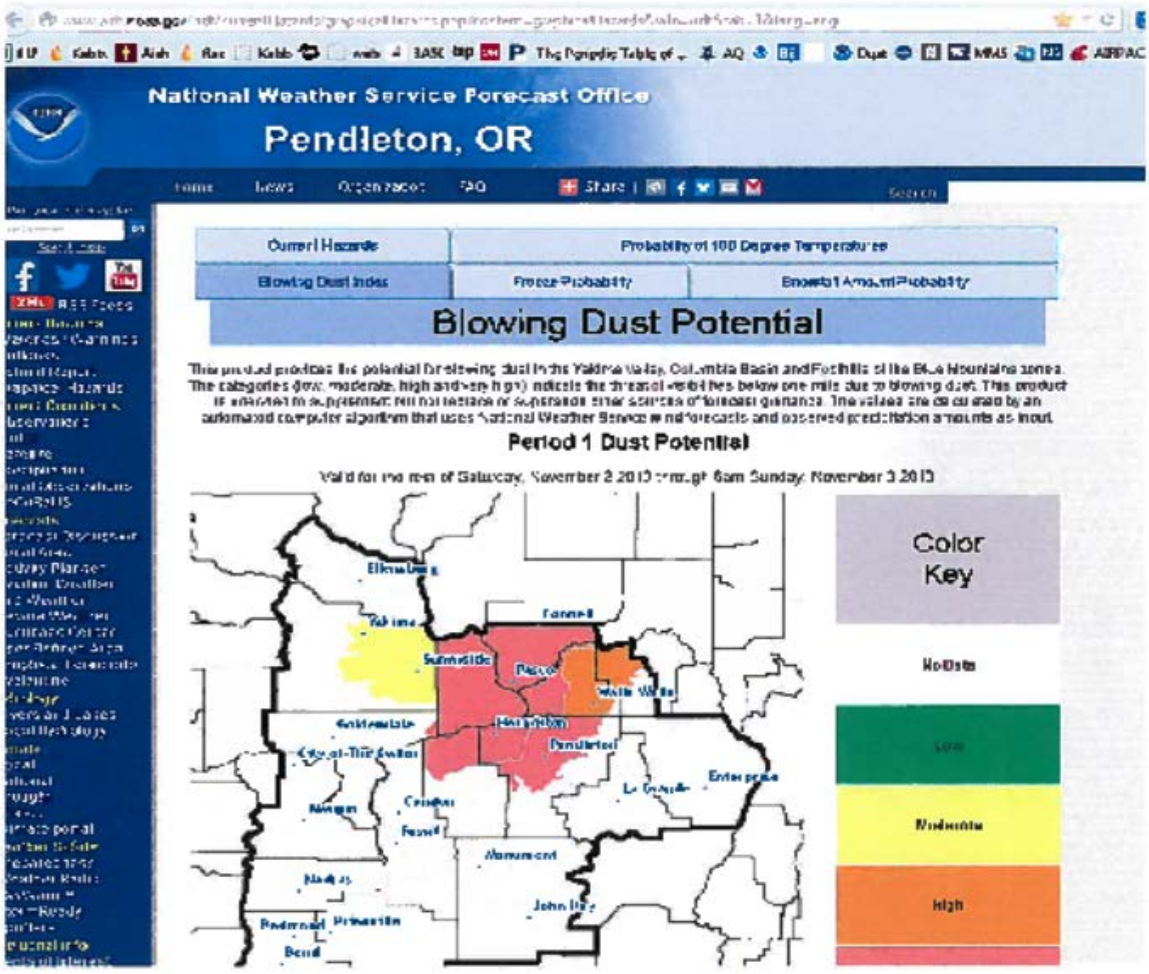
Appendix E. November 2 Information

Contents

Warnings

NWS Pendleton, Wind Advisory, 11:37 am, updated 1:38 pm



National Weather Service

Watches, Warnings & Advisories

2 products issued by NWS for: Share |

Wind Advisory

URGENT - WEATHER MESSAGE
NATIONAL WEATHER SERVICE PENDLETON OR
1137 AM PDT SAT NOV 2 2013

...VERY WINDY TODAY...

.A STRONG COLD FRONT WILL MOVE THROUGH THE AREA TODAY. THIS FRONT WILL CAUSE SOUTHWEST WINDS TO INCREASE CREATING VERY WINDY CONDITIONS THIS AFTERNOON AND EVENING.

ORZ041-042-044-507-508-WAZ024-026>029-521-030300-
/O.CON.KPDT.WI.Y.0020.131102T1900Z-131103T0600Z/
EASTERN COLUMBIA RIVER GORGE OF OREGON-NORTH CENTRAL OREGON-
LOWER COLUMBIA BASIN OF OREGON-
FOOTHILLS OF THE NORTHERN BLUE MOUNTAINS OF OREGON-
FOOTHILLS OF THE SOUTHERN BLUE MOUNTAINS OF OREGON-
EASTERN COLUMBIA RIVER GORGE OF WASHINGTON-KITTITAS VALLEY-
YAKIMA VALLEY-LOWER COLUMBIA BASIN OF WASHINGTON-
FOOTHILLS OF THE BLUE MOUNTAINS OF WASHINGTON-SIMCOE HIGHLANDS-
INCLUDING THE CITIES OF...ARLINGTON...THE DALLES...DUFUR...
MADRAS...MAUPIN...MORO...PRINEVILLE...REDMOND...BOARDMAN...
HERMISTON...IONE...PENDLETON...PILOT ROCK...HEPPNER...CONDON...
FOSSIL...WHITE SALMON...ELLENSBURG...THORP...NACHES...SUNNYSIDE...
TOPPENISH...YAKIMA...CONNELL...PROSSER...TRI-CITIES...DAYTON...
WAITSBURG...WALLA WALLA...BICKLETON...GOLDENDALE
1137 AM PDT SAT NOV 2 2013

...WIND ADVISORY REMAINS IN EFFECT UNTIL 11 PM PDT THIS EVENING...

A WIND ADVISORY REMAINS IN EFFECT UNTIL 11 PM PDT THIS EVENING.

* TIMING: WINDS ARE INCREASING ACROSS THE REGION LATE THIS MORNING. STRONG WINDS WILL PERSIST THROUGH THE AFTERNOON INTO THE EVENING.

* WINDS: SOUTHWEST TO WEST 30 TO 40 MPH WITH GUSTS TO 50 MPH.

* IMPACTS: GUSTY WINDS COULD MAKE TRAVEL ON AREA HIGHWAYS DIFFICULT. MINOR PROPERTY AND TREE DAMAGE WILL ALSO BE POSSIBLE.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

A WIND ADVISORY IS ISSUED WHEN SUSTAINED WINDS ARE FORECAST BETWEEN 30 AND 39 MPH OR GUSTS RANGING FROM 45 TO 57 MPH. WINDS OF THESE MAGNITUDES CAN MAKE DRIVING DIFFICULT...ESPECIALLY FOR HIGH PROFILE VEHICLES. MINOR PROPERTY DAMAGE MAY ALSO OCCUR. FOR ADDITIONAL WEATHER INFORMATION...CHECK OUR WEB SITE AT WWW.WEATHER.GOV/PENDLETON.

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Hazardous Weather Outlook

HAZARDOUS WEATHER OUTLOOK...UPDATED
NATIONAL WEATHER SERVICE PENDLETON OR
138 PM PDT SAT NOV 2 2013

ORZ041-042-044-507-508-WAZ024-026>029-521-030600-
EASTERN COLUMBIA RIVER GORGE OF OREGON-NORTH CENTRAL OREGON-
LOWER COLUMBIA BASIN OF OREGON-
FOOTHILLS OF THE NORTHERN BLUE MOUNTAINS OF OREGON-
FOOTHILLS OF THE SOUTHERN BLUE MOUNTAINS OF OREGON-
EASTERN COLUMBIA RIVER GORGE OF WASHINGTON-KITTITAS VALLEY-
YAKIMA VALLEY-LOWER COLUMBIA BASIN OF WASHINGTON-
FOOTHILLS OF THE BLUE MOUNTAINS OF WASHINGTON-SIMCOE HIGHLANDS-
138 PM PDT SAT NOV 2 2013

THIS HAZARDOUS WEATHER OUTLOOK IS FOR PORTIONS OF CENTRAL
OREGON...NORTH CENTRAL OREGON...NORTHEAST OREGON...CENTRAL
WASHINGTON...SOUTH WASHINGTON...SOUTH CENTRAL WASHINGTON AND
SOUTHEAST WASHINGTON.

.DAY ONE...THIS AFTERNOON AND TONIGHT

A STRONG COLD FRONT HAS MOVED THROUGH THE REGION TODAY. SOUTHWEST
WINDS OF 20-40 MPH WITH GUSTS TO 50 MPH WILL CONTINUE INTO THE
EVENING.

.DAYS TWO THROUGH SEVEN...SUNDAY THROUGH FRIDAY

COOLER, SHOWERY CONDITIONS ARE EXPECTED SUNDAY WITH SUSTAINED WINDS
CONTINUING IN THE 20 TO 30 MPH RANGE. SOME SNOW ACCUMULATIONS CAN
BE EXPECTED AT LOCATIONS ABOVE 3000 FEET, ESPECIALLY IN THE
MOUNTAINS. UNSETTLED WEATHER CONDITIONS WILL CONTINUE THROUGH NEXT
WEEK.

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Hanford Weather Station, Adverse Weather Advisory, November 1, 2013

Robin Priddy

From: ^Hanford Weather Station <Hanford_Weather_Station@rl.gov>
Sent: Friday, November 01, 2013 5:40 PM
Subject: SPECIAL ADVERSE WEATHER ADVISORY - HANFORD SITE

Importance: High

ADVERSE WEATHER ADVISORY FOR HANFORD SITE

This advisory is for the official use of the Department of Energy and its Hanford Site Contractors.

Date: Friday, November 1, 2013

Time Period: 1100 – 2200 PDT Saturday

Message:
A strong cold front will move across the region late Saturday morning. Winds of 20-30 mph with gusts 40-50 mph are expected to develop by noon and continue into the evening hours.

Strong winds may pick up particulates (dust/ash) from several different sources (e.g., agricultural activities, regional range fires, etc). Persons with respiratory problems or allergies may wish to discuss their individual situations with their physicians/allergy specialists to determine the best precautions during wind/dust events.

This advisory is for the official use of the
Department of Energy and its Hanford Site Contractors.
Other use is not authorized.

Duty Forecaster Hours
10:00 pm Sunday - 6:00 pm Friday (7:00 pm - 10:00 pm daily not staffed)
6:00 am - 2:00 pm Weekends and Holidays

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email: hms@rl.gov
http://www.hanford.gov/hms
(509) 373-2716 Forecaster
(509) 373-2875 Recorded Forecast
Hanford Meteorological Station (HMS)

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Event Narrative: NOAA Storm Event Database – November 2

http://www.ncdc.noaa.gov/stormevents/eventdetails.jsp?id=477878
National Climatic Data Center Storm Events Database

Event Details

Event	**High Wind**
Magnitude	**59 kts.**
State	**WASHINGTON**
County/Area	**LOWER COLUMBIA BASIN**
WFO	**PDT**
Report Source	**Law Enforcement**
NCDC Data Source	**CSV**
Begin Date	**2013-11-02 11:45:00.0 PST-8**
End Date	**2013-11-02 13:53:00.0 PST-8**
Deaths Direct/Indirect	**0/0** (fatality details below, when available...)
Injuries Direct/Indirect	**0/0**
Property Damage	**0.00K**
Crop Damage	**0.00K**
Episode Narrative	**Strong winds aloft would mix down and produce several wind gusts in excess of 60 MPH on Saturday November 2nd. These strong gusts were isolated to the Hanford and Richland, WA area. Other areas would only see advisory winds. Wind gust in MPH reported include (68) northwest of West Richland, (64) northeast of Sunnyside, (63) at Vista Field in Kennewick, (60) at Hanford, and (64) in Benton City.**
Event Narrative	**Hanford Emergency Operations Center.**

All events for this episode:

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
Totals:								0	0	0.00K	0.00K
LOWER COLUMBIA BASIN (ZONE)	LOWER COLUMBIA BASIN (ZONE)	WA	11/02/2013	11:45	PST-8	High Wind	59 kts. MG	0	0	0.00K	0.00K
Totals:								0	0	0.00K	0.00K

Meteorological Data

BKEN, 5-minute data, November 2

BPKEN	Wind Speed, mph	GUST, mph	Wind Direction, °	
11-2-2013 0:00 PDT	10.1	10.5	173	S
11-2-2013 0:05 PDT	10.2	11.2	167	SSE
11-2-2013 0:10 PDT	9.9	10.5	163	SSE
11-2-2013 0:15 PDT	11.1	11.5	160	SSE
11-2-2013 0:20 PDT	11.5	11.6	155	SSE
11-2-2013 0:25 PDT	11.4	11.5	152	SSE
11-2-2013 0:30 PDT	11.3	11.4	149	SSE
11-2-2013 0:35 PDT	11.8	13	149	SSE
11-2-2013 0:40 PDT	12.4	13.8	146	SE
11-2-2013 0:45 PDT	14.3	16.9	148	SSE
11-2-2013 0:50 PDT	13.7	15.8	146	SE
11-2-2013 0:55 PDT	13.6	16	146	SE
11-2-2013 1:00 PDT	14.4	16.2	144	SE
11-2-2013 1:05 PDT	14.3	16.4	145	SE
11-2-2013 1:10 PDT	13.4	14.7	142	SE
11-2-2013 1:15 PDT	12.6	13.4	143	SE
11-2-2013 1:20 PDT	12.7	14.2	140	SE
11-2-2013 1:25 PDT	11.7	13.2	148	SSE
11-2-2013 1:30 PDT	11.7	12.6	149	SSE
11-2-2013 1:35 PDT	12.4	15.6	159	SSE
11-2-2013 1:40 PDT	13.3	15.6	161	SSE
11-2-2013 1:45 PDT	14.3	16.2	166	SSE
11-2-2013 1:50 PDT	15.7	18.2	169	S
11-2-2013 1:55 PDT	18	20.2	163	SSE
11-2-2013 2:00 PDT	17.6	19.7	169	S
11-2-2013 2:05 PDT	17.5	19.3	168	SSE
11-2-2013 2:10 PDT	18.5	21	170	S
11-2-2013 2:15 PDT	20.9	22.6	173	S
11-2-2013 2:20 PDT	21.2	21.7	176	S
11-2-2013 2:25 PDT	21.9	22.6	178	S
11-2-2013 2:30 PDT	21.8	22.1	177	S
11-2-2013 2:35 PDT	21.4	21.7	178	S
11-2-2013 2:40 PDT	21.5	23	177	S
11-2-2013 2:45 PDT	20.9	21.5	178	S
11-2-2013 2:50 PDT	20.5	21.7	177	S
11-2-2013 2:55 PDT	21	21.6	175	S
11-2-2013 3:00 PDT	20.3	21	177	S
11-2-2013 3:05 PDT	19.5	19.9	177	S
11-2-2013 3:10 PDT	19.9	21.3	177	S
11-2-2013 3:15 PDT	19.9	21.3	177	S
11-2-2013 3:20 PDT	20.8	21.5	174	S
11-2-2013 3:25 PDT	19.6	21.3	173	S

BPKEN	Wind Speed, mph	GUST, mph	Wind Direction, °	
11-2-2013 3:30 PDT	18.8	21.7	173	S
11-2-2013 3:35 PDT	19	21.7	174	S
11-2-2013 3:40 PDT	20.1	21.7	175	S
11-2-2013 3:45 PDT	19.5	20.8	174	S
11-2-2013 3:50 PDT	16.8	19.1	175	S
11-2-2013 3:55 PDT	15.5	16.5	174	S
11-2-2013 4:00 PDT	17.2	17.9	173	S
11-2-2013 4:05 PDT	17.4	18.4	171	S
11-2-2013 4:10 PDT	16.9	17.5	174	S
11-2-2013 4:15 PDT	16.2	17.1	175	S
11-2-2013 4:20 PDT	17.5	18	172	S
11-2-2013 4:25 PDT	16.8	18	168	SSE
11-2-2013 4:30 PDT	18.3	21.5	171	S
11-2-2013 4:35 PDT	18.7	20.4	176	S
11-2-2013 4:40 PDT	17.3	19.1	182	S
11-2-2013 4:45 PDT	16.4	18.6	179	S
11-2-2013 4:50 PDT	16.3	19.3	179	S
11-2-2013 4:55 PDT	15.9	17.7	180	S
11-2-2013 5:00 PDT	16.6	18.8	179	S
11-2-2013 5:05 PDT	16.4	20.4	181	S
11-2-2013 5:10 PDT	18.1	23	183	S
11-2-2013 5:15 PDT	21.2	22.8	188	S
11-2-2013 5:20 PDT	23	26.1	186	S
11-2-2013 5:25 PDT	23	26.5	189	S
11-2-2013 5:30 PDT	20.6	21.9	188	S
11-2-2013 5:35 PDT	19.8	22.1	185	S
11-2-2013 5:40 PDT	20.8	23.9	184	S
11-2-2013 5:45 PDT	21.8	24.3	182	S
11-2-2013 5:50 PDT	21.6	24.5	183	S
11-2-2013 5:55 PDT	22.9	25.4	180	S
11-2-2013 6:00 PDT	22.6	25.4	187	S
11-2-2013 6:05 PDT	23.5	24.8	188	S
11-2-2013 6:10 PDT	23.7	25.6	187	S
11-2-2013 6:15 PDT	24.9	27.2	188	S
11-2-2013 6:20 PDT	24.2	27.4	184	S
11-2-2013 6:25 PDT	26.6	29.4	185	S
11-2-2013 6:30 PDT	27.5	30.7	186	S
11-2-2013 6:35 PDT	27.5	30.5	186	S
11-2-2013 6:40 PDT	29	31.5	190	S
11-2-2013 6:45 PDT	31	32.6	193	SSW
11-2-2013 6:50 PDT	30.5	34.2	185	S
11-2-2013 6:55 PDT	29.7	33.5	180	S
11-2-2013 7:00 PDT	29.2	32.9	179	S
11-2-2013 7:05 PDT	29.4	32	180	S
11-2-2013 7:10 PDT	30.3	36.1	183	S
11-2-2013 7:15 PDT	33.2	36.8	189	S

BPKEN	Wind Speed, mph	GUST, mph	Wind Direction, °	
11-2-2013 7:20 PDT	33.8	34.8	193	SSW
11-2-2013 7:25 PDT	33.5	35.5	195	SSW
11-2-2013 7:30 PDT	33.8	36.4	199	SSW
11-2-2013 7:35 PDT	33.4	35.9	202	SSW
11-2-2013 7:40 PDT	34.1	36.1	202	SSW
11-2-2013 7:45 PDT	35	37.5	204	SSW
11-2-2013 7:50 PDT	35.8	39.2	206	SSW
11-2-2013 7:55 PDT	36.4	40.1	205	SSW
11-2-2013 8:00 PDT	38	41.4	204	SSW
11-2-2013 8:05 PDT	38.1	41.2	205	SSW
11-2-2013 8:10 PDT	37.9	41.8	208	SSW
11-2-2013 8:15 PDT	36.9	41.8	212	SSW
11-2-2013 8:20 PDT	36.5	40.1	208	SSW
11-2-2013 8:25 PDT	37.1	41	205	SSW
11-2-2013 8:30 PDT	37.7	41.2	200	SSW
11-2-2013 8:35 PDT	38	41	201	SSW
11-2-2013 8:40 PDT	37.2	39.9	200	SSW
11-2-2013 8:45 PDT	38.4	43.6	200	SSW
11-2-2013 8:50 PDT	39.7	44.5	201	SSW
11-2-2013 8:55 PDT	42	48.4	201	SSW
11-2-2013 9:00 PDT	43.5	47.8	198	SSW
11-2-2013 9:05 PDT	41.7	46.2	193	SSW
11-2-2013 9:10 PDT	40.6	46	192	SSW
11-2-2013 9:15 PDT	43.4	48.4	188	S
11-2-2013 9:20 PDT	45.2	48.6	184	S
11-2-2013 9:25 PDT	43.5	47.8	179	S
11-2-2013 9:30 PDT	42.4	47.1	178	S
11-2-2013 9:35 PDT	42.4	47.8	182	S
11-2-2013 9:40 PDT	45.6	49.7	183	S
11-2-2013 9:45 PDT	44.8	49.3	182	S
11-2-2013 9:50 PDT	45	49.5	183	S
11-2-2013 9:55 PDT	42.2	46.9	182	S
11-2-2013 10:00 PDT	46.3	55	185	S
11-2-2013 10:05 PDT	43	49.1	185	S
11-2-2013 10:10 PDT	40.2	47.1	182	S
11-2-2013 10:15 PDT	43.5	49.1	184	S
11-2-2013 10:20 PDT	43.7	51	186	S
11-2-2013 10:25 PDT	42.5	49.7	185	S
11-2-2013 10:30 PDT	44.1	49.5	186	S
11-2-2013 10:35 PDT	42.9	51.5	187	S
11-2-2013 10:40 PDT	43.2	48.4	188	S
11-2-2013 10:45 PDT	44.2	49.9	191	S
11-2-2013 10:50 PDT	44.7	48.8	193	SSW
11-2-2013 10:55 PDT	47.8	57.2	196	SSW
11-2-2013 11:00 PDT	54.9	64.8	196	SSW
11-2-2013 11:05 PDT	55.1	63.5	197	SSW

