



Documentation of a Natural Event Due to High Winds, May 02, 2002 Walla Walla, Washington

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April 2003

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Documentation of A Natural Event Due to High Winds, May 02, 2002 Walla Walla, Washington

Prepared by:

Washington State Department of Ecology
Air Quality Program

April 2003

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Summary

On May 02, 2002, the Federal Reference Method monitor in Walla Walla, Washington measured a particulate matter, 10 microns and smaller (PM₁₀) concentration of 169 µg/m³. This concentration exceeded the primary 24-hour PM₁₀ National Ambient Air Quality Standard (NAAQS) of 150 µg/m³. The Washington State Department of Ecology has determined that this exceedance was a natural event caused by high winds and thus should be excluded from assessments of the attainment status for the Walla Walla, Washington area. Ecology flagged the data point for May 02, 2002, in the AIRS database maintained by the U.S. Environmental Protection Agency (EPA) to indicate that a natural event was involved. This documentation is being submitted to EPA in support of the data flag for EPA's acknowledgement and flagging of the data point.

EPA's Natural Events Policy

EPA issued the policy on "Areas Affected by PM-10 Natural Events" (hereafter referred to as Natural Events Policy or NEP) on May 30, 1996. EPA's reasons for issuing the NEP are described in the following terms:

In issuing the natural events policy, EPA now believes that, under certain circumstances, it is appropriate to again exclude PM-10 air quality data that are attributable to uncontrollable natural events from the decisions regarding an area's nonattainment status.

Under the policy, ambient PM₁₀ concentrations raised by unusually high winds are treated as uncontrollable natural events when the dust originates from nonanthropogenic sources, or when the dust originates from contributing anthropogenic sources controlled with best available control measures (BACM).

After natural events cause the PM₁₀ concentration to violate the PM₁₀ NAAQS, the NEP requires a state to develop a natural events action plan (NEAP) to deal with future exceedances. The NEP specifies that the NEAP is available for public review and comment. A state submits the NEAP to EPA for review and comment.

Under the NEP, when a state has reason to believe that natural events have caused monitored exceedances of the PM₁₀ standard, the state is responsible for establishing a clear causal relationship between the natural event and the exceedance. Documentation of the natural event should be sufficient to demonstrate that the natural event occurred and that it impacted a particular monitoring site. The documentation should provide evidence that concentrations at the monitoring site would not have exceeded the PM₁₀ standard in the absence of a natural event.

Ecology's Response to High Wind Events on the Columbia Plateau

During the late 1980s and early 1990s, a large number of exceedances of the 24-hour standard for PM₁₀ were recorded in Spokane, Kennewick, and Wallula, Washington. Detailed examination of these exceedances showed a close correlation to high wind events. Upwind agricultural fields were identified as the chief source of the wind-blown dust. Accordingly, Ecology developed the *Natural Events Action Plan for High Wind Events in the Columbia Plateau* in March 1998, to deal with high wind natural events in eastern Washington. The Columbia Plateau NEAP addresses the NEP by providing for the following:

1. Notification of citizens when air quality is likely to be impaired due to high wind events.
2. Advice to citizens on steps to minimize exposure.
3. Development of a program to identify and implement controls for anthropogenic sources of windblown dust in the Columbia Plateau.

Ecology and the identified agricultural agencies continue to carry out the Columbia Plateau NEAP. Therefore, exceedances of the standard due to high wind natural events can be excluded from decisions on the area's attainment status after Ecology has identified and documented these events and forwarded the documentation to EPA.

The 1998 NEAP included Ecology's commitment to re-evaluate the NEAP at the end of 2001. The re-evaluation is currently in progress and a 2002 NEAP is presently in development.

In the spirit of the 2002 NEAP, this documentation includes a section on BACM implementation for agricultural fields, as it relates to the May 02, 2002 high wind event at Walla Walla, Washington. As well, it incorporates the application of Ecology's refined high wind event definition as criteria for evaluating high wind events. Ecology's definition of a high wind event is:

A high wind event occurs when the wind entrains and suspends dust to the extent that concentrations of PM₁₀ are elevated. This typically occurs when the average hourly wind speed at 33 ft is 18 miles per hour or greater for two or more hours; or in excess of 13 miles per hour for two hours or more hours when conditions of higher susceptibility to wind erosion exist. A high wind event that exceeds the PM₁₀ standard is a natural event.

These are intended to serve as transitional elements as NEAP implementation shifts from the 1998 NEAP to the 2002 NEAP. The 2002 NEAP will include the high wind event definition and Ecology's finding that BACM for agricultural fields is being implemented on the Columbia Plateau.

Evaluation of the May 02, 2002 Exceedance at Walla Walla, Washington

1. Background

1.1. PM₁₀ Monitoring: The maps in Appendix A show that the PM₁₀ monitor is located in an urban setting, at the Walla Walla fire station. It is a neighborhood-scale, Special Purpose Monitor (SPM) in Ecology's PM₁₀ monitoring network. The SPM sites are established to determine representative PM₁₀ concentrations in areas with high population density.

The PM₁₀ monitor in Walla Walla has operated since 1986. Five other exceedances of the 24-hour PM₁₀ NAAQS have been recorded at Walla Walla since monitoring began. Each occurred during high wind conditions on 09/25/89 (211 μm^3), 09/21/91 (184 μm^3), 10/21/91 (518 μm^3), 09/25/97 (155 μm^3) and 9/25/01 (182 μm^3).

1.2. Area Description: The City of Walla Walla, the county seat, is one of four incorporated cities in Walla Walla County. The city has a population of approximately 30,000 while the county population is approximately 55,000. Walla Walla sits in a basin, bounded by the Blue Mountains to the east and south and the hills rising up to Eureka Flat to the north and west. This basin extends south from Walla Walla and includes the area around Milton-Freewater, Oregon.

1.3. Area Conditions: Bordering Oregon state, Walla Walla County lies roughly on the eastern fringe of the Columbia Plateau. It is mostly an agricultural area with the majority of croplands planted in wheat and barley. These cereal crops are grown both as winter and spring crops. As spring crops, they are planted from March to May; harvesting occurs about mid-summer.

Major wind erosion can occur after spring planting because 1) extensive areas are tilled leaving the surface soil bare and smooth (and intermittently dry) for several weeks until crop cover is established, and 2) spring planting coincides with a critical period of increased probability for strong winds.

2. Walla Walla PM₁₀ and Meteorological Data

2.1. PM₁₀ Data: The Walla Walla monitor operates on a 1-in-3-day schedule. PM₁₀ data for 2001, as well as data for January through September, 2002, are found in Appendix A. The average PM₁₀ concentration for 2001 was 26 $\mu\text{g}/\text{m}^3$. Monthly maxima ranged from a low of 14 $\mu\text{g}/\text{m}^3$ in June, to a high of 72 $\mu\text{g}/\text{m}^3$ in September. The September 25, 2001, concentration of 182 $\mu\text{g}/\text{m}^3$ was the only monitored exceedance of the PM₁₀ NAAQS for the year; it was one of only two 24-hour concentrations over 100 $\mu\text{g}/\text{m}^3$ in 2001, with the other being a 103 $\mu\text{g}/\text{m}^3$ monitored concentration on September 7, 2001. The exceedance of September 25, 2001 has been flagged as a natural event due to high winds.

Data for 2002, through the month of September, shows an average concentration of 26 $\mu\text{g}/\text{m}^3$. Monthly maxima ranged from a low of 15 $\mu\text{g}/\text{m}^3$ in January and March to a high of 36 $\mu\text{g}/\text{m}^3$ in July. The May 02, 2002 concentration of 169 $\mu\text{g}/\text{m}^3$ is the only 24-hour concentration over 100 $\mu\text{g}/\text{m}^3$, the next highest being 62 $\mu\text{g}/\text{m}^3$ measured on July 13, 2002.

2.2. Meteorological Data: National Weather Service (NWS) data from the Walla Walla Regional Airport shows that wind direction and speeds were quite variable from about 2000, May 01, 2002 to about 0800, May 02, 2002. Winds shifted slightly to the southwest and began to increase from 0800 to 1200, with wind speeds ranging from 17 to 23 mph. From 1300 to 1700, winds were from the west, southwest, ranging from 22 to 28 mph.

Wind direction was somewhat variable the remainder of the day ranging from south through south-southwest. Gusts ranging from 22 to 36 mph are reported from 0600 to about 2200, May 02, 2002, with the exception of two hours for which no gusts were recorded. The data shows the winds at Walla Walla clearly met Ecology’s definition for a high wind event. All meteorological data associated with this event is found in Appendix B.

Table 1. Select Wind Observations for Walla Walla, Washington, May 02, 2002

Time (PST)	Wind Direction	Wind Speed (mph)	Gusts (mph)
1300	WSW (240°)	23	28
1400	WSW (240°)	23	0
1500	WSW (240°)	22	30
1524	WSW (240°)	22	33
1543	WSW (240°)	28	32
1600	WSW (240°)	25	36
1700	WSW (240°)	28	36
1800	SSW (220°)	20	28
1900	SSW (200°)	23	30
2000	SSW (210°)	22	30
2100	S (180°)	20	29

Wind speeds, gusts and wind direction at Walla Walla, Washington, from 2000, May 01, 2002, to 0000, May 03, 2002 are displayed in Figure 1.

2.3. Precipitation Data Prior to May 02, 2002: Tables 2 and 3 summarize precipitation data from several meteorological sites in the greater Walla Walla, Washington area. These sites are operated by the National Weather Service (Walla Walla and Pendleton), Washington State University’s (WSU) Public Agricultural Weather System or PAWS, (McNary, R.Eby, Finley, College Place and Touchet) and the United States Bureau of Reclamation’s AGRIMET system (Hermiston and Echo). They are generally located in an arc ranging from south, southwest to west, upwind of Walla Walla, Washington, with respect to the direction of the prevailing high winds on May 02, 2002. None of the sites are greater than about 30 miles from Walla Walla, Washington. A map showing the location of each site is found in Appendix B.

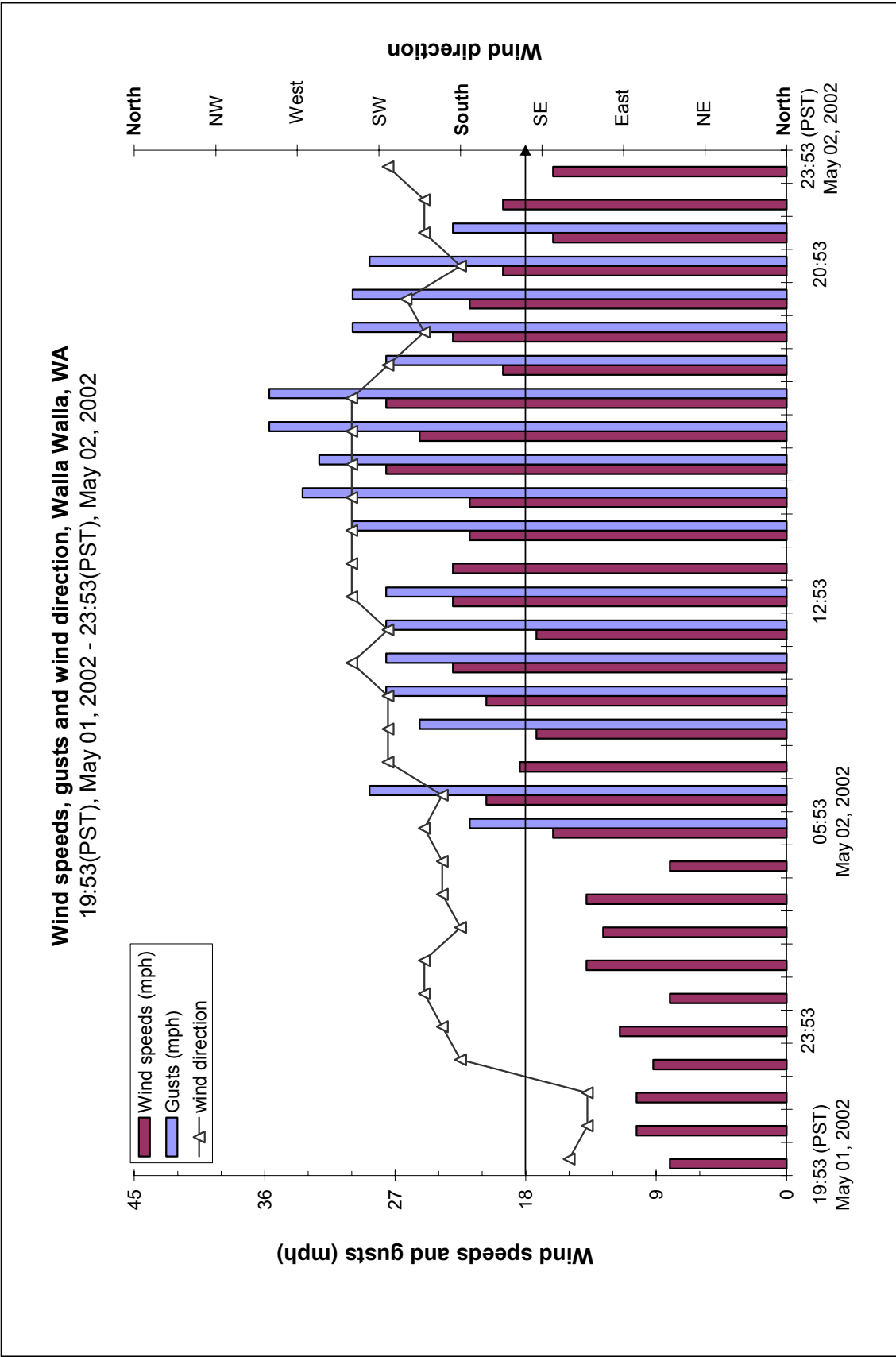


Figure 1

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Eight of the ten stations report no precipitation 72 hours prior to the natural event. Three stations report no precipitation four days prior, and the McNary and Echo stations report no precipitation 17 days prior to the natural event.

Table 2. Precipitation prior to a Natural Event due to high winds, May 02, 2002

STATION:	Precipitation 72 hrs. prior to May 02, 2002	Date:	Days prior to May 02, 2002, w/no precipitation
Pendleton	.01	4.29.02	2
Hermiston, OR (HRMO)	0	NA	3
Hermiston, OR (HERO)	0	NA	10
Echo, OR (ECHO)	0	NA	17
Walla Walla	0	NA	3
McNary	0	NA	17
R.Eby	0	NA	4
Finley	0	NA	4
College Place	0	NA	4
Touchet	.95	5.02.02	NA

Data for the Touchet station shows high winds preceded the precipitation on May 02, 2002. Fifteen-minute wind speed, wind direction and precipitation show the first measured precipitation at 0800, on May 02, 2002. From 0000 to 0800 the average wind speed was 19 mph, with a 15-minute high of 23 mph.

