

Technical Support Document
For the April 5, 2010,
Alamosa, Pagosa Springs, Durango,
Telluride, Crested Butte, and Mt.
Crested Butte Exceptional Event



Colorado Department
of Public Health
and Environment

Prepared by the Technical Services Program
Air Pollution Control Division
Colorado Department of Public Health and
Environment

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Executive Summary

In 2005, Congress identified a need to account for events that result in exceedances of the National Ambient Air Quality Standards (NAAQS) that are exceptional in nature¹ (e.g., not expected to reoccur or caused by acts of nature beyond man-made controls). In response, EPA promulgated the Exceptional Events Rule (EER) to address exceptional events in 40 CFR Parts 50 and 51 on March 22, 2007 (72 FR 13560). On May 2, 2011, in an attempt to clarify this rule, EPA released draft guidance documents on the implementation of the EER to State, tribal and local air agencies for review. The EER allows for states and tribes to “flag” air quality monitoring data as an exceptional event and exclude those data from use in determinations with respect to exceedances or violations of the NAAQS, if EPA concurs with the demonstration submitted by the flagging agency.

Due to the semi-arid nature of parts of the state, Colorado is highly susceptible to windblown dust events. These events are often captured by various air quality monitoring equipment throughout the state, sometimes resulting in exceedances or violations of the 24-hour PM₁₀ NAAQS. This document contains detailed information about the large regional windblown dust event that occurred on Monday April 5, 2010. The Colorado Department of Public Health and Environment (CDPHE) Air Pollution Control Division (APCD) has prepared this report for the U.S. Environmental Protection Agency (EPA) to demonstrate that the elevated PM₁₀ concentrations were caused by a natural event.

On this date, PM₁₀ sample values greater than the 24-hour NAAQS of 150 µg/m³ were recorded at multiple sites across southwestern Colorado including Telluride (354 µg/m³), Pagosa Springs (349 µg/m³), Durango (320 µg/m³), Alamosa Adams State College (185 µg/m³), Crested Butte (174 µg/m³), and Mt. Crested Butte (168 µg/m³). Additionally, exceptionally high values (greater than the 95th percentile for the site) were recorded at PM₁₀ monitors in Delta (115 µg/m³), Clifton (75 µg/m³), Aspen (70 µg/m³), and Grand Junction Powell (51 µg/m³). **Error! Reference source not found.** shows a map of Colorado with all monitoring sites reporting PM₁₀ concentrations on April 5, 2010. This large regional dust storm adversely affected the air quality exceeding the 24-hour PM₁₀ NAAQS in these six areas and impacted PM₁₀ concentrations at several other monitoring stations in Colorado. All of the noted April 5, 2010, twenty-four-hour PM₁₀ concentrations were above the 90th percentile concentrations for their locations (see Table 14). This event produced the maximum value in four of the six datasets and exceeded the 98th% value of any evaluation criteria for the other two sites. The statistical and meteorological data clearly shows that but for this high wind blowing dust event, Alamosa, Pagosa Springs, and Durango would not have exceeded the 24-hour NAAQS on April 5, 2010. There has never been an exceedance that was not associated with high winds carrying PM₁₀ dust from distant sources in these six areas since at least 2005.

APCD is requesting exclusion for each of the samples taken at Alamosa ASC (08-003-0001), Crested Butte (08-051-0004), Mount Crested Butte (08-051-0007), Durango-River City Hall (08-067-0004), Pagosa Springs-Middle School (08-007-0001), and Telluride (08-113-0004). However, only the data sets from Alamosa, Pagosa Springs, and Durango will be discussed in detail, since the exceedances at these three areas could affect the attainment status of the 24-hour PM₁₀ NAAQS in these towns.

¹ Section 319 of the Clean Air Act (CAA), as amended by section 6013 of the Safe Accountable Flexible Efficient-Transportation Equity Act: A Legacy for Users (SAFE-TEA-LU of 2005, required EPA to propose the Federal Exceptional Events Rule (EER) no later than March 1, 2006.

Specifically, these high values were the consequence of strong southwesterly prefrontal winds in combination with dry conditions which caused significant blowing dust across much of Arizona, northwest New Mexico, southeast Utah and southwest Colorado. These winds were the result of a strong short wave in the upper atmosphere that was moving across the Great Basin and the associated surface cold front and low pressure system. This dust storm originated in the desert regions of northern and central Arizona and northwestern New Mexico. It transported PM₁₀ dust into the southern and central portions of Colorado.

Widespread restrictions to visibility occurred in the mountains of southwestern and portions of south central Colorado. In these areas, restrictions were not accompanied by periods of sustained high winds above the blowing dust thresholds. Such restrictions in the absence of wide-spread local sources and/or winds above blowing dust thresholds are diagnostic for blowing dust that is being transported into the region.

EPA's June 2012 [draft Guidance on the Preparation of Demonstrations in Support of Requests to Exclude Ambient Air Quality Data Affected by High Winds under the Exceptional Events Rule](#) states "the EPA will accept a threshold of a sustained wind of 25 mph for areas in the west provided the agencies support this as the level at which they expect stable surfaces (i.e., controlled anthropogenic and undisturbed natural surfaces) to be overwhelmed..." In addition, in both eastern and western Colorado it has been shown that wind speeds of 30 mph or greater and gusts of 40 mph or greater can cause blowing dust (see reference for the Technical Support Document for the January 19, 2009 Lamar Exceptional Event and Appendix A - Grand Junction, Colorado, Blowing Dust Climatology at the end of this document). For this blowing dust event, it has been assumed that sustained winds of 25 mph and higher or wind gusts of 40 mph and higher can cause blowing dust in northeast Arizona, northwest New Mexico, and southwest Colorado.

The blowing dust climatology for the Four Corners area indicates that the area can be susceptible to blowing dust when winds are high. Landform imagery shows that northeastern Arizona and southeastern Utah in particular have experienced a long-term pattern of wind erosion and blowing dust when winds have been southwesterly and blowing into western and southern Colorado. Back trajectories, case studies, satellite imagery, and statistical analyses have also shown that northeastern Arizona and southeastern Utah are a significant source for blowing dust transported into Colorado. Soils in the Four Corners area and in northeastern Arizona in particular were dry enough to produce blowing dust when winds were above the thresholds for blowing dust. Elevated PM₁₀ in Grand Junction generally occurs during windstorms when wind gusts of 40 mph or higher occur at Grand Junction and Hopi, Arizona, and there is southwesterly wind flow in Grand Junction. Elevated PM₁₀ in Grand Junction is generally associated with 30-day precipitation totals of less than 1.00 inches at Grand Junction and less than 0.50 inches at Hopi.

The Drought Monitor map of the western U.S. for March 30, 2010, shows that soils across northeastern Arizona, most of Utah, and parts of western Colorado had below normal soil moisture. Northeastern Arizona and parts of western New Mexico were classified as Abnormally Dry and the area bounded by the station observations in Tables 1 - 5 was classified as an area with Moderate or Severe Drought. Soils in the Four Corners area and in northeastern Arizona in particular were dry enough to produce blowing dust when winds were above the thresholds for blowing dust.

Surface weather maps for the Four Corner States show evidence of widespread blowing dust and winds above the threshold speeds for blowing dust on April 5, 2010. These surface analyses shows that winds above 30 mph with gusts as high as 53 mph occurred in areas south of the stationary front and surface low pressure complex (shown Figures 2-4). The synoptic weather conditions on April 5, 2010, (illustrated in Figures 2 through 14) show that the conditions

necessary for widespread strong gusty winds were in place over the area of concern for the daytime hours of April 5, 2010. MODIS satellite imagery shows that the Painted Desert and Four Corners area in general were source regions for blowing dust on April 5, 2010. Also, HYSPLIT forward and backward trajectories provide clear supporting evidence that dust from desert regions of northwest New Mexico and Arizona caused the PM₁₀ exceedances measured across portions of Colorado on April 5, 2010. Forecast products from the Navy Aerosol Analysis and Prediction System model also provide evidence for a widespread blowing dust event in the Four Corners states, beginning in Arizona and expanding into Colorado.

MODIS satellite imagery shows that the Painted Desert and Four Corners area in general were source regions for blowing dust on April 5, 2010. In addition, USGS Scientists with expertise in the analysis of dust storms have indicated that regions of the Painted Desert in northeastern Arizona were the predominant dust sources for this event. This is consistent with the climatology for many dust storms in Colorado as described in the Grand Junction, Colorado, Blowing Dust Climatology report contained in Appendix A of this document. The observations of winds above blowing dust thresholds and restricted visibilities in the areas of concern demonstrate that this is a natural event that cannot be reasonably controlled or prevented.

The Center for Snow and Avalanche Studies has been studying the effects of wind-blown desert dust from Arizona, New Mexico, and Utah on snowpack albedo and snowmelt in the San Juan Mountains of Colorado. The Center for Snow and Avalanche Studies lists April 5, 2010, as one of nine Dust-on-Snow events for the 2009/2010 water year, and this provides clear supporting evidence that a regional blowing dust event with long-range transport caused the PM₁₀ exceedances measured across portions of Colorado on April 5, 2010. Snowpack and snow cover data for the mountains and many valley locations in central and southwestern Colorado demonstrate that blowing dust and elevated PM₁₀ observed in Telluride, Crested Butte, and Mt. Crested Butte were not likely to have been from local sources. Snow cover data provide strong evidence that a widespread, regional, blowing dust event caused exceedances at these locations.

