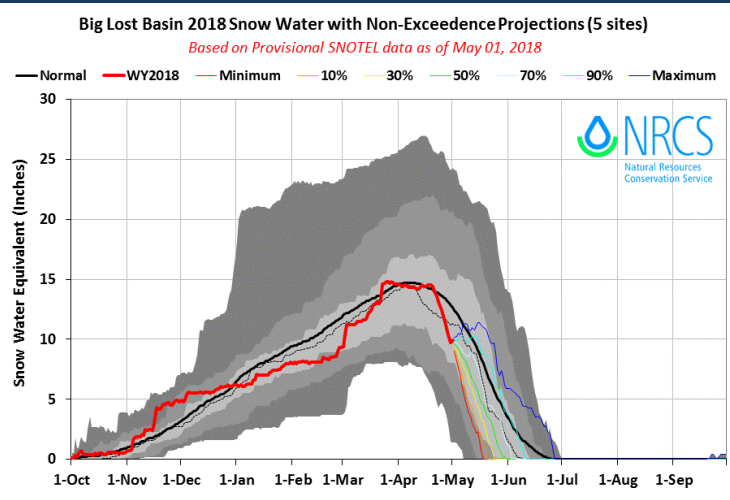
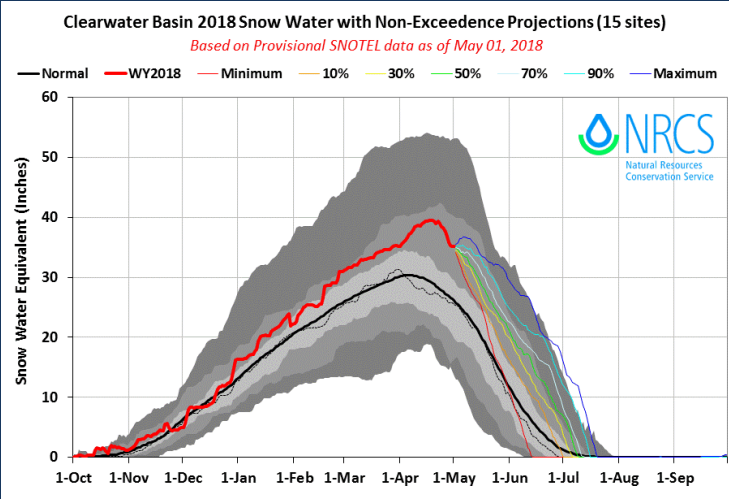
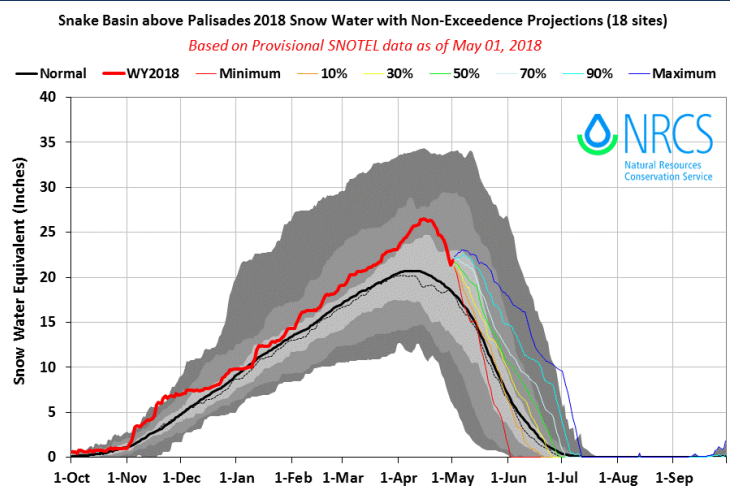
Upper Columbia