Moreover, no precipitation is reported at Touchet on April 28, 29, 30 or May 1. The data shows .25 inches of precipitation measured on April 27, 2002. Therefore, the data shows no precipitation was recorded at Touchet for as much as 96 hours prior to the high winds on May 02, 2002. Thus, conditions were dry prior to the high winds.

2.4. Comparison of Average Precipitation for the Area to 2002 Precipitation (January – April):
 In order to further assess the general dryness of soils in the area prior to the high winds, Table 3 compares average precipitation for this time of year with 2002 precipitation (January – April). While WSU’s PAWS network reports both parameters, a similar comparison for Hermiston and Echo, Oregon requires the use of two sources. The first is a period of record report from the Western Regional Climate Center, the second is accumulated precipitation reported by the United States Bureau of Reclamation’s Hermiston and Echo, Oregon, Agrimet Stations.

Table 3. Comparison of 2002 Precipitation to Average Precipitation (January – April)

	Average Precipitation (in.) Jan. 1 – Apr. 30	Jan. 1, – Apr. 30, 2002	% of Average
College Place	5.8	3.41	59
R.Eby	3.6	2.45	68
McNary	4.0	1.65	41
Touchet	3.5	1.82	53
Finley	NA	NA	NA
Hermiston, OR (HRMO)	3.61	2.10	58
Echo, OR (ECHO)	3.97	2.21	56

All sites report below average precipitation for January - April 2002, when compared with the historical record. Conditions for the area generally range from less than 50 percent of average (McNary) to about 70 percent of average (R.Eby).

2.5. Additional Meteorological Information: Pendleton, Oregon is located roughly 30 miles southwest of Walla Walla, Washington. NWS data shows high winds out of the west-southwest for most of the day, at Pendleton, Oregon. Wind speeds ranged from 20 to 37 mph from 0700, May 02, 2002 to 0000, May 03, 2002. Winds were accompanied by gusts ranging from 28 to 49 mph.

Wind speeds, gusts and directions at Pendleton, Oregon from 2000, May 01, 2002, to 0000, May 03, 2002 are displayed in Figure 2.

BACM Implementation

Ecology has determined that BACM for agricultural fields is being implemented on the Columbia Plateau. This section summarizes recent BACM information for Benton and Walla Walla counties.

Background

Ecology relies on the federal, state and local agricultural agencies that are responsible for working with farmers regarding implementation of wind erosion conservation practices (BMPs). The USDA Natural Resource Conservation Service (NRCS), Agricultural Research Service (ARS) and local conservation districts lead this effort. Ecology coordinates with these agencies regarding conservation issues on the Columbia Plateau and commits to continuing efforts.

A menu of wind erosion conservation practices (BMPs) have been identified through the NRCS and the Columbia Plateau Wind Erosion/Air Quality Research Project (CP3). The CP3 reports that methods of wind erosion control are based on two principles: 1) reducing the direct force of wind on erodible soil particles, and 2) modifying the soil surface to resist wind action or particle movement.

Certain tillage practices are consistent with these principles in that they increase crop residue and/or surface roughness. The same can be said for enrolling highly erodible land (HEL) in the USDA's Conservation Reserve Program (CRP). The CRP is a USDA Conservation Title Program that allows growers to retire qualified highly erodible fields from crop production and establish either grass or tree cover on the land to control wind and/or water erosion.

Accordingly, Ecology finds the following two approaches establish a basis for conservation practices as BACM:

- 1) Participation in USDA Conservation Title Programs

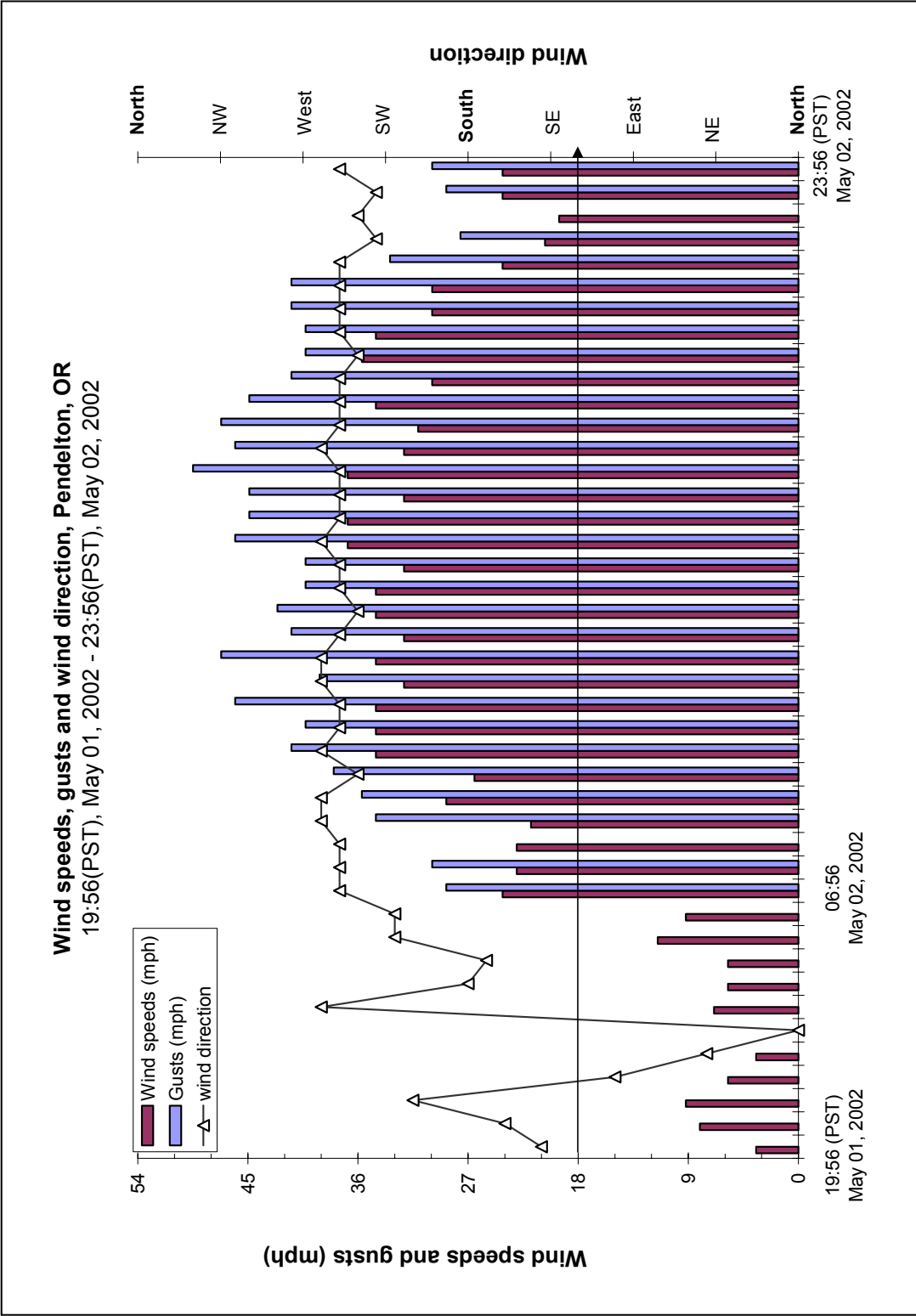


Figure 2

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2) Voluntary implementation of conservation practices (BMPs) recognized by the USDA NRCS and/or the Columbia Plateau Wind Erosion/Air Quality Project

BACM Definition

The 2002 NEAP (under development) defines BACM for agricultural fields as conservation programs and practices that abate or minimize wind erosion. A more practical working definition is the USDA Conservation Programs, especially the Conservation Reserve Program (CRP) supplemented by incentive based implementation of wind-erosion BMPs.

BACM Tracking

The Conservation Technology Information Center (CTIC), established in 1982, is a national nonprofit public-private partnership working to promote soil and water quality and equip agriculture with affordable, integrated management systems. The CTIC was founded by a group of agribusiness, governmental agency and association partners, as a special project of the National Association of Conservation Districts (NACD). Funded by both private and public sources, the Center serves numerous corporate, academic, nonprofit, federal, state and multi-state partners.

The CTIC annually conducts a National Crop Residue Management Survey. County level data from the survey is available through the CTIC's Core 4 program. Core 4 tracks conservation (No-Till, Ridge-Till, Mulch-Till) and conventional (0-15 percent and 15-30 percent residue) tillage practices and enrollment in CRP on a county by county basis.

The CTIC's Core 4 program shows that farmers on the Columbia Plateau participate in wind erosion conservation programs and implement conservation practices promoted by USDA's Natural Resource Conservation Service (NRCS) and Washington State University's (WSU) CP3. Ecology uses the Core 4 as a resource for tracking BACM implementation on the Columbia Plateau, given the following understanding. The data on residue management, no-till, ridge-till and mulch-till reflect voluntary conservation practices (BMP) use. These statistics are likely to be dynamic and may change year to year based on drought and economic viability.

BACM Determination for Benton and Walla Walla Counties

Saxton et al (2000) developed a regional windblown dust modeling system for the Columbia Plateau in order to simulate a dust storm that occurred during September 23-25, 1999. This work shows that during high wind speeds accompanying a storm, emissions affecting urban receptors are within approximately 25 miles of the receptor.

High winds and gusts were predominantly out of the southwest on May 02, 2002. In light of this and results from Saxton's source-receptor modeling, Ecology finds agricultural fields lying to the southwest and within about 25 miles of the PM₁₀ monitors at Walla Walla are candidates for contributing to the measured emissions. Accordingly, Ecology prepared BACM assessment for Benton and Walla Walla counties, using the Core 4 data. The assessment is based on Core 4's

2000 data, the most recent year for which data is available. The summary shows that 75 percent of Benton and Walla Walla counties' total farmable acres are either in a USDA conservation program, use one of the minimum till practices, or contain 15-30 percent residue on them. The summary and corresponding Core 4 data can be found in Appendix C.

Washington State determines that BACM for agricultural fields was implemented in Benton and Walla Walla counties on May 02, 2002.

Findings

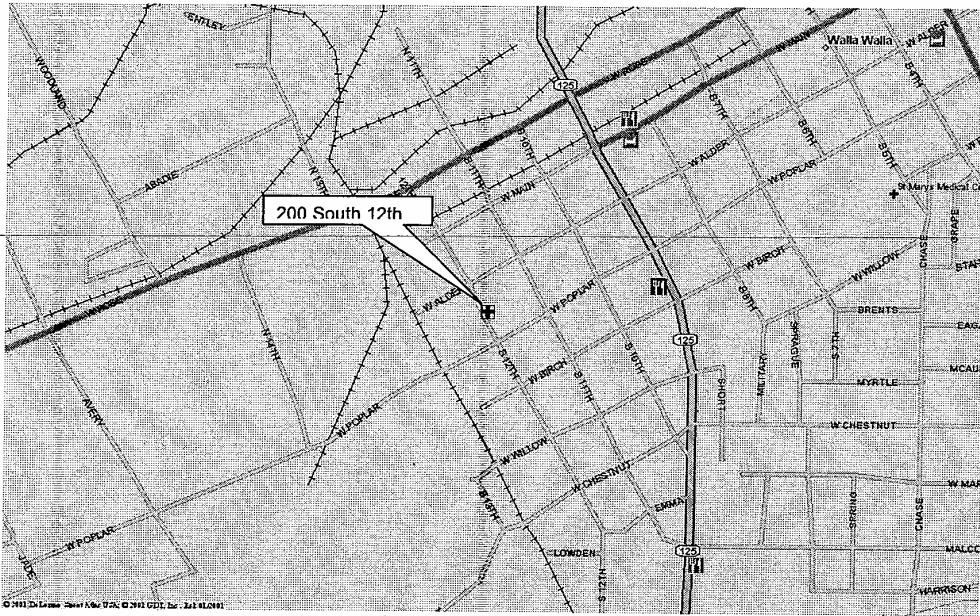
The meteorological data from the Walla Walla, Washington NWS station shows that May 02, 2002 was characterized by windy and gusty conditions. Wind speeds were in the 20s for as much as nine consecutive hours. The high winds were accompanied by gusts that ranged from 28-36 mph. The winds meet Ecology's high wind event definition of the 2002 NEAP, now under development.

Much of the area lying upwind of Walla Walla, Washington, with respect to the prevailing winds, had received no precipitation for 96 or more hours prior to the high winds. Moreover, Ecology finds that BACM was implemented on agricultural fields in Benton and Walla Walla counties.

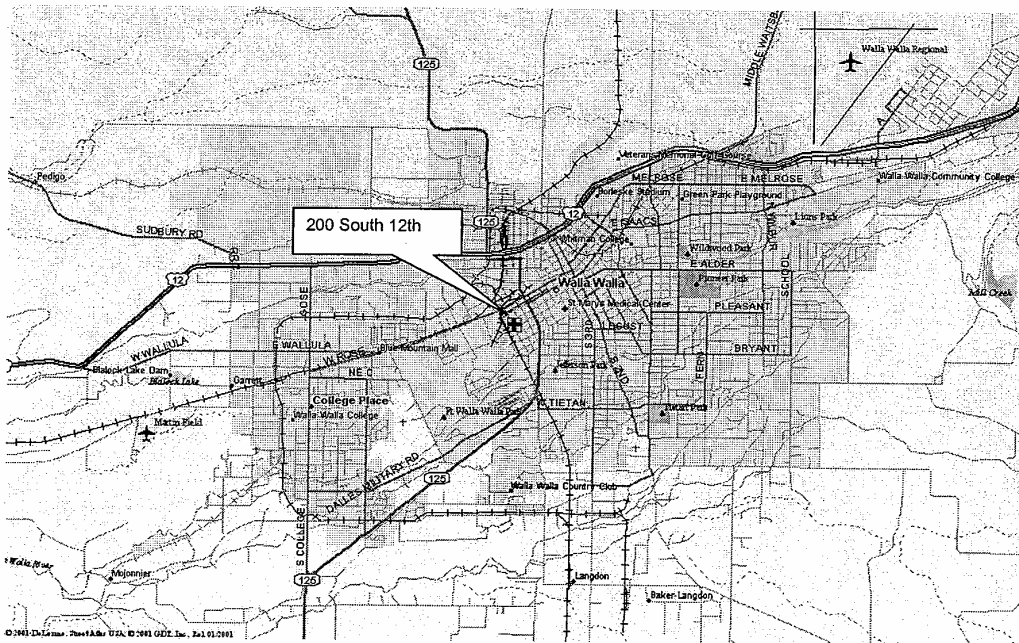
Under the dry conditions so common in this area the windy and gusty conditions are likely to raise dust that led to the monitored high PM₁₀ levels. Therefore, the monitored PM₁₀ concentration of 169 µg/m³ at Walla Walla, Washington, on May 02, 2002, is reasonably attributed to a natural event due to high winds.

