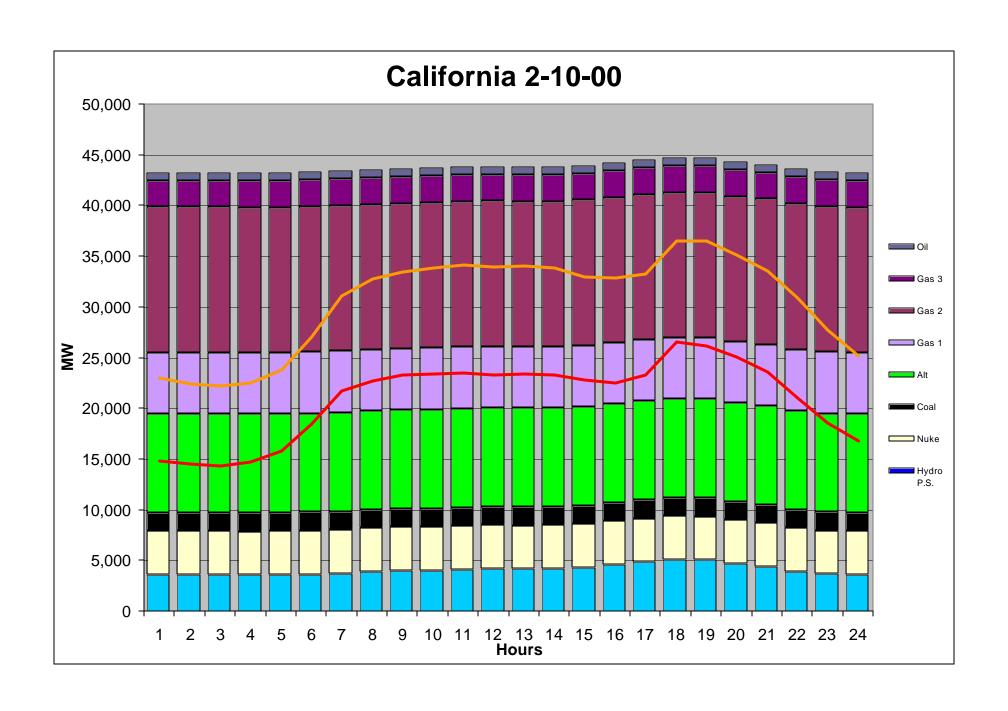
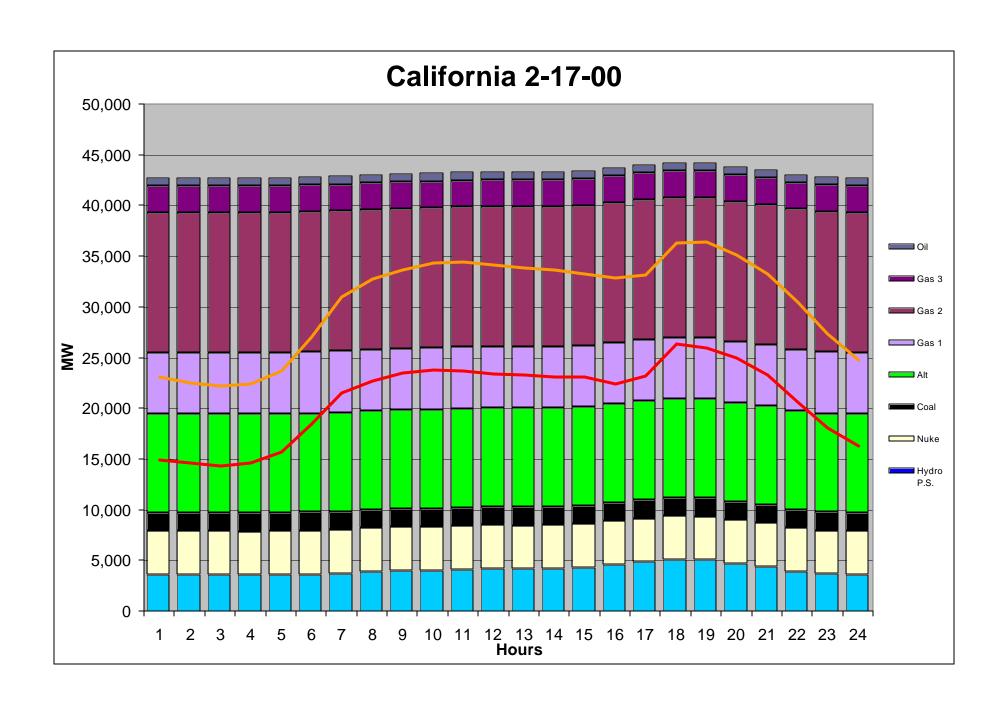
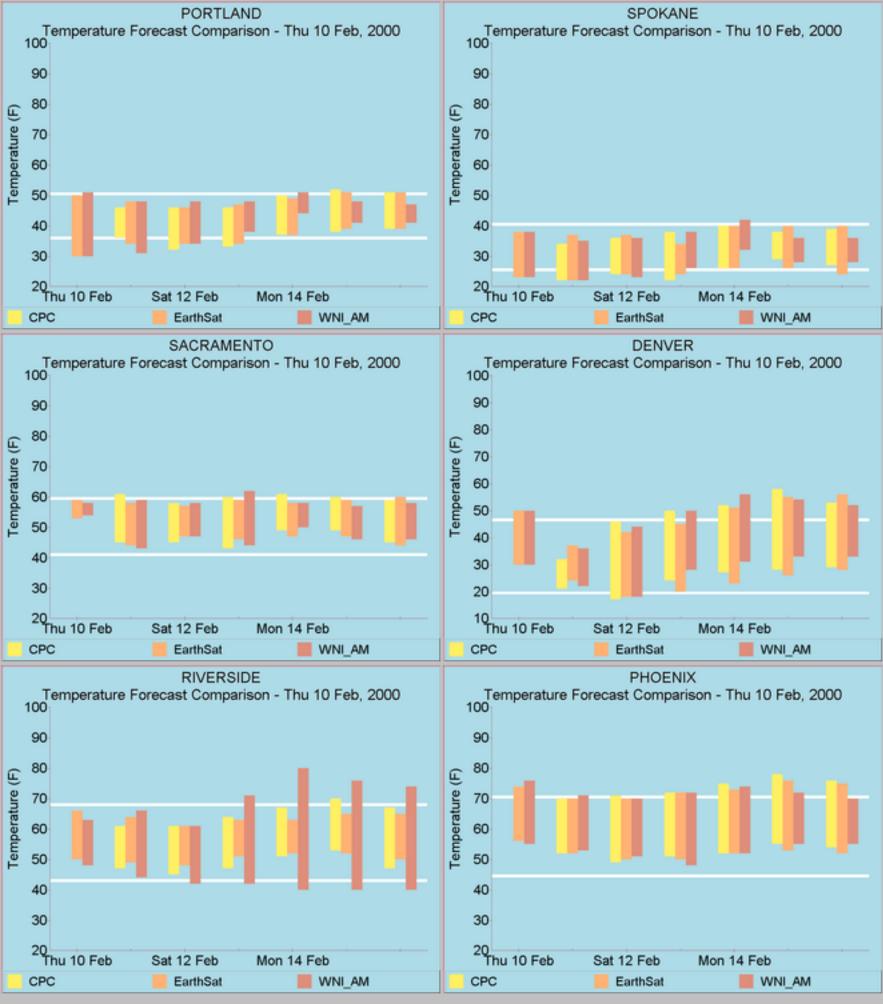
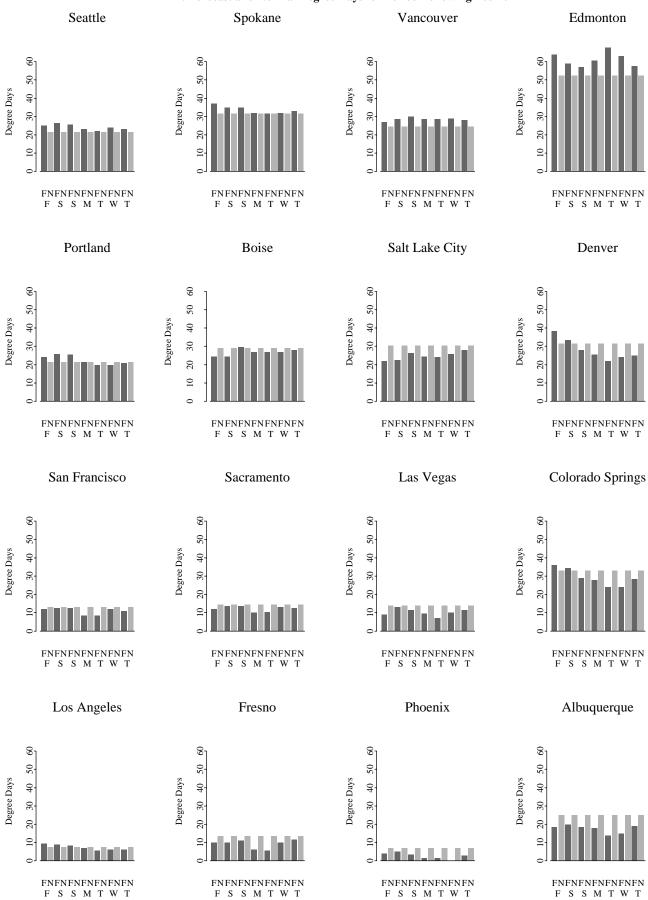
										Predicted on	Relative change in MWa for weeks ending					
	values	Yesterday	Today	Fri	Sat	Mon	Tues	Wed	Thur	2/10/2000	(16 hour):					
	Date	2/9/2000	2/10/2000	2/11/2000	2/12/2000	2/14/2000	2/15/2000	2/16/2000	2/17/2000	Date	2/13/2000	2/20/2000	2/27/2000	3/5/2000	3/12/2000	3/19/2000
	PNW	i)								PNW						
	Load Forecast	32,791	33,158	33,030	31,139	32,495	32,497	32,639	32,624	Load Forecast	32,442	32,130				
	Normal Load	32,890	32,890	32,890	30,796	32,596	32,596	32,596	32,596	-	32,541	32,130	31,993	31,878	30,609	30,086
1										Load Forecast Relative to Normal	(99)	311	449	564	1833	2356
	Hydro Gen. Thermal Outages	18,676 0	18,676 0	18,676 0	18,676 0	17,785 0	17,785 0	17,785 0	17,785	Hydro Gen. Thermal Outages	-	(891) 110	(627) 110	(2286) 29	(3479) 78	(3192) (881)
35	Thermal Odlages	U	U	0	0	U	0	U	0	Total	-	(470)	(68)	(1693)	(1568)	
20										Total		(470)	(00)	(1093)	(1300)	(1717)
35	DSW									DSW						
	Load Forecast	11,266	11,465	11,338	10,536	11,360	11,432	11,432	11,360	Load Forecast	11,187	11,258				
21	Normal Load	11,392	11,392	11,392	10,611	11,377	11,377	11,377	11,377		11,262	11,245	11,351	11,046	10,601	10,564
	Lhadra Oar	4.740	4 740	4 740	4 740	4 740	4 740	4 740	4 740	Load Forecast Relative to Normal	(75)	(58)	(164)	140	586	623
2	Hydro Gen. Thermal Outages	1,740 2.003	1,740 2.003	1,740 2.003	1,740 2.003	1,740 2,003	1,740 2.234	1,740 2.234		Hydro Gen. Thermal Outages		(96)	(97)	77 127	108 1396	108 623
5	Thermal Odlages	2,003	2,003	2,003	2,003	2,003	2,234	2,234	2,234	Total		(154)	(97) (261)	345	2089	1354
										Total		(134)	(201)	343	2003	1334
	CA									CA	•					
	Actual Load	32,477		ā	ā		_									
	Load Forecast	32,477	32,486	32,742	28,101	32,598	32,711	32,735	32,531	Load Forecast	31,807	31,846				
	Normal Load	32,591	32,591	32,591	28,002	32,531	32,531	32,531	32,531	Load Normal Load Forecast Relative to Normal	31,826	31,771	31,868	31,862	31,817	31,983
-17	Hydro Gen.	3,750	3,750	3,750	3,750	3,750	3,750	3,750	2.750	Hydro Gen.	(19)	36	(60)	(54) 446	(9) 625	(176) 625
	Thermal Outages	519	519	519	519	519	1,064	1,064	1.064	Thermal Outages		125	(556)	(1025)	(1025)	(2197)
1,7		1	0.0	0.0	0.0	0.0	1,001	1,001	.,	Total	-	161	(616)	(633)	(409)	
7													` ,	, ,	,	` ′
201	RM									RM						
17	Load Forecast	6,629	6,664	6,747	5,835	6,614	6,566	6,561	6,600		6,542	6,439				
7	Normal Load	6,746	6,746	6,746	5,811	6,643	6,643	6,643	6,643	Load Normal	6,590	6,478	6,452	6,363	6,188	6,034
	Lhadra Oar		NIA	N10	NIA.	N. A.	N10		NIA	Load Forecast Relative to Normal	(47)	65	91	180	354	508
1	Hydro Gen. Thermal Outages	NA 483	NA 483	NA 483		NA 483		NA 158		Hydro Gen. Thermal Outages	]	NA 186	NA 324	NA 291	NA (74)	NA (576)
17		403	403	+03	+03	+03	+00	130	130	Total MW		250	415	470	280	(68)
3										1 0 3 2 1 1 1 1 1						
										Total MW (all regions)	-	(212)	(530)	(1511)	392	(2178)
gsolberg	2/10/2000							Со	nfi denti	al			Name:			