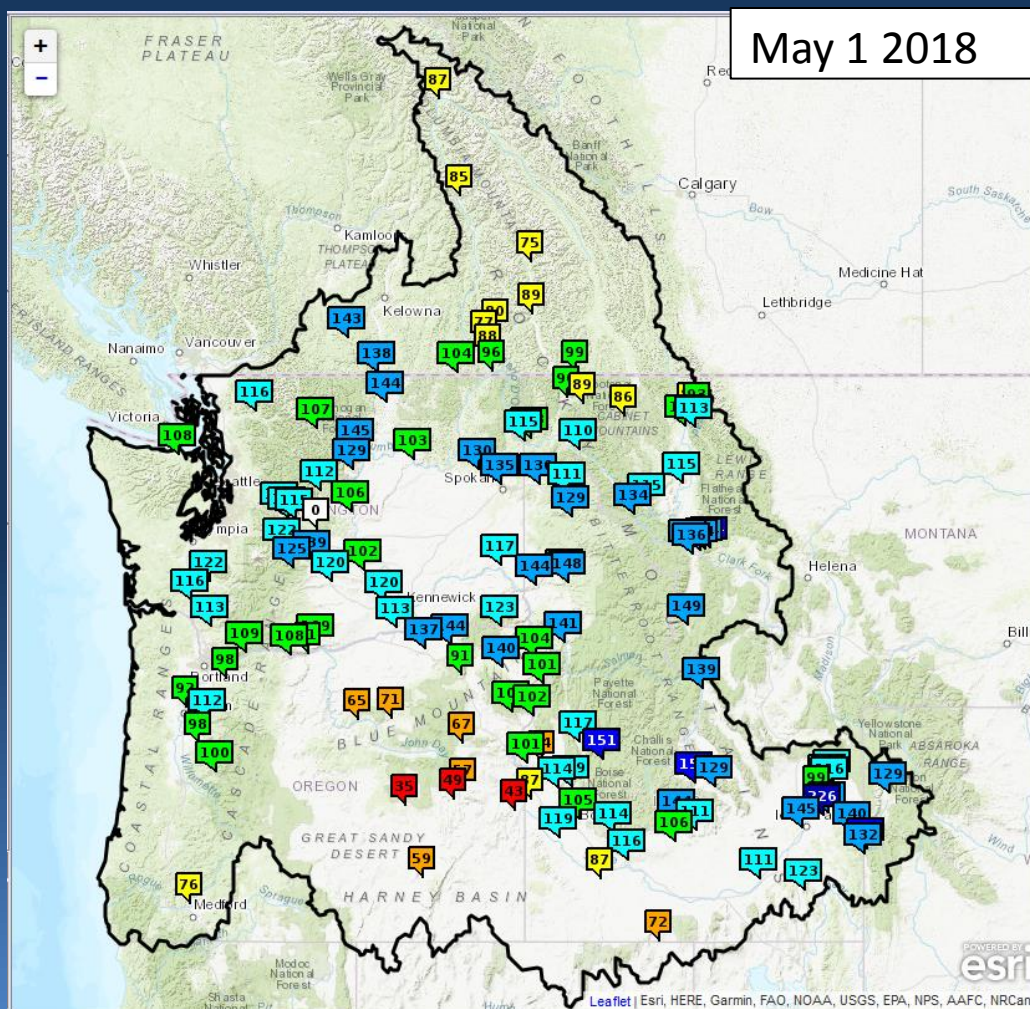
NRCS Basinwide SWE

Snake River Basin



Current Adjusted Runoff Conditions

Water Year 2018



Percent of Normal

Oct 1– May1

UPPER COLUMBIA BASIN

MICA	87
DUNCAN	75
QUEENS BAY	89
LIBBY	86
HUNGRY HORSE	113
GRAND COULEE	103

SNAKE RIVER BASIN

JACKSON LAKE	129
PALISADES	140
DWORSHAK	129
LOWER GRANITE	117

LOWER COLUMBIA BASIN

THE DALLES	108
------------	-----



