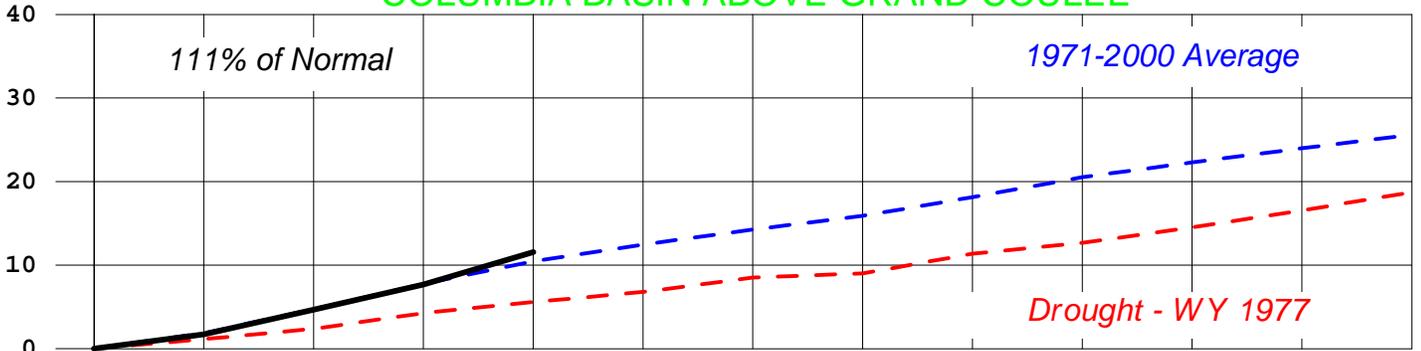
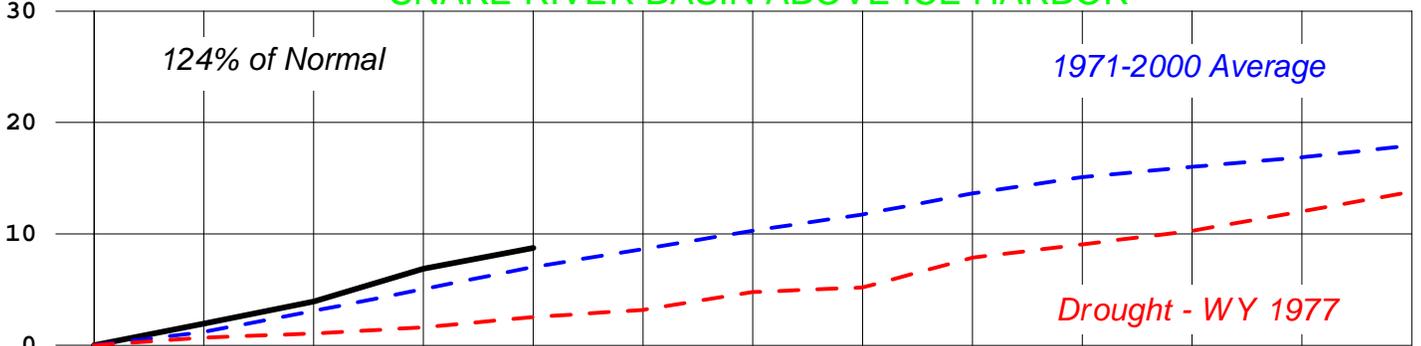


