

...2005 YEAR IN REVIEW FOR EASTERN WASHINGTON AND NORTH IDAHO...

January was divided into two very distinct weather regimes. The first half resembled a typical winter. Temperatures remained at or below normal as snowstorms persisted from the 6th through the 9th. The result was about a foot of new snow on the ground for many locations. Then came the arctic air from Canada. Temperatures on the 14th and 15th struggled to make it into the teens with overnight lows below zero. Some of the coldest readings included -23°F at Priest Lake, -18°F at Chewelah, Republic, and at the Turnbull National Wildlife Refuge near Cheney, -16°F at Newport, -14°F at Bonners Ferry and Winthrop. The cold spell was short lived as a warm Pacific storm pushed out the bitter arctic air. The high temperature in Lewiston on the 16th was 27°F. The next day the mercury jumped to 51°F! The exception to this quick warm up occurred in the valleys of the Cascades, where the dense sub-freezing air remained bolted to the valley floors. A Pacific warm front slid over this freezing dome of cold air. Warm air aloft melted the falling snow resulting in an ice storm on the 17th. Several locations in the Cascades reported ice accumulations of a quarter inch or more. While freezing rain is not uncommon in many parts of the Inland Northwest, it is very rare in the Cascades. As the temperatures warmed, ice jams on rivers in the Idaho Panhandle as well as in the Cascades resulted in minor flooding. Heavy rain near the crest of the Cascades also caused some significant river rises. While the first half of January was cold and snowy, the second half of the month was anything but that. Spokane reported temperatures in the 40s on 12 of the last 14 days of the month. Lewiston hit the 60°F mark twice in the latter half of the month, making it the warmest last two weeks of January ever!

Notable January weather events:

-A large Pacific storm system dropped heavy snow to many of the valley and mountain locations of eastern Washington from January 6th through the 8th. Over the Washington Palouse, spotters reported 4 inches at St. John and 6 inches at Rosalia. In the southern Columbia Basin, spotters reported 5 inches of new snow at both Quincy and Priest Rapids. The northern Columbia Basin received 5 inches of new snow at Ritzville and Grand Coulee. The Spokane Area also got heavy snow with 7 inches reported at the National Weather Service Office while the Spokane International Airport measured 5 inches of new snow. The Northeast Mountains received 6 to 12 inches while a spotter reported 5 inches at Colville and also at Chewelah. Spotters in Deer Park reported 4 to 5 inches of new snow. In the Okanogan Highlands, spotters reported around 11 inches of new snow near the town of Kettle Falls while a spotter reported 8 inches at Chesaw. In the Wenatchee Area, spotters reported 8 inches in the town of Wenatchee while a spotter reported 4 inches of new snow at Entiat. In the East Slopes of the Northern Cascades a spotter reported 11 inches of new snow at the town of Mazama while a spotter at Plain reported 5 inches. Heavy snow also fell in the Okanogan Valley with 8 inches being reported by a spotter in the town of Okanogan and 9 inches being reported in the town of Malott. Even the Waterville Plateau received heavy snow with a spotter reporting 5 inches of new snow at the town of Waterville.

-A strong jet stream came across the Washington Palouse during the evening hours of the 11th of January and continued into the evening hours of the 12th. This upper level jet stream brought high winds to the Washington Palouse with around 3000 power outages being reported with the gusts to around 60 mph. Some of the towns receiving power outages with the high winds were Pullman and Colfax.

-A large, moist storm system moved up from the southwest from the tropics beginning on January 15th. This storm system dropped heavy snow on eastern Washington before raising snow levels to over 7000 feet by the evening of the 18th. In addition to the heavy snow, an ice storm occurred over the valleys of the east slopes of the Cascades due to the warm air overrunning the trapped arctic air in the valleys. Across the Washington Palouse, 4 to 6 inches of snow was common with a spotter in Pullman reporting 6 inches. In the Spokane Area, 4 inches fell at the National Weather Service Office while 4 inches was reported by a spotter on the South Hill, 4 miles south of Spokane. Across the Northeast Mountains, 4 to 6 inches were common with a spotter reporting 4 inches at Colville and 12 inches was reported at the town of Elk. Heavy snow also fell across the Wenatchee Area with 4 inches common. In addition to the heavy snow, an ice storm also occurred with a quarter of an inch of ice accumulating at Chelan. An ice storm also occurred in the valleys of the East Slopes of the Northern Cascades with .38 of an inch of ice accumulating at the town of Plain and .25 of an inch of ice accumulation reported by a spotter at the town of Winthrop.