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
- CPC Climate Outlook

Hydrologic
Model
Inputs

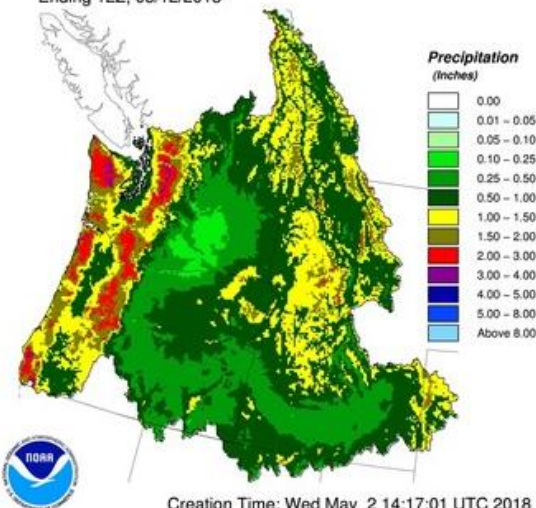
- Summary

Cumulative 10 Day Precipitation Forecast

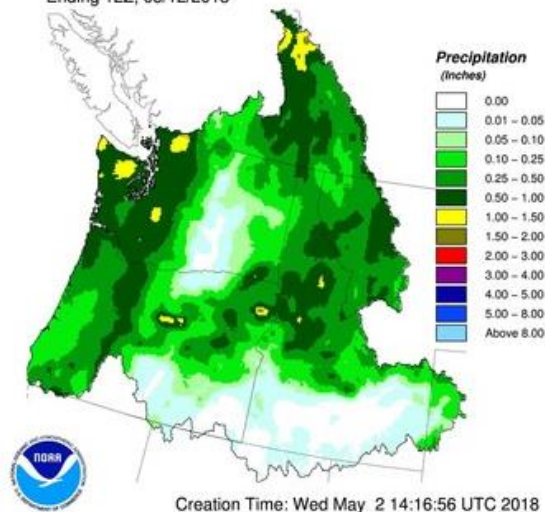
05/02/2018 – 05/12/2018

10 Day Forecast Precipitation: Volume Analysis

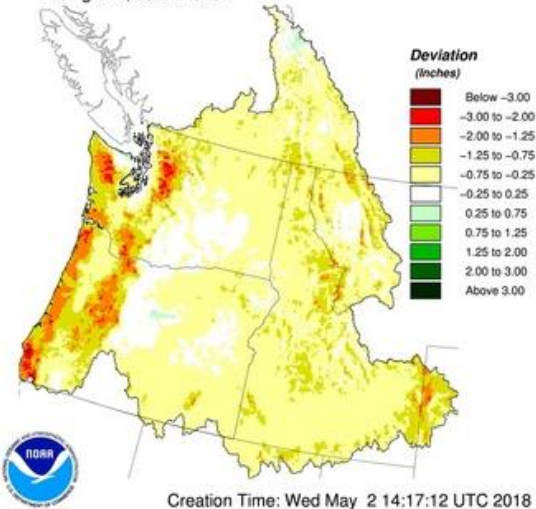
10 Day Precipitation Climatology
Ending 12Z, 05/12/2018



