



# Wyoming Drought Information



**Little Popo Agie River near Hudson—August 2002 (Photo: P. Spatz, USGS.)**

**June 19, 2007**

**...Extreme hydrologic drought continues for southeast Fremont County and almost all of Sweetwater County...**

**...Snow pack at 10,000 feet and below has been depleted 3 to 4 weeks earlier than normal...**

**...Inflows into Fontenelle and Flaming Gorge Reservoirs only expected to be 30 percent of normal...**

**.Synopsis...**

Early June rainfall kept northeastern and a big portion of eastern Wyoming out of moderate or greater drought categories; while western and central Wyoming remained in severe to extreme hydrologic drought. Southeastern Fremont County and almost all of Sweetwater County remained in the extreme hydrologic drought category.

Warmer than average temperatures during the first three weeks of May resulted in a moderate but thorough depletion of the mountain snow pack at 10,000 feet and below. In fact, the depletion of the low to mid-altitude snowpack in almost all areas across Wyoming has occurred 3 to 4 weeks earlier than normal.

However, the early June precipitation did not make much of a dent into the low water supply (from snowmelt runoff) numbers across Wyoming. Inflows to the major reservoirs the rest of the spring and into summer are expected to be below to well below normal. Especially hit hard with low water supply numbers are the Wind and Upper Green River Basins. Only 30 percent of normal inflow is expected from June – September for Fontenelle and Flaming Gorge Reservoirs; while Boysen Reservoir is only expected to have 46 percent of its normal inflow during the same period.

The true measure of drought conditions in Wyoming is the amount of water that runs off into streams and lakes from the mountain snowpack. The most notable trend that can be seen is the rapid rate that many watersheds are losing their available snowpack. Wyoming is very dependent on high elevation snowpack to carry the state's irrigation water supply deep into summer and into early fall. Temperature predictions for the summer indicate that the late season high elevation snowpack may be diminished significantly way too early in the summer.

# U.S. Drought Monitor

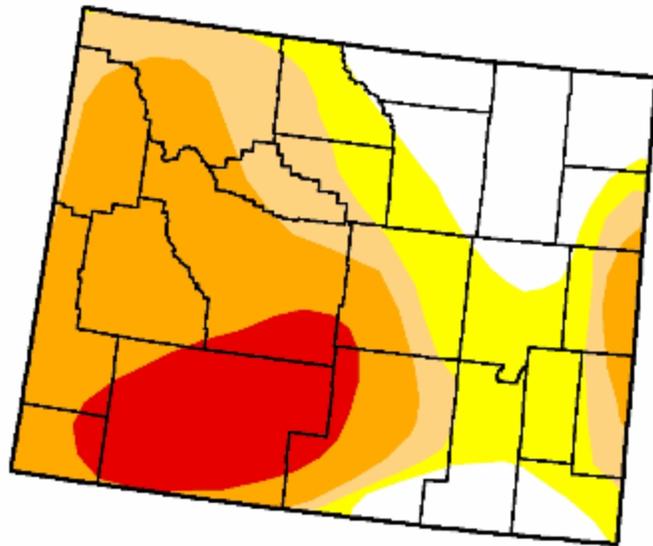
## Wyoming

June 12, 2007

Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	20.0	80.0	61.0	45.3	13.3	0.0
Last Week (06/05/2007 map)	17.8	82.2	61.7	45.5	13.3	0.0
3 Months Ago (03/20/2007 map)	0.5	99.5	93.1	74.4	37.0	0.0
Start of Calendar Year (01/02/2007 map)	1.6	98.4	92.1	71.5	40.9	0.0
Start of Water Year (10/03/2006 map)	0.3	99.7	97.2	69.0	50.0	0.0
One Year Ago (06/13/2006 map)	14.9	85.1	62.0	1.6	0.0	0.0



Intensity:

- D0 Abnormally Dry
- D1 Drought - Moderate
- D2 Drought - Severe
- D3 Drought - Extreme
- D4 Drought - Exceptional

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements



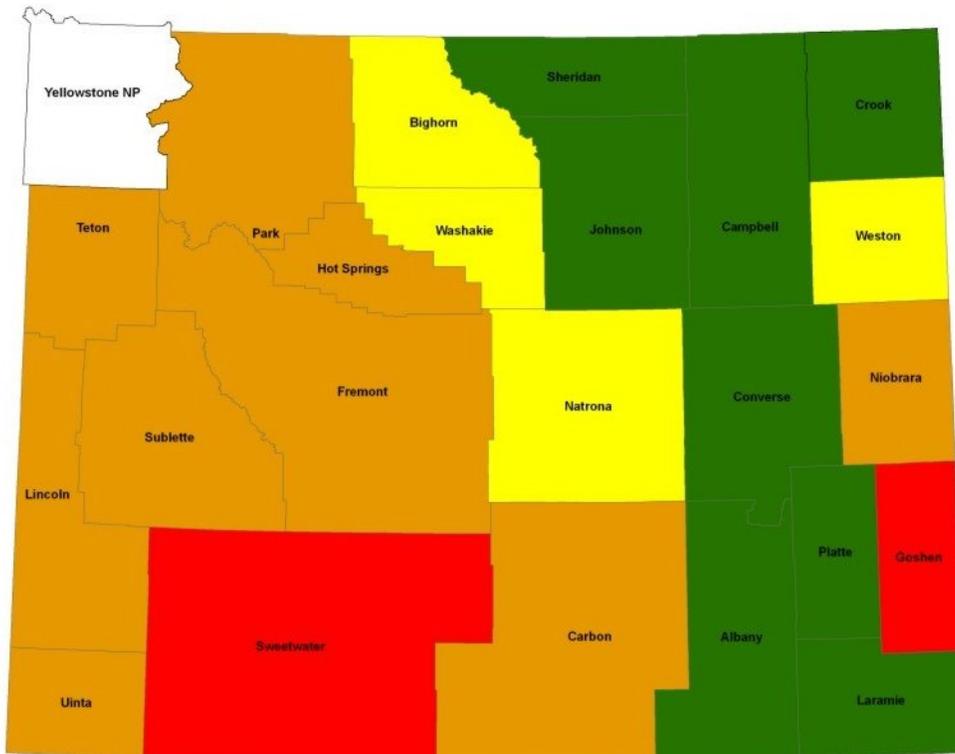
Released Thursday, June 14, 2007

Author: Rich Tinker, CPC/NCEP/NWS/NOAA

<http://drought.unl.edu/dm>

Latest Wyoming Drought Status from state climatologist:

## Drought Status Update May 30, 2007



- Wet-Normal
- Watch
- Warning
- Extreme Drought



Please see <http://www.wrds.uwyo.edu/wrds/wsc/df/drought.html> for additional information

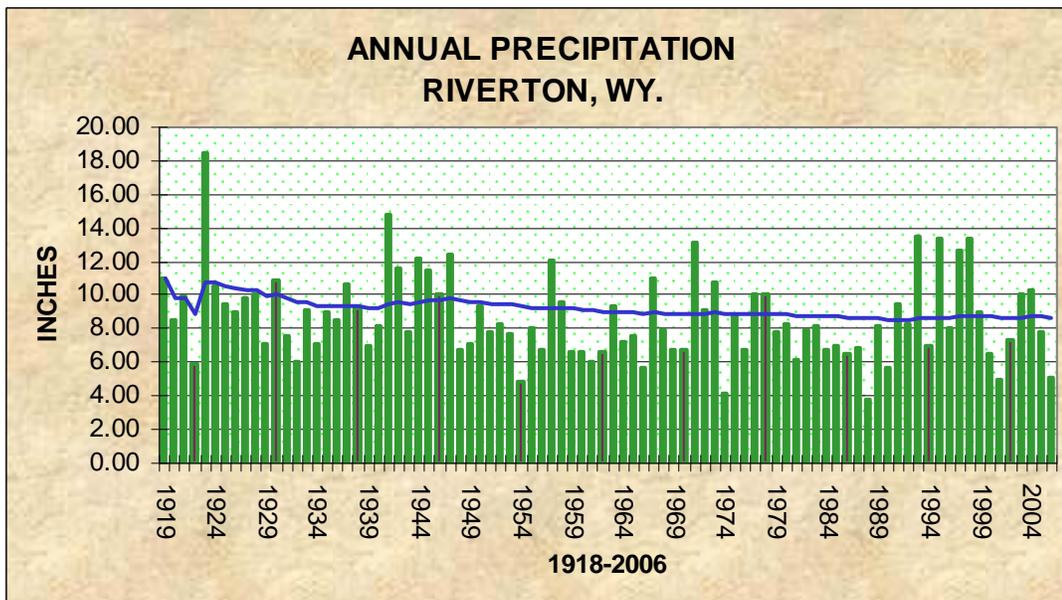
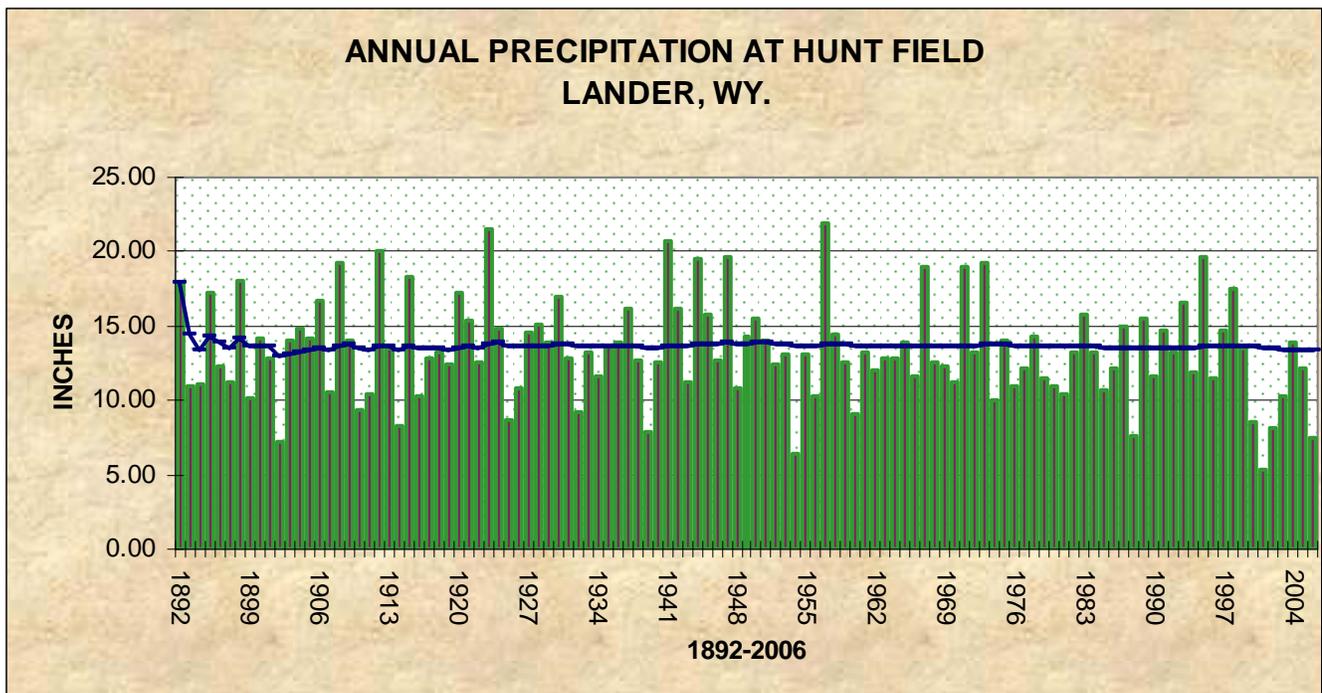
## .Local area affected...

