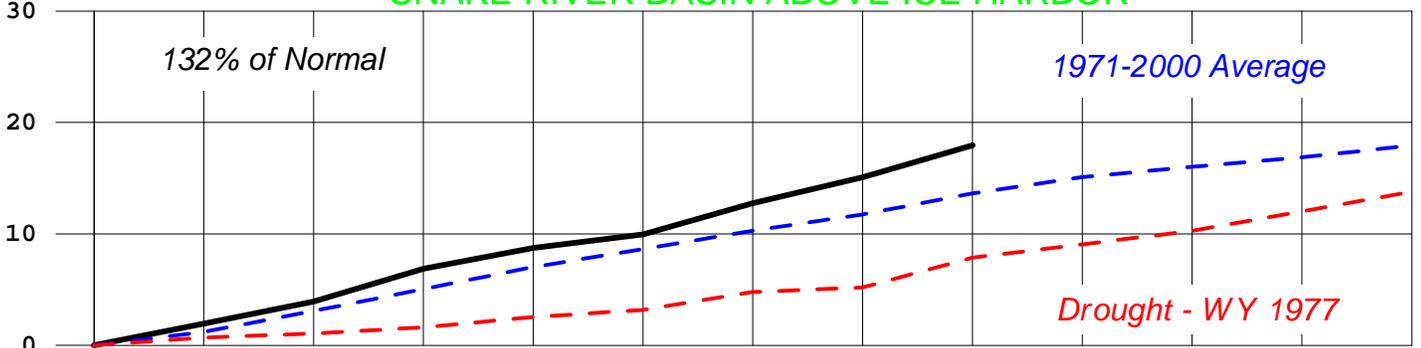


CUMULATIVE PRECIPITATION WATER YEAR 2011

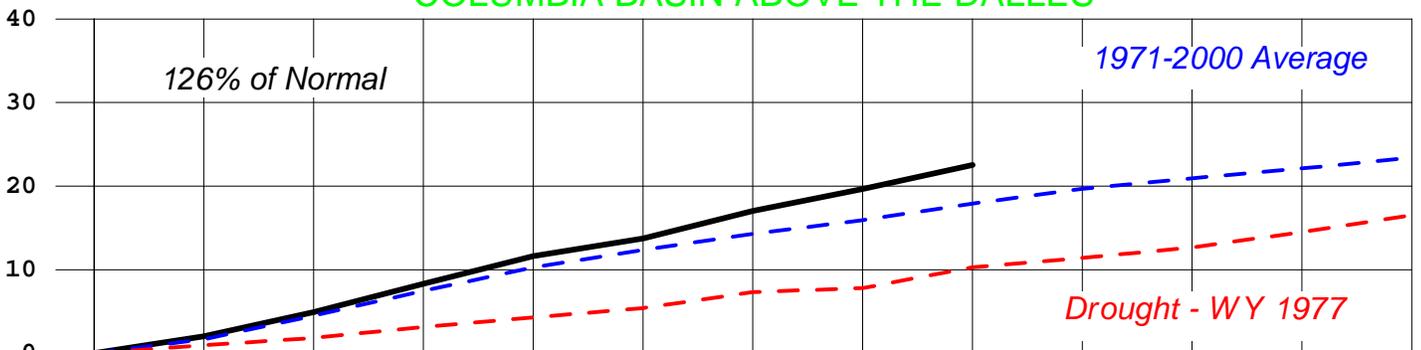
COLUMBIA BASIN ABOVE GRAND COULEE



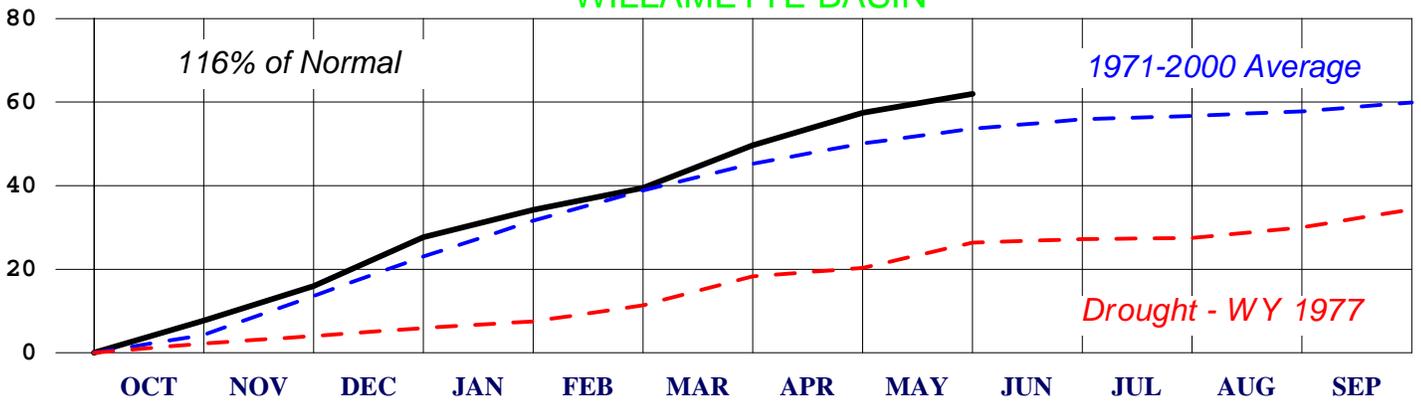
SNAKE RIVER BASIN ABOVE ICE HARBOR



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 - may 2011)

DIVISION	..MAY TO DAY 31..		OCT - MAY....		
	OBSD	DEP	PCT AV	OBSD	DEP	PCT AV
COLUMBIA ABOVE COULEE	2.44	0.21	109.	21.79	3.66	120.
SNAKE RV AB ICE HARBOR	2.85	0.96	151.	17.94	4.30	132.
COLUMBIA AB THE DALLES	2.87	0.90	146.	22.53	4.63	126.
COLUMBIA AB CASTLEGAR	2.52	0.26	111.	27.00	2.36	110.
KOOTENAI	2.17	-0.05	98.	21.70	3.14	117.
CLARK FORK	2.39	0.34	117.	15.39	3.11	125.
FLATHEAD	2.30	-0.14	94.	21.13	4.93	130.
PEND OREILLE/ SPOKANE	3.34	0.73	128.	31.54	6.48	126.
NORTHEAST WASHINGTON	3.12	0.97	145.	17.68	3.19	122.
OKANOGAN	2.73	1.25	185.	14.70	3.22	128.
EAST SLOPES WASH CASC.	3.49	1.94	225.	37.69	2.41	107.
CENTRAL WASHINGTON	1.95	1.18	253.	8.85	1.53	121.
UPPER SNAKE	3.56	1.17	149.	21.21	5.88	138.
SNAKE RIVER PLAIN	2.26	0.78	152.	11.57	2.94	134.
OWYHEE/ MALHEUR	2.44	1.18	193.	13.45	4.67	153.
