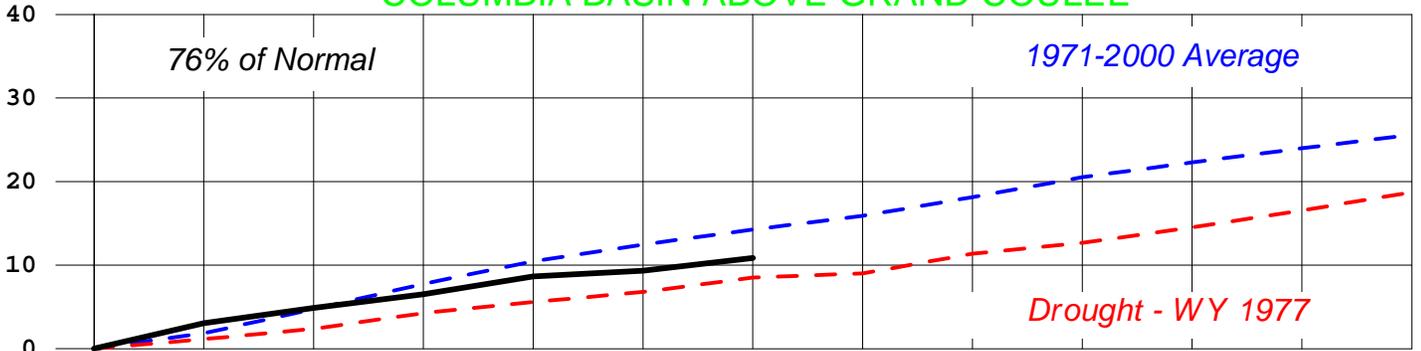
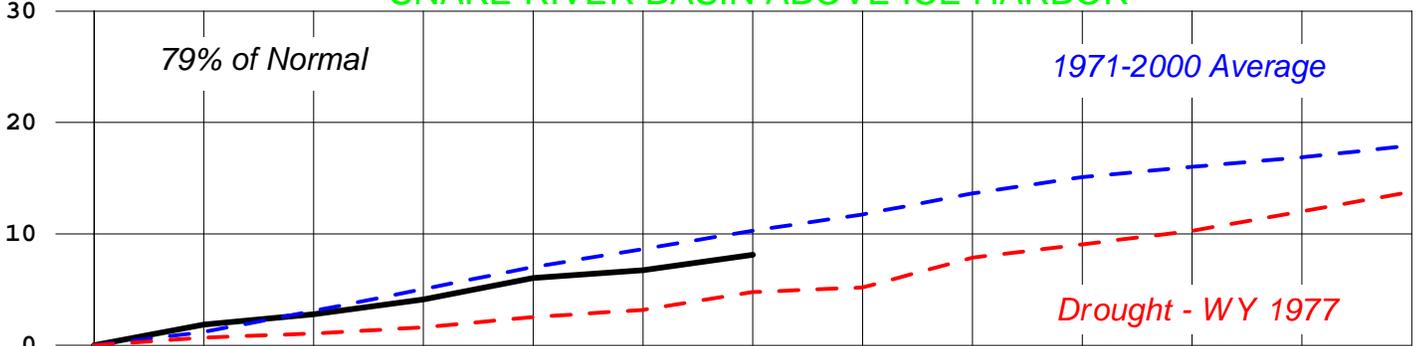