# CUMULATIVE PRECIPITATION WATER YEAR 2011

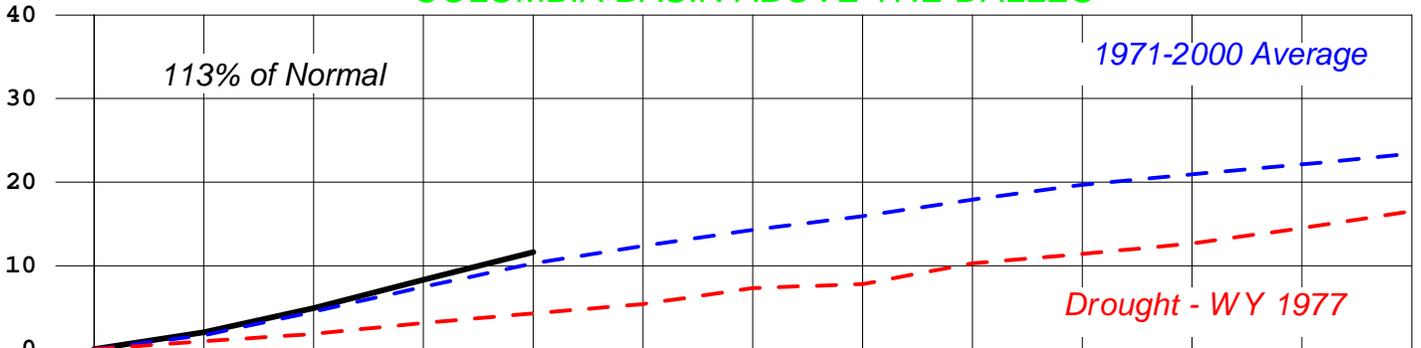
## COLUMBIA BASIN ABOVE GRAND COULEE



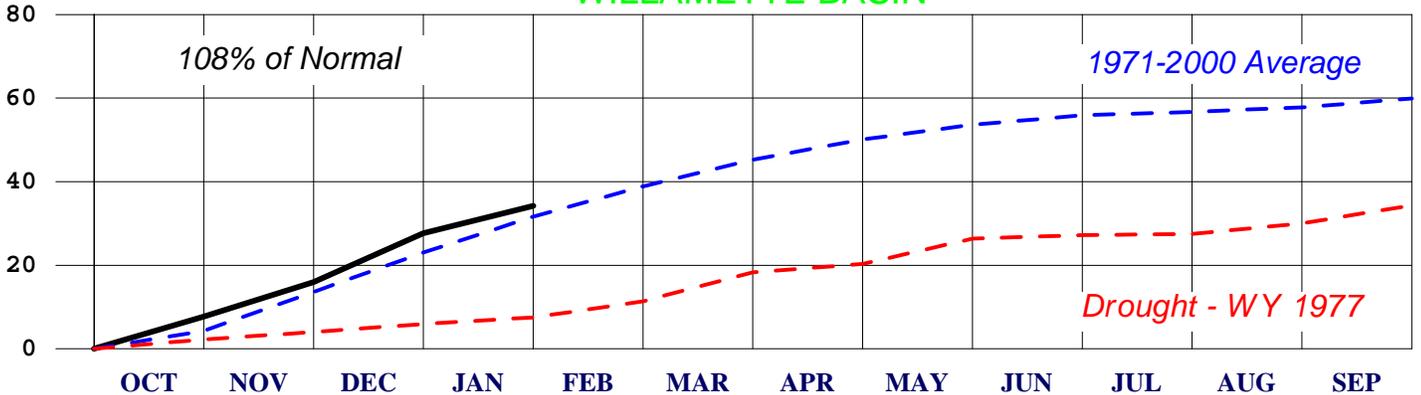
## SNAKE RIVER BASIN ABOVE ICE HARBOR



## COLUMBIA BASIN ABOVE THE DALLES



## WILLAMETTE BASIN



ACCUMULATED PRECIPITATION IN INCHES



# Northwest River Forecast Center

## Seasonal Divisional Precipitation Summary

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Click on date to display a different seasonal forecast:

### Monthly Divisional Precipitation Summary

COLUMBIA BASIN SEASONAL PRECIPITATION DIVISION AVERAGES  
NORTHWEST RIVER FORECAST CENTER

(MONTHLY SUMMARY - JAN 2011)