SALMON/ BOISE/ PAYETTE	2.33	0.54	130.	18.71	2.55	116.
BURNT/ GRANDE RONDE	3.42	1.74	204.	16.44	3.79	130.
CLEARWATER	4.41	1.38	146.	32.09	7.79	132.
SOUTHEAST WASHINGTON	3.55	1.66	188.	20.40	4.36	127.
UPPER JOHN DAY	2.93	1.37	188.	16.36	4.86	142.
UMATILLA/ LWR JOHN DAY	3.20	1.63	204.	19.41	5.99	145.
UPR DESCHUTES/ CROOKED	1.61	0.53	149.	16.92	4.91	141.
HOOD/ LOWER DESCHUTES	2.85	1.24	177.	32.88	7.60	130.
NW SLOPE WASH CASCADES	5.97	1.23	126.	88.22	11.80	115.
SW WA CASCADES/COWLITZ	5.19	1.40	137.	71.20	8.59	114.
WILLAMETTE VALLEY	4.57	1.04	129.	62.00	8.36	116.
ROGUE/ UMPQUA	2.97	0.99	150.	39.24	6.66	120.
KLAMATH BASIN	1.66	0.48	141.	19.69	3.62	123.
LAKE COUNTY-GOOSE LAKE	1.83	0.47	134.	13.98	3.81	137.
HARNEY/ MALHEUR BASIN	2.44	1.11	183.	13.03	3.97	144.

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

MAY 11

WEATHER SUMMARY

THE JET STREAM BROUGHT COLD LOW PRESSURE SYSTEMS OVER THE NORTHWEST U.S. AND SOUTHERN BRITISH COLUMBIA ALL THROUGH MAY. TEMPERATURES WERE BELOW NORMAL AGAIN THROUGH THE WHOLE REGION. SYSTEMS WERE OFTEN WET AS WELL...WHICH BROUGHT ABOVE AVERAGE RAIN AND SNOW THROUGH THE END OF THE MONTH.