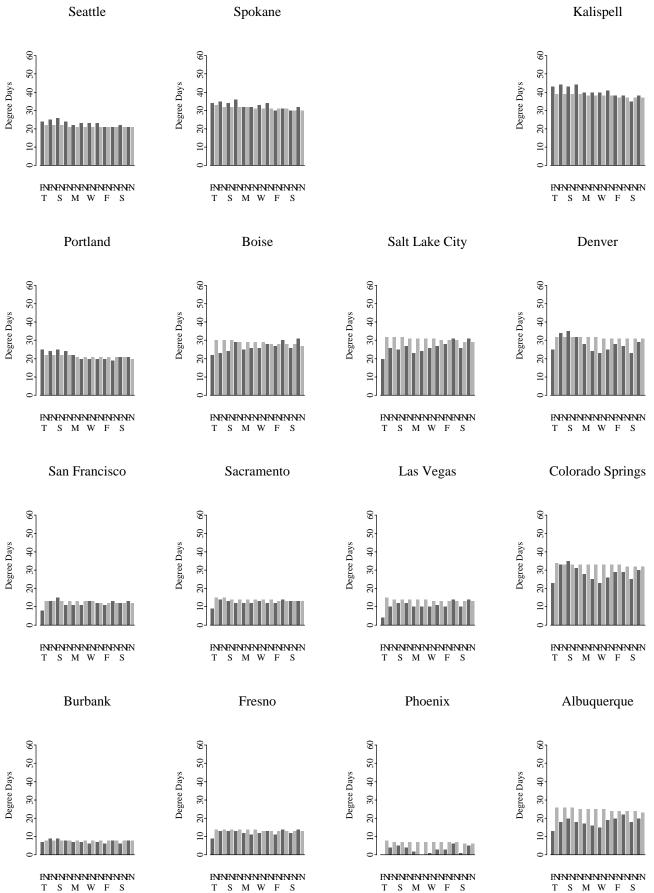




#### MRF: Forecast and Normal Degree Days for Period Following Feb 10

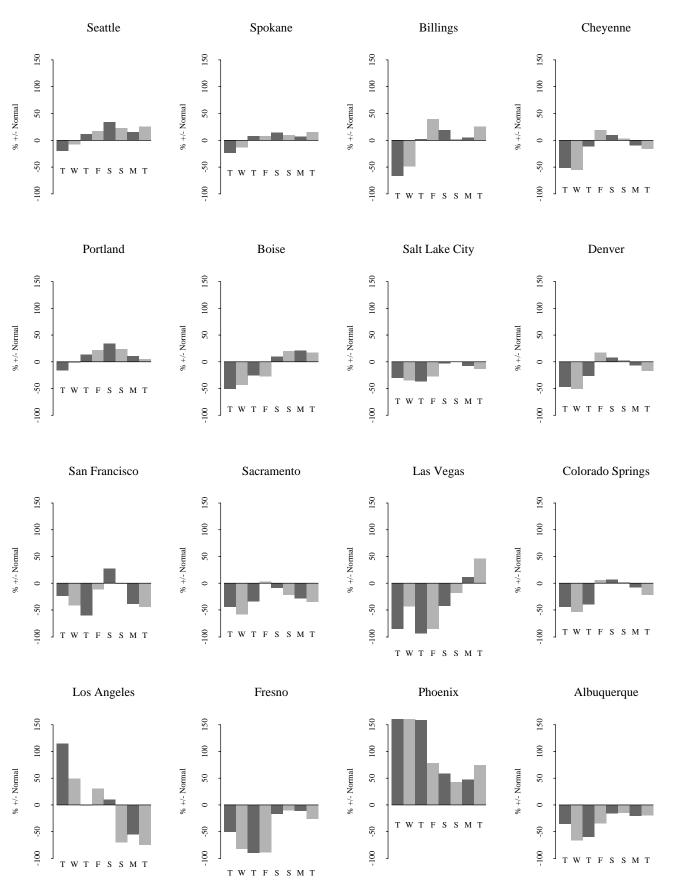


#### Earth Satellite Forecast & Normal Degree Days: Period Beginning Feb 10

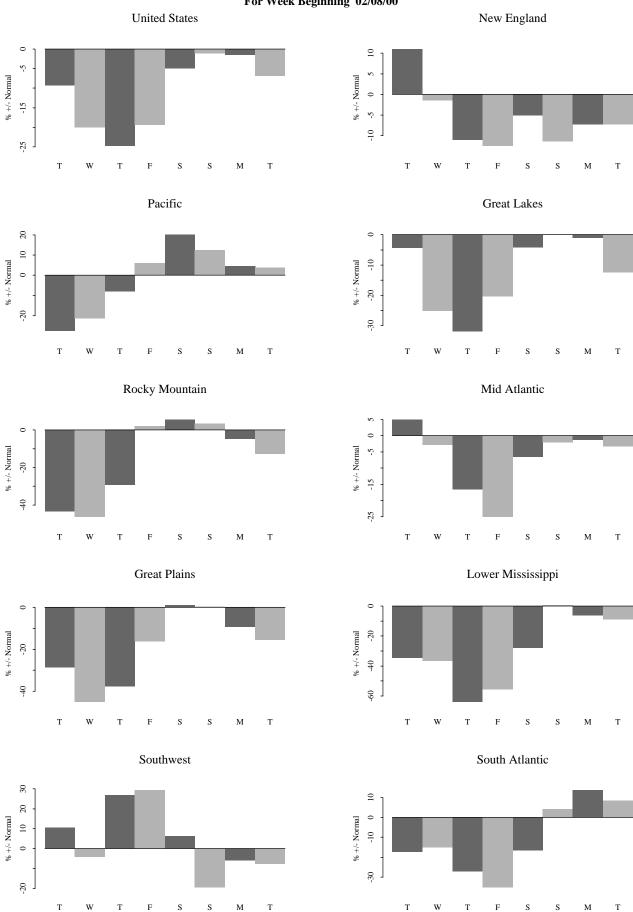


Thu Feb 10 05:28:58 2000

#### WSCC City Energy Indexes Period Beginning 02/08/00



#### CNG Regional Energy Indices For Week Beginning 02/08/00

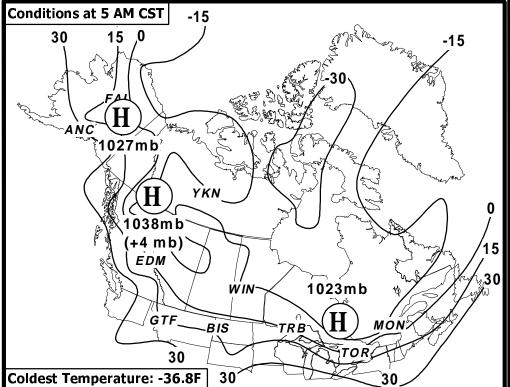




## EarthSat Energy Weather - Cold Air Watch

**Thursday** 2/10/00 8:00 A.M. DAY DATE TIME FORECASTER

CURRENT TEMPERATURES



### DISCUSSION

### Canada Cooling Down, But Cold Air Is Having Difficulty Entering US.

A sharp contrast between the warmer air to the south and the cold Canadian air to the north continues to be apparent along the US/Canadian border. A high in eastern Canada is beginning to take shape, and will help to create some interesting weather for the Northeast and Mid-Atlantic states this weekend. Another high, which has been slowly moving southward, will also try to bring some of this cold air into the US this weekend (see bottom - left). This sharp contrast in temperature is directly related to the strong polar jet (140 mph) across this region, keeping the cold air from making much southerly progress into the US.

#### LEGEND

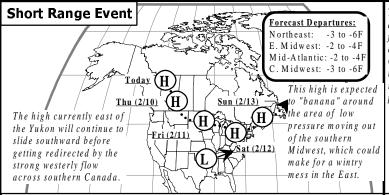
Temperature contours are in degrees Fahrenheit (F). BIS = Bismarck

WIN = Winnipeg

**ANC = Anchorage EDM = Edmonton TOR = Toronto** 

FAI = Fairbanks GTF = Great Falls TRB = Thunder Bay YKN = Yellowknife MON = Montreal

### FORECAST PATTERN OF HIGH PRESSURE



Sat (2/12) Sun (2/13)

The American model has The highs depicted show the Potential Impact: position of the center of the a much colder solution -4 to -8F Northeast: high for the Canadian (north) for Day 10 today in Tand American (south) on Day comparison to the Canadian model, which is depicted by the Solution relative positions of the polar jet stream. Canadian Solution

High To Bring Some Cold Air Southward As Models Go Colder American model Continue To Keep Cold On Day 10 for Northeast.

Sat (2/19) -Sun (2/20)

#### Cold Air And Possible Wintry Precipitation Expected For Northeast / Eastern Midwest This Weekend.

Cold air currently pulling across much of Canada will try to slide southward into the Great Lakes and Northeast / Mid-Atlantic this weekend. This high could supply enough cold air at the surface to cause some wintry precipitation across the East and eastern Midwest, which could be in the form of sleet or ice, depending on the amount of cold air supplied by the high at the surface. This event will be short-lived, as temperatures rebound in most areas by the following Tuesday.

#### The American Model Continues To Be The Colder Model, While The Canadian Keeps The Cold In Canada.

The American and Canadian models look similar to their solutions from yesterday, but are about a day slower with the next cold air event. The Canadian model keeps the bulk of the cold air in Canada, with some spilling into the Rockies, while the American brings a significant trough in the Polar Jet through the Northeast on Day 10. Our forecast is currently a compromise between models, but confidence remains low due to the large disparity in this cold air movement.

HYDROMETEOROLOGICAL DISCUSSION

NORTHWEST RIVER FORECAST CENTER PORTLAND OR 11:25 AM PST WED FEB 09 2000

HYDROMETEOROLOGICAL CONDITIONS...PAST 24 HOURS...4AM - 4AM

A PACIFIC FRONTAL DISTURBANCE PUSHED IN .5 PLUS INCH WIDESPREAD ACCUMULATIONS OF VALLEY RAIN AND MOUNTAIN SNOWS FROM THE TIP OF SOUTHWESTERN OREGON UP THE COAST TO CAPE FLATTERY AND INTO THE WASHINGTON NORTH CASCADES. HIGHEST LOCALIZED 1 PLUS INCH ACCUMULATIONS WERE OBSERVED IN HEADWATERS OF THE LEWIS...COWLITZ...STILLAGUAMISH...AND NOOKSACK RIVER DRAINAGES IN WESTERN WASHINGTON...AND ALSO AROUND MT HOOD IN THE NORTH OREGON CASCADES. THIS MORNING'S FREEZING LEVELS DEFINITELY VERIFYING A COOLING TREND FROM FLOW SHIFTING GRADUALLY TO MORE WESTERLY AND ONSHORE INTO THE REGION...WITH QUILLAYUTE DROPPING TO 3300 FEET...AND 6500 FEET AT MEDFORD. THIS COOLING TREND ALSO REACHED ACROSS MUCH OF THE INTERIOR WITH THIS MORNING'S 7300 FOOT FREEZING LEVEL AT GREAT FALLS COMING IN 1000 FEET LOWER THAN IT WAS YESTERDAY MORNING.

HYDROLOGIC CONDITIONS...

MINOR MIXED PRECIPITATION AND LOWER ELEVATION SNOW MELT RISES WERE OBSERVED AGAIN IN SOME WESTERN WASHINGTON AND NORTHWESTERN OREGON FLOWS... WHILE CONTINUING SNOW MELT CYCLING WAS LARGELY RESPONSIBLE FOR SELECTIVE MINOR LOWER ELEVATION RISES EAST OF THE CASCADES. THE UPPER COLUMBIA ITSELF REMAINED FLAT.

HYDROMETEOROLOGICAL FORECAST...09 FEB - 13 FEB

EXPECT TEMPERATURES TO GRADUALLY FALL BELOW NORMAL WITH DIMINISHING MIXED LIGHT SCATTERED SHOWERS TRAILING OFF ACROSS THE REGION INTO SATURDAY. IF TODAY'S WEATHER FORECASTS VERIFY LATE INTO THE WEEKEND...THE SOUTHERN BRANCH STORM TRACK PLAGUING CALIFORNIA EARLY TO MID PERIOD IS FORECAST TO SHIFT BACK UP INTO US BY SUNDAY...RESULTING IN OCCASIONAL RAIN AND MOUNTAIN SNOWS STARTING INTO SOUTHWESTERN OREGON...THEN GRADUALLY SPREADING UP INTO SOUTHWESTERN WASHINGTON AND POSSIBLY INTO SOUTHWESTERN IDAHO BY THE END OF THE PERIOD.

HYDROLOGIC FORECAST...

WEST OF THE CASCADES...

FLAT TO RECEDING FLOWS THROUGH MOST OF THE PERIOD MAY BE FOLLOWED BY RISES STARING FROM THE SOUTHWEST LATE SUNDAY IF TODAY'S WEATHER FORECAST VERIFIES.

EAST OF THE CASCADES...

EXPECT STEADY OR SLOWLY RECEDING FLOWS WITH SELECTIVE DIURNAL SNOWMELT CYCLING DIMINISHING AS TEMPERATURES FALL BELOW NORMAL.

6-10 DAY OUTLOOK...14 FEB - 18 FEB

A SOUTHERN BRANCH STORM TRACK INITIALLY AIMING ACTIVE VALLEY RAIN AND MOUNTAIN SNOW IN ACROSS MUCH OF THE REGION EARLY IN THE PERIOD IS LIKELY TO SAG DOWN INTO CALIFORNIA AGAIN AS THE PERIOD PROGRESSES. AFTER THIS EARLY PERIOD BURST OF WIDESPREAD PRECIPITATION ACROSS OUR FORECAST AREA...LOOK FOR OCCASIONAL VALLEY RAIN AND MOUNTAIN SNOW INTO CALIFORNIA MID-LATE PERIOD OCCASIONALLY CLIPPING OUR SOUTHERN TIER BASINS WITH GENERAL LIGHT SCATTERED MIXED SHOWERS ELSEWHERE THROUGH THE REMAINDER OF THE PERIOD.