Friction velocities provide a measure of the near-surface meteorological conditions necessary to cause blowing dust. Friction velocities were high enough to sustain blowing dust over undisturbed soils in each of the Four Corners states during this event.

The PM₁₀ exceedances in Durango, Telluride, Pagosa Springs, Crested Butte, Mount Crested Butte and Alamosa on April 5, 2010, would not have occurred if not for the following: (a) dry soil conditions over northeastern Arizona, most of Utah, and parts of western Colorado with 30-day precipitation totals below the threshold identified as a precondition for blowing dust in northeastern Arizona; (b) a strong surface and upper-level low pressure system that caused widespread strong gusty winds through a deep layer of the atmosphere over the area of concern; and (c) friction velocities over the desert regions of northwest New Mexico, Utah, and Arizona that were high enough to allow entrainment of dust from natural sources with subsequent transport of the dust to Colorado in strong, southwesterly winds. These PM₁₀ exceedances were due to an exceptional event associated with regional windstorm-caused emissions from erodible soil sources over a large area of northeastern Arizona, most of Utah, and parts of western Colorado. These sources are not reasonably controllable during a significant windstorm under abnormally dry or moderate drought conditions.

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Appendix A - Grand Junction, Colorado, Blowing Dust Climatology

Appendix B - Weather Warnings and Blowing Dust Advisories for April 5, 2010

Appendix C - Final Natural Events Action Plan For High Wind Events, Alamosa, Colorado

Appendix D – Copy of Affidavit of Public Notice

1.0 Exceptional Events Rule Requirements

In addition to the technical requirements that are contained within the EER, procedural requirements must also be met in order for EPA to concur with the flagged air quality monitoring data. This section of the report lays out the requirements of the EER and discusses how the APCD addressed those requirements.

1.1 Procedural Criteria

This section presents a review of the procedural requirements of the EER as required by 40 CFR 50.14 (Treatment of Air Quality Monitoring Data Influenced by Exceptional Events) and explains how APCD fulfills them.

The Federal EER requirements include public notification that an event was occurring, the placement of informational flags on data in EPA's Air Quality System (AQS), submission of initial event description, the documentation that the public comment process was followed, and the submittal of a demonstration supporting the exceptional events flag. APCD has addressed all of these procedural and documentation requirements.

Public notification that event was occurring (40 CFR 50.14(c)(1)(i))

APCD issued Blowing Dust Advisories for Western, Southwestern and portions of Southeastern Colorado advising citizens of the potential for high wind/dust events on April 5, 2010. This area includes: Grand Junction, Rifle, Montrose, Delta, Cortez, Durango, Telluride, Alamosa, and nearby towns (i.e. Pagosa Springs and Crested Butte). The advisories that were issued on April 5, 2010, can be viewed at:

http://www.colorado.gov/airquality/forecast_archive.aspx?seeddate=04%2f05%2f2010 and are included in Appendix B.

Place informational flag on data in AQS (40 CFR 50.14(c)(2)(ii))

APCD and other applicable agencies in Colorado submit data into EPA's AQS. Data from both filter-based and continuous monitors operated in Colorado are submitted to AQS.

When APCD and/or another agency operating monitors in Colorado suspects that data may be influenced by an exceptional event, APCD and/or the other operating agency expedites analysis of the filters collected from the potentially-affected filter-based air monitoring instruments, quality assures the results and submits the data into AQS. APCD and/or other operating agencies also submit data from continuous monitors into AQS after quality assurance is complete.

If APCD and/or the applicable operating agency have determined a potential exists that the sample value has been influenced by an exceptional event, a preliminary flag is submitted for the measurement when the data is uploaded to AQS. The data are not official until they are certified by May 1st of the year following the calendar year in which the data were collected (40 CFR 58.15(a)(2)). The presence of the flag can be confirmed in AQS.

Notify EPA of intent to flag through submission of initial event description by July 1 of calendar year following event (40 CFR 50.14(c)(2)(iii))

In early 2011, APCD and EPA Region 8 staff agreed that the notification of the intent to flag data as an exceptional event would be done by submitting data to AQS with the proper flags and the initial event descriptions. This was deemed acceptable, since Region 8 staff routinely pull the data to review for completeness and other analyses.

On Monday April 5, 2010, six sample values greater than 150 $\mu\text{g}/\text{m}^3$ were taken at multiple sites across southwestern Colorado during the high wind event that occurred that day. These were the monitors located in Alamosa at Adams State College (SLAMS), Pagosa Springs (SLAMS),

Crested Butte (SLAMS), Mount Crested Butte (SLAMS), Durango (SLAMS), and Telluride (SLAMS). All of these monitors are operated by APCD in partnership with local operators.

Document that the public comment process was followed for event documentation (40 CFR 50.14(c)(3)(iv))

APCD posted this report on the Air Pollution Control Division's webpage for public review. APCD opened a 30-day public comment period on May 28, 2013. A copy of the public notice certification, along with any comments received, will be submitted to EPA, consistent with the requirements of 40 CFR 50.14(c)(3)(iv). See Appendix D for a copy of the affidavit of public notice.

Submit demonstration supporting exceptional event flag (40 CFR 50.14(a)(1-2))

At the close of the comment period, and after APCD has had the opportunity to consider any comments submitted on this document, APCD will submit this document, along with any comments received (if applicable), and APCD's responses to those comments, to EPA Region VIII headquarters in Denver, Colorado. The deadline for the submittal of this demonstration package is June 30, 2013.

1.2 Documentation Requirements

Section 50.14(c)(3)(iv) of the EER states that in order to justify excluding air quality monitoring data, evidence must be provided for the following elements:

- a. The event satisfies the criteria set forth in 40 CFR 501(j) that:
 - (1) the event affected air quality,
 - (2) the event was not reasonably controllable or preventable, and
 - (3) the event was caused by human activity unlikely to recur in a particular location or was a natural event;
- b. There is a clear causal relationship between the measurement under consideration and the event;
- c. The event is associated with a measured concentration in excess of normal historical fluctuations; and
- d. There would have been no exceedance or violation but for the event.

2.0 Meteorological analysis of the April 5, 2010, blowing dust event and PM₁₀ exceedance – Conceptual Model and Wind Statistics

On Monday April 5, 2010, exceedances of the twenty-four-hour PM₁₀ standard occurred across southwestern Colorado. Exceedances were recorded at Telluride with a concentration of 354 µg/m³, the Pagosa Springs School monitor with a concentration of 349 µg/m³, the Durango River City monitor with a concentration of 320 µg/m³, the Alamosa Adams State College monitor with a concentration of 185 µg/m³, the Crested Butte monitor with a concentration of 174 µg/m³, and the Mt. Crested Butte monitor with a concentration of 168 µg/m³. A concentration of 115 µg/m³ was recorded at the Delta County Health Department monitor. These exceedances and the high reading at Delta are plotted on the map in **Error! Reference source not found.** This event produced the maximum value in four of the six datasets using data from 2005 -2011 and exceeded the 98th% value of any evaluation criteria for the other two sites. The overall magnitude and broad geographical extent of affected sites suggests that there was a contribution to each sample from other than local sources.

EPA's June 2012 [draft Guidance on the Preparation of Demonstrations in Support of Requests to Exclude Ambient Air Quality Data Affected by High Winds under the Exceptional Events Rule](#) states "the EPA will accept a threshold of a sustained wind of 25 mph for areas in the west provided the agencies support this as the level at which they expect stable surfaces (i.e., controlled anthropogenic and undisturbed natural surfaces) to be overwhelmed..." In addition, in both eastern and western Colorado it has been shown that wind speeds of 30 mph or greater and gusts of 40 mph or greater can cause blowing dust (see reference for the Technical Support Document for the January 19, 2009 Lamar Exceptional Event and Appendix A - Grand Junction, Colorado, Blowing Dust Climatology at the end of this document). For this blowing dust event, it has been assumed that sustained winds of 25 mph and higher or wind gusts of 40 mph and higher can cause blowing dust in northeast Arizona, northwest New Mexico, and southwest Colorado.