BPKEN	Wind Speed, mph	GUST, mph	Wind Direction, °	
11-2-2013 11:10 PDT	52.2	59.6	197	SSW
11-2-2013 11:15 PDT	50.8	59.1	200	SSW
11-2-2013 11:20 PDT	51.7	59.1	204	SSW
11-2-2013 11:25 PDT	53.9	60	206	SSW
11-2-2013 11:30 PDT	52.5	60.5	209	SSW
11-2-2013 11:35 PDT	57.5	66.4	212	SSW
11-2-2013 11:40 PDT	55.9	63.3	214	SW
11-2-2013 11:45 PDT	57.3	66.4	215	SW
11-2-2013 11:50 PDT	62.1	70.7	215	SW
11-2-2013 11:55 PDT	63.2	70.7	213	SSW
11-2-2013 12:00 PDT	64.8	76.2	209	SSW
11-2-2013 12:05 PDT	66.2	75.1	208	SSW
11-2-2013 12:10 PDT	67.2	79.3	209	SSW
11-2-2013 12:15 PDT	67.1	76.4	209	SSW
11-2-2013 12:20 PDT	67.5	75.6	209	SSW
11-2-2013 12:25 PDT	69.4	77.5	209	SSW
11-2-2013 12:30 PDT	70.7	80.6	210	SSW
11-2-2013 12:35 PDT	72.3	80.4	210	SSW
11-2-2013 12:40 PDT	73.6	83.7	208	SSW
11-2-2013 12:45 PDT	76.1	88	209	SSW
11-2-2013 12:50 PDT	82.3	90.2	210	SSW
11-2-2013 12:55 PDT	85.3	94	210	SSW
11-2-2013 13:00 PDT	83.5	95.1	208	SSW
11-2-2013 13:05 PDT	87	99.2	206	SSW
11-2-2013 13:10 PDT	88.3	99.9	207	SSW
11-2-2013 13:15 PDT	91.5	101.6	207	SSW
11-2-2013 13:20 PDT	89.8	101.6	209	SSW
11-2-2013 13:25 PDT	86.3	101.6	208	SSW
11-2-2013 13:30 PDT	86.2	95.5	209	SSW
11-2-2013 13:35 PDT	87.1	96.4	205	SSW
11-2-2013 13:40 PDT	85.3	94.2	205	SSW
11-2-2013 13:45 PDT	86.3	95.1	204	SSW
11-2-2013 13:50 PDT	82.6	91.3	205	SSW
11-2-2013 13:55 PDT	79.5	90.2	211	SSW
11-2-2013 14:00 PDT	79	89.8	216	SW
11-2-2013 14:05 PDT	82.4	93.3	212	SSW
11-2-2013 14:10 PDT	81.6	90.2	213	SSW
11-2-2013 14:15 PDT	83.1	91.6	214	SW
11-2-2013 14:20 PDT	79.1	89.1	213	SSW
11-2-2013 14:25 PDT	83	92.9	215	SW
11-2-2013 14:30 PDT	84.2	95.5	215	SW
11-2-2013 14:35 PDT	85.5	97	214	SW
11-2-2013 14:40 PDT	75	91.3	215	SW
11-2-2013 14:45 PDT	76.4	91.1	214	SW
11-2-2013 14:50 PDT	78.5	89.8	212	SSW
11-2-2013 14:55 PDT	77.5	90.5	211	SSW

BPKEN	Wind Speed, mph	GUST, mph	Wind Direction, °	
11-2-2013 15:00 PDT	79.2	88	208	SSW
11-2-2013 15:05 PDT	75.5	85.4	208	SSW
11-2-2013 15:10 PDT	75.1	85.4	209	SSW
11-2-2013 15:15 PDT	71	82.1	208	SSW
11-2-2013 15:20 PDT	72.1	83.7	211	SSW
11-2-2013 15:25 PDT	70.8	81.7	211	SSW
11-2-2013 15:30 PDT	67.6	80.2	213	SSW
11-2-2013 15:35 PDT	65.3	77.1	212	SSW
11-2-2013 15:40 PDT	63	71.8	210	SSW
11-2-2013 15:45 PDT	64.7	74.3	211	SSW
11-2-2013 15:50 PDT	68.2	78.4	213	SSW
11-2-2013 15:55 PDT	68.3	81	214	SW
11-2-2013 16:00 PDT	73	87.2	216	SW
11-2-2013 16:05 PDT	76.1	85.2	214	SW
11-2-2013 16:10 PDT	73.2	85	215	SW
11-2-2013 16:15 PDT	69.2	82.1	215	SW
11-2-2013 16:20 PDT	65.7	77.3	214	SW
11-2-2013 16:25 PDT	70.8	79.7	216	SW
11-2-2013 16:30 PDT	68.7	78	216	SW
11-2-2013 16:35 PDT	61.2	73.4	214	SW
11-2-2013 16:40 PDT	64.4	71.2	212	SSW
11-2-2013 16:45 PDT	62.7	72.1	211	SSW
11-2-2013 16:50 PDT	64.7	74	208	SSW
11-2-2013 16:55 PDT	67.4	73.2	205	SSW
11-2-2013 17:00 PDT	68.1	74.3	206	SSW
11-2-2013 17:05 PDT	68.5	76	205	SSW
11-2-2013 17:10 PDT	69.1	76.7	204	SSW
11-2-2013 17:15 PDT	68.6	76.2	207	SSW
11-2-2013 17:20 PDT	68.9	77.5	209	SSW
11-2-2013 17:25 PDT	69.4	78.9	209	SSW
11-2-2013 17:30 PDT	66.9	73.8	206	SSW
11-2-2013 17:35 PDT	61.5	68.6	207	SSW
11-2-2013 17:40 PDT	60.3	67.9	209	SSW
11-2-2013 17:45 PDT	57.6	67.5	209	SSW
11-2-2013 17:50 PDT	58.9	68.1	212	SSW
11-2-2013 17:55 PDT	58.7	66.8	214	SW
11-2-2013 18:00 PDT	55.7	67.2	214	SW
11-2-2013 18:05 PDT	51	57.2	210	SSW
11-2-2013 18:10 PDT	46.6	53.2	213	SSW
11-2-2013 18:15 PDT	42.3	50.8	215	SW
11-2-2013 18:20 PDT	42	48.4	214	SW
11-2-2013 18:25 PDT	43.9	55.9	214	SW
11-2-2013 18:30 PDT	48.4	57.8	210	SSW
11-2-2013 18:35 PDT	51	60	207	SSW
11-2-2013 18:40 PDT	54.8	62.6	208	SSW
11-2-2013 18:45 PDT	53.8	62.9	204	SSW

BPKEN	Wind Speed, mph	GUST, mph	Wind Direction, °	
11-2-2013 18:50 PDT	59	65.9	205	SSW
11-2-2013 18:55 PDT	56.2	65.3	204	SSW
11-2-2013 19:00 PDT	56.8	64.2	206	SSW
11-2-2013 19:05 PDT	57.8	65.5	205	SSW
11-2-2013 19:10 PDT	60.1	66.6	206	SSW
11-2-2013 19:15 PDT	64.1	70.5	205	SSW
11-2-2013 19:20 PDT	64.8	70.1	205	SSW
11-2-2013 19:25 PDT	62.7	67.9	203	SSW
11-2-2013 19:30 PDT	61.7	67.2	203	SSW
11-2-2013 19:35 PDT	63.1	67.7	204	SSW
11-2-2013 19:40 PDT	62.7	67.2	204	SSW
11-2-2013 19:45 PDT	62.8	67.5	204	SSW
11-2-2013 19:50 PDT	62.3	67.5	205	SSW
11-2-2013 19:55 PDT	62.5	67.5	204	SSW
11-2-2013 20:00 PDT	62.7	67.9	204	SSW
11-2-2013 20:05 PDT	63	69.9	205	SSW
11-2-2013 20:10 PDT	63.1	69	203	SSW
11-2-2013 20:15 PDT	60.3	67	203	SSW
11-2-2013 20:20 PDT	56.7	65.1	202	SSW
11-2-2013 20:25 PDT	56.7	63.3	203	SSW
11-2-2013 20:30 PDT	57.1	62.9	203	SSW
11-2-2013 20:35 PDT	58.4	65.7	203	SSW
11-2-2013 20:40 PDT	58.5	63.3	204	SSW
11-2-2013 20:45 PDT	58.3	63.7	203	SSW
11-2-2013 20:50 PDT	59.8	65.9	204	SSW
11-2-2013 20:55 PDT	60	67	204	SSW
11-2-2013 21:00 PDT	62.6	68.3	205	SSW
11-2-2013 21:05 PDT	64.2	71.8	206	SSW
11-2-2013 21:10 PDT	61.5	69.9	207	SSW
11-2-2013 21:15 PDT	60.5	68.8	206	SSW
11-2-2013 21:20 PDT	60.2	68.6	205	SSW
11-2-2013 21:25 PDT	56.1	63.5	199	SSW
11-2-2013 21:30 PDT	55.1	60.5	198	SSW
11-2-2013 21:35 PDT	54.8	61.3	200	SSW
11-2-2013 21:40 PDT	53.7	61.3	201	SSW
11-2-2013 21:45 PDT	53.8	60.9	204	SSW
11-2-2013 21:50 PDT	52.2	59.4	206	SSW
11-2-2013 21:55 PDT	47.1	52.4	208	SSW
11-2-2013 22:00 PDT	45.1	51.9	205	SSW
11-2-2013 22:05 PDT	44	51.9	206	SSW
11-2-2013 22:10 PDT	47.4	55.4	207	SSW
11-2-2013 22:15 PDT	47.8	54.5	207	SSW
11-2-2013 22:20 PDT	45.4	54.3	203	SSW
11-2-2013 22:25 PDT	51.9	57.8	206	SSW
11-2-2013 22:30 PDT	52	58.7	206	SSW
11-2-2013 22:35 PDT	48.6	53.4	203	SSW

BPKEN	Wind Speed, mph	GUST, mph	Wind Direction, °	
11-2-2013 22:40 PDT	47.8	53	203	SSW
11-2-2013 22:45 PDT	47.1	53.4	201	SSW
11-2-2013 22:50 PDT	50.9	57.4	203	SSW
11-2-2013 22:55 PDT	50.1	55.9	203	SSW
11-2-2013 23:00 PDT	45.7	51.7	201	SSW
11-2-2013 23:05 PDT	48	56.7	207	SSW
11-2-2013 23:10 PDT	52.4	58	207	SSW
11-2-2013 23:15 PDT	52.3	58.9	206	SSW
11-2-2013 23:20 PDT	52.9	57.6	204	SSW
11-2-2013 23:25 PDT	54.1	62	204	SSW
11-2-2013 23:30 PDT	50.6	57.8	205	SSW
11-2-2013 23:35 PDT	48.5	56.5	202	SSW
11-2-2013 23:40 PDT	52.4	58.3	203	SSW
11-2-2013 23:45 PDT	51.3	56.7	201	SSW
11-2-2013 23:50 PDT	48.1	54.1	204	SSW
11-2-2013 23:55 PDT	46.7	49.5	202	SSW
11-3-2013 0:00 PDT	46	51.7	202	SSW

MesoWest
Disclaimer

Data provided by: Bonneville Power Administration

Contact MesoWest

BPHOR, 5-minute data, November 2

ID = BPHOR	Wind Speed, mph	GUST, mph	Wind Direction, °	
11-2-2013 0:00 PDT	9.9	9.9	15	NNE
11-2-2013 0:05 PDT	9.8	9.9	15	NNE
11-2-2013 0:10 PDT	9.4	9.7	16	NNE
11-2-2013 0:15 PDT	9.3	9.4	18	NNE
11-2-2013 0:20 PDT	9.2	9.4	15	NNE
11-2-2013 0:25 PDT	8.6	8.9	11	N
11-2-2013 0:30 PDT	8	8.2	10	N
11-2-2013 0:35 PDT	7	7.5	8	N
11-2-2013 0:40 PDT	7.2	7.7	9	N
11-2-2013 0:45 PDT	7.2	7.6	8	N
11-2-2013 0:50 PDT	4.3	6.7	4	N
11-2-2013 0:55 PDT	3.6	5.8	209	SSW
11-2-2013 1:00 PDT	5.2	8.1	205	SSW
11-2-2013 1:05 PDT	5.3	7.7	200	SSW
11-2-2013 1:10 PDT	4.5	5.7	202	SSW
11-2-2013 1:15 PDT	5	5	207	SSW
11-2-2013 1:20 PDT	5	5	212	SSW
11-2-2013 1:25 PDT	5	5	218	SW
11-2-2013 1:30 PDT	4.8	5.5	211	SSW
11-2-2013 1:35 PDT	2.6	4.8	188	S
11-2-2013 1:40 PDT	3.1	5	188	S
11-2-2013 1:45 PDT	5.1	7.2	206	SSW
11-2-2013 1:50 PDT	7.7	8.3	233	SW
11-2-2013 1:55 PDT	7.5	8.3	237	WSW
11-2-2013 2:00 PDT	6.5	7	236	SW
11-2-2013 2:05 PDT	5.1	5.9	244	WSW
11-2-2013 2:10 PDT	3.9	4.5	235	SW
11-2-2013 2:15 PDT	3.5	3.7	250	WSW
11-2-2013 2:20 PDT	3.2	3.4	271	W
11-2-2013 2:25 PDT	3.1	3.1	262	W
11-2-2013 2:30 PDT	2.9	3.1	270	W
11-2-2013 2:35 PDT	3	3.3	298	WNW
11-2-2013 2:40 PDT	3.2	3.6	307	NW
11-2-2013 2:45 PDT	4.3	6.4	311	NW
11-2-2013 2:50 PDT	5.4	6.8	324	NW
11-2-2013 2:55 PDT	4.5	5.3	341	NNW
11-2-2013 3:00 PDT	6.1	7	331	NNW
11-2-2013 3:05 PDT	3.6	5.4	339	NNW
11-2-2013 3:10 PDT	2.8	3.1	350	N
11-2-2013 3:15 PDT	2.7	3	354	N
11-2-2013 3:20 PDT	1.9	2.5	20	NNE
11-2-2013 3:25 PDT	3.1	3.6	348	NNW
11-2-2013 3:30 PDT	3.8	4.4	355	N
11-2-2013 3:35 PDT	4.3	4.4	5	N
11-2-2013 3:40 PDT	4.1	4.6	6	N

ID = BPHOR	Wind Speed, mph	GUST, mph	Wind Direction, °	
11-2-2013 3:45 PDT	4.7	5	351	N
11-2-2013 3:50 PDT	5.1	5.5	346	NNW
11-2-2013 3:55 PDT	6.3	7.4	3	N
11-2-2013 4:00 PDT	6.7	7.5	8	N
11-2-2013 4:05 PDT	5.4	6.6	350	N
11-2-2013 4:10 PDT	5.7	6.6	334	NNW
11-2-2013 4:15 PDT	4.9	5	330	NNW
11-2-2013 4:20 PDT	5.2	5.8	355	N
11-2-2013 4:25 PDT	5.6	6.4	4	N
11-2-2013 4:30 PDT	4.5	4.7	353	N
11-2-2013 4:35 PDT	3.9	4.1	341	NNW
11-2-2013 4:40 PDT	3.2	3.5	327	NNW
11-2-2013 4:45 PDT	2.9	3	310	NW
11-2-2013 4:50 PDT	1.5	2.9	294	WNW
11-2-2013 4:55 PDT	0.8	1.1	222	SW
11-2-2013 5:00 PDT	0.8	2.1	106	ESE
11-2-2013 5:05 PDT	3.6	5.2	120	ESE
11-2-2013 5:10 PDT	6.2	6.8	117	ESE
11-2-2013 5:15 PDT	4.1	6.5	127	SE
11-2-2013 5:20 PDT	2.3	2.8	138	SE
11-2-2013 5:25 PDT	3.2	3.5	119	ESE
11-2-2013 5:30 PDT	4.1	5.6	114	ESE
11-2-2013 5:35 PDT	6.5	6.8	106	ESE
11-2-2013 5:40 PDT	5.1	6.4	116	ESE
11-2-2013 5:45 PDT	4.3	4.6	118	ESE
11-2-2013 5:50 PDT	3.5	3.8	128	SE
11-2-2013 5:55 PDT	4.1	4.5	122	ESE
11-2-2013 6:00 PDT	4.5	4.8	128	SE
11-2-2013 6:05 PDT	3.6	4.8	146	SE
11-2-2013 6:10 PDT	3.8	4	167	SSE
11-2-2013 6:15 PDT	2.6	4.2	190	S
11-2-2013 6:20 PDT	3.8	4.6	211	SSW
11-2-2013 6:25 PDT	3.4	4	207	SSW
11-2-2013 6:30 PDT	3.6	4.6	175	S
11-2-2013 6:35 PDT	4.2	5.3	140	SE
11-2-2013 6:40 PDT	4.5	5.7	131	SE
11-2-2013 6:45 PDT	4.2	5.5	164	SSE
11-2-2013 6:50 PDT	2.7	4.6	172	S
11-2-2013 6:55 PDT	4.2	4.8	216	SW
11-2-2013 7:00 PDT	5	5.3	222	SW
11-2-2013 7:05 PDT	4	4.6	241	WSW
11-2-2013 7:10 PDT	3.7	4.2	309	NW
11-2-2013 7:15 PDT	3.4	4.1	316	NW
11-2-2013 7:20 PDT	2.2	4	261	W
11-2-2013 7:25 PDT	2.8	4.2	272	W
11-2-2013 7:30 PDT	3.4	5.2	280	W

ID = BPHOR	Wind Speed, mph	GUST, mph	Wind Direction, °	
11-2-2013 7:35 PDT	4.8	5.7	274	W
11-2-2013 7:40 PDT	4	5.9	288	WNW
11-2-2013 7:45 PDT	0.9	4.5	255	WSW
11-2-2013 7:50 PDT	1.6	2	160	SSE
11-2-2013 7:55 PDT	2.6	2.8	161	SSE
11-2-2013 8:00 PDT	4.1	5.2	164	SSE
11-2-2013 8:05 PDT	6.4	8.6	163	SSE
11-2-2013 8:10 PDT	8.4	10.5	165	SSE
11-2-2013 8:15 PDT	8	10.5	171	S
11-2-2013 8:20 PDT	4.7	9.2	179	S
11-2-2013 8:25 PDT	5.1	7.9	177	S
11-2-2013 8:30 PDT	5.3	9.6	182	S
11-2-2013 8:35 PDT	7.5	11.8	170	S
11-2-2013 8:40 PDT	9.2	11.6	148	SSE
11-2-2013 8:45 PDT	11	13.8	131	SE
11-2-2013 8:50 PDT	10.7	14.5	137	SE
11-2-2013 8:55 PDT	8.6	12.5	116	ESE
11-2-2013 9:00 PDT	7.4	11.4	122	ESE
11-2-2013 9:05 PDT	6.7	10.3	135	SE
11-2-2013 9:10 PDT	8.2	16.2	175	S
11-2-2013 9:15 PDT	8.2	15.3	187	S
11-2-2013 9:20 PDT	7.6	12.7	192	SSW
11-2-2013 9:25 PDT	5.8	9.9	179	S
11-2-2013 9:30 PDT	5	8.1	166	SSE
11-2-2013 9:35 PDT	6	10.3	166	SSE
11-2-2013 9:40 PDT	6.4	12.1	168	SSE
11-2-2013 9:45 PDT	6.7	10.3	166	SSE
11-2-2013 9:50 PDT	4.6	6.6	175	S
11-2-2013 9:55 PDT	2.3	5.3	209	SSW
11-2-2013 10:00 PDT	4.2	6.6	232	SW
11-2-2013 10:05 PDT	9.4	13.4	232	SW
11-2-2013 10:10 PDT	13.5	18.6	232	SW
11-2-2013 10:15 PDT	15.8	22.6	234	SW
11-2-2013 10:20 PDT	20.6	27.4	234	SW
11-2-2013 10:25 PDT	20.8	26.9	238	WSW
11-2-2013 10:30 PDT	22.9	30	240	WSW
11-2-2013 10:35 PDT	21.7	28	239	WSW
11-2-2013 10:40 PDT	21	26.9	239	WSW
11-2-2013 10:45 PDT	23.7	30.5	239	WSW
11-2-2013 10:50 PDT	26.3	39.6	237	WSW
11-2-2013 10:55 PDT	30	43.2	236	SW
11-2-2013 11:00 PDT	33.1	46	234	SW
11-2-2013 11:05 PDT	30.7	41.8	234	SW
11-2-2013 11:10 PDT	29.7	37.9	238	WSW
11-2-2013 11:15 PDT	27.6	35.9	239	WSW
11-2-2013 11:20 PDT	24	35.3	238	WSW

ID = BPHOR	Wind Speed, mph	GUST, mph	Wind Direction, °	
11-2-2013 11:25 PDT	30.5	42.7	239	WSW
11-2-2013 11:30 PDT	31.4	40.6	235	SW
11-2-2013 11:35 PDT	25.8	36.6	233	SW
11-2-2013 11:40 PDT	31.3	46.2	237	WSW
11-2-2013 11:45 PDT	30.1	39	241	WSW
11-2-2013 11:50 PDT	27.8	42.7	242	WSW
11-2-2013 11:55 PDT	34.6	49.1	244	WSW
11-2-2013 12:00 PDT	33.7	42.3	244	WSW
11-2-2013 12:05 PDT	31.7	43.2	242	WSW
11-2-2013 12:10 PDT	31.3	42.5	243	WSW
11-2-2013 12:15 PDT	27.5	37.7	242	WSW
11-2-2013 12:20 PDT	30.5	42.9	243	WSW
11-2-2013 12:25 PDT	27	40.5	243	WSW
11-2-2013 12:30 PDT	29.8	42.1	241	WSW
11-2-2013 12:35 PDT	28.5	45.1	244	WSW
11-2-2013 12:40 PDT	30	44.5	247	WSW
11-2-2013 12:45 PDT	28.4	43.2	245	WSW
11-2-2013 12:50 PDT	23.6	34.6	240	WSW
11-2-2013 12:55 PDT	26.8	46.7	242	WSW
11-2-2013 13:00 PDT	19.4	34.6	251	WSW
11-2-2013 13:05 PDT	18.1	31.5	248	WSW
11-2-2013 13:10 PDT	26.6	42.5	253	WSW
11-2-2013 13:15 PDT	30.7	44	250	WSW
11-2-2013 13:20 PDT	22.2	37.5	258	WSW
11-2-2013 13:25 PDT	18.3	33.5	265	W
11-2-2013 13:30 PDT	20.3	40.7	269	W
11-2-2013 13:35 PDT	23.8	37.5	275	W
11-2-2013 13:40 PDT	23.5	34.4	265	W
11-2-2013 13:45 PDT	21.7	39.6	261	W
11-2-2013 13:50 PDT	35	59.6	267	W
11-2-2013 13:55 PDT	33.5	48.6	265	W
11-2-2013 14:00 PDT	26.9	37.9	263	W
11-2-2013 14:05 PDT	26.9	38.8	265	W
11-2-2013 14:10 PDT	22	33.3	251	WSW
11-2-2013 14:15 PDT	25.6	37.9	250	WSW
11-2-2013 14:20 PDT	18.1	26.3	261	W
11-2-2013 14:25 PDT	20.3	42.1	257	WSW
11-2-2013 14:30 PDT	27.4	39	247	WSW
11-2-2013 14:35 PDT	26.3	43.8	245	WSW
11-2-2013 14:40 PDT	27.6	40.5	246	WSW
11-2-2013 14:45 PDT	20.7	36.6	255	WSW
11-2-2013 14:50 PDT	34.2	49.5	258	WSW
11-2-2013 14:55 PDT	36	50.4	252	WSW
11-2-2013 15:00 PDT	34.1	47.8	250	WSW
11-2-2013 15:05 PDT	30.8	44.2	249	WSW
11-2-2013 15:10 PDT	32.8	51.9	239	WSW

