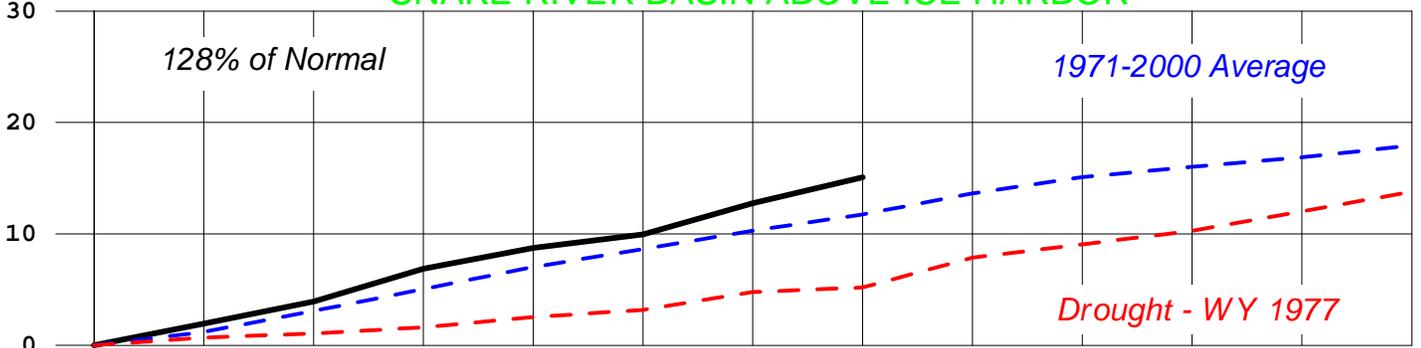


CUMULATIVE PRECIPITATION WATER YEAR 2011

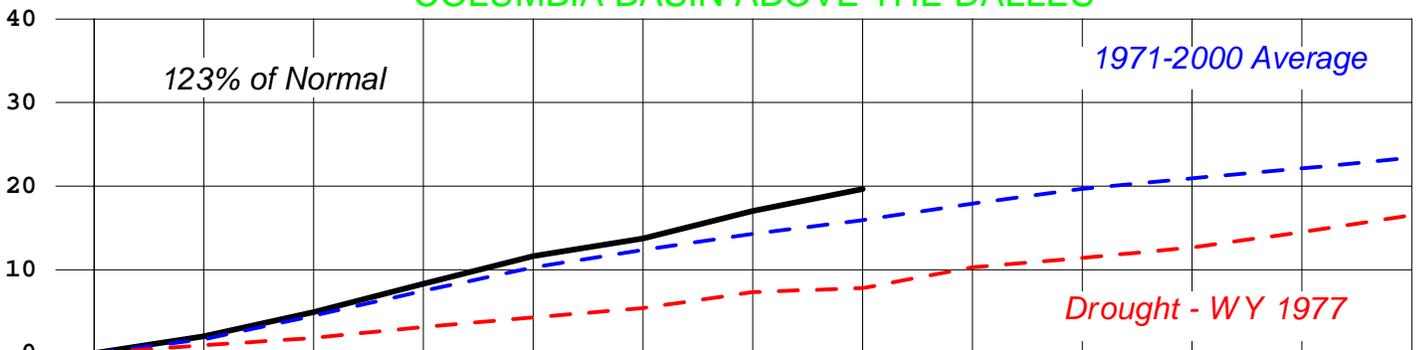
COLUMBIA BASIN ABOVE GRAND COULEE



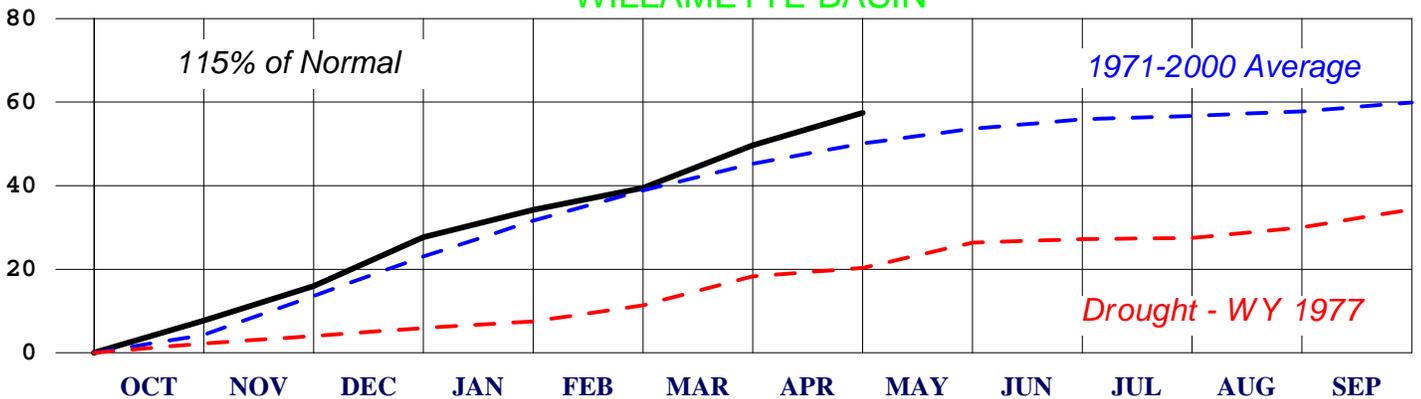
SNAKE RIVER BASIN ABOVE ICE HARBOR



COLUMBIA BASIN ABOVE THE DALLES



WILLAMETTE BASIN



ACCUMULATED PRECIPITATION IN INCHES



Northwest River Forecast Center

Seasonal Divisional Precipitation Summary

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Monthly Divisional Precipitation Summary

Columbia Basin Seasonal Precipitation Division Averages
Northwest River Forecast Center

(Monthly Summary - apr 2011)

DIVISION	..APR TO DAY 30..		OCT - APR....		
	OBSD	DEP	PCT AV	OBSD	DEP	PCT AV
COLUMBIA ABOVE COULEE	2.49	0.84	151.	19.35	3.45	122.
SNAKE RV AB ICE HARBOR	2.34	0.88	160.	15.09	3.34	128.
COLUMBIA AB THE DALLES	2.61	0.97	159.	19.66	3.73	123.
COLUMBIA AB CASTLEGAR	2.19	0.19	110.	24.48	2.10	109.
KOOTENAI	2.58	0.83	147.	19.53	3.19	120.
CLARK FORK	1.71	0.47	138.	13.00	2.77	127.
FLATHEAD	2.98	1.40	189.	18.83	5.07	137.
PEND OREILLE/ SPOKANE	4.37	2.11	194.	28.19	5.74	126.
NORTHEAST WASHINGTON	2.02	0.50	133.	14.56	2.22	118.
OKANOGAN	1.24	0.21	121.	11.97	1.97	120.
EAST SLOPES WASH CASC.	2.85	0.73	135.	34.20	0.47	101.
CENTRAL WASHINGTON	0.62	-0.02	97.	6.91	0.36	105.
UPPER SNAKE	3.26	1.66	204.	17.65	4.71	136.
SNAKE RIVER PLAIN	1.46	0.42	141.	9.31	2.16	130.
OWYHEE/ MALHEUR	1.68	0.71	173.	11.01	3.49	146.