PRECIPITATION SUMMARY

MAY PRECIPITATION WAS: 109 PERCENT OF NORMAL (1971-2000) AT COLUMBIA ABOVE COULEE, 151 PERCENT OF NORMAL AT THE SNAKE RIVER ABOVE ICE HARBOR, AND 146 PERCENT OF NORMAL AT COLUMBIA ABOVE THE DALLES.

SEASONAL (OCTOBER THROUGH MAY) PRECIPITATION WAS: 120 PERCENT OF NORMAL (1971-2000) AT COLUMBIA ABOVE COULEE, 132 PERCENT OF NORMAL AT THE SNAKE RIVER ABOVE ICE HARBOR, AND 126 PERCENT OF NORMAL AT COLUMBIA ABOVE THE DALLES.

TEMPERATURE SUMMARY

THE 37 STATION TEMPERATURE INDEX FOR THE PACIFIC NORTHWEST DEPARTED -3.0 DEGREES FROM NORMAL RELATIVE TO THE 1971-2000 NORMALS. MEAN TEMPERATURE DEPARTURES RANGED FROM -7.4 TO -0.1 DEGREES.

GENERAL SUMMARY

INCREASES IN STREAMFLOW FORECASTS CONTINUE-SEASONAL FORECASTS HAVE INCREASED 10 TO 50 PERCENT FROM THE MAY 1ST LEVELS. PRECIPITATION DURING MAY VARIED FROM 120 PERCENT IN THE NORTHERN AREAS OF THE BASIN TO MORE THAN 200 PERCENT IN THE SOUTHERN AREAS. COOL WEATHER CONTINUED ALLOWING SNOW WATER EQUIVALENTS (SWE) TO INCREASE IN MID AND UPPER LEVELS OF MANY COLUMBIA-SNAKE RIVER BASINS. THE MODERATE TO HEAVY PRECIPITATION AND INCREASE SWE LEVELS PRODUCED THE STREAM FLOW FORECAST INCREASES. THE JANUARY-JULY FORECAST FOR THE COLUMBIA RIVER AT THE DALLES IS 138 MILLION ACRE FEET OR 129 PERCENT OF THE 30-YEAR AVERAGE.

SNOW SUMMARY

THE SCREAMING MESSAGE FOR JUNE 1ST SWE CONDITIONS IS THAT WATER EQUIVALENTS HAVE CONTINUED TO RISE DURING MAY IN THE MID AND UPPER PARTS OF MOST DRAINAGES. IN NORTHWEST MONTANA SWE SITES ON THE FLATHEAD RIVER REPORTED 2 TO 3 FEET OF NEW SNOWFALL AT THE END OF MAY. JUNE 1ST SWE LEVELS RANGE FROM 160 TO 250 PERCENT OF THE JUNE 1ST LEVELS AT MID TO HIGH ELEVATIONS. WEST OF THE CASCADES IN OREGON AND WASHINGTON SUBSTANTIAL AMOUNTS OF SWE REMAIN AT THE 3000 TO 4000 FOOT LEVEL.

STREAMFLOW SUMMARY

MAY STREAMFLOW WAS ABOVE TO WELL ABOVE AVERAGE FOR MOST OF THE COLUMBIA-SNAKE AREA. THE ONLY EXCEPTION IS IN THE BRITISH COLUMBIA AND NORTHEAST WASHINGTON AREAS WHERE FLOW WAS 80 TO 100 PERCENT OF AVERAGE. THE HIGHEST STREAMFLOW DURING MAY WAS IN THE MIDDLE SNAKE RIVER AREA AND IN NORTHEAST OREGON AT 175 TO 250 PERCENT OF THE 30-YEAR AVERAGE. STREAMFLOW FOR THE COLUMBIA RIVER AT THE DALLES WAS 119 PERCENT.

MODERATE TO HEAVY PRECIPITATION WITH SOME SNOWMELT BROUGHT FLOODING TO MANY SITES FROM THE CASCADE MOUNTAINS TO THE ROCKY MOUNTAINS. THE MOST SERIOUS FLOODING HAPPENED ON THE YAKIMA...OKANOGAN AND SPOKANE RIVERS IN WASHINGTON, ON THE COEUR D' ALENE AND ST JOE RIVERS IN NORTHERN IDAHO, ON THE UMATILLA...JOHN DAY AND GRANDE RONDE RIVERS IN NORTHEAST OREGON AND ON THE HENRY'S FORK, PORTNEUF AND MAIN STEM SNAKE RIVER AT SHELLY AND BLACKFOOT IN SOUTHERN IDAHO, AND ON THE UPPER CLARK FORK AND SOME KOOTENAI RIVER BASINS IN MONTANA AND IDAHO.