High PM₁₀ Natural Event in Colorado April 5, 2010

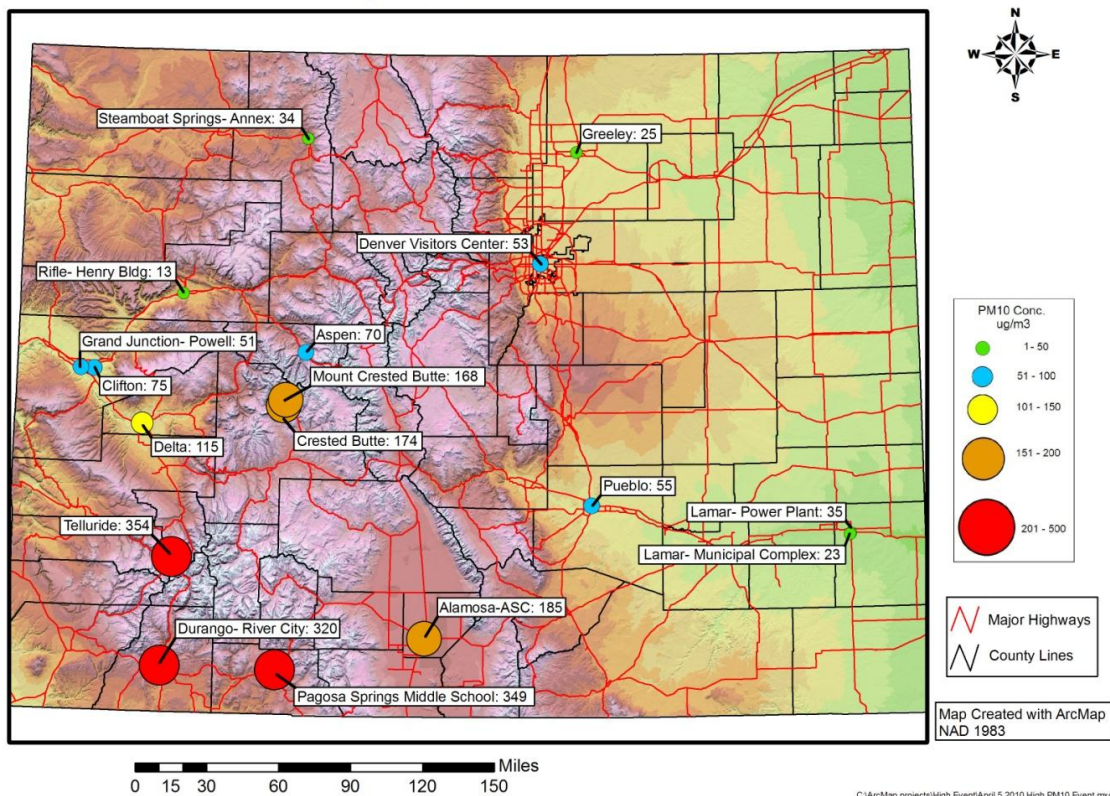


Figure 1: Map of Colorado showing PM₁₀ concentrations on April 5, 2010.

These exceedances were the consequence of strong southwesterly prefrontal surface winds over dry soils which caused significant blowing dust across much of Arizona, northwest New Mexico, southeast Utah and southwest Colorado. Strong winds were the result of a significant surface low pressure and surface cold front associated with a major short-wave trough in the upper atmosphere that was moving across the Great Basin.

The surface weather associated with this storm is presented in Figure 2 and Figure 3, the surface analyses for 5 AM MST April 5 and 5 PM MST April 5, respectively. Significant surface features in Figure 2 and Figure 3 include the cold front moving across the Great Basin and the surface low pressure complex with a stationary front across the middle of Colorado. By the end

of the day, the cold front moved across western Colorado, northwest New Mexico, and central Arizona as shown in Figure 4, the surface analysis for 11 PM MST April 5, 2010.

The upper-level, short-wave trough associated with this storm is shown in Figure 5 and Figure 6 (500-mb height analysis maps for 5 AM and 5 PM MST on April 5). Upper-level winds on the east side of the trough over Arizona, Utah, New Mexico, and Colorado ranged from 30 to 90 knots (35 – 104 mph). Vertical profiles or soundings of winds and temperatures are presented next. These are important because they show that strong winds aloft were able to mix to the surface after surface inversions mixed out during the day.

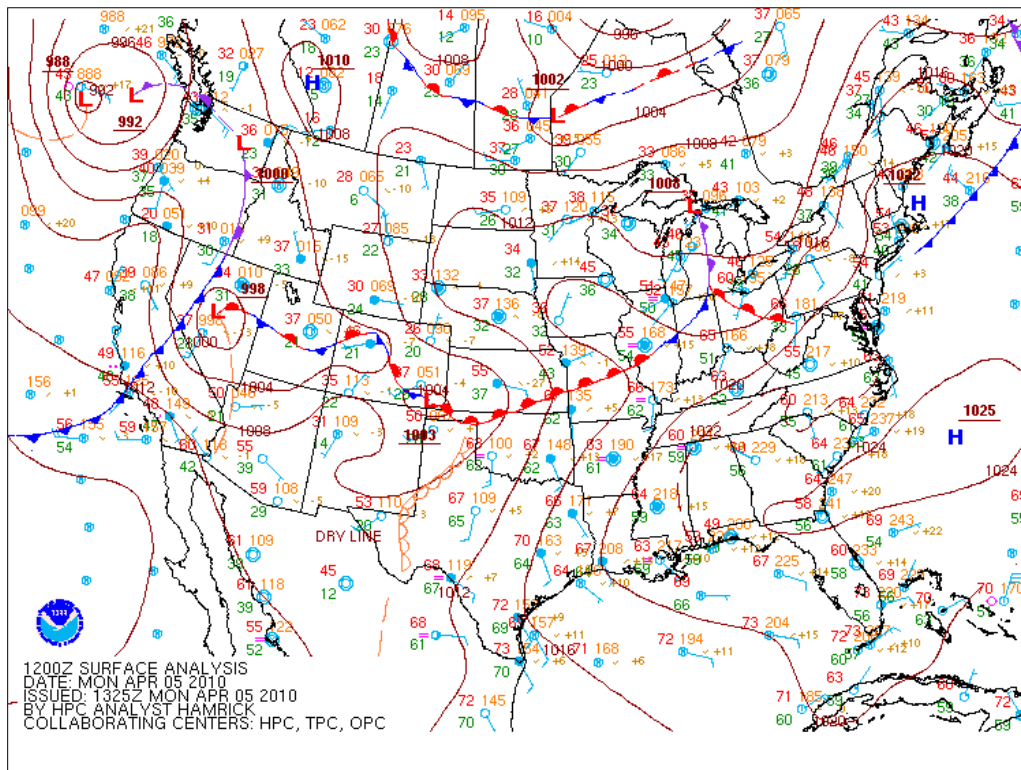


Figure 2: Surface analysis for 12Z April 5, 2010, or 5 AM MST April 5, 2010, (source: NCDC, SRRS Analysis and Forecast Charts <http://nomads.ncdc.noaa.gov/ncep/NCEP>).

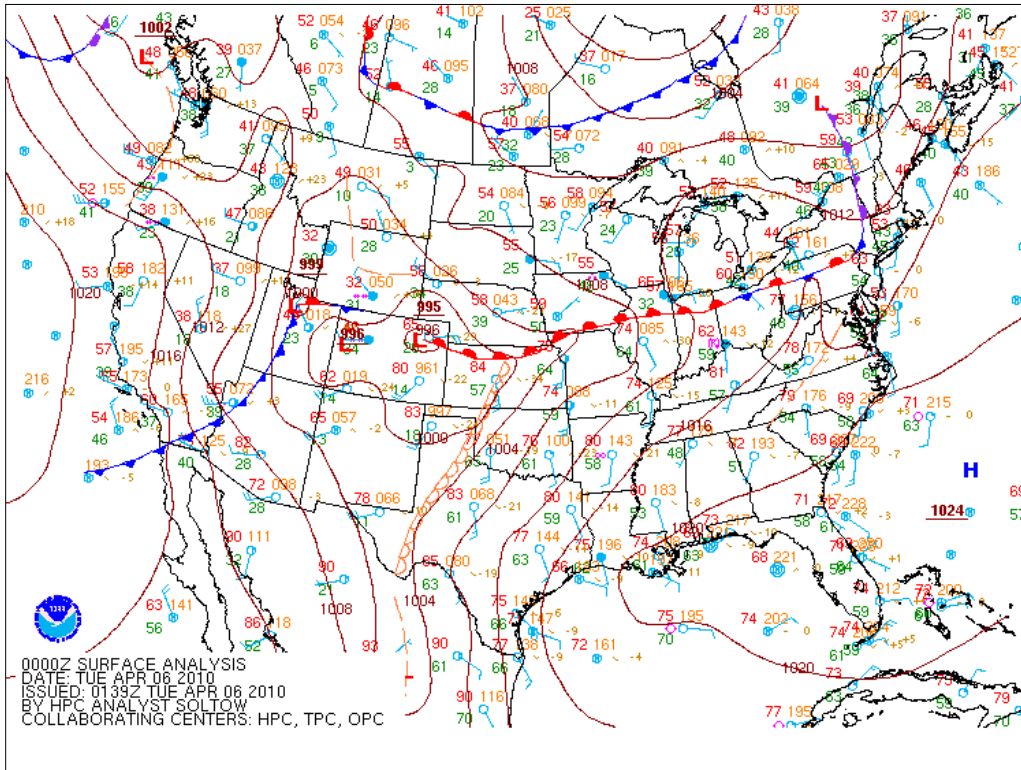


Figure 3: Surface analysis for 00Z April 6, 2010, or 5 PM MST April 5, 2010 (source: NCDC, SRRS Analysis and Forecast Charts <http://nomads.ncdc.noaa.gov/ncep/NCEP>).