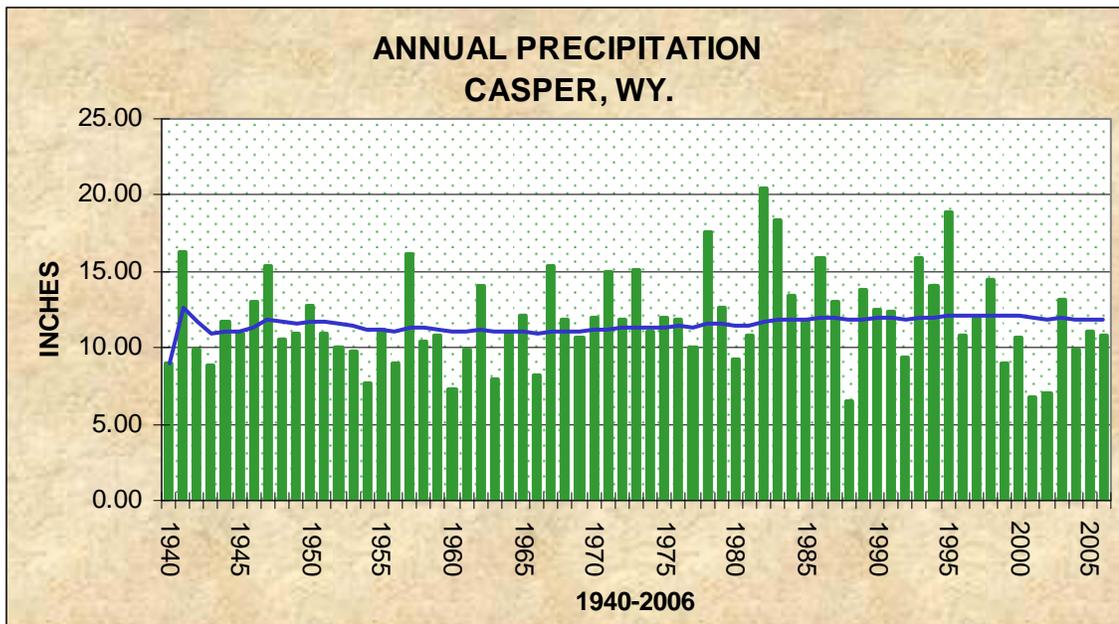
All major river basins and counties in western and central Wyoming as well as extreme eastern Wyoming.

## .Climate Summary...

### >>Long Range Precipitation Trends...

Lander's precipitation records go back to 1892—Riverton's precipitation records go back to 1919—and Casper's precipitation records go back to 1940.





>>Current Precipitation Trends...

Calendar Year

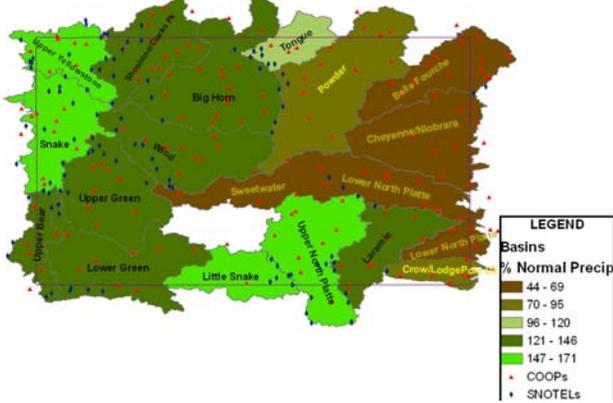
	JAN - MAY PRECIP	AVERAGE	% AVERAGE
SHERIDAN	9.28	7.84	118
CHEYENNE	6.55	6.43	102
DOUGLAS	6.59	6.08	108
LARAMIE	3.48	4.82	72
RAWLINS	2.65	4.77	56
CASPER	6.09	6.97	87
LANDER	5.30	7.54	70
RIVERTON	2.86	4.58	62

Water Year (Last 7 Months)

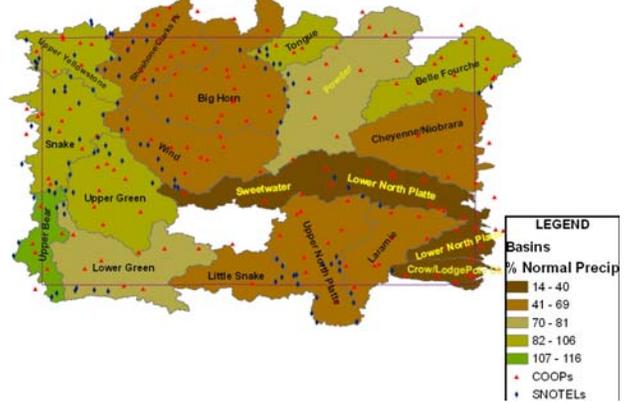
The Powder and Belle Fouché River Basins have had above normal precipitation averages from October '06 to May '07; near normal precipitation averages for the Laramie, Big Horn, Tongue and the Shoshone Drainages; and much below average precipitation for the Snake, Wind, and Upper Green Watersheds. The monthly basin averages for the past 7 months are below:



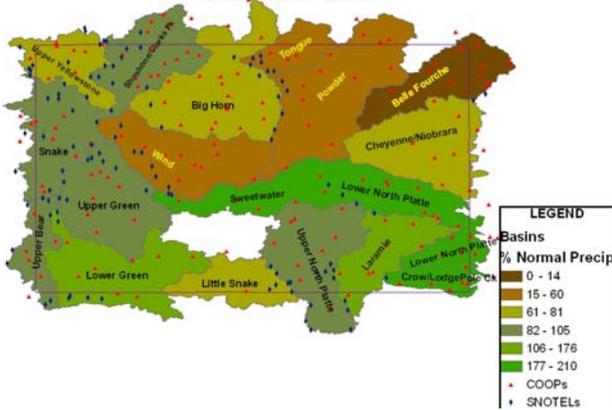
Percent of Normal Precipitation  
by Basin  
for October 2006



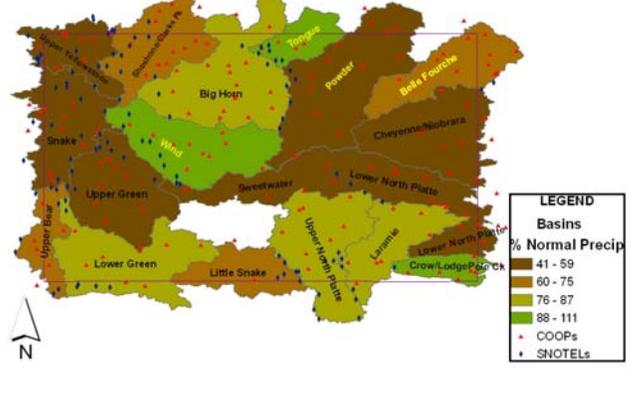
Percent of Normal Precipitation  
by Basin  
for November 2006