February can be summed up in one word: dry! It was the driest February on record for nearly every location in the Inland Northwest. A large area of high pressure remained parked over the region, shunting Pacific storms either well to our north into Canada or to our south into California. However, rather than the usual fog and low clouds we commonly see in this pattern, there was a persistent dry flow from the north which kept the fog at bay. This resulted in sunny warm days and clear cold nights, more reminiscent of October than February.

THE FOLLOWING CITIES TIED OR BROKE RECORDS FOR THE DRIEST FEBRUARY ON RECORD.

WASHINGTON	FEB/05	OLD RECORD	RECORDS KEPT SINCE (YR)
BOUNDARY DAM	0.02	0.36 1993	1965
CHEWELAH	0.00	0.13 1929	1925
DAVENPORT	TRCE	0.07 1920	1893
ENTIAT	0.29	0.52 1991	1989
GRAND COULEE	0.01	0.03 1966	1935
LACROSSE	0.27	0.28 1934	1931
MAZAMA	0.17	0.26 1993`	1948
NEWPORT	TRCE	0.23 1929	1909
NORTHPORT	TRCE	0.11 1964	1899
OMAK	0.03	0.04 1932	1931
PULLMAN	0.10	0.45 1977	1940
QUINCY	0.00	0.00 1988 TIED	1941
ROSALIA	0.00	0.12 1903	1893
RITZVILLE	TRCE	0.01 1998	1899

SPOKANE	0.04	0.09	1929	1881
STEHEKIN	0.61	0.74	1929	1906
SMYRNA	0.00	0.00	1988 TIED	1951
ST. JOHN	0.29	0.33	1994	1963
WINTHROP	0.01	0.07	1929	1906

IDAHO	FEB/05	OLD RECORD	
BONNERS FERRY	0.15	0.26	2001 1907
CABINET GORGE`	0.26	0.43	1993 1954
COEUR D`ALENE	0.02	0.21	1928 1895
NEZ PERCE	0.27	0.33	1998 1901
PRIEST RIVER	0.20	0.57	1913 1898
POTLATCH	0.14	0.28	1920 1915
SANDPOINT	0.15	0.37	1920 1910

March began on much the same note as February: dry and mild. The first half of the month saw little if any precipitation and every day was warmer than normal. The storm door finally opened on the 16th with a wet and windy Pacific storm. Winds gusted to 55 mph at the Spokane airport as many sites received one to two tenths of an inch of rain. The weather pattern remained stormy for the rest of the month. Most locations in extreme eastern Washington and the Idaho Panhandle wound up with near to above normal precipitation for March. However, the east slopes of the Cascades remained dry as westerly winds continued to keep them shadowed by the Cascades. By the end of the month, Wenatchee had received only 54% of their normal precipitation for the winter, with Spokane and Lewiston at 65% and 75% respectively.

Notable March Weather Events:

-On March 16th, a strong cold front moved through the Cascade Mountains bringing strong winds to the eastern valleys. There were about 15 to 20 trees down 20 miles northwest of Entiat.

April saw a continuation of the cool and unsettled weather for the first half of the month. The rainfall during this period, while frequent, was on the low side. Temperatures were well below normal on the 12th and 13th as a cold Pacific system slowly tracked across the area. Lewiston reached only 48° on the 13th, which set a record for the coldest daytime temperature ever on that date. High pressure finally built over the western U.S. in latter half of the month, bringing more spring-like weather to the area. Temperatures warmed into the 70s and even a few lower 80s by the 26th. But as is usually the case in spring, the warm spell was short lived. A mainly dry cold front dropped temperatures back into the 50s and 60s for the end of the month. The drought conditions had not improved much. Wenatchee now had only 50% of their normal precipitation, Spokane remained steady at 65%, and Lewiston improved slightly to 82%.