Appendix A
Walla Walla, Washington
PM₁₀ Data

PM₁₀ Air Monitoring Site Walla Walla Fire Station



PM₁₀ Air Monitoring Site Walla Walla Fire Station



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
AIR QUALITY SYSTEM

Dec. 16, 2002

(81102) PM10 Total 0-10um

SITE ID: 53-071-0005 POC: 1
COUNTY: (071) WALLA WALLA
CITY: (75775) WALLA WALLA
SITE ADDRESS: FIRE STATION/200 S 12TH
SITE COMMENTS: DOE SITE #3692007A01

STATE: (53) WASHINGTON
AQCR: (230) SOUTH CENTRAL WASHINGTON
URBANIZED AREA: (7840) SPOKANE, WA
LAND USE: COMMERCIAL
LOCATION SETTING: SUBURBAN

CAS NUMBER:
LATITUDE: 46.060833
LONGITUDE: -118.348333
UTM ZONE: 11
UTM NORTHING: 5101472
UTM EASTING: 395707
ELEVATION-MSL: 30
PROBE HEIGHT: 5

MONITOR COMMENTS:

SUPPORT AGENCY: (1136) WASHINGTON STATE DEPARTMENT OF ECOLOGY
MONITOR TYPE: OTHER
COLLECTION AND ANALYSIS METHOD: (063) HI-VOL SA/GMW-1200 GRAVIMETRIC
REPORTING ORG: (1136) WASHINGTON STATE DEPARTMENT OF ECOLOGY

REPORT FOR: 2001

DURATION: 7
UNITS: (001) UG/CU METER (25 C)
MIN DETECTABLE: 4

DAY	MONTH											
	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
1	12				11				29	32		
2			11					37				
3						10	38				42	10
4	27				24					47		
5			28					17				
6		17				10	20					6
7	25				30				103	19		
8			11					39				
9						14	23				23	12
10					29				44	25		
11			9					40				
12						5					28	12
13	8			7	22					17		
14			14					53				
15						13	32				18	8
16	24			47	10				34	41		
17			7					40				
18						18	17				15	8
19	16			16	60					25		
20			24					29				
21		29				29	20				11	28
22	13			17	25				40			
23			45					13				
24		25				18	28				11	22
25				39	26				P 182a	20		
26												
27		38				13	41				29	23
28					36							
29								38				
30							13				8	40
31	42				22					8		
NO.:	8	4	8	5	11	9	9	9	6	9	9	10
MAX:	42	38	45	47	60	29	41	53	182	47	42	40
MEAN:	21	27	19	25	27	14	26	34	72	26	21	17

ANNUAL OBSERVATIONS: 97 ANNUAL MEAN: 26 ANNUAL MAX: 182 1 Values marked with 'P' exceed the PRIMARY STANDARD of: 155
1 Values marked with 'S' exceed the SECONDARY STANDARD of: 155

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
AIR QUALITY SYSTEM

Dec. 16, 2002

(81102) PM10 Total 0-10um

SITE ID: 53-071-0005 POC: 1
COUNTY: (071) WALLA WALLA
CITY: (75775) WALLA WALLA
SITE ADDRESS: FIRE STATION/200 S 12TH
SITE COMMENTS:DOE SITE #3692007A01

STATE: (53) WASHINGTON
AQCR: (230) SOUTH CENTRAL WASHINGTON
URBANIZED AREA: (7840) SPOKANE, WA
LAND USE: COMMERCIAL
LOCATION SETTING: SUBURBAN

CAS NUMBER:
LATITUDE: 46.060833
LONGITUDE: -118.348333
UTM ZONE: 11
UTM NORTHING: 5101472
UTM EASTING: 395707
ELEVATION-MSL:30
PROBE HEIGHT: 5

MONITOR COMMENTS:
SUPPORT AGENCY: (1136) WASHINGTON STATE DEPARTMENT OF ECOLOGY
MONITOR TYPE: OTHER
COLLECTION AND ANALYSIS METHOD: (063) HI-VOL SA/GMW-1200 GRAVIMETRIC
REPORTING ORG: (1136) WASHINGTON STATE DEPARTMENT OF ECOLOGY

REPORT FOR: 2002

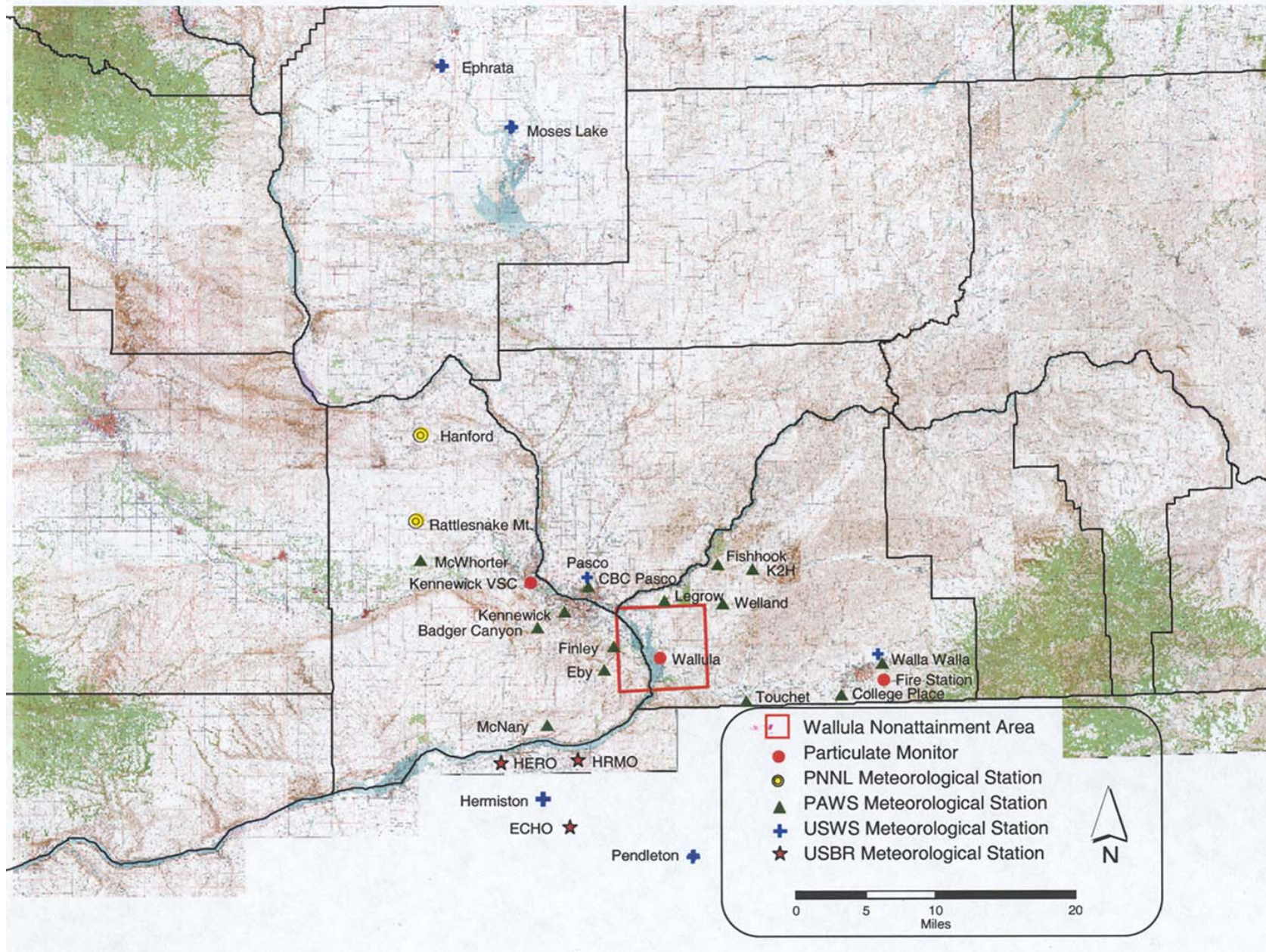
DURATION: 7
UNITS: (001) UG/CU METER (25 C)
MIN DETECTABLE: 4

DAY	MONTH											
	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
1		11				16	16					
2	19			19	P 169a							
3								31				
4		24				23	22		29			
5	11			37	11							
6			10					23	33			
7						29	47					
8				16					29			
9			18					32				
10		21				13	34					
11				8	19				49			
12	25		9									
13						22	62					
14	19	37		21	13							
15			10					50				
16		40				30	33		7			
17	18			12	16							
18			10					26				
19		10				13	36					
20	8				12				27			
21			16					25				
22						24	45					
23	6			21	19				30			
24			7					27				
25						22	49					
26		30		27	15				39			
27			37					33				
28		30					26					
29				15	16							
30			18					38				
31							24					
NO.:	7	8	9	9	9	9	11	9	8	0	0	0
MAX:	25	40	37	37	169	30	62	50	49			
MEAN:	15	25	15	20	32	21	36	32	30			

ANNUAL OBSERVATIONS: 79 ANNUAL MEAN: 26 ANNUAL MAX: 169 1 Values marked with 'P' exceed the PRIMARY STANDARD of: 155
1 Values marked with 'S' exceed the SECONDARY STANDARD of: 155

Appendix B

Meteorological Data and Map of Meteorological Stations



Data file for alwPRE.txt

Data file for alw#
 # This data is from: Walla Walla (stn. code alw)
 #
 #
 Walla Walla Site and Instrument specifications
 Walla Walla, WA
 NWS: This site is a National Weather Service site.

Archived data available via this UW link since: 01 Jul 1996

STATION NAME	ID	LAT	LON	ELEV M	ELEV FT	WMO															
WALLA WALLA RGN WA US	KALW	46.10	-118.28	367 m	1204 ft	72788															
# Station precip: maximum and daily avg (inches) over entire period of record							-----*														
# Station extrema: daily hi/lo temperatures over entire period of record							-----*														
# Station average: daily hi/lo temperatures over entire period of record							-----*														
# Station 6-hour hi/lo temperatures							-----*														
# Rain Gauge (inches)							-----*														
# Relative humidity (%)							-----*														
# Solar irradiance (W/m^2)							-----*														
# Visibility (miles)							-----*														
# Cloud height (100's of feet)							-----*														
# Cloud cover (1/8ths of sky)							-----*														
# Wind peak (nautical miles per hour)							-----*														
# Wind speed (nautical miles per hour)							-----*														
# Wind direction (clockwise degrees from North)							-----*														
# Dewpoint temperature (F)							-----*														
# Air temperature (F)							-----*														
# Pressure (millibars)							-----*														
#							*-----*														
Date (GMT)	Julian date	Pres	Tair	Tdew	Dir	Spd	Peak	Cc	Cht	Vis	Radn	RelH	Rain	hi	lo	hi	lo	hi	lo	max	avg
2002-04-28 08:53	2452393.3701389	1018.1	47.0	41.0	190	4.0	NA	6	41	10	NA	79.5	NA	M	M	M	M	M	M	M	M
2002-04-28 09:53	2452393.4118056	1018.7	46.0	41.0	130	3.0	NA	8	41	10	NA	82.6	NA	M	M	M	M	M	M	M	M
2002-04-28 10:53	2452393.4534722	1019.2	44.0	40.0	110	4.0	NA	8	43	10	NA	85.7	NA	M	M	M	M	M	M	M	M
2002-04-28 11:53	2452393.4951389	1019.7	44.0	39.0	170	5.0	NA	0	120	10	NA	82.4	0.16	47	44	M	43.3	M	30	M	M
2002-04-28 12:53	2452393.5368056	1020.6	43.0	39.0	170	6.0	NA	8	45	10	NA	85.6	NA	M	M	M	M	M	M	M	M
2002-04-28 13:53	2452393.5784722	1021.2	45.0	39.0	180	5.0	NA	6	45	10	NA	79.3	NA	M	M	M	M	M	M	M	M
2002-04-28 14:53	2452393.6201389	1021.7	49.0	40.0	200	7.0	NA	0	120	10	NA	70.9	NA	M	M	M	M	M	M	M	M
2002-04-28 15:53	2452393.6618056	1021.5	52.0	40.0	230	9.0	NA	0	120	10	NA	63.5	NA	M	M	M	M	M	M	M	M
2002-04-28 16:53	2452393.7034722	1022.0	54.0	40.0	210	9.0	NA	0	120	10	NA	59.0	NA	M	M	M	M	M	M	M	M
2002-04-28 17:53	2452393.7451389	1022.3	56.0	39.0	260	7.0	NA	0	120	10	NA	52.7	NA	56	43	M	M	M	M	M	M
2002-04-28 18:53	2452393.7868056	1022.3	56.0	38.0	0	0.0	NA	0	120	10	NA	50.7	NA	M	M	M	M	M	M	M	M
2002-04-28 19:53	2452393.8284722	1021.9	60.0	39.0	260	9.0	NA	1	120	10	NA	45.7	NA	M	M	M	M	M	M	M	M
2002-04-28 20:53	2452393.8701389	1021.7	61.0	36.0	300	6.0	NA	1	120	10	NA	39.2	NA	M	M	M	M	M	M	1.62	0.121
2002-04-28 21:53	2452393.9118056	1021.0	61.0	35.0	NA	5.0	NA	1	120	10	NA	37.6	NA	M	M	M	M	M	M	M	M
2002-04-28 22:53	2452393.9534722	1020.3	63.0	36.0	250	4.0	NA	1	120	10	NA	36.5	NA	M	M	M	M	M	M	M	M
2002-04-28 23:53	2452393.9951389	1019.6	64.0	32.0	260	7.0	NA	0	120	10	NA	30.0	NA	65	56	65.2	M	86	M	M	M
2002-04-29 00:53	2452394.0368056	1019.2	64.0	32.0	290	4.0	NA	0	120	10	NA	30.0	NA	M	M	M	M	M	M	M	M
2002-04-29 01:53	2452394.0784722	1019.0	63.0	29.0	NA	3.0	NA	0	120	10	NA	27.5	NA	M	M	M	M	M	M	M	M

