



# June 2018 Water Supply Briefing

National Weather Service / Northwest River Forecast Center

Telephone Conference : 1-562-247-8321  
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# Water Supply Forecast Briefing Outline



- **Observed Conditions WY2018:**

- Precipitation
- Temperature
- Snowpack
- Runoff

Hydrologic  
model states

- **Future Conditions:**

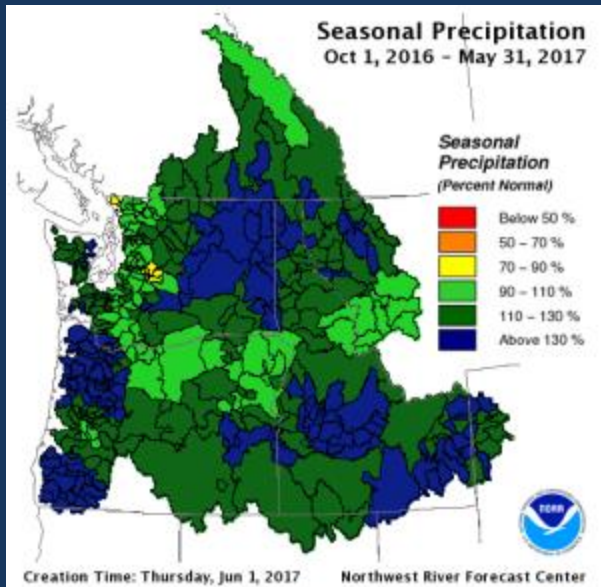
- 10 days of quantitative precipitation forecast (QPF)
- 10 days of quantitative temperature forecast (QTF)
- Historical climate forcings appended thereafter

Hydrologic  
Model  
Inputs

- **Summary**



# Observed % Normal Seasonal Precipitation Water Year 2017 / 2018 Comparison



**DIVISION NAME**

**WY2017  
% Norm**

**WY2018  
% Norm**

Columbia R abv  
Grand Coulee

122

103 (-5)

Snake R abv  
Ice Harbor

127

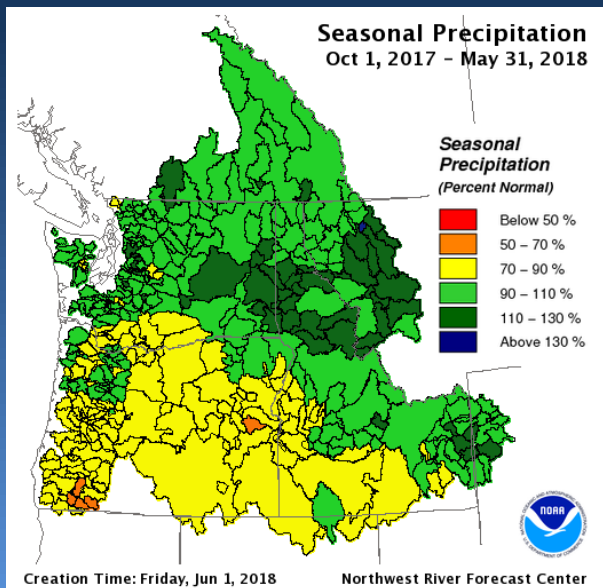
95 (--)

Columbia R abv  
The Dalles

121

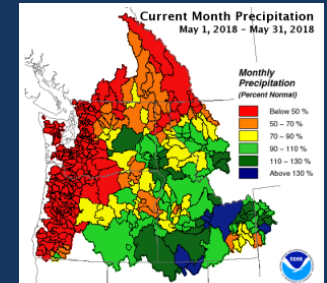
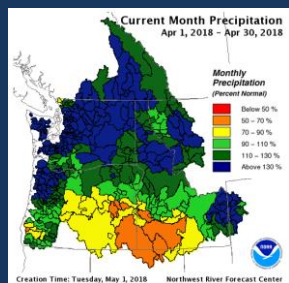
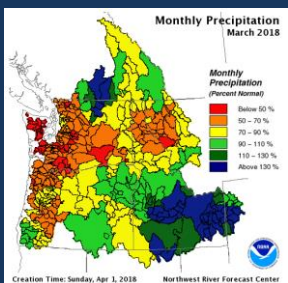
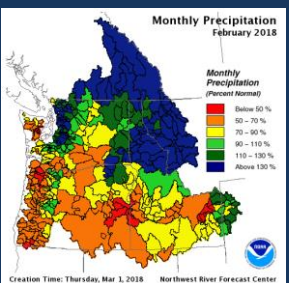
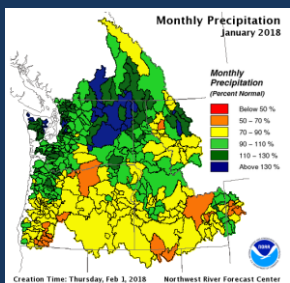
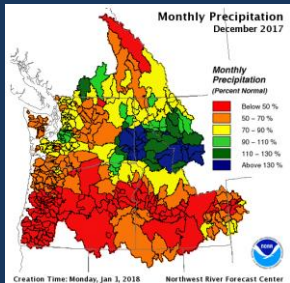
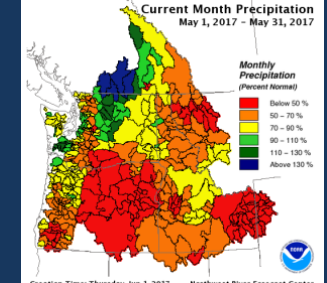
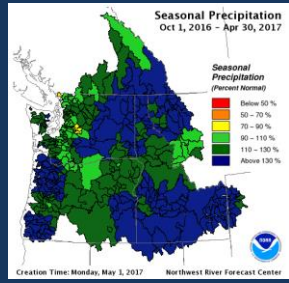
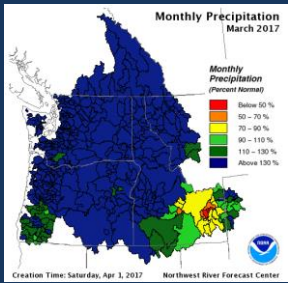
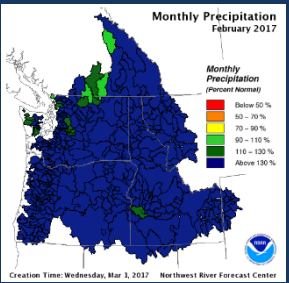
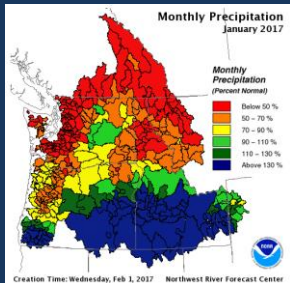
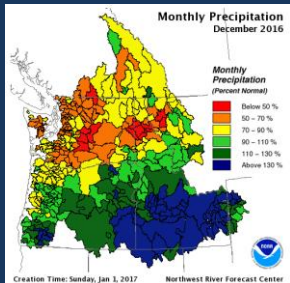
98 (-3)

(percentage point change since May 2 in parentheses)