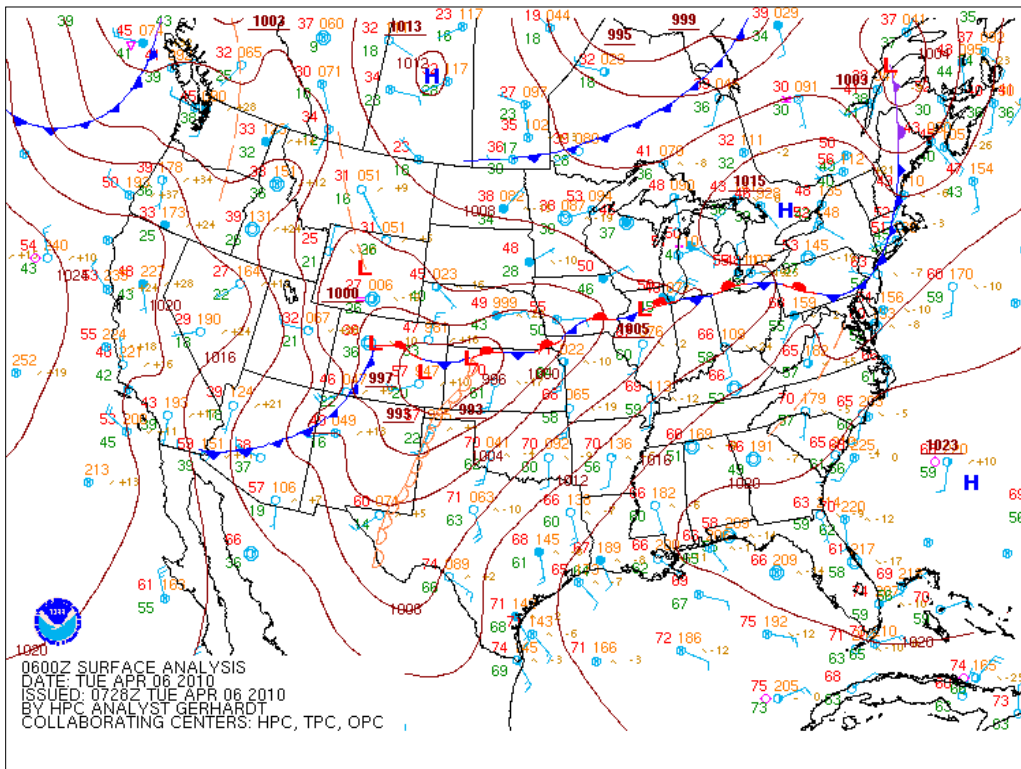


Figure 4: Surface analysis for 06Z April 6, 2010, or 11 PM MST April 5, 2010, (source: NCDC, SRRS Analysis and Forecast Charts <http://nomads.ncdc.noaa.gov/ncep/NCEP>).

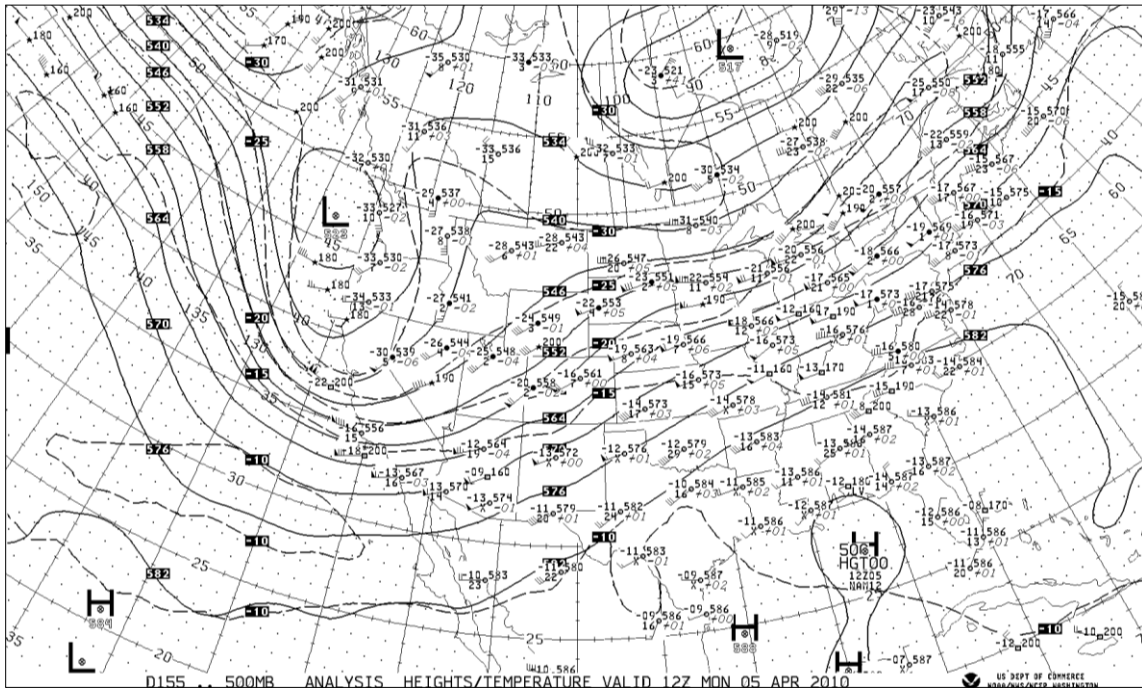


Figure 5: 500 mb analysis for 12Z April 5, 2010, or 5 AM MST April 5, 2010, (source: National Weather Service fax maps <http://archive.atmos.colostate.edu/>).

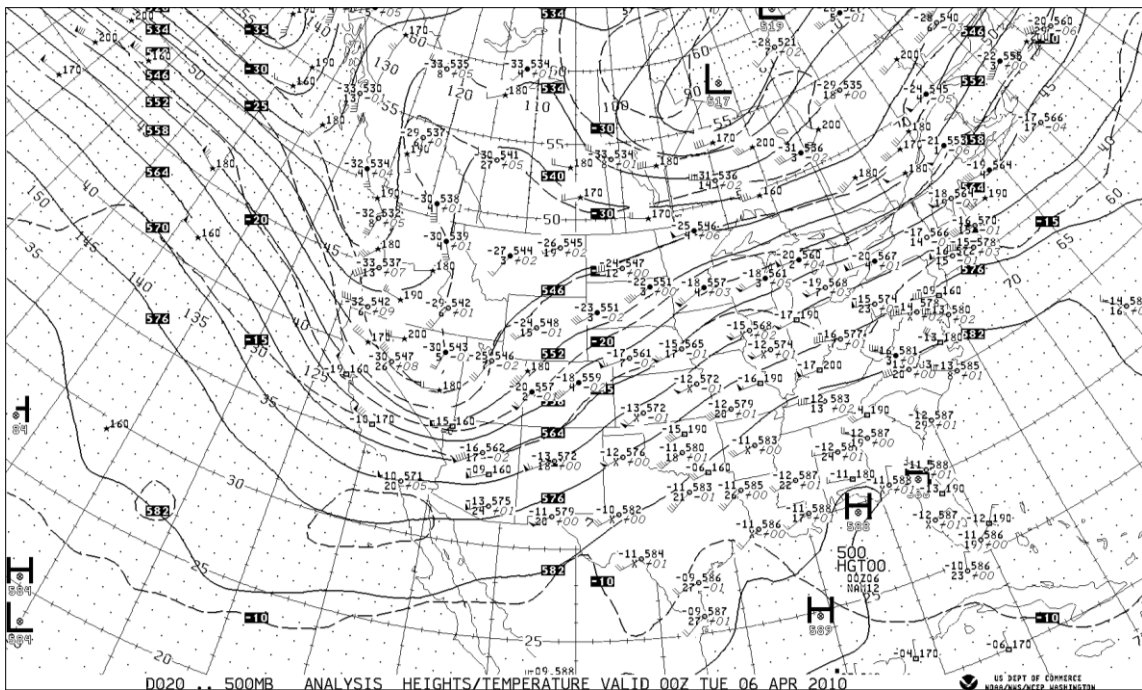


Figure 6: 500 mb analysis for 00Z April 6, 2010, or 11 PM MST April 5, 2010, (source: National Weather Service fax maps <http://archive.atmos.colostate.edu/>).

The 5 AM MST April 5 soundings for Flagstaff Arizona, Grand Junction, Denver, and Albuquerque New Mexico are presented in Figure 7, Figure 8, Figure 9, and Figure 10. These sites bracket or surround the area with the PM₁₀ exceedances. The soundings provide evidence that there would have been mixing to near the 600-millibar level or higher once morning

inversions dissipated. The maximum winds in the mixed layer would have been between 60 and 70 knots (69 – 81 mph). After the morning inversion had dissipated, the momentum associated with this mixed layer would have propagated to the surface, intensifying the surface winds. This partly explains why the strong surface winds did not start until mid-morning after the morning inversions dissipated.

The 5 PM MST April 5 soundings for Flagstaff, Grand Junction, Denver, and Albuquerque are presented in Figure 11, Figure 12, Figure 13, and Figure 14. Figure 11 shows a frontal inversion between 700 mb and 600 mb at Flagstaff. The cold front shown in Figure 2, Figure 3, and Figure 4 had moved east of Flagstaff by this time. The strong winds in the mixed layer east of the front are apparent in 5 PM MST soundings for Grand Junction, Denver and Albuquerque (Figure 12, Figure 13, and Figure 14). These soundings show mixing to near 650 mb with winds of 30 to 50 knots (35 – 58 mph) in the mixed layer. Once again the momentum associated with winds aloft would have mixed down to the surface intensifying the surface winds. The combination of deep mixing and the tight surface pressure gradient associated with the surface low pressure system caused surface winds of up to 49 mph with gusts 62 mph. Winds of this strength will cause blowing dust if soils are dry. Recall that wind speeds of 30 mph or greater and/or gusts of 40 mph or higher have been shown to cause blowing dust in Eastern Colorado (see reference for the *Technical Support Document for the January 19, 2009, Lamar Exceptional Event* and Appendix A - Grand Junction, Colorado, Blowing Dust Climatology at the end of this document). ***The synoptic weather conditions on April 5, 2010, (illustrated in Figures 2 through 14) show that the conditions necessary for widespread strong gusty winds were in place over the area of concern for the daytime hours of April 5, 2010.***