Notable April Weather Events:

-On the evening of April 23rd, wind gusts radiating outward from a severe thunderstorm over southern Washington moved through the Columbia Basin and valleys of the eastern

slopes of the Cascades. In the town of Coulee in Grant County, the wind blew down two large trees with an irrigation pump house destroyed. The gust front then moved west into the town of Chelan in Chelan County where numerous trees were blown down including a few very large spruce trees. There were also some power outages in Chelan. The town of Twisp in Okanogan County was next to be hit where more trees were reported blown down including a large tree falling on an automobile. There were some power outages and a few brush fires started as well in Twisp.

May is typically a wet month for the Inland Northwest. In fact, it's the wettest month of year for Lewiston, and this year didn't disappoint. During most of May, several large and slow moving Pacific storms affected the Northwest. These storms often produced broad swaths of rain which moved into our area from the south. The period of the 6th through the 10th was very wet. On the 6th a southern band of rain collided with a system moving down from Canada. Widespread heavy rain fell over most of the area east of Moses Lake. A significant flash flood occurred in Nez Perce County Idaho on Hubbard Gulch Road on the 6th. This flood washed out a road and caused significant damage to a small area. Two days later another flash flood occurred, again in Nez Perce County, resulting in more road washouts. These two events led Nez Perce County to declare an emergency proclamation with an estimated \$6 million in damage. Besides the flash flooding in Nez Perce County, small stream, urban flooding and flash floods were reported in Spokane, Lincoln and Chelan Counties in Washington. All of the flooding this month was confined to small, un-gauged streams and creeks. On the night of the 9th, another heavy band of rain moved up from the south, dousing the Columbia Basin with one to three inches of rain! Flooding occurred in Lincoln and Chelan counties, as well as in the southern Panhandle again. The wet weather finally came to an end, just in time for the Memorial Day weekend. Temperatures quickly jumped into the 80s for the first time on the Friday of the holiday weekend, and reached the lower 90s in some locations. The warm weather continued through Monday before temperatures returned to more normal readings. When it was all over, Spokane had its 4th wettest May ever. Interestingly, May 2004 was the third wettest May ever. The difference was that most of the rain last year fell on one day, while this year it was spread throughout the month. For Lewiston, it was the 6th wettest May ever, while in Wenatchee it was 11th on the list of wettest May's. Even so, the rains in May did little to help the drought in the Cascades. Wenatchee had still only received 56% of its normal precipitation for the season. Spokane now had 84% of its seasonal precipitation, and Lewiston was now above normal with 103%.

Notable May Weather Events:

-One to three inches of rain along with hail as big as one inch in diameter fell across the Royal City area in Grant County during the afternoon of the 4th of May. Many roads were washed out with hundredths of thousands of dollars to structures and crops around Royal City.

-On the evening of the 9th of May, a storm system brought slow moving thunderstorms across Eastern Washington. These storms dumped 2 to 5 inches of rain in about 6 hours on portions of Adams, Lincoln and Chelan Counties. In Adams County, flash flooding

occurred in and around the town of Ritzville. Many homes, streets and businesses were flooded due to the heavy rain. In Lincoln County, a few homes and businesses were flooded along with many roads. Some notable roads that experienced damage from flooding in Lincoln County were Highway 23 between Harrington and Sprague, Highway 174 between Wilber and Grand Coulee, and Coffeepot Road near Coffeepot Lake. In Chelan County, there was some damage to roads due to flooding and debris flows. The South Lakeshore Drive was closed and damaged due to a huge debris flow. The Chelan High School was flooded due to the heavy rain. Throughout the event, there were many road closures due to the heavy rain.

-On the evening of May 17th, a line of thunderstorms moved across Spokane County. One severe storm dropped up to one inch in diameter hail in a very narrow swath from Four Lakes to just east of Airway Heights. Only one thousand dollars was estimated for crop damage.