# Observed % Normal Monthly Precipitation Water Year 2017 / 2018 Comparison

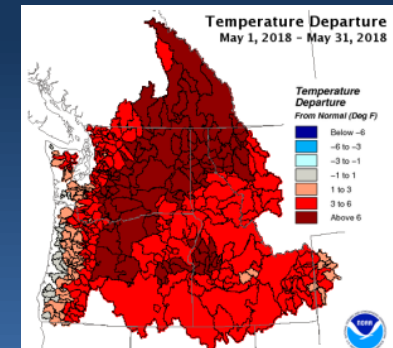
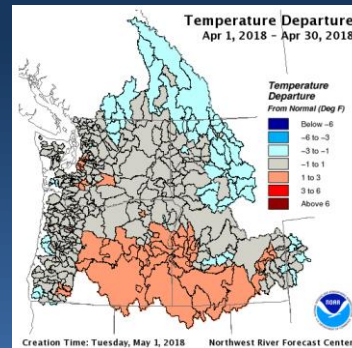
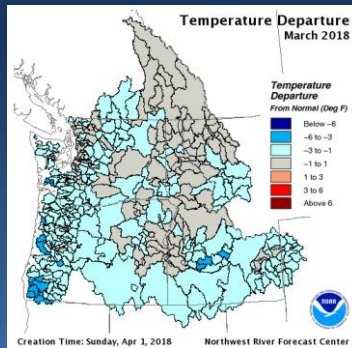
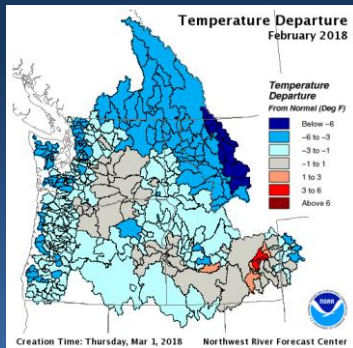
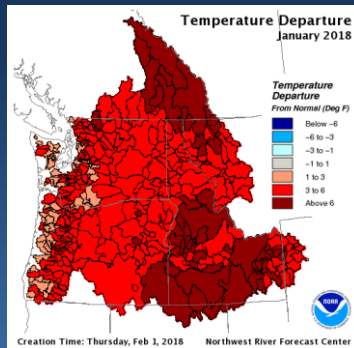
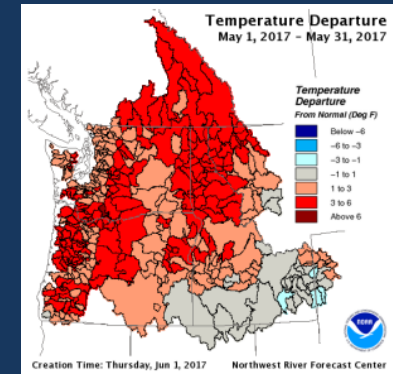
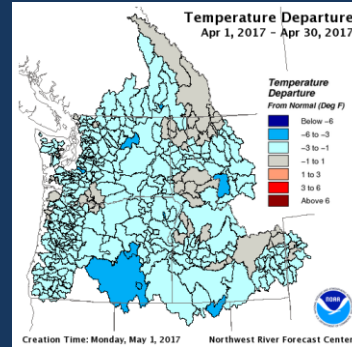
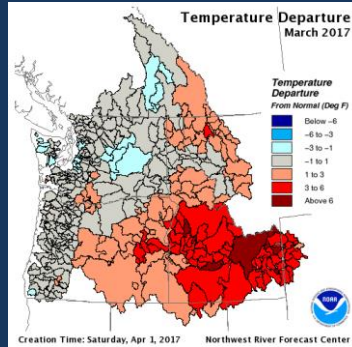
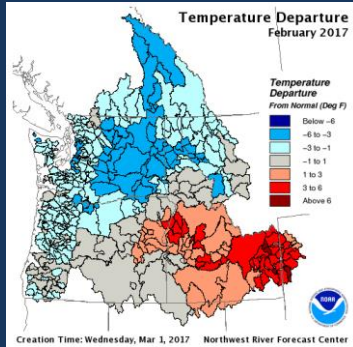
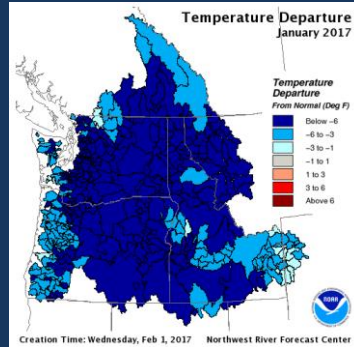


Upr Columbia Precip %Normal – WY2018	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	WY2018
Clark Fork River Basin	81	121	133	82	175	79	127	102					112
Flathead River Basin	115	123	99	110	207	76	135	74					115
Kootenai River Basin	118	116	73	114	140	87	133	45					102
Spokane River Basin	140	118	115	106	147	64	136	73					111
Columbia River Basin abv Arrow Dam	118	105	54	92	160	84	138	54					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	158	113					106
Upper Snake abv American Falls Dam	49	145	57	84	95	135	126	100					99
Middle Snake Tributaries	57	133	39	80	59	149	85	127					93
Payette River Basin	81	126	45	91	79	110	99	83					90
Clearwater River Basin	122	111	127	91	165	79	140	90					114
Snake Basin abv Hells Canyon Dam	78	123	70	85	71	108	94	102					90