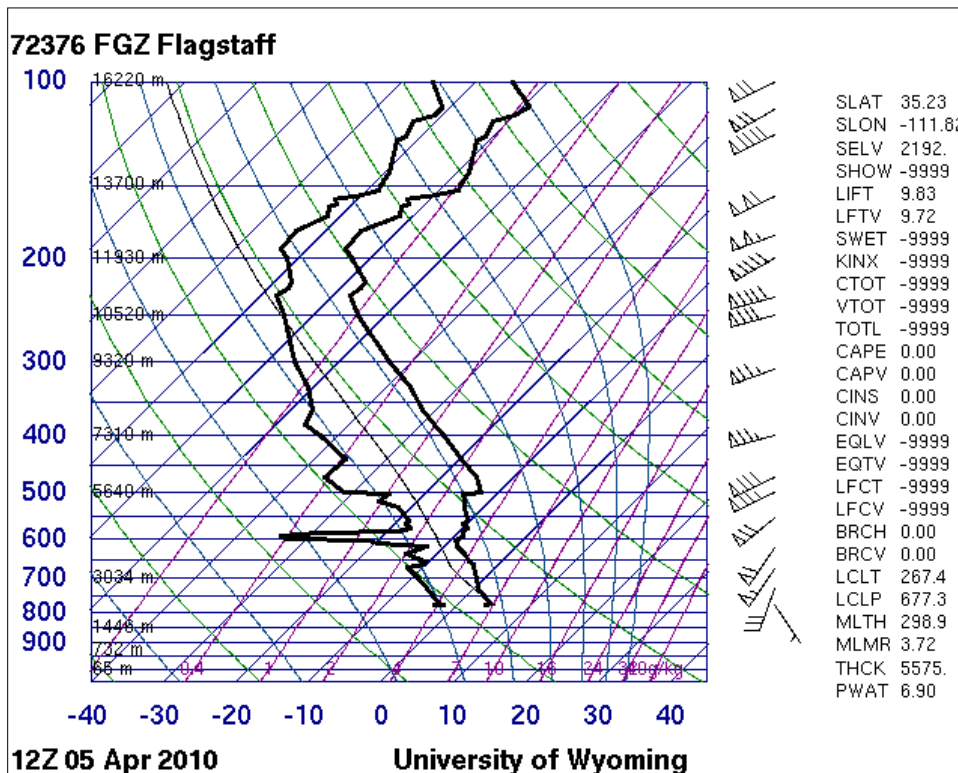


Figure 7: Flagstaff, Arizona, sounding analysis for 12Z April 5, 2010, or 5 AM MST April 5, 2010, (source: <http://weather.uwyo.edu/upperair/sounding.html>).

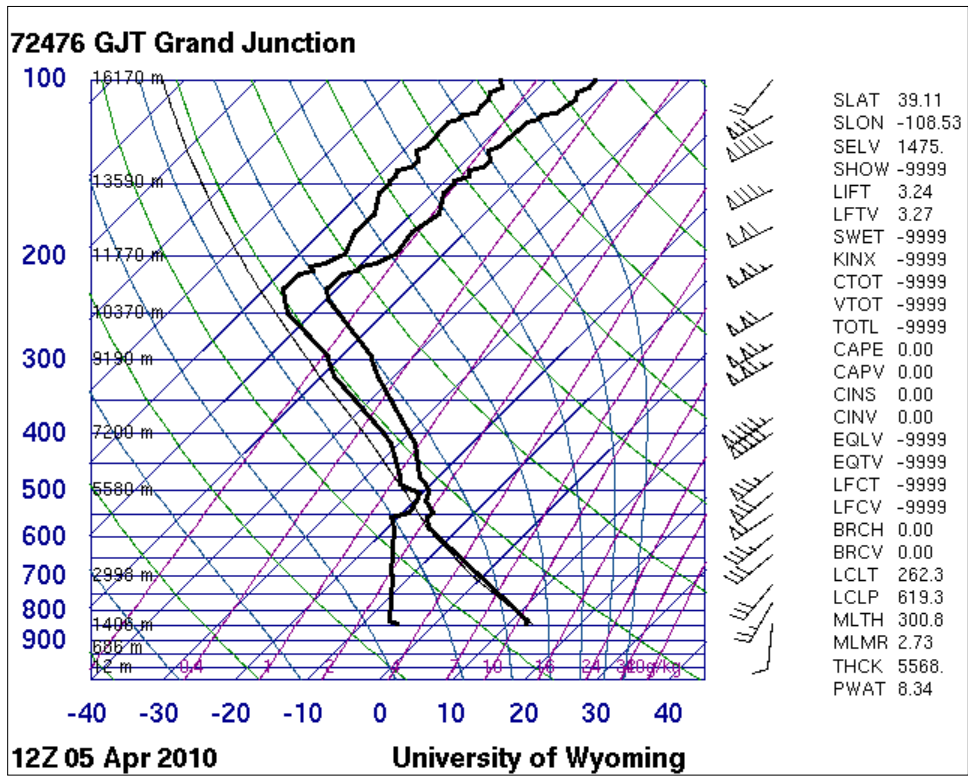


Figure 8: Grand Junction, Colorado, sounding analysis for 12Z April 5, 2010, or 5 AM MST April 5, 2010, (source: <http://weather.uwyo.edu/upperair/sounding.html>).

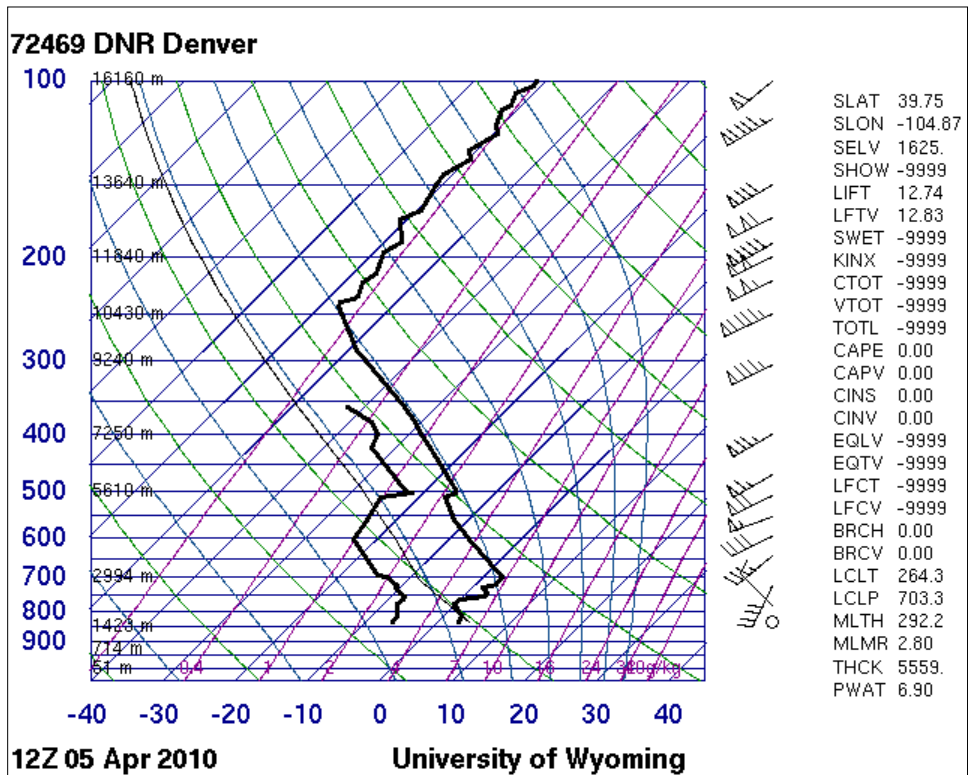


Figure 9: Denver, Colorado, sounding analysis for 12Z April 5, 2010, or 5 AM MST April 5, 2010, (source: <http://weather.uwyo.edu/upperair/sounding.html>).

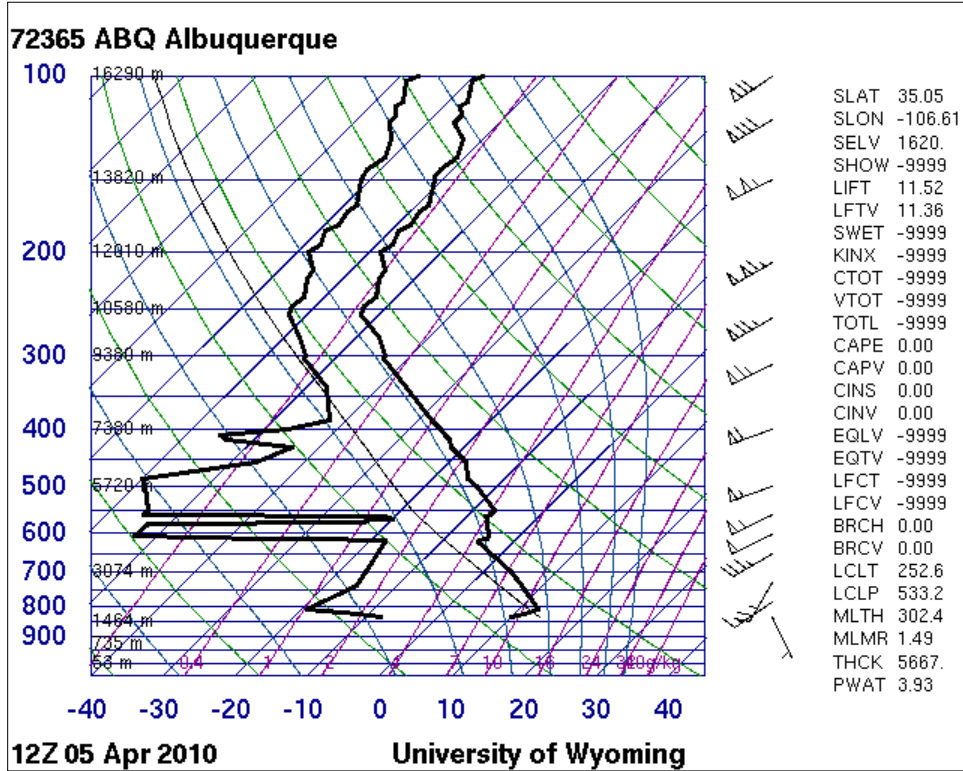


Figure 10: Albuquerque, New Mexico, sounding analysis for 12Z April 5, 2010, or 5 AM MST April 5, 2010, (source: <http://weather.uwyo.edu/upperair/sounding.html>).