# CUMULATIVE PRECIPITATION WATER YEAR 2010

## COLUMBIA BASIN ABOVE GRAND COULEE



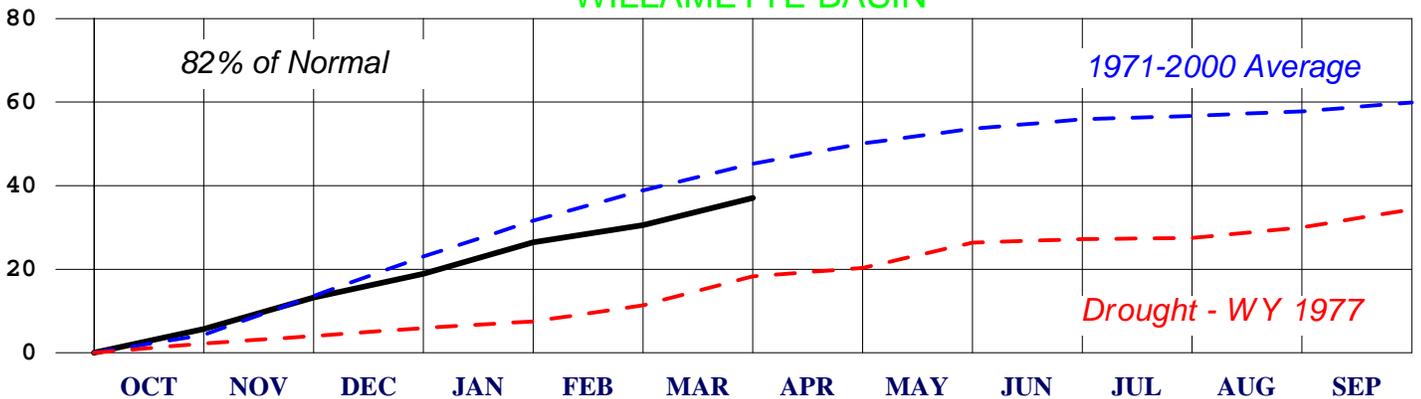
## SNAKE RIVER BASIN ABOVE ICE HARBOR



## 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 - mar 2010)

DIVISION	..MAR TO DAY 31..			....OCT - MAR....		
	OBSD	DEP	PCT AV	OBSD	DEP	PCT AV
COLUMBIA ABOVE COULEE	1.51	-0.28	85.	10.85	-3.40	76.
SNAKE RV AB ICE HARBOR	1.38	-0.27	84.	8.12	-2.17	79.
COLUMBIA AB THE DALLES	1.57	-0.35	82.	11.34	-2.95	79.
COLUMBIA AB CASTLEGAR	2.01	-0.41	83.	15.28	-5.10	75.
KOOTENAI	1.66	-0.12	93.	11.67	-2.92	80.
CLARK FORK	0.91	-0.29	76.	6.19	-2.80	69.
FLATHEAD	1.22	-0.41	75.	9.47	-2.71	78.
PEND OREILLE/ SPOKANE	2.19	-0.58	79.	15.02	-5.17	74.
NORTHEAST WASHINGTON	1.44	-0.18	89.	10.08	-0.74	93.
OKANOGAN	0.88	-0.23	79.	7.75	-1.22	86.
EAST SLOPES WASH CASC.	2.61	-0.84	76.	23.39	-8.22	74.
CENTRAL WASHINGTON	0.44	-0.39	53.	4.88	-1.03	83.
UPPER SNAKE	1.01	-0.72	58.	7.92	-3.42	70.
SNAKE RIVER PLAIN	0.80	-0.33	71.	4.79	-1.32	78.
OWYHEE/ MALHEUR	0.88	-0.25	78.	5.72	-0.83	87.
SALMON/ BOISE/ PAYETTE	1.72	-0.22	89.	10.53	-2.24	82.
BURN/ GRANDE RONDE	1.16	-0.23	83.	8.03	-1.58	84.
CLEARWATER	2.44	-0.36	87.	13.98	-4.63	75.
SOUTHEAST WASHINGTON	1.40	-0.50	74.	8.92	-3.56	71.
UPPER JOHN DAY	0.99	-0.41	71.	7.60	-1.09	87.
UMATILLA/ LWR JOHN DAY	1.38	-0.24	85.	10.09	-0.26	97.
UPR DESCHUTES/ CROOKED	1.24	-0.13	90.	9.44	-0.51	95.
HOOD/ LOWER DESCHUTES	2.91	0.22	108.	20.52	-1.00	95.
NW SLOPE WASH CASCADES	7.41	-1.24	86.	55.19	-10.27	84.
SW WA CASCADES/COWLITZ	6.86	-0.22	97.	44.03	-9.44	82.
WILLAMETTE VALLEY	6.51	0.12	102.	37.08	-8.19	82.
ROGUE/ UMPQUA	4.24	0.11	103.	22.84	-4.98	82.
KLAMATH BASIN	1.58	-0.46	77.	11.12	-2.53	81.
LAKE COUNTY-GOOSE LAKE	0.99	-0.30	77.	6.32	-1.32	83.
HARNEY/ MALHEUR BASIN	0.87	-0.35	71.	6.29	-0.38	94.

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

MAR 10

WEATHER SUMMARY

MARCH SAW A FAIRLY PERSISTENT UPPER LEVEL JET STREAM THAT PUSHED FREQUENT WEAK TO MODERATELY STRONG LOW AND HIGH PRESSURE SYSTEMS OVER THE COLUMBIA BASIN.

THE BEGINNING OF THE MONTH SAW FAIRLY BENIGN WEATHER UNTIL THE FIRST COLD FRONT MOVED ONSHORE THE END OF THE FIRST WEEK. PERIODS OF LIGHT TO MODERATE PRECIPITATION AND TEMPERATURE FLUX WERE RECORDED THROUGH MARCH'S SECOND AND THIRD WEEKS AS PROGRESSIVE UPPER LEVEL FLOW BROUGHT A SERIES OF HIGH AND LOW PRESSURE SYSTEMS OVER THE REGION. THE STRONGEST STORMS OF THE MONTH CAME THROUGH DURING THE LAST WEEK. A SERIES OF STORMS MOVED OVER THE NORTHWEST. A FEW DAILY TEMPERATURE RECORDS WERE BROKEN WITH THESE STORMS...AND TEMPERATURES AROUND THE REGION DROPPED TO AROUND 10 DEGREES BELOW NORMAL.

PRECIPITATION SUMMARY

MARCH PRECIPITATION WAS: 85 PERCENT OF NORMAL (1971-2000) AT COLUMBIA ABOVE COULEE, 84 PERCENT OF NORMAL AT THE SNAKE RIVER ABOVE ICE HARBOR, AND 82 PERCENT OF NORMAL AT COLUMBIA ABOVE THE DALLES.