DIVISION	..JAN TO DAY 31..			....OCT - JAN....		
	OBSD	DEP	PCT AV	OBSD	DEP	PCT AV
COLUMBIA ABOVE COULEE	3.90	1.19	144.	11.57	1.11	111.
SNAKE RV AB ICE HARBOR	1.86	-0.12	94.	8.75	1.72	124.
COLUMBIA AB THE DALLES	3.33	0.54	120.	11.62	1.36	113.
COLUMBIA AB CASTLEGAR	5.84	1.83	146.	15.05	-0.08	99.
KOOTENAI	4.15	1.38	150.	11.26	0.39	104.
CLARK FORK	2.32	0.54	130.	8.06	1.58	124.
FLATHEAD	3.60	1.35	160.	11.29	2.50	128.
PEND OREILLE/ SPOKANE	5.29	1.41	136.	16.61	2.23	115.
NORTHEAST WASHINGTON	2.08	0.22	112.	8.55	0.94	112.
OKANOGAN	1.70	-0.03	98.	6.66	0.17	103.
EAST SLOPES WASH CASC.	6.64	-0.05	99.	20.24	-2.99	87.
CENTRAL WASHINGTON	0.81	-0.25	76.	4.36	0.14	103.
UPPER SNAKE	2.34	0.09	104.	10.51	2.66	134.
SNAKE RIVER PLAIN	0.78	-0.36	68.	5.60	1.50	137.
OWYHEE/ MALHEUR	0.83	-0.42	66.	6.46	2.04	146.
SALMON/ BOISE/ PAYETTE	2.00	-0.49	80.	10.05	1.28	115.
BURN/ GRANDE RONDE	1.94	0.09	105.	7.65	0.83	112.
CLEARWATER	5.12	1.52	142.	15.41	2.47	119.
SOUTHEAST WASHINGTON	2.15	-0.09	96.	10.09	1.47	117.
UPPER JOHN DAY	1.44	-0.17	89.	7.97	1.89	131.
UMATILLA/ LWR JOHN DAY	1.90	-0.02	99.	9.31	2.15	130.
UPR DESCHUTES/ CROOKED	1.52	-0.58	73.	9.29	2.23	132.
HOOD/ LOWER DESCHUTES	4.17	-0.15	97.	18.24	2.84	118.
NW SLOPE WASH CASCADES	16.89	4.23	133.	49.16	2.14	105.
SW WA CASCADES/COWLITZ	10.98	0.66	106.	39.85	1.87	105.
WILLAMETTE VALLEY	6.51	-2.07	76.	34.19	2.56	108.
ROGUE/ UMPQUA	3.02	-2.09	59.	20.00	0.83	104.
KLAMATH BASIN	1.50	-1.32	53.	10.96	1.49	116.
LAKE COUNTY-GOOSE LAKE	0.79	-0.63	55.	6.83	1.69	133.
HARNEY/ MALHEUR BASIN	0.93	-0.26	78.	6.66	2.19	149.

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

JAN 11

WEATHER SUMMARY

JANUARY STARTED OFF COLD THROUGH THE REGION...WITH NORTHERLY UPPER LEVEL FLOW PUSHING COLD CONTINENTAL AIR THROUGH MUCH OF SOUTHERN BRITISH COLUMBIA...THE INLAND NORTHWEST AND NORTHERN ROCKIES. THIS COLD AIR AND CLEAR CONDITIONS HELPED STRENGTHEN INVERSIONS AND BRING VERY COLD TEMPERATURES TO MANY VALLEY AREAS.

BY THE SECOND WEEK OF THE MONTH...HIGH PRESSURE BEGAN TO BUILD OVER THE SOUTHERN HALF OF THE BASIN. THIS ALONG WITH SOUTHERLY MID LEVEL FLOW HELPED BRING WARMER THAN NORMAL AND MAINLY DRY CONDITIONS TO THIS AREA. THESE WARM CONDITIONS CONTINUED TO THE END OF THE MONTH...AND HELPED MELT MUCH OF THE LOW LEVEL SNOWPACK THROUGH THE REGION. ALSO DURING THIS TIME...THE JET STREAM SET UP OVER THE PUGET SOUND AND SOUTHERN BRITISH COLUMBIA...BRINGING NEAR NORMAL TEMPERATURES AND HEAVY PRECIPITATION AT TIMES. THIS HELPED BRING WET WEATHER TO THE REST OF THE REGION AT TIMES TOO...FURTHER HELPING TO MELT LOW LEVEL SNOW.