ID = BPHOR	Wind Speed, mph	GUST, mph	Wind Direction, °	
11-2-2013 15:15 PDT	33.9	48	239	WSW
11-2-2013 15:20 PDT	30.3	42.1	244	WSW
11-2-2013 15:25 PDT	39.3	55.2	245	WSW
11-2-2013 15:30 PDT	43.7	59.4	247	WSW
11-2-2013 15:35 PDT	33.7	45.6	256	WSW
11-2-2013 15:40 PDT	31.4	44.2	260	W
11-2-2013 15:45 PDT	34	58.3	248	WSW
11-2-2013 15:50 PDT	43.4	57.6	245	WSW
11-2-2013 15:55 PDT	38.2	50.4	246	WSW
11-2-2013 16:00 PDT	33.2	46	246	WSW
11-2-2013 16:05 PDT	29.8	43.8	244	WSW
11-2-2013 16:10 PDT	29.1	41	246	WSW
11-2-2013 16:15 PDT	30.1	42.7	242	WSW
11-2-2013 16:20 PDT	27.5	35.1	240	WSW
11-2-2013 16:25 PDT	28	37.7	238	WSW
11-2-2013 16:30 PDT	29.8	38.6	237	WSW
11-2-2013 16:35 PDT	28.2	38.1	239	WSW
11-2-2013 16:40 PDT	24.4	32.2	241	WSW
11-2-2013 16:45 PDT	26.4	37.2	242	WSW
11-2-2013 16:50 PDT	26	34.6	242	WSW
11-2-2013 16:55 PDT	24.8	31.5	243	WSW
11-2-2013 17:00 PDT	22.5	30.7	244	WSW
11-2-2013 17:05 PDT	21.1	27.6	248	WSW
11-2-2013 17:10 PDT	23.4	39.4	247	WSW
11-2-2013 17:15 PDT	29	42.3	245	WSW
11-2-2013 17:20 PDT	28.9	42.9	241	WSW
11-2-2013 17:25 PDT	30.5	42.1	245	WSW
11-2-2013 17:30 PDT	29.1	41.6	246	WSW
11-2-2013 17:35 PDT	27.5	39.4	244	WSW
11-2-2013 17:40 PDT	26.2	34.2	242	WSW
11-2-2013 17:45 PDT	25.7	38.3	244	WSW
11-2-2013 17:50 PDT	26.7	36.1	240	WSW
11-2-2013 17:55 PDT	30.4	40.7	242	WSW
11-2-2013 18:00 PDT	31.1	39.9	239	WSW
11-2-2013 18:05 PDT	26.8	37.7	235	SW
11-2-2013 18:10 PDT	25.1	37.9	237	WSW
11-2-2013 18:15 PDT	23.7	33.5	234	SW
11-2-2013 18:20 PDT	22.2	30.9	234	SW
11-2-2013 18:25 PDT	24	33.3	237	WSW
11-2-2013 18:30 PDT	24.4	32.6	241	WSW
11-2-2013 18:35 PDT	25.8	36.6	238	WSW
11-2-2013 18:40 PDT	23	30.5	238	WSW
11-2-2013 18:45 PDT	21.5	29.4	238	WSW
11-2-2013 18:50 PDT	22.1	30.7	235	SW
11-2-2013 18:55 PDT	20	28.7	233	SW
11-2-2013 19:00 PDT	18.8	26.7	232	SW

ID = BPHOR	Wind Speed, mph	GUST, mph	Wind Direction, °	
11-2-2013 19:05 PDT	20.2	31.5	236	SW
11-2-2013 19:10 PDT	22.3	32	235	SW
11-2-2013 19:15 PDT	22.2	31.5	237	WSW
11-2-2013 19:20 PDT	20.5	28	230	SW
11-2-2013 19:25 PDT	20.7	28	231	SW
11-2-2013 19:30 PDT	21.8	30.7	235	SW
11-2-2013 19:35 PDT	20.1	27.6	232	SW
11-2-2013 19:40 PDT	19.5	24.3	228	SW
11-2-2013 19:45 PDT	18.6	24.3	229	SW
11-2-2013 19:50 PDT	19.5	24.8	230	SW
11-2-2013 19:55 PDT	20.2	28	231	SW
11-2-2013 20:00 PDT	21.8	28.5	233	SW
11-2-2013 20:05 PDT	19.8	25.9	233	SW
11-2-2013 20:10 PDT	22.7	31.3	235	SW
11-2-2013 20:15 PDT	24.9	34.8	235	SW
11-2-2013 20:20 PDT	23.5	29.4	238	WSW
11-2-2013 20:25 PDT	21.7	32.2	237	WSW
11-2-2013 20:30 PDT	22.4	30.5	240	WSW
11-2-2013 20:35 PDT	25.5	32.2	242	WSW
11-2-2013 20:40 PDT	24.8	33.7	239	WSW
11-2-2013 20:45 PDT	26.1	32.4	241	WSW
11-2-2013 20:50 PDT	23.8	31.8	240	WSW
11-2-2013 20:55 PDT	23.3	30.5	238	WSW
11-2-2013 21:00 PDT	26.3	38.3	241	WSW
11-2-2013 21:05 PDT	29.3	38.1	240	WSW
11-2-2013 21:10 PDT	25.6	32.9	235	SW
11-2-2013 21:15 PDT	27.2	37	236	SW
11-2-2013 21:20 PDT	25.8	35.9	237	WSW
11-2-2013 21:25 PDT	25.7	36.4	238	WSW
11-2-2013 21:30 PDT	26.8	36.4	236	SW
11-2-2013 21:35 PDT	22.9	31.5	238	WSW
11-2-2013 21:40 PDT	21.3	28.5	237	WSW
11-2-2013 21:45 PDT	21.7	35.3	238	WSW
11-2-2013 21:50 PDT	22.4	30.5	238	WSW
11-2-2013 21:55 PDT	25.4	33.1	244	WSW
11-2-2013 22:00 PDT	25.4	34.4	245	WSW
11-2-2013 22:05 PDT	25.4	34.2	240	WSW
11-2-2013 22:10 PDT	22.1	32.4	235	SW
11-2-2013 22:15 PDT	24.8	33.1	236	SW
11-2-2013 22:20 PDT	23	30.2	241	WSW
11-2-2013 22:25 PDT	22.9	33.3	239	WSW
11-2-2013 22:30 PDT	24.5	31.5	239	WSW
11-2-2013 22:35 PDT	22.2	29.4	240	WSW
11-2-2013 22:40 PDT	23.8	31.5	241	WSW
11-2-2013 22:45 PDT	25.2	32.6	238	WSW
11-2-2013 22:50 PDT	21.4	30.7	234	SW

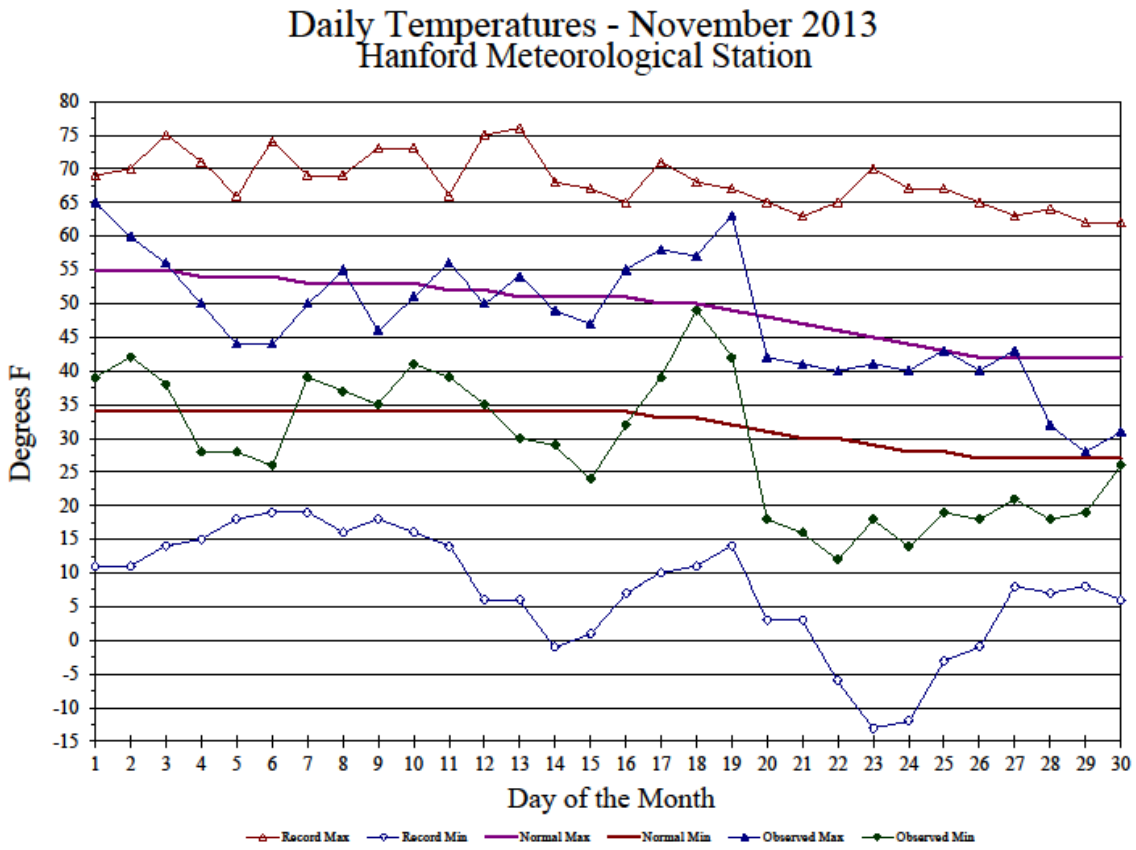
ID = BPHOR	Wind Speed, mph	GUST, mph	Wind Direction, °	
11-2-2013 22:55 PDT	20.6	28.5	234	SW
11-2-2013 23:00 PDT	23	30.5	237	WSW
11-2-2013 23:05 PDT	23.2	29.8	236	SW
11-2-2013 23:10 PDT	25.1	35.9	235	SW
11-2-2013 23:15 PDT	27.5	37	236	SW
11-2-2013 23:20 PDT	29.1	39.2	238	WSW
11-2-2013 23:25 PDT	28.1	35.5	240	WSW
11-2-2013 23:30 PDT	22.7	31.1	238	WSW
11-2-2013 23:35 PDT	22.5	28.7	240	WSW
11-2-2013 23:40 PDT	20.3	26.9	239	WSW
11-2-2013 23:45 PDT	20	30.7	240	WSW
11-2-2013 23:50 PDT	20.7	27.6	238	WSW
11-2-2013 23:55 PDT	20.1	28.4	240	WSW
11-3-2013 0:00 PDT	20.5	29.4	239	WSW

Data provided by: Bonneville Power Administration

BPKEN, BPHOR hourly wind data, November 2

	hour	bpken_speed	bphor_speed
11/2/2013	0:00	13.7	5.1
11/2/2013	1:00	20.4	4.1
11/2/2013	2:00	19.1	4.0
11/2/2013	3:00	17.1	4.2
11/2/2013	4:00	20.5	4.0
11/2/2013	5:00	26.7	3.8
11/2/2013	6:00	33.2	3.2
11/2/2013	7:00	38.1	7.4
11/2/2013	8:00	43.4	6.2
11/2/2013	9:00	43.8	19.2
11/2/2013	10:00	55.6	29.7
11/2/2013	11:00	71.9	29.1
11/2/2013	12:00	86.1	24.4
11/2/2013	13:00	80.4	26.0
11/2/2013	14:00	70.1	35.5
11/2/2013	15:00	68.1	28.1
11/2/2013	16:00	64.7	26.8
11/2/2013	17:00	50.4	24.1
11/2/2013	18:00	61.8	20.4
11/2/2013	19:00	59.6	23.4
11/2/2013	20:00	56.8	25.0
11/2/2013	21:00	48.2	23.4
11/2/2013	22:00	50.3	23.5
11/2/2013	23:00	50.5	21.5
# hours> 25 mph		19	7

Hanford Meteorological Data for November 2013



Narrative Summary – November 2013

The average temperature for November 2013 was below normal, averaging 38.4°F, 2.1° be;pw normal (40.5°F). The warmest November (1990) averaged 46.5°F; while the coolest (1985) averaged 24.8°F. There were no temperature records established during November 2013:

Precipitation for November 2013 totaled 0.36 inches, 38% of normal (0.95 inch). The wettest November (1996) received 2.67 inches; and the driest (1976) received only a trace. There was no snow recorded during November 2013, compared to a normal of 2.0 inches. The snowiest November on record (1985) received 18.3 inches. Total precipitation for 2013 (through November) is 5.31 inches, 89% of normal (5.94 inches).

The average wind speed for November 2013 was 7.1 miles per hour (mph), which was 0.4 mph above normal (6.7 mph). The windiest November on record (1990) averaged 10.0 mph, while the November with the lightest winds (1956) averaged 2.9 mph. The peak gust for November 2013 was 61 mph on November 2. The record wind gust for November was 67 mph in 1993.

Autumn 2013 (September, October and November) averaged 53.4°F, which is 0.1° above normal (53.3°F) for the autumn months. The warmest autumn (1990) averaged 57.1°F; while the coolest (1985) averaged 44.5°F. Precipitation for autumn 2013 totaled 1.16 inches, 66% of normal (1.75 inches). The wettest autumn (1973) received 4.79 inches; and the driest (1976) received only 0.04 inch.

The monthly climatological data summaries, as well as other information, are available on the Internet. Address: http://www.hanford.gov/HMS

Ken Burk 373-3215
HMS Staff 373-2716

Note: The data in this summary pertains specifically to the Hanford Meteorology Station (HMS), which is located approximately 25 miles northwest of Richland, WA. No attempt should be made to infer meteorological conditions at other locations from these data.

CLIMATOLOGICAL DATA

HANFORD METEOROLOGY STATION

25 MILES N.W. OF RICHLAND, WASHINGTON

LATITUDE 46° 34' N., LONGITUDE 119° 36' W., ELEVATION (GROUND) 733 FEET

MONTH

November 2013

	TEMPERATURE (°F) (3-FT LEVEL)						PRECIPITATION			WIND (50-FT LEVEL)							FRONTS AND MISC. PHENOMENA
																	NOTE: TIMES OF FRONTAL PASSAGES ARE GIVEN AFTER THE NOTATIONS "KFR" (COLD FRONT) AND "WFR" (WARM FRONT)
DATE	MAXIMUM	MINIMUM	AVERAGE	DEPARTURE FROM NORMAL	HEATING DEGREE DAYS (BASE 65°F)	COOLING DEGREE DAYS (BASE 65°F)	TOTAL (WATER EQUIVALENT IN IN.)	SNOW, ICE PELLETS (SLEET) (IN.)	SNOW, ICE PELLETS (SLEET) OR ICE ON GROUND AT 0400 (IN.)	PREVAILING DIRECTION	AVERAGE SPEED (MPH)	PEAK GUST SPEED (MPH)	PEAK GUST DIRECTION	AVERAGE REL HUM %	SOLRAD (LANGLEYS*)	SKY COVER (TENTHS FROM SUNRISE TO SUNSET)	
1	2	3	4	5	6A	6B	7	8	9	10	11	12	13	14	15	16	17
1	65	39	52	+7	13	0				SE	4.4	11	S	56.8	214.8	3	
2	60	42	51	+6	14	0	0.14			SW	16.8	61	WSW	60.6	210.0	5	BD, KFR 1100
3	56	38	47	+3	18	0				W	10.8	28	WSW	51.7	200.4	6	
4	50	28	39	-5	26	0				NW	5.8	14	SSE	52.6	232.2	1	
5	44	28	36	-8	29	0	0.03			NW	4.3	12	NW	83.2	113.4	10	WFR 0535
6	44	26	35	-9	30	0	0.10			NW	5.5	16	NW	88.5	79.2	10	
7	50	39	44	0	21	0	0.09			NW	9.2	40	SW	85.9	57.0	10	KFR 1345
8	55	37	46	+3	19	0				W	10.1	27	W	62.5	115.2	9	
9	46	35	40	-3	25	0				NW	7.9	20	NNW	80.9	112.2	10	
10	51	41	46	+3	19	0				NW	6.9	14	NW	79.1	132.6	10	
11	56	39	48	+5	17	0				NW	5.6	11	WNW	77.8	184.2	9	
12	50	35	42	-1	23	0	T			NW	4.0	12	S	90.5	101.4	8	WFR 0655, KFR 1400
13	54	30	42	-1	23	0				W	5.1	23	WNW	91.0	155.4	7	
14	49	29	39	-4	26	0				NW	4.0	10	ESE	87.0	111.0	7	KFR 1300
15	47	24	36	-6	29	0	T			SW	10.0	39	SW	73.0	36.6	10	
16	55	32	44	+2	21	0				W	11.8	32	NW	52.2	181.2	2	KFR 0230
17	58	39	48	+6	17	0				SW	13.9	36	SW	54.7	136.8	8	
18	57	49	53	+12	12	0				SW	13.4	34	SSW	59.4	35.4	10	WFR 2315
19	63	42	52	+11	13	0				NW	18.7	42	SSW	54.2	129.0	7	KFR 1220
20	42	18	30	-10	35	0				N	8.4	21	N	34.1	187.2	0	
21	41	16	29	-11	37	0				W	5.2	14	WNW	45.7	183.0	0	
22	40	12	26	-12	38	0				NW	5.9	13	N	61.3	165.6	4	
23	41	18	30	-7	35	0				NW	4.8	11	WNW	65.5	171.6	2	
24	40	14	27	-9	38	0				NE	3.3	9	WSW	73.2	173.4	1	
25	43	19	31	-4	34	0				SW	2.8	6	W	72.2	155.4	7	
26	40	18	29	-6	36	0				S	3.0	9	SSE	80.4	127.8	9	
27	43	21	32	-3	33	0				NW	4.5	10	NW	85.2	124.8	9	
28	32	18	25	-10	40	0				E	2.8	8	ESE	98.5	95.4	10	
29	28	19	24	-11	41	0				SW	1.6	6	NNW	97.8	37.2	10	
30	31	26	28	-6	37	0				SW	1.8	5	ENE	98.9	35.4	10	
31																	
SUM					800	0	0.36										
AVG	47.7	29.0									7.1					6.8	

NOTES:

(1) Unless otherwise specified, the daily summary period is from midnight to midnight Pacific Standard Time.

(2) "T" in Columns 7-9 denotes a trace.

(3) The Langley (Col. 15) is the unit used to denote one gram calorie/cm².