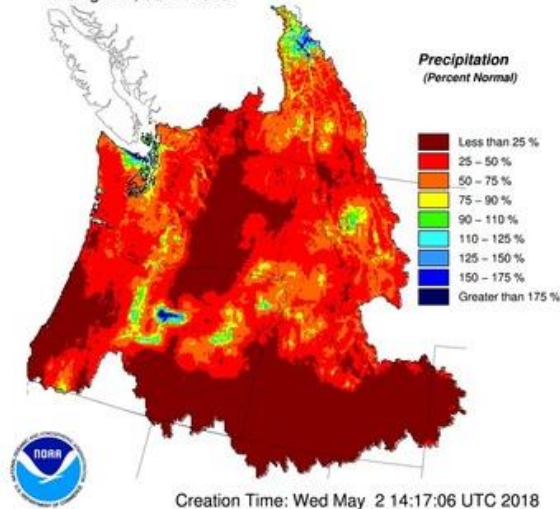
10 Day QPF
Ending 12Z, 05/12/2018



10 Day QPF (Deviation from Climatology)
Ending 12Z, 05/12/2018

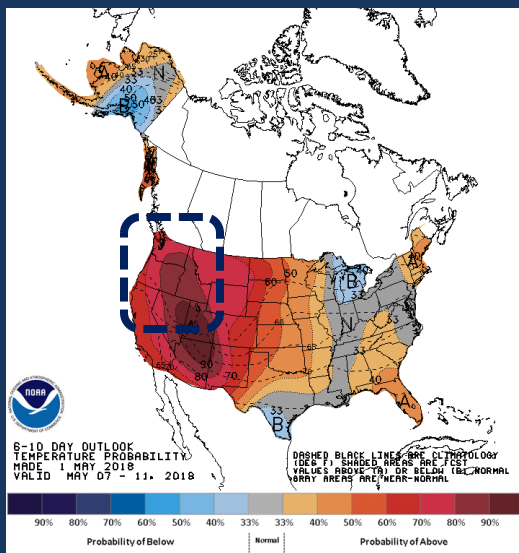


10 Day QPF (Percent of Climatology)