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

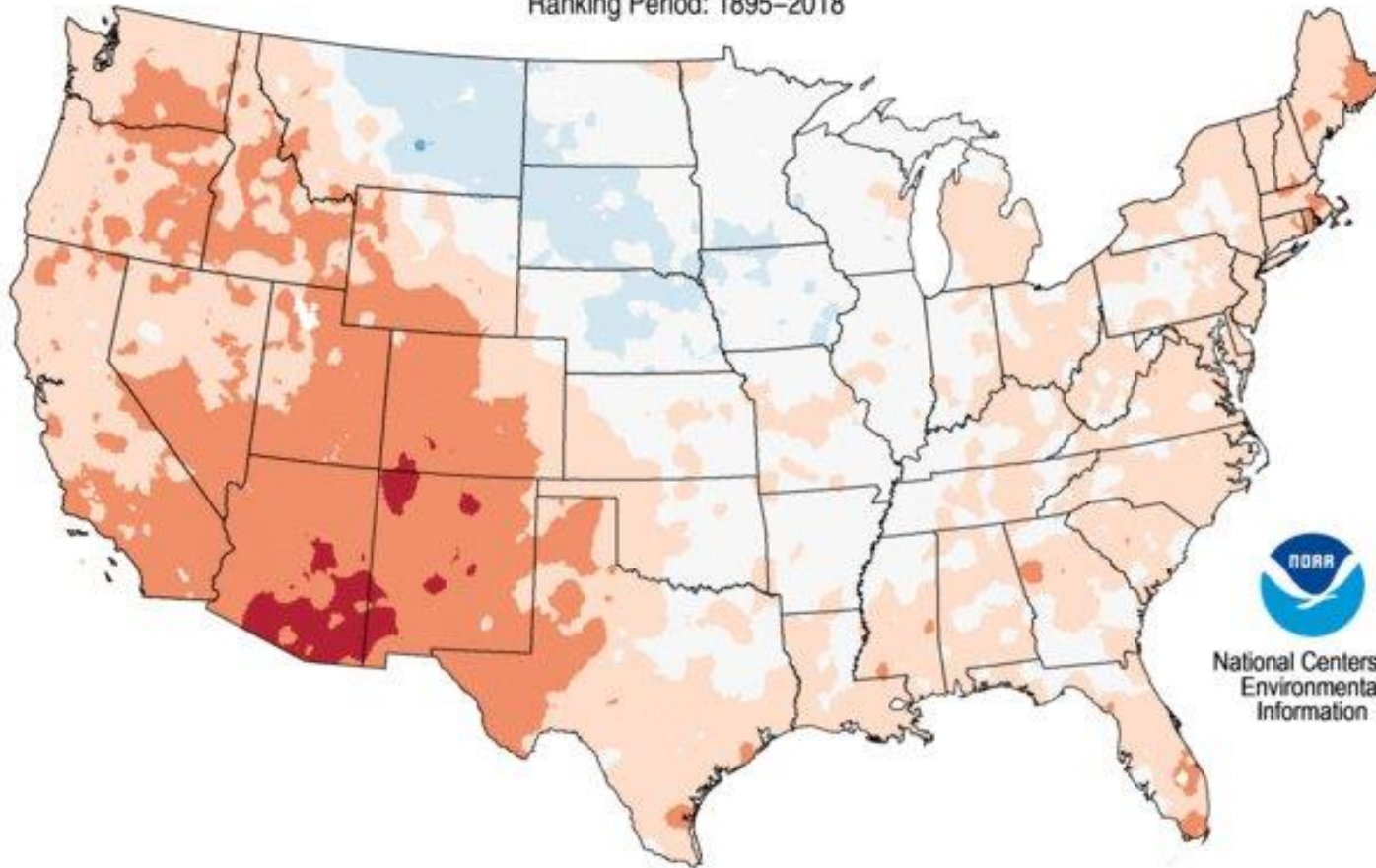


# It has been a warm spring!

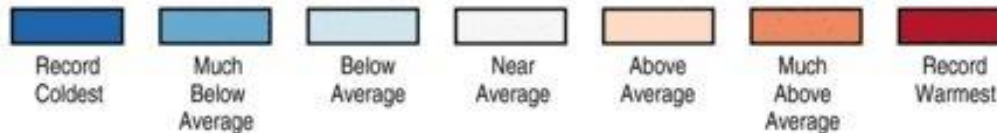
## Mean Temperature Percentiles

January–May 2018

Ranking Period: 1895–2018



National Centers for  
Environmental  
Information

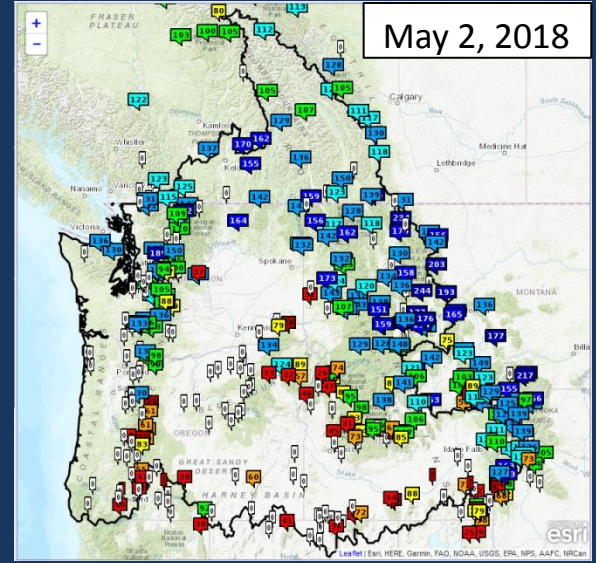
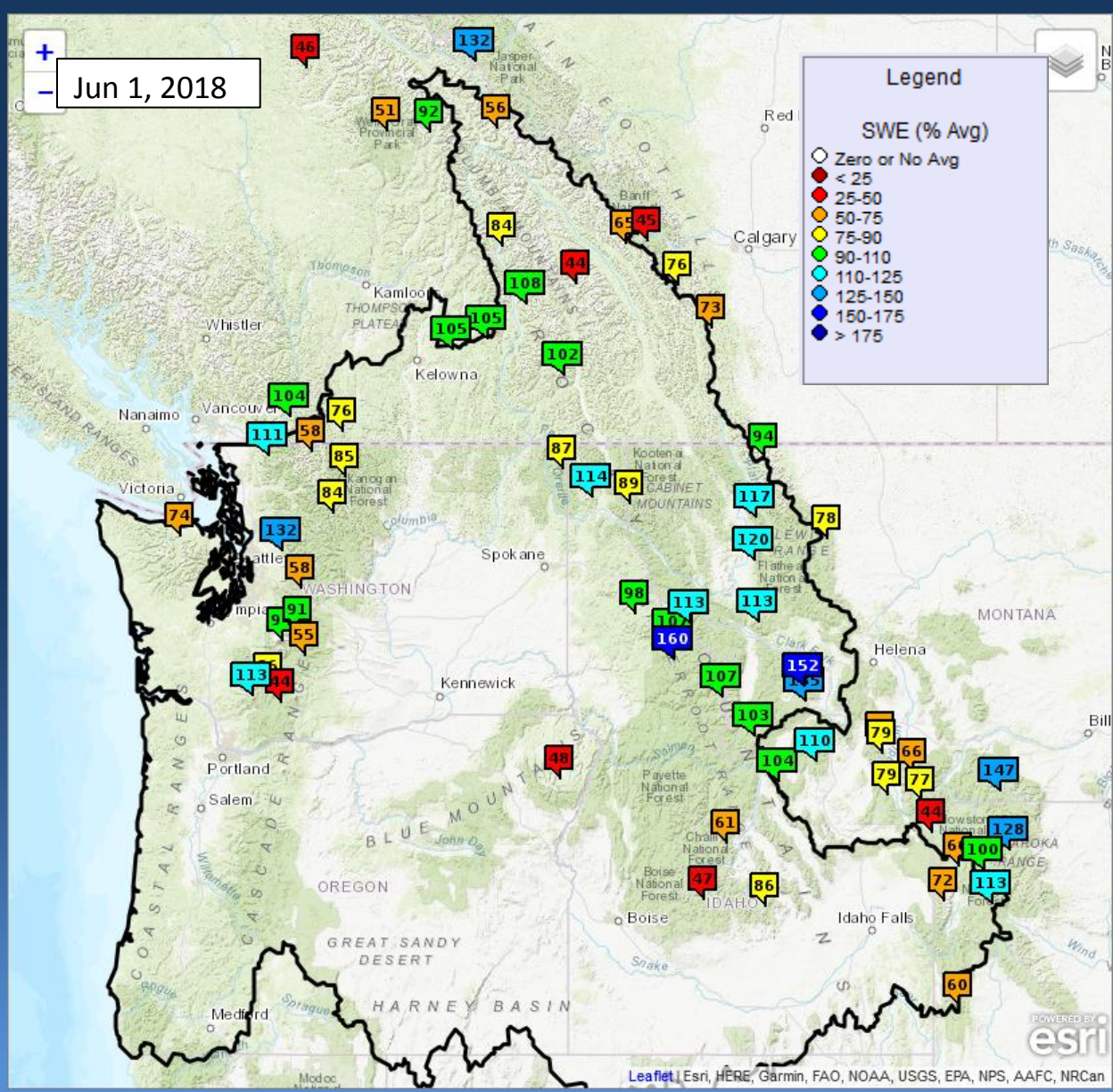