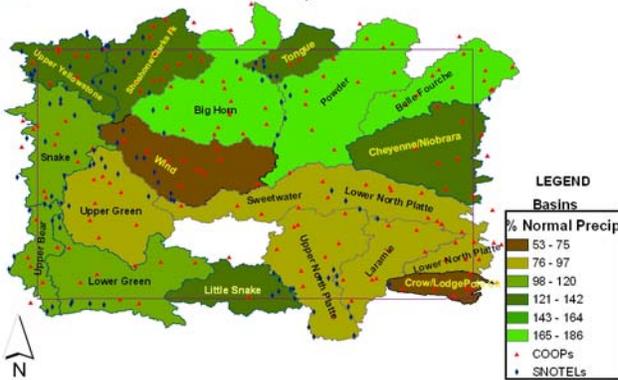
Percent of Normal Precipitation  
by Basin  
for December 2006



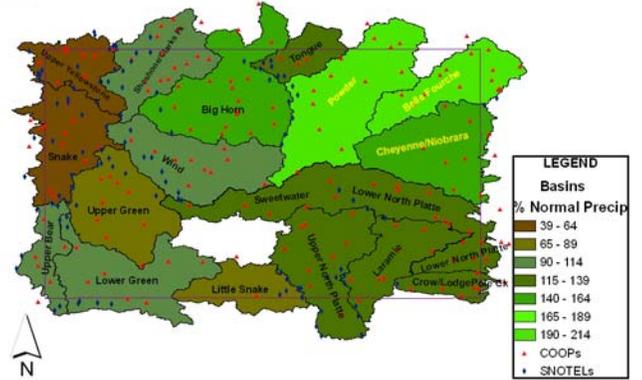
Percent of Normal Precipitation  
by Basin  
for January 2007



Percent of Normal Precipitation  
by Basin  
for February 2007

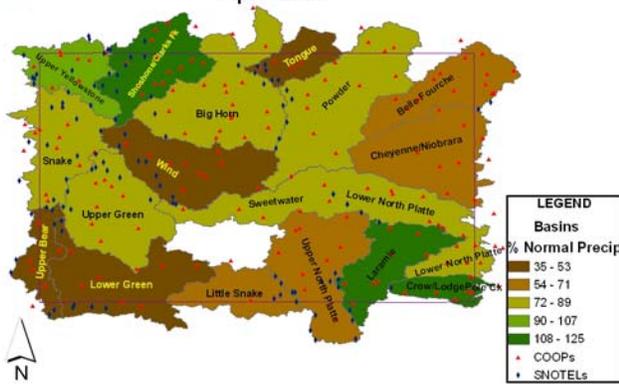


Percent of Normal Precipitation  
by Basin  
March 2007





Percent of Normal Precipitation by Basin April 2007



Percent of Normal Precipitation by Basin for May 2007



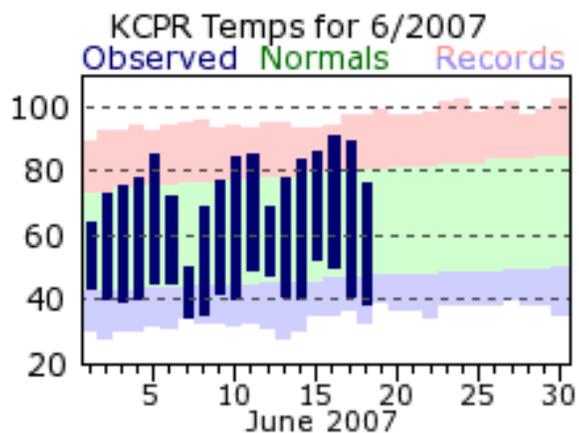
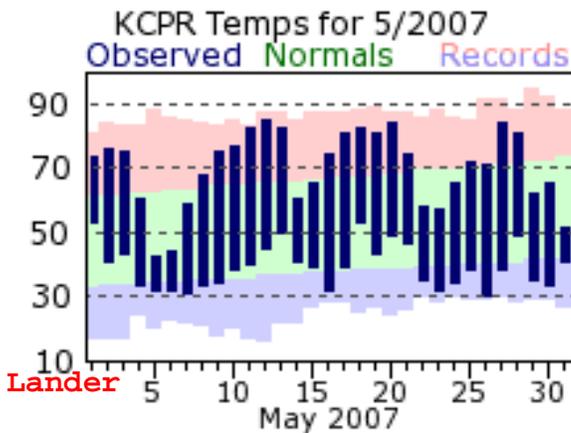
Percent of Normal Precipitation by Basin WY2007 (Oct - May)

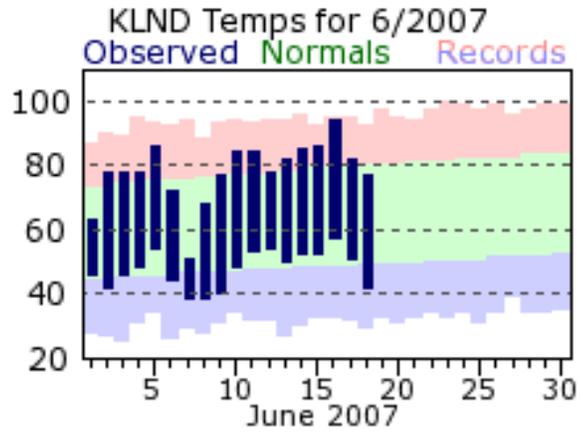
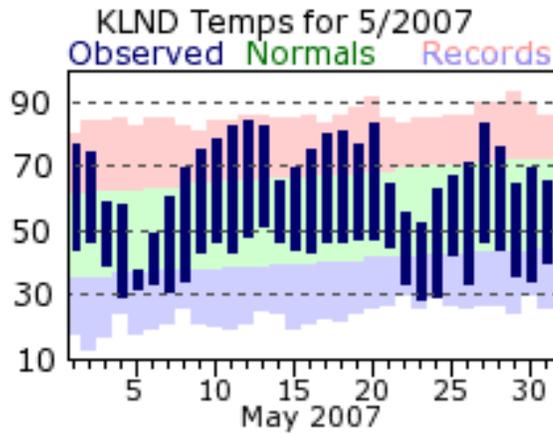


### >>Temperature Trends...

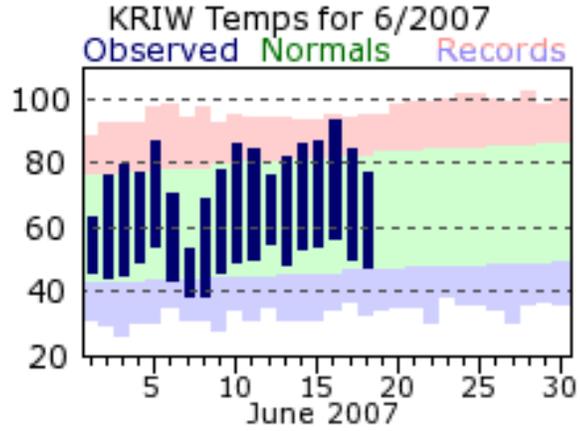
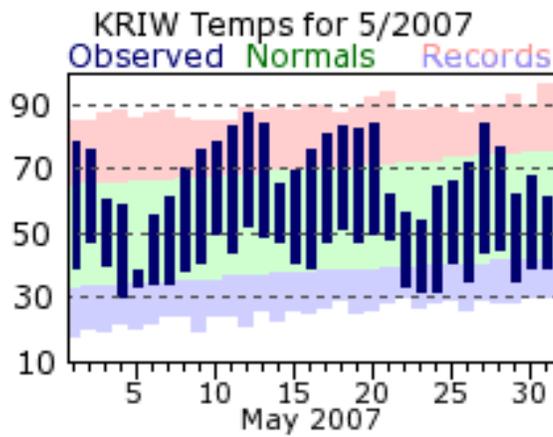
Warmer than average for the first 3 weeks of May—near normal for the rest of May and into the middle of June.

### Casper

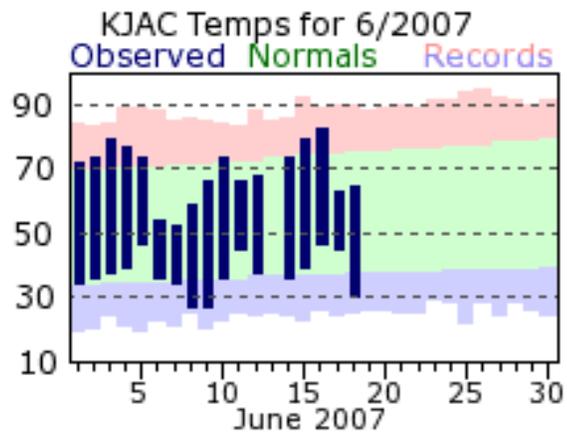
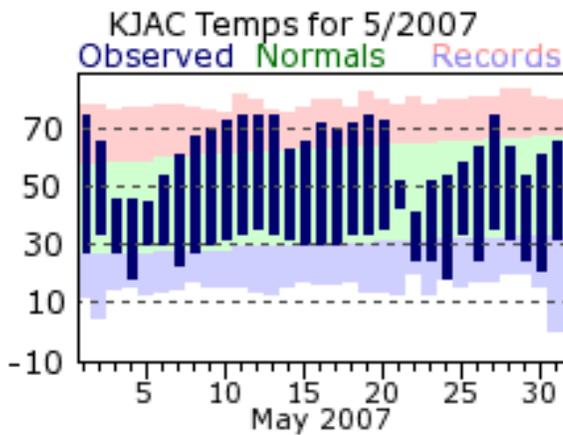