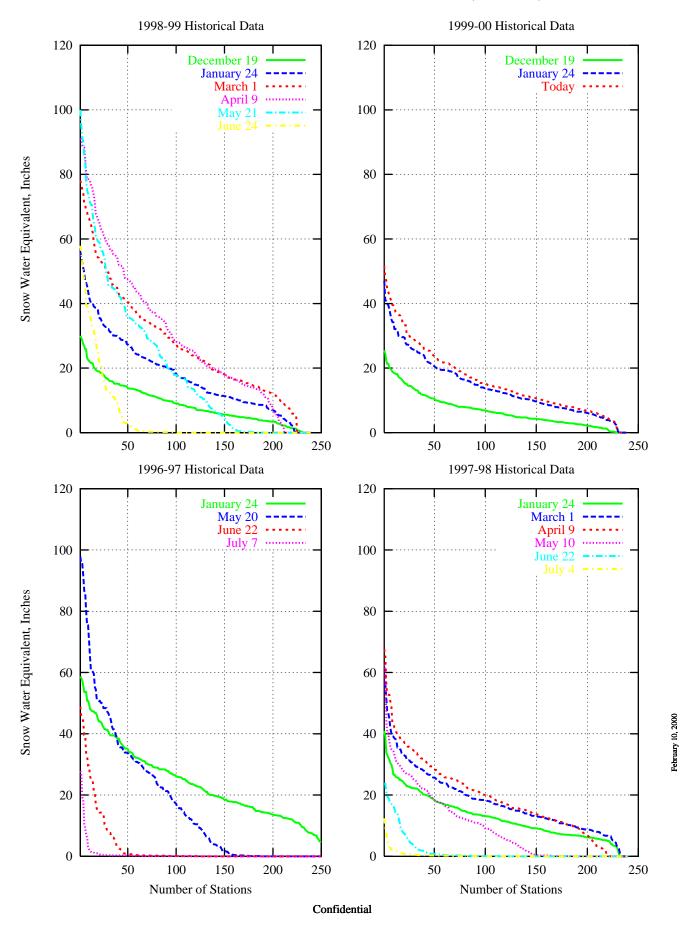
#### SEASONAL

### WATER SUPPLY FORECASTS ISSUED BY

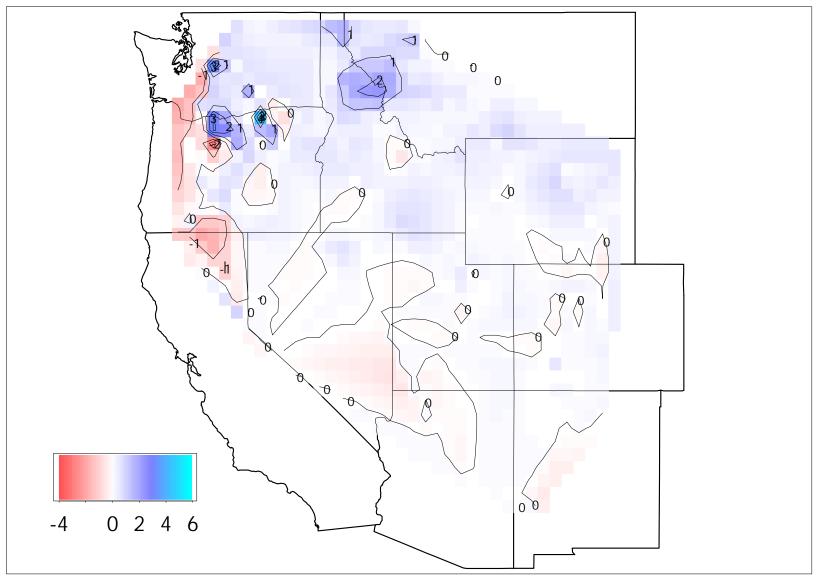
### NATIONAL WEATHER SERVICE NORTHWEST RIVER FORECAST CENTER PORTLAND OREGON

PORTLAND				
FEB-00FINAL 1 WATERSUP				
STREAM AND STATION	PERIOD	FORECAST	Γ %	AVERAGE
COLUMBIA RIVER				
MICA RESERVOIR INFLOW, BC				
	APR-SEP	13500.0	106	12730.
ARROW LAKES INFLOW	FEB-SEP	28600.0	107	26800.
	APR-SEP	27200.0	106	25540.
BIRCHBANK, BC (1) GRAND COULEE, WA (1)		46500.0		
GRAND COULEE, WA (1)		66100.0		
, ,		67800.0		
ROCK ISLAND DAM BLO, WA (1)	APR-SEP	74200.0	105	70480
THE DALLES NR, OR (1)		99400.0		
THE DIEDER WILL, OR (1)		106000.0		
		93600.0		
KOOTENAI RIVER	AFR AUG	23000.0	100	75250.
LIBBY RES INFLOW, MT (1)	מבט ממג	7250 0	107	6772
	APK-SEP	7250.0	107	0//2.
KOOTENAY RIVER	ADD GED	17000 0	100	16650
KOOTENAY LAKE INFLOW, BC	APR-SEP	17000.0	102	16650.
DUNCAN RIVER				
DUNCAN RESERVOIR INFLOW, BC		2380.0		
	APR-SEP	2290.0	102	2238.
CLARK FORK				
ST. REGIS, MT (1)	APR-SEP	3730.0	91	4095.
PEND OREILLE RIVER				
PEND OREILLE LAKE IN, ID (1)	APR-SEP	13500.0	94	14370.
S.F. FLATHEAD RIVER				
HUNGRY HORSE RES IN, MT (1)	APR-SEP	2040.0	93	2184.
FLATHEAD RIVER				
FLATHEAD LAKE INFLOW, MT (1)	APR-SEP	6510.0	94	6926.
COEUR D'ALENE RIVER				
COEUR D'ALENE LAKE IN, ID	APR-SEP	2930.0	108	2720.
SIMILKAMEEN RIVER				
	APR-JUL	1190.0	91	1304.
OKANAGAN RIVER	THE COL	1130.0	7 -	1301.
	ADR-SED	1540.0	95	1623.
CHELAN RIVER	AIR BHI	1310.0	75	1025.
	APR-SEP	1180.0	102	1160.
	AFK-SEF	1100.0	102	1100.
WENATCHEE RIVER	ADD GED	1640 0	100	1626
PESHASTIN, WA	APR-SEP	1640.0	100	1636.
YAKIMA RIVER	ADD CED	2000	100	1004
PARKER NR, WA	APR-SEP	2000.0	100	1994.
SKAGIT RIVER				
CONCRETE NR, WA	APR-SEP	6720.0	103	6525.
COWLITZ RIVER				
MAYFIELD RES INFLOW, WA	APR-SEP	2160.0 1900.0	110	1971.
	APR-JUL	1900.0	110	1731.
CASTLE ROCK, WA	APR-SEP	2910.0	109	2668.
SNAKE RIVER				
JACKSON LAKE INFLOW, WY (1)	APR-JUL	640.0	82	781.
PALISADES RES INFLOW, ID (1)	APR-JUL	2530.0	78	3226.
HEISE NR, ID	APR-JUL	2700.0	78	3451.
WEISER, ID (1)	APR-JUL	3400.0	62	5465.
BROWNLEE RES INFLOW	APR-JUL	3670.0	63	5794.
LOWER GRANITE RES IN, WA (1)	JAN-JUL	26900.0	90	29740.
	APR-JUL	19700.0	91	21650.
	ALK UUL	17,00.0	ノエ	21000.

Confidential

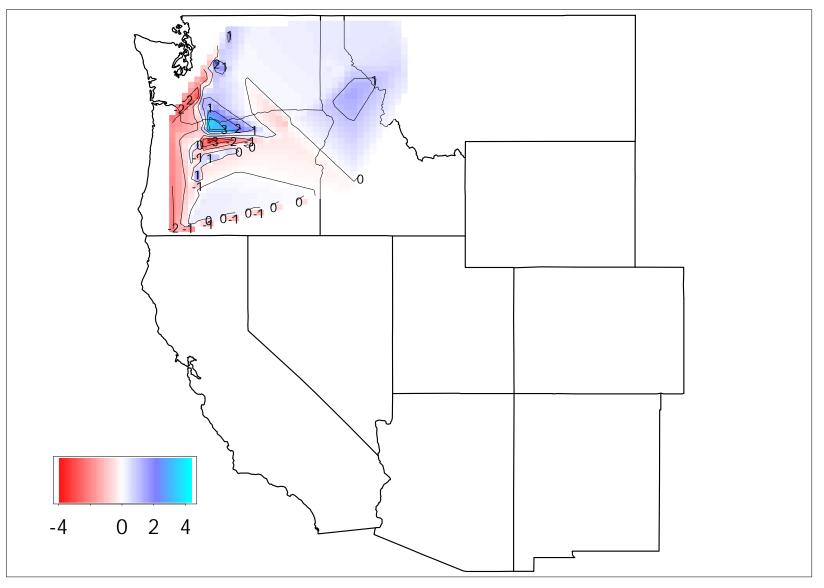


## SNOTEL Snow Water Equivalent Change All Stations

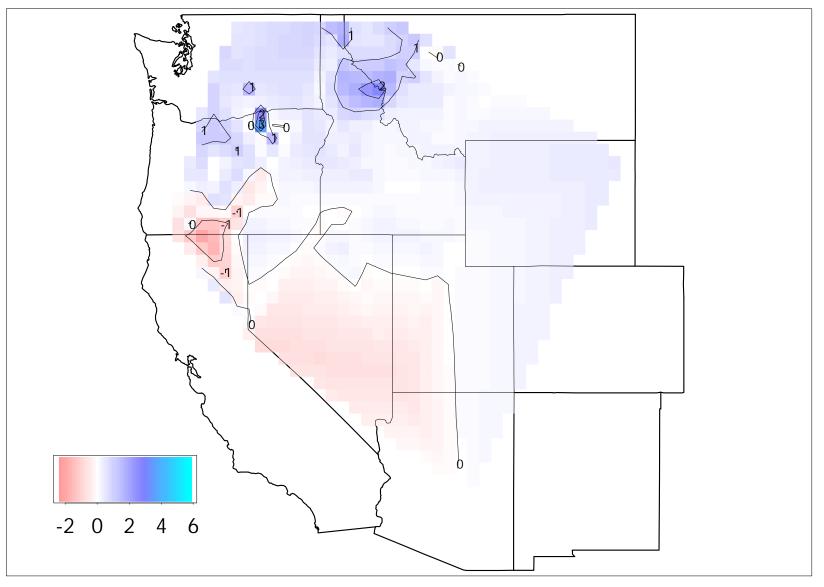


Tim Heizenrader: Thu Feb 10 10:02:37 2000

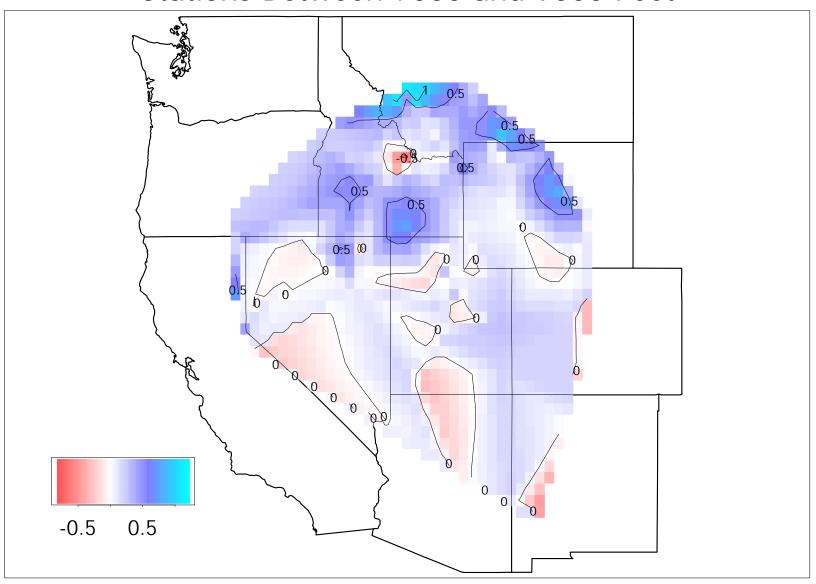
### SNOTEL Snow Water Equivalent Change Stations Below 5000 Feet



## SNOTEL Snow Water Equivalent Change Stations Between 5000 and 7000 Feet

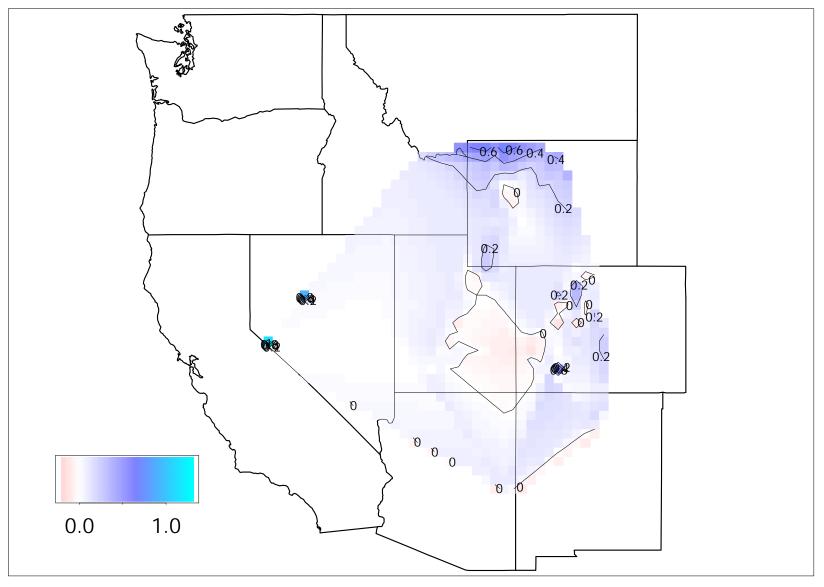


## SNOTEL Snow Water Equivalent Change Stations Between 7000 and 9000 Feet



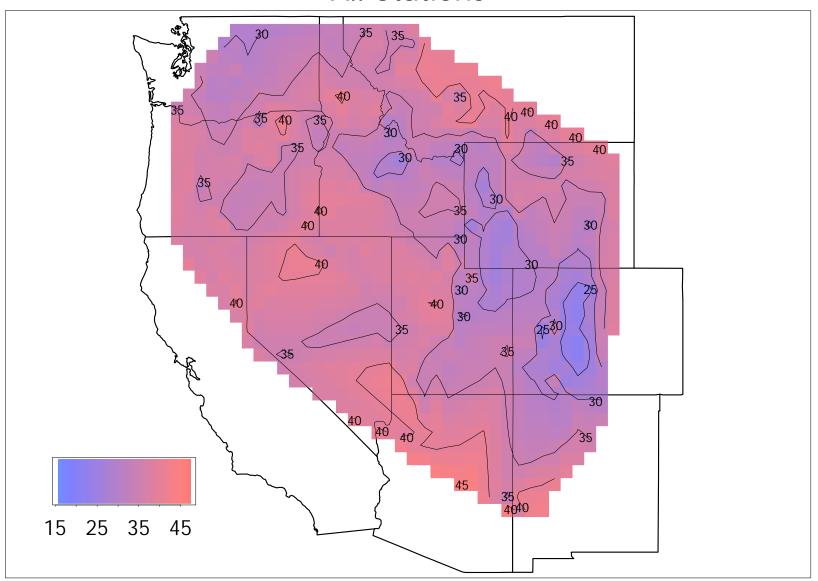
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## SNOTEL Snow Water Equivalent Change Stations Above 9000 Feet