THE MODERATE TO HEAVY PRECIPITATION DURING MAY COUPLED WITH STILL INCREASING SWE LEVELS IN THE MID AND UPPER BASIN AREAS OF THE COLUMBIA-SNAKE BASIN BROUGHT INCREASES IN EXPECTED SEASONAL STREAMFLOW TO ALL AREAS. LARGEST INCREASES IN THE NORTHERN AREAS OF THE BASIN WERE ON THE CLARK FORK AND PEND OREILLE RIVERS UP 15 TO 20 PERCENT FROM MAY 1ST. ON THE SNAKE RIVER STREAMFLOW FORECASTS INCREASED 10 TO 50 PERCENT FROM THE MAY 1ST LEVELS. THE JANUARY-JULY FORECAST FOR THE COLUMBIA RIVER AT THE DALLES IS 138 MILLION ACRE FEET OR 129 PERCENT OF THE 30-YEAR AVERAGE. THIS PLACES THE 2011 STREAMFLOW FORECAST AT 4TH IN THE LAST 40-YEAR PERIOD.

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.

05/07 A RECORD RAINFALL OF 0.76 INCHES WAS SET AT TROUTDALE OR.

05/09 A RECORD RAINFALL OF 0.86 INCHES WAS SET AT POCATELLO ID.

05/12 A RECORD LOW TEMPERATURE OF 31 DEGREES WAS SET AT MCMINNVILLE OR.

A RECORD LOW TEMPERATURE OF 38 DEGREES WAS SET AT SEATAC WA.

05/14 A RECORD RAINFALL OF 0.97 INCHES WAS SET AT SEATAC WA.

A RECORD RAINFALL OF 0.93 INCHES WAS SET AT OLYMPIA WA.

05/14 A RECORD HIGH TEMPERATURE OF 81 WAS SET AT PULLMAN WA.

A RECORD RAINFALL OF 0.61 INCHES WAS SET AT WENATCHEE WA.

A RECORD RAINFALL OF 1.06 INCHES WAS SET AT YAKIMA WA.

05/15 A RECORD RAINFALL OF 0.64 INCHES WAS SET AT KENNEWICK WA.

A RECORD RAINFALL OF 0.92 INCHES WAS SET AT YAKIMA WA.

A RECORD RAINFALL OF 0.72 INCHES WAS SET AT PENDLETON OR.

A RECORD RAINFALL OF 0.84 INCHES WAS SET AT WENATCHEE WA.

A RECORD RAINFALL OF 0.77 INCHES WAS SET AT MCCALL ID.

A RECORD RAINFALL OF 0.75 INCHES WAS SET AT PORTLAND OR.

A RECORD RAINFALL OF 0.81 INCHES WAS SET AT SEATAC WA.

05/17 A RECORD LOW TEMPERATURE OF 30 DEGREES WAS SET AT OLYMPIA WA.

A RECORD LOW TEMPERATURE OF 39 DEGREES WAS SET AT SEATAC WA.

05/24 A RECORD RAINFALL OF 0.66 INCHES WAS SET AT IDAHO FALLS ID.

05/26 A RECORD RAINFALL OF 0.41 INCHES WAS SET AT SEATAC WA.

A RECORD RAINFALL OF 1.51 INCHES WAS SET AT PRIEST RIVER ID.

A RECORD RAINFALL OF 0.74 INCHES WAS SET AT OMAK WA.

A RECORD RAINFALL OF 1.04 INCHES WAS SET AT PENDLETON OR.

A RECORD RAINFALL OF 0.38 INCHES WAS SET AT THE DALLES OR.

A RECORD RAINFALL OF 0.73 INCHES WAS SET AT KALISPELL MT.

05/28 A RECORD LOW TEMPERATURE OF 37 DEGREES WAS SET AT PENDLETON OR.

A RECORD LOW TEMPERATURE OF 33 DEGREES WAS SET AT CHIEF JOSEPH DAM WA.

A RECORD LOW TEMPERATURE OF 34 DEGREES WAS SET AT PULLMAN WA.

05/29 A RECORD RAINFALL OF 0.55 INCHES WAS SET AT POCATELLO ID.