Ending 12Z, 05/12/2018

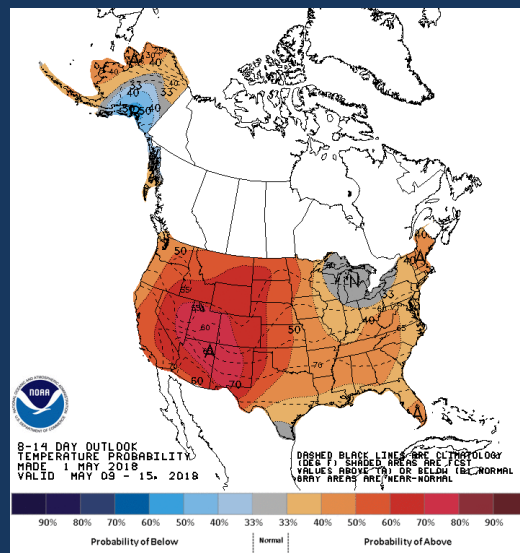


CPC Climate Outlook - Temperature

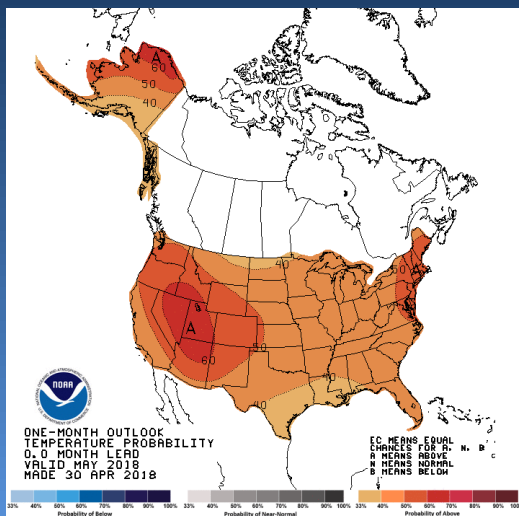
6 – 10 Day



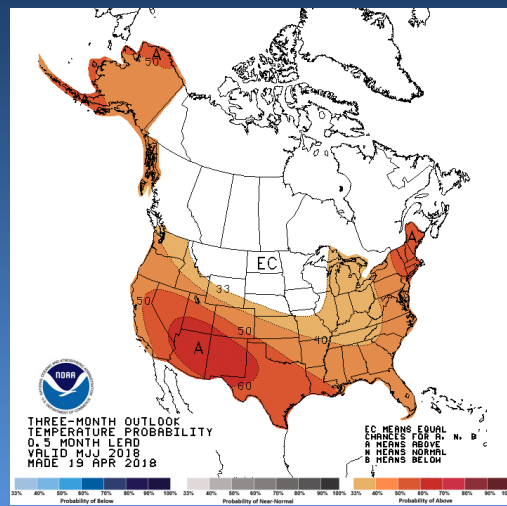
8 – 14 Day



1 Month