TEMPERATURE (°F) (3-FT LEVEL)			
AVERAGE FOR THE MONTH			38.4
DEPARTURE FROM NORMAL			-2.1
HIGHEST	65	ON	1
LOWEST	12	ON	22
NUMBER OF DAYS WITH:			
MAXIMUM 32 OR BELOW			3
MAXIMUM 90 OR ABOVE			0
MINIMUM 32 OR BELOW			18
MINIMUM 0 OR BELOW			0
HEATING DEGREE DAYS (BASE 65°F)			
TOTAL FOR THE MONTH			800
DEPARTURE FROM NORMAL			+69
SEASONAL TOTAL (SINCE JULY 1)			1247
SEASONAL DEPARTURE FROM NORMAL			+66

PRECIPITATION (IN.)				
TOTAL FOR THE MONTH			0.36	
DEPARTURE FROM NORMAL			-0.59	
GREATEST IN 24 HR	0.19	ON	6-7	
NUMBER OF DAYS WITH:				
TRACE OR MORE	6	0.25 OR MORE	0	
0.01 OR MORE	4	0.50 OR MORE	0	
0.10 OR MORE	2	1.00 OR MORE	0	
SNOW, ICE PELLETS (SLEET) (IN.)				
TOTAL FOR THE MONTH			0	
GREATEST IN 24 HOURS	NA	ON	NA	
GREATEST ON GROUND	MA	ON	MA	
WIND (50-FT LEVEL)				
AVERAGE SPEED (MPH)			7.1	
DEPARTURE FROM NORMAL			+0.4	
PEAK GUST	WSW @ 61	ON	2	
AVERAGE PSYCHROMETRIC DATA				
DRY BULB (°F)	38.0	WET BULB (°F)	34.3	
REL. HUM. (%)	71.8	DEW PT. (°F)	28.5	
+DENOTES LATEST OF SEVERAL DATES				

MISC. PHENOMENA NOTATIONS USED IN COL. 17		
A - Hail	AU - Aurora	BD - Blowing Dust
BS - Blowing Snow	D - Dust	DL - Distant Lightning
DS - Drifting Snow	F - Fog	GL - Glaze
IC - Ice Crystals	K - Smoke	T - Thunderstorm

BAROMETRIC PRESSURE (IN.)			
AVERAGE STATION			29.357
HIGHEST SEA LEVEL	30.832	ON	22
LOWEST SEA LEVEL	29.294	ON	16
SOLAR RADIATION (LANGLEYS)			
AVERAGE DAILY TOTAL			133.16
GREATEST DAILY	232.2	ON	4
LEAST DAILY	35.4	ON	30+
MISCELLANEOUS NUMBER OF DAYS			
CLEAR	7	FOG	7
PARTLY CLOUDY	7	THUNDER	0
CLOUDY	16	DUST	0
RELATIVE HUMIDITY EXTREMES (%)			
HIGHEST	100	ON	30+
LOWEST	15	ON	20

Pasco Airport Data, November 2, 2013, GMT/UTV

Past Weather Conditions for KPSC

Observations prior to selected time: November 02, 2013 - 22:00 GMT

Weather Conditions at November 2, 2013 - 21:53 GMT

Graphical Links	With Prior Obs	21:53	24 Hour Max	24 Hour Min
Temperature	Temperature	57.0° F	64.9 at 22:53	46.0 at 10:53
Dew Point	Dew Point	35.1° F	46.0 at 16:53	35.1 at 21:53
Wet Bulb Temperature	Wet Bulb Temperature	46.4° F	51.8 at 18:53	44.1 at 8:53
Relative Humidity	Relative Humidity	44%	97 at 13:53	36 at 22:53
Wind Speed	Wind Speed	29 mph from WSW	36 at 18:53	0 at 0:53
Wind Gust	Wind Gust	39 mph	46 at 19:53	26 at 16:53
Pressure	Pressure	29.29 in	29.70 at 22:53	29.24 at 16:53
Sea level pressure	Sea level pressure	29.72 in	30.14 at 22:53	29.67 at 16:53
Altimeter	Altimeter	29.72 in	30.14 at 22:53	29.67 at 16:53
1500 m Pressure	1500 m Pressure	24.80in	25.15 at 22:53	24.76 at 16:53
Weather conditions	Weather conditions	haze, blowing dust	-	-
Visibility	Visibility	4.00 miles	10.00 at 22:53	4.00 at 21:20
Ceiling	Ceiling	-	11000 at 10:53	2200 at 20:53

Precipitation variable accumulated	Since Midnight	In 24 Hours
Precipitation 1hr	0.142"	0.142"
Precipitation 6hr	0.141"	0.141"

Tabular Listing: November 1, 2013 - 22:00 through November 02, 2013 - 22:00 GMT

Time(GMT)	Temperature	Dew Point	Wet Bulb Temperature	Relative Humidity	Wind Speed	Wind Gust	Wind Direction	Peak Wind Speed	Quality check	Pressure	Sea level pressure	Altimeter	1500 m Pressure	Weather conditions	Visibility	Precipitation 1hr	Precipitation 3hr	Precipitation 6hr	Ceiling
	°F	°F	°F	%	mph	mph		mph		in	in	in	in		miles	in	in	in	feet
21:53	57.0	35.1	46.4	44	29	39	WSW		OK	29.29	29.72	29.72	24.80	haze, blowing dust	4.00				
21:20	57.2	35.6	46.7	44	20	31	SW	35	OK	29.28		29.71	24.79	haze, blowing dust	4.00				
20:53	59.0	39.0	48.8	47	22	43	WSW		OK	29.27	29.70	29.70	24.78	blowing dust	8.00				2200
19:53	59.0	39.9	49.2	49	32	46	SW		OK	29.24	29.67	29.67	24.76	blowing dust	9.00				
18:53	60.1	45.0	51.8	57	36	45	SW		OK	29.25	29.67	29.68	24.77	mostly clear	10.00				
17:53	54.0	46.0	49.7	74	6				OK	29.25	29.67	29.68	24.77	clear	10.00			0.140	
16:53	51.1	46.0	48.4	83	16	26	SSE		OK	29.24	29.67	29.67	24.76	mostly cloudy	10.00				10000
15:53	50.0	46.0	47.9	86	10		SSE		OK	29.27	29.70	29.70	24.78	overcast	10.00	0.070			10000
14:53	46.9	46.0	46.5	97	0				OK	29.28	29.71	29.71	24.79	lt rain	10.00	0.050	0.07		7000
13:53	46.9	46.0	46.5	97	0				OK	29.26	29.69	29.69	24.78	lt rain	10.00	0.020			7000
12:53	48.0	43.0	45.5	83	3		E		OK	29.27	29.70	29.70	24.78	lt rain	10.00	0.001			8000
11:53	48.9	42.1	45.5	77	3		WNW		OK	29.31	29.73	29.74	24.82	overcast	10.00	0.001		0.001	9500
10:53	46.0	42.1	44.1	86	6		NNW		OK	29.33	29.77	29.77	24.84	overcast	10.00				11000
9:53	46.9	42.1	44.5	83	5		NW		OK	29.37	29.81	29.81	24.88	overcast	10.00				10000
8:53	48.0	39.9	44.1	73	0				OK	29.40	29.84	29.84	24.90	mostly clear	10.00				
7:53	48.9	41.0	45.0	74	0				OK	29.44	29.88	29.88	24.93	clear	10.00				
6:53	48.9	42.1	45.5	77	0				OK	29.49	29.93	29.93	24.98	clear	10.00				
5:53	48.0	42.1	45.1	80	5		N		OK	29.52	29.96	29.96	25.00	clear	10.00				
4:53	53.1	39.0	46.1	59	7		E		OK	29.53	29.97	29.97	25.01	mostly clear	10.00				
3:53	48.0	39.9	44.1	73	0				OK	29.57	30.01	30.01	25.04	clear	10.00				
2:53	50.0	39.0	44.6	66	0				OK	29.60	30.05	30.04	25.07	clear	10.00				
1:53	52.0	39.9	46.0	63	0				OK	29.63	30.08	30.07	25.09	clear	10.00				
0:53	55.0	41.0	47.9	59	0				OK	29.65	30.09	30.09	25.11	clear	10.00				
23:53	64.0	37.0	50.4	37	3		SSE		OK	29.67	30.12	30.11	25.13	clear	10.00				
22:53	64.9	37.0	50.8	36	3		S		OK	29.70	30.14	30.14	25.15	clear	10.00				
21:53	64.0	39.0	51.1	40	3		S		OK	29.71	30.16	30.15	25.16	clear	10.00				

http://mesowest.utah.edu/cgi-bin/droman/meso_base.cgi?stn=KPSC&year1=2013&month1=11&day1=02&hour1=22&past=1&time=GMT (Greenwich Mean Time is 8 hours ahead of PST)

Office of the Washington State Climatologist

December 3, 2013

November Event Summary

Mean November temperatures were near to below normal around the state, and precipitation was uniformly much below normal. While this past November did not set records, it did rank in the top ten driest Novembers for several stations around the state. Table 1 lists some examples, showing the precipitation amount for November 2013, the ranking, the record low precipitation and the year, as well as the year that measurements began at the station. These dry conditions in addition to the extremely dry October conditions means that we are behind for precipitation and snow totals in the mountains for the 2014 water year.

In this Issue

The first weekend of the month (Nov 2-3) was eventful weather-wise; there was mountain snow, gusty winds (e.g., 89 mph at SeaTac Airport; 66 mph at Whidbey Island Naval Air Station; 46 mph at Spokane), power outages, large ocean swells, and precipitation with some snow in eastern WA. That first weekend, however, did not portend how the rest of November would play out. There were only two other times during the month with stormy weather to note here: Nov 7 and Nov 18. There was heavy rain, mountain snow, and gusty coastal winds (between 46 and 89 mph) beginning on Nov 6 into Nov 7. Heavy rain fell statewide on Nov 18 into the 19th (Figure 1), even prompting a few flood warnings for western WA - the Skokomish River near Potlatch and Grays River near Rosburg. After this event, the weather pattern shifted to a blocking high pressure that resulted in dry and cold conditions. Low temperatures were in the teens and single digits in eastern WA on Nov 21, while lows dropped into the 20s and 30s for western WA. Goldendale recorded a record daily low temperature of 10°F on Nov 22. There were burn

Station	Nov 2013 Precipitation	Rank	Record Low Precip; Year	Records Began
Pasco	0.40"	6	0.17"; 2011	1946
Hoquiam	6.60"	7	2.61"; 1976	1963
Quillayute	7.92"	7	4.41"; 1976	1966
Centralia	2.64"	9	0.63"; 1936	1893

Table 1: November 2013 precipitation, the ranking (driest to wettest), the record driest and year of occurrence, and the year that records began at each station.

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bans and air stagnation advisories during this period in the interest of preserving air quality. There were some mornings with heavy fog, but it was nowhere near as extensive as in October. This dry period had the unfortunate consequence of resulting in less-than-adequate mountain snow for skiing; most of the ski resorts in WA State were closed over the Thanksgiving holiday.

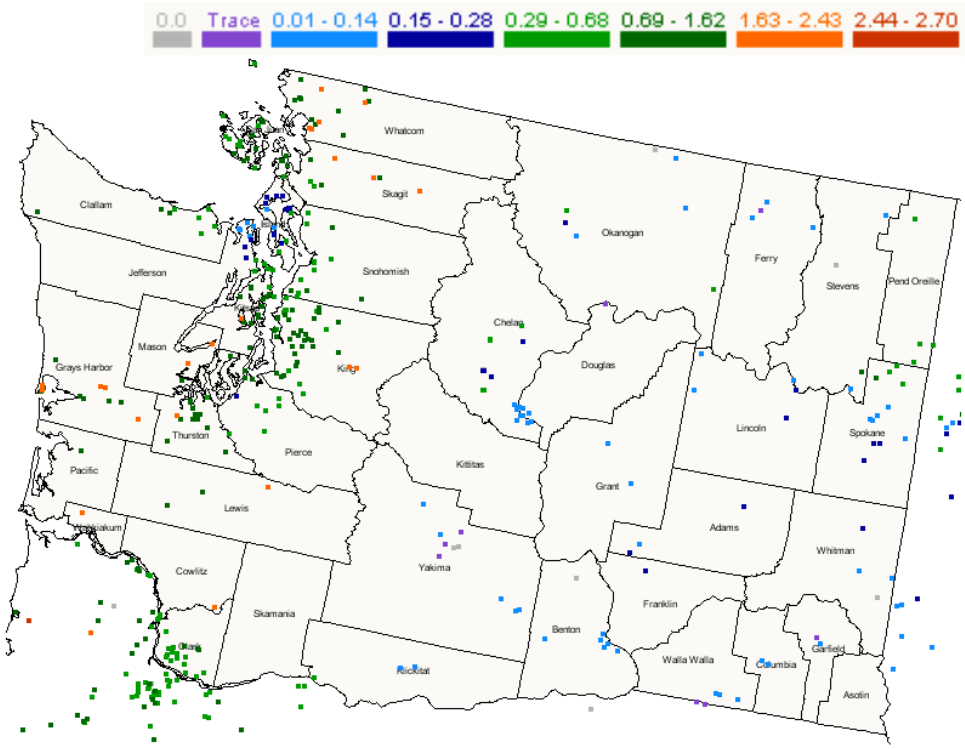


Figure 1: 24-hr precipitation totals from the Community, Collaborative, Rain, Hail, and Snow (CoCoRaHS) network on the morning of November 19, 2013 (between 7 and 9 am).

Causes and Examples of Landslides in WA

A message from the State Climatologist

Much of Washington state features steep terrain and unconsolidated soils, which means that landslides are a regular part of the landscape. And since many of these slides are associated with heavy rainfall, they occur more often in the winter, with plenty of exceptions. Of course they can also be triggered by a variety of other agents such as earthquakes, volcanic eruptions, water level changes, and human activities; here we focus on landslides associated with the weather. The purpose of this piece is to provide a brief discussion of their causes and relevant factors, summaries of some recent notable events, and some links for more information.

The landslides caused by intense rainfall tend to be shallow, fast-moving, and accompanied by debris, which makes them particularly hazardous. They often occur in locations where porous soils overlie more impermeable layers of clay or bedrock. The water that percolates down through this porous layer serves to float the sand and gravel particles above the interface with the lower layer. This reduces the binding between the layers, and if it gets low enough, the upper layer slumps under the force of gravity. It bears emphasizing that the threat of landslides is not related just to the steepness of the slope but also factors such as composition of the soil and landform characteristics such as bedrock hollows, many of which can be hidden. Our actions can increase (or decrease) the hazard. The removal of mature vegetation is an obvious example, but stability can also be compromised due to diversion of extra water onto a hillside, and by excavation, particularly at the toe of a slope.

Landslides or mudslides have been included in 10 of the Major Disaster Declarations by the federal government for WA since 1989. There are a few specific examples from the past couple of decades that are especially memorable. The holiday season of 1996-97 in the Puget Sound region is remembered for its one-two punch of snow followed by heavy rain. This caused a host of problems including the collapse of roofs and marinas, flooding, and slides resulting in millions of dollars of damage and at least 4 fatalities, with locations at the bases of steep coastal bluffs being particularly hard-hit. An intense and unusually slow-moving storm in December 2007 produced not just an extended period of strong winds on the coast but also record-setting rainfall in southwestern WA, with as much as 14.35 inches recorded in a 24-hour period in the watershed of the Chehalis River. Landslides numbering at least in the hundreds were the consequence with numerous road closures (Fig. 2). The impacts of clear-cutting on some of the more major slides are still being sorted out. The wait was not long for another severe event that affected much of the state. January 2009 brought warm, drenching rains on the heels of wintry weather during late December 2008. An outcome was landslides from Cowlitz County in the south to Whatcom County in the north, with most of the damage of this sort in the Cascade Mountains. This event resembled that of 1996-97 in that it featured rain on snow at the locations of many of the slides. Perhaps snow on the ground is not just an additional source of water, but through its weight can also have a significant influence on the stability of slopes, especially ones near the threshold of failure.

Figure 2: The Pe Ell landslide of December 3, 2007. This slide blocked State Route 6 and damaged three structures (from the Department of Natural Resources: http://www.dnr.wa.gov/ResearchScience/Topics/GeologicHazardsMapping/Pages/landslides_dec07storm.aspx).

While the emphasis here is on the fast-moving landslides usually associated with rain, it is noted that these are not restricted to the west side of Washington state. The Okanogan Highlands extending from the North Cascades eastward to the Selkirk Mountains is one of the "landscape provinces" of WA. This region is subject to debris flows caused by thunderstorms, often in late spring through summer. Some of these have even produced damaging tsunamis on Lake Roosevelt behind Grand Coulee Dam. Our state is also subject to deep, slow-moving slides. A notable recent example of this sort is the Aldercrest-Banyon landslide that occurred near Kelso from 1998 into 1999. It resulted in 137 homes being condemned (about $70 million in total damage). While it was not due to a single weather event, it is hypothesized that above-normal precipitation during the 3-4 years preceding the slide was an important contributing factor.

At the time of this writing (late November 2013), there have already been a few minor slides this wet season even though there has not been much in the way of floods (at least yet). There are a variety of resources available online for readers interested in landslides (e.g., Fig. 3), particularly materials posted by Department of Natural Resources such as the following: http://www.dnr.wa.gov/Publications/ger_fs1_landslides.pdf. The Department of Ecology also provides information, with a focus on Puget Sound (http://www.ecy.wa.gov/programs/sea/landslides/maps/maps.html). Two products that are still in development use indices to track landslide likelihood – one is an online hazard map based on recent rainfall from DNR (https://fortress.wa.gov/dnr/landslidewarning/) and the other compares conditions to a landslide threshold for the Seattle area from USGS (http://landslides.usgs.gov/monitoring/seattle/rtd/plot.php). Both of these tools were developed in collaboration with the National Weather Service, which additionally provides Special Weather Statements regarding landslide threats beyond what these tools incorporate in the indices.

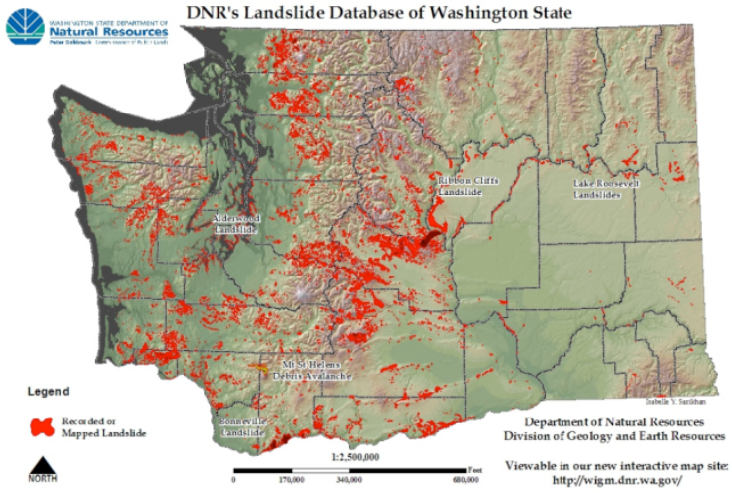


Figure 3: Mapped landslides from the Washington Interactive Geologic Map (http://www.dnr.wa.gov/geologyportal).

Snowpack Summary

The snow water equivalent (SWE) for the Olympic Mountains and the Cascades is below normal as of December 2, 2013 (Figure 4). The dry October and November conditions combined with the relatively warm mountain conditions has resulted in a slow start to the 2013-14 snowpack. The Olympic and Lower Columbia basins are only at 42 and 43% of normal snow water equivalent. The Central Puget Sound, South Puget Sound, Central Columbia, and Upper Yakima are all also below normal (between 50 and 69% of normal). The North Puget Sound and Lower Yakima basins are doing better but are still tracking below normal, with 85 and 72% of normal SWE, respectively. Finally, the basins in eastern WA are off to a good start with near-normal SWE in the Upper Columbia, and above normal SWE in the Spokane and Lower Snake.

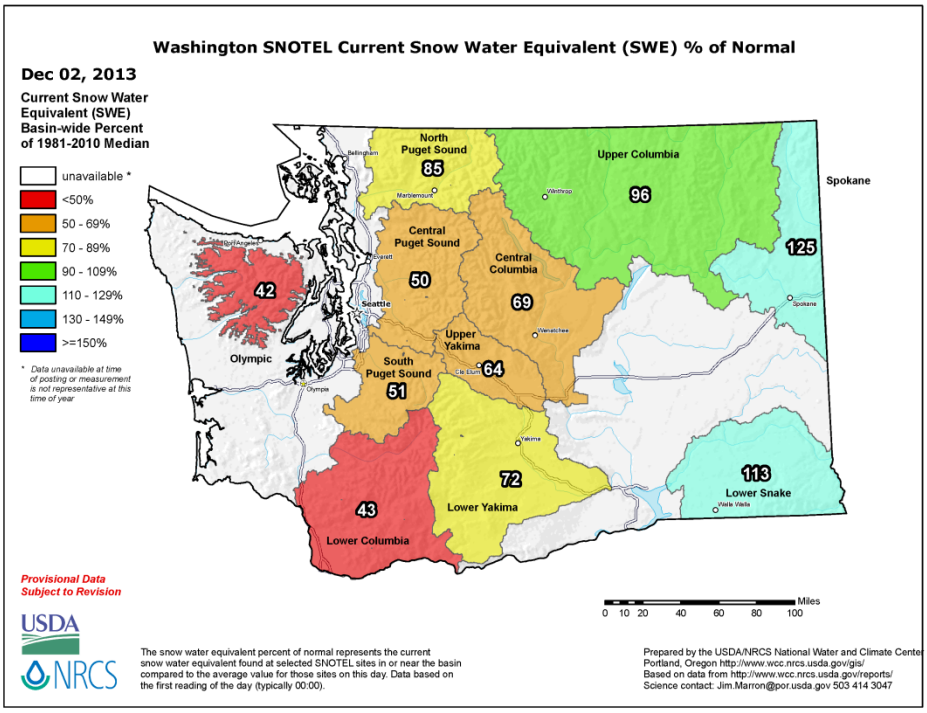
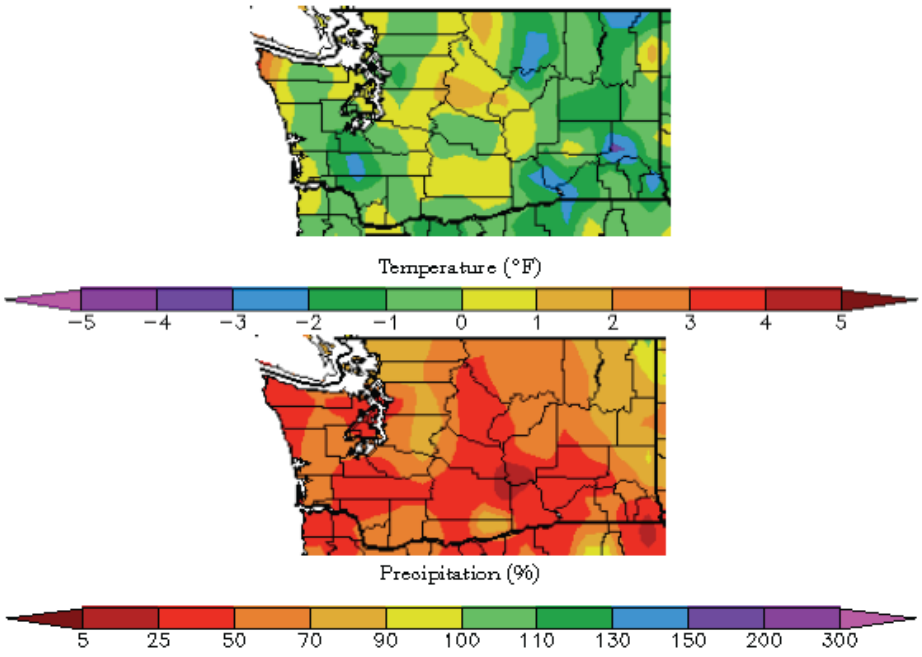


Figure 4: Snowpack (in terms of snow water equivalent) percent of normal for Washington as of December 2, 2013. Image is from the National Resources Conservation Service (NRCS).

Climate Summary

Mean November temperature were near-normal across WA State, with a tendency towards colder than normal temperatures. The High Plains Regional Climate Center map shows areas of colder than normal temperatures mostly in eastern (e.g., Pasco and Omak; Table 2) and southwestern (e.g. Centralia) WA. The rest of the state was generally within 1°F of normal, except for some of the higher elevations in the Cascade Mountains and in Quillayute (3.4°F above normal; Table 2). Similar to October, the mountains were generally above the temperature inversion and fog with warmer than normal temperatures during the period of stagnant weather in the latter part of the month.