The summers of 2003 and 2004 in the Inland Northwest were notable for their warm temperatures. In both of these years, all three summer months were warmer than normal, in some cases much warmer than normal. The summer of 2005 was in many ways, a prototypical Inland Northwest summer. The wet May had helped to mitigate some drought concerns after our very dry winter. Hopes were high that this would continue into **June**. For the Idaho Panhandle and extreme eastern Washington, June did bring more than the normal amount of rainfall. Unfortunately, the area that needed it the most received the least: the Cascades. While June isn't typically a wet month for Wenatchee, they only received a tenth of their normal June rainfall, all of which fell on one day. The first half of June saw persistent cool and showery weather. Temperatures were consistently in the 60s and 70s. In fact, Spokane didn't even reach the 60° mark on the 5th and 14th. A sudden warm up on the 20th and 21st made it feel like summer had finally arrived in the inland Northwest. But in typical spring-like fashion, the warm spell was short lived. This one came to a very dramatic end. A large thunderstorm which developed over southeast Washington produced a large gust front. This strong gust front moved northward across the Palouse toward Spokane, resulting in a 77 mph gust at the Spokane Airport. This is especially impressive when one considers that this is the highest wind speed ever measured at an official observation site in Spokane! The gust front also brought with it an impressive cloud of dust. At our office, we often say that summer in the Inland Northwest lasts from the 4th of **July** to Labor Day. Once again this generally held true. The holiday weekend of the fourth saw 90° temperatures throughout the area. One last spring-like system managed to move into the region on the 9th and 10th, but temperatures quickly rebounded into the 90s and triple digits for the remainder of July. Lewiston's thermometer reached 105° on the 21st for their hottest day of the summer. But the hottest period was the last few days of the month, where Lewiston hit the century mark 4 of the last 5 days. Once again, little if any rainfall occurred along the east slopes of the Cascades. By the end of July, the Wenatchee Airport had totaled only 3.97" of precipitation for the water year (beginning Oct 1st, 2004). This was the 4th driest ever since 1959. The hot weather continued into the first part of **August**, but the heat finally

broke as cooler air from Canada began to slowly move into the area. By the 12th, temperatures were back to more normal readings. It was on this day that a cold front from British Columbia moved down from the north. This was a rather rare event for mid-August. What made it even more interesting was that this boundary was visible on radar even though there were only scattered thunderstorms accompanying it. Strong gusty winds developed that formed an impressive dust cloud which enveloped much of the Columbia Basin with near-zero visibilities. In addition, downed power lines and lightning also caused a number of fires especially in the Spokane area. After this event, the weather was decidedly different. Hot spells were once again short lived, and brief wet periods brought small amounts of rain to some locations. A few of the more common cold spots (Priest Lake, Deer Park, Springdale) saw their thermometers drop into the lower 30s during the last few mornings of August. While it's not unusual to have hot weather in late August and September, climatologically the hottest period is mid-July to mid-August, with August 1st the hottest day of the summer. In the Inland Northwest, the length of daylight decreases from 16 hours at the start of summer to less than 13.5 hours by the end of August. Additionally, the angle of the sun has decreased from a high point of 66 degrees at noon on June 22nd to only 50 degrees at the end of August. While these are not the only factors which determine how hot it gets, it does show that it becomes increasingly difficult to have hot weather after Labor Day.

Notable June Weather Events:

-On the evening of the 21st, two severe thunderstorm gust fronts moved across eastern Washington. The first one hit between the hours of approximately 5pm PST to around 7pm from northern Spokane County to eastern Stevens and western Pend Orielle Counties. Widespread power outage, downed trees and structure damage was caused by the severe thunderstorm wind gusts. In Spokane County, the Spokane International Airport measured sustained winds at 62 mph with a gust to 77 mph. This was the highest wind gust measured on record. There was wind damage to hangars and other structures at the Fairchild Air Force Base. There were widespread structure damage and power outages to the town of Airway Heights. In Pend Orielle County, numerous power outages and downed trees were reported. A barn and a truck were damaged at the Fairgrounds of Newport. The second severe thunderstorm gust front occurred between the hours of 630pm and 815 pm PST. The severe winds first started across Adams and Whitman Counties and moved north to eventually affect southern Pend Orielle and Stevens Counties. In Adams County, the towns of Ritzville and Ralston had downed trees and many power outages with visibilities reduced to a half a mile in blowing dust. In Whitman County, an official weather sensor measured a wind gust to 61 mph. Widespread fallen trees, power outages, fire starts and structure damage were experienced near the towns of Rosalia and St. John. In northeastern Lincoln County, the town of Davenport was especially hard hit. Widespread power outages, fallen trees and some structure damage occurred. In Spokane County, at least 30,000 homes were without power. Many homes and businesses were damaged in the Spokane metro area. There were at least a dozen injuries due to the severe wind. The wind also caused at least a dozen fire starts visibility was reduced to a quarter of a mile at times across Spokane County. Southern Stevens and Pend Orielle Counties were the last to be hit by the second

severe thunderstorm wind gust. Many homes were without power along with some damage to structures. There were a few fire starts as well in both counties.