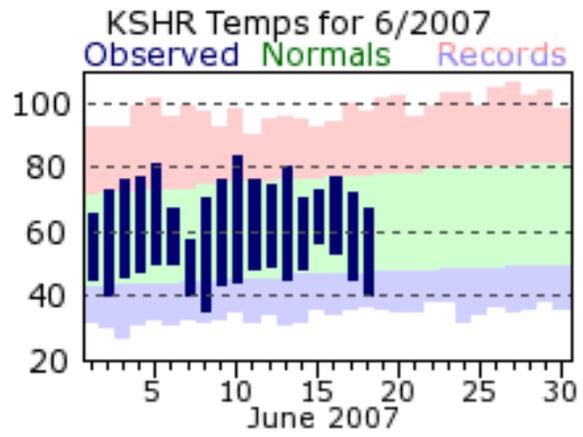
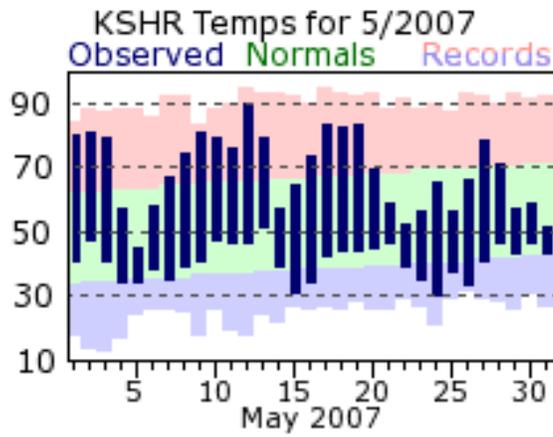
Riverton



Jackson

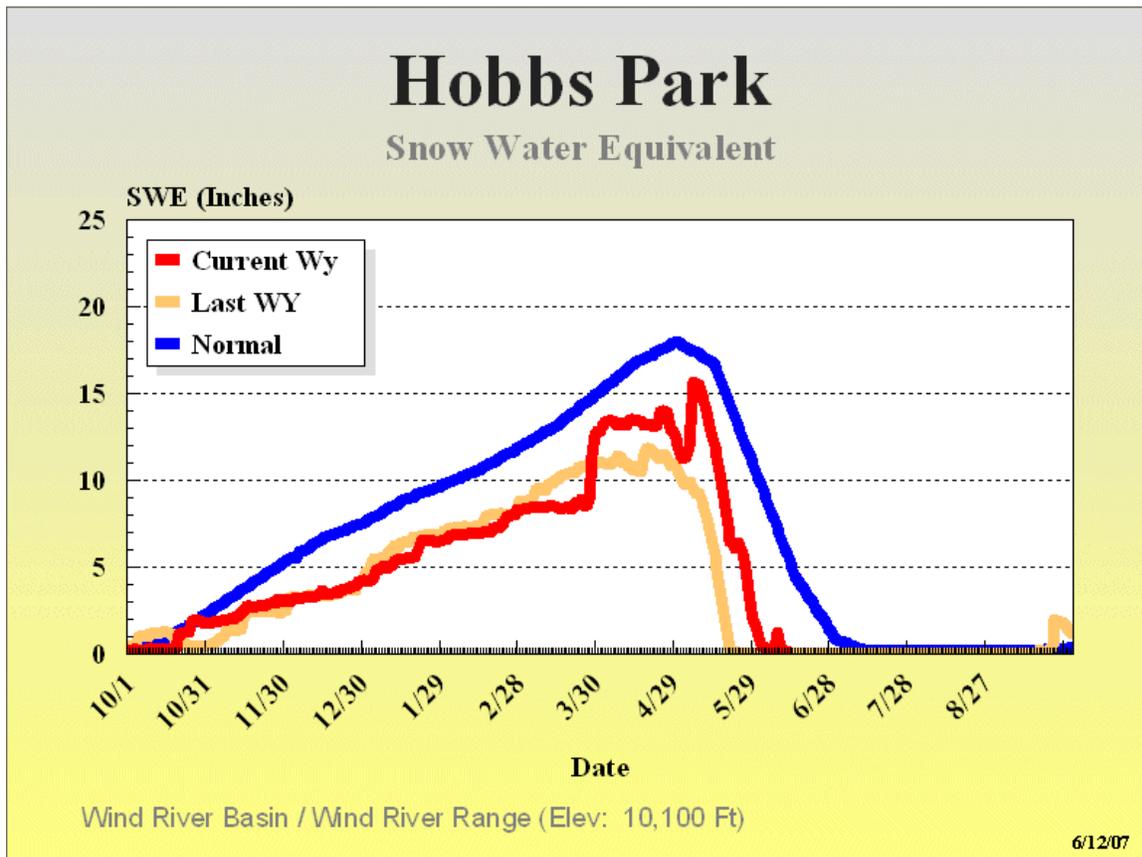


Sheridan



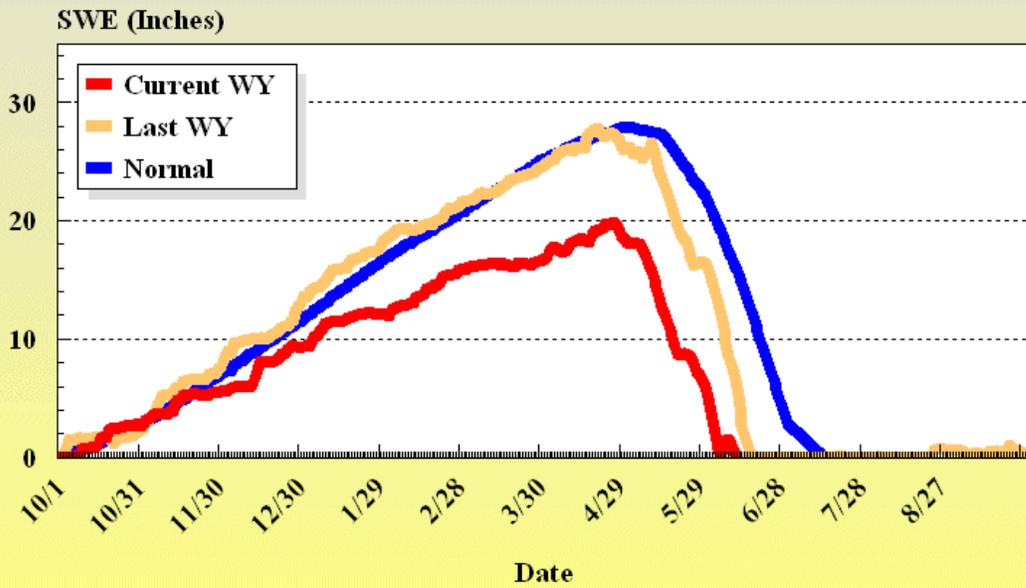
## >>Snow pack trends...

The warmer than average temperatures in May resulted in earlier than normal depletion of the snow pack below 10,000 feet.



# Togwotee Pass

## Snow Water Equivalent

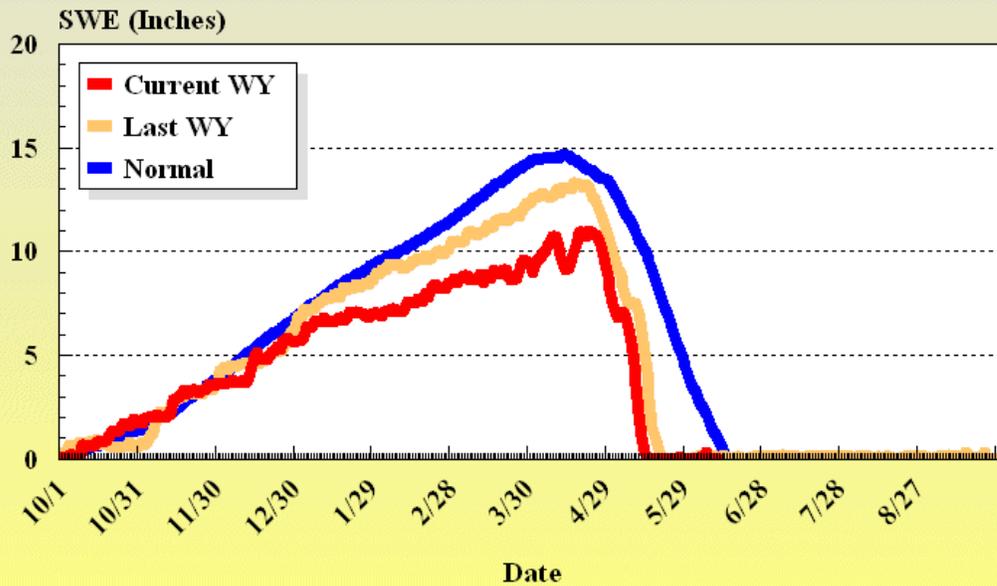


Snake River Basin (Elev: 9580 Ft.)