As was the case during October, total November precipitation was much below normal statewide. The precipitation percent of normal ranged between 25 and 70% of normal for a majority of the state with Wenatchee and Pasco relative dry spots with 27 and 37% of normal precipitation, respectively. A few areas, namely the northern Puget Sound and northeastern WA, received between 70 ad 90% of normal precipitation. Bellingham, for example, received 86% of normal November precipitation. Regarding snowfall, none fell in the western WA lowlands during November. Eastern WA saw some snow, and Spokane AP received about 42% of their average November snowfall.



November temperature (°F) departure from normal (top) and November precipitation % of normal (bottom).
(High Plains Regional Climate Center (http://www.hprcc.unl.edu); relative to the 1981-2010 normal).

	Mean Temperature (°F)			Precipitation (inches)			Snowfall (inches)		
	Avg	Norm	Departure from Normal	Total	Norm	% of Norm	Total	Norm	% of Norm
Western Washington									
Olympia	42.3	43.3	-1.0	4.69	8.63	54	0	0.9	0
Seattle WFO	46.0	46.2	-0.2	3.07	5.84	53	0	0.3	0
Sea-Tac	47.9	45.4	2.5	3.79	6.57	58	0	1.2	0
Quillayute	47.6	44.2	3.4	7.92	15.52	51	0	1.4	0
Hoquiam	45.7	45.8	-0.1	5.60	11.17	50	0	0.4	0
Bellingham AP	43.6	43.2	0.4	5.00	5.80	86	0	0.9	0
Vancouver AP	44.6	46.4	-1.8	2.83	5.91	48	0	M	-
Eastern Washington									
Spokane AP	34.8	35.7	-0.9	1.56	2.30	68	3.1	7.4	42
Wenatchee	37.4	37.6	-0.2	0.30	1.11	27	M	5.0	-
Omak	33.5	35.9	-2.4	0.99	1.81	55	M	M	-
Pullman AP	36.4	37.0	-0.6	1.78	2.29	78	M	M	-
Ephrata	37.2	37.0	0.2	0.59	1.06	56	M	2.6	-
Pasco AP	38.1	41.3	-3.2	0.40	1.09	37	0	M	-
Hanford	38.4	40.5	-2.1	0.36	0.95	38	0	2.0	0

Table 2: November climate summaries for locations around Washington with a climate normal baseline of 1981-2010. Note that the Vancouver Pearson Airport and Seattle WFO 1981-2010 normals involved using surrounding stations in NCDC's new normal release, as records for these station began in 1998 and 1986, respectively.

Climate Outlook

The conditions in the equatorial Pacific Ocean are ENSO-neutral, according to the Climate Prediction Center (CPC): http://www.cpc.ncep.noaa.gov/. Averaged over the last 4 weeks, sea-surface temperatures (SSTs) have been above normal in the western equatorial Pacific Ocean, and near-normal in the central to eastern equatorial Pacific. There is a consensus among the model predictions that near-neutral ENSO conditions will persist through the winter and spring 2014.

The CPC three-class outlook for December has increased chances of below normal (shaded blue) temperatures statewide. Cold air invaded the state during the first week of the month, and so far at least, this forecast looks pretty good. The outlook for December precipitation is a toss up: there are equal chances of above, equal to, or below normal precipitation statewide.

The three-month winter temperature and precipitation outlook for December-January-February (DJF) does not provide much to go on one way or another. The CPC outlook is indicating equal chances (EC) of below, equal to, or above normal temperatures and precipitation for the period.

December outlook for temperature (left) and precipitation (right) from the CPC.

December-January-February outlook for temperature (left) and precipitation (right) from the CPC.

http://www.climate.washington.edu/newsletter/

Monitoring Data

KENMETA, Hourly data, November 2, 2013

Station: Kennewick-Metaline Periodically: 02/11/2013 00:00-02/11/2013 23:00 Type: AVG 1 Hr. [1 Hr.]

Date	Time	Visibility	TPM10	Wind Spd S	Wind Dir S	
		Miles	ug/m^3 (s)	MPH	Deg	
11/2	00:00	57	14	3.4	168	SSE
11/2	01:00	62	31	3.5	56	NE
11/2	02:00	49	45	3.4	301	WNW
11/2	03:00	54	20	2.8	292	WNW
11/2	04:00	63	21	3	205	SSW
11/2	05:00	59	29	1.4	158	SSE
11/2	06:00	60	17	3.3	276	W
11/2	07:00	69	20	8.8	208	SSW
11/2	08:00	77	5	16.6	189	S
11/2	09:00	76	16	17.4	199	SSW
11/2	10:00	121	430	24.6	229	SW
11/2	11:00	134	2248	34.3	233	SW
11/2	12:00	110	3968	38	233	SW
11/2	13:00	96	3779	37.6	234	SW
11/2	14:00	76	2752	33.7	234	SW
11/2	15:00	69	908	28.2	236	SW
11/2	16:00	79	214	18.5	244	WSW
11/2	17:00	102	161	24.5	233	SW
11/2	18:00	115	55	25.1	230	SW
11/2	19:00	125	27	25.9	231	SW
11/2	20:00	125	31	24.5	233	SW
11/2	21:00	141	41	25.6	233	SW
11/2	22:00	144	38	24.8	234	SW
11/2	23:00	154	15	25	230	SW
Minimum		49	5	1.4 (158 Deg)	No Data	
MinDate		02:00	08:00	05:00	01:00	
Maximum		154	3968	38.0 (233 Deg)	No Data	
MaxDate		23:00	12:00	12:00	01:00	
Avg		92	620	18.9	228	
Num		24	24	24	24	
Data[%]		100	100	100	100	
STD		32.3	1199.2	12	No Data	

KENMETA, 1-minute data, 11/2/2013

Date & Time	NPM25, ug/m3	Visibility, miles	TPM10, ug/m3	Wind Spd S, MPH	Wind Dir S, Deg
11/2/2013 7:00	8.7	61	23	5	232
11/2/2013 7:01	8.4	64	27	4.1	240
11/2/2013 7:02	8.4	63	30	5	250
11/2/2013 7:03	8.2	65	32	8.1	240
11/2/2013 7:04	7.7	68	31	9.6	255
11/2/2013 7:05	7.1	73	28	10.3	225
11/2/2013 7:06	7	74	24	11.2	229
11/2/2013 7:07	7.1	73	20	8.3	218
11/2/2013 7:08	7.3	72	18	7.3	201
11/2/2013 7:09	7.5	70	19	8	195
11/2/2013 7:10	7.4	71	20	9.3	195
11/2/2013 7:11	7.7	69	21	10	196
11/2/2013 7:12	7.5	70	19	7.2	191
11/2/2013 7:13	7.3	72	20	9.7	203
11/2/2013 7:14	7.5	70	19	8.9	198
11/2/2013 7:15	7.5	70	20	9.4	203
11/2/2013 7:16	7.5	70	24	10.4	203
11/2/2013 7:17	7.8	68	27	11.5	201
11/2/2013 7:18	7.7	68	27	11	205
11/2/2013 7:19	7.6	69	28	10.3	204
11/2/2013 7:20	7.9	67	30	9.3	192
11/2/2013 7:21	8.1	66	32	10.7	194
11/2/2013 7:22	8.1	65	33	11	196
11/2/2013 7:23	8	66	33	12.4	194
11/2/2013 7:24	8	66	31	9	185
11/2/2013 7:25	7.9	67	30	13.4	203
11/2/2013 7:26	7.8	68	27	12.4	203
11/2/2013 7:27	7.5	70	23	8.6	197
11/2/2013 7:28	7.7	68	23	8.6	206
11/2/2013 7:29	7.7	69	23	11.8	205
11/2/2013 7:30	7.9	67	21	10.5	207
11/2/2013 7:31	7.9	67	20	11.1	218
11/2/2013 7:32	7.7	69	16	10.2	207
11/2/2013 7:33	7.9	67	13	6.8	224
11/2/2013 7:34	7.8	67	11	6.7	217
11/2/2013 7:35	7.8	68	10	4.4	201
11/2/2013 7:36	8	66	11	5.1	206
11/2/2013 7:37	7.8	68	11	5	217
11/2/2013 7:38	7.9	67	12	4.6	214
11/2/2013 7:39	8	66	12	4.9	189

Date & Time	NPM25, ug/m3	Visibility, miles	TPM10, ug/m3	Wind Spd S, MPH	Wind Dir S, Deg
11/2/2013 7:40	7.8	68	12	5.5	213
11/2/2013 7:41	7.8	68	13	8.5	213
11/2/2013 7:42	7.6	69	14	7.2	194
11/2/2013 7:43	7.6	69	13	6.7	202
11/2/2013 7:44	7.8	67	13	5.6	193
11/2/2013 7:45	8	66	15	6.4	204
11/2/2013 7:46	7.8	68	17	6	205
11/2/2013 7:47	7.9	67	17	9.1	204
11/2/2013 7:48	7.6	70	17	8.9	206
11/2/2013 7:49	7.3	72	18	8.2	228
11/2/2013 7:50	7.3	72	21	7.4	237
11/2/2013 7:51	7.4	71	24	6.4	224
11/2/2013 7:52	7.2	73	24	8	214
11/2/2013 7:53	7.3	72	22	9.5	205
11/2/2013 7:54	7.2	73	22	11.6	210
11/2/2013 7:55	7.2	72	19	11.7	203
11/2/2013 7:56	7.2	73	14	12.8	199
11/2/2013 7:57	6.8	76	12	11.1	198
11/2/2013 7:58	6.9	75	10	13.8	199
11/2/2013 7:59	6.9	75	7	12.1	191
11/2/2013 8:00	6.9	75	7	9.9	180
11/2/2013 8:01	6.7	77	7	13.6	193
11/2/2013 8:02	6.7	77	1	11.1	185
11/2/2013 8:03	6.7	77	-4	11.9	188
11/2/2013 8:04	6.5	79	-6	12.5	192
11/2/2013 8:05	6.3	81	-9	12.9	190
11/2/2013 8:06	6.2	81	-11	14.9	196
11/2/2013 8:07	6.1	83	-16	14.9	185
11/2/2013 8:08	5.9	85	-23	11.1	185
11/2/2013 8:09	5.8	86	-26	9.3	185
11/2/2013 8:10	5.9	85	-28	16.6	190
11/2/2013 8:11	5.5	90	-34	13.7	190
11/2/2013 8:12	5.1	95	-36	13	197
11/2/2013 8:13	5.3	92	-33	11.8	179
11/2/2013 8:14	5.5	89	-26	17.9	188
11/2/2013 8:15	5.4	91	-24	17.2	187
11/2/2013 8:16	5.5	89	-25	19.1	185
11/2/2013 8:17	5.7	87	-23	21.5	187
11/2/2013 8:18	5.5	90	-21	18.2	179
11/2/2013 8:19	5.5	90	-19	17.3	189
11/2/2013 8:20	5.6	88	-14	18.3	190
11/2/2013 8:21	5.9	85	-11	16	192
11/2/2013 8:22	5.8	86	-9	18.5	192

Date & Time	NPM25, ug/m3	Visibility, miles	TPM10, ug/m3	Wind Spd S, MPH	Wind Dir S, Deg
11/2/2013 8:23	6.1	83	-4	16.1	193
11/2/2013 8:24	6.4	80	0	19.7	192
11/2/2013 8:25	6.6	78	2	21.8	193
11/2/2013 8:26	6.3	81	1	19.8	193
11/2/2013 8:27	6.4	80	2	20	193
11/2/2013 8:28	6.1	83	3	18.3	197
11/2/2013 8:29	6.2	82	5	19.6	192
11/2/2013 8:30	6.3	80	10	22	200
11/2/2013 8:31	6.2	82	21	23.4	190
11/2/2013 8:32	6.4	80	28	19.6	201
11/2/2013 8:33	6.7	77	34	17.8	197
11/2/2013 8:34	7	74	37	13.3	206
11/2/2013 8:35	7.7	69	37	15.3	192
11/2/2013 8:36	8	66	35	19.3	195
11/2/2013 8:37	7.6	69	30	19	197
11/2/2013 8:38	7.5	70	27	13.9	192
11/2/2013 8:39	7.7	68	27	16.2	186
11/2/2013 8:40	7.8	68	24	16.4	187
11/2/2013 8:41	7.6	69	21	13	179
11/2/2013 8:42	7.6	69	19	20.5	192
11/2/2013 8:43	7.4	71	15	17	183
11/2/2013 8:44	7.4	71	15	19	182
11/2/2013 8:45	7.3	71	14	19.2	186
11/2/2013 8:46	7.1	73	12	18.3	199
11/2/2013 8:47	7.2	72	14	21.8	194
11/2/2013 8:48	7.5	70	14	14.4	185
11/2/2013 8:49	7.5	70	14	15.7	185
11/2/2013 8:50	7.8	68	14	18.5	175
11/2/2013 8:51	7.6	70	14	13.4	186
11/2/2013 8:52	7.9	67	15	18.8	176
11/2/2013 8:53	8.2	64	19	16.6	175
11/2/2013 8:54	8.5	63	21	13.7	169
11/2/2013 8:55	8.9	60	22	10.3	177
11/2/2013 8:56	9	59	24	17.6	197
11/2/2013 8:57	8.7	61	24	15.8	181
11/2/2013 8:58	8.6	62	25	21.2	184
11/2/2013 8:59	8.3	64	23	17.4	188
11/2/2013 9:00	8.7	61	22	16.5	179
11/2/2013 9:01	8.7	61	22	21.9	187
11/2/2013 9:02	8.7	62	21	17.6	180
11/2/2013 9:03	9.1	59	23	21.5	188
11/2/2013 9:04	8.9	60	24	17.2	190
11/2/2013 9:05	8.8	61	25	16.1	194

Date & Time	NPM25, ug/m3	Visibility, miles	TPM10, ug/m3	Wind Spd S, MPH	Wind Dir S, Deg
11/2/2013 9:06	8.6	62	26	17.9	193
11/2/2013 9:07	8.4	63	26	16.4	196
11/2/2013 9:08	8.3	64	25	17.8	195
11/2/2013 9:09	8.4	63	24	17.8	193
11/2/2013 9:10	8.2	65	22	18.9	196
11/2/2013 9:11	7.9	67	19	18.6	184
11/2/2013 9:12	8	66	19	18.6	183
11/2/2013 9:13	8	66	17	24	191
11/2/2013 9:14	7.9	67	16	18.8	193
11/2/2013 9:15	8	66	17	19.3	182
11/2/2013 9:16	7.8	68	18	22.4	189
11/2/2013 9:17	7.8	68	20	19.4	189
11/2/2013 9:18	8.4	63	21	21	197
11/2/2013 9:19	8.3	64	22	21.9	189
11/2/2013 9:20	8.1	66	21	15.8	189
11/2/2013 9:21	7.9	67	23	21.2	193
11/2/2013 9:22	7.9	67	22	22.6	193
11/2/2013 9:23	8.1	65	19	18.7	186
11/2/2013 9:24	7.7	68	16	15.4	195
11/2/2013 9:25	7.7	68	16	19.1	194
11/2/2013 9:26	7.7	68	20	17.8	193
11/2/2013 9:27	7.7	69	19	15.4	199
11/2/2013 9:28	7.7	69	16	18.5	208
11/2/2013 9:29	7.1	73	6	16.8	204
11/2/2013 9:30	6.8	76	-3	17.2	205
11/2/2013 9:31	6.6	78	-7	15.6	207
11/2/2013 9:32	6.3	81	-7	13.1	203
11/2/2013 9:33	6.3	81	-3	10.8	213
11/2/2013 9:34	6.5	79	1	15	201
11/2/2013 9:35	6.5	79	4	14.4	206
11/2/2013 9:36	6.3	81	6	17	206
11/2/2013 9:37	6.4	80	10	18.2	200
11/2/2013 9:38	6.1	83	12	14.5	212
11/2/2013 9:39	6.1	83	17	17.1	209
11/2/2013 9:40	6	85	17	17.5	204
11/2/2013 9:41	5.7	87	13	16.1	202
11/2/2013 9:42	5.5	90	12	16	206
11/2/2013 9:43	5.4	90	14	17.7	201
11/2/2013 9:44	5.5	90	15	17.1	200
11/2/2013 9:45	5.6	88	16	16.6	202
11/2/2013 9:46	5.5	89	16	16.6	204
11/2/2013 9:47	5.4	91	19	18.2	208
11/2/2013 9:48	5.5	90	20	19.2	202

Date & Time	NPM25, ug/m3	Visibility, miles	TPM10, ug/m3	Wind Spd S, MPH	Wind Dir S, Deg
11/2/2013 9:49	5.7	88	19	18.1	202
11/2/2013 9:50	5.4	91	18	17.1	205
11/2/2013 9:51	5.4	90	19	15.1	204
11/2/2013 9:52	5.1	94	20	15	213
11/2/2013 9:53	5.4	91	22	16.8	211
11/2/2013 9:54	5.2	93	19	16.6	209
11/2/2013 9:55	5.2	93	15	15.1	215
11/2/2013 9:56	5	96	12	15.5	221
11/2/2013 9:57	5	96	9	13.6	213
11/2/2013 9:58	5.3	92	8	13	217
11/2/2013 9:59	5.3	92	6	13.5	211
11/2/2013 10:00	5.2	93	5	15.5	222
11/2/2013 10:01	5.2	94	2	13.9	215
11/2/2013 10:02	5.1	94	0	17.8	225
11/2/2013 10:03	4.9	98	-4	16	225
11/2/2013 10:04	4.9	98	-5	15.9	223
11/2/2013 10:05	4.8	98	-5	15.2	213
11/2/2013 10:06	4.9	97	-6	12.3	216
11/2/2013 10:07	4.8	98	-4	15.5	209
11/2/2013 10:08	4.9	98	0	17.1	212
11/2/2013 10:09	4.9	97	5	15.3	215
11/2/2013 10:10	5	96	10	15.2	216
11/2/2013 10:11	5.2	93	15	13.2	217
11/2/2013 10:12	4.9	97	20	14.4	220
11/2/2013 10:13	4.9	98	21	21.5	229
11/2/2013 10:14	4.8	99	11	17.2	216
11/2/2013 10:15	4.6	101	6	16	225
11/2/2013 10:16	4.6	101	4	20.5	224
11/2/2013 10:17	4.5	103	-1	21.4	238
11/2/2013 10:18	4.4	104	-7	21.1	228
11/2/2013 10:19	4.3	106	-16	20.5	223
11/2/2013 10:20	3.9	111	-16	26.8	228
11/2/2013 10:21	3.6	117	21	21.7	235
11/2/2013 10:22	3.7	115	133	23.2	236
11/2/2013 10:23	3.9	112	213	21.2	229
11/2/2013 10:24	3.7	114	245	23.6	229
11/2/2013 10:25	3.8	113	252	20.8	229
11/2/2013 10:26	3.8	113	245	19	240
11/2/2013 10:27	3.7	115	230	20.4	233
11/2/2013 10:28	3.8	114	206	26.1	231
11/2/2013 10:29	3.5	117	175	26.5	229
11/2/2013 10:30	3.3	121	153	24.5	236
11/2/2013 10:31	3.5	118	134	27.3	241

Date & Time	NPM25, ug/m3	Visibility, miles	TPM10, ug/m3	Wind Spd S, MPH	Wind Dir S, Deg
11/2/2013 10:32	3.2	123	114	30	237
11/2/2013 10:33	3	127	102	30.2	232
11/2/2013 10:34	2.8	131	102	27.2	240
11/2/2013 10:35	2.9	128	103	25.8	233
11/2/2013 10:36	2.5	135	98	27.8	232
11/2/2013 10:37	2.5	137	102	32.1	236
11/2/2013 10:38	2.7	132	141	22.1	236
11/2/2013 10:39	3	127	185	26	239
11/2/2013 10:40	2.5	135	208	33.8	235
11/2/2013 10:41	3	126	276	34.6	237
11/2/2013 10:42	2.3	140	418	36.7	234
11/2/2013 10:43	1.9	149	701	37.1	229
11/2/2013 10:44	1.7	152	1080	31.2	232
11/2/2013 10:45	1.4	158	1277	37.4	230
11/2/2013 10:46	1.3	160	1420	30.3	238
11/2/2013 10:47	1.4	158	1673	29.2	236
11/2/2013 10:48	1.7	152	1823	33.7	228
11/2/2013 10:49	1.9	148	1813	26.4	236
11/2/2013 10:50	2.8	130	1725	29	240
11/2/2013 10:51	2.9	128	1593	31.1	240
11/2/2013 10:52	3.1	125	1456	27.9	237
11/2/2013 10:53	3.4	119	1361	24.8	231
11/2/2013 10:54	3.7	115	1250	31.1	232
11/2/2013 10:55	2.4	138	1118	32.9	226
11/2/2013 10:56	1.5	157	985	34	232
11/2/2013 10:57	1.4	158	884	35.1	232
11/2/2013 10:58	1.2	163	877	34.9	237
11/2/2013 10:59	0.9	168	884	29.7	229
11/2/2013 11:00	1.5	155	867	36.2	228
11/2/2013 11:01	1.2	164	835	31.4	232
11/2/2013 11:02	1.6	154	791	29.2	229
11/2/2013 11:03	1.7	153	734	31	232
11/2/2013 11:04	1	167	672	27.3	237
11/2/2013 11:05	2.2	142	613	27.5	232
11/2/2013 11:06	2.6	133	556	32.7	234
11/2/2013 11:07	1.8	150	505	34.3	232
11/2/2013 11:08	1.6	154	470	33.7	236
11/2/2013 11:09	1.8	149	453	30.5	237
11/2/2013 11:10	2.4	138	498	31.8	231
11/2/2013 11:11	3.4	121	592	27.8	232
11/2/2013 11:12	4.6	101	680	32.1	227
11/2/2013 11:13	2.8	130	731	38.1	234
11/2/2013 11:14	1.4	158	792	34.4	227