Notable July Weather Events:

-During the early afternoon hours of July 16th, a severe thunderstorm moved across a small area four miles north of the town of Rockford. The storm dropped up to three quarter of an inch diameter hail in a very small area. On the same afternoon another severe thunderstorm moved through the town of Diamond Lake, in Pend Oreille County. There was an estimated amount of one thousand dollars for property damage due to hail damage.

Notable August Weather Events:

-A Canadian cold front moved across northeast Washington during the early afternoon hours of the 12th of August. There were a few embedded thunderstorms with the front that brought severe weather to Spokane, Whitman and Lincoln counties. In Spokane County, a severe thunderstorm dropped 3/4 inch diameter hail across eastern Spokane County. The severe thunderstorm also brought damaging winds to most of the county that same evening. There were at least 29 fires started in Spokane County. An estimated 10,000 customers were without power along with numerous accidents due to visibilities reduced to less than a quarter of a mile in blowing dust. Numerous trees fell due to the severe wind causing property damage and a few injuries. The severe wind caused a fire to start in a mobile home Park near Silver Lake destroying five homes. Property damage throughout the county was estimated to be one hundred thousand dollars. In Whitman County, the severe storm caused numerous power outages along with some property damage due to fallen trees. Crop damage was estimated to be around fifty thousand dollars due to the severe thunderstorm's wind. In Lincoln County, the severe wind caused numerous power outages and some downed trees caused property damage. The wind also caused some crop damage.

-A high wind event occurred in the south central portions of the Okanogan Valley during the late night hours of the 28th and early morning hours of the 29th of August. The high wind caused damage mainly to the town of Okanogan. A 6,000 pound cross was bent over along with some large trees downed. Some structures and roofs at the Okanogan Legion Airport were damaged as well by the high wind.

It was another beautiful autumn in the Inland Northwest, and rather unremarkable weather-wise. **September** began in its usual fashion, with the last few warm days of summer. Temperatures climbed into the 80s across the region and touched 91° in Lewiston on the 9th. But temperatures were nearly 30 degrees cooler only a couple of days later as a pacific cold front brought light precipitation to the region on the 11th and 12th. Although brief warm-ups were still to come, this system was essentially the beginning of the fall weather. The rest of the month was still fairly warm and sunny until another front arrived at the very end of the month and brought almost three quarters of an inch of rain to Spokane.

Notable September Weather Events:

None

October is known as the month with the largest average change in temperature. In Wenatchee and Lewiston, the average high temperatures drop from a balmy 70° on the 1st to only 53° on the 31st. In 2005, October started on a cool foot and ended on a mild one, rendering the month nearly constant in temperature. Showery and cool 50s and 60s prevailed for the first week as temperatures were nearly 10 degrees cooler than normal. But thoughts of a cold and wet fall were soon replaced by stunning mild and sunny weather. Lewiston reached 78° on both the 14th and 17th while Wenatchee saw a reading of 75° on the 17th. While none of these were records, they were still 10 or more degrees above the mid-October normal. Even Spokane did not record a freezing temperature in the month of October, a feat that hadn't occurred since 1952! By the end of the month, the weather pattern had returned to a more typical one: cool and showery. Once again, this continued into the next month.

Notable October Weather Events:

None

November saw cooler than normal temperatures for the first half of the month with intermittent periods of precipitation. Spokane even recorded its inch of snow on the 13th, although most of it melted quickly. Even so, it was great news for local ski resorts after contending with a dry and mild winter last year. But once again, high pressure built into the area. But while this pattern brings warm weather during September or October, in the low sun angle month of November it brings fog and low clouds. The stagnant conditions persisted through the Thanksgiving holiday. A weak front managed to slip through the ridge on the next day and bring some freezing rain to the area. After that things only got worse, as snow returned to much of the area. Spokane picked up 5.2" of snow on the 29th as temperatures stayed below freezing for the first day. Apparently, winter had arrived right on schedule.