# Snowpack Summary



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



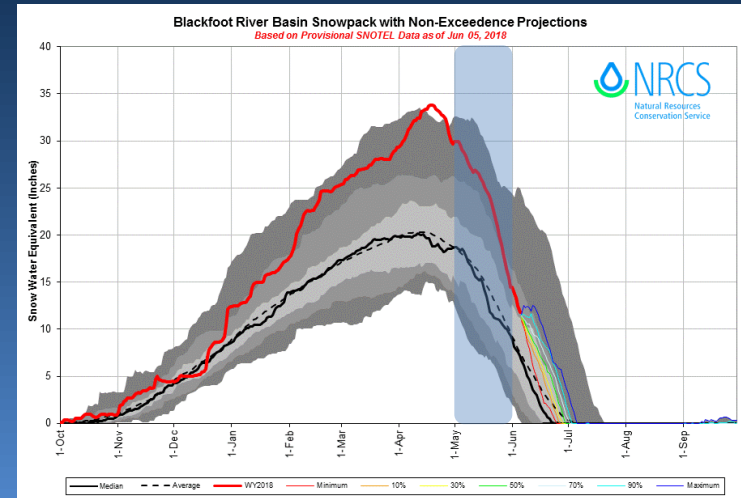
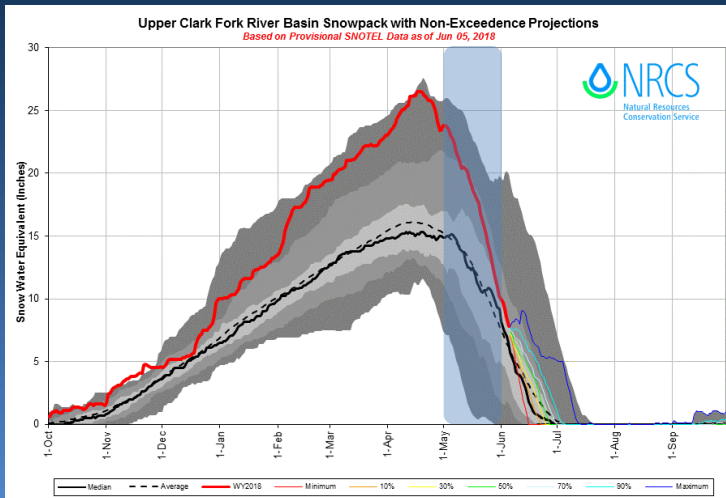
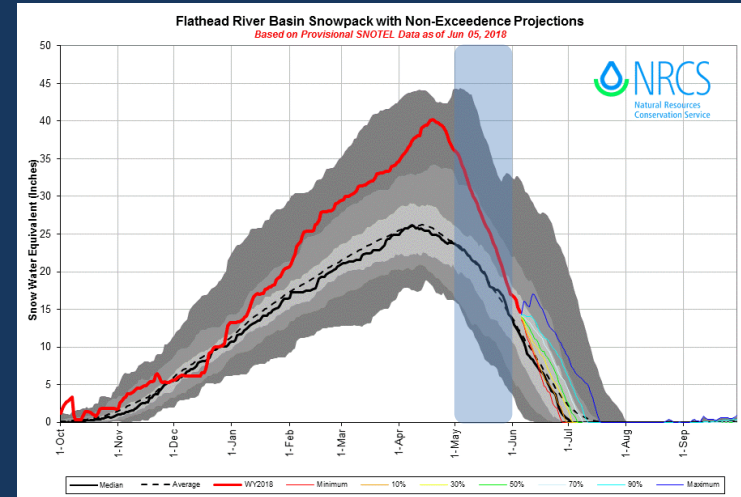
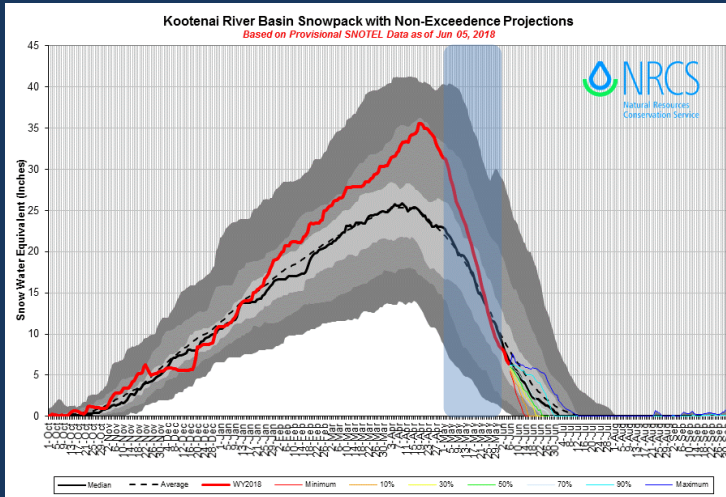
Basin %SWE 2018	May 2	Jun 1
Flathead	161	115
Upr Clark Fork	161	141
Bitterroot	167	113
Snake abv Palisades	125	102
Big/Little Wood	95	54
Big/Little Lost	97	96
Weiser, Payette, Boise	83	--/18/27
Clearwater, Salmon	125	115/65
Owyhee, Malheur	15*	--
Grand Ronde, Powder, Burnt, Imnaha	78*	44
Willamette	69*	20

\* % of median from NRCS



# NRCS Basinwide SWE

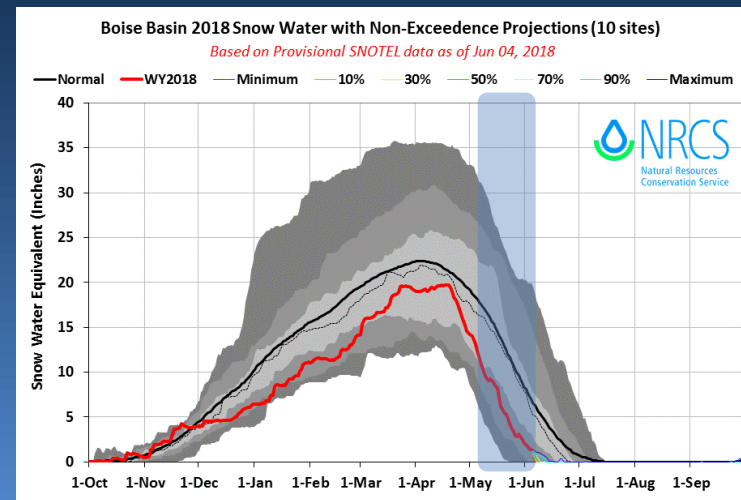
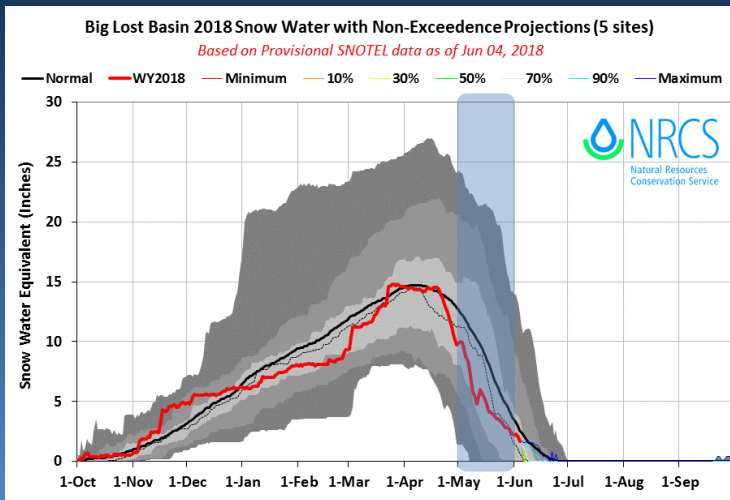
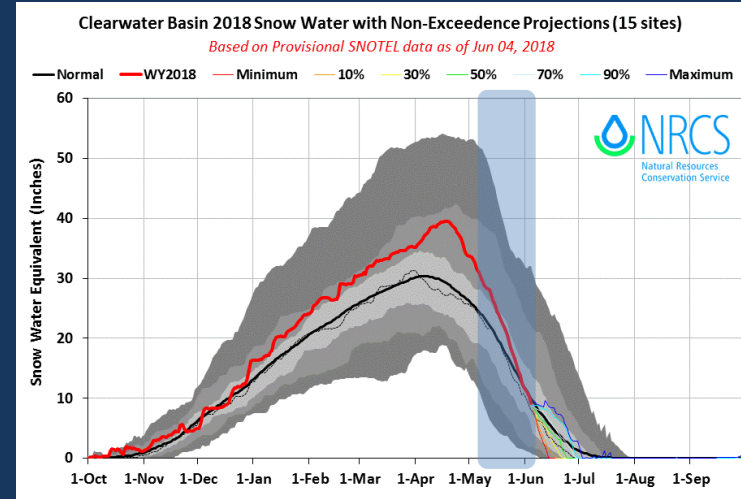
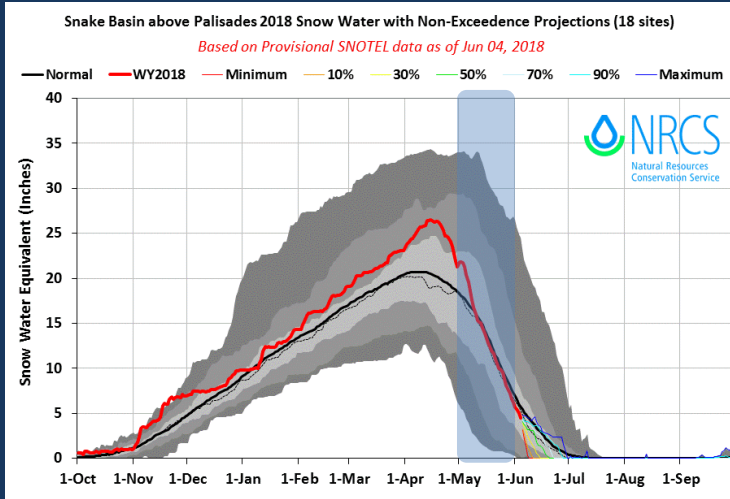
## Upper Columbia