Data file for alwPRE.txt

2002-04-29	02:53	2452394.1201389	1019.1	61.0	32.0	120	3.0	NA	0	120	10	NA	33.4	NA	M	M	M	M	M	M	M	M
2002-04-29	03:53	2452394.1618056	1019.8	50.0	40.0	90	9.0	NA	0	120	10	NA	68.3	NA	M	M	M	M	M	M	M	M
2002-04-29	04:53	2452394.2034722	1019.9	49.0	38.0	90	8.0	NA	0	120	10	NA	65.6	NA	M	M	M	M	M	M	M	M
2002-04-29	05:53	2452394.2451389	1019.9	48.0	38.0	90	9.0	NA	0	120	10	NA	68.1	NA	65	47	M	M	M	M	M	M
2002-04-29	06:53	2452394.2868056	1019.9	49.0	36.0	100	8.0	NA	0	120	10	NA	60.6	NA	M	M	M	M	M	M	M	M
2002-04-29	07:53	2452394.3284722	1019.8	50.0	34.0	100	9.0	NA	0	120	10	NA	53.9	NA	M	M	M	M	M	M	M	M
2002-04-29	08:53	2452394.3701389	1019.3	50.0	33.0	110	10.0	NA	0	120	10	NA	51.8	NA	M	M	M	M	M	M	M	M
2002-04-29	09:53	2452394.4118056	1019.4	46.0	33.0	0	0.0	NA	0	120	10	NA	60.2	NA	M	M	M	M	M	M	M	M
2002-04-29	10:53	2452394.4534722	1019.6	45.0	34.0	0	0.0	NA	0	120	10	NA	65.1	NA	M	M	M	M	M	M	M	M
2002-04-29	11:53	2452394.4951389	1019.5	42.0	33.0	100	5.0	NA	0	120	10	NA	70.2	0.00	50	42	M	43.5	M	33	M	M
2002-04-29	12:53	2452394.5368056	1019.5	41.0	33.0	130	5.0	NA	0	120	10	NA	72.9	NA	M	M	M	M	M	M	M	M
2002-04-29	13:53	2452394.5784722	1019.8	46.0	35.0	100	3.0	NA	0	120	10	NA	65.2	NA	M	M	M	M	M	M	M	M
2002-04-29	14:53	2452394.6201389	1019.5	52.0	33.0	140	3.0	NA	0	120	10	NA	48.1	NA	M	M	M	M	M	M	M	M
2002-04-29	15:53	2452394.6618056	1019.4	54.0	35.0	180	4.0	NA	0	120	10	NA	48.4	NA	M	M	M	M	M	M	M	M
2002-04-29	16:53	2452394.7034722	1019.0	56.0	39.0	0	0.0	NA	0	120	10	NA	52.7	NA	M	M	M	M	M	M	M	M
2002-04-29	17:53	2452394.7451389	1018.6	59.0	39.0	280	5.0	NA	0	120	10	NA	47.3	NA	59	41	M	M	M	M	M	M
2002-04-29	18:53	2452394.7868056	1017.8	63.0	39.0	300	5.0	NA	0	120	10	NA	41.1	NA	M	M	M	M	M	M	M	M
2002-04-29	19:53	2452394.8284722	1016.6	69.0	37.0	330	11.0	NA	0	120	10	NA	30.8	NA	M	M	M	M	M	M	M	M
2002-04-29	20:53	2452394.8701389	1015.7	69.0	32.0	30	10.0	16.0	0	120	10	NA	25.2	NA	M	M	M	M	M	M	0.78	0.071
2002-04-29	21:53	2452394.9118056	1015.2	69.0	30.0	360	7.0	NA	0	120	10	NA	23.3	NA	M	M	M	M	M	M	M	M
2002-04-29	22:53	2452394.9534722	1014.5	69.0	28.0	360	7.0	NA	0	120	10	NA	21.5	NA	M	M	M	M	M	M	M	M
2002-04-29	23:53	2452394.9951389	1014.1	68.0	31.0	320	7.0	NA	0	120	10	NA	25.1	NA	70	59	65.5	M	87	M	M	M
2002-04-30	00:53	2452395.0368056	1013.2	69.0	31.0	30	7.0	NA	0	120	10	NA	24.2	NA	M	M	M	M	M	M	M	M
2002-04-30	01:53	2452395.0784722	1012.1	68.0	34.0	10	6.0	NA	0	120	10	NA	28.3	NA	M	M	M	M	M	M	M	M
2002-04-30	02:53	2452395.1201389	1011.7	60.0	39.0	30	6.0	NA	0	120	10	NA	45.7	NA	M	M	M	M	M	M	M	M
2002-04-30	03:53	2452395.1618056	1011.9	56.0	38.0	90	7.0	NA	0	120	10	NA	50.7	NA	M	M	M	M	M	M	M	M
2002-04-30	04:53	2452395.2034722	1012.1	53.0	37.0	100	7.0	NA	0	120	10	NA	54.4	NA	M	M	M	M	M	M	M	M
2002-04-30	05:53	2452395.2451389	1012.3	49.0	36.0	50	8.0	NA	0	120	10	NA	60.6	NA	69	48	M	M	M	M	M	M
2002-04-30	06:53	2452395.2868056	1012.0	49.0	36.0	100	8.0	NA	0	120	10	NA	60.6	NA	M	M	M	M	M	M	M	M
2002-04-30	07:53	2452395.3284722	1011.4	48.0	36.0	90	6.0	NA	0	120	10	NA	62.9	NA	M	M	M	M	M	M	M	M
2002-04-30	08:53	2452395.3701389	1011.0	47.0	36.0	110	7.0	NA	0	120	10	NA	65.4	NA	M	M	M	M	M	M	M	M
2002-04-30	09:53	2452395.4118056	1010.4	48.0	36.0	110	6.0	NA	0	120	10	NA	62.9	NA	M	M	M	M	M	M	M	M
2002-04-30	10:53	2452395.4534722	1010.4	47.0	36.0	100	6.0	NA	0	120	10	NA	65.4	NA	M	M	M	M	M	M	M	M
2002-04-30	11:53	2452395.4951389	1010.1	46.0	36.0	100	6.0	NA	0	120	10	NA	67.9	0.00	50	46	M	43.8	M	33	M	M
2002-04-30	12:53	2452395.5368056	1010.1	47.0	37.0	110	5.0	NA	0	120	10	NA	68.0	NA	M	M	M	M	M	M	M	M
2002-04-30	13:53	2452395.5784722	1010.0	50.0	39.0	120	5.0	NA	1	120	10	NA	65.7	NA	M	M	M	M	M	M	M	M
2002-04-30	14:53	2452395.6201389	1010.3	54.0	43.0	0	0.0	NA	6	110	10	NA	66.2	NA	M	M	M	M	M	M	M	M
2002-04-30	15:53	2452395.6618056	1010.2	57.0	37.0	200	6.0	NA	6	110	10	NA	47.0	NA	M	M	M	M	M	M	M	M
2002-04-30	16:53	2452395.7034722	1010.3	58.0	36.0	250	4.0	NA	6	100	10	NA	43.6	NA	M	M	M	M	M	M	M	M
2002-04-30	17:53	2452395.7451389	1010.1	61.0	34.0	NA	3.0	NA	6	100	10	NA	36.2	NA	62	46	M	M	M	M	M	M
2002-04-30	18:53	2452395.7868056	1009.9	63.0	39.0	330	7.0	NA	1	120	10	NA	41.1	NA	M	M	M	M	M	M	M	M
2002-04-30	19:53	2452395.8284722	1009.4	65.0	35.0	NA	3.0	NA	6	110	10	NA	32.7	NA	M	M	M	M	M	M	M	M
2002-04-30	20:53	2452395.8701389	1008.9	69.0	36.0	NA	3.0	NA	3	120	10	NA	29.6	NA	M	M	M	M	M	M	0.36	0.037
2002-04-30	21:53	2452395.9118056	1008.2	71.0	39.0	350	7.0	NA	3	120	10	NA	31.1	NA	M	M	M	M	M	M	M	M
2002-04-30	22:53	2452395.9534722	1007.6	72.0	38.0	340	8.0	NA	1	120	10	NA	28.9	NA	M	M	M	M	M	M	M	M
2002-04-30	23:53	2452395.9951389	1007.7	71.0	38.0	350	10.0	NA	3	120	10	NA	29.9	NA	73	61	65.8	M	87	M	M	M
2002-05-01	00:53	2452396.0368056	1008.0	70.0	41.0	40	23.0	29.0	1	120	10	NA	34.8	NA	M	M	M	M	M	M	M	M
2002-05-01	01:53	2452396.0784722	1007.8	68.0	39.0	40	13.0	NA	6	110	10	NA	34.5	NA	M	M	M	M	M	M	M	M
2002-05-01	02:53	2452396.1201389	1008.5	60.0	43.0	70	8.0	NA	0	120	10	NA	53.3	NA	M	M	M	M	M	M	M	M
2002-05-01	03:53	2452396.1618056	1009.3	56.0	42.0	30	11.0	NA	0	120	10	NA	59.2	NA	M	M	M	M	M	M	M	M
2002-05-01	04:53	2452396.2034722	1009.6	53.0	38.0	50	10.0	NA	0	120	10	NA	56.6	NA	M	M	M	M	M	M	M	M
2002-05-01	05:53	2452396.2451389	1009.8	50.0	39.0	80	8.0	NA	0	120	10	NA	65.7	NA	72	49	M	M	M	M	M	M
2002-05-01	06:53	2452396.2868056	1010.3	49.0	39.0	50	8.0	NA	0	120	10	NA	68.2	NA	M	M	M	M	M	M	M	M
2002-05-01	07:53	2452396.3284722	1010.7	49.0	38.0	120	7.0	NA	0	120	10	NA	65.6	NA	M	M	M	M	M	M	M	M
2002-05-01	08:53	2452396.3701389	1011.5	47.0	38.0	150	4.0	NA	0	120	10	NA	70.7	NA	M	M	M	M	M	M	M	M
2002-05-01	09:53	2452396.4118056	1012.0	47.0	38.0	170	3.0	NA	0	120	10	NA	70.7	NA	M	M	M	M	M	M	M	M
2002-05-01	10:53	2452396.4534722	1012.5	46.0	38.0	120	6.0	NA	0	120	10	NA	73.4	NA	M	M	M	M	M	M	M	M

Data file for alwPRE.txt

2002-05-01	11:53	2452396.4951389	1013.1	42.0	37.0	110	3.0	NA	0	120	10	NA	82.3	0.00	52	41	M	44.0	M	22	M	M
2002-05-01	12:53	2452396.5368056	1014.0	46.0	38.0	160	7.0	NA	0	120	10	NA	73.4	NA	M	M	M	M	M	M	M	M
2002-05-01	13:53	2452396.5784722	1014.8	47.0	40.0	170	7.0	NA	0	120	10	NA	76.5	NA	M	M	M	M	M	M	M	M
2002-05-01	14:53	2452396.6201389	1015.4	50.0	38.0	200	7.0	NA	0	120	10	NA	63.2	NA	M	M	M	M	M	M	M	M
2002-05-01	15:53	2452396.6618056	1015.8	52.0	38.0	210	9.0	NA	0	120	10	NA	58.7	NA	M	M	M	M	M	M	M	M
2002-05-01	16:53	2452396.7034722	1016.2	55.0	39.0	210	8.0	NA	0	120	10	NA	54.7	NA	M	M	M	M	M	M	M	M
2002-05-01	17:53	2452396.7451389	1016.3	58.0	40.0	220	7.0	NA	0	120	10	NA	51.0	NA	58	41	M	M	M	M	M	M
2002-05-01	18:53	2452396.7868056	1016.1	61.0	41.0	NA	4.0	NA	0	120	10	NA	47.6	NA	M	M	M	M	M	M	M	M
2002-05-01	19:53	2452396.8284722	1015.5	64.0	39.0	330	4.0	NA	0	120	10	NA	39.6	NA	M	M	M	M	M	M	M	M
2002-05-01	20:53	2452396.8701389	1015.0	66.0	37.0	290	6.0	NA	0	120	10	NA	34.2	NA	M	M	M	M	M	M	0.72	0.059
2002-05-01	21:53	2452396.9118056	1014.5	68.0	37.0	310	5.0	NA	0	120	10	NA	31.9	NA	M	M	M	M	M	M	M	M
2002-05-01	22:53	2452396.9534722	1013.8	68.0	35.0	180	4.0	NA	0	120	10	NA	29.5	NA	M	M	M	M	M	M	M	M
2002-05-01	23:53	2452396.9951389	1013.4	70.0	35.0	NA	4.0	NA	0	120	10	NA	27.5	NA	70	57	66.1	M	85	M	M	M
2002-05-02	00:53	2452397.0368056	1012.7	69.0	32.0	0	0.0	NA	0	120	10	NA	25.2	NA	M	M	M	M	M	M	M	M
2002-05-02	01:53	2452397.0784722	1012.0	68.0	34.0	200	7.0	NA	0	120	10	NA	28.3	NA	M	M	M	M	M	M	M	M
2002-05-02	02:53	2452397.1201389	1011.8	64.0	37.0	180	5.0	NA	0	120	10	NA	36.7	NA	M	M	M	M	M	M	M	M
2002-05-02	03:53	2452397.1618056	1011.9	59.0	37.0	120	7.0	NA	0	120	10	NA	43.7	NA	M	M	M	M	M	M	M	M
2002-05-02	04:53	2452397.2034722	1011.8	55.0	37.0	110	9.0	NA	0	120	10	NA	50.5	NA	M	M	M	M	M	M	M	M
2002-05-02	05:53	2452397.2451389	1011.4	55.0	37.0	110	9.0	NA	0	120	10	NA	50.5	NA	70	55	M	M	M	M	M	M
2002-05-02	06:53	2452397.2868056	1011.7	52.0	36.0	180	8.0	NA	0	120	10	NA	54.2	NA	M	M	M	M	M	M	M	M
2002-05-02	07:53	2452397.3284722	1011.6	54.0	38.0	190	10.0	NA	0	120	10	NA	54.5	NA	M	M	M	M	M	M	M	M
2002-05-02	08:53	2452397.3701389	1011.6	53.0	38.0	200	7.0	NA	0	120	10	NA	56.6	NA	M	M	M	M	M	M	M	M
2002-05-02	09:53	2452397.4118056	1011.8	53.0	39.0	200	12.0	NA	0	120	10	NA	58.8	NA	M	M	M	M	M	M	M	M
2002-05-02	10:53	2452397.4534722	1011.7	52.0	39.0	180	11.0	NA	0	120	10	NA	61.0	NA	M	M	M	M	M	M	M	M
2002-05-02	11:53	2452397.4951389	1011.2	52.0	38.0	190	12.0	NA	0	120	10	NA	58.7	0.00	56	51	M	44.2	M	26	M	M
2002-05-02	12:53	2452397.5368056	1010.9	49.0	38.0	190	7.0	NA	0	120	10	NA	65.6	NA	M	M	M	M	M	M	M	M
2002-05-02	13:53	2452397.5784722	1010.6	54.0	38.0	200	14.0	19.0	0	120	10	NA	54.5	NA	M	M	M	M	M	M	M	M
2002-05-02	14:53	2452397.6201389	1010.7	56.0	39.0	190	18.0	25.0	0	120	10	NA	52.7	NA	M	M	M	M	M	M	M	M
2002-05-02	15:53	2452397.6618056	1010.7	58.0	43.0	220	16.0	NA	0	120	10	NA	57.3	NA	M	M	M	M	M	M	M	M
2002-05-02	16:53	2452397.7034722	1010.0	62.0	41.0	220	15.0	22.0	0	120	10	NA	46.0	NA	M	M	M	M	M	M	M	M
2002-05-02	17:53	2452397.7451389	1009.6	65.0	42.0	220	18.0	24.0	0	120	10	NA	43.0	NA	65	49	M	M	M	M	M	M
2002-05-02	18:53	2452397.7868056	1008.9	66.0	41.0	240	20.0	24.0	0	120	6	NA	40.0	NA	M	M	M	M	M	M	M	M
2002-05-02	19:53	2452397.8284722	1008.0	68.0	40.0	220	15.0	24.0	0	120	5	NA	35.9	NA	M	M	M	M	M	M	M	M
2002-05-02	20:53	2452397.8701389	1007.3	70.0	38.0	240	20.0	24.0	0	120	5	NA	31.0	NA	M	M	M	M	M	M	0.35	0.055
2002-05-02	21:53	2452397.9118056	1006.8	70.0	38.0	240	20.0	NA	0	120	5	NA	31.0	NA	M	M	M	M	M	M	M	M
2002-05-02	22:53	2452397.9534722	1005.9	72.0	35.0	240	19.0	26.0	0	120	5	NA	25.7	NA	M	M	M	M	M	M	M	M
2002-05-02	23:24	2452397.9750000	NA	72.0	28.0	240	19.0	29.0	6	18	3	NA	19.4	NA	M	M	66.4	M	81	M	M	M
2002-05-02	23:43	2452397.9881944	NA	72.0	28.0	240	24.0	28.0	3	120	3	NA	19.4	NA	M	M	66.4	M	81	M	M	M
2002-05-02	23:53	2452397.9951389	1005.5	70.0	30.0	240	22.0	31.0	1	120	3	NA	22.5	NA	73	64	66.4	M	81	M	M	M
2002-05-03	00:53	2452398.0368056	1005.9	66.0	31.0	240	24.0	31.0	0	120	3	NA	26.9	NA	M	M	M	M	M	M	M	M
2002-05-03	01:53	2452398.0784722	1005.9	63.0	30.0	220	17.0	24.0	0	120	4	NA	28.7	NA	M	M	M	M	M	M	M	M
2002-05-03	02:53	2452398.1201389	1007.2	57.0	34.0	200	20.0	26.0	1	120	5	NA	41.7	NA	M	M	M	M	M	M	M	M
2002-05-03	03:53	2452398.1618056	1008.7	53.0	37.0	210	19.0	26.0	0	120	8	NA	54.4	NA	M	M	M	M	M	M	M	M
2002-05-03	04:53	2452398.2034722	1009.9	51.0	37.0	180	17.0	25.0	0	120	10	NA	58.5	NA	M	M	M	M	M	M	M	M
2002-05-03	05:53	2452398.2451389	1010.8	50.0	38.0	200	14.0	20.0	6	60	10	NA	63.2	NA	70	50	M	M	M	M	M	M
2002-05-03	06:53	2452398.2868056	1010.9	49.0	38.0	200	17.0	NA	1	120	10	NA	65.6	NA	M	M	M	M	M	M	M	M
2002-05-03	07:53	2452398.3284722	1012.1	49.0	35.0	220	14.0	NA	0	120	10	NA	58.3	NA	M	M	M	M	M	M	M	M
2002-05-03	08:53	2452398.3701389	1013.2	47.0	34.0	200	12.0	NA	3	120	10	NA	60.3	NA	M	M	M	M	M	M	M	M
2002-05-03	09:53	2452398.4118056	1014.2	45.0	33.0	220	13.0	NA	1	120	10	NA	62.5	NA	M	M	M	M	M	M	M	M
2002-05-03	10:53	2452398.4534722	1015.4	43.0	33.0	200	9.0	NA	0	120	10	NA	67.5	NA	M	M	M	M	M	M	M	M
2002-05-03	11:53	2452398.4951389	1016.2	41.0	32.0	180	11.0	NA	1	120	10	NA	70.0	0.00	50	41	M	44.5	M	32	M	M
2002-05-03	12:53	2452398.5368056	1017.5	40.0	31.0	170	10.0	NA	1	120	10	NA	69.9	NA	M	M	M	M	M	M	M	M
2002-05-03	13:53	2452398.5784722	1019.0	41.0	31.0	180	10.0	NA	8	70	10	NA	67.3	NA	M	M	M	M	M	M	M	M
2002-05-03	14:53	2452398.6201389	1019.8	42.0	30.0	180	14.0	NA	8	65	10	NA	62.1	NA	M	M	M	M	M	M	M	M
2002-05-03	15:53	2452398.6618056	1020.9	44.0	29.0	200	12.0	NA	8	70	10	NA	55.2	NA	M	M	M	M	M	M	M	M
2002-05-03	16:53	2452398.7034722	1020.7	48.0	26.0	200	10.0	NA	1	120	10	NA	42.0	NA	M	M	M	M	M	M	M	M
2002-05-03	17:53	2452398.7451389	1021.0	51.0	26.0	220	11.0	19.0	3	120	10	NA	37.5	NA	52	39	M	M	M	M	M	M