PRECIPITATION SUMMARY

JANUARY PRECIPITATION WAS: 144 PERCENT OF NORMAL (1971-2000) AT COLUMBIA ABOVE COULEE, 94 PERCENT OF NORMAL AT THE SNAKE RIVER ABOVE ICE HARBOR...AND 120 PERCENT OF NORMAL AT COLUMBIA ABOVE THE DALLES.

SEASONAL (OCTOBER THROUGH JANUARY) PRECIPITATION WAS: 111 PERCENT OF NORMAL (1971-2000) AT COLUMBIA ABOVE COULEE...124 PERCENT OF NORMAL AT THE SNAKE RIVER ABOVE ICE HARBOR...AND 113 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 -3.3 TO 6.6 DEGREES.

GENERAL SUMMARY !

JANUARY WAS A MONTH OF CONTRASTS-VERY DRY AND COLD MID MONTH AND THEN WARM AND WET TOWARDS MONTHS END. THE NORTHERN PORTIONS OF THE COLUMBIA-SNAKE DRAINAGE COLLECTED SUBSTANTIAL NEW SNOW WATER EQUIVALENT (SWE) WHILE MOST OF THE SNAKE BASIN SAW A DECREASE ON SNOW WATER EQUIVALENT LEVELS. BECAUSE OF THE IMPROVE- IN THE NORTHERN TIER THE FORECAST FOR THE NORTHERN BASINS IMPROVED BY 5 TO 9 PERCENT FROM THE JANUARY 1ST STREAMFLOW FORECASTS. THIS BROUGHT AN INCREASE OF 5 PERCENT TO THE JANUARY-JULY FORECAST FOR THE COLUMBIA RIVER AT THE DALLES PUTTING THE FORECAST AT 103 PERCENT OF THE 30-YEAR AVERAGE.

#### SNOW SUMMARY !

ABOVE AVERAGE PRECIPITATION COUPLED WITH AVERAGE TO BELOW AVERAGE TEMPERATURES IN THE NORTHERN PARTS OF THE BASIN ALLOWED THE COLUMBIA-KOOTENAI AND THE WESTERN MONTANA DRAINAGES TO ACCUMULATE SWE AT AN ABOVE AVERAGE RATE DURING JANUARY. IN THE SOUTHERN PARTS OF THE COLUMBIA-SNAKE BASIN THE FEBRUARY 1ST SWE'S ARE 5 TO 30 PERCENT LOWER THAN JANUARY 1ST. THE FEBRUARY 1ST SWE RANGES FROM 110-TO 115 PERCENT IN THE UPPER SNAKE AND PEND OREILLE DRAINAGES TO 80-100 PERCENT IN OTHER REGIONS. THE LOWEST FEBRUARY 1ST SWE IS IN THE NW WASHINGTON CASCADES AND IN WESTERN OREGON AT 60 TO 75 PERCENT.

#### STREAMFLOW SUMMARY !

JANUARY STREAMFLOW WAS ABOVE AVERAGE OVER MOST OF THE COLUMBIA RIVER AREA RANGING NEAR AVERAGE IN THE SALMON AND MIDDLE SNAKE BASINS TO GREATER THAN 150 PERCENT OF AVERAGE IN WESTERN MONTANA...THE NORTH CASCADES IN WASHINGTON AND IN THE CLEARWATER BASIN AND BLUE MOUNTAIN TRIBUTARIES IN NORTHEAST OREGON. JANUARY STREAMFLOW FOR THE COLUMBIA RIVER AT THE DALLES WAS 144 PERCENT OF THE 30-YEAR AVERAGE.

NEAR THE MIDDLE OF JANUARY MANY STREAMS EAST OF THE CASCADES WERE FILLED WITH ICE PRODUCING SOME ICE JAM FLOODING. LATER HEAVY RAINFALL AND VERY WARM TEMPERATURES PRODUCED MAJOR FLOODING IN MANY STREAMS IN WESTERN WASHINGTON ON THE YAKIMA IN EASTERN WASHINGTON...ON THE UMATILLA RIVER IN NORTHEAST OREGON AND ON TRIBUTARIES OF THE SPOKANE DRAINAGE IN NORTHERN IDAHO.