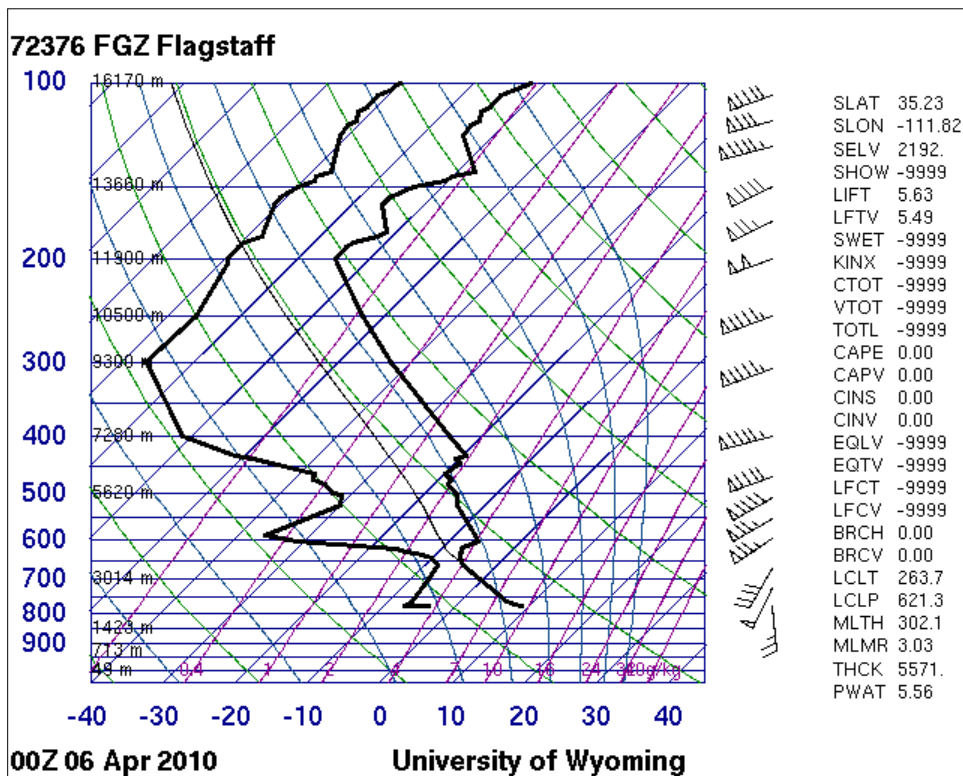


Figure 11: Flagstaff, Arizona, sounding analysis for 0Z April 6, 2010, or 5 PM MST April 5, 2010, (source: <http://weather.uwyo.edu/upperair/sounding.html>).

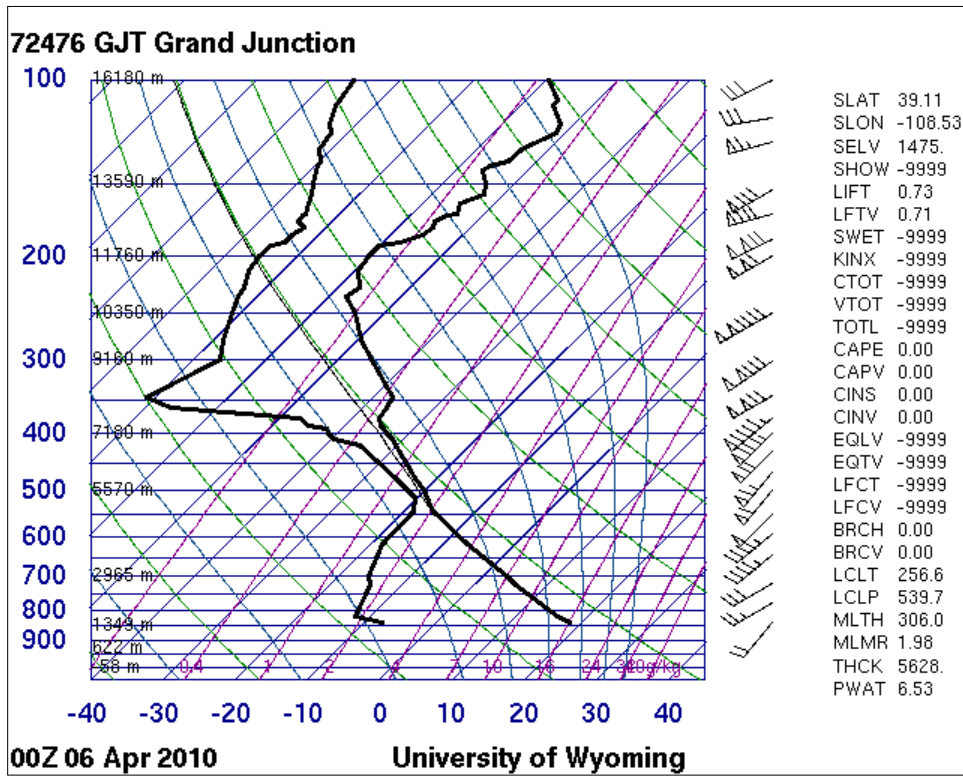


Figure 12: Grand Junction, Colorado, sounding analysis for 0Z April 6, 2010, or 5 PM MST April 5, 2010, (source: <http://weather.uwyo.edu/upperair/sounding.html>).

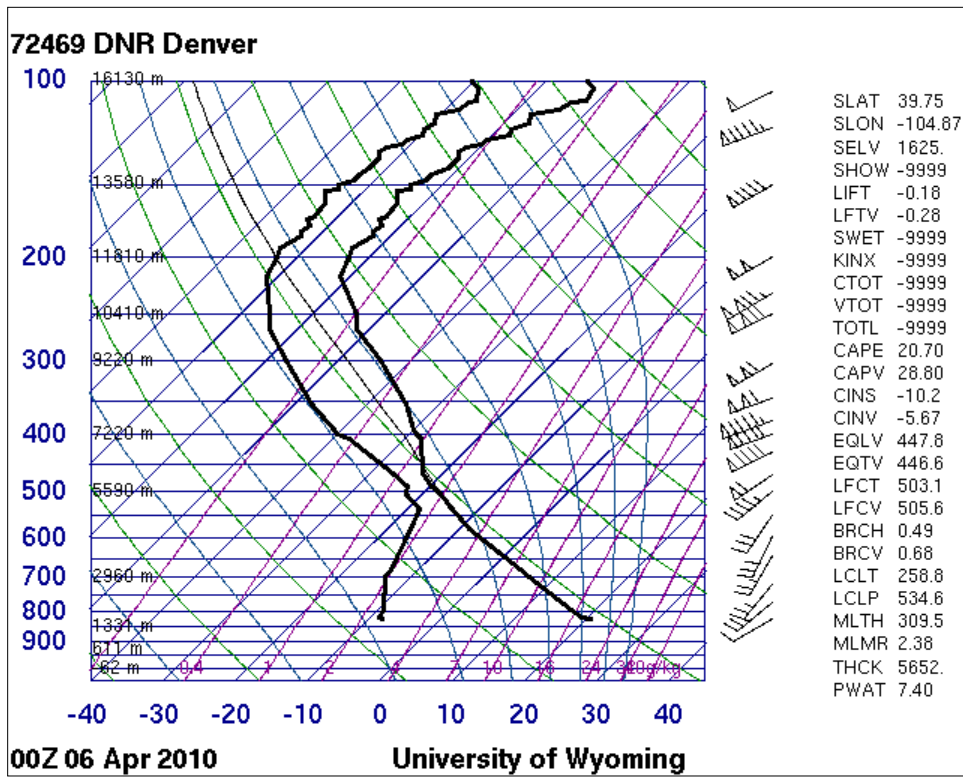


Figure 13: Denver, Colorado, sounding analysis for 0Z April 6, 2010, or 5 PM MST April 5, 2010, (source: <http://weather.uwyo.edu/upperair/sounding.html>).