6/12/07

# Gros Ventre Summit

## Snow Water Equivalent

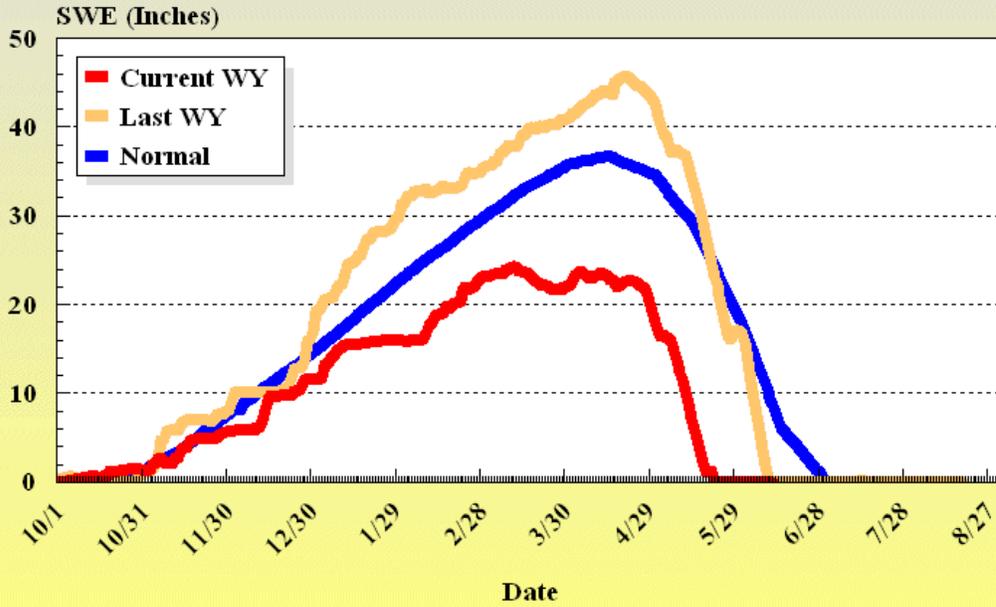


Gros Ventre River/Gros Ventre Range: Elev. 8750 Ft.

6/12/07

# Lewis Lake Divide

## Snow Water Equivalent



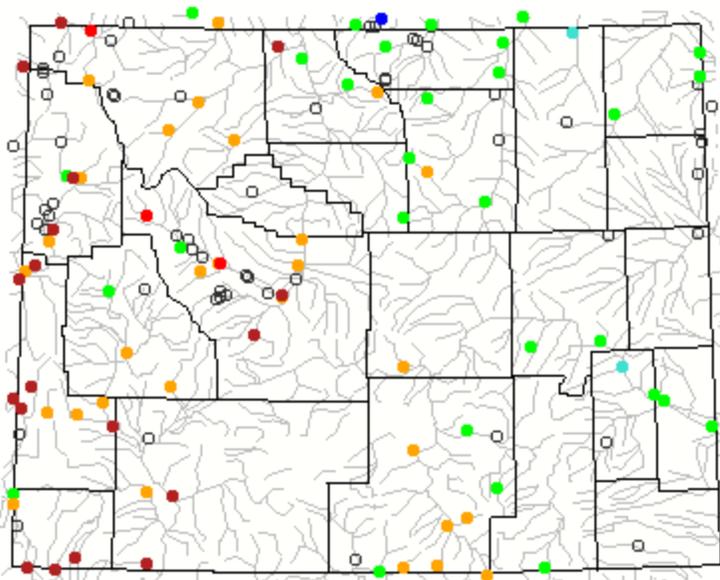
Snake River Basin / Yellowstone Nat Park (Elev: 7850 Ft)

6/12/07

### River and Streamflow Conditions...

Streams and rivers across western and central Wyoming have been flowing at below normal levels for the past 3-4 weeks. Near normal flows have been occurring in eastern Wyoming.

Tuesday, June 19, 2007 11:06ET



>>Current Reservoir Storages across Wyoming (courtesy of NRCS)

**Major Reservoirs in Wyoming**

BASIN AREA RESERVOIR	CURRENT AS % CAPACITY	LAST YR AS % CAPACITY	AVERAGE AS % CAPACITY	CURRENT AS % AVERAGE	CURRENT AS % LAST YR
-----					
WYOMING AND SURROUNDING STATES					
ALCOVA	98	98	97	101	101
ANGOSTURA	39	46	96	40	84
BELLE FOURCHE	69	71	85	81	98
BIG SANDY	75	99	77	98	76
BIGHORN LAKE	67	59	64	105	115
BOYSEN	74	85	95	78	87
BUFFALO BILL	87	86	61	142	101
BULL LAKE	51	60	63	81	86
DEERFIELD	84	81	89	93	103
EDEN			NO REPORT		
ENNIS LAKE	91	85	86	105	107
FLAMING GORGE	84	80	81	104	105
FONTENELLE	38	76	53	71	50
GLENDO	98	82	99	99	120
GRASSY LAKE	101	91	95	106	110
GUERNSEY	60	61	79	76	99
HEBGEN LAKE	88	91	83	106	97
JACKSON LAKE	99	95	68	146	105
KEYHOLE	35	39	61	58	90
PACTOLA	62	73	88	70	84
PALISADES	80	76	74	108	104
PATHFINDER	27	30	76	35	91
PILOT BUTTE	57	54	77	74	106
SEMINOE	42	45	65	65	93
SHADEHILL	39	58	84	46	67
TONGUE RIVER	101	76	61	167	134
VIVA NAUGHTON RES	107	96	92	116	111
WHEATLAND #2	47	52	60	79	90
WOODRUFF NARROWS	94	100	70	134	94
TOTAL OF 28 RESERVOIRS	72	71	75	96	101

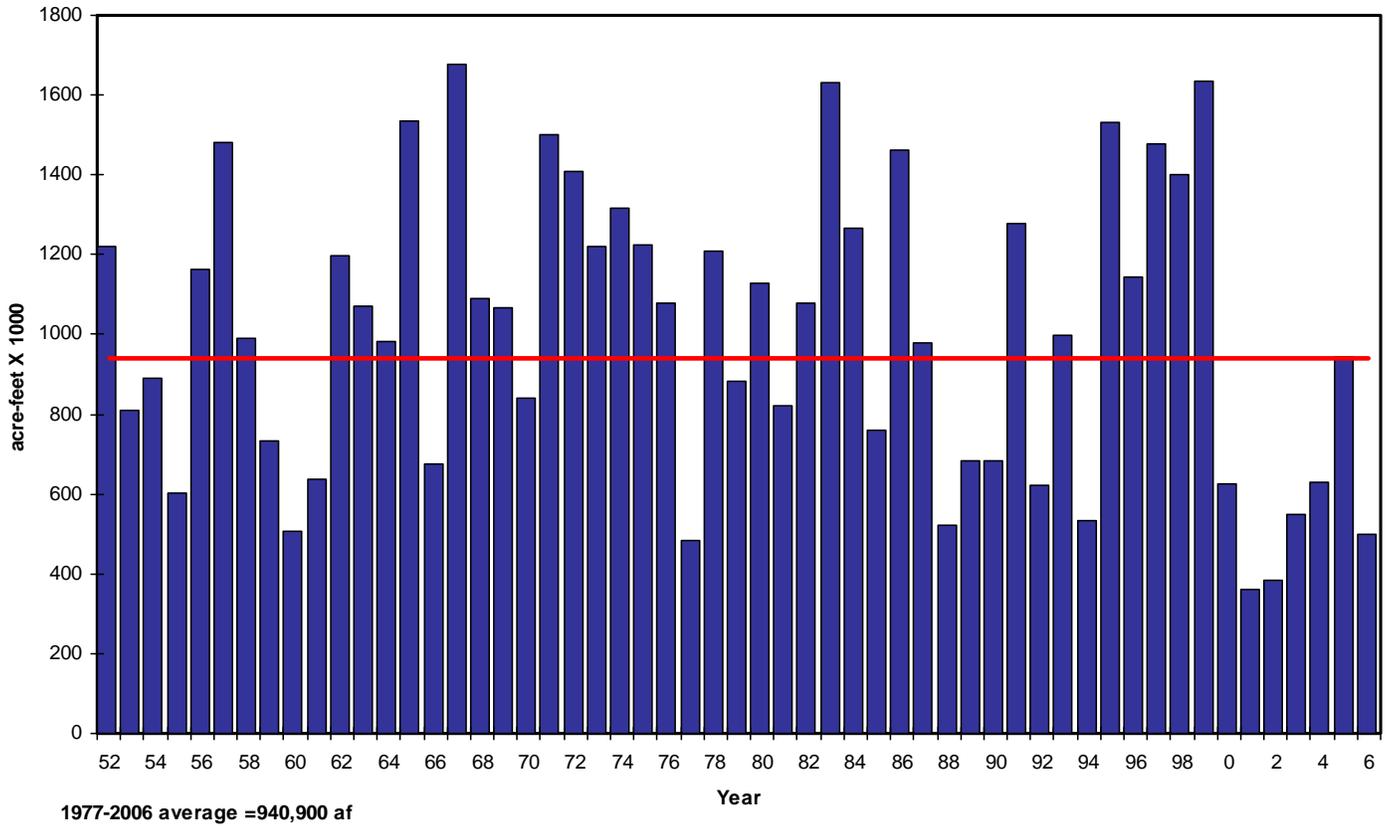
Raw KAF Totals Current=9613 Last Year=9495 Average=10028 Capacity=13288

>>Historical inflows to major reservoirs...