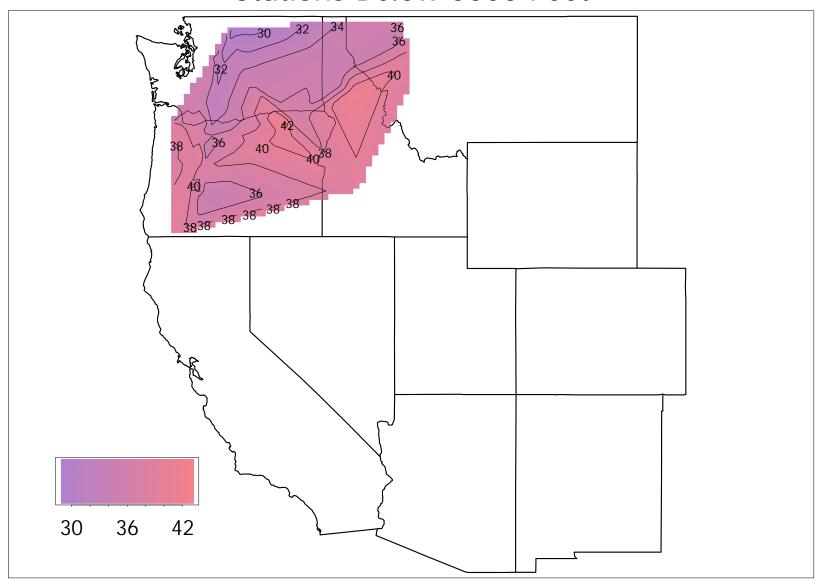
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## SNOTEL Daily Average Temperatures All Stations



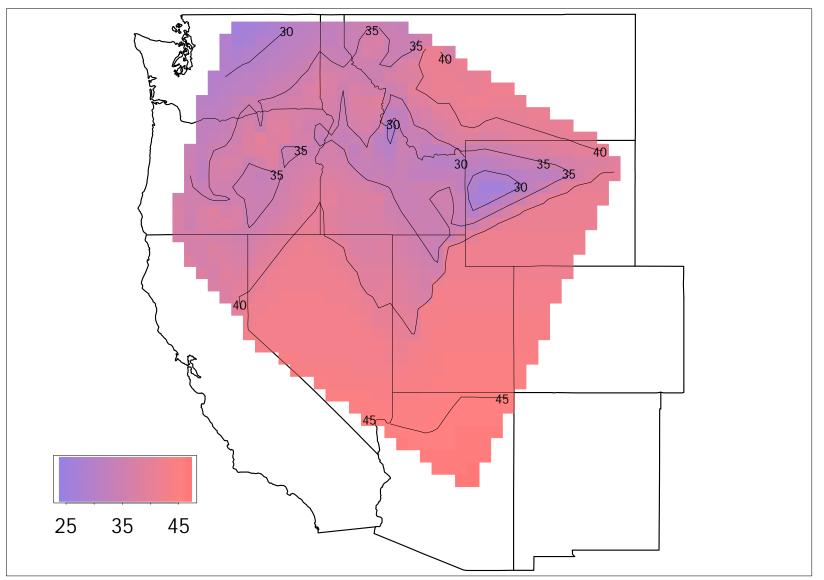
Tim Heizenrader: Thu Feb 10 09:34:14 2000

### SNOTEL Daily Average Temperatures Stations Below 5000 Feet

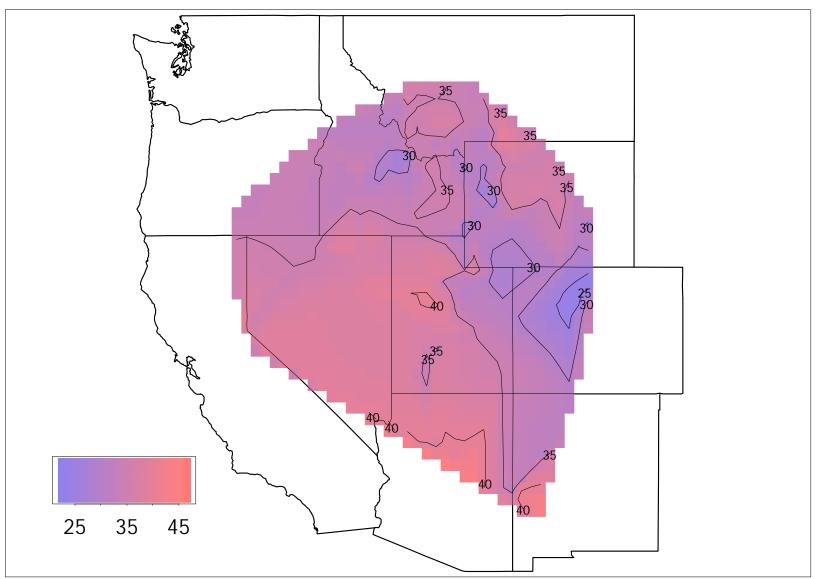


Tim Heizenrader: Thu Feb 10 09:34:15 2000

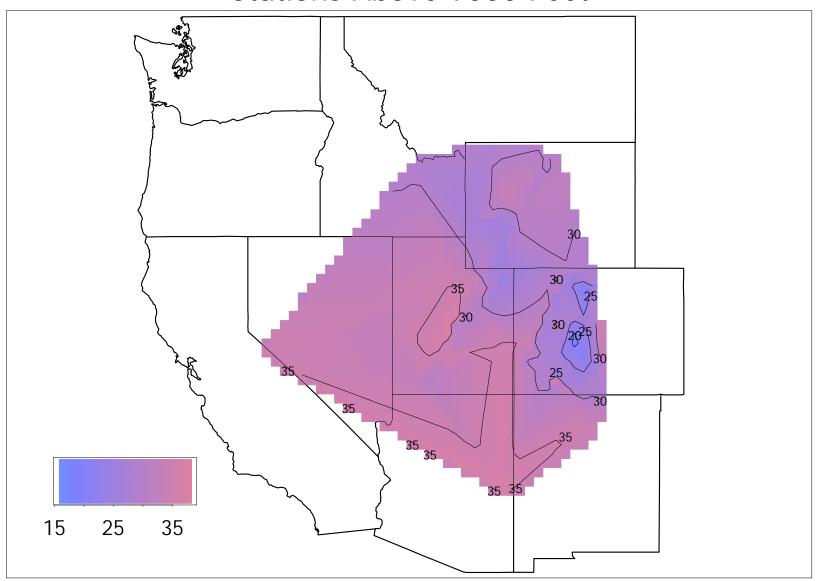
## SNOTEL Daily Average Temperatures Stations Between 5000 and 7000 Feet



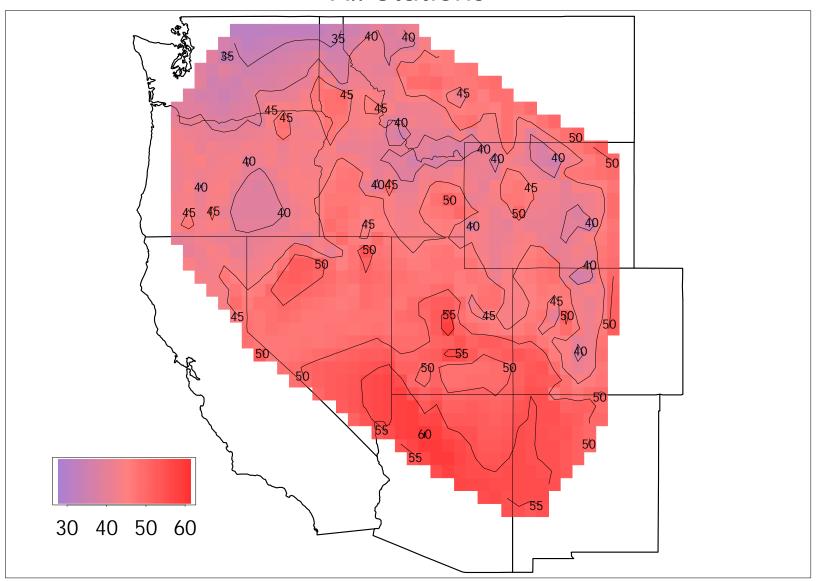
## SNOTEL Daily Average Temperatures Stations Between 7000 and 9000 Feet



## SNOTEL Daily Average Temperatures Stations Above 9000 Feet

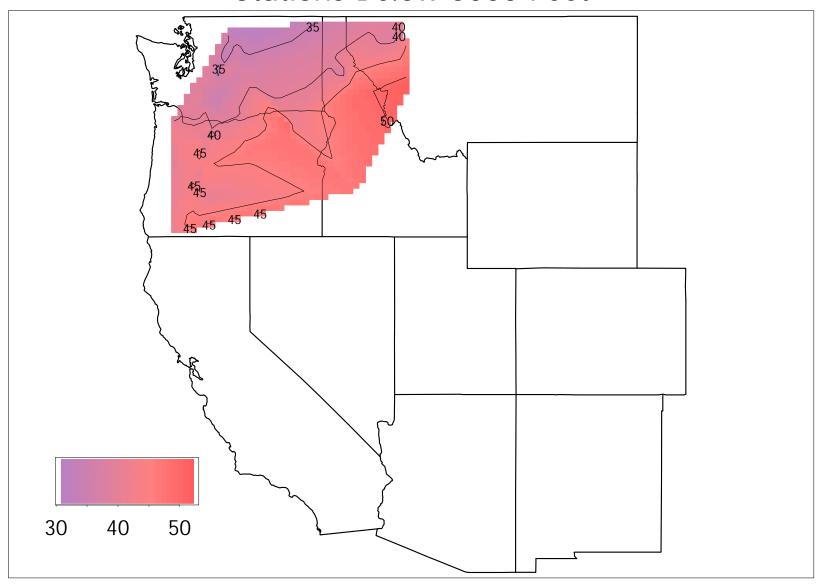


# SNOTEL Daily Maximum Temperatures All Stations

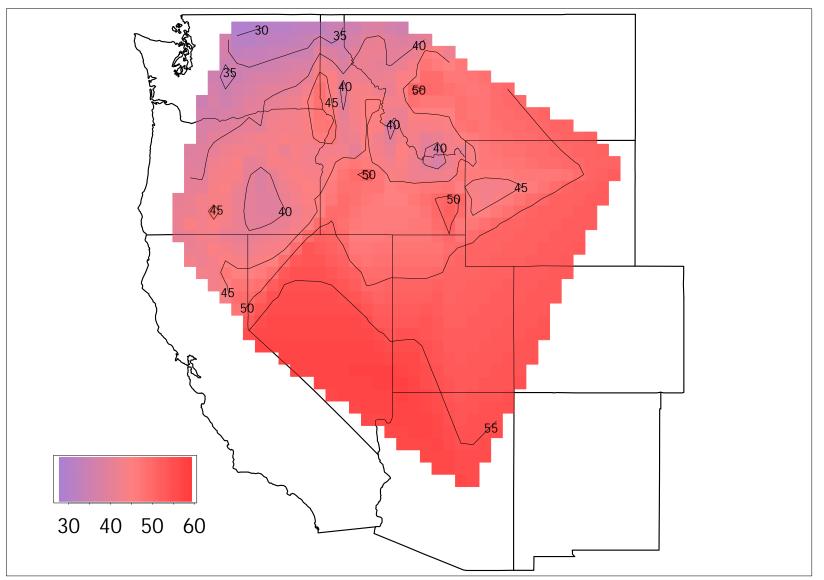


Tim Heizenrader: Thu Feb 10 09:34:17 2000

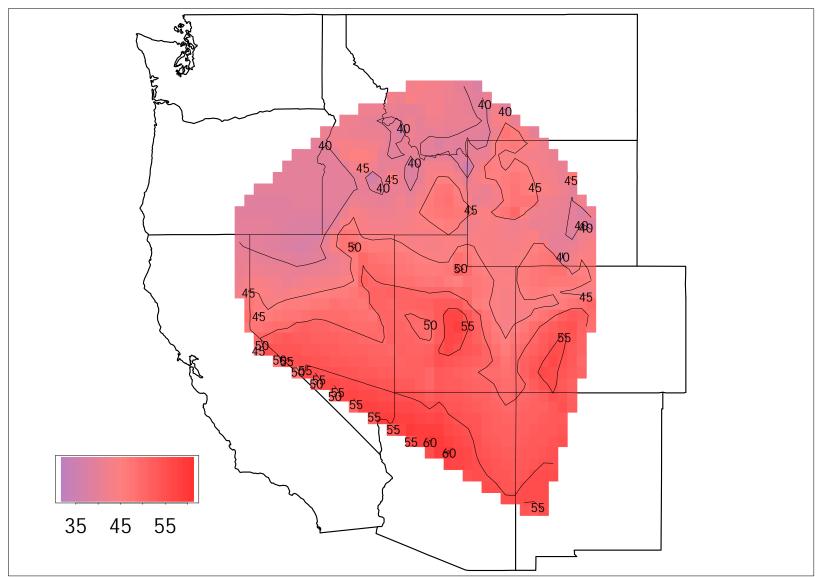
## SNOTEL Daily Maximum Temperatures Stations Below 5000 Feet