SALMON/ BOISE/ PAYETTE	1.92	0.32	120.	16.38	2.01	114.
BURNT/ GRANDE RONDE	1.60	0.24	117.	13.02	2.05	119.
CLEARWATER	5.07	2.41	191.	27.68	6.41	130.
SOUTHEAST WASHINGTON	2.14	0.47	128.	16.84	2.69	119.
UPPER JOHN DAY	1.74	0.49	139.	13.43	3.49	135.
UMATILLA/ LWR JOHN DAY	2.54	1.04	169.	16.20	4.36	137.
UPR DESCHUTES/ CROOKED	1.31	0.33	134.	15.31	4.38	140.
HOOD/ LOWER DESCHUTES	4.32	2.17	201.	30.03	6.36	127.
NW SLOPE WASH CASCADES	10.78	4.56	173.	82.24	10.56	115.
SW WA CASCADES/COWLITZ	8.35	3.00	156.	66.01	7.19	112.
WILLAMETTE VALLEY	7.76	2.92	160.	57.44	7.33	115.
ROGUE/ UMPQUA	4.51	1.73	162.	36.27	5.67	119.
KLAMATH BASIN	1.81	0.57	146.	18.03	3.14	121.
LAKE COUNTY-GOOSE LAKE	1.90	0.73	163.	12.15	3.34	138.
HARNEY/ MALHEUR BASIN	1.16	0.10	109.	10.59	2.86	137.

Columbia River Basin division values are computed by utilizing un-weighted precipitation amounts from key stations in each area.

Precipitation normals are based on 1971-2000 historical data.

Please contact NWRFC for further information: (503) 326-7291.

NORTHWEST RIVER FORECAST CENTER PORTLAND OR

PRECIPITATION, TEMPERATURE, SNOW, AND STREAMFLOW SUMMARIES

APR 11

WEATHER SUMMARY

THE JET STREAM BROUGHT COLD LOW PRESSURE SYSTEMS OVER THE NORTHWEST U.S. AND SOUTHERN BRITISH COLUMBIA ALL THROUGH APRIL. TEMPERATURES WERE WELL BELOW NORMAL AND MANY DAILY AND SEASONAL RECORDS BROKE. SYSTEMS WERE OFTEN WET AS WELL...WHICH BROUGHT ABOVE AVERAGE RAIN AND SNOW TO THE REGION.