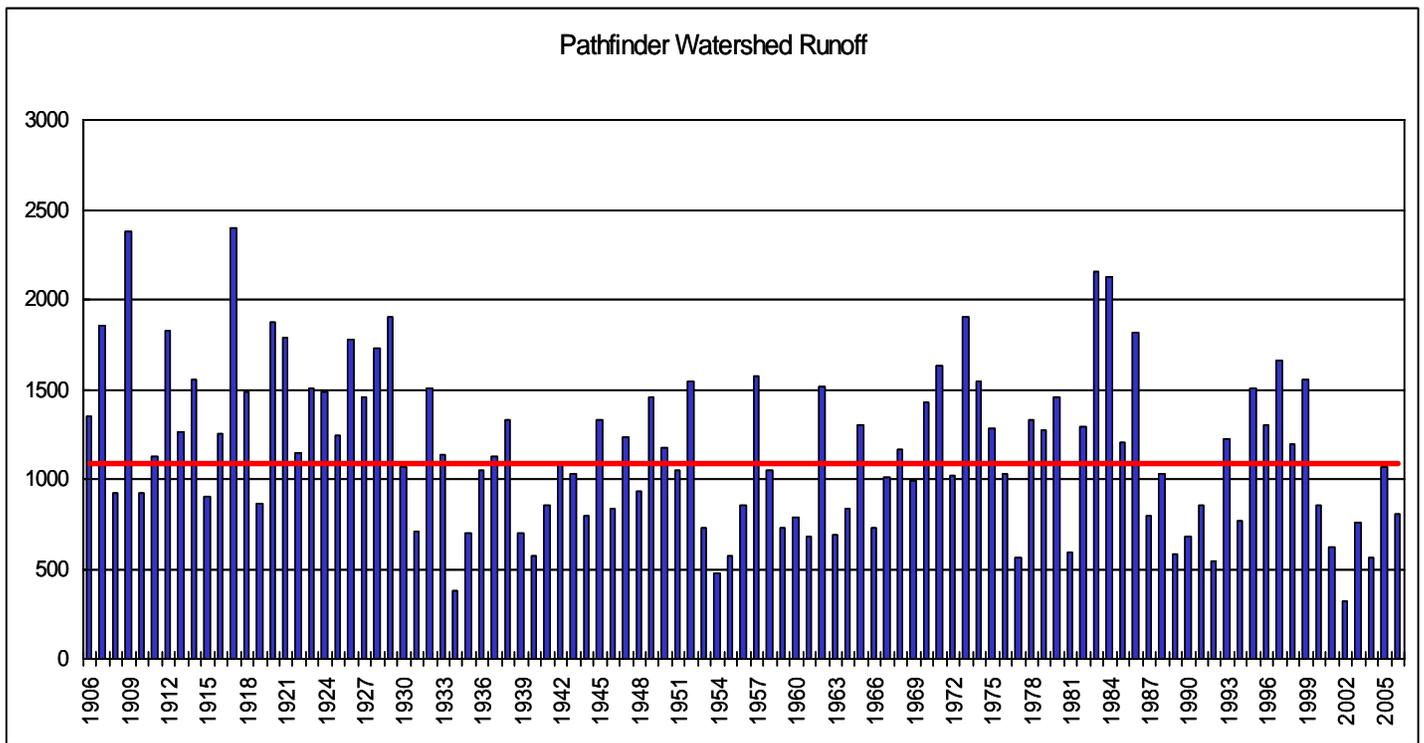
**Boysen**

# Boysen Inflow

Total Water Year



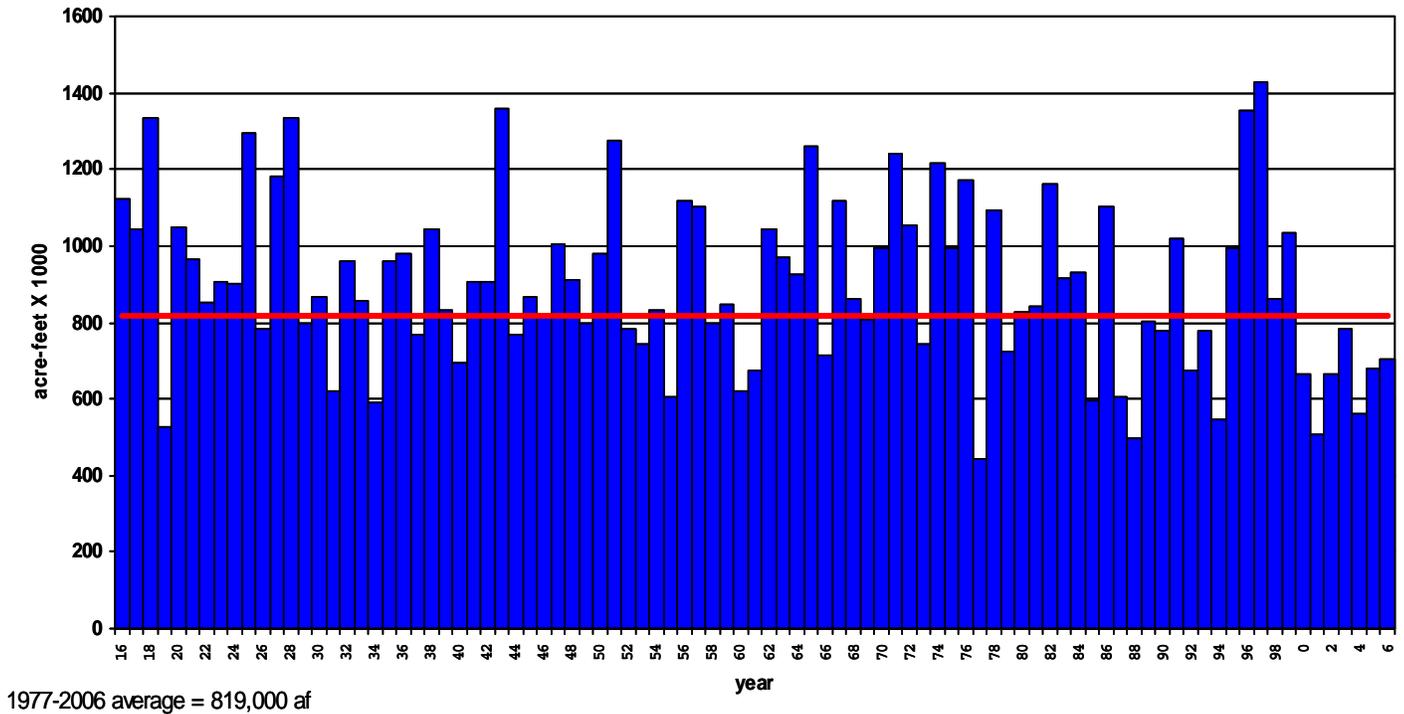
**Pathfinder**



Buffalo Bill