## SNOTEL Daily Maximum Temperatures Stations Between 5000 and 7000 Feet

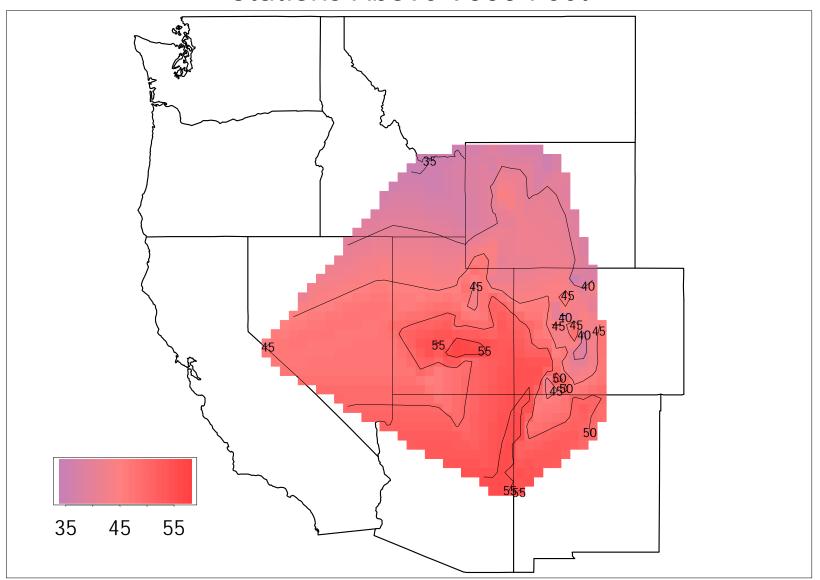


### SNOTEL Daily Maximum Temperatures Stations Between 7000 and 9000 Feet



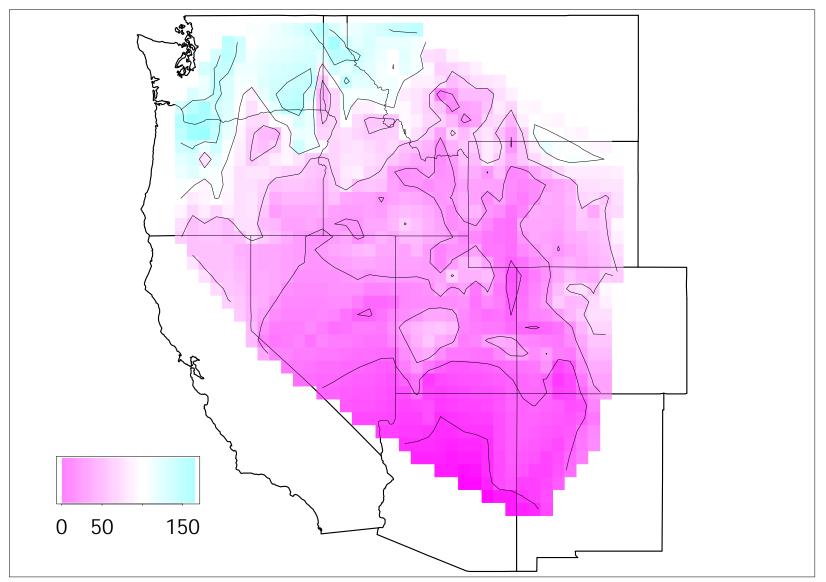
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## SNOTEL Daily Maximum Temperatures Stations Above 9000 Feet

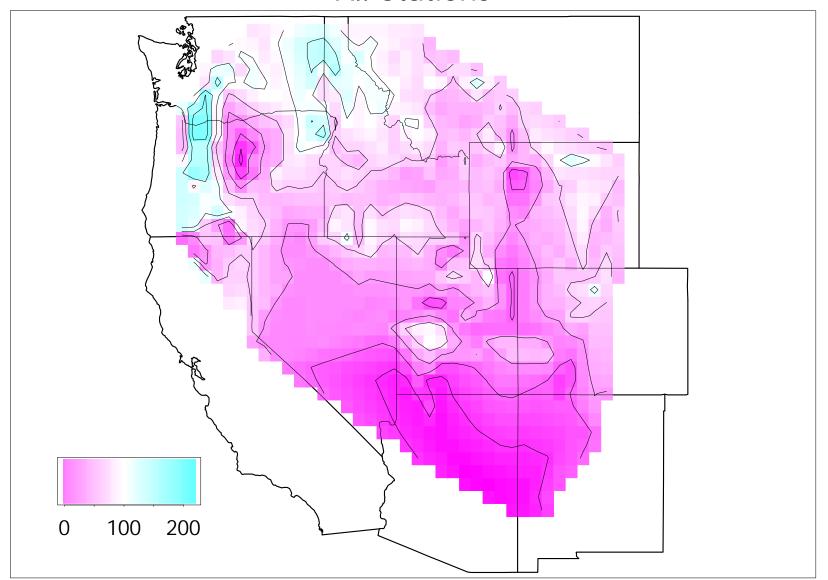


Tim Heizenrader: Thu Feb 10 09:34:19 2000

## SNOTEL Cumulative Precipitation as Percent of Normal All Stations

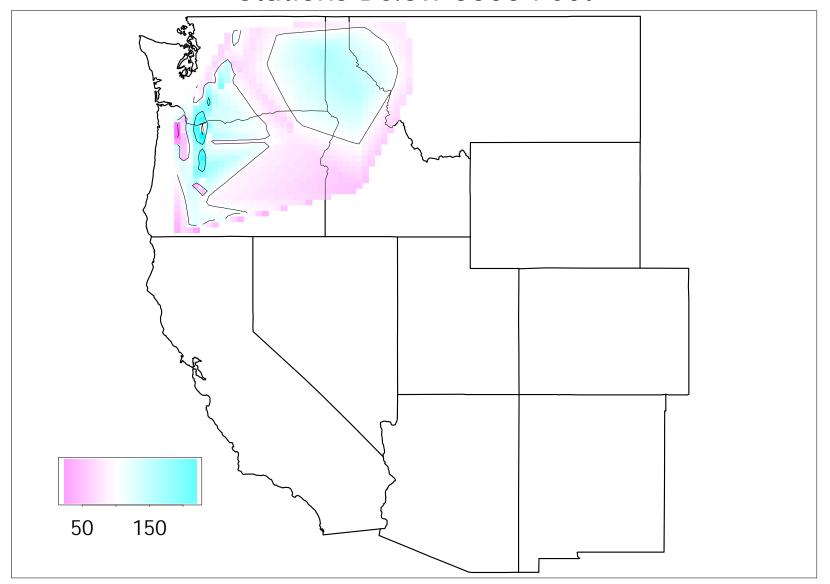


## SNOTEL Snow Water Equivalent as Percent of Normal All Stations



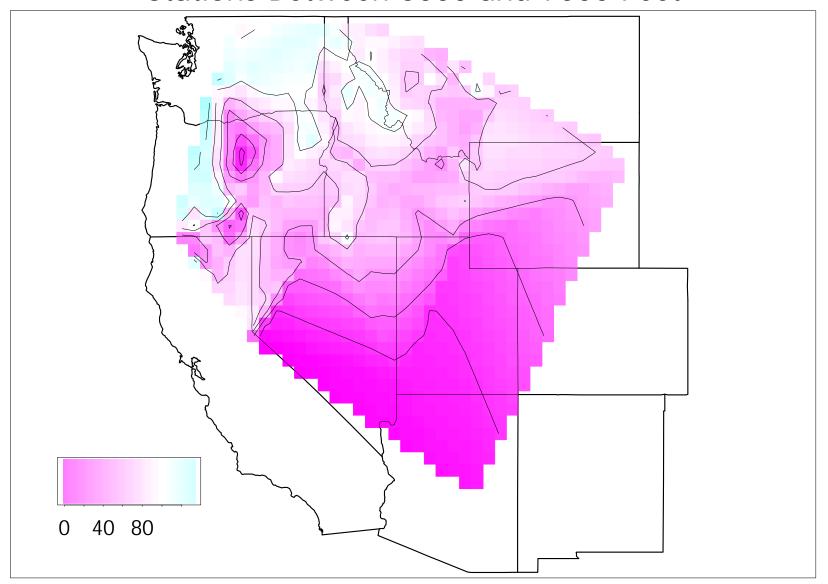
Tim Heizenrader: Thu Feb 10 09:37:14 2000

## SNOTEL Snow Water Equivalent as Percent of Normal Stations Below 5000 Feet

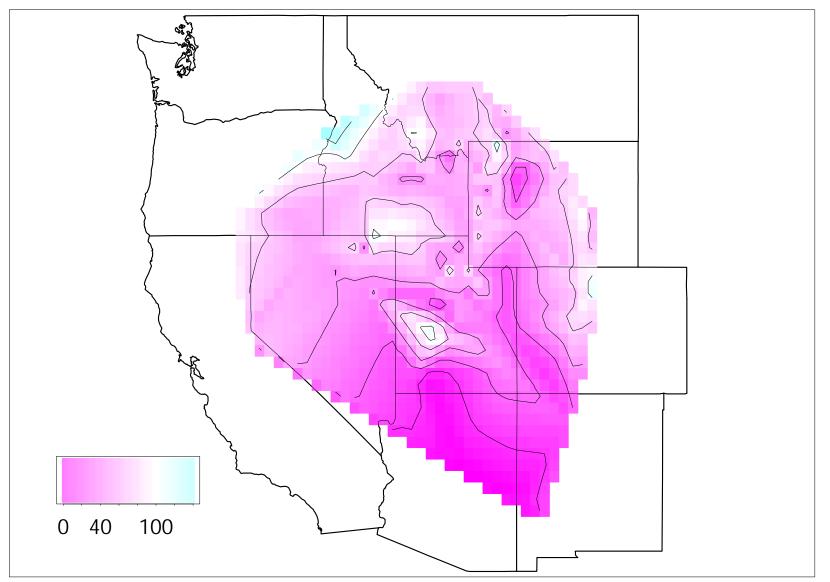


Tim Heizenrader: Thu Feb 10 09:37:15 20

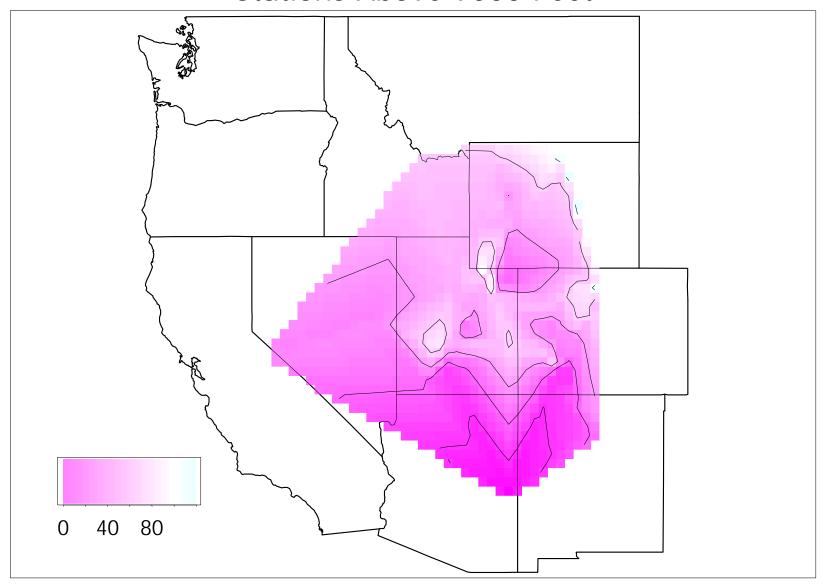
## SNOTEL Snow Water Equivalent as Percent of Normal Stations Between 5000 and 7000 Feet