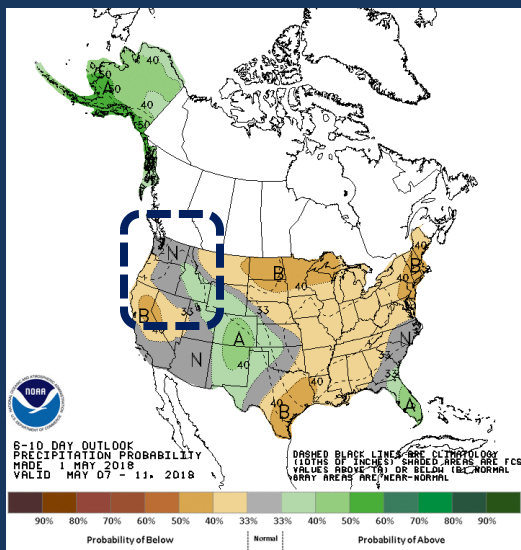


3 Month

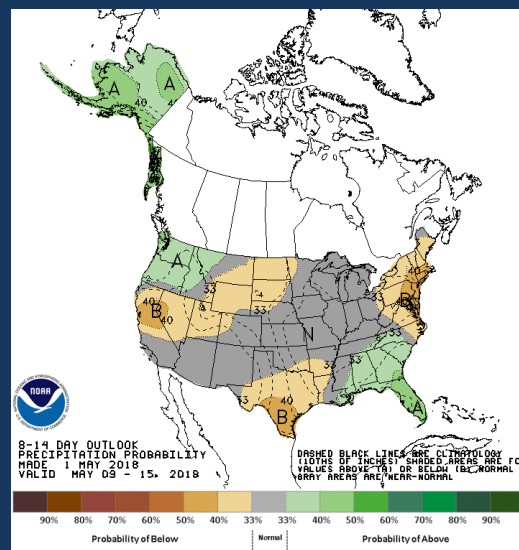


CPC Climate Outlook - Precipitation

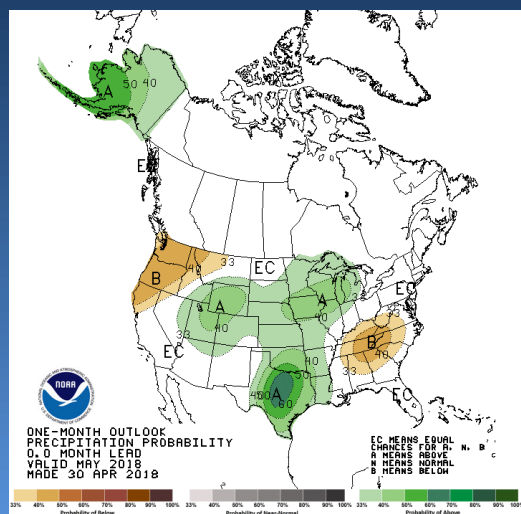
6 – 10 Day



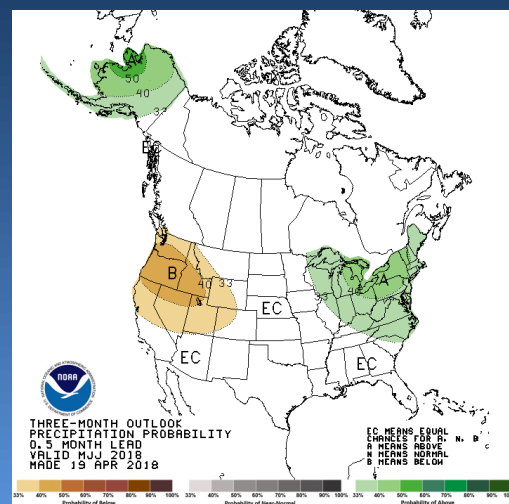
8 – 14 Day