Data file for alwPRE.txt

2002-05-03	18:53	2452398.7868056	1021.1	53.0	27.0	190	10.0	22.0	3	120	10	NA	36.3	NA	M	M	M	M	M	M	M	M	M
2002-05-03	19:53	2452398.8284722	1020.8	55.0	26.0	220	9.0	18.0	6	60	10	NA	32.4	NA	M	M	M	M	M	M	M	M	M
2002-05-03	20:53	2452398.8701389	1020.5	57.0	25.0	220	11.0	20.0	1	120	10	NA	28.9	NA	M	M	M	M	M	M	M	0.47	0.024
2002-05-03	21:53	2452398.9118056	1020.1	58.0	24.0	200	6.0	NA	1	120	10	NA	26.7	NA	M	M	M	M	M	M	M	M	M
2002-05-03	22:53	2452398.9534722	1019.5	60.0	24.0	240	18.0	21.0	1	120	10	NA	24.9	NA	M	M	M	M	M	M	M	M	M
2002-05-03	23:53	2452398.9951389	1019.4	60.0	23.0	230	13.0	19.0	0	120	10	NA	23.9	NA	60	51	66.8	M	82	M	M	M	M
2002-05-04	00:53	2452399.0368056	1019.4	59.0	23.0	250	14.0	17.0	0	120	10	NA	24.7	NA	M	M	M	M	M	M	M	M	M
2002-05-04	01:53	2452399.0784722	1019.2	58.0	25.0	260	9.0	NA	0	120	10	NA	27.9	NA	M	M	M	M	M	M	M	M	M
2002-05-04	02:53	2452399.1201389	1019.3	55.0	25.0	210	8.0	NA	0	120	10	NA	31.1	NA	M	M	M	M	M	M	M	M	M
2002-05-04	03:53	2452399.1618056	1020.3	50.0	30.0	180	10.0	NA	0	120	10	NA	45.9	NA	M	M	M	M	M	M	M	M	M
2002-05-04	04:53	2452399.2034722	1021.2	47.0	30.0	180	10.0	NA	0	120	10	NA	51.3	NA	M	M	M	M	M	M	M	M	M
2002-05-04	05:53	2452399.2451389	1021.5	47.0	31.0	180	9.0	NA	0	120	10	NA	53.5	NA	60	47	M	M	M	M	M	M	M
2002-05-04	06:53	2452399.2868056	1021.9	46.0	31.0	190	9.0	NA	0	120	10	NA	55.5	NA	M	M	M	M	M	M	M	M	M
2002-05-04	07:53	2452399.3284722	1022.0	45.0	31.0	180	12.0	NA	0	120	10	NA	57.7	NA	M	M	M	M	M	M	M	M	M
2002-05-04	08:53	2452399.3701389	1021.7	45.0	31.0	180	11.0	NA	0	120	10	NA	57.7	NA	M	M	M	M	M	M	M	M	M
2002-05-04	09:53	2452399.4118056	1021.5	44.0	30.0	180	9.0	NA	0	120	10	NA	57.5	NA	M	M	M	M	M	M	M	M	M
2002-05-04	10:53	2452399.4534722	1021.0	44.0	30.0	180	11.0	NA	0	120	10	NA	57.5	NA	M	M	M	M	M	M	M	M	M
2002-05-04	11:53	2452399.4951389	1020.3	45.0	28.0	170	10.0	NA	0	120	10	NA	51.0	0.00	47	44	M	44.7	M	36	M	M	M

Data file for pdt.txt

Data file for pdt#
 # This data is from: Pendleton (stn. code pdt)
 #
 #
 Site and Instrument specifications
 Pendleton Muni Airport, OR
 NWS: This site is a National Weather Service site.

Archived data available via this UW link since: 01 Jul 1996

STATION NAME	ID	LAT	LON	ELEV M	ELEV FT	WMO
PENDLETON MUNIC OR US	KPDT	45.68	-118.85	456 m	1496 ft	72688

```

#
# Station precip: maximum and daily avg (inches) over entire period of record -----*
#
# Station extrema: daily hi/lo temperatures over entire period of record -----*
#
# Station average: daily hi/lo temperatures over entire period of record -----*
#
# Station 6-hour hi/lo temperatures -----*
#
# Rain Gauge (inches) -----*
# Relative humidity (%) -----*
# Solar irradiance (W/m^2) -----*
# Visibility (miles) -----*
# Cloud height (100's of feet) -----*
# Cloud cover (1/8ths of sky) -----*
# Wind peak (nautical miles per hour) -----*
# Wind speed (nautical miles per hour) -----*
# Wind direction (clockwise degrees from North) ---*
# Dewpoint temperature (F) -----*
# Air temperature (F) -----*
# Pressure (millibars) -----*
#
#
# Date(GMT) Julian date Pres Tair Tdew Dir Spd Peak Cc Cht Vis Radn ReIH Rain hi lo hi lo hi lo max avg
#-----
#
2002-05-02 03:56 2452397.1638889 1011.2 58.0 37.0 140 3.0 NA 0 120 10 NA 45.3 NA M M M M M M M M
2002-05-02 04:56 2452397.2055556 1011.5 54.0 37.0 160 7.0 NA 0 120 10 NA 52.4 NA M M M M M M M M
2002-05-02 05:56 2452397.2472222 1011.1 57.0 41.0 210 8.0 NA 0 120 10 NA 55.0 NA 71 53 M M M M M M M M
2002-05-02 06:56 2452397.2888889 1011.4 48.0 37.0 100 5.0 NA 0 120 10 NA 65.5 NA M M M M M M M M
2002-05-02 07:56 2452397.3305556 1011.4 45.0 37.0 50 3.0 NA 0 120 10 NA 73.3 NA M M M M M M M M
2002-05-02 08:56 2452397.3722222 1010.9 49.0 38.0 0 0.0 NA 0 120 10 NA 65.6 NA M M M M M M M M
2002-05-02 09:56 2452397.4138889 1010.9 52.0 38.0 260 6.0 NA 0 120 10 NA 58.7 NA M M M M M M M M
2002-05-02 10:56 2452397.4555556 1010.9 51.0 38.0 180 5.0 NA 0 120 10 NA 60.9 NA M M M M M M M M
2002-05-02 11:56 2452397.4972222 1010.6 49.0 38.0 170 5.0 NA 0 120 10 NA 65.6 0.00 56 44 M M M M M M M M
2002-05-02 12:56 2452397.5388889 1010.3 51.0 38.0 220 10.0 NA 0 120 10 NA 60.9 NA M M M M M M M M
2002-05-02 13:56 2452397.5805556 1010.5 52.0 40.0 220 8.0 NA 0 120 10 NA 63.5 NA M M M M M M M M
2002-05-02 14:56 2452397.6222222 1009.9 56.0 42.0 250 21.0 25.0 0 120 8 NA 59.2 NA M M M M M M M M
2002-05-02 15:56 2452397.6638889 1009.5 60.0 41.0 250 20.0 26.0 0 120 6 NA 49.4 NA M M M M M M M M
2002-05-02 16:56 2452397.7055556 1009.2 63.0 42.0 250 20.0 NA 0 120 10 NA 46.1 NA M M M M M M M M
2002-05-02 17:56 2452397.7472222 1008.9 65.0 42.0 260 19.0 30.0 0 120 3 NA 43.0 NA 65 48 M M M M M M M M
2002-05-02 18:56 2452397.7888889 1008.1 67.0 42.0 260 25.0 31.0 0 120 5 NA 40.1 NA M M M M M M M M
    
```