SEASONAL FORECASTS ON FEBRUARY 1ST IMPROVED 5 TO 9 PERCENT IN THE NORTHERN PARTS OF THE COLUMBIA-SNAKE BASIN WHILE MOST OF THE SNAKE RIVER SAW A DROP OF 10 TO 20 PERCENT

FROM THE JANUARY 1ST STREAMFLOW FORECASTS. BECAUSE TWO-THIRDS OF THE STREAMFLOW FOR THE COLUMBIA RIVER AT THE DALLES COMES FROM THE NORTHERN PORTIONS OF THE DRAINAGE THE FORECAST FOR THE COLUMBIA RIVER AT THE DALLES IMPROVED BY 5 PERCENT. THE FEBRUARY 1ST JANUARY-JULY FORECAST FOR THE COLUMBIA RIVER AT THE DALLES CALLS FOR 110 MILLION ACRE-FEET OR 103 PERCENT OF THE 30-YEAR AVERAGE.

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.

01/01 A RECORD LOW TEMPERATURE OF -23 DEGREES WAS SET AT BURNS OR.

01/03 A RECORD LOW TEMPERATURE OF -13 DEGREES WAS SET AT BURNS OR.

A RECORD LOW TEMPERATURE OF -14 DEGREES WAS SET AT IDAHO FALLS ID.

01/04 A RECORD LOW TEMPERATURE OF -16 DEGREES WAS SET AT BURNS OR.

01/05 A RECORD RAINFALL OF 3.05 INCHES WAS SET AT QUILLAYUTE WA.

01/10 A RECORD LOW TEMPERATURE OF -12 DEGREES WAS SET AT BURNS OR.

01/13 A RECORD HIGH TEMPERATURE OF 62 DEGREES WAS SET AT YAKIMA WA.

01/14 A RECORD HIGH TEMPERATURE OF 59 DEGREES WAS SET AT SALEM OR.

01/15 A RECORD RAINFALL OF 1.70 INCHES WAS SET AT ASTORIA OR.

A RECORD HIGH TEMPERATURE OF 58 DEGREES WAS SET AT THE DALLES OR.

A RECORD HIGH TEMPERATURE OF 60 DEGREES WAS TIED AT YAKIMA WA.

A RECORD HIGH TEMPERATURE OF 52 DEGREES WAS TIED AT PULLMAN WA.

01/16 A RECORD HIGH TEMPERATURE OF 62 DEGREES WAS SET AT LEWISTON ID.

A RECORD HIGH TEMPERATURE OF 60 DEGREES WAS TIED AT YAKIMA WA.

A RECORD HIGH TEMPERATURE OF 56 DEGREES WAS SET AT OLYMPIA WA.

01/17 A RECORD HIGH TEMPERATURE OF 61 DEGREES WAS TIED AT YAKIMA WA.

A RECORD HIGH TEMPERATURE OF 54 DEGREES WAS SET AT WENATCHEE WA.

01/21 A RECORD RAINFALL OF 0.48 INCHES WAS SET AT THE PULLMAN WA.

A RECORD HIGH TEMPERATURE OF 48 DEGREES WAS SET AT WENATCHEE WA.

01/22 A RECORD HIGH TEMPERATURE OF 50 DEGREES WAS SET AT WENATCHEE WA.

A RECORD HIGH TEMPERATURE OF 56 WAS SET AT THE DALLES OR.

01/23 A RECORD HIGH TEMPERATURE OF 56 DEGREES WAS SET AT WENATCHEE WA.

01/24 A RECORD HIGH TEMPERATURE OF 59 WAS SET AT THE DALLES OR.

01/26 A RECORD HIGH TEMPERATURE OF 58 DEGREES WAS TIED AT OLYMPIA WA.