1 Month



3 Month



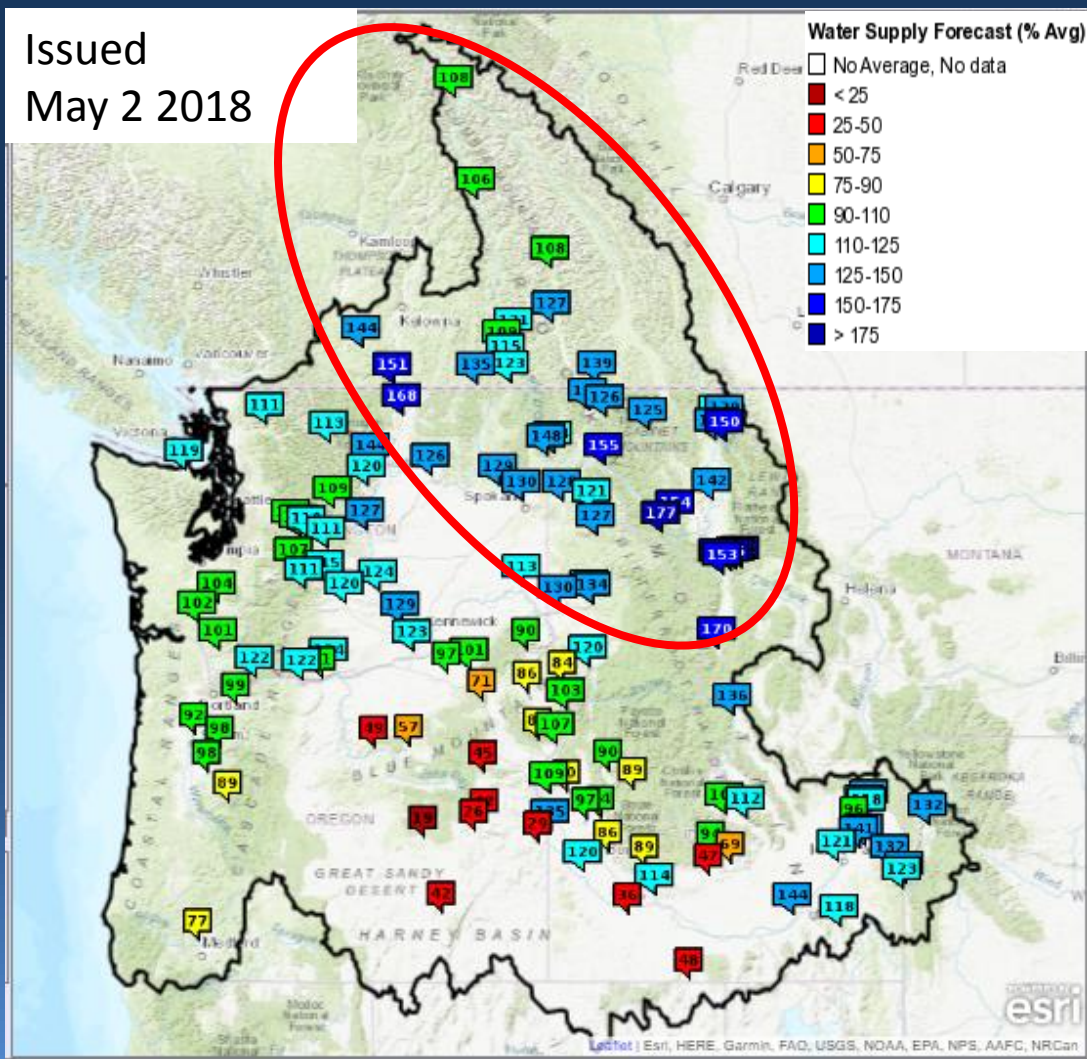


ESP10 Apr-Sep Water Supply Forecasts

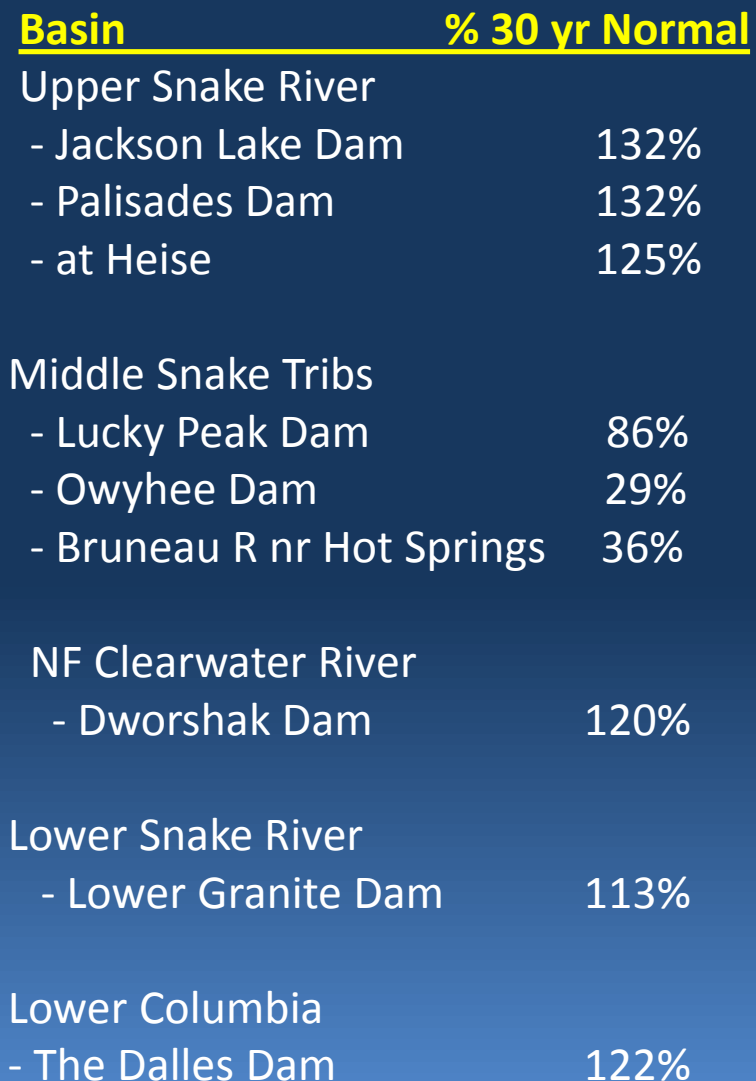
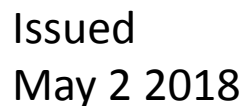
Upper Columbia Basin – abv Grand Coulee