Data file for pdt.txt

2002-05-02	19:18	2452397.8041667	NA	70.0	43.0	240	23.0	33.0	1	120	2	NA	37.6	NA	M	M	M	M	M	M	M	M	M	M	M
2002-05-02	19:25	2452397.8090278	NA	70.0	43.0	260	30.0	36.0	1	120	2	NA	37.6	NA	M	M	M	M	M	M	M	M	M	M	M
2002-05-02	19:36	2452397.8166667	NA	70.0	43.0	250	30.0	35.0	1	120	2	NA	37.6	NA	M	M	M	M	M	M	M	M	M	M	M
2002-05-02	19:56	2452397.8305556	1007.0	70.0	41.0	250	30.0	40.0	0	120	2	NA	34.8	NA	M	M	M	M	M	M	M	M	M	M	M
2002-05-02	20:06	2452397.8375000	NA	70.0	41.0	260	28.0	34.0	0	120	2	NA	34.8	NA	M	M	M	M	M	M	M	M	M	M	M
2002-05-02	20:11	2452397.8409722	NA	70.0	43.0	260	30.0	41.0	1	120	1	NA	37.6	NA	M	M	M	M	M	M	M	M	M	M	M
2002-05-02	20:22	2452397.8486111	NA	70.0	43.0	250	28.0	36.0	1	120	2	NA	37.6	NA	M	M	M	M	M	M	M	M	M	M	M
2002-05-02	20:34	2452397.8569444	NA	72.0	39.0	240	30.0	37.0	0	120	3	NA	30.1	NA	M	M	M	M	M	M	M	M	M	M	M
2002-05-02	20:39	2452397.8604167	NA	72.0	39.0	250	30.0	35.0	1	120	2	NA	30.1	NA	M	M	M	M	M	M	M	M	M	M	M
2002-05-02	20:56	2452397.8722222	1006.6	71.0	41.0	250	28.0	35.0	0	120	3	NA	33.7	NA	M	M	M	M	M	M	M	M	M	M	M
2002-05-02	21:16	2452397.8861111	NA	72.0	43.0	260	32.0	40.0	0	120	2	NA	35.2	NA	M	M	M	M	M	M	M	M	M	M	M
2002-05-02	21:27	2452397.8937500	NA	72.0	41.0	250	32.0	39.0	0	120	1	NA	32.5	NA	M	M	M	M	M	M	M	M	M	M	M
2002-05-02	21:38	2452397.9013889	NA	72.0	41.0	250	28.0	39.0	0	120	2	NA	32.5	NA	M	M	M	M	M	M	M	M	M	M	M
2002-05-02	21:56	2452397.9138889	1005.8	71.0	42.0	250	32.0	43.0	0	120	1	NA	35.0	NA	M	M	M	M	M	M	M	M	M	M	M
2002-05-02	21:59	2452397.9159722	NA	72.0	41.0	260	28.0	40.0	0	120	2	NA	32.5	NA	M	M	M	M	M	M	M	M	M	M	M
2002-05-02	22:15	2452397.9270833	NA	72.0	41.0	250	27.0	41.0	0	120	2	NA	32.5	NA	M	M	M	M	M	M	M	M	M	M	M
2002-05-02	22:19	2452397.9298611	NA	72.0	43.0	250	30.0	39.0	0	120	3	NA	35.2	NA	M	M	M	M	M	M	M	M	M	M	M
2002-05-02	22:56	2452397.9555556	1005.6	70.0	43.0	250	26.0	36.0	0	120	7	NA	37.6	NA	M	M	M	M	M	M	M	M	M	M	M
2002-05-02	23:56	2452397.9972222	1005.8	68.0	41.0	240	31.0	35.0	0	120	8	NA	37.3	NA	73	65	M	M	M	M	M	M	M	M	M
2002-05-03	00:56	2452398.0388889	1006.0	63.0	38.0	250	30.0	35.0	0	120	5	NA	39.5	NA	M	M	M	M	M	M	M	M	M	M	M
2002-05-03	01:56	2452398.0805556	1006.2	57.0	35.0	250	26.0	36.0	0	120	7	NA	43.4	NA	M	M	M	M	M	M	M	M	M	M	M
2002-05-03	02:56	2452398.1222222	1006.7	53.0	38.0	250	26.0	36.0	0	120	5	NA	56.6	NA	M	M	M	M	M	M	M	M	M	M	M
2002-05-03	03:56	2452398.1638889	1008.3	50.0	38.0	250	21.0	29.0	0	120	10	NA	63.2	NA	M	M	M	M	M	M	M	M	M	M	M
2002-05-03	04:56	2452398.2055556	1009.6	49.0	38.0	230	18.0	24.0	0	120	10	NA	65.6	NA	M	M	M	M	M	M	M	M	M	M	M
2002-05-03	05:56	2452398.2472222	1010.3	49.0	38.0	240	17.0	NA	8	50	10	NA	65.6	NA	68	49	M	M	M	M	M	M	M	M	M
2002-05-03	06:56	2452398.2888889	1010.5	48.0	36.0	230	21.0	25.0	0	120	10	NA	62.9	NA	M	M	M	M	M	M	M	M	M	M	M
2002-05-03	07:56	2452398.3305556	1010.9	46.0	35.0	250	21.0	26.0	0	120	10	NA	65.2	NA	M	M	M	M	M	M	M	M	M	M	M

paws 72hrs.txt

Data Extracted:2002-08-26 16:02:42

COLLEGE PLACE, 1 MI S of College Place, Wa

Lat:46.0 Lng:118.3 elevation:691

Dates Range From 1992-04-28 To 2002-08-25

DATE	Total
Gregorian	Precip
	inches

-----	-----
2002-04-01	.00
2002-04-02	.00
2002-04-03	.00
2002-04-04	.00
2002-04-05	.00
2002-04-06	.00
2002-04-07	.00
2002-04-08	.00
2002-04-09	.00
2002-04-10	.05
2002-04-11	.04
2002-04-12	.00
2002-04-13	.04
2002-04-14	.00
2002-04-15	.00
2002-04-16	.06
2002-04-17	.00
2002-04-18	.00
2002-04-19	.00
2002-04-20	.00
2002-04-21	.00
2002-04-22	.00
2002-04-23	.00
2002-04-24	.00
2002-04-25	.00
2002-04-26	.00
2002-04-27	.31
2002-04-28	.00
2002-04-29	.00
2002-04-30	.00
2002-05-01	.00
2002-05-02	.00

paws 72hrs.txt

Data Extracted:2002-08-26 16:02:42

[R. EBY, 6 MI S of Finley, Wa](/station info/station info_822.html)

Lat:46.0 Lng:119.0 elev ation:1176

Dates Range From 1989-03-31 To 2002-08-25

DATE Gregorian	Total Precip inches
-----	-----
2002-04-01	.00
2002-04-02	.00
2002-04-03	.00
2002-04-04	.00
2002-04-05	.00
2002-04-06	.00
2002-04-07	.00
2002-04-08	.00
2002-04-09	.00
2002-04-10	.02
2002-04-11	.00
2002-04-12	.00
2002-04-13	.22
2002-04-14	.03
2002-04-15	.00
2002-04-16	.00
2002-04-17	.00
2002-04-18	.00
2002-04-19	.00
2002-04-20	.00
2002-04-21	.00
2002-04-22	.00
2002-04-23	.00
2002-04-24	.00
2002-04-25	.00
2002-04-26	.00
2002-04-27	.10
2002-04-28	.00
2002-04-29	.00
2002-04-30	.00
2002-05-01	.00
2002-05-02	.00

paws 72hrs.txt

Data Extracted:2002-08-26 16:02:43

FINLEY, 1.5 MI S of Finley, Wa

Lat:46.1 Lng:119.0 el evation:755

Dates Range From 1992-06-02 To 2002-08-25

DATE	Total Precip inches
Gregorian	
-----	-----
2002-04-01	.00
2002-04-02	.00
2002-04-03	.00
2002-04-04	.00
2002-04-05	.04
2002-04-06	.00
2002-04-07	.00
2002-04-08	.00
2002-04-09	.00
2002-04-10	.00
2002-04-11	.03
2002-04-12	.00
2002-04-13	.13
2002-04-14	.02
2002-04-15	.00
2002-04-16	.00
2002-04-17	.00
2002-04-18	.00
2002-04-19	.00
2002-04-20	.00
2002-04-21	.00
2002-04-22	.00
2002-04-23	.00
2002-04-24	.00
2002-04-25	.00
2002-04-26	.00
2002-04-27	.09
2002-04-28	.00
2002-04-29	.00
2002-04-30	.00
2002-05-01	.00
2002-05-02	.00

paws 72hrs.txt

Data Extracted:2002-08-26 16:02:43

[MCNARY, 5.5 MI NE of Plymouth, Wa](/station info/station info 775.html)
Lat:45.9

Lng:119.2 elevation:717

Dates Range From 1992-05-12 To 2002-08-25

DATE	Total
Gregorian	Precip
-----	-----
2002-04-01	.00
2002-04-02	.00
2002-04-03	.00
2002-04-04	.00
2002-04-05	.04
2002-04-06	.00
2002-04-07	.00
2002-04-08	.00
2002-04-09	.00
2002-04-10	.02
2002-04-11	.00
2002-04-12	.04
2002-04-13	.14
2002-04-14	.03
2002-04-15	.00
2002-04-16	.00
2002-04-17	.00
2002-04-18	.00
2002-04-19	.00
2002-04-20	.00
2002-04-21	.00
2002-04-22	.00
2002-04-23	.00
2002-04-24	.00
2002-04-25	.00
2002-04-26	.00
2002-04-27	.00
2002-04-28	.00
2002-04-29	.00
2002-04-30	.00
2002-05-01	.00
2002-05-02	.00

paws 72hrs.txt

Data Extracted:2002-08-26 16:02:44

TOUCHET, 1.5 MI S of Touchet, Wa

Lat:46.0 Lng:118.6 elevation:492

Dates Range From 1989-01-01 To 2002-08-25

DATE Gregorian	Total Precip inches
-----	-----
2002-04-01	.00
2002-04-02	.00
2002-04-03	.00
2002-04-04	.00
2002-04-05	.00
2002-04-06	.00
2002-04-07	.00
2002-04-08	.00
2002-04-09	.00
2002-04-10	.00
2002-04-11	.00
2002-04-12	.00
2002-04-13	.00
2002-04-14	.00
2002-04-15	.00
2002-04-16	.00
2002-04-17	.00
2002-04-18	.00
2002-04-19	.00
2002-04-20	.00
2002-04-21	.00
2002-04-22	.00
2002-04-23	.00
2002-04-24	.00
2002-04-25	.00
2002-04-26	.00
2002-04-27	.25
2002-04-28	.00
2002-04-29	.00
2002-04-30	.00
2002-05-01	.00
2002-05-02	.95

Data Extracted:2002-12-26 13:22:56

COLLEGE PLACE, 1 MI S of College Place, Wa
Lat:46.0 Lng:118.3 elevation:691

Dates Range From 1992-04-28 To 2002-12-25

DATE Gregorian	Total Precip inches	DATE Gregorian	Total Precip inches	DATE Gregorian	Total Precip inches	DATE Gregorian	Total Precip inches
1/1/02	0	2/1/02	0.05	3/1/02	0	4/1/02	0
1/2/02	0.19	2/2/02	0	3/2/02	0	4/2/02	0
1/3/02	0.11	2/3/02	0.05	3/3/02	0	4/3/02	0
1/4/02	0	2/4/02	0	3/4/02	0	4/4/02	0
1/5/02	0	2/5/02	0	3/5/02	0.07	4/5/02	0
1/6/02	0.04	2/6/02	0	3/6/02	0.11	4/6/02	0
1/7/02	0	2/7/02	0.57	3/7/02	0.32	4/7/02	0
1/8/02	0.02	2/8/02	0	3/8/02	0	4/8/02	0
1/9/02	0	2/9/02	0	3/9/02	0	4/9/02	0
1/10/02	0	2/10/02	0	3/10/02	0	4/10/02	0.05
1/11/02	0	2/11/02	0	3/11/02	0.04	4/11/02	0.04
1/12/02	0	2/12/02	0	3/12/02	0	4/12/02	0
1/13/02	0	2/13/02	0	3/13/02	0	4/13/02	0.04
1/14/02	0	2/14/02	0	3/14/02	0	4/14/02	0
1/15/02	0	2/15/02	0	3/15/02	0	4/15/02	0
1/16/02	0	2/16/02	0	3/16/02	0.04	4/16/02	0.06
1/17/02	0.08	2/17/02	0	3/17/02	0	4/17/02	0
1/18/02	0.03	2/18/02	0	3/18/02	0.04	4/18/02	0
1/19/02	0	2/19/02	0	3/19/02	0	4/19/02	0
1/20/02	0	2/20/02	0	3/20/02	0.02	4/20/02	0
1/21/02	0	2/21/02	0	3/21/02	0	4/21/02	0
1/22/02	0	2/22/02	0	3/22/02	0	4/22/02	0
1/23/02	0	2/23/02	0.34	3/23/02	0.27	4/23/02	0
1/24/02	0	2/24/02	0	3/24/02	0.38	4/24/02	0
1/25/02	0.11	2/25/02	0	3/25/02	0.03	4/25/02	0
1/26/02	0	2/26/02	0	3/26/02	0	4/26/02	0
1/27/02	0	2/27/02	0	3/27/02	0	4/27/02	0.31
1/28/02	0	2/28/02	0	3/28/02	0	4/28/02	0
1/29/02	0			3/29/02	0	4/29/02	0
1/30/02	0			3/30/02	0	4/30/02	0
1/31/02	0			3/31/02	0		
sub total	0.58		1.01		1.32		0.5
TOTAL	3.41						

Data Extracted:2002-12-26 13:22:57

R. EBY, 6 MI S of Finley, Wa
Lat:46.0 Lng: 119.0 elevation: 1176

Dates Range From 1989-03-31 To 2002-12-25

DATE Gregorian	Total Precip inches	DATE Gregorian	Total Precip inches	DATE Gregorian	Total Precip inches	DATE Gregorian	Total Precip inches
1/11/02	0	2/1/02	0	3/1/02	0	4/1/02	0
1/2/02	0.23	2/2/02	0	3/2/02	0	4/2/02	0
1/3/02	0	2/3/02	0.03	3/3/02	0	4/3/02	0
1/4/02	0	2/4/02	0	3/4/02	0	4/4/02	0
1/5/02	0.03	2/5/02	0	3/5/02	0	4/5/02	0
1/6/02	0	2/6/02	0	3/6/02	0.03	4/6/02	0
1/7/02	0	2/7/02	0.2	3/7/02	0.17	4/7/02	0
1/8/02	0.11	2/8/02	0	3/8/02	0	4/8/02	0
1/9/02	0	2/9/02	0	3/9/02	0	4/9/02	0
1/10/02	0	2/10/02	0	3/10/02	0	4/10/02	0.02
1/11/02	0	2/11/02	0	3/11/02	0.03	4/11/02	0
1/12/02	0	2/12/02	0	3/12/02	0	4/12/02	0
1/13/02	0	2/13/02	0	3/13/02	0.15	4/13/02	0.22
1/14/02	0	2/14/02	0	3/14/02	0.02	4/14/02	0.03
1/15/02	0	2/15/02	0	3/15/02	0	4/15/02	0
1/16/02	0	2/16/02	0	3/16/02	0	4/16/02	0
1/17/02	0.04	2/17/02	0	3/17/02	0	4/17/02	0
1/18/02	0.06	2/18/02	0	3/18/02	0	4/18/02	0
1/19/02	0.05	2/19/02	0.02	3/19/02	0	4/19/02	0
1/20/02	0	2/20/02	0	3/20/02	0	4/20/02	0
1/21/02	0	2/21/02	0	3/21/02	0	4/21/02	0
1/22/02	0	2/22/02	0	3/22/02	0	4/22/02	0
1/23/02	0	2/23/02	0.64	3/23/02	0	4/23/02	0
1/24/02	0	2/24/02	0	3/24/02	0.18	4/24/02	0
1/25/02	0.09	2/25/02	0	3/25/02	0	4/25/02	0
1/26/02	0	2/26/02	0	3/26/02	0	4/26/02	0
1/27/02	0	2/27/02	0	3/27/02	0	4/27/02	0.1
1/28/02	0	2/28/02	0	3/28/02	0	4/28/02	0
1/29/02	0			3/29/02	0	4/29/02	0
1/30/02	0			3/30/02	0	4/30/02	0
1/31/02	0			3/31/02	0		
sub total	0.61		0.89		0.58		0.37
TOTAL	2.45						