## SNOTEL Snow Water Equivalent as Percent of Normal Stations Between 7000 and 9000 Feet

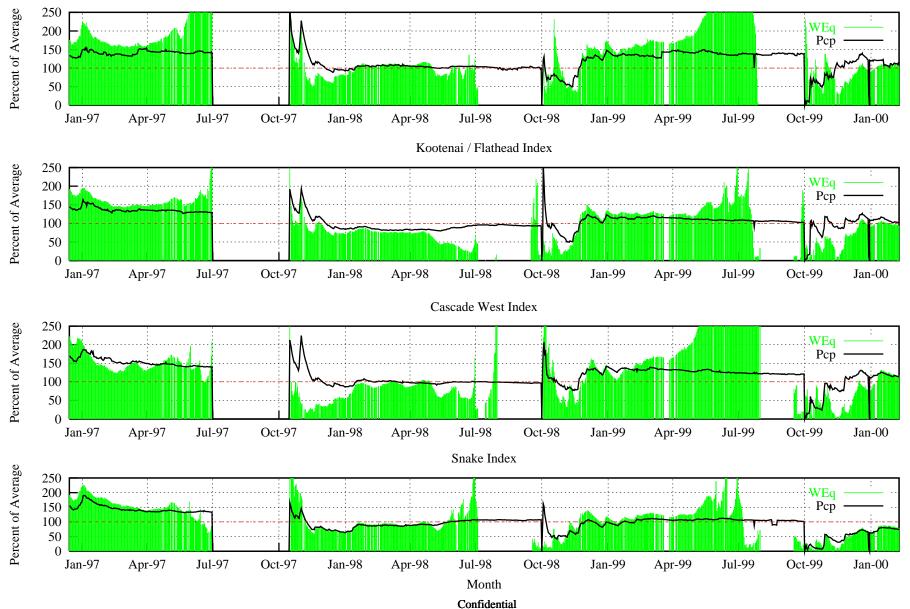


## SNOTEL Snow Water Equivalent as Percent of Normal Stations Above 9000 Feet



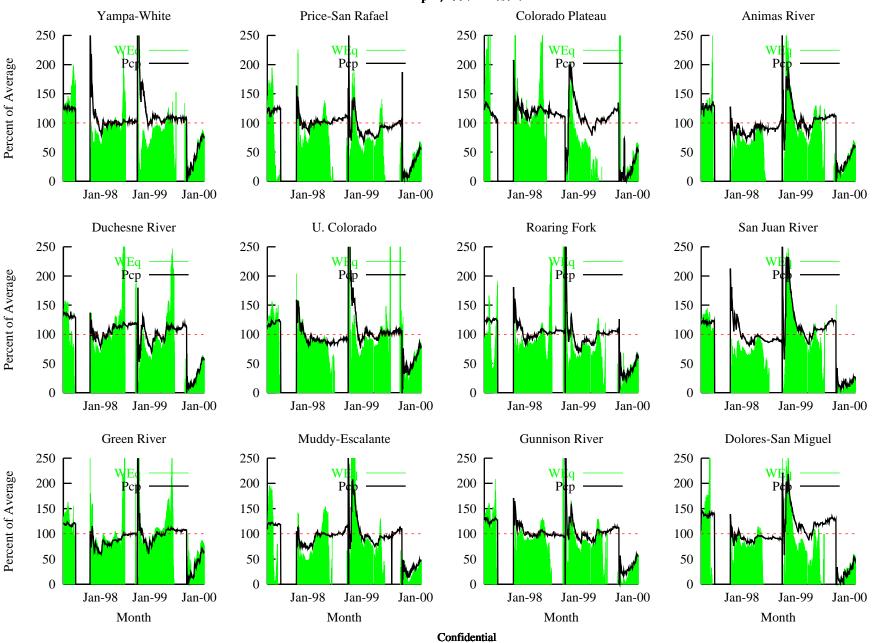
#### Pacific Northwest Snow Summary January, 1997 - Present

#### Upper Columbia Index

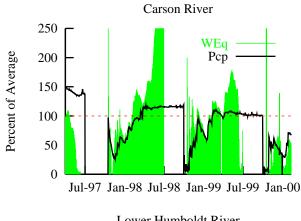


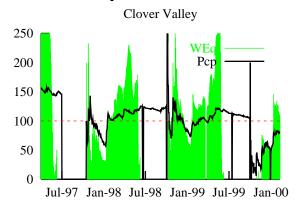
## 10, 2000

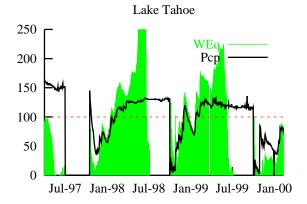
#### Colorado River Basin Snow Summary April, 1997 - Present

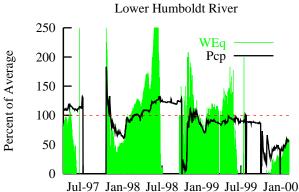


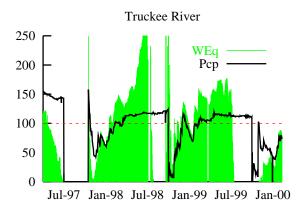
#### California / Nevada Snow Summary April, 1997 - Present

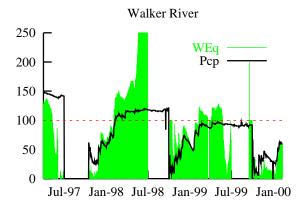


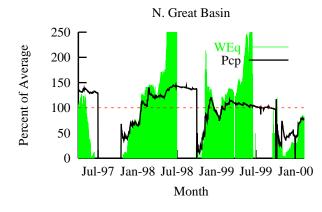


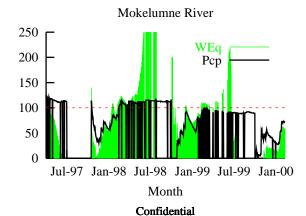


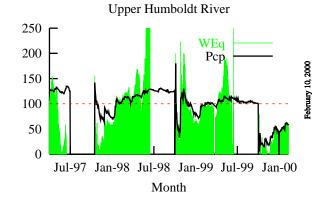




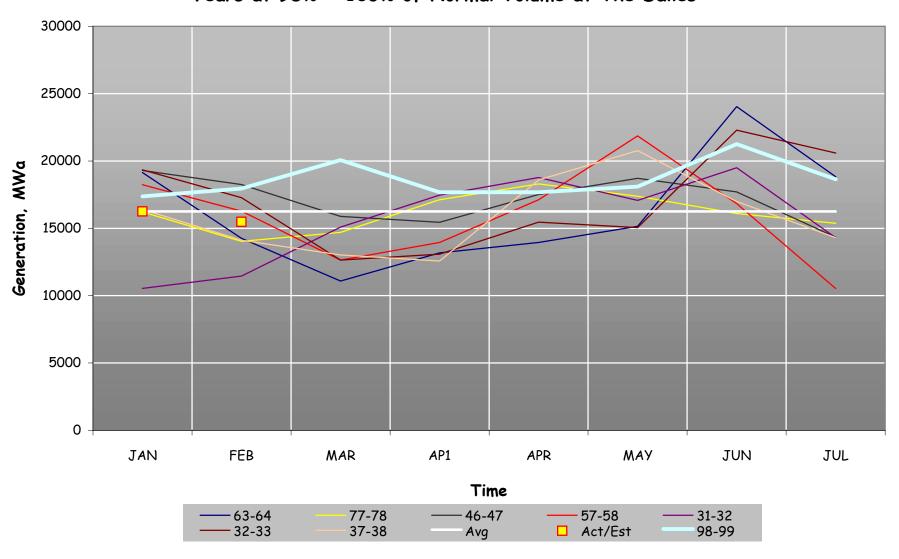


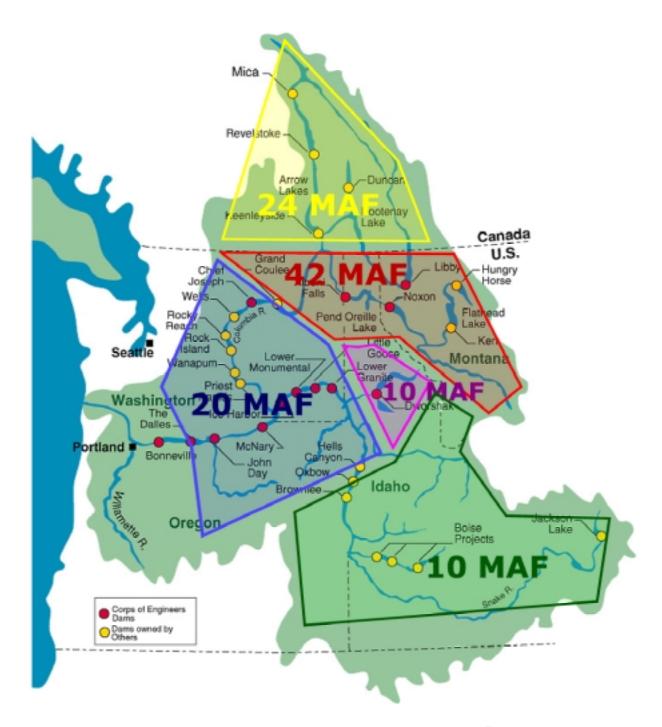






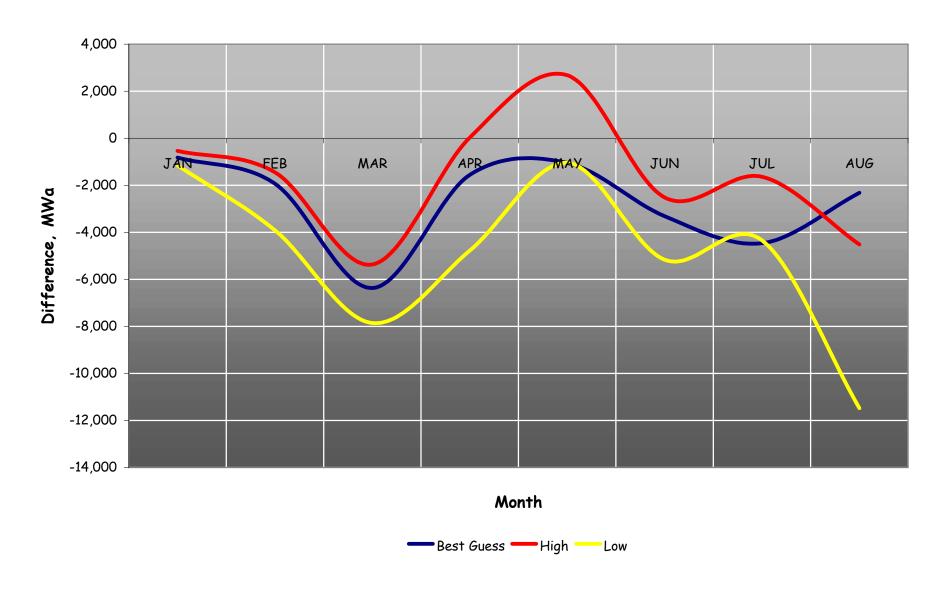
# Pacific Northwest Hydro Production Years at 98% - 103% of Normal Volume at The Dalles





### Year 2000 Water Supply: Regional Contributions to The Dalles 106 MAF Volume Forecast

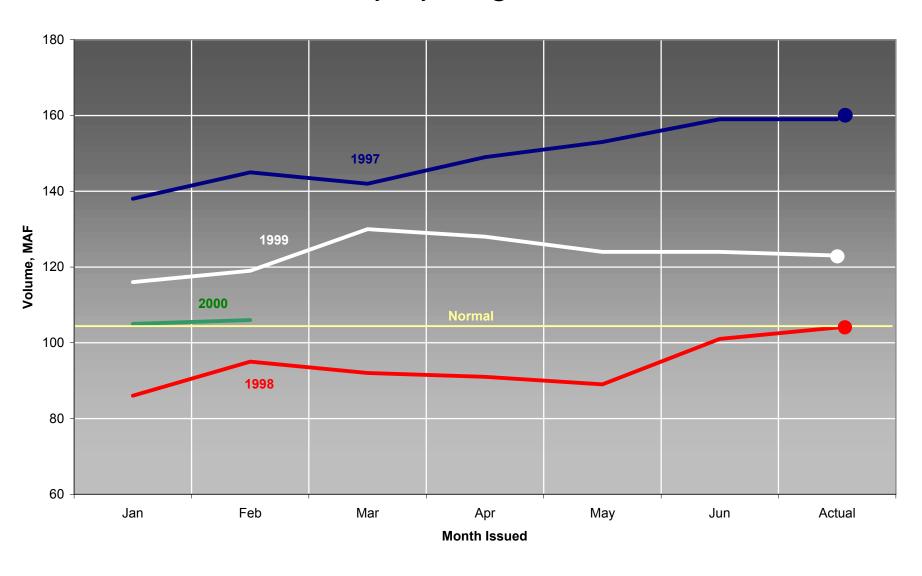
### PNW Hydro Production Relative to 1999



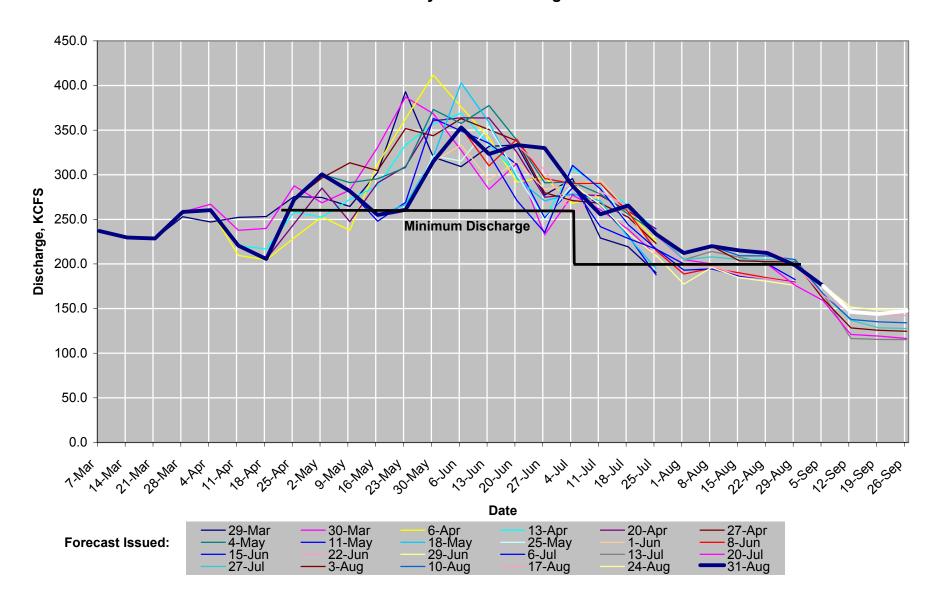
# Estimated PNW Hydro Production 2000 Vs 1999

	<u>Best Guess</u>	<u>High</u>	Low
JAN	-825	-541	-1,149
FEB	-1,932	-1,451	-3,914
MAR	-6,368	-5,365	-7,859
APR	-1,559	28	-4,773
MAY	-1,051	2,677	-1,051
JUN	-3,313	-2,516	-5,164
JUL	-4,460	-1,637	-4,338
AUG	-2,322	-4,514	-11,475