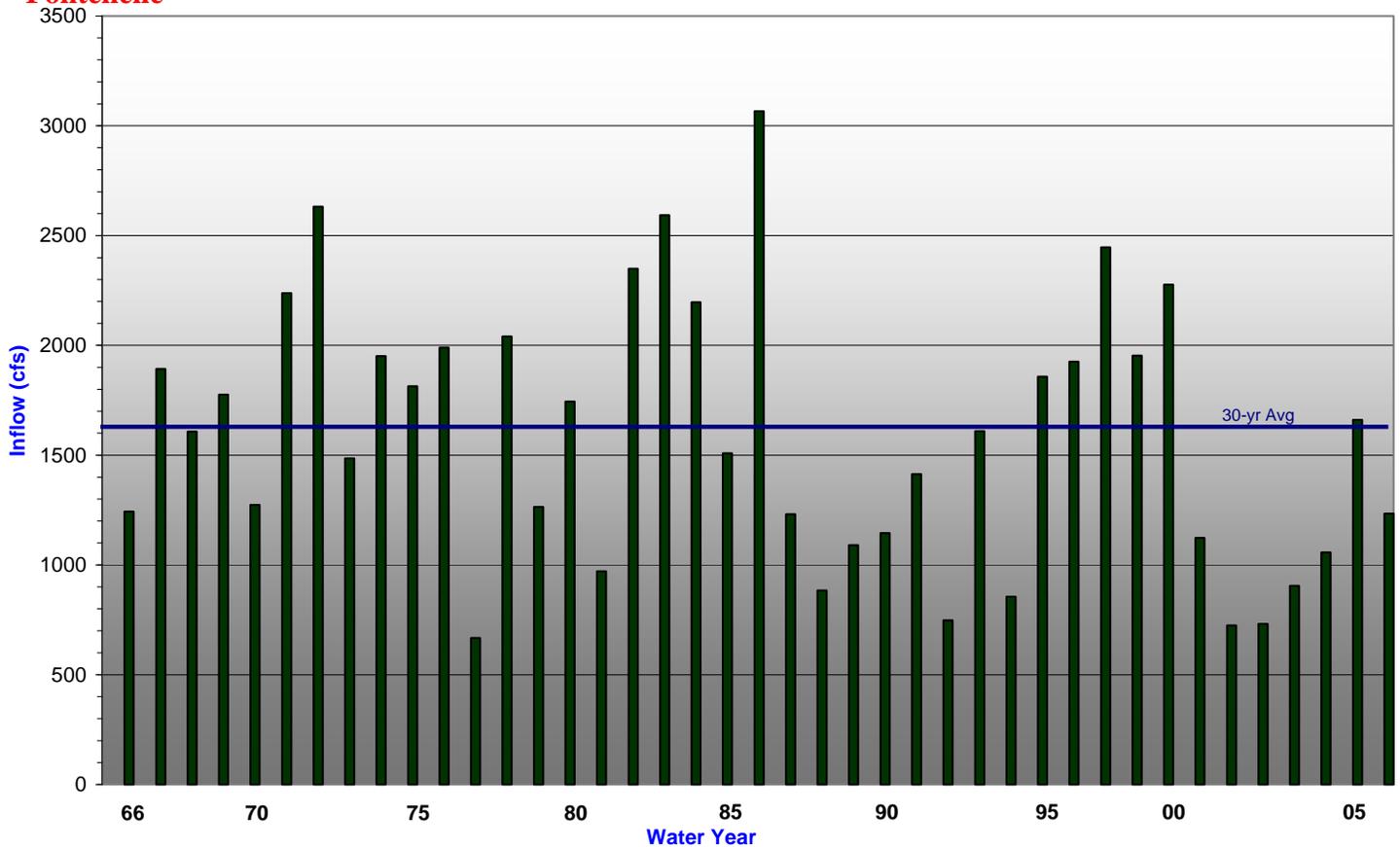
# Buffalo Bill Inflow

## Total Water Year



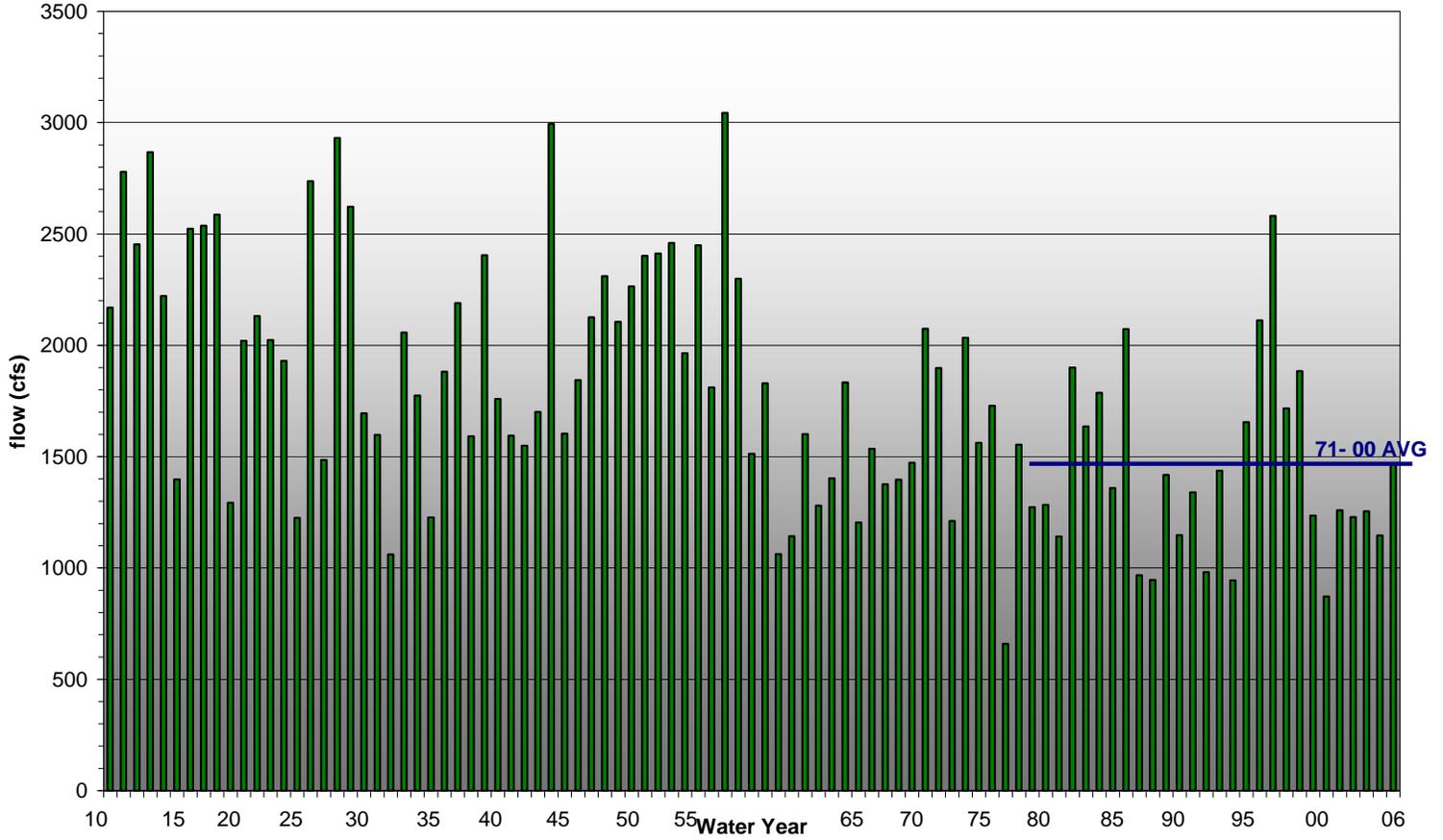
## Average Yearly Fontenelle Reservoir Inflow