Date & Time	NPM25, ug/m3	Visibility, miles	TPM10, ug/m3	Wind Spd S, MPH	Wind Dir S, Deg
11/2/2013 11:15	1.1	165	837	29.6	229
11/2/2013 11:16	1	167	844	33.4	236
11/2/2013 11:17	1.5	156	840	36.6	224
11/2/2013 11:18	1.2	162	861	30.6	234
11/2/2013 11:19	2.1	144	892	39.2	235
11/2/2013 11:20	1.4	158	945	36.2	235
11/2/2013 11:21	1.3	161	1111	30.8	234
11/2/2013 11:22	2.1	144	1243	39.3	232
11/2/2013 11:23	1.6	155	1326	37.7	227
11/2/2013 11:24	1.2	162	1435	40.2	229
11/2/2013 11:25	1.3	161	1575	31.8	233
11/2/2013 11:26	3.1	125	1673	29.9	231
11/2/2013 11:27	4	110	1690	33.9	234
11/2/2013 11:28	2.7	132	1685	36.2	237
11/2/2013 11:29	2.9	129	1721	41.9	236
11/2/2013 11:30	1.9	148	1931	37.2	239
11/2/2013 11:31	1.5	156	2435	38.2	235
11/2/2013 11:32	1.9	149	2839	28.5	234
11/2/2013 11:33	5	95	3031	35.3	229
11/2/2013 11:34	3.3	122	3107	36.4	237
11/2/2013 11:35	2.4	138	3217	37.7	235
11/2/2013 11:36	2.2	142	3484	38.7	235
11/2/2013 11:37	1.8	150	3646	32.4	237
11/2/2013 11:38	3.8	116	3606	27.1	240
11/2/2013 11:39	7.1	73	3443	31.6	234
11/2/2013 11:40	5.3	93	3239	34.3	234
11/2/2013 11:41	2.6	134	3098	32.8	233
11/2/2013 11:42	2.5	136	2971	33.7	235
11/2/2013 11:43	3.1	125	2866	36.9	228
11/2/2013 11:44	2.5	137	2907	37.7	236
11/2/2013 11:45	2.2	141	3148	37.9	236
11/2/2013 11:46	3.8	113	3341	31.8	236
11/2/2013 11:47	5.6	90	3455	37.2	234
11/2/2013 11:48	4.3	106	3553	38.3	235
11/2/2013 11:49	2.7	131	3861	34.9	240
11/2/2013 11:50	3.9	113	4107	34.4	236
11/2/2013 11:51	6.5	79	4198	35.9	232
11/2/2013 11:52	5	97	4287	38.2	230
11/2/2013 11:53	3.1	125	4392	32.7	233
11/2/2013 11:54	2.9	128	4466	35.1	237
11/2/2013 11:55	2.5	137	4465	39.3	236
11/2/2013 11:56	2.8	131	4418	34.7	234
11/2/2013 11:57	4.1	109	4333	36.3	233

Date & Time	NPM25, ug/m3	Visibility, miles	TPM10, ug/m3	Wind Spd S, MPH	Wind Dir S, Deg
11/2/2013 11:58	3.6	116	4279	38.4	231
11/2/2013 11:59	3	127	4265	32.3	240
11/2/2013 12:00	5.1	96	4261	40	237
11/2/2013 12:01	5.7	87	4209	40.4	229
11/2/2013 12:02	3.8	114	4205	36.4	238
11/2/2013 12:03	2.8	130	4196	34.8	237
11/2/2013 12:04	3.4	119	4108	38	230
11/2/2013 12:05	2.7	132	3995	40.5	235
11/2/2013 12:06	2.7	132	4025	38.9	239
11/2/2013 12:07	3	127	4275	36.2	234
11/2/2013 12:08	3.4	119	4393	31.2	230
11/2/2013 12:09	3.3	121	4319	37.2	232
11/2/2013 12:10	2.5	136	4135	32.2	235
11/2/2013 12:11	4.5	105	3938	38.5	234
11/2/2013 12:12	4.5	104	3744	30.9	235
11/2/2013 12:13	5	98	3597	31.4	233
11/2/2013 12:14	7.5	70	3439	33.2	239
11/2/2013 12:15	8.5	64	3274	31.4	239
11/2/2013 12:16	9.3	59	3102	38.4	239
11/2/2013 12:17	4.9	98	3031	47.1	232
11/2/2013 12:18	2.9	129	3210	40.8	232
11/2/2013 12:19	3.9	113	3449	40.6	234
11/2/2013 12:20	3.4	121	3741	36.2	239
11/2/2013 12:21	4	113	4227	35.1	232
11/2/2013 12:22	6.2	83	4533	34.5	232
11/2/2013 12:23	4.3	105	4664	39.1	230
11/2/2013 12:24	3	127	4698	34.7	231
11/2/2013 12:25	4.1	111	4867	35.9	228
11/2/2013 12:26	5.9	86	4964	45.6	224
11/2/2013 12:27	4.3	106	5071	45	227
11/2/2013 12:28	6.2	83	5332	45.2	230
11/2/2013 12:29	6.1	83	5445	40	226
11/2/2013 12:30	3.5	118	5359	37.8	233
11/2/2013 12:31	2.8	130	5176	47.4	234
11/2/2013 12:32	5.5	90	4959	38.9	236
11/2/2013 12:33	3.9	112	4842	35.9	229
11/2/2013 12:34	3.2	123	4672	32.4	234
11/2/2013 12:35	5.8	86	4416	39.1	233
11/2/2013 12:36	4.2	108	4163	37.6	237
11/2/2013 12:37	3.7	115	4045	34.4	237
11/2/2013 12:38	4.5	103	3909	37.1	235
11/2/2013 12:39	3.5	117	3752	35.1	237
11/2/2013 12:40	3.3	121	3620	38.2	238

Date & Time	NPM25, ug/m3	Visibility, miles	TPM10, ug/m3	Wind Spd S, MPH	Wind Dir S, Deg
11/2/2013 12:41	4.1	108	3476	39.7	235
11/2/2013 12:42	3.3	121	3384	35.8	235
11/2/2013 12:43	5.6	88	3335	40.2	235
11/2/2013 12:44	4.2	108	3358	42.6	233
11/2/2013 12:45	3	127	3432	37.4	236
11/2/2013 12:46	2.8	131	3518	38.1	237
11/2/2013 12:47	2.3	139	3567	38.4	239
11/2/2013 12:48	3.9	112	3581	31.8	234
11/2/2013 12:49	4.3	105	3574	40.2	234
11/2/2013 12:50	3	126	3597	44.8	230
11/2/2013 12:51	2.3	139	3606	38.2	231
11/2/2013 12:52	2.4	137	3517	36.2	233
11/2/2013 12:53	2.9	129	3351	29.4	234
11/2/2013 12:54	6	84	3112	43.5	230
11/2/2013 12:55	6.7	78	2940	41	233
11/2/2013 12:56	5.5	91	3008	41.9	230
11/2/2013 12:57	3.6	116	3338	38.4	230
11/2/2013 12:58	2.8	130	3498	37	236
11/2/2013 12:59	3.2	123	3522	42.6	231
11/2/2013 13:00	4.2	107	3550	33.1	232
11/2/2013 13:01	5.8	86	3664	40.1	231
11/2/2013 13:02	3.9	111	3696	30.4	234
11/2/2013 13:03	8.1	71	3659	28.8	237
11/2/2013 13:04	10.8	51	3553	41.9	232
11/2/2013 13:05	5.6	90	3504	33.3	231
11/2/2013 13:06	4.3	106	3454	31.8	232
11/2/2013 13:07	6	85	3320	37.4	227
11/2/2013 13:08	4.6	103	3192	39.9	231
11/2/2013 13:09	2.8	130	3244	43.1	234
11/2/2013 13:10	3.3	121	3419	38.7	231
11/2/2013 13:11	3.2	123	3551	36.8	234
11/2/2013 13:12	3.3	121	3604	39.8	237
11/2/2013 13:13	3.6	117	3606	40	234
11/2/2013 13:14	3.1	124	3642	45	228
11/2/2013 13:15	3.5	118	3720	37.7	230
11/2/2013 13:16	3.4	119	3740	39.4	230
11/2/2013 13:17	3.4	119	3702	37.4	233
11/2/2013 13:18	3.4	120	3695	35.4	238
11/2/2013 13:19	4.5	103	3612	31.9	235
11/2/2013 13:20	9.7	56	3470	35.1	234
11/2/2013 13:21	11.2	48	3336	32.3	231
11/2/2013 13:22	9.1	59	3239	31.6	234
11/2/2013 13:23	8.6	62	3204	34.8	235

Date & Time	NPM25, ug/m3	Visibility, miles	TPM10, ug/m3	Wind Spd S, MPH	Wind Dir S, Deg
11/2/2013 13:24	7.4	71	3276	32.4	238
11/2/2013 13:25	10.3	52	3375	37.4	234
11/2/2013 13:26	7.4	72	3562	40.3	240
11/2/2013 13:27	5.1	94	3776	36.8	238
11/2/2013 13:28	7	75	3880	35.6	238
11/2/2013 13:29	6.8	76	3948	36	237
11/2/2013 13:30	5.9	85	3982	40.7	232
11/2/2013 13:31	4.5	103	4036	38.5	235
11/2/2013 13:32	4.2	107	4053	39	233
11/2/2013 13:33	3.3	121	4046	38.4	230
11/2/2013 13:34	3.5	119	3995	27.1	234
11/2/2013 13:35	9.4	58	3879	41.2	235
11/2/2013 13:36	6.8	77	3794	37.4	231
11/2/2013 13:37	5	96	3798	40.2	234
11/2/2013 13:38	3.9	112	3881	35	232
11/2/2013 13:39	3.3	122	3884	44.4	233
11/2/2013 13:40	3.5	118	3914	42.4	236
11/2/2013 13:41	5.1	96	3945	36.9	235
11/2/2013 13:42	6.1	83	3908	38.7	236
11/2/2013 13:43	5	96	3872	42.5	234
11/2/2013 13:44	4.4	105	3963	39.1	234
11/2/2013 13:45	3.8	113	4009	34.5	235
11/2/2013 13:46	4.5	103	3958	37.7	231
11/2/2013 13:47	4.4	104	3870	36	233
11/2/2013 13:48	4	110	3792	40.3	233
11/2/2013 13:49	4.8	99	3773	41.9	232
11/2/2013 13:50	6	84	3861	37.5	237
11/2/2013 13:51	6.3	81	3976	38.1	234
11/2/2013 13:52	4.9	97	4069	34.9	238
11/2/2013 13:53	6	84	4086	34.6	233
11/2/2013 13:54	5.3	93	4068	40.4	232
11/2/2013 13:55	4.3	105	4064	46	230
11/2/2013 13:56	4.5	102	4279	44.4	238
11/2/2013 13:57	4.7	100	4475	41.3	231
11/2/2013 13:58	4.5	102	4614	33.7	234
11/2/2013 13:59	5.4	91	4723	36.3	236
11/2/2013 14:00	7.8	69	4746	34.4	233
11/2/2013 14:01	8.5	64	4675	35.1	233
11/2/2013 14:02	6	85	4638	43.8	231
11/2/2013 14:03	5.1	94	4654	38.9	234
11/2/2013 14:04	5	96	4763	37.6	232
11/2/2013 14:05	4.2	107	4761	33.9	233
11/2/2013 14:06	3.4	119	4638	37.2	233

Date & Time	NPM25, ug/m3	Visibility, miles	TPM10, ug/m3	Wind Spd S, MPH	Wind Dir S, Deg
11/2/2013 14:07	3.2	123	4473	42.9	229
11/2/2013 14:08	4.3	105	4400	34.2	227
11/2/2013 14:09	4.5	102	4335	40.5	235
11/2/2013 14:10	3.9	112	4204	39.1	238
11/2/2013 14:11	4.2	107	4064	40.5	234
11/2/2013 14:12	4.2	108	3948	32.4	234
11/2/2013 14:13	8	67	3798	29.2	231
11/2/2013 14:14	11.3	47	3593	29.8	238
11/2/2013 14:15	12.1	44	3361	34.9	230
11/2/2013 14:16	7.9	67	3131	36.2	234
11/2/2013 14:17	5.3	93	2929	41.7	233
11/2/2013 14:18	3.4	119	2849	36.2	232
11/2/2013 14:19	4.9	99	2844	34.5	238
11/2/2013 14:20	9.9	56	2757	36.6	235
11/2/2013 14:21	9.1	61	2625	37.5	233
11/2/2013 14:22	4.5	103	2607	33.6	235
11/2/2013 14:23	4.2	108	2758	33.6	235
11/2/2013 14:24	6.1	83	2816	34.3	237
11/2/2013 14:25	9.4	58	2781	34.5	236
11/2/2013 14:26	7.3	72	2705	33.4	235
11/2/2013 14:27	7.2	73	2613	35.1	234
11/2/2013 14:28	5.4	91	2531	40.4	238
11/2/2013 14:29	4.1	109	2475	38.4	235
11/2/2013 14:30	4.1	109	2440	33.1	238
11/2/2013 14:31	6.7	77	2370	38	233
11/2/2013 14:32	4.5	102	2304	31.4	234
11/2/2013 14:33	6.5	82	2216	30.4	239
11/2/2013 14:34	10.3	52	2110	31.9	236
11/2/2013 14:35	10.2	53	2014	32.6	230
11/2/2013 14:36	8.1	66	1940	32.7	235
11/2/2013 14:37	7.8	68	1858	34.5	236
11/2/2013 14:38	7	74	1785	33	239
11/2/2013 14:39	9.3	59	1740	29.4	235
11/2/2013 14:40	10.2	54	1721	32.9	225
11/2/2013 14:41	7.6	70	1727	26.6	233
11/2/2013 14:42	10.4	52	1703	33.6	232
11/2/2013 14:43	8.4	64	1672	30.1	229
11/2/2013 14:44	6.7	77	1658	31	239
11/2/2013 14:45	9.5	57	1684	31	235
11/2/2013 14:46	11.9	45	1712	27.9	232
11/2/2013 14:47	13.9	38	1732	32.5	233
11/2/2013 14:48	11.3	48	1747	30	237
11/2/2013 14:49	10.5	51	1829	37.4	229

Date & Time	NPM25, ug/m3	Visibility, miles	TPM10, ug/m3	Wind Spd S, MPH	Wind Dir S, Deg
11/2/2013 14:50	6.2	83	1897	34.5	233
11/2/2013 14:51	5.5	91	1975	29.1	228
11/2/2013 14:52	7.5	70	2017	29.7	231
11/2/2013 14:53	8.9	60	2011	33.2	228
11/2/2013 14:54	7	74	2006	23	235
11/2/2013 14:55	12.8	43	1996	25.5	240
11/2/2013 14:56	15.5	33	1947	32	231
11/2/2013 14:57	9.6	56	1904	26.6	239
11/2/2013 14:58	10.2	53	1953	30.5	241
11/2/2013 14:59	10.6	50	1994	30.1	244
11/2/2013 15:00	10.5	51	1998	28.5	246
11/2/2013 15:01	11.5	46	1945	31.3	242
11/2/2013 15:02	9.1	58	1859	28.8	238
11/2/2013 15:03	9.9	54	1765	27.8	241
11/2/2013 15:04	11.4	47	1656	27	237
11/2/2013 15:05	10.5	51	1544	31.7	244
11/2/2013 15:06	9.8	54	1437	26.1	238
11/2/2013 15:07	10.6	50	1330	24.9	236
11/2/2013 15:08	10.8	49	1224	27.6	244
11/2/2013 15:09	9.8	54	1120	22.5	242
11/2/2013 15:10	9.7	55	1028	20.8	242
11/2/2013 15:11	10.1	53	946	22.8	234
11/2/2013 15:12	9.4	57	871	26.7	240
11/2/2013 15:13	8.1	65	808	29.8	245
11/2/2013 15:14	7.8	68	755	30.4	243
11/2/2013 15:15	7.6	69	704	26.7	245
11/2/2013 15:16	8.4	63	656	32	242
11/2/2013 15:17	7.4	71	611	29.5	241
11/2/2013 15:18	7.8	68	569	25.9	244
11/2/2013 15:19	8	66	534	26.8	241
11/2/2013 15:20	8.2	64	500	30.5	236
11/2/2013 15:21	7.4	71	481	27.7	232
11/2/2013 15:22	7	74	473	30.8	233
11/2/2013 15:23	6	84	466	27.6	234
11/2/2013 15:24	6.2	82	463	31.1	227
11/2/2013 15:25	4.6	101	468	34	235
11/2/2013 15:26	4.3	105	497	32.8	243
11/2/2013 15:27	6.5	80	535	26.3	233
11/2/2013 15:28	8.6	62	562	34.1	229
11/2/2013 15:29	4.9	98	624	34.7	235
11/2/2013 15:30	4.4	105	821	28.7	232
11/2/2013 15:31	10.5	52	1040	31.4	228
11/2/2013 15:32	8.6	63	1155	34.5	235

Date & Time	NPM25, ug/m3	Visibility, miles	TPM10, ug/m3	Wind Spd S, MPH	Wind Dir S, Deg
11/2/2013 15:33	5.4	92	1210	33.6	232
11/2/2013 15:34	4.5	102	1243	29.3	233
11/2/2013 15:35	5.8	86	1246	32.8	226
11/2/2013 15:36	4.2	107	1241	31.6	235
11/2/2013 15:37	5	96	1216	29.2	235
11/2/2013 15:38	7.4	71	1190	27.6	232
11/2/2013 15:39	9.3	58	1163	26.9	235
11/2/2013 15:40	10.4	52	1121	26.9	238
11/2/2013 15:41	9.8	55	1071	23.4	235
11/2/2013 15:42	10	53	1014	25.8	223
11/2/2013 15:43	9.7	55	959	30.6	235
11/2/2013 15:44	7.4	71	910	32.2	233
11/2/2013 15:45	6.3	81	867	29.9	231
11/2/2013 15:46	6.1	83	825	29.1	228
11/2/2013 15:47	5.9	85	789	26.1	232
11/2/2013 15:48	7.6	69	752	28.9	231
11/2/2013 15:49	7.7	68	710	24.6	233
11/2/2013 15:50	8.1	66	666	25.3	233
11/2/2013 15:51	7.2	73	623	28.5	237
11/2/2013 15:52	7	74	603	25.8	235
11/2/2013 15:53	7.6	69	583	22.9	233
11/2/2013 15:54	7.1	73	555	27	238
11/2/2013 15:55	7.4	71	530	21.9	233
11/2/2013 15:56	7.9	67	507	28	238
11/2/2013 15:57	8.2	65	489	19.6	233
11/2/2013 15:58	9.3	57	473	24.8	234
11/2/2013 15:59	8.5	63	450	28.7	230
11/2/2013 16:00	7	74	426	25.8	230
11/2/2013 16:01	6.7	77	403	24.3	233
11/2/2013 16:02	7.2	73	382	22.4	231
11/2/2013 16:03	7.6	69	365	23.4	229
11/2/2013 16:04	7	75	347	28.3	232
11/2/2013 16:05	6	84	333	27.3	230
11/2/2013 16:06	5.9	86	326	24.4	238
11/2/2013 16:07	6.6	78	321	24.4	232
11/2/2013 16:08	6.5	79	316	24.9	237
11/2/2013 16:09	7.1	73	314	24.8	239
11/2/2013 16:10	7.2	73	314	23.9	239
11/2/2013 16:11	7.7	69	317	21.4	238
11/2/2013 16:12	8.1	65	320	20.1	237
11/2/2013 16:13	7.8	68	319	16.2	245
11/2/2013 16:14	7.7	68	317	11.9	246
11/2/2013 16:15	8	66	313	11.6	249

Date & Time	NPM25, ug/m3	Visibility, miles	TPM10, ug/m3	Wind Spd S, MPH	Wind Dir S, Deg
11/2/2013 16:16	8	66	305	17.9	253
11/2/2013 16:17	7.8	68	294	18.6	245
11/2/2013 16:18	7.3	72	282	20.2	255
11/2/2013 16:19	7.2	73	270	18.4	247
11/2/2013 16:20	7	74	258	15.7	268
11/2/2013 16:21	6.7	77	249	13.9	269
11/2/2013 16:22	6.6	78	237	13.9	248
11/2/2013 16:23	6.6	78	222	18.3	256
11/2/2013 16:24	6.2	82	207	15.5	274
11/2/2013 16:25	6.2	82	194	17	258
11/2/2013 16:26	6.6	78	183	16.5	253
11/2/2013 16:27	6.5	79	171	15.3	264
11/2/2013 16:28	7	75	165	18.7	257
11/2/2013 16:29	7.2	73	161	15.3	247
11/2/2013 16:30	7.2	73	160	18.3	257
11/2/2013 16:31	7.9	67	164	15.9	260
11/2/2013 16:32	8	66	168	11	244
11/2/2013 16:33	8.9	60	176	11	254
11/2/2013 16:34	8.4	63	182	14.1	243
11/2/2013 16:35	7.3	72	186	18.6	240
11/2/2013 16:36	6.5	79	187	16.5	244
11/2/2013 16:37	6.1	83	187	14.5	258
11/2/2013 16:38	6.1	83	185	14.9	249
11/2/2013 16:39	6.4	80	182	12.8	253
11/2/2013 16:40	6.1	83	176	12.4	245
11/2/2013 16:41	6.6	78	168	14.4	248
11/2/2013 16:42	6.3	81	159	14.6	248
11/2/2013 16:43	6.2	82	148	16.9	242
11/2/2013 16:44	5.9	85	136	17.7	236
11/2/2013 16:45	5.7	87	127	26.1	231
11/2/2013 16:46	5.4	91	121	21.8	233
11/2/2013 16:47	5.3	92	120	15.2	237
11/2/2013 16:48	5.4	91	120	14.9	234
11/2/2013 16:49	5.4	91	117	17.3	238
11/2/2013 16:50	5.6	89	114	16.4	235
11/2/2013 16:51	5.5	90	111	19.9	231
11/2/2013 16:52	5.3	92	106	17.8	236
11/2/2013 16:53	5.1	95	104	20.8	236
11/2/2013 16:54	5.3	92	102	20.3	235
11/2/2013 16:55	4.9	97	102	19.2	238
11/2/2013 16:56	5.2	93	102	22.6	232
11/2/2013 16:57	5.1	94	99	19.6	242
11/2/2013 16:58	5.5	90	99	19.5	232