SEASONAL (OCTOBER THROUGH MARCH) PRECIPITATION WAS: 76 PERCENT OF NORMAL (1971-2000) AT COLUMBIA ABOVE COULEE, 79 PERCENT OF NORMAL AT THE SNAKE RIVER ABOVE ICE HARBOR, AND 79 PERCENT OF NORMAL AT COLUMBIA ABOVE THE DALLES.

TEMPERATURE SUMMARY

THE 37 STATION TEMPERATURE INDEX FOR THE PACIFIC NORTHWEST DEPARTED +1.8 DEGREES FROM NORMAL RELATIVE TO THE 1971-2000 NORMALS. MEAN TEMPERATURE DEPARTURES RANGED FROM -1.7 TO 8.6 DEGREES.

GENERAL SUMMARY !

A SERIES OF STRONG SPRING STORMS AT THE END OF MARCH BROUGHT SOME NEW MOUNTAIN SNOW AND SOME WELCOME RAINFALL IN THE VALLEY AREAS. HOWEVER THE WELCOME END OF

MONTH STORMS ONLY SLOWED THE DROP IN STREAMFLOW. STREAMFLOW FORECAST ON APRIL 1ST ARE SLIGHTLY LOWER THAN MARCH 1ST.

SNOW SUMMARY !

FOR MOST PARTS OF THE BASIN SNOW WATER EQUIVALENTS (SWE'S) HAVE IMPROVED 1 TO 4 PERCENT FROM MARCH 1ST. THE EXCEPTION TO THIS TREND IS IN NORTHEAST OREGON WHERE EARLY SEASON SNOW MELT PRODUCED DROPS OF 2 TO 7 PERCENT FROM MARCH 1ST. THE BEST APRIL 1ST SWE'S ARE IN THE NORTHERN AREAS OF THE BASIN AT 70-90 PERCENT. THE LOWEST APRIL 1ST SWE'S CONTINUE TO BE IN THE SOUTHERN ZONES AT 50 TO 70 PERCENT.

STREAMFLOW SUMMARY !

DRY CONDITIONS WITH LIMITED SNOW MELT KEPT MARCH STREAMFLOWS BELOW AVERAGE AT 40 TO 70 PERCENT FOR MOST OF THE AREA. THE LOWEST MARCH STREAMFLOW AT 30 TO 40 PERCENT WAS OBSERVED IN THE SPOKANE DRAINAGE IN NORTHERN IDAHO, IN NORTHEAST OREGON AND IN THE CLEARWATER BASIN IN IDAHO. MARCH STREAMFLOW FOR THE COLUMBIA RIVER AT THE DALLES WAS 52 PERCENT OF THE 30-YEAR AVERAGE.

THE STORMS AT THE END OF MARCH HAVE SLOWED THE DROP IN FORECAST STREAMFLOW FOR MOST AREAS. THE HIGHEST STREAMFLOW FORECASTS ARE IN THE UPPER COLUMBIA IN CANADA AT NEAR 90 PERCENT OF AVERAGE. MOST OF THE REST OF THE COLUMBIA-SNAKE DRAINAGE AREA HAS EXPECTED STREAM FLOWS IN THE 50 TO 70 PERCENT RANGE. THE APRIL 1ST FORECAST FOR THE COLUMBIA RIVER AT THE DALLES IS NEAR 70 MILLION ACRE FEET STILL THE THIRD LOWEST STREAMFLOW IN THE LAST 50 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.

03/09            A RECORD LOW TEMPERATURE OF 24 DEGREES WAS SET AT MEDFORD OR.

A RECORD LOW TEMPERATURE OF 23 DEGREES WAS SET AT OLYMPIA WA.

03/12 A RECORD RAINFALL OF 1.41 INCHES WAS SET AT ASTORIA OR.

03/16 A RECORD HIGH TEMPERATURE OF 72 DEGREES WAS SET AT PENDLETON OR.  
A RECORD HIGH TEMPERATURE OF 65 DEGREES WA SET AT PULLMAN WA.

03/24 A RECORD HIGH TEMPERATURE OF 64 DEGREES WAS SET AT BELLINGHAM WA.  
A RECORD HIGH TEMPERATURE OF 68 DEGREES WAS SET AT SEA-TAC WA.

03/25 A RECORD RAINFALL OF 0.62 INCHES WAS SET AT SEA-TAC WA.

03/27 A RECORD MAXIMUM SNOWFALL OF 3 INCHES WAS SET AT POCATELLO ID.

03/29 A RECORD RAINFALL OF 1.00 INCHES WAS SET AT TROUTDALE OR.  
A RECORD RAINFALL OF 0.92 INCHES WAS SET AT SEA-TAC WA.  
A RECORD RAINFALL OF 1.38 INCHES WAS SET AT OLYMPIA WA.

03/31 A RECORD RAINFALL OF 0.63 INCHES WAS SET AT IDAHO FALLS ID.