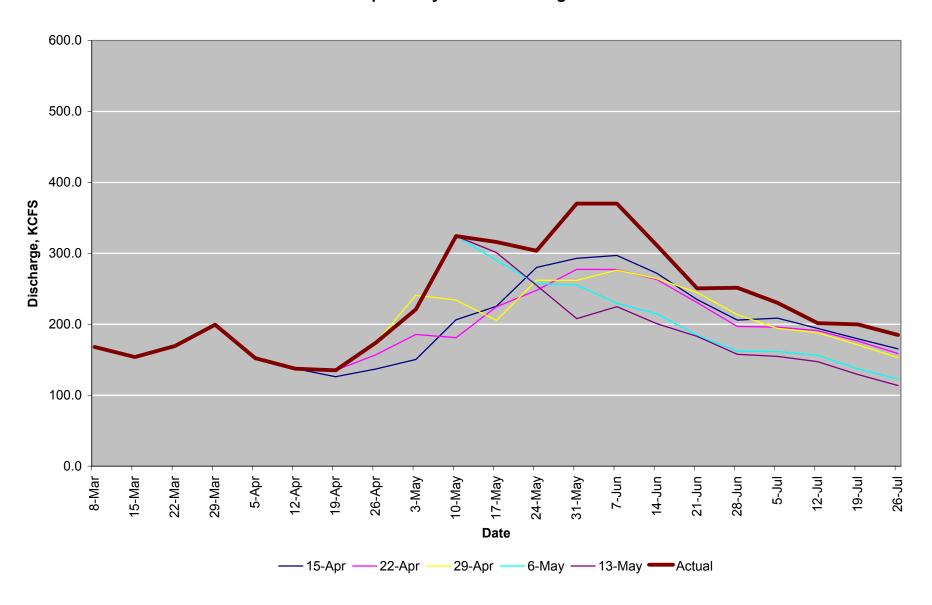
# Recent Volume Forecasts January - July Runoff @ The Dalles



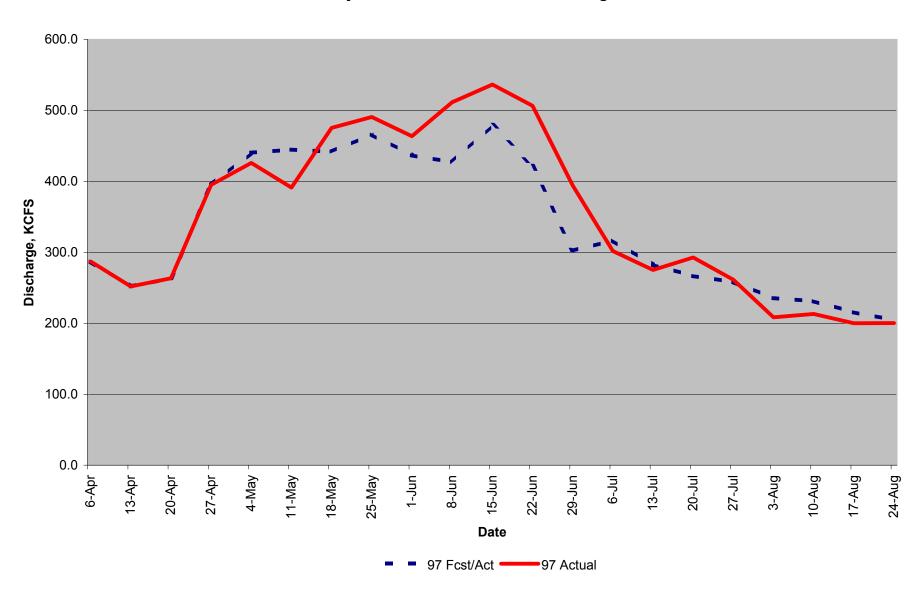
#### 1999 McNary Forecast Divergence



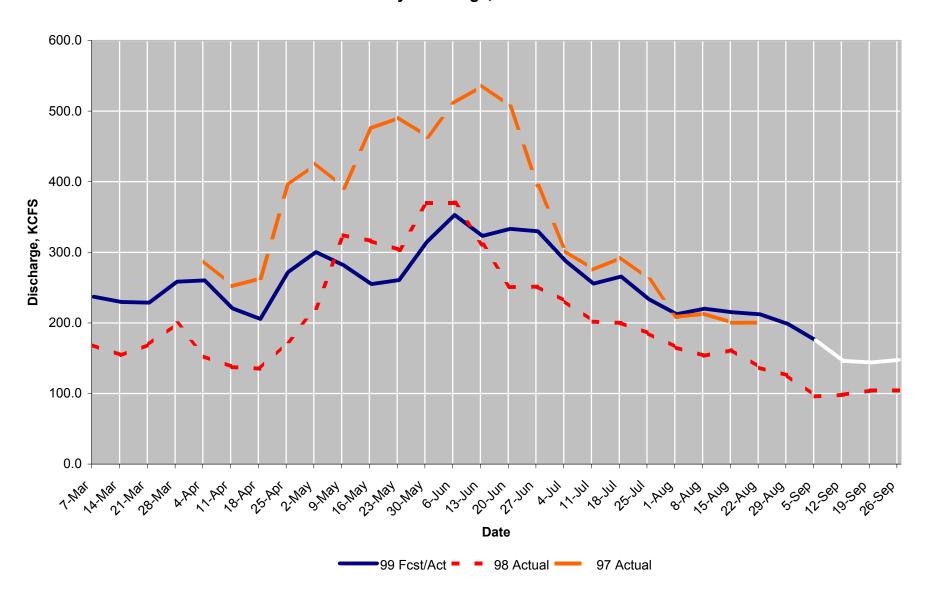
#### 1998 April / May Forecast Divergence



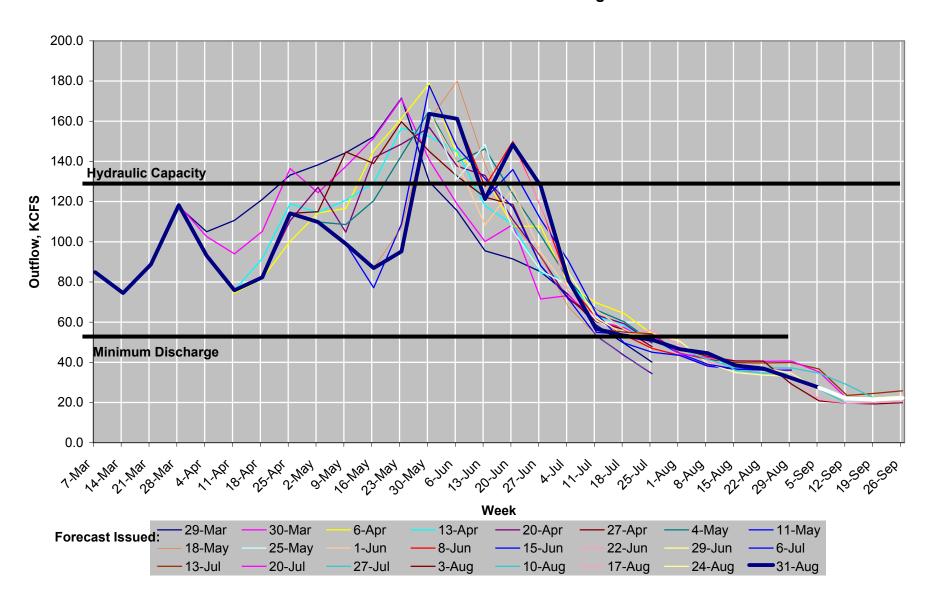
#### McNary 1997 Forecast & Actual Discharge



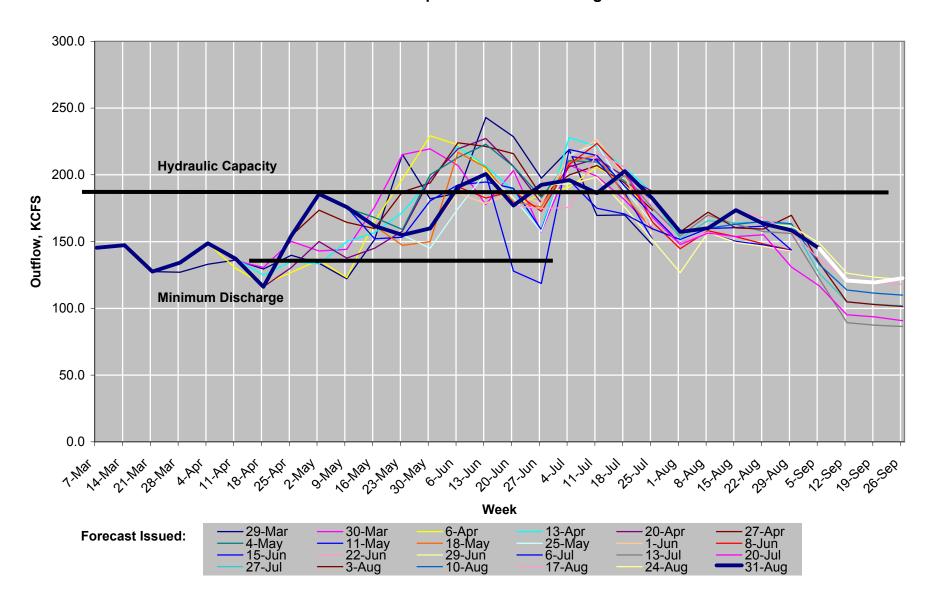
#### McNary Discharge, 1997-1999



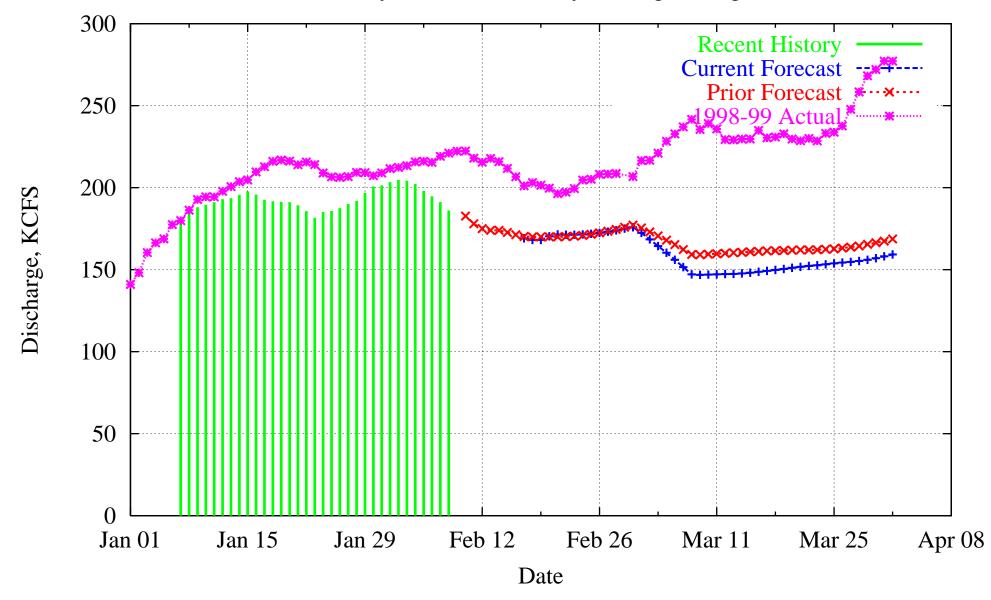
#### 1999 Lower Granite Forecast Discharge



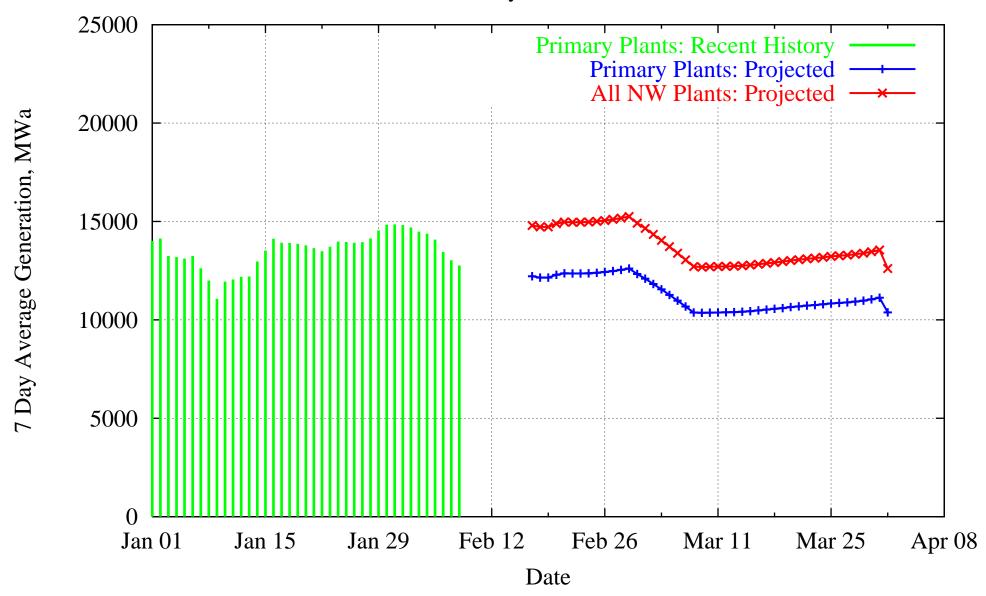
#### 1999 Priest Rapids Forecast Discharge