Data Extracted:2002-12-26 13:22:58

FINLEY, 1.5 MI S of Finley, Wa
Lat:46.1 Lng: 119.0 elevation:755

Dates Range From 1992-06-02 To 2002-12-25

DATE Gregorian	Total Precip inches	DATE Gregorian	Total Precip inches	DATE Gregorian	Total Precip inches	DATE Gregorian	Total Precip inches
1/1/02	NA	2/1/02	NA	3/1/02	0	4/1/02	0
1/2/02	NA	2/2/02	NA	3/2/02	0	4/2/02	0
1/3/02	NA	2/3/02	NA	3/3/02	0	4/3/02	0
1/4/02	NA	2/4/02	NA	3/4/02	0	4/4/02	0
1/5/02	NA	2/5/02	NA	3/5/02	0	4/5/02	0.04
1/6/02	NA	2/6/02	NA	3/6/02	0.07	4/6/02	0
1/7/02	NA	2/7/02	NA	3/7/02	0.16	4/7/02	0
1/8/02	NA	2/8/02	NA	3/8/02	0	4/8/02	0
1/9/02	NA	2/9/02	NA	3/9/02	0	4/9/02	0
1/10/02	NA	2/10/02	NA	3/10/02	0	4/10/02	0
1/11/02	NA	2/11/02	NA	3/11/02	0	4/11/02	0.03
1/12/02	NA	2/12/02	NA	3/12/02	0	4/12/02	0
1/13/02	NA	2/13/02	NA	3/13/02	0	4/13/02	0.13
1/14/02	NA	2/14/02	NA	3/14/02	0	4/14/02	0.02
1/15/02	NA	2/15/02	NA	3/15/02	0	4/15/02	0
1/16/02	NA	2/16/02	NA	3/16/02	0	4/16/02	0
1/17/02	NA	2/17/02	NA	3/17/02	0	4/17/02	0
1/18/02	NA	2/18/02	0	3/18/02	0	4/18/02	0
1/19/02	NA	2/19/02	0	3/19/02	0	4/19/02	0
1/20/02	NA	2/20/02	0	3/20/02	0	4/20/02	0
1/21/02	NA	2/21/02	0	3/21/02	0	4/21/02	0
1/22/02	NA	2/22/02	0	3/22/02	0	4/22/02	0
1/23/02	NA	2/23/02	0.25	3/23/02	0.02	4/23/02	0
1/24/02	NA	2/24/02	0	3/24/02	0.11	4/24/02	0
1/25/02	NA	2/25/02	0	3/25/02	0	4/25/02	0
1/26/02	NA	2/26/02	0	3/26/02	0	4/26/02	0
1/27/02	NA	2/27/02	0	3/27/02	0	4/27/02	0.09
1/28/02	NA	2/28/02	0	3/28/02	0	4/28/02	0
1/29/02	NA			3/29/02	0	4/29/02	0
1/30/02	NA			3/30/02	0	4/30/02	0
1/31/02	NA			3/31/02	0		

Data Extracted:2002-12-26 13:22:58

MCNARY, 5.5 MI NE of Plymouth, Wa
Lat:45.9 Lng:1 19.2 elevation:717

Dates Range From 1992-05-12 To 2002-12-25

DATE Gregorian	Total Precip inches	DATE Gregorian	Total Precip inches	DATE Gregorian	Total Precip inches	DATE Gregorian	Total Precip inches
1/1/02	0	2/1/02	0.06	3/1/02	0	4/1/02	0
1/2/02	0.17	2/2/02	0	3/2/02	0	4/2/02	0
1/3/02	0	2/3/02	0.02	3/3/02	0	4/3/02	0
1/4/02	0	2/4/02	0	3/4/02	0	4/4/02	0
1/5/02	0.02	2/5/02	0	3/5/02	0.03	4/5/02	0
1/6/02	0	2/6/02	0	3/6/02	0.11	4/6/02	0
1/7/02	0	2/7/02	0.14	3/7/02	0.14	4/7/02	0
1/8/02	0.02	2/8/02	0	3/8/02	0	4/8/02	0
1/9/02	0	2/9/02	0	3/9/02	0	4/9/02	0
1/10/02	0	2/10/02	0	3/10/02	0	4/10/02	0.02
1/11/02	0	2/11/02	0	3/11/02	0	4/11/02	0
1/12/02	0	2/12/02	0	3/12/02	0	4/12/02	0.04
1/13/02	0	2/13/02	0	3/13/02	0	4/13/02	0.14
1/14/02	0	2/14/02	0	3/14/02	0	4/14/02	0.03
1/15/02	0	2/15/02	0	3/15/02	0	4/15/02	0
1/16/02	0	2/16/02	0	3/16/02	0	4/16/02	0
1/17/02	0	2/17/02	0	3/17/02	0	4/17/02	0
1/18/02	0.07	2/18/02	0	3/18/02	0	4/18/02	0
1/19/02	0.07	2/19/02	0.02	3/19/02	0	4/19/02	0
1/20/02	0	2/20/02	0	3/20/02	0	4/20/02	0
1/21/02	0	2/21/02	0	3/21/02	0	4/21/02	0
1/22/02 NA		2/22/02	0	3/22/02	0	4/22/02	0
1/23/02 NA		2/23/02	0.5	3/23/02	0	4/23/02	0
1/24/02	0	2/24/02	0	3/24/02	0	4/24/02	0
1/25/02	0.05	2/25/02	0	3/25/02	0	4/25/02	0
1/26/02	0	2/26/02	0	3/26/02	0	4/26/02	0
1/27/02	0	2/27/02	0	3/27/02	0	4/27/02	0
1/28/02	0	2/28/02		3/28/02	0	4/28/02	0
1/29/02	0			3/29/02	0	4/29/02	0
1/30/02	0			3/30/02	0	4/30/02	0
1/31/02	0			3/31/02	0		
.sub total	0.4		0.74		0.28		0.23
TOTAL	1.65						

Data Extracted:2002-12-26 13:22:59

TOUCHET, 1.5 MI S of Touchet, Wa
Lat:46.0 Lng: 118.6 elevation:492

Dates Range From 1989-01-01 To 2002-12-25

DATE Gregorian	Total Precip inches	DATE Gregorian	Total Precip inches	DATE Gregorian	Total Precip inches	DATE Gregorian	Total Precip inches
-----				-----			
1/1/02	0.03	2/1/02	0	3/1/02		4/1/02	0
1/2/02	0.18	2/2/02	0	3/2/02	0	4/2/02	0
1/3/02	0.04	2/3/02	0	3/3/02	0	4/3/02	0
1/4/02	0	2/4/02	0	3/4/02	0	4/4/02	0
1/5/02	0	2/5/02	0	3/5/02	0	4/5/02	0
1/6/02	0.04	2/6/02	0	3/6/02	0.05	4/6/02	0
1/7/02	0	2/7/02	0.38	3/7/02	0.29	4/7/02	0
1/8/02	0.02	2/8/02	0	3/8/02	0.02	4/8/02	0
1/9/02	0	2/9/02	0	3/9/02	0	4/9/02	0
1/10/02	0	2/10/02	0	3/10/02	0	4/10/02	0
1/11/02	0	2/11/02	0	3/11/02	0.03	4/11/02	0
1/12/02	0.02	2/12/02	0	3/12/02	0	4/12/02	0
1/13/02	0	2/13/02	0	3/13/02	0.03	4/13/02	0
1/14/02	0	2/14/02	0	3/14/02	0	4/14/02	0
1/15/02	0	2/15/02	0	3/15/02	0	4/15/02	0
1/16/02	0.03	2/16/02	0	3/16/02	0	4/16/02	0
1/17/02	0	2/17/02	0	3/17/02	0	4/17/02	0
1/18/02	0	2/18/02	0	3/18/02	0	4/18/02	0
1/19/02	0	2/19/02	0.02	3/19/02	0	4/19/02	0
1/20/02	0	2/20/02	0	3/20/02	0	4/20/02	0
1/21/02	0	2/21/02	0	3/21/02	0	4/21/02	0
1/22/02	0	2/22/02	0	3/22/02	0	4/22/02	0
1/23/02	0	2/23/02	0.16	3/23/02	0.09	4/23/02	0
1/24/02	0	2/24/02	0	3/24/02	0.1	4/24/02	0
1/25/02	0.04	2/25/02	0	3/25/02	0	4/25/02	0
1/26/02	0	2/26/02	0	3/26/02	0	4/26/02	0
1/27/02	0	2/27/02	0	3/27/02	0	4/27/02	0.25
1/28/02	0	2/28/02	0	3/28/02	0	4/28/02	0
1/29/02	0			3/29/02	0	4/29/02	0
1/30/02	0			3/30/02	0	4/30/02	0
1/31/02	0			3/31/02	0		
sub total	0.4		0.56		0.61		0.25
TOTAL	1.82						

Data Extracted:2002-07-18 13:52:08

COLLEGE PLACE, 1 MI S of College Place, Wa Lat:46.0 Lng:118.3 elevation:691

Dates Range From 1992-04-28 To 2002-07-17

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean Precipitation											
1.8	1.3	1.3	1.4	1.5	.9	.7	.6	.4	.9	1.6	1.3
Max Precipitation											
2.3	2.6	2.5	2.7	2.4	1.8	2.4	1.7	1.0	2.1	2.9	2.6
1997	2000	2000	1993	1998	1995	1992	1993	1992	1995	1996	1996
Min Precipitation											
.8	.4	.3	.6	.4	.3	.0	.0	.0	.2	.4	.6
1999	1997	1994	2000	1992	1999	1996	2000	1993	1998	1997	1994

Data Extracted:2002-07-18 13:52:24

R. EBY, 6 MI S of Finley, Wa Lat:46.0 Lng:119.0 elevation:1176

Dates Range From 1989-03-31 To 2002-07-17

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean Precipitation											
1.1	.8	.9	.8	1.0	.5	.5	.5	.2	.9	1.4	1.1
Max Precipitation											
1.8	2.0	1.6	2.1	1.8	1.2	1.5	2.4	.6	1.7	2.4	2.6
1995	1996	1996	1995	1994	1995	1992	1993	2000	1994	1996	1996
Min Precipitation											
.0	.0	.0	.2	.0	.0	.0	.0	.0	.0	.2	.6
2000	2000	2000	2000	1992	1998	2000	2000	2000	2000	1997	1992

Data Extracted:2002-07-18 13:52:41

FINLEY, 1.5 MI S of Finley, Wa Lat:46.1 Lng:119.0 elevation:755

Dates Range From 1992-06-02 To 2002-07-17

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean Precipitation											
1.0	.9	.8	.6	.7	.5	.3	.4	.2	.7	1.1	1.1
Max Precipitation											
1.4	1.6	1.7	1.6	1.3	1.2	1.3	2.1	.4	1.4	2.3	2.1
1997	2000	1996	1995	1995	1995	1992	1993	1992	1994	1996	1996
Min Precipitation											
.0	.4	.0	.0	.3	.1	.0	.0	.0	.1	.3	.0
1995	1997	1994	2000	1995	1994	2000	2000	2000	1993	1994	2000

Data Extracted:2002-07-18 13:53:03

MCNARY, 5.5 MI NE of Plymouth, Wa Lat:45.9 Lng:119.2 elevation:717

Dates Range From 1992-05-12 To 2002-07-17

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean Precipitation											
1.2	.8	1.0	1.0	.9	.7	.5	.3	.4	.8	1.7	1.8
Max Precipitation											
1.7	1.6	4.3	3.1	2.3	3.4	1.9	1.3	1.6	1.3	4.4	6.6
1997	1996	1993	1993	1994	1992	1992	1992	1992	1996	1992	1992
Min Precipitation											
.8	.0	.0	.0	.0	.0	.0	.0	.0	.2	.4	.3
1994	2000	2000	2000	2000	2000	2000	2000	2000	1997	1993	1994

Data Extracted:2002-07-18 13:53:20

TOUCHET, 1.5 MI S of Touchet, Wa Lat:46.0 Lng:118.6 elevation:492

Dates Range From 1989-01-01 To 2002-07-17

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

Mean Precipitation

1.1	.9	.8	.7	.8	.6	.3	.4	.2	.6	1.1	.9
-----	----	----	----	----	----	----	----	----	----	-----	----

Max Precipitation

1.9	2.3	1.9	1.5	1.9	1.3	1.2	1.5	.5	.8	2.1	2.3
1995	1996	1989	1996	1991	1995	1992	1993	1995	1994	1991	1996

Min Precipitation

.0	.0	.0	.0	.0	.2	.0	.0	.0	.2	.2	.4
2000	2000	1994	2000	1994	1999	2000	2000	2000	1998	1990	1989

USBR Hydromet Archives Data USBR Pacific Northwest Region
 Hydromet System Data Access

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BEGIN DATA							
ECHO							
DATE	PP	DATE	PP	DATE	PP	DATE	PP
1/1/02	0.02	2/1/02	0.12	3/1/02	0	4/1/02	0
1/2/02	0.18	2/2/02	0	3/2/02	0	4/2/02	0
1/3/02	0.01	2/3/02	0.05	3/3/02	0	4/3/02	0
1/4/02	0	2/4/02	0	3/4/02	0	4/4/02	0
1/5/02	0.01	2/5/02	0	3/5/02	0	4/5/02	0
1/6/02	0.02	2/6/02	0.02	3/6/02	0.34	4/6/02	0
1/7/02	0.05	2/7/02	0.35	3/7/02	0.06	4/7/02	0
1/8/02	0.02	2/8/02	0	3/8/02	0	4/8/02	0
1/9/02	0	2/9/02	0	3/9/02	0	4/9/02	0
1/10/02	0	2/10/02	0	3/10/02	0.01	4/10/02	0
1/11/02	0	2/11/02	0	3/11/02	0.01	4/11/02	0.03
1/12/02	0.05	2/12/02	0	3/12/02	0.01	4/12/02	0
1/13/02	0	2/13/02	0	3/13/02	0.01	4/13/02	0.07
1/14/02	0	2/14/02	0	3/14/02	0	4/14/02	0.13
1/15/02	0	2/15/02	0	3/15/02	0	4/15/02	0
1/16/02	0.02	2/16/02	0	3/16/02	0	4/16/02	0
1/17/02	0.01	2/17/02	0	3/17/02	0.01	4/17/02	0
1/18/02	0.02	2/18/02	0	3/18/02	0.01	4/18/02	0
1/19/02	0.07	2/19/02	0	3/19/02	0	4/19/02	0
1/20/02	0.01	2/20/02	0	3/20/02	0	4/20/02	0
1/21/02	0	2/21/02	0.01	3/21/02	0	4/21/02	0
1/22/02	0	2/22/02	0	3/22/02	0	4/22/02	0
1/23/02	0	2/23/02	0.29	3/23/02	0	4/23/02	0
1/24/02	0	2/24/02	0	3/24/02	0	4/24/02	0
1/25/02	0.09	2/25/02	0	3/25/02	0	4/25/02	0
1/26/02	0.02	2/26/02	0	3/26/02	0	4/26/02	0
1/27/02	0	2/27/02	0.01	3/27/02	0.03	4/27/02	0
1/28/02	0	2/28/02	0	3/28/02	0.01	4/28/02	0
1/29/02	0.01			3/29/02	0	4/29/02	0
1/30/02	0.01			3/30/02	0	4/30/02	0
1/31/02	0.01			3/31/02	0	END DATA	
sub total	0.63		0.85		0.5		0.23
TOTAL	2.21						

USBR Hydromet Archives DataUSBR Pacific Northwest Region

Hydromet System Data Access

Although the Bureau of Reclamation makes efforts to maintain the accuracy of data found in the Hydromet system databases, the data is largely unverified and should be considered preliminary and subject to change. Data and services are provided with the express understanding that the United States Government makes no warranties, expressed or implied, concerning the accuracy, completeness, usability or suitability for any particular purpose of the information or data obtained by access to this computer system, and the United States shall be under no liability whatsoever to any individual or group entity by reason of any use made thereof.