Notable November Weather Events:

Coming Soon

December was another month of extremes for the inland Northwest. The first 20 days of the month saw temperatures below freezing in Spokane and many other locales. Many of those days saw high temperatures barely reach 20 degrees. This cold weather pattern resulted from a strong ridge of high pressure centered along the west coast. The Inland Northwest was on the cold and dry side of this ridge. Thus the first 20 days of the month was dominated by cold and dry weather. The lack of storm systems was troublesome to mountain locations, as the early snow that fell in November was slow to accumulate during the first half of December. Throughout this cold, dry period many valley locations had a modest snow pack of 3 to 12 inches on the ground, and it looked like a white Christmas was all but a certainty. Well in typical inland Northwest fashion, a major weather pattern change occurred. A series of very warm and very wet weather systems

made their way through the region beginning on December 21st, ironically the first day of Winter. These storms brought rain to all but the highest mountains. By the time Christmas had arrived much of the valley snow had melted to all but the extreme northern valleys. The good news was that the storm systems became cooler for the last week of the year, allowing much needed snowfall to accumulate on area mountains.

Notable December Weather Events:
Coming Soon

Yearly Summaries:

Wenatchee, WA													
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
Average High Temperature	31.5	47.4	57.2	62.9	72.7	77.1	88.0	89.0	75.2	61.9	41.4	29.5	61.2
Departure From Normal	-2.4	5.8	3.6	0.0	1.2	-1.6	1.3	2.9	-1.3	0.2	-2.5	-4.0	0.3
Average Low Temperature	23.2	27.0	36.6	41.1	50.8	54.4	61.6	61.8	51.8	43.2	30.4	21.8	42.0
Departure From Normal	1.4	0.3	3.0	1.2	3.5	0.5	1.8	2.1	0.9	3.1	0.0	-1.1	1.6
Precipitation	1.00	0.18	0.21	0.05	0.77	0.06	0.06	0.02	0.09	0.46	1.57	0.59	5.06
Departure From Normal	-0.14	-0.68	-0.47	-0.42	0.16	-0.58	-0.24	-0.33	-0.34	0.01	0.42	-0.84	-3.45

Spokane, WA													
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
Average High Temperature	34.5	44.7	51.8	58.5	66.6	70.7	83.7	83.9	69.3	57.1	39.2	30.4	57.5
Departure From Normal	1.7	5.4	3.2	1.0	0.4	-3.2	1.2	1.3	-3.2	-1.4	-1.9	-2.4	0.2
Average Low Temperature	22.1	24.4	31.8	37.5	47.0	50.0	56.5	55.2	45.7	40.8	29.0	17.8	38.2
Departure From Normal	0.4	-1.3	1.4	2.0	4.4	0.8	1.9	0.7	-0.2	5.0	0.3	-3.8	1.4
Precipitation	1.15	0.04	2.03	0.79	3.58	1.38	1.10	0.46	0.84	1.03	2.06	2.96	17.42
Departure From Normal	-0.67	-1.47	0.50	-0.49	1.98	0.20	0.34	-0.22	0.08	-0.03	-0.18	0.71	0.75

Lewiston, ID													
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
Average High Temperature	44.2	49.8	58.6	63.5	71.5	75.9	92.2	90.9	76.6	63.9	46.5	37.4	64.3
Departure From Normal	4.8	4.2	4.8	1.9	1.6	-2.0	4.6	3.3	-0.1	2.0	-0.3	-1.8	1.9
Average Low Temperature	31.7	28.5	37.1	41.3	49.6	52.9	61.0	59.4	49.4	43.9	34.2	26.3	42.9
Departure From Normal	3.8	-2.7	1.5	0.7	2.7	-0.7	1.7	0.1	-1.5	2.7	0.1	-2.2	0.8
Precipitation	0.31	0.19	1.05	1.53	3.22	1.30	0.26	0.05	0.17	1.66	0.48	1.64	11.86
Departure From Normal	-0.83	-0.76	-0.07	0.22	1.66	0.14	-0.46	-0.70	-0.64	0.70	-0.73	0.59	-0.88