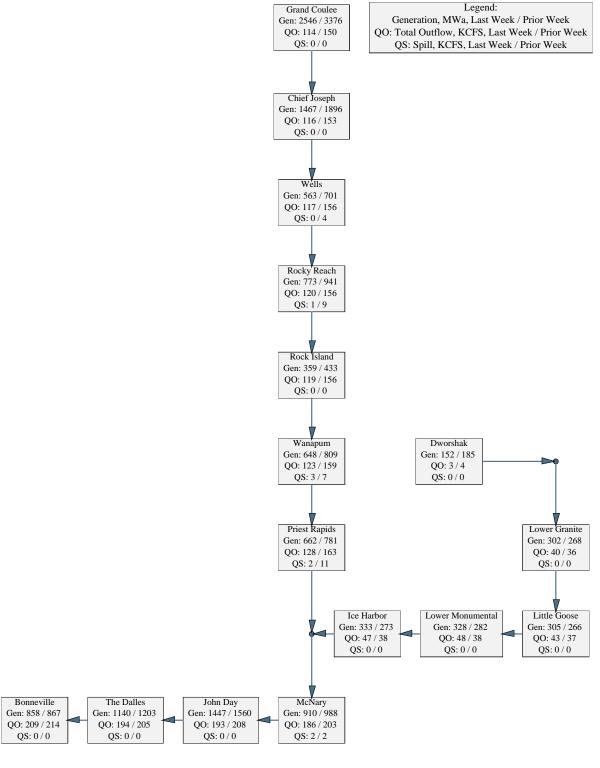


McNary Discharge History & Forecasts: 7 Day Moving Averages



### Northwest Hydro Production Recent History & Current Forecasts

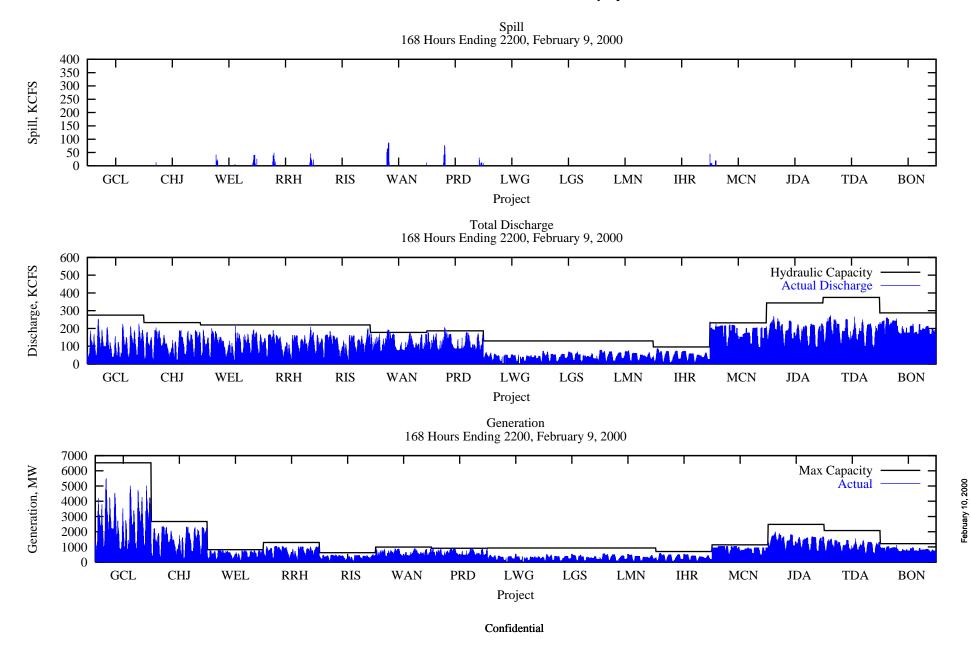




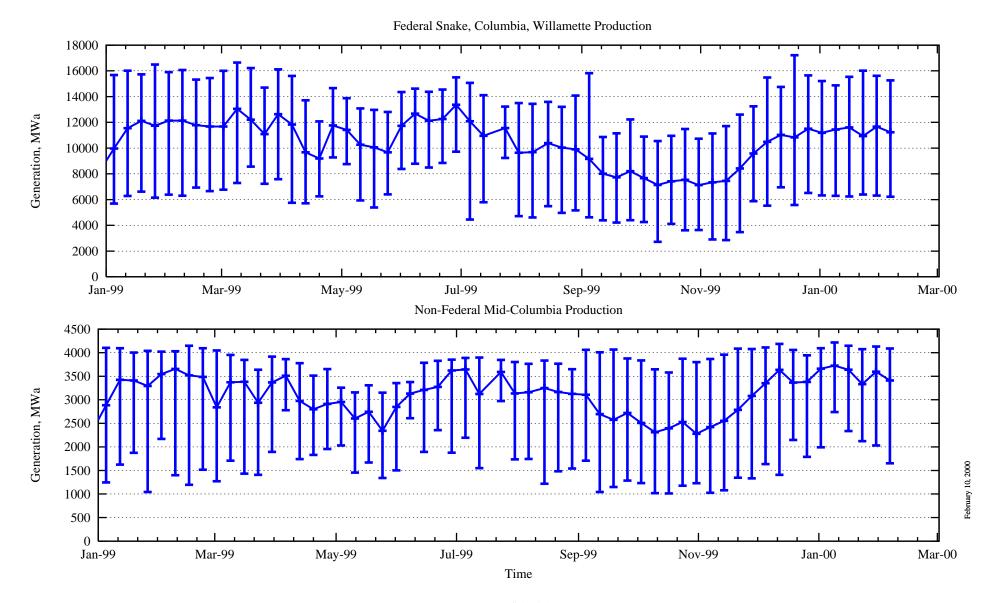
Columbia River and Snake River Hydroelectric Plant Operations 7 Day Averages February 10, 2000

Confidential

#### Columbia & Lower Snake River Hourly Operations

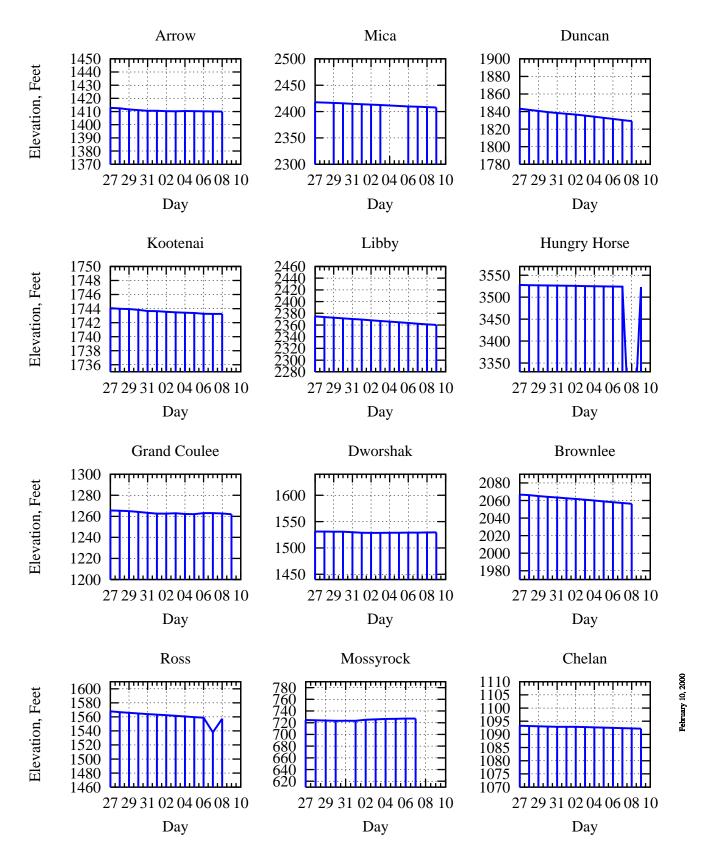


#### Weekly High / Low / Average Hydro Generation Last 13 Months

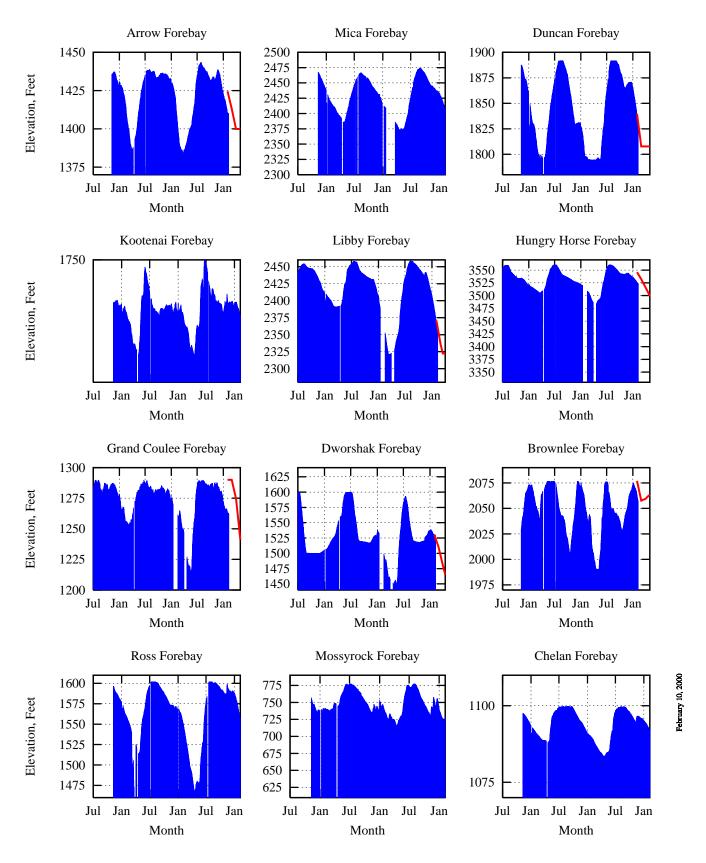


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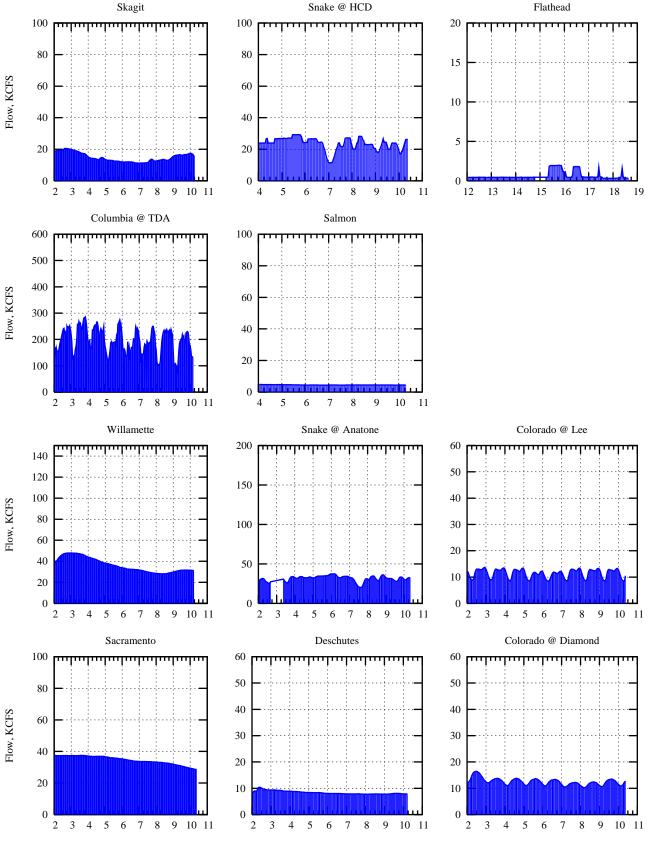
#### **Daily Reservoir Elevation Summary**



#### Daily Reservoir Summary July, 1997 - Present



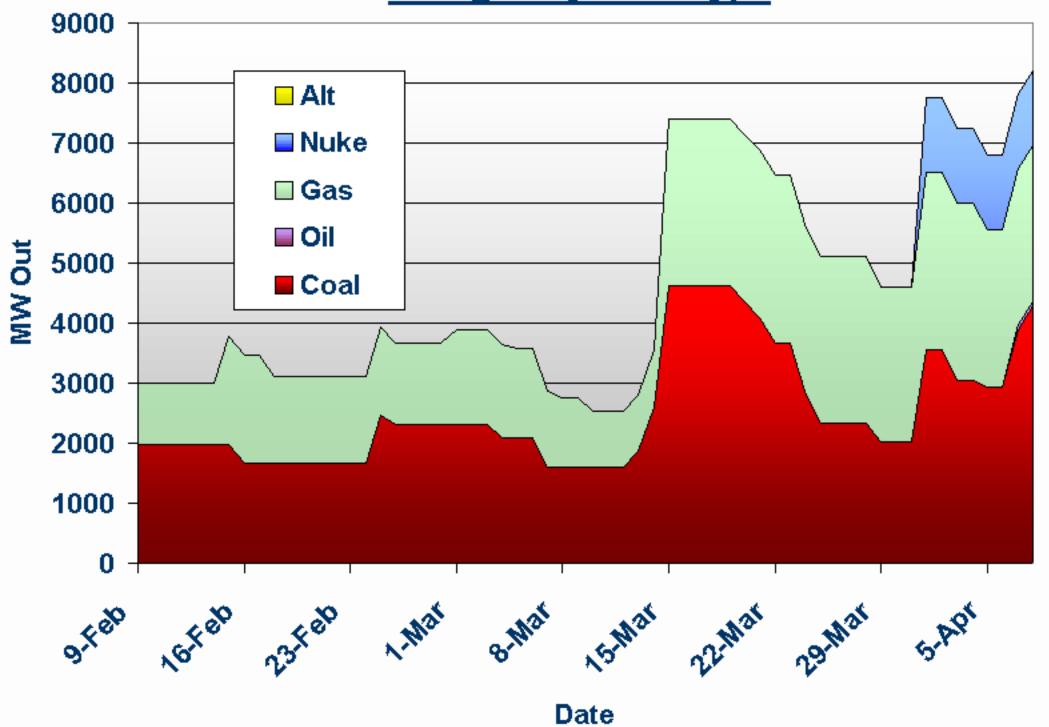
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February 10, 2000

## Outages by Fuel Type



# **Outages by Region**