Date & Time	NPM25, ug/m3	Visibility, miles	TPM10, ug/m3	Wind Spd S, MPH	Wind Dir S, Deg
11/2/2013 16:59	5.6	88	97	25.3	228
11/2/2013 17:00	4.8	99	95	19	237
11/2/2013 17:01	4.9	98	101	14.4	239
11/2/2013 17:02	5.6	88	107	18.4	237
11/2/2013 17:03	5.5	90	107	22.8	229
11/2/2013 17:04	5.4	91	107	21.3	243
11/2/2013 17:05	5.3	92	107	19.5	231
11/2/2013 17:06	5.5	90	107	18.6	235
11/2/2013 17:07	5.6	89	107	17.1	238
11/2/2013 17:08	5.6	89	107	17.5	232
11/2/2013 17:09	5.9	85	106	20.1	231
11/2/2013 17:10	6.3	81	105	21.6	233
11/2/2013 17:11	6.2	82	108	22.7	233
11/2/2013 17:12	5.7	87	112	17.3	236
11/2/2013 17:13	5.8	86	116	21.6	227
11/2/2013 17:14	5.8	86	117	22.9	236
11/2/2013 17:15	5.5	89	119	22.3	233
11/2/2013 17:16	5.9	85	125	22.5	231
11/2/2013 17:17	5.8	87	133	20.2	240
11/2/2013 17:18	5.9	85	140	21.7	236
11/2/2013 17:19	5.8	86	142	17.8	236
11/2/2013 17:20	6	84	145	19.6	238
11/2/2013 17:21	5.6	88	147	20.6	236
11/2/2013 17:22	5.5	89	150	22.8	232
11/2/2013 17:23	5	96	153	22.6	232
11/2/2013 17:24	5.1	94	158	28.1	234
11/2/2013 17:25	5.8	87	165	25.7	234
11/2/2013 17:26	5.7	87	172	20.5	235
11/2/2013 17:27	5.9	85	177	28.6	230
11/2/2013 17:28	4.1	108	181	30.4	228
11/2/2013 17:29	3.7	115	188	26.2	236
11/2/2013 17:30	4.4	104	192	27.7	232
11/2/2013 17:31	5	96	189	28.4	233
11/2/2013 17:32	4.2	107	182	28.4	237
11/2/2013 17:33	4.4	104	174	29.9	238
11/2/2013 17:34	3.9	112	168	26.8	238
11/2/2013 17:35	3.8	112	167	31.8	232
11/2/2013 17:36	2.5	136	182	28.3	234
11/2/2013 17:37	3.3	121	219	29.9	237
11/2/2013 17:38	3.6	117	236	30	231
11/2/2013 17:39	3.6	116	242	22.3	232
11/2/2013 17:40	4.2	107	240	29.5	233
11/2/2013 17:41	3.9	112	231	26	228

Date & Time	NPM25, ug/m3	Visibility, miles	TPM10, ug/m3	Wind Spd S, MPH	Wind Dir S, Deg
11/2/2013 17:42	3.9	112	220	28.8	228
11/2/2013 17:43	3.2	123	206	25.9	230
11/2/2013 17:44	3.4	120	191	30.3	232
11/2/2013 17:45	3.1	126	174	29.7	229
11/2/2013 17:46	2.6	135	162	32.7	231
11/2/2013 17:47	2.2	141	165	31.9	233
11/2/2013 17:48	2.7	132	177	31.4	236
11/2/2013 17:49	3.6	117	176	31.6	235
11/2/2013 17:50	3	127	183	27.3	231
11/2/2013 17:51	3.5	119	197	21.5	233
11/2/2013 17:52	4.3	105	202	29	230
11/2/2013 17:53	4.4	104	200	25.4	234
11/2/2013 17:54	4.5	102	196	21.6	226
11/2/2013 17:55	5.3	92	192	19.7	234
11/2/2013 17:56	5.3	92	187	26.6	232
11/2/2013 17:57	4.8	99	179	25.8	234
11/2/2013 17:58	4.6	101	170	26	230
11/2/2013 17:59	4.3	106	162	22.1	234
11/2/2013 18:00	4.2	107	154	29.3	233
11/2/2013 18:01	4	111	148	26.2	232
11/2/2013 18:02	3.7	115	143	28.4	234
11/2/2013 18:03	3.9	111	136	23.9	225
11/2/2013 18:04	3.7	115	129	27.1	226
11/2/2013 18:05	3.6	116	123	27.7	230
11/2/2013 18:06	3.3	122	116	25.5	229
11/2/2013 18:07	3.9	111	110	22.5	230
11/2/2013 18:08	4.1	108	105	30.1	230
11/2/2013 18:09	3.8	114	100	28.8	229
11/2/2013 18:10	3.5	118	95	23	223
11/2/2013 18:11	3.7	115	92	18.9	226
11/2/2013 18:12	3.7	115	86	26.1	226
11/2/2013 18:13	3.7	115	79	27.9	227
11/2/2013 18:14	3.6	116	68	23.8	232
11/2/2013 18:15	4	109	58	23	228
11/2/2013 18:16	3.9	112	51	28.5	230
11/2/2013 18:17	2.9	128	45	26.9	232
11/2/2013 18:18	3.1	126	39	24.2	232
11/2/2013 18:19	3.7	115	37	25.5	231
11/2/2013 18:20	3.9	111	34	26.2	229
11/2/2013 18:21	3.9	112	33	26.4	233
11/2/2013 18:22	3.9	111	32	26.1	235
11/2/2013 18:23	4	109	33	26.5	231
11/2/2013 18:24	3.9	111	34	22.2	225

Date & Time	NPM25, ug/m3	Visibility, miles	TPM10, ug/m3	Wind Spd S, MPH	Wind Dir S, Deg
11/2/2013 18:25	4.2	107	34	21.3	227
11/2/2013 18:26	4	110	36	19.7	231
11/2/2013 18:27	4	110	38	22	223
11/2/2013 18:28	3.9	111	41	24.5	228
11/2/2013 18:29	3.7	115	45	21.6	233
11/2/2013 18:30	4	109	45	25.9	230
11/2/2013 18:31	3.8	112	44	22.2	232
11/2/2013 18:32	3.9	112	43	23.4	228
11/2/2013 18:33	3.9	111	43	24.9	233
11/2/2013 18:34	4	110	44	22.9	233
11/2/2013 18:35	3.9	111	44	17.8	228
11/2/2013 18:36	4	109	43	24.1	222
11/2/2013 18:37	3.7	114	41	23.7	230
11/2/2013 18:38	3.6	116	36	24.1	231
11/2/2013 18:39	3.7	114	33	19.1	234
11/2/2013 18:40	3.9	111	32	22.6	228
11/2/2013 18:41	3.8	112	32	19.5	229
11/2/2013 18:42	3.8	113	33	24.6	230
11/2/2013 18:43	3.8	113	35	26	227
11/2/2013 18:44	3.7	114	37	28.6	236
11/2/2013 18:45	3.7	114	35	27	231
11/2/2013 18:46	3.4	120	32	25.8	236
11/2/2013 18:47	3.4	119	29	30.1	236
11/2/2013 18:48	3.3	120	26	22.4	234
11/2/2013 18:49	3.7	114	26	27.4	237
11/2/2013 18:50	3.6	116	24	22.7	230
11/2/2013 18:51	3.9	112	24	26.1	231
11/2/2013 18:52	4	110	23	27	228
11/2/2013 18:53	3.4	119	24	27.8	230
11/2/2013 18:54	3	126	26	27	223
11/2/2013 18:55	3.2	124	29	26	231
11/2/2013 18:56	3.3	121	31	22.2	225
11/2/2013 18:57	3.7	115	33	25.7	225
11/2/2013 18:58	3.6	117	31	34.8	225
11/2/2013 18:59	2.4	138	32	29.4	227
11/2/2013 19:00	2	146	36	32.1	226
11/2/2013 19:01	1.8	151	37	32	225
11/2/2013 19:02	1.9	149	37	28.2	227
11/2/2013 19:03	2.8	130	39	28.3	233
11/2/2013 19:04	3.2	123	41	31.2	229
11/2/2013 19:05	3.1	125	45	28.2	234
11/2/2013 19:06	3	126	48	30.4	227
11/2/2013 19:07	3.2	124	51	26.9	229

Date & Time	NPM25, ug/m3	Visibility, miles	TPM10, ug/m3	Wind Spd S, MPH	Wind Dir S, Deg
11/2/2013 19:08	3.2	123	49	24.9	228
11/2/2013 19:09	3.3	122	44	24.9	229
11/2/2013 19:10	3.3	121	37	20.6	232
11/2/2013 19:11	3.4	119	31	24.9	228
11/2/2013 19:12	3.5	117	25	21.9	232
11/2/2013 19:13	3.7	114	21	24.9	230
11/2/2013 19:14	3.7	114	17	24.1	230
11/2/2013 19:15	3.5	118	14	20.8	236
11/2/2013 19:16	3.5	118	12	24.5	229
11/2/2013 19:17	3.4	119	13	28.2	230
11/2/2013 19:18	3.1	126	14	23.6	232
11/2/2013 19:19	2.9	129	16	25.3	231
11/2/2013 19:20	3.1	125	14	25.2	231
11/2/2013 19:21	3	126	15	25.7	228
11/2/2013 19:22	3.1	125	19	25.6	232
11/2/2013 19:23	3	127	23	28.5	228
11/2/2013 19:24	2.8	130	28	26.4	233
11/2/2013 19:25	3.1	124	32	28.9	231
11/2/2013 19:26	3.2	123	36	24.4	227
11/2/2013 19:27	3.1	125	38	25.3	233
11/2/2013 19:28	2.9	128	37	27.2	228
11/2/2013 19:29	3	127	35	25.3	230
11/2/2013 19:30	3.3	121	34	24.1	232
11/2/2013 19:31	3.4	120	33	28	225
11/2/2013 19:32	2.9	129	28	33.4	229
11/2/2013 19:33	2.3	141	22	28.2	231
11/2/2013 19:34	2.6	135	20	28.9	229
11/2/2013 19:35	2.7	133	20	26.9	233
11/2/2013 19:36	2.9	129	21	30.1	228
11/2/2013 19:37	2.7	133	21	30.7	227
11/2/2013 19:38	2.6	134	20	29.6	232
11/2/2013 19:39	2.6	134	19	28	231
11/2/2013 19:40	2.7	132	20	28	231
11/2/2013 19:41	2.6	134	23	25.8	236
11/2/2013 19:42	3.2	123	26	25.8	233
11/2/2013 19:43	3.3	121	26	26.6	230
11/2/2013 19:44	3.3	122	25	27.2	228
11/2/2013 19:45	2.9	128	27	25.3	237
11/2/2013 19:46	3.3	122	28	23.9	232
11/2/2013 19:47	3.3	121	23	26.3	238
11/2/2013 19:48	3.3	121	20	22.5	236
11/2/2013 19:49	3.2	124	18	21.2	235
11/2/2013 19:50	3.4	120	18	23.4	233

Date & Time	NPM25, ug/m3	Visibility, miles	TPM10, ug/m3	Wind Spd S, MPH	Wind Dir S, Deg
11/2/2013 19:51	3.6	117	18	20.1	236
11/2/2013 19:52	3.4	120	19	22.4	235
11/2/2013 19:53	3.4	119	23	20.3	235
11/2/2013 19:54	3.6	116	27	26.9	232
11/2/2013 19:55	3.2	122	29	25	236
11/2/2013 19:56	3.2	123	30	21.1	235
11/2/2013 19:57	3.4	119	31	23.7	235
11/2/2013 19:58	3.6	117	32	19.7	235
11/2/2013 19:59	3.9	111	35	22.2	232
11/2/2013 20:00	3.9	111	36	23.6	226
11/2/2013 20:01	3.7	115	38	21.4	237
11/2/2013 20:02	3.6	116	41	23.1	231
11/2/2013 20:03	3.7	115	43	21.4	229
11/2/2013 20:04	3.7	115	43	27.5	227
11/2/2013 20:05	3.5	117	43	19.8	229
11/2/2013 20:06	3.3	122	43	21	230
11/2/2013 20:07	3.4	119	42	20.7	232
11/2/2013 20:08	3.5	118	40	26.6	235
11/2/2013 20:09	3.4	120	36	25.6	235
11/2/2013 20:10	3	126	33	28.5	232
11/2/2013 20:11	3	126	30	26.1	236
11/2/2013 20:12	3.2	122	26	21	234
11/2/2013 20:13	3.6	117	23	24.7	236
11/2/2013 20:14	3.5	118	21	27.3	235
11/2/2013 20:15	3.2	122	22	28.2	230
11/2/2013 20:16	3	126	25	22.1	230
11/2/2013 20:17	3.4	120	27	26.8	234
11/2/2013 20:18	3.4	120	26	29.1	235
11/2/2013 20:19	3	127	22	27.5	234
11/2/2013 20:20	3	127	20	30.6	232
11/2/2013 20:21	2.9	128	18	26.8	233
11/2/2013 20:22	2.9	128	24	25.1	236
11/2/2013 20:23	2.8	129	28	19.2	233
11/2/2013 20:24	3.1	125	31	26	234
11/2/2013 20:25	3.1	125	31	25	232
11/2/2013 20:26	3.2	124	31	23.3	231
11/2/2013 20:27	3.1	124	31	22	236
11/2/2013 20:28	3.2	123	32	22.1	230
11/2/2013 20:29	3	126	33	21.2	237
11/2/2013 20:30	3	127	34	23.3	232
11/2/2013 20:31	3.2	123	33	25.9	240
11/2/2013 20:32	3.3	122	32	21.3	233
11/2/2013 20:33	3.3	122	32	23.2	235

Date & Time	NPM25, ug/m3	Visibility, miles	TPM10, ug/m3	Wind Spd S, MPH	Wind Dir S, Deg
11/2/2013 20:34	3.3	121	31	24.2	235
11/2/2013 20:35	3.3	121	30	23.6	235
11/2/2013 20:36	3.5	117	29	27.2	232
11/2/2013 20:37	2.9	128	27	23.7	230
11/2/2013 20:38	2.8	131	25	29.7	230
11/2/2013 20:39	2.9	129	22	25.9	234
11/2/2013 20:40	2.8	130	22	24	236
11/2/2013 20:41	3.1	124	24	22.8	237
11/2/2013 20:42	3.4	119	25	22.8	232
11/2/2013 20:43	3.4	120	25	30.1	232
11/2/2013 20:44	2.7	133	26	24.5	232
11/2/2013 20:45	2.8	130	27	22.3	233
11/2/2013 20:46	2.9	128	27	29.1	234
11/2/2013 20:47	2.7	133	28	27.4	232
11/2/2013 20:48	2.6	134	32	22.5	233
11/2/2013 20:49	3.1	125	35	19.8	238
11/2/2013 20:50	3	127	37	25.6	240
11/2/2013 20:51	2.8	130	37	23.3	234
11/2/2013 20:52	2.7	133	35	27.3	229
11/2/2013 20:53	2.3	141	32	26.5	231
11/2/2013 20:54	2.5	136	32	24.8	232
11/2/2013 20:55	2.5	137	32	21.5	230
11/2/2013 20:56	2.7	133	34	22.8	237
11/2/2013 20:57	2.7	133	33	22.6	238
11/2/2013 20:58	2.7	133	32	25.3	237
11/2/2013 20:59	2.6	134	31	23.8	234
11/2/2013 21:00	2.7	132	28	24.3	234
11/2/2013 21:01	2.7	131	27	22.3	236
11/2/2013 21:02	2.7	133	24	23.3	236
11/2/2013 21:03	2.9	129	25	21.2	230
11/2/2013 21:04	2.7	132	26	21.9	234
11/2/2013 21:05	2.6	134	30	21.5	237
11/2/2013 21:06	2.5	136	32	21.4	238
11/2/2013 21:07	2.7	132	33	26.4	234
11/2/2013 21:08	2.5	136	32	23.7	235
11/2/2013 21:09	2.5	137	33	17.2	234
11/2/2013 21:10	2.4	138	34	27.6	232
11/2/2013 21:11	2.1	144	31	22.2	232
11/2/2013 21:12	2.3	141	29	25.8	231
11/2/2013 21:13	2.3	141	25	21.3	231
11/2/2013 21:14	2.5	137	23	26.2	232
11/2/2013 21:15	2	146	21	28.3	235
11/2/2013 21:16	2.1	143	20	25.4	235

Date & Time	NPM25, ug/m3	Visibility, miles	TPM10, ug/m3	Wind Spd S, MPH	Wind Dir S, Deg
11/2/2013 21:17	2.3	140	19	28.3	233
11/2/2013 21:18	2	145	19	26.6	232
11/2/2013 21:19	2	145	22	28.7	237
11/2/2013 21:20	2	145	20	28.2	234
11/2/2013 21:21	2	146	17	25.1	235
11/2/2013 21:22	2	145	17	26.9	233
11/2/2013 21:23	2.1	144	17	26	236
11/2/2013 21:24	2	147	16	23.3	229
11/2/2013 21:25	2.2	142	14	24.1	234
11/2/2013 21:26	2.5	136	12	23.9	233
11/2/2013 21:27	2.1	144	10	30.1	228
11/2/2013 21:28	2	146	12	26.5	231
11/2/2013 21:29	1.9	148	16	25.2	233
11/2/2013 21:30	2.1	144	27	29.8	234
11/2/2013 21:31	2	145	36	23.5	233
11/2/2013 21:32	2	147	42	23	232
11/2/2013 21:33	2.4	138	43	25.8	231
11/2/2013 21:34	2.4	138	42	24.8	235
11/2/2013 21:35	2.3	139	43	30.9	232
11/2/2013 21:36	1.6	154	45	28.5	231
11/2/2013 21:37	1.3	161	48	26.4	234
11/2/2013 21:38	1.9	148	48	28.1	231
11/2/2013 21:39	2.3	141	49	26.5	231
11/2/2013 21:40	2.3	140	53	28	229
11/2/2013 21:41	2	146	59	29.5	232
11/2/2013 21:42	1.9	147	65	31.5	231
11/2/2013 21:43	2	146	68	25.2	233
11/2/2013 21:44	2.2	143	71	24.2	232
11/2/2013 21:45	2.5	135	73	25	229
11/2/2013 21:46	2.3	139	71	29.7	237
11/2/2013 21:47	1.7	152	70	23.2	235
11/2/2013 21:48	2.6	135	71	27.3	233
11/2/2013 21:49	2.6	135	72	26.4	232
11/2/2013 21:50	2.7	133	74	23.3	232
11/2/2013 21:51	2.4	139	73	29	231
11/2/2013 21:52	2	146	70	23.7	232
11/2/2013 21:53	2.4	139	68	25.4	234
11/2/2013 21:54	2.4	138	67	22.7	240
11/2/2013 21:55	2.5	136	68	30.6	232
11/2/2013 21:56	2	146	67	29.3	235
11/2/2013 21:57	2.4	138	67	21.6	234
11/2/2013 21:58	2.7	133	67	26	235
11/2/2013 21:59	2.4	139	64	25	236

Date & Time	NPM25, ug/m3	Visibility, miles	TPM10, ug/m3	Wind Spd S, MPH	Wind Dir S, Deg
11/2/2013 22:00	2.5	135	61	27.6	235
11/2/2013 22:01	2.5	137	57	29.6	230
11/2/2013 22:02	2	146	55	27.9	231
11/2/2013 22:03	2.4	139	54	26.9	235
11/2/2013 22:04	2.7	131	51	23.4	236
11/2/2013 22:05	2.9	128	51	18.8	237
11/2/2013 22:06	3	127	53	22.8	231
11/2/2013 22:07	2.8	130	52	18.4	236
11/2/2013 22:08	2.9	129	50	25.7	235
11/2/2013 22:09	2.7	133	49	21.9	242
11/2/2013 22:10	2.8	131	47	19.1	236
11/2/2013 22:11	2.9	129	46	28.7	230
11/2/2013 22:12	2.1	143	46	25.3	236
11/2/2013 22:13	2.5	136	47	26.3	238
11/2/2013 22:14	2.8	130	45	27.7	235
11/2/2013 22:15	2.4	139	41	29.4	232
11/2/2013 22:16	1.9	148	38	25.4	234
11/2/2013 22:17	2	146	34	27.6	235
11/2/2013 22:18	1.9	147	32	23.8	233
11/2/2013 22:19	1.8	151	31	25.4	235
11/2/2013 22:20	2	146	26	25	232
11/2/2013 22:21	1.9	147	22	27.2	234
11/2/2013 22:22	1.9	149	19	23.2	229
11/2/2013 22:23	2	146	17	25	235
11/2/2013 22:24	2	146	17	26	233
11/2/2013 22:25	1.9	148	16	25.4	237
11/2/2013 22:26	1.9	149	15	26.2	233
11/2/2013 22:27	1.8	149	14	25.8	236
11/2/2013 22:28	2	145	15	25.7	237
11/2/2013 22:29	2.2	142	16	23.2	240
11/2/2013 22:30	2.1	143	19	19.6	241
11/2/2013 22:31	2.4	139	24	24.7	235
11/2/2013 22:32	2	146	27	30.8	233
11/2/2013 22:33	1.6	154	26	29.4	233
11/2/2013 22:34	1.5	156	25	27.6	233
11/2/2013 22:35	1.5	156	26	23.6	237
11/2/2013 22:36	2.1	144	27	23.1	234
11/2/2013 22:37	2.2	142	27	26.7	232
11/2/2013 22:38	1.9	148	24	26.2	235
11/2/2013 22:39	1.8	151	25	19.9	234
11/2/2013 22:40	1.9	148	27	22.9	230
11/2/2013 22:41	1.9	148	30	30	231
11/2/2013 22:42	1.8	151	31	23.3	236