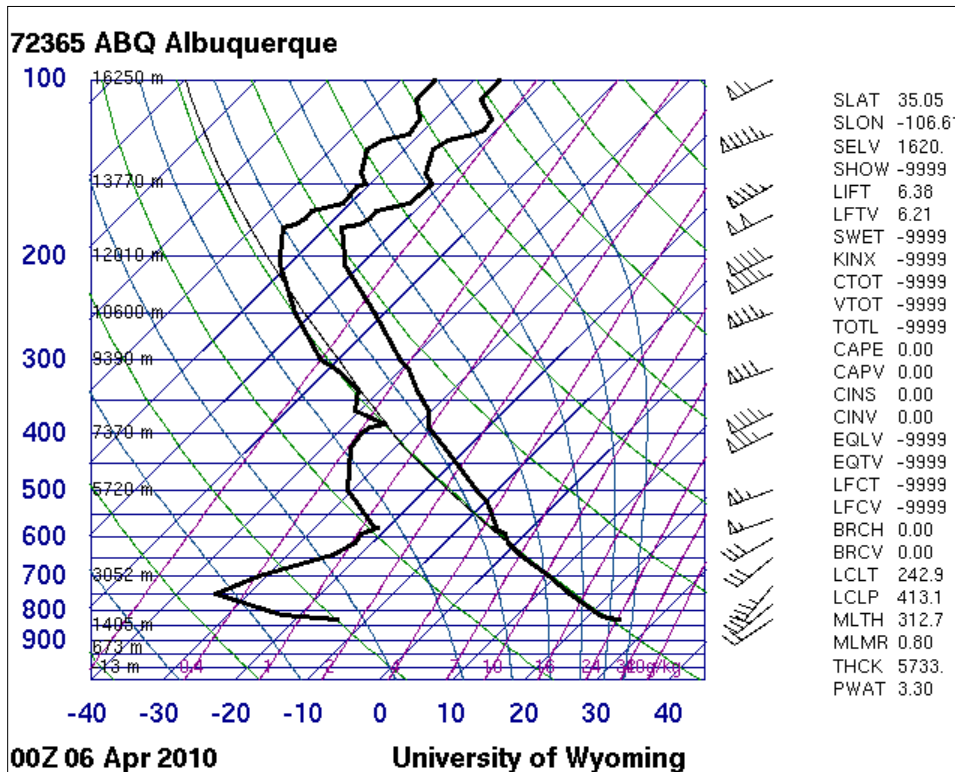


Figure 14: Albuquerque, New Mexico, sounding analysis for 0Z April 6, 2010, or 5 PM MST April 5, 2010, (source: <http://weather.uwyo.edu/upperair/sounding.html>).

Figure 15 shows surface weather observations for 5:43 PM MST on April 5. This map covers Colorado and the areas of Arizona, Utah, and New Mexico that were upwind of the region of Colorado that experienced exceedances of the PM₁₀ standard. This surface analysis shows that winds above 30 mph with gusts as high as 53 mph occurred in areas south of the stationary front and surface low pressure complex shown Figures 2-4. On the map in Figure 15, Blanding, UT, (4BL) is accompanied by a dollar sign which is the weather symbol for dust or sand raised by wind at the time of the observation. The infinity sign is the weather symbol for haze. This symbol is associated with stations across southwestern Colorado and central Colorado as far east as Colorado Springs (COS) on the western edge of the eastern plains. Haze is often reported during dust storms, and in these dry windy events, haze typically refers to blowing dust. Note that haze was reported both in the valley locations like Cortez (CEZ) and Montrose (MTJ) and on mountain passes like Wolf Creek Pass (CPW). Additional surface weather maps not included here show that there was haze reported in portions of southwest Colorado from 9:43 AM MST through 10:43 PM MST on April 5, 2010. ***Surface weather maps for the Four Corner States show evidence of widespread blowing dust and winds above the threshold speeds for blowing dust on April 5, 2010.***

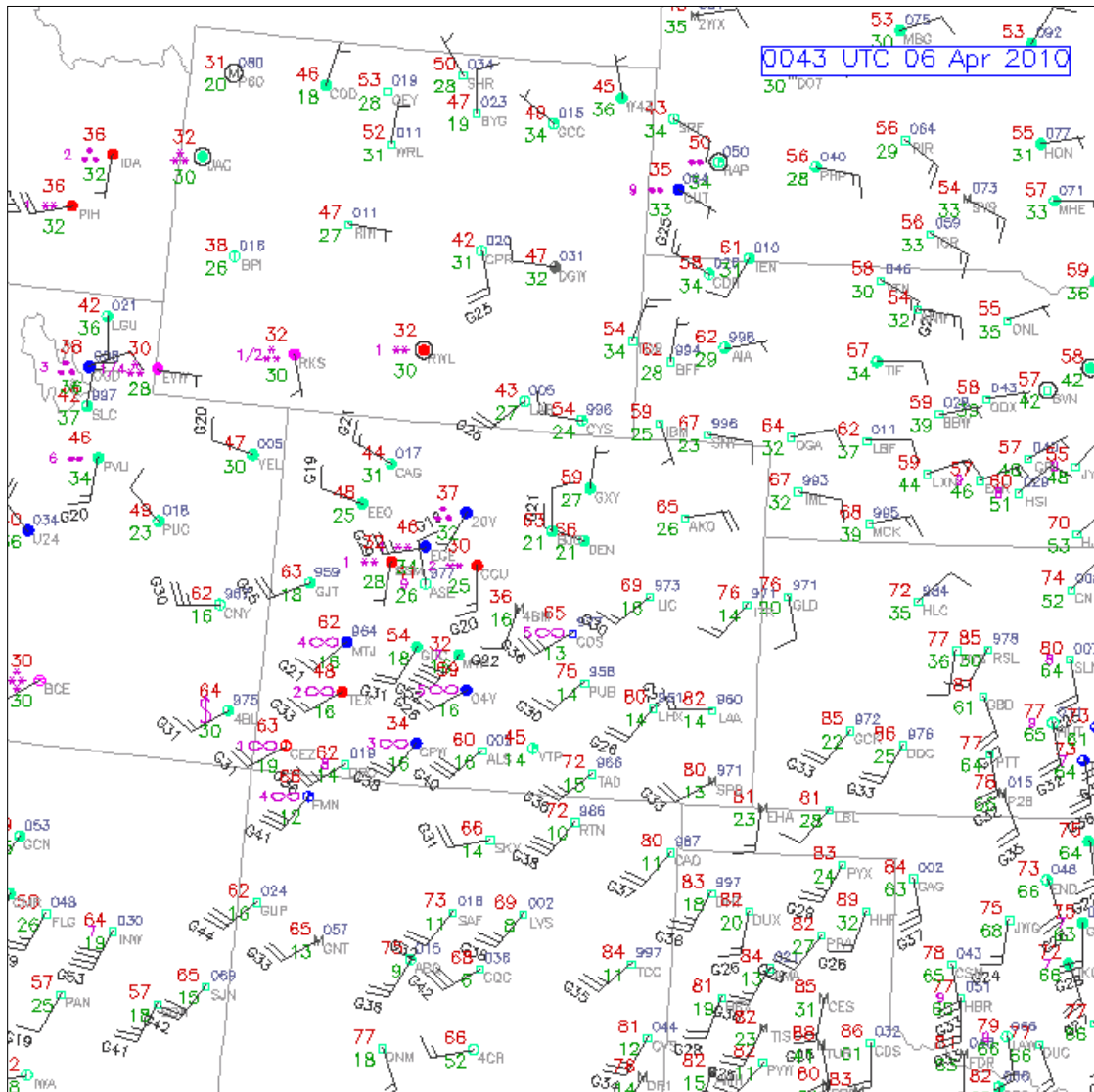


Figure 15: NCAR RAP Real-Time Weather Data website DEN sector surface analysis for 0043Z April 6, 2010, or 5:43 PM MST April 5, 2010 (source: <http://www.rap.ucar.edu/weather/>).

Tables 1 through 5 contain the surface weather observations for Winslow, Hopi, and Window Rock, Arizona, and Gallup and Farmington, New Mexico. These locations are either in or near the areas in northeastern Arizona and northwestern New Mexico that are known sources for blowing dust as described in Appendix A. At these locations wind speeds were as high as 49 mph and wind gusts were as high as 63 mph, and these are well above the blowing dust thresholds already identified. Farmington which is on the northern edge of this area recorded 6 hours with winds at or above the thresholds for blowing dust, yet it recorded 11 hours with visibility of less than 10 miles. This shows that dust became airborne in the region to the south and west of Farmington and was transported over Farmington as haze. This haze was then transported into Colorado.

Tables 6 through 10 list observations for Cortez, Durango, Montrose, Alamosa, and Colorado Springs, respectively. These are the National Weather Service sites in Colorado south of the stationary front in Figure 2, Figure 3, and Figure 4. These sites also experienced many hours of reduced visibility and wind speeds and gusts at or above the thresholds for blowing dust. The presence of visibility reductions at many of these sites during hours with speeds below these thresholds is indicative of a regional blowing dust event with transport from long distances.

Table 1: Wind and weather observations for Winslow, Arizona, reported by the University of Utah MesoWest site (<http://www.met.utah.edu/mesowest/>) for April 5, 2010.

Speeds at or above the blowing dust thresholds and weather and visibility (caused by or reduced by dust) have been highlighted in yellow.