# NRCS Basinwide SWE Snake River Basin





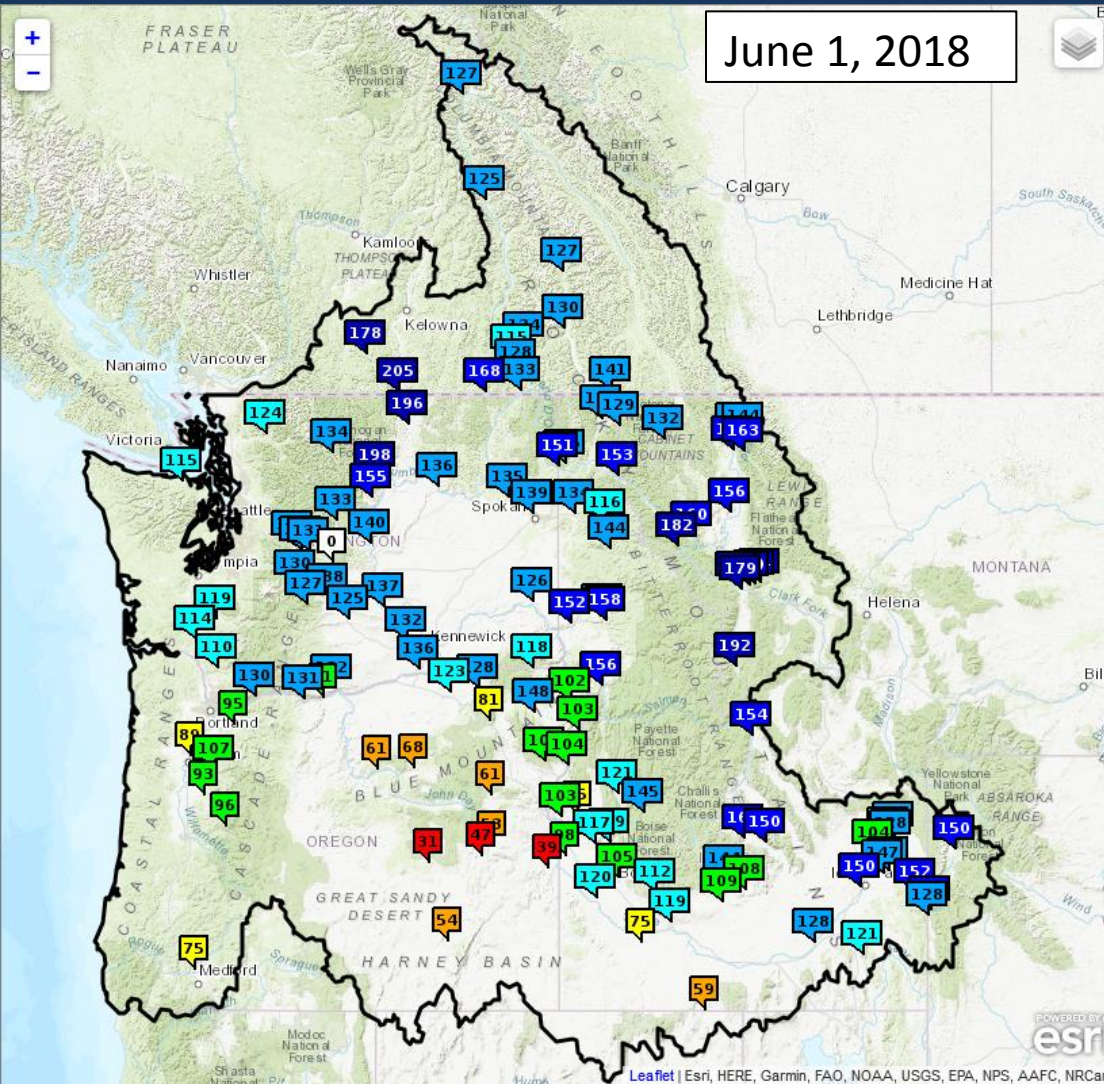
# Current Adjusted Runoff Conditions

## Water Year 2018



Percent of Normal

Oct 1–Jun1



### UPPER COLUMBIA BASIN

MICA	127 (+40)
DUNCAN	127 (+52)
QUEENS BAY	130 (+41)
LIBBY	132 (+46)
HUNGRY HORSE	163 (+50)
GRAND COULEE	136 (+33)

### SNAKE RIVER BASIN

JACKSON LAKE	150 (+21)
PALISADES	152 (+12)
DWORSHAK	139 (+10)
LOWER GRANITE	126 (+9)

### LOWER COLUMBIA BASIN

THE DALLES	131 (+23)
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(Δ% since May 2 in parentheses)



# Water Supply Forecast Briefing Outline

- Observed Conditions WY2018:

- Precipitation
- Temperature
- Snowpack
- Runoff

Hydrologic  
model states

- Future Conditions:**

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

Hydrologic  
Model  
Inputs

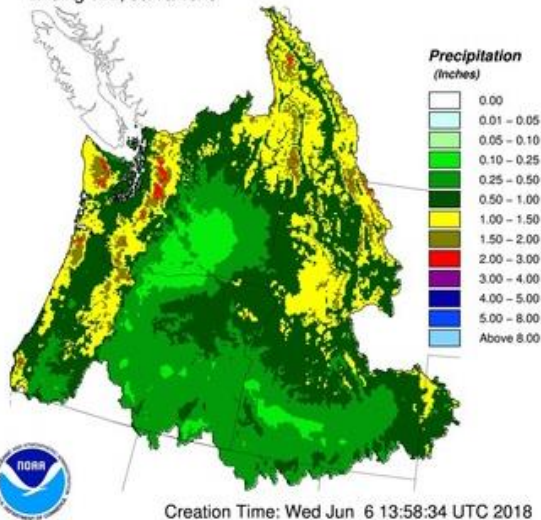
- Summary**

# Cumulative 10 Day Precipitation Forecast

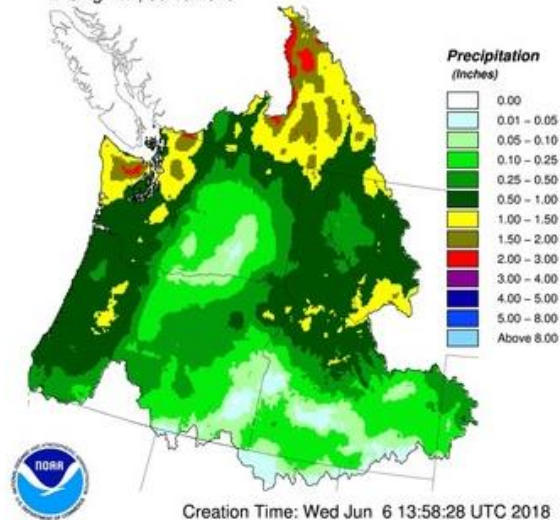
06/06/2018 – 06/16/2018

## 10 Day Forecast Precipitation: Volume Analysis

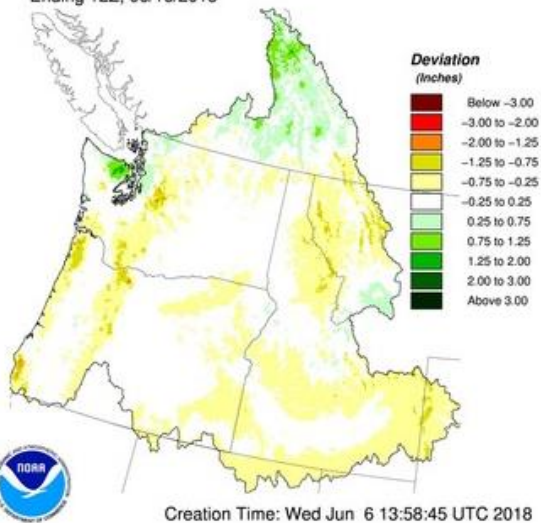
10 Day Precipitation Climatology  
Ending 12Z, 06/16/2018