Fontenelle

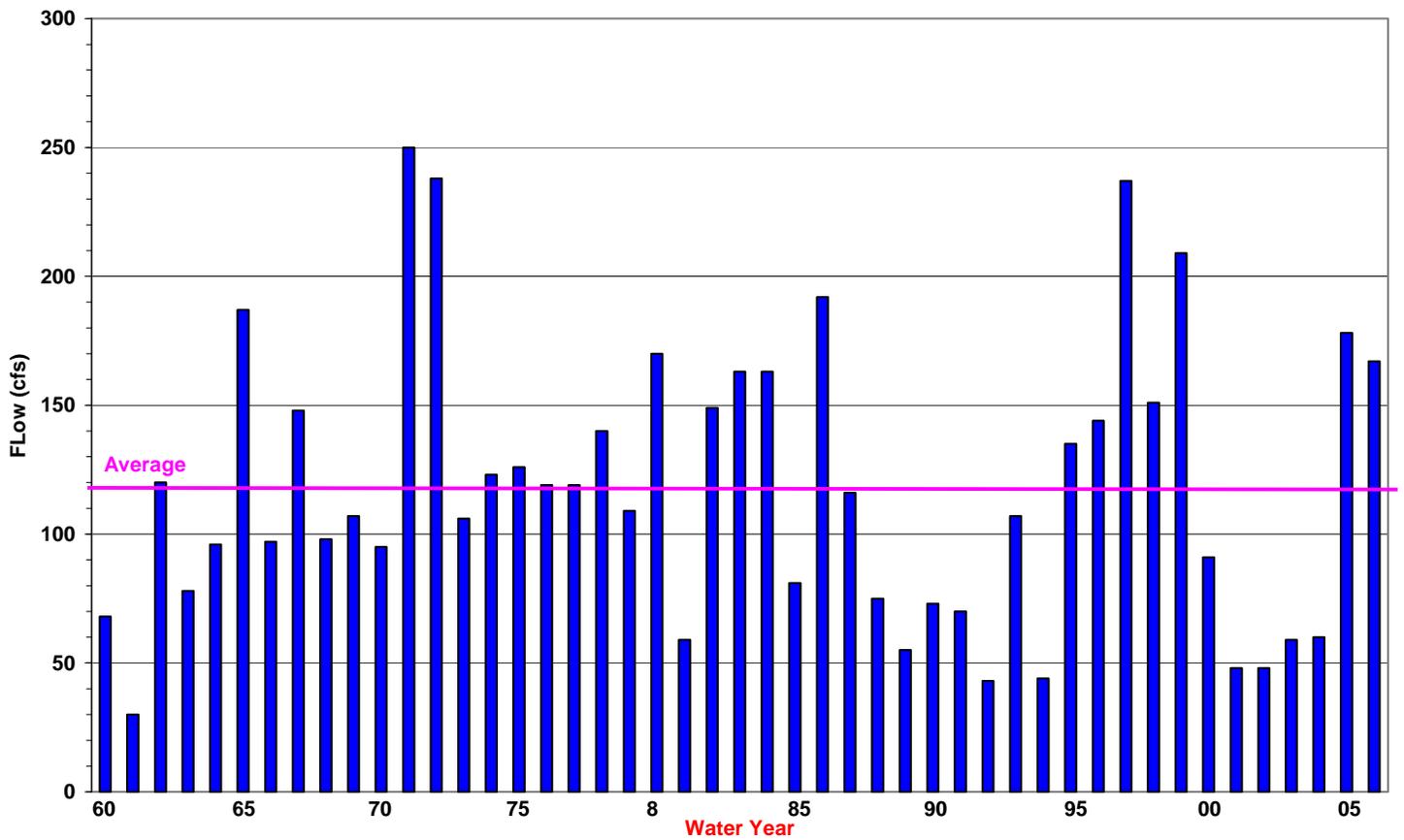


# Jackson Dam

## Jackson Lake Dam Average Inflow WY1910 - WY2006

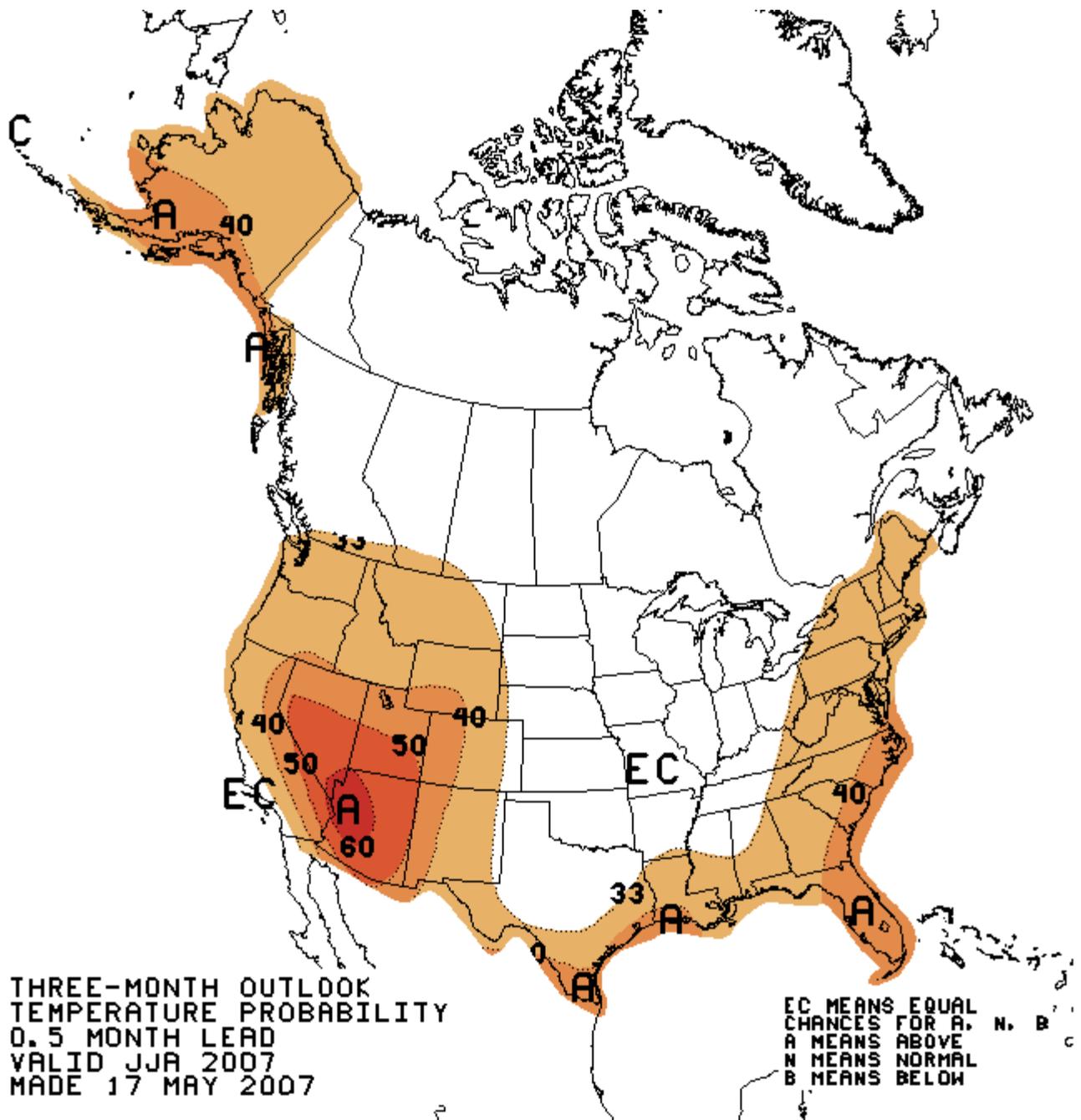


# Viva Naughton Viva Naughton Reservoir Inflow--WY60-06

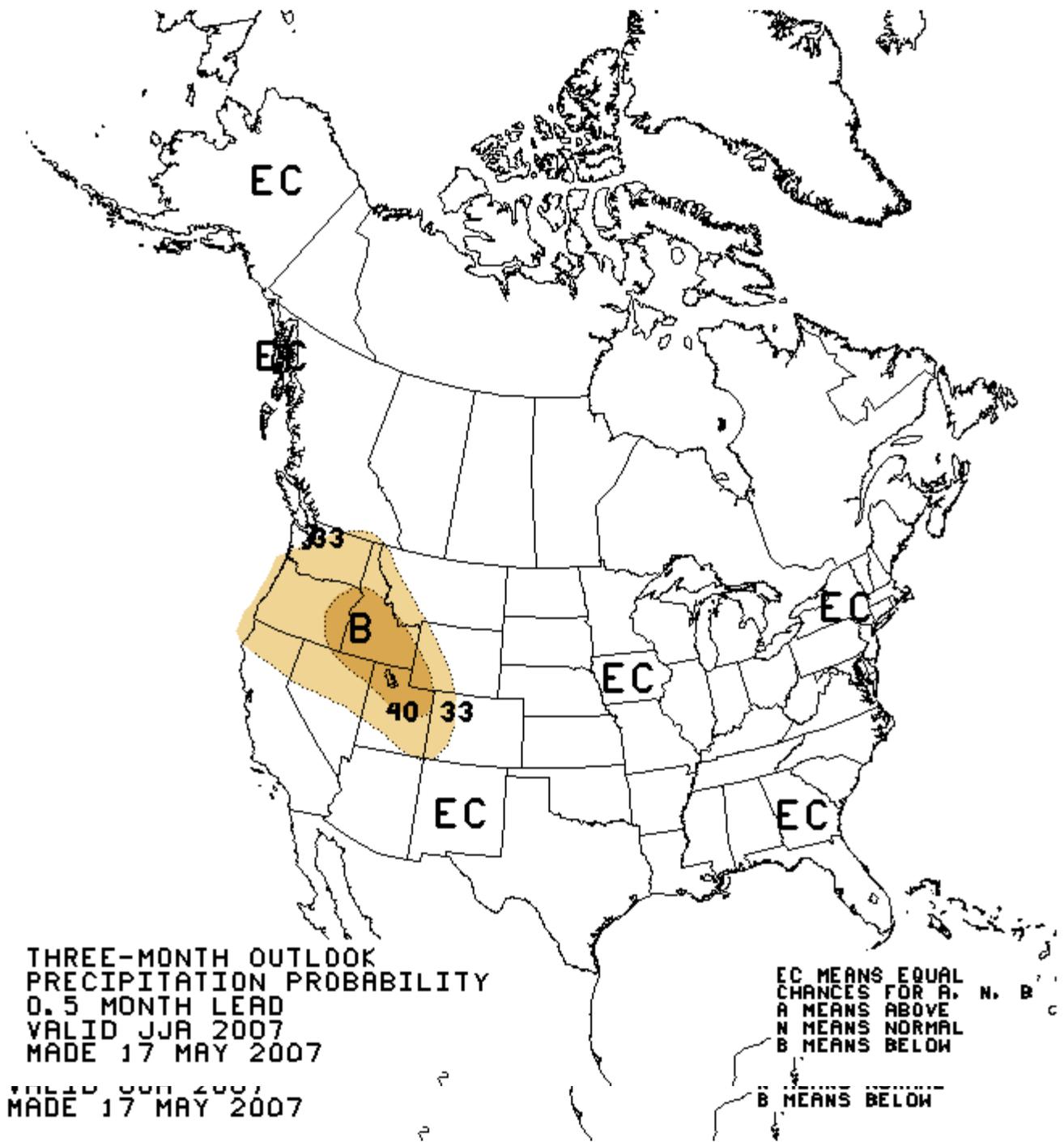


## .Precipitation/Temperature Outlook...

The 90-day outlook (June-August) continues to indicate that there is a 30 to 40 percent chance for **warmer** than normal temperatures for Wyoming.



During June-August, western Wyoming can expect to have a 30-40 percent chance of **below** normal precipitation; while the rest of Wyoming expected to have equal chances (50% either side) of wetter or drier than normal precipitation throughout the period



## **.Questions or comments...**

If you have any questions or comments about this drought information, please contact:

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## **.Related web sites...**

Wyoming Drought Site...

[www.wrds.uwyo.edu/wrds/wsc/df](http://www.wrds.uwyo.edu/wrds/wsc/df)

USGS Wyoming Drought Watch...

[www.wy.water.usgs.gov/projects/drought](http://www.wy.water.usgs.gov/projects/drought)

U.S. Drought Monitor...

[www.drought.unl.edu/dm/monitor.html](http://www.drought.unl.edu/dm/monitor.html)

NOAA Drought Page...

[www.drought.noaa.gov](http://www.drought.noaa.gov)

Western Regional Climate Center...

[www.wrcc.dri.edu](http://www.wrcc.dri.edu)

NOAA/NWS Climate Page...

[www.weather.gov/climate/index.php?wfo=riw](http://www.weather.gov/climate/index.php?wfo=riw)

Wyoming River Information...

NWS - [www.crh.noaa.gov/ahps2/index.php?wfo=riw](http://www.crh.noaa.gov/ahps2/index.php?wfo=riw)/(or cys/unr)  
<http://ahps2.wrh.noaa.gov/ahps2/index.php?wfo=slc>/(or byz)

USGS - [www.waterdata.usgs.gov/wy/nwis/rt](http://www.waterdata.usgs.gov/wy/nwis/rt)

NRCS Snow Survey/Snowpack Information...

[www.wrds.uwyo.edu/wrds/nrcs](http://www.wrds.uwyo.edu/wrds/nrcs)

Climate Prediction Center...

[www.cpc.ncep.noaa.gov](http://www.cpc.ncep.noaa.gov)

## **.Acknowledgements...**

This Drought Informational Statement is a multi-agency effort involving NOAA's National Weather Service and the National Climatic Center, the NRCS, Wyoming State Climatologist's Office, regional center climatologists, and the National Drought Mitigation Center. Information for this statement has been gathered from the NWS and FAA observation sites...state cooperative services...the NRCS...and the USGS.

## **.Next issuance...**

This product will be updated by the **20<sup>th</sup> – 25<sup>th</sup> of July**