Date & Time	NPM25, ug/m3	Visibility, miles	TPM10, ug/m3	Wind Spd S, MPH	Wind Dir S, Deg
11/2/2013 22:43	1.8	149	34	22	234
11/2/2013 22:44	1.9	149	37	23.5	236
11/2/2013 22:45	1.9	148	39	21.7	233
11/2/2013 22:46	2	147	40	24.4	237
11/2/2013 22:47	2	145	42	24.1	230
11/2/2013 22:48	1.8	151	45	27	230
11/2/2013 22:49	1.7	153	45	26.5	232
11/2/2013 22:50	1.6	154	46	28.5	230
11/2/2013 22:51	1.5	155	49	21.3	234
11/2/2013 22:52	1.9	148	53	22.4	235
11/2/2013 22:53	1.9	148	55	22.3	236
11/2/2013 22:54	2.1	145	55	24.2	228
11/2/2013 22:55	1.9	148	55	22.7	235
11/2/2013 22:56	1.8	150	54	24.8	227
11/2/2013 22:57	1.7	152	53	22	228
11/2/2013 22:58	1.7	152	51	22.8	229
11/2/2013 22:59	2	146	47	22.6	233
11/2/2013 23:00	1.8	150	42	23.5	232
11/2/2013 23:01	1.9	148	40	23.5	228
11/2/2013 23:02	2.1	144	39	27.3	229
11/2/2013 23:03	1.8	151	36	27.3	229
11/2/2013 23:04	1.5	157	33	25.6	230
11/2/2013 23:05	1.7	153	30	22.4	231
11/2/2013 23:06	1.7	152	27	24.4	231
11/2/2013 23:07	1.4	158	24	23	227
11/2/2013 23:08	1.8	150	22	24.3	227
11/2/2013 23:09	1.8	150	19	29.4	227
11/2/2013 23:10	1.4	159	19	23.1	226
11/2/2013 23:11	1.7	151	19	25.8	231
11/2/2013 23:12	1.7	152	17	22.8	228
11/2/2013 23:13	1.7	152	15	20.4	226
11/2/2013 23:14	1.6	155	12	25.4	228
11/2/2013 23:15	1.8	150	9	24.5	229
11/2/2013 23:16	1.7	153	8	27.2	228
11/2/2013 23:17	1.5	156	7	26.7	228
11/2/2013 23:18	1.6	155	6	28.5	229
11/2/2013 23:19	1.6	154	6	28.3	228
11/2/2013 23:20	1.4	158	6	26.5	230
11/2/2013 23:21	1.5	157	8	24.7	228
11/2/2013 23:22	1.6	153	9	20.9	228
11/2/2013 23:23	1.5	156	12	17.1	232
11/2/2013 23:24	1.7	152	12	22.1	230
11/2/2013 23:25	1.8	151	12	24.7	224

Date & Time	NPM25, ug/m3	Visibility, miles	TPM10, ug/m3	Wind Spd S, MPH	Wind Dir S, Deg
11/2/2013 23:26	1.5	156	12	22.1	230
11/2/2013 23:27	1.7	153	12	25.6	234
11/2/2013 23:28	1.7	151	11	25.8	233
11/2/2013 23:29	1.8	150	10	26.4	231
11/2/2013 23:30	1.4	158	7	27.4	224
11/2/2013 23:31	1.5	155	5	22.5	237
11/2/2013 23:32	1.9	148	3	25.3	230
11/2/2013 23:33	1.4	159	2	24	233
11/2/2013 23:34	1.6	154	0	25	232
11/2/2013 23:35	1.4	159	1	22.6	230
11/2/2013 23:36	1.8	151	1	21.6	230
11/2/2013 23:37	1.6	155	1	24.3	229
11/2/2013 23:38	1.3	161	2	29.6	230
11/2/2013 23:39	1.3	160	3	27.2	232
11/2/2013 23:40	1.4	158	5	29.6	231
11/2/2013 23:41	1.3	161	6	25.4	230
11/2/2013 23:42	1.5	157	8	24	228
11/2/2013 23:43	1.5	157	12	20.7	230
11/2/2013 23:44	1.8	151	17	21.3	229
11/2/2013 23:45	1.9	148	21	25.8	235
11/2/2013 23:46	1.7	152	23	24.3	230
11/2/2013 23:47	1.5	156	24	28.9	232
11/2/2013 23:48	1.6	153	23	23.8	232
11/2/2013 23:49	1.6	155	23	28.5	230
11/2/2013 23:50	1.3	161	23	27.2	229
11/2/2013 23:51	1.6	155	23	26.5	233
11/2/2013 23:52	1.5	156	21	24.5	230
11/2/2013 23:53	1.7	152	20	25.4	232
11/2/2013 23:54	1.7	152	18	26.2	229
11/2/2013 23:55	1.5	155	16	25.6	231
11/2/2013 23:56	1.7	153	14	25.2	232
11/2/2013 23:57	1.7	151	12	26.6	229
11/2/2013 23:58	1.6	155	11	23.3	230
11/2/2013 23:59	1.7	153	10	26.1	232
11/3/2013 0:00	1.6	155	9	26.3	235
11/3/2013 0:01	1.6	154	8	24.2	228
11/3/2013 0:02	1.8	151	7	24.4	227
11/3/2013 0:03	1.4	159	7	24.2	229
11/3/2013 0:04	1.7	152	7	23.8	230
11/3/2013 0:05	2.1	145	8	22	232
11/3/2013 0:06	2	147	9	21.4	233
11/3/2013 0:07	1.9	147	9	23.6	229
11/3/2013 0:08	1.9	149	10	21.1	229

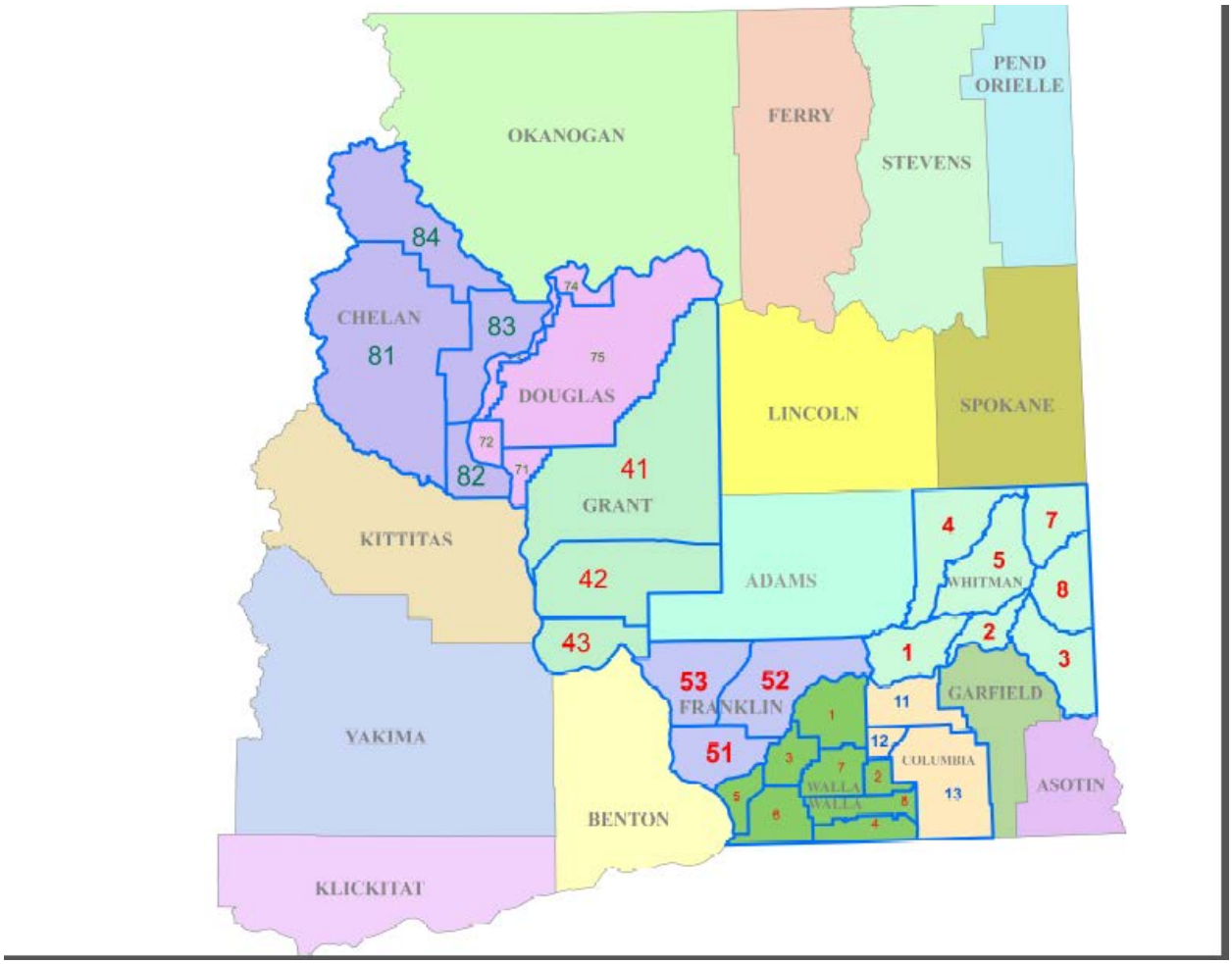
Date & Time	NPM25, ug/m3	Visibility, miles	TPM10, ug/m3	Wind Spd S, MPH	Wind Dir S, Deg
11/3/2013 0:09	1.8	151	9	26.5	233
11/3/2013 0:10	1.4	159	8	23.2	232
11/3/2013 0:11	1.8	151	7	19	227
11/3/2013 0:12	1.9	149	6	21.6	230
11/3/2013 0:13	1.8	150	7	28.2	231
11/3/2013 0:14	1.7	152	8	25.5	235
11/3/2013 0:15	1.6	154	7	20.6	232
11/3/2013 0:16	1.8	150	7	23.9	232
11/3/2013 0:17	1.6	155	8	23.1	231
11/3/2013 0:18	1.9	149	8	22.5	235
11/3/2013 0:19	2	145	8	21.9	233
11/3/2013 0:20	1.8	151	9	21.8	235
11/3/2013 0:21	1.7	152	8	21.8	237
11/3/2013 0:22	1.8	151	7	24.6	237
11/3/2013 0:23	1.7	153	4	21.6	241
11/3/2013 0:24	1.5	156	4	22.7	230
11/3/2013 0:25	1.5	156	4	24.8	231
11/3/2013 0:26	1.6	154	4	22.8	235
11/3/2013 0:27	1.7	151	6	20.6	232
11/3/2013 0:28	1.6	155	6	26.7	233
11/3/2013 0:29	1.4	159	4	29.5	232
11/3/2013 0:30	1.4	158	2	27	232
11/3/2013 0:31	1.6	155	2	24.5	235
11/3/2013 0:32	1.6	155	3	18.6	239
11/3/2013 0:33	1.7	152	4	25.3	231
11/3/2013 0:34	1.7	152	3	25	237
11/3/2013 0:35	1.7	152	3	21	238
11/3/2013 0:36	1.8	151	5	17.9	234
11/3/2013 0:37	1.8	151	5	19.3	233
11/3/2013 0:38	1.8	151	5	22.1	226
11/3/2013 0:39	1.7	153	3	17.9	231
11/3/2013 0:40	1.7	152	3	21.9	232
11/3/2013 0:41	1.6	155	3	25.6	228
11/3/2013 0:42	1.7	151	2	23	233
11/3/2013 0:43	1.7	152	1	20.1	234
11/3/2013 0:44	1.7	152	1	26.1	231
11/3/2013 0:45	1.7	153	0	23.3	233
11/3/2013 0:46	1.5	157	0	24.7	238
11/3/2013 0:47	1.2	163	0	22.1	236
11/3/2013 0:48	1.2	162	0	23.1	236
11/3/2013 0:49	1.6	155	0	21.1	241
11/3/2013 0:50	1.4	159	-2	24.9	231
11/3/2013 0:51	1.5	156	-6	27.3	235

Date & Time	NPM25, ug/m3	Visibility, miles	TPM10, ug/m3	Wind Spd S, MPH	Wind Dir S, Deg
11/3/2013 0:52	1.5	157	-11	20.1	235
11/3/2013 0:53	1.5	156	-12	22.7	239
11/3/2013 0:54	1.6	155	-14	24.5	233
11/3/2013 0:55	1.3	160	-13	25.4	236
11/3/2013 0:56	1.3	161	-11	24.3	234
11/3/2013 0:57	1.2	163	-7	21.5	237
11/3/2013 0:58	1.3	160	-2	17.8	238
11/3/2013 0:59	1.5	157	2	18	237
11/3/2013 1:00	1.3	161	5	18.6	234
11/3/2013 1:01	1.2	163	8	19	237
11/3/2013 1:02	1.3	161	10	20.6	239
11/3/2013 1:03	1.3	161	11	17.6	235
11/3/2013 1:04	1.2	162	11	21.3	234
11/3/2013 1:05	1.3	161	12	19.4	234
11/3/2013 1:06	1.1	165	14	20	240
11/3/2013 1:07	1.3	160	16	18	233
11/3/2013 1:08	1.5	156	18	20.4	237
11/3/2013 1:09	1.4	160	20	26.4	229
11/3/2013 1:10	1.1	164	20	24.1	232
11/3/2013 1:11	0.9	168	20	19.5	235
11/3/2013 1:12	1.3	160	20	24.5	235
11/3/2013 1:13	1.4	159	19	22.5	238
11/3/2013 1:14	1.2	162	18	22.5	232
11/3/2013 1:15	1	166	16	21.7	234
11/3/2013 1:16	1.2	163	12	21.7	234
11/3/2013 1:17	1.2	162	8	23.1	235
11/3/2013 1:18	1.1	166	5	22.6	238
11/3/2013 1:19	0.9	169	3	20.1	238
11/3/2013 1:20	1.3	160	2	22.5	238
11/3/2013 1:21	1.3	161	-1	26.7	238
11/3/2013 1:22	1.2	164	-3	23.2	236
11/3/2013 1:23	1.3	160	-3	24.4	237
11/3/2013 1:24	1.2	163	-4	23.7	235
11/3/2013 1:25	1	166	-4	22.1	239
11/3/2013 1:26	1.2	163	-2	23.3	237
11/3/2013 1:27	1	167	0	24.3	232
11/3/2013 1:28	1.2	163	0	23.2	238
11/3/2013 1:29	1.2	163	0	24.6	238
11/3/2013 1:30	1.4	158	0	23.9	236
11/3/2013 1:31	1	166	-1	24.5	235
11/3/2013 1:32	1.2	162	-3	25.5	237
11/3/2013 1:33	1.3	160	-2	24.7	232
11/3/2013 1:34	1.4	159	-3	24.4	232

Date & Time	NPM25, ug/m3	Visibility, miles	TPM10, ug/m3	Wind Spd S, MPH	Wind Dir S, Deg
11/3/2013 1:35	1.3	161	-2	24	238

Ecology Burn Decision

Zone Map



Daily Burn Decision – 11/2/2013

Burn call 11/2

Decision For:	**Sunday, November 02, 2014**
Daily Notes:	

The Eastern Regional Office (ERO) in Spokane is responsible for the following counties: Adams, Asotin, Columbia, Ferry, Franklin, Garfield, Grant, Lincoln, Pend Oreille, Stevens, Walla Walla and Whitman. Call (509) 329-3400 for questions concerning these counties.
ERO listserv: http://listserv.wa.gov/cgi-bin/wa?SUBED1=ag-burn-decision-ero&A=1

The Central Regional Office (CRO) in Yakima is responsible for the following counties: Chelan, Douglas, Kittitas, Klickitat and Okanogan. Call (509) 575-2490 for questions concerning these counties.

CRO listserv: http://listserv.wa.gov/cgi-bin/wa?SUBED1=BURN-DECISION-CRO&A=1

The three remaining counties (Benton, Spokane and Yakima) have local air authorities. See the listings below for phone numbers.

Winds are indicated by direction the wind is coming from (i.e.: if you face in the direction listed, the wind would be blowing in your face)

Air authorities: http://www.ecy.wa.gov/programs/air/local.html
Zone map: http://www.ecy.wa.gov/programs/air/aginfo/research_pdf_files/ZoneMap.pdf
Ag & outdoor burning questions in:
Spokane (509) 477-4727, Benton (509) 783-1304 or Yakima (509) 834-2050 (all local air authorities)
Okanogan, Chelan, Douglas, Kittitas, or Klickitat: (509) 575-2490 (Ecology, Yakima office)
Eastern Washington counties not listed: (509) 329-3400 (Ecology, Spokane office)

FORECAST: **Expect limited burning tomorrow**

Adams	NO BURN
notes:	
Asotin	NO BURN
notes:	
Columbia	NO BURN
notes:	
Zone 11:	
notes:	
Zone 12:	
notes:	
Zone 13:	
notes:	
Franklin	Start at 10:00 AM Fires out by 3:00 PM winds SW am SW pm
notes:	
Zone 51:	
notes:	
Zone 52:	
notes:	
Zone 53:	
notes:	
Garfield	NO BURN
notes:	
Grant	Start at 10:00 AM Fires out by 3:00 PM winds SW am SW pm
notes:	
Zone 41:	
notes:	
Zone 42:	
notes:	
Zone 43:	

notes:	
Lincoln	Start at 10:00 AM Fires out by 3:00 PM winds SW am SW pm
notes:	
Stevens	Start at 10:00 AM Fires out by 3:00 PM winds SW am SW pm
notes:	
& P. Oreille	Start at 10:00 AM Fires out by 3:00 PM winds SW am SW pm
notes:	
Walla Walla	NO BURN
notes:	
Zone 01:	
notes:	
Zone02:	
notes:	
Zone 03:	
notes:	
Zone 04:	
notes:	
Zone 05:	
notes:	
Zone 06:	
notes:	
Zone 07:	
notes:	
Zone 08:	
notes:	
Whitman	NO BURN
notes:	
Zone 1:	
notes:	
Zone 2:	
notes:	
Zone 3:	
notes:	
Zone 4:	
notes:	
Zone 5:	
notes:	
Zone 7:	
notes:	
Zone 8:	
notes:	
Not routinely called (does not have mailbox, ag burning in this area is almost exclusively on Indian lands)	
Ferry	Start at 10:00 AM Fires out by 3:00 PM winds SW am pm
notes:	

Media Reports

Tri-City Herald.com – November 2, 2013 – High winds cause damage throughout Mid-Columbia.

Mid-Columbia — Strong winds wreaked havoc Saturday across the Mid-Columbia, tipping over a semi-truck, uprooting trees and knocking down the front section of an elementary school under construction.

Blowing dust caused low visibility on many roadways until the heart of the storm passed after 5 p.m.

At mid-day, wind gusts of 60 mph were recorded in Benton City, 58 mph at Hanford and 56 mph at Vista Field in Kennewick.

The National Weather Service out of Pendleton said the winds would “diminish a bit overnight,” but to still expect at least breezy conditions in some areas. Sunday is expected to be mostly cloudy with rain showers and cooler temperatures.

Washington State Patrol Troopers and Benton Fire District 1 crews were called about 2 p.m. Saturday for a tractor trailer that was blown over onto its side on Highway 397, east of Olympia Street in Finley. Fuel spilled onto the highway from the truck, but reportedly was contained to the road.

The semi was pulled to the shoulder and ditch area, and crews planned to wait for the winds to die down before uprighting it, reported District 1 Capt. Devin Helland.

The Department of Transportation closed the roadway for a couple of hours.

In west Pasco, part of the structure for a new elementary school fell down.

The school, which has yet to be named, has been under construction since June near the intersection of Powerline Road and Road 52. It is scheduled to be open for the 2014-15 school year and is being paid for by a $46.8 million bond approved by voters in February.

On Highway 240 between Richland and Vantage, troopers were leading motorists through thick drifts of tumbleweeds.

One driver told the Herald that blowing tumbleweeds were causing road hazards along the bypass highway, and said caution was recommended if traveling on that road. The driver also reported that troopers said Department of Transportation workers would be plowing the tumbleweeds.

The State Patrol restricted all mobile homes from traveling on Interstate 82 between milepost 82 near Prosser and milepost 131 near the Oregon border. The restriction was to be in place until the high winds subsided.

Law enforcement officers also responded to numerous calls of trees and power lines down, blocking roadways. Two trees blocked traffic on Fruitland Street, between Columbia Street and Canal Drive.

Check back for updates.

Readers are encouraged to send in photos of wind-related damage to be shared in an online gallery. Submit them at www.tricityherald.com/sendphoto.

Tri-City Herald

Tri-City Herald – Sunday, November 3, 2013 – Wind whips Mid-Columbia

SUNDAY

TODAY ON FAST FOCUS
What would you like to see in a magnet school?

TIMBERS TOP SOUNDERS IN MLS PLAYOFF WIN

Sports | D1

$1.75

Sunday, Nov. 3, 2013

Wind whips Mid-Columbia

School damaged, many trees down as blustery conditions strike region

Richard Dickin | rdickin@tricityherald.com

Strong winds are wreaking havoc on the Mid-Columbia, tipping over at least one semi-truck, uprooting trees and knocking down the front section of an elementary school under construction in Pasco. The school, which has yet to be named, has been under construction since June near the intersection of Powerline Road and Road 52.

Airborne tumbleweeds become driving hazards

KRISTIN M. KRAEMER
HERALD STAFF WRITER

Strong winds wreaked havoc Saturday across the Mid-Columbia, tipping over a semi-truck, uprooting trees and knocking down the front section of an elementary school under construction.

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PHOTO GALLERY
tricityherald.com

The semi was pulled to the shoulder and ditch area, and crews planned to wait for the winds to die down before uprighting it, reported District 1 Capt. Devin Helland.

The Department of Transportation closed the roadway for a couple of hours.

In west Pasco, part of the structure for a new elementary school fell down.

The school, which has yet to be named, has been under construction since June near the intersection of Powerline Road and Road 52. It is scheduled to be open for the 2014-15 school year and is being paid for by a $46.8 million bond approved by voters in February.

On Highway 240 between Richland and Vantage, troopers were leading motorists through thick drifts of tumbleweeds.

One driver told the Herald that blowing tumbleweeds were causing road hazards along the bypass highway, and said caution was recommended if traveling on that road. The driver also reported that troopers said Department of Transportation

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workers would be plowing the tumbleweeds.

The State Patrol restricted all mobile homes from traveling on Interstate 82 between milepost 82 near Prosser and milepost 131 near the Oregon border. The restriction was to be in place until the high winds subsided.

Law enforcement officers also responded to numerous calls of trees and power lines down, blocking roadways. Two trees blocked traffic on Fruitland Street, between Columbia Street and Canal Drive.

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