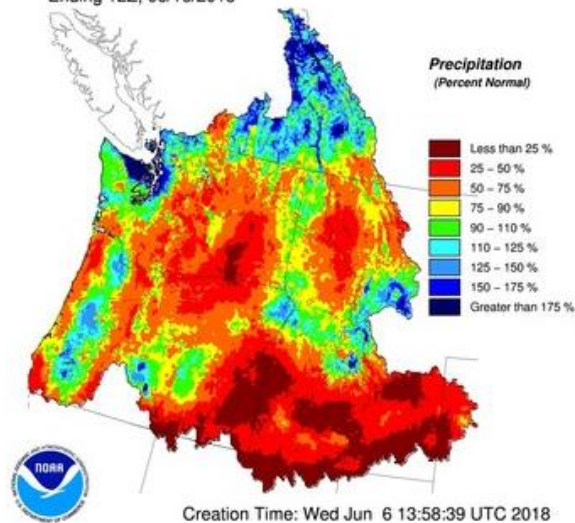
10 Day QPF  
Ending 12Z, 06/16/2018



10 Day QPF (Deviation from Climatology)  
Ending 12Z, 06/16/2018



10 Day QPF (Percent of Climatology)  
Ending 12Z, 06/16/2018

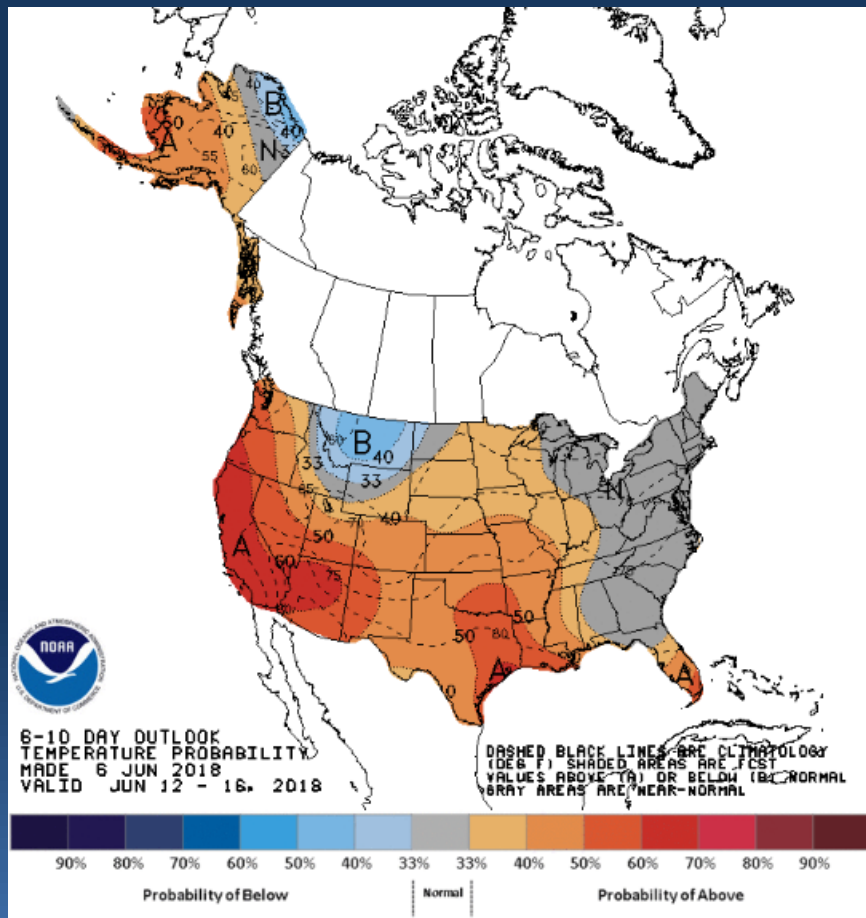




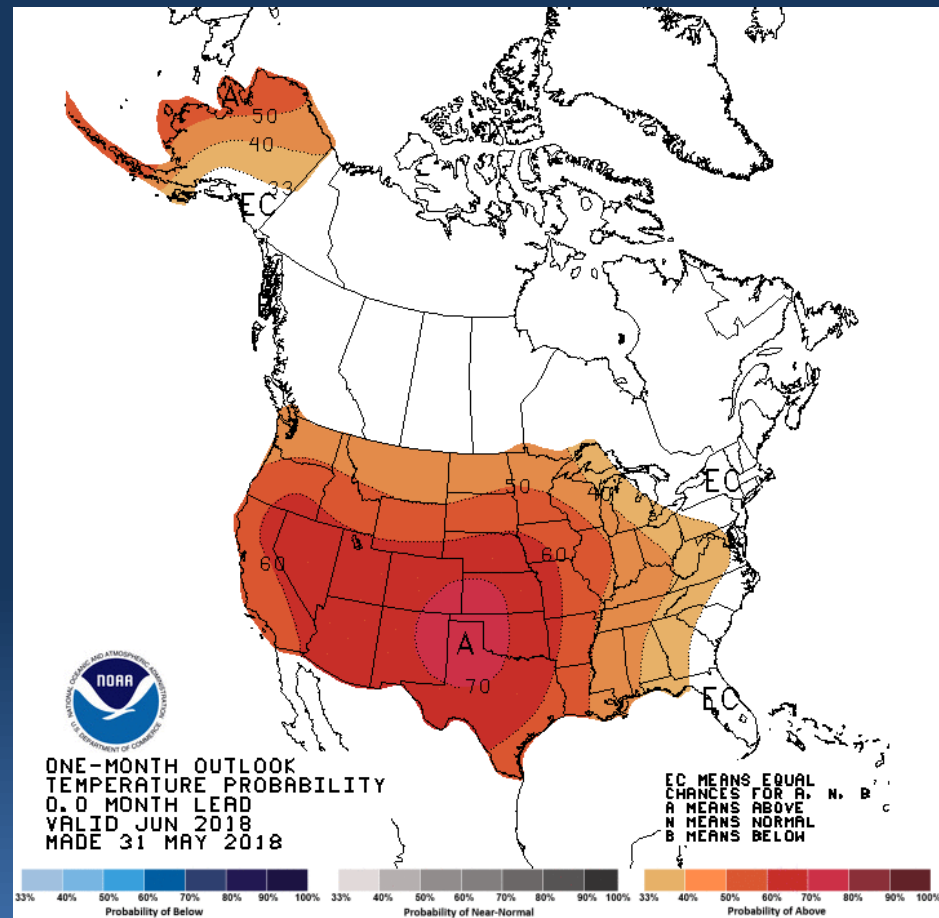
# CPC Climate Outlook - Temperature



## 6 - 10 Day



## 1 Month

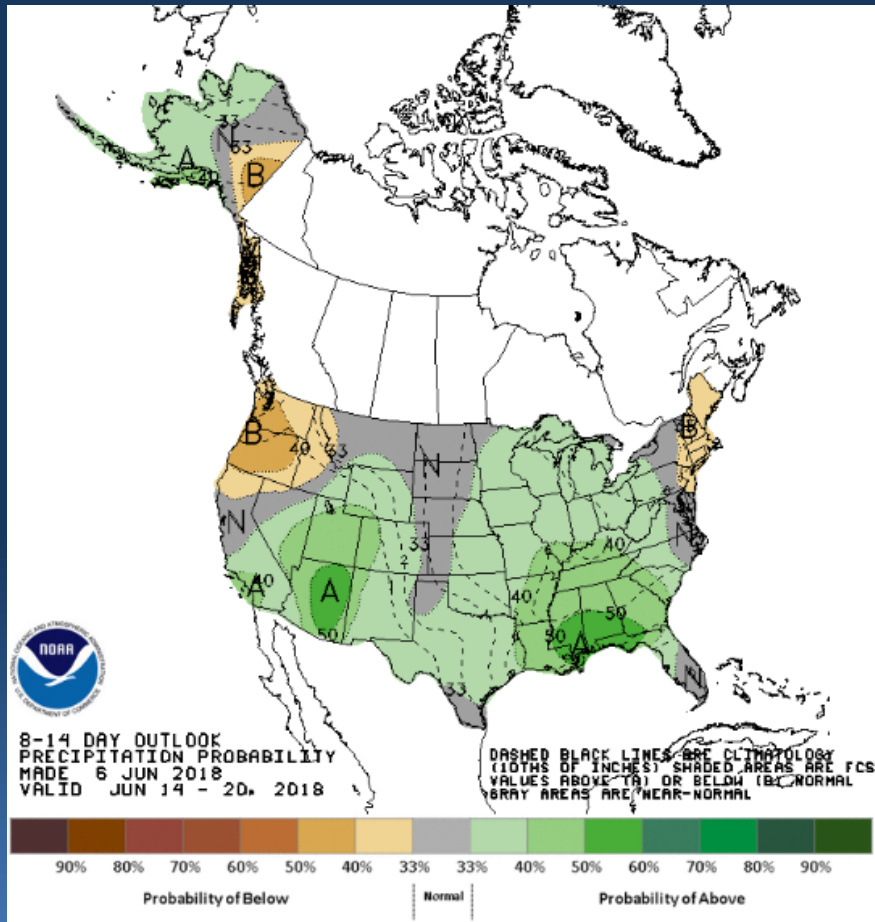




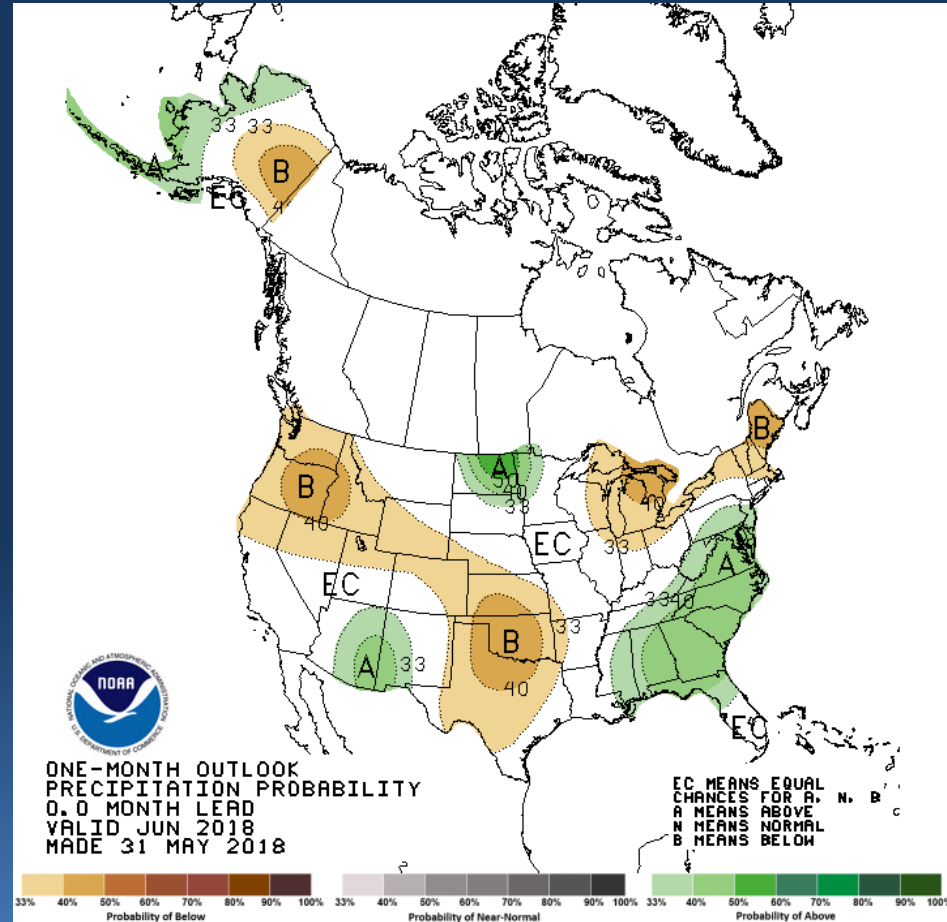
# CPC Climate Outlook - Precipitation



## 6 - 10 Day



## 1 Month



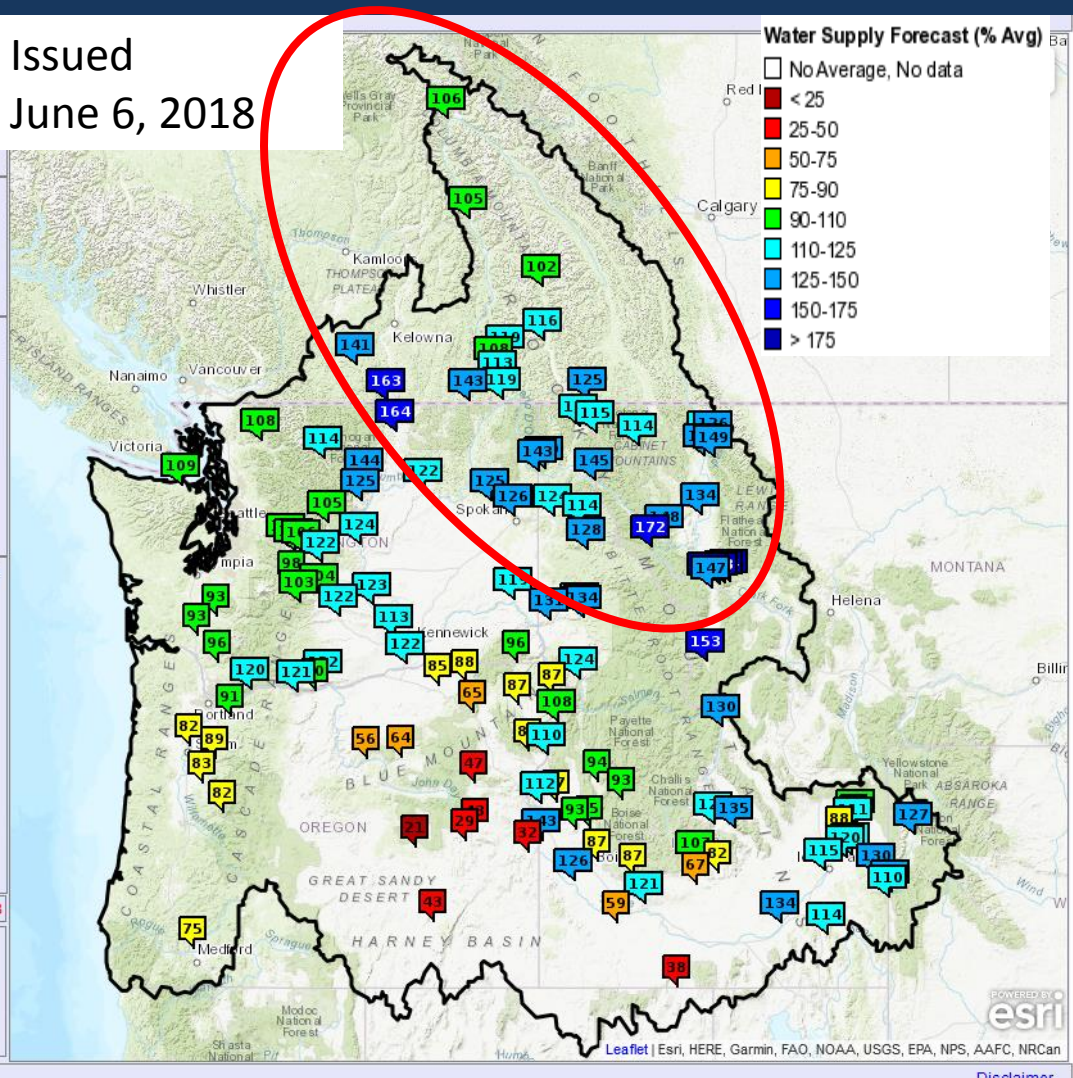


# ESP10 Apr-Sep Water Supply Forecasts

## Upper Columbia Basin – abv Grand Coulee



Issued  
June 6, 2018



<u>Basin</u>	<u>% 30 yr Normal</u>
Columbia River - Mica Dam	106%
Kootenai River - Libby Dam	114%
Coeur d'Alene River - Coeur d'Alene Lake	124%
SF Flathead River - Hungry Horse Dam	149%
Clark Fork River - Above Missoula	218%
Bitterroot River - Above Missoula	147%
Pend Oreille River Albeni Falls Dam	143%
Columbia River - Grand Coulee Dam	122%