PRECIPITATION SUMMARY

APRIL PRECIPITATION WAS: 151 PERCENT OF NORMAL (1971-2000) AT COLUMBIA ABOVE COULEE, 160 PERCENT OF NORMAL AT THE SNAKE RIVER ABOVE ICE HARBOR, AND 159 PERCENT OF NORMAL AT COLUMBIA ABOVE THE DALLES.

SEASONAL (OCTOBER THROUGH APRIL) PRECIPITATION WAS: 122 PERCENT OF NORMAL (1971-2000) AT COLUMBIA ABOVE COULEE, 128 PERCENT OF NORMAL AT THE SNAKE RIVER ABOVE ICE HARBOR, AND 123 PERCENT OF NORMAL AT COLUMBIA ABOVE THE DALLES.

TEMPERATURE SUMMARY

THE 37 STATION TEMPERATURE INDEX FOR THE PACIFIC NORTHWEST DEPARTED -4.4 DEGREES FROM NORMAL RELATIVE TO THE 1971-2000 NORMALS. MEAN TEMPERATURE DEPARTURES RANGED FROM -7.7 TO -2.5 DEGREES.

GENERAL SUMMARY

A MAJOR CHANGE IN THE STREAMFLOW FORECASTS TOOK PLACE IN APRIL. TWO IMPORTANT EVENTS HAPPENED. FIRST COOL TEMPERATURES MEANT THAT SNOW CONTINUED TO ACCUMULATE THROUGH THE MONTH. SECOND...APRIL WAS VERY WET. BASIN AVERAGE PRECIPITATION RANGED FROM 150 TO 250 PERCENT. CONSEQUENTLY ...EXPECTED SEASONAL STREAM FLOW HAS INCREASED SIGNIFICANTLY. FORECAST STREAM FLOW FOR THE COLUMBIA RIVER AT THE DALLES IS NOW NEAR 120 PERCENT OF AVERAGE AT 128 MILLION ACRE FEET. THIS RANKS SEVENTH IN THE MOST RECENT 40 YEAR PERIOD.

SNOW SUMMARY

SNOW ACCUMULATED FOR ALMOST THE ENTIRE COLUMBIA-SNAKE BASIN THROUGH APRIL.

MANY SNOW MEASURING SITES THAT NORMALLY OBSERVE THEIR PEAKS SNOW WATER EQUIVALENTS (SWE) ON APRIL 1ST ARE STILL ACCUMULATING AT THE END OF APRIL. WEST OF THE CASCADES IN WASHINGTON SWE VALUES HAVE ALSO ACCUMULATED TO THE FIRST OF MAY. IN OREGON...SITES THAT SHOULD BE ACTIVELY MELTING HAVE HELD STEADY DURING APRIL. SOME SNOW SITES IN MONTANA AND WYOMING HAVE RECORD SWE ACCUMULATIONS. THE LOWEST SWE VALUES CAN BE FOUND IN THE COLUMBIA-KOOTENAI DRAINAGE IN CANADA AND IN THE NORTH CASCADES IN WASHINGTON WHERE PERCENTS RANGE FROM 100 TO 130 PERCENT. THE REST OF THE AREA HAS SWE VALUES ABOVE 150 PERCENT OF THE MAY 1ST AVERAGE.

STREAMFLOW SUMMARY

STREAMFLOW DURING APRIL WAS BELOW AVERAGE IN THE NORTHERN PORTION OF THE COLUMBIA-SNAKE BASIN AND ABOVE AVERAGE IN OREGON AND SOUTHERN IDAHO. THE LOWEST APRIL STREAMFLOW WAS IN THE UPPER COLUMBIA-KOOTENAI AND IN THE FLATHEAD RIVER AREA IN MONTANA WHERE STREAMFLOW WAS AT 50 TO 70 PERCENT OF THE 30-YR AVERAGE. HIGHEST APRIL FLOWS WERE IN NORTHEAST OREGON AND SOUTHERN IDAHO AT 150 TO 180 PERCENT.

MODERATE TO HEAVY PRECIPITATION WITH SOME WARMING BROUGHT STREAM RISES AND SOME FLOODING TO BASINS IN NORTHEAST OREGON SOUTHERN IDAHO AND NORTHERN NEVADA. THE UMATILLA RIVER IN NE OREGON AND THE BRUNEAU RIVER IN SOUTHERN IDAHO EXPERIENCED FLOODING. OWYHEE DAM OUTFLOWS WERE ALSO RAMPED UP TO PREVENT AN EARLY FILL AND SPILL CONDITION INCREASING FLOWS INTO BROWNLEE DAM IN IDAHO.