BEGIN DATA

HRMO

DATE	PP	DATE	PP	DATE	PP	DATE	PP
1/1/02	0.02	2/1/02	0.09	3/1/02	0	4/1/02	0
1/2/02	0.18	2/2/02	0	3/2/02	0	4/2/02	0
1/3/02	0.01	2/3/02	0.05	3/3/02	0	4/3/02	0
1/4/02	0.02	2/4/02	0	3/4/02	0	4/4/02	0
1/5/02	0	2/5/02	0	3/5/02	0.02	4/5/02	0
1/6/02	0.02	2/6/02	0.01	3/6/02	0.41	4/6/02	0
1/7/02	0.04	2/7/02	0.3	3/7/02	0.08	4/7/02	0
1/8/02	0.04	2/8/02	0	3/8/02	0	4/8/02	0
1/9/02	0	2/9/02	0	3/9/02	0	4/9/02	0.03
1/10/02	0	2/10/02	0	3/10/02	0	4/10/02	0
1/11/02	0	2/11/02	0	3/11/02	0	4/11/02	0.01
1/12/02	0	2/12/02	0	3/12/02	0	4/12/02	0.01
1/13/02	0	2/13/02	0	3/13/02	0	4/13/02	0.09
1/14/02	0	2/14/02	0	3/14/02	0	4/14/02	0.08
1/15/02	0	2/15/02	0	3/15/02	0	4/15/02	0
1/16/02	0.01	2/16/02	0	3/16/02	0.01	4/16/02	0
1/17/02	0	2/17/02	0	3/17/02	0	4/17/02	0
1/18/02	0.03	2/18/02	0	3/18/02	0	4/18/02	0
1/19/02	0.06	2/19/02	0	3/19/02	0.01	4/19/02	0
1/20/02	0	2/20/02	0	3/20/02	0	4/20/02	0
1/21/02	0	2/21/02	0	3/21/02	0	4/21/02	0
1/22/02	0	2/22/02	0	3/22/02	0	4/22/02	0
1/23/02	0	2/23/02	0.34	3/23/02	0	4/23/02	0
1/24/02	0	2/24/02	0	3/24/02	0	4/24/02	0
1/25/02	0.06	2/25/02	0	3/25/02	0	4/25/02	0
1/26/02	0.03	2/26/02	0	3/26/02	0	4/26/02	0
1/27/02	0.01	2/27/02	0	3/27/02	0	4/27/02	0
1/28/02	0	2/28/02	0	3/28/02	0.02	4/28/02	0.01
1/29/02	0			3/29/02	0	4/29/02	0
1/30/02	0			3/30/02	0	4/30/02	0
1/31/02	0			3/31/02	0	END DATA	
subtotal	0.53		0.79		0.55		0.23

TOTAL 2.1

ECHO, OREGON (352564)

Period of Record Monthly Climate Summary

Period of Record : 7/1/1948 o 7/31/1971

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
Average Max. Temperature (F)	41.6	49.5	57.1	65.8	75.2	82.8	90.6	87.9	79.9	66.6	51.5	44.1	6
Average Min. Temperature (F)	24.7	30.5	33.0	38.6	46.0	52.3	56.4	54.8	48.1	39.2	32.0	28.4	4
Average Total Precipitation (in.)	1.47	0.94	0.92	0.64	0.83	0.66	0.23	0.23	0.47	0.84	1.16	1.32	9
Average Total SnowFall (in.)	5.2	0.6	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	1.1	
Average Snow Depth (in.)	1	0	0	0	0	0	0	0	0	0	0	0	

Percent of possible observations for period of record.

Max. Temp.: 97.7% Min. Temp.: 97.8% Precipitation: 99.3% Snowfall: 89.3% Snow Depth: 88.3%

Check [Station Metadata](#) or [Metadata graphics](#) for more detail about data completeness.

HERMISTON 2 S, OREGON (353847)

Period of Record Monthly Climate Summary Period of Record : 1/ 1/1928 to 12/31/2001

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
Average Max. Temperature (F)	39.7	47.4	57.8	66.5	75.3	82.0	90.1	88.4	79.8	66.7	50.5	42.1	6
Average Min. Temperature (F)	23.9	27.9	33.2	39.0	46.1	52.7	57.5	55.7	47.4	38.2	31.2	27.1	4
Average Total Precipitation (in.)	1.24	0.88	0.80	0.69	0.67	0.62	0.20	0.25	0.42	0.73	1.14	1.26	8
Average Total SnowFall (in.)	4.7	2.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	2.1	1
Average Snow Depth (in.)	1	1	0	0	0	0	0	0	0	0	0	0	

Percent of possible observations for period of record.

Max. Temp.: 96.9% Min. Temp.: 96.8% Precipitation: 96.8% Snowfall: 95.7% Snow Depth: 94.4%

Check [Station Metadata](#) or [Metadata graphics](#) for more detail about data completeness.

Western Regional Climate Center, wrcc@dri.edu

WSU Public Agricultural Weather System

Data Extracted:2002-08-19 11:34:25

TOUCHET, 1.5 MI S of Touchet, Wa

Lat:46.0 Lng:118.6 elevation:492

Dates Range From 1989-01-01 To 2002-08-18

DATE Gregorian	Hour of the Day PST	Avg Wind (MPH) 6.6ft	Avg Wind Dir deg 6.6ft	Total Precip inches
2002-05-02	00:15	20.63	198.400	.00
2002-05-02	00:30	17.18	199.200	.00
2002-05-02	00:45	18.90	196.400	.00
2002-05-02	01:00	15.65	201.900	.00
2002-05-02	01:15	15.90	199.300	.00
2002-05-02	01:30	19.48	197.100	.00
2002-05-02	01:45	19.84	197.200	.00
2002-05-02	02:00	19.22	191.500	.00
2002-05-02	02:15	20.58	187.800	.00
2002-05-02	02:30	20.51	188.800	.00
2002-05-02	02:45	21.18	188.900	.00
2002-05-02	03:00	21.32	187.400	.00
2002-05-02	03:15	22.01	186.100	.00
2002-05-02	03:30	22.57	187.200	.00
2002-05-02	03:45	22.37	188.200	.00
2002-05-02	04:00	21.59	186.100	.00
2002-05-02	04:15	17.20	188.500	.00
2002-05-02	04:30	16.13	188.500	.00
2002-05-02	04:45	11.45	196.100	.00
2002-05-02	05:00	5.52	134.300	.00
2002-05-02	05:15	15.62	183.000	.00
2002-05-02	05:30	20.40	185.200	.00
2002-05-02	05:45	20.04	183.600	.00
2002-05-02	06:00	19.48	188.000	.00
2002-05-02	06:15	19.10	188.400	.00
2002-05-02	06:30	20.60	192.900	.00
2002-05-02	06:45	19.51	191.600	.00
2002-05-02	07:00	17.69	196.700	.00
2002-05-02	07:15	15.79	197.500	.00
2002-05-02	07:30	20.42	194.300	.00
2002-05-02	07:45	19.51	198.600	.00
2002-05-02	08:00	16.37	199.000	.01
2002-05-02	08:15	13.91	206.100	.02
2002-05-02	08:30	15.18	210.900	.02
2002-05-02	08:45	18.68	197.600	.00
2002-05-02	09:00	16.80	201.700	.01
2002-05-02	09:15	14.48	209.400	.02
2002-05-02	09:30	17.18	200.200	.01
2002-05-02	09:45	17.58	195.000	.00
2002-05-02	10:00	14.38	198.900	.01
2002-05-02	10:15	17.25	197.100	.01
2002-05-02	10:30	18.41	195.400	.01

Public Agricultural Weather System

2002-05-02	10:45	15.55	202.600	.01
2002-05-02	11:00	15.61	209.200	.01
2002-05-02	11:15	17.05	201.200	.01
2002-05-02	11:30	15.32	204.100	.01
2002-05-02	11:45	16.22	206.900	.02
2002-05-02	12:00	15.84	223.400	.02
2002-05-02	12:15	16.02	219.200	.03
2002-05-02	12:30	14.86	218.000	.03
2002-05-02	12:45	14.30	213.400	.02
2002-05-02	13:00	15.77	218.300	.03
2002-05-02	13:15	17.20	221.200	.04
2002-05-02	13:30	15.90	221.700	.04
2002-05-02	13:45	14.01	205.400	.00
2002-05-02	14:00	15.79	219.600	.03
2002-05-02	14:15	14.95	221.500	.03
2002-05-02	14:30	15.29	218.900	.04
2002-05-02	14:45	14.98	215.100	.03
2002-05-02	15:00	15.37	211.000	.03
2002-05-02	15:15	14.05	207.000	.01
2002-05-02	15:30	15.95	216.100	.03
2002-05-02	15:45	17.81	202.900	.01
2002-05-02	16:00	18.14	200.300	.01
2002-05-02	16:15	20.65	201.100	.01
2002-05-02	16:30	14.63	216.500	.02
2002-05-02	16:45	14.61	212.800	.03
2002-05-02	17:00	15.42	216.700	.02
2002-05-02	17:15	18.30	223.000	.02
2002-05-02	17:30	16.06	214.900	.01
2002-05-02	17:45	15.00	210.300	.02
2002-05-02	18:00	13.42	199.800	.00
2002-05-02	18:15	14.48	199.600	.00
2002-05-02	18:30	13.57	209.200	.01
2002-05-02	18:45	14.18	211.800	.00
2002-05-02	19:00	13.85	204.000	.01
2002-05-02	19:15	15.05	210.300	.01
2002-05-02	19:30	15.48	204.600	.01
2002-05-02	19:45	14.09	209.400	.02
2002-05-02	20:00	13.11	206.100	.01
2002-05-02	20:15	14.21	198.000	.00
2002-05-02	20:30	13.74	203.100	.01
2002-05-02	20:45	14.19	205.700	.01
2002-05-02	21:00	15.21	218.600	.01
2002-05-02	21:15	17.72	212.000	.03
2002-05-02	21:30	13.50	207.900	.01
2002-05-02	21:45	12.28	211.500	.01
2002-05-02	22:00	12.47	209.800	.01
2002-05-02	22:15	12.04	205.500	.01
2002-05-02	22:30	13.62	195.500	.00
2002-05-02	22:45	15.41	190.500	.00
2002-05-02	23:00	14.27	189.500	.00
2002-05-02	23:15	11.71	199.400	.00
2002-05-02	23:30	11.93	214.100	.00
2002-05-02	23:45	14.79	223.300	.02
2002-05-02	24:00	14.97	219.100	.02

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Appendix C

BACM Assessment: Benton and Walla Walla counties

Washington State Department of Ecology, Air Quality Program
BACM Assessment: Benton County and Walla Walla County, Washington

		BACM (component 1)	BACM (component 2) - ADDITIONAL CONSERVATION MEASURES APPLIED				BACM total (components 1 & 2)	
		CRP	No-Till	Ridge-Till	Mulch-Till	15-30% Residue.	acres	% acres
Benton								
*HEL withdrawn from production	75,132	75,132					75,132	100.00%
Fallow acres	131,488		3,550	0	0	67,979	71,529	54.40%
Total planted acres	232,100		2,488	0	2,212	124,202	128,902	55.54%
Total farmable acres	438,720	17%	6,038	0	2,212	192,181	275,563	62.81%
Walla Walla								
HEL withdrawn from production	148,894	148,894					148,894	100.00%
Fallow acres	125,589		6,279	0	62,795	37,677	106,751	85.00%
Total planted acres	296,552		31,685	0	96,169	98,992	226,846	76.49%
Total farmable acres	571,035	26%	37,964	0	158,964	136,669	482,491	84.49%
SUMMARY								
Total farmable acres	1,009,755	224,026	44,002	0	161,176	328,850	758,054	
		22%	4%	0%	16%	33%		75%
Highly Erodible Land (HEL)								



Conservation for Agriculture's Future



Crop Residue Management

Walla Walla County, Washington

2000

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[MAX](#)

	Total Planted Acres	Conservation Tillage		Conventional Tillage		
		No-Till	Ridge-Till	Mulch-Till	15-30% Residue	0-15% Residue
Corn (FS)	6,667	667	0	2,667	2,000	1,333
Corn (DC)	0	0	0	0	0	0
Small Grain (SpSg)	91,899	22,871	0	27,653	35,464	5,911
Small Grain (FISg)	138,189	8,147	0	54,311	47,370	28,361
Soybeans(FS)	0	0	0	0	0	0
Soybeans (DC)	0	0	0	0	0	0
Cotton	0	0	0	0	0	0
Grain Sorghum (FS)	0	0	0	0	0	0
Grain Sorghum (DC)	0	0	0	0	0	0
Forage Crops	3,000	0	xxxxxxx	0	750	2,250
Other Crops	56,797	0	0	11,538	13,408	31,851
TOTAL	296,552	31,685	0	96,169	98,408	31,851
Permanent Pasture	0	0	xxxxxxx	0	0	0
Fallow	125,589	6,279	xxxxxxx	62,795	37,677	18,838

Conservation Reserve Program (CRP) Acres
148,894

FS – Full Season	SpSg – Spring Seeded Small Grain
DC – Double Cropped	FISg – Fall Seeded Small Grain

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 Greater Profit. Healthier Farms.

Top Residue Management



Benton County, Washington

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[MAX](#)

	Total Planted Acres	Conservation Tillage		Conventional Tillage		
		No-Till	Ridge-Till	Mulch-Till	15-30% Residue	0-15% Residue
Corn (FS)	28,000	1,988	0	2,212	18,004	5,796
Corn (DC)	0	0	0	0	0	0
Small Grain (SpSg)	25,800	500	0	0	9,500	15,800
Small Grain (FISg)	135,000	0	0	0	89,100	45,900
Soybeans(FS)	0	0	0	0	0	0
Soybeans (DC)	0	0	0	0	0	0
Cotton	0	0	0	0	0	0
Grain Sorghum (FS)	0	0	0	0	0	0
Grain Sorghum (DC)	0	0	0	0	0	0
Forage Crops	100	0	xxxxxxxxx	0	750	100
Other Crops	43,200	0	0	0	7,598	35,602
TOTAL	232,100	2,488	0	2,212	124,202	103,198
Permanent Pasture	0	0	xxxxxxxxx	0	0	0
Fallow	131,488	3,550	xxxxxxxxx	0	67,979	59,959

Conservation Reserve Program (CRP) Acres
75,132

FS – Full Season	SpSg – Spring Seeded Small Grain
DC – Double Cropped	FISg – Fall Seeded Small Grain