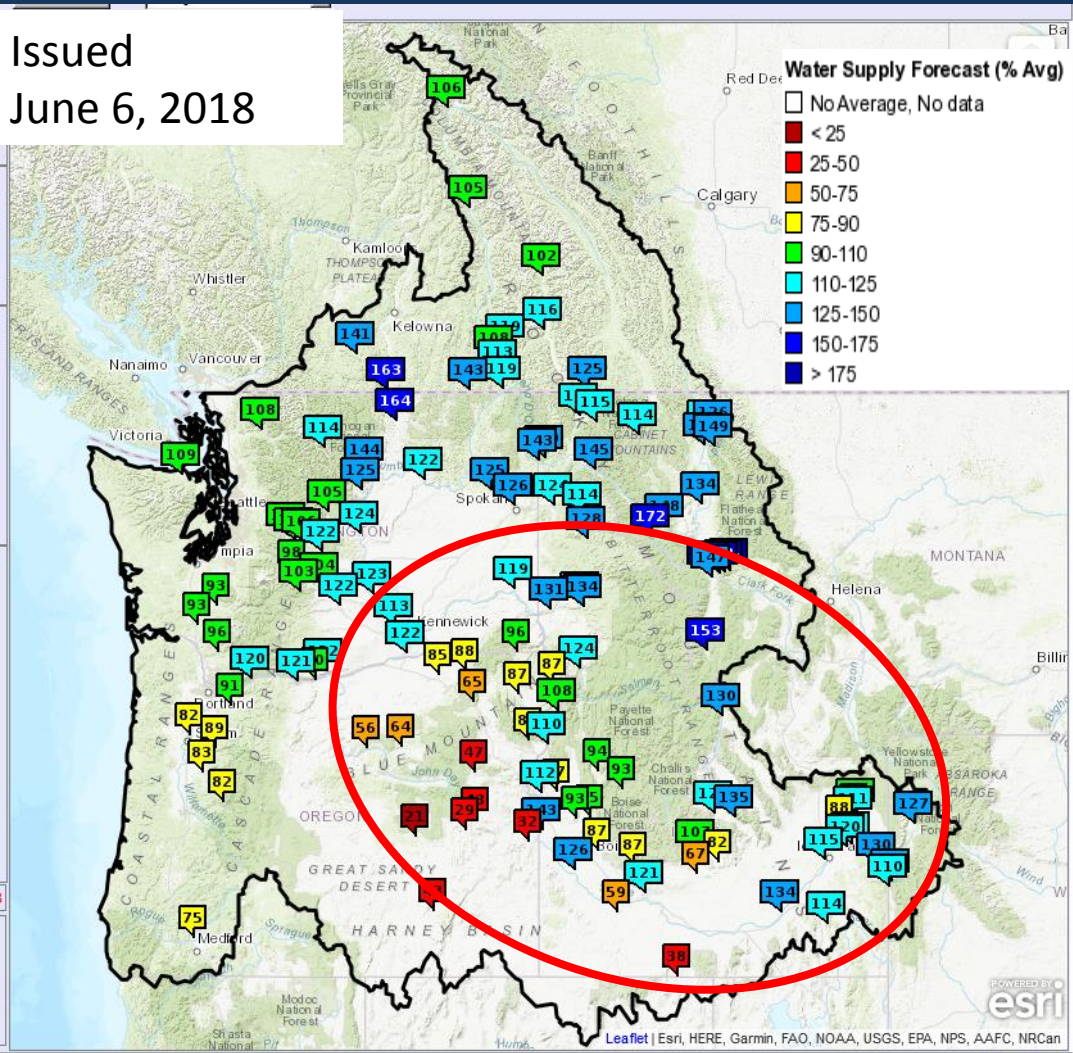


# ESP10 Apr-Sep Water Supply Forecasts

## Snake River Basin and Columbia Mainstem



Issued  
June 6, 2018



### Basin                      % 30 yr Normal

- Upper Snake River
  - Jackson Lake Dam                      127%
  - Palisades Dam                            110%
  - at Heise                                      123%
  
- Middle Snake Tribs
  - Lucky Peak Dam                          87%
  - Owyhee Dam                               32%
  - Bruneau R nr Hot Springs              59%
  
- NF Clearwater River
  - Dworshak Dam                            123%
  
- Lower Snake River
  - Lower Granite Dam                      119%
  
- Lower Columbia
  - The Dalles Dam                           121%





# ESP10 Apr-Sep Water Supply Forecasts

## ESP Natural - Western Oregon and Washington



June 4, 2018



<u>Basin</u>	<u>% 30 yr Normal</u>
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Skagit River	
- near Concrete	107%

Green River	
- Howard Hanson Res	102%

Cowlitz River	
- Mossyrock Reservoir	92%
- Mayfield Reservoir	92%

North Santiam	
- At Mehama	87%

Willamette River	
- At Salem	77%

Rogue River	
- Applegate Reservoir	60%



# Summary



## Water Year 2018 Summary

- Precipitation generally above normal in the Upper Columbia but below normal in Oregon and Southern Idaho
  - Some precipitation relief came for Southern Idaho in May, however much of southwest Idaho and southeast Oregon remain in Snow Drought.
- Warm and dry month of May saw rapid melting of snow pack in MT, ID, and Canadian mountainous basins.
- ESP water supply forecast
  - Upper Columbia basins remain above normal
  - 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



# Northwest River Forecast Center

## Water Supply Forecasts

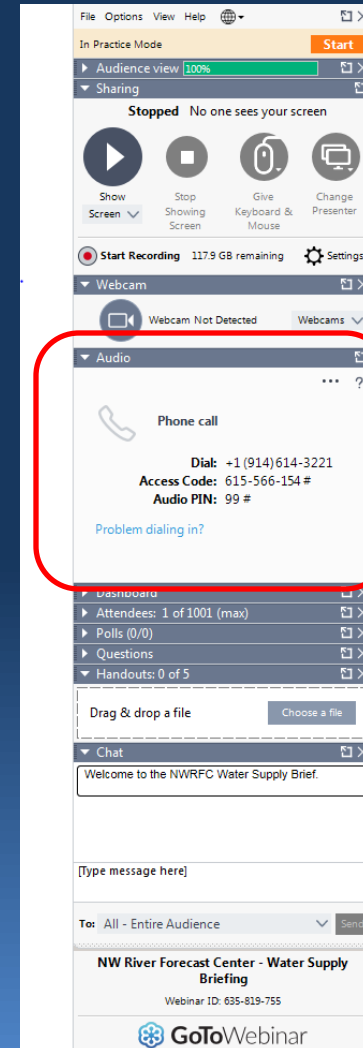


River and Hydrology	Water Supply	Observations	Weather Forecasts	Climate	NWRFC
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# Questions?

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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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