Issued
May 2 2018



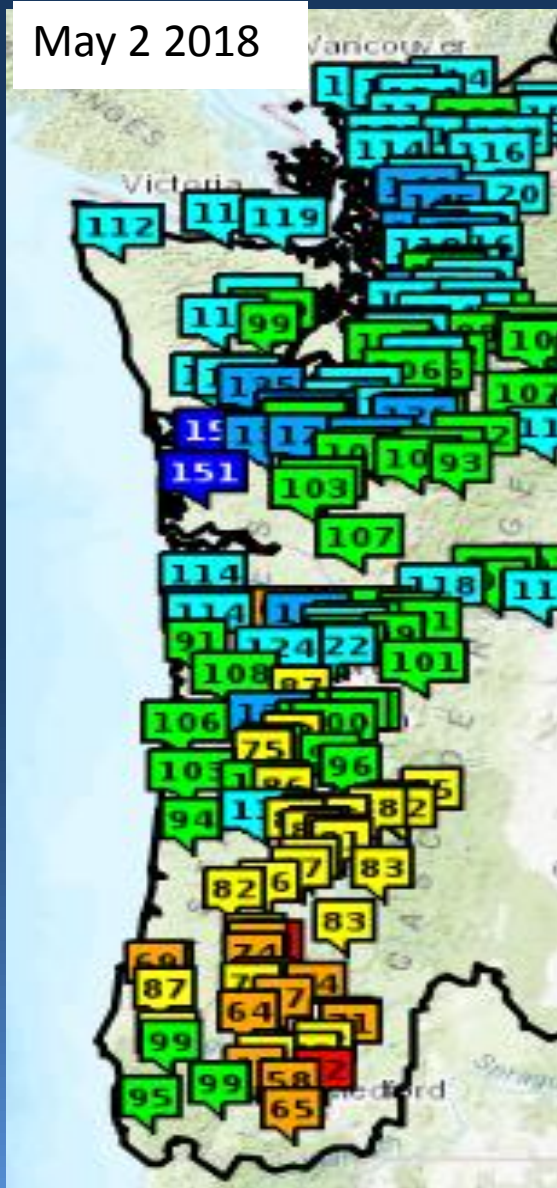
Basin	% 30 yr Normal
Columbia River	
- Mica Dam	108%
Kootenai River	
- Libby Dam	125%
Coeur d'Alene River	
- Coeur d'Alene Lake	128%
SF Flathead River	
- Hungry Horse Dam	150%
Clark Fork River	
- Above Missoula	225%
Bitterroot River	
- Above Missoula	153%
Pend Oreille River	
Albeni Falls Dam	148%
Columbia River	
- Grand Coulee Dam	126%



ESP10 Apr-Sep Water Supply Forecasts

ESP Natural - Western Oregon and Washington

May 2 2018



Basin % 30 yr Normal

Skagit River
- near Concrete 114%

Green River
- Howard Hanson Res 108%

Cowlitz River
- Mossyrock Reservoir 102%
- Mayfield Reservoir 101%

North Santiam
- At Mehama 97%

Willamette River
- At Salem 87%

Rogue River
- Applegate Reservoir 65%



Summary



Water Year 2018 Summary

- Precipitation generally above normal in the Upper Columbia but below normal in Oregon and Southern Idaho
- Temperatures below normal for Feb – Mar across most of region
- Snowpack well above normal in the Upper Columbia, with near record snowpack in the Clark Fork, Blackfoot basins
- Snowpack also normal to above normal in the Upper Snake, but generally below normal in the Middle Snake
- 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 of record
 - 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 Live Water Supply Briefings					
Jan	Feb	Mar	Apr	May	June
4	1	1	5	3	TBD
All presentations held at 10:00am PDT/PST, unless noted otherwise					
Click here for Registration Information					

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

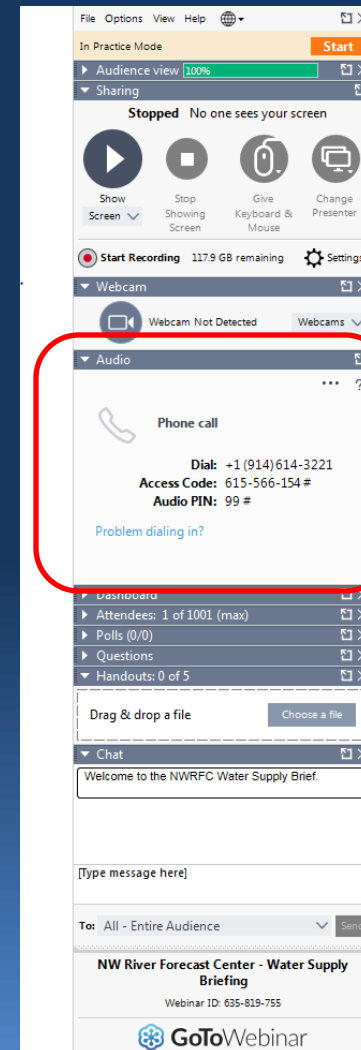
Climate

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.



kevin.berghoff@noaa.gov
W-ptr.Webmaster@noaa.gov
(503)326-7291