THE SEASONAL STREAMFLOW FORECASTS HAVE INCREASED MARKEDLY SINCE APRIL 1ST. SNOW WATER EQUIVALENTS HAVE CONTINUED TO ACCUMULATE TO MAY 1ST AND APRIL PRECIPITATION WAS WELL ABOVE AVERAGE FOR THE ENTIRE COLUMBIA-SNAKE AREA. EXPECTED STREAMFLOW RANGES FROM 120 TO 150 PERCENT OF THE 30-YEAR AVERAGE OVER MOST OF THE BASIN. THE FORECAST FOR THE COLUMBIA RIVER AT THE DALLES IS 128 MILLION ACRE FEET OR 120 PERCENT OF AVERAGE. THIS RANKS AS THE SEVENTH HIGHEST FLOW IN THE LAST 40 YEARS.

SEE [HTTP://WWW.NWRFC.NOAA.GOV/WATER_SUPPLY/WS_FCST.CGI](http://www.nwrfc.noaa.gov/water_supply/ws_fcst.cgi) FOR DETAILED WATER SUPPLY FORECASTS.

MONTHLY PRECIPITATION AND TEMPERATURE RECORDS

PARTIAL LIST OF RECORD HIGH AND LOW TEMPERATURES IN DEGREES (F) ARE LISTED BELOW. PRECIPITATION IS REPORTED IN INCHES.

PLEASE SEE THE COMPLETE LIST OF RECORDS AT THE NATIONAL WEATHER SERVICE FIELD OFFICES CLIMATOLOGY WEB PAGES.

04/01 A RECORD RAINFALL OF 1.13 INCHES WAS SET AT SEATAC WA.

04/02 A RECORD RAINFALL OF 0.31 INCHES WAS SET AT KALISPELL MT.

04/04 A RECORD RAINFALL OF 0.71 INCHES WAS SET AT PULLMAN WA.

A RECORD RAINFALL OF 0.46 INCHES WAS SET AT LEWISTON ID.

04/06 A RECORD LOW TEMPERATURE OF 30 DEGREES WAS SET AT WENATCHEE WA.

04/07 A RECORD LOW TEMPERATURE OF 30 DEGREES WAS SET AT ASTORIA OR.

A RECORD LOW TEMPERATURE OF 24 DEGREES WAS SET AT PULLMAN WA.

A RECORD LOW TEMPERATURE OF 20 DEGREES WAS SET AT YAKIMA WA.

04/08 A RECORD LOW TEMPERATURE OF 28 DEGREES WAS SET AT QUILLAYUTE WA.

A RECORD LOW TEMPERATURE OF 31 DEGREES WAS SET AT PORTLAND OR.

04/12 A RECORD LOW TEMPERATURE OF 21 DEGREES WAS SET AT YAKIMA WA.

04/13 A RECORD RAINFALL OF 0.41 INCHES WAS SET AT BUTTE MT.

04/14 A RECORD RAINFALL OF 0.88 INCHES WAS REPORTED AT PORTLAND OR.

04/15 A RECORD RAINFALL OF 0.80 INCHES WAS REPORTED AT PORTLAND OR.

04/18 A RECORD LOW TEMPERATURE OF 29 DEGREES WAS SET AT HILLSBORO OR

04/20 A RECORD LOW TEMPERATURE OF 28 DEGREES WAS SET AT QUILLAYUTE WA.

04/21 A RECORD RAINFALL OF 0.58 INCH(ES) WAS SET AT BOISE ID.

04/22 A RECORD LOW TEMPERATURE OF 12 DEGREES WAS SET AT MCCALL ID.

A RECORD LOW TEMPERATURE OF 24 DEGREES WAS SET AT YAKIMA WA.

04/23 A RECORD LOW TEMPERATURE OF 16 DEGREES WAS SET AT MCCALL ID.

04/25 A RECORD RAINFALL OF 0.52 INCHES WAS SET AT SEATAC WA.

A RECORD RAINFALL OF 0.69 INCHES WAS SET AT VANCOUVER WA.

A RECORD RAINFALL OF 0.84 INCHES WAS SET AT SALEM OR.

A RECORD RAINFALL OF 0.61 INCHES WAS SET AT HILLSBORO OR.

A RECORD RAINFALL OF 0.63 INCHES WAS SET AT SPOKANE WA.

04/26 A RECORD RAINFALL OF 0.41 INCHES WAS SET AT SPOKANE WA.

04/29 A RECORD LOW TEMPERATURE OF 17 DEGREES WAS SET AT IDAHO FALLS ID.