Time MDT April 5	Temperature Degrees F	Relative Humidity in %	Wind Speed in mph	Wind Gust in mph	Wind Direction in Degrees	Weather	Visibility in miles
23:56	47	53	8		260	mostly clear	10
22:56	49	46	7		240	clear	10
21:56	50	46	7			clear	10
20:56	51	41	6	17		clear	10
19:56	54	32	22	36	220	clear	10
18:56	57	27	36	49	230	clear	10
17:56	61	20	43	59	210	clear	9
16:56	64	18	46	61	210	clear	7
16:11	66	16	47	59	210	haze	5
15:56	66	16	49	63	210	haze	2
15:48	66	15	49	62	220	haze	2.5
14:56	69	12	44	59	210	haze	6
13:56	70	14	41	53	200	clear	7
12:56	69	15	38	54	210	clear	7
11:56	68	16	38	55	210	lt rain	9
10:56	67	16	36	43	210	lt rain	10
9:56	66	16	29	46	190	lt rain	10
8:56	61	20	22	30	180	clear	10
7:56	56	26	18	26	180	clear	10
6:56	52	33	14		180	clear	10
5:56	49	42	13		180	clear	10
4:56	52	41	12		210	clear	10
3:56	53	38	14		190	clear	10
2:56	54	35	14		180	clear	10
1:56	54	32	17		170	clear	10
0:56	56	29	17	24	180	clear	10

Table 2: Wind and weather observations for Hopi, Arizona, reported by the University of Utah MesoWest site (<http://www.met.utah.edu/mesowest/>) for April 5, 2010.

Speeds at or above the blowing dust thresholds and weather and visibility (caused by or reduced by dust) have been highlighted in yellow.

Time MDT April 5	Temperature Degrees F	Relative Humidity in %	Wind Speed in mph	Wind Gust in mph	Wind Direction in Degrees	Weather	Visibility in miles
23:13	41	67	21	28	320		
22:13	46	51	10	16	261		
21:13	47	48	11	28	228		
20:13	50	40	20	32	227		
19:13	52	32	26	42	233		
18:13	57	23	30	46	232		
17:13	60	19	35	47	230		
16:13	63	17	30	49	224		
15:13	64	19	32	45	225		
14:13	64	18	33	46	215		
13:13	64	17	33	46	230		
12:13	63	17	30	42	223		
11:13	60	22	30	45	212		
10:13	59	21	28	37	213		
9:13	55	27	30	38	204		
8:13	53	32	29	36	200		
7:13	49	41	17	23	195		
6:13	43	49	13	21	187		
5:13	46	39	13	29	184		
4:13	50	41	22	29	207		
3:13	47	42	16	24	206		
2:13	47	40	21	25	204		
1:13	49	37	19	25	203		
0:13	48	36	12	27	200		

Table 3: Wind and weather observations for Window Rock, Arizona, reported by the University of Utah MesoWest site (<http://www.met.utah.edu/mesowest/>) for April 5, 2010.

Speeds at or above the blowing dust thresholds and weather and visibility reduced by dust) have been highlighted in yellow.

Time MDT April 5	Temperature Degrees F	Relative Humidity in %	Wind Speed in mph	Wind Gust in mph	Wind Direction in Degrees	Weather	Visibility in miles
23:53	43	43	15	28	250	clear	10
22:53	45	35	17	22	250	clear	10
21:53	48	30	26	38	230	clear	10
20:53	50	27	24	37	230	clear	10
19:53	53.1	23	28	43	230	clear	10
18:53	55.9	20	31	46	220	clear	10
17:53	60.1	17	30	52	220	clear	10
16:53	62.1	16	37	52	220	clear	10
15:53	64	15	28	54	220	clear	10
14:53	64	15	35	55	220	clear	10
13:53	63	15	35	52	220	clear	10
12:53	61	16	32	47	220	clear	10
11:53	59	19	33	46	210	clear	10
10:53	55.9	23	24	41	210	clear	10
9:53	52	27	23	35	220	clear	10
8:53	48.9	36	21	29	220	clear	10
7:53	45	43	10	20	210	clear	10
6:53	43	45	9		200	clear	10
5:53	43	45	6		230	clear	10
4:53	41	48	3		200	clear	10
3:53	41	46	6		90	clear	10
2:53	39.9	46	7		120	clear	10
1:53	39.9	44	6		110	clear	10
0:53	42.1	37	3		150	clear	10

Table 4: Wind and weather observations for Gallup, New Mexico, reported by the University of Utah MesoWest site (<http://www.met.utah.edu/mesowest/>) for April 5, 2010.

Speeds at or above the blowing dust thresholds and weather and visibility (caused by or reduced by dust) have been highlighted in yellow.

Time MDT April 5	Temperature Degrees F	Relative Humidity in %	Wind Speed in mph	Wind Gust in mph	Wind Direction in Degrees	Weather	Visibility in miles
23:53	46	35	22	26	250	clear	10
22:53	48	34	20	30	230	clear	10
21:53	50	30	22	38	230	clear	10
20:53	53	24	29	40	230	clear	10
19:53	55	20	30	44	220	clear	10
18:53	57	18	37	54	220	clear	10
17:53	62	16	37	51	230	clear	10
16:53	64	15	39	53	210	clear	10
15:53	65	14	35	52	230	clear	10
14:53	66	14	36	54	230	clear	10
13:53	66	14	36	48	240	clear	10
12:53	63	17	30	51	220	clear	10
11:53	62	17	32	45	220	clear	10
10:53	59	24	24	40	210	clear	10
9:53	54	28	29	36	230	clear	10
8:53	51	39	26	31	230	clear	10
7:53	46	43	10		210	clear	10
6:53	40	48	8		190	clear	10
5:53	37	52	0			clear	10
4:53	42	43	8		180	clear	10
3:53	41	44	8		180	clear	10
2:53	39	46	8		180	clear	10
1:53	41	41	8		170	clear	10
0:53	45	36	8		180	clear	10

Table 5: Wind and weather observations for Farmington, New Mexico, reported by the University of Utah MesoWest site (<http://www.met.utah.edu/mesowest/>) for April 5, 2010.

Speeds at or above the blowing dust thresholds and weather and visibility (caused by or reduced by dust) have been highlighted in yellow.

Time MDT April 5	Temperature Degrees F	Relative Humidity in %	Wind Speed in mph	Wind Gust in mph	Wind Direction in Degrees	Weather	Visibility in miles
23:53	50	36	20	30	250	clear	10
23:03	54	26	26	37	250	partly cloudy	9
22:53	54	25	25	38	250	haze	6
22:44	54	24	22	33	260	haze	5
22:16	55	21	35	44	240	haze	4
21:53	57	20	26	43	260	haze	5
21:51	57	21	28	35	260	haze	6
20:53	58	18	20		240	clear	9
19:53	61	14	32	45	250	haze	6
19:49	61	15	28	38	250	haze	6
19:12	64	13	22	35	240	haze	4
18:53	65	12	28	43	230	haze	5
18:16	66	12	37	47	220	haze	4
17:53	68	11	32	46	230	mostly clear	7
16:53	71	10	36	46	230	haze	6
15:53	72	10	31	45	220	clear	8
14:53	71	12	25	36	210	clear	10
13:53	66	13	23	35	220	clear	8
12:53	63	13	22	26	220	clear	8
11:53	61	18	24	30	210	haze	6
10:53	59	22	10	22	180	clear	10
9:53	58	23	16		200	clear	10
8:53	55	29	15		180	clear	10
7:53	52	32	6		150	clear	10
6:53	45	40	6		100	clear	10
5:53	43	39	7		20	clear	10
4:53	46	34	10		90	clear	10
3:53	46	32	10		100	clear	10
2:53	46	30	7		100	clear	10
1:53	53	23	5		160	clear	10
0:53	53	22	7		170	clear	10

Table 6: Wind and weather observations for Cortez, Colorado, reported by the University of Utah MesoWest site (<http://www.met.utah.edu/mesowest/>) for April 5, 2010.

Speeds at or above the blowing dust thresholds and weather and visibility (caused by or reduced by dust) have been highlighted in yellow.

Time MDT April 5	Temperature Degrees F	Relative Humidity in %	Wind Speed in mph	Wind Gust in mph	Wind Direction in Degrees	Weather	Visibility in miles
23:53	38	82	22	33	290	lt rain	10
23:27	43	76	25	38	280	lt rain	10
22:53	50	37	28	37	230	mostly clear	10
21:53	53	32	25	33	250	clear	10
20:53	56	23	25	37	220	haze	4
19:53	58	21	33	48	220	haze	3
19:50	57	21	32	48	220	haze	3
19:08	61	18	22	41	230	haze	2
18:53	61	19	28	40	230	haze	1.75
18:09	63	19	22	36	240	haze	1.75
17:53	63	17	25	40	240	haze	2
17:33	63	17	21	37	240	haze	1.75
17:01	64	16	35	46	230	haze	2.5
16:53	64	17	31	43	220	haze	3
15:53	67	15	33	43	220	haze	5
14:53	64	15	23	39	230	clear	8
13:53	63	19	26	36	200	clear	10
12:53	63	20	29	39	190	clear	10
11:53	59	26	16	30	170	clear	10
10:53	56	29	17	37	190	clear	10
9:53	53	31	22	32	170	clear	10
8:53	53	31	25	36	190	clear	10
7:53	51	33	21	28	190	clear	10
6:53	51	33	20	26	200	clear	10
5:53	49	36	13		220	clear	10
4:53	51	32	14		220	mostly clear	10
3:53	50	30	16	20	220	clear	10
2:53	50	30	14		220	clear	10
1:53	48	32	8		240	clear	10
0:53	52	28	15	24	200	clear	10

Table 7: Wind and weather observations for Durango, Colorado, reported by the University of Utah MesoWest site (<http://www.met.utah.edu/mesowest/>) for April 5, 2010.

Speeds at or above the blowing dust thresholds and weather and visibility (caused by or reduced by dust) have been highlighted in yellow.

Time MDT April 5	Temperature Degrees F	Relative Humidity in %	Wind Speed in mph	Wind Gust in mph	Wind Direction in Degrees	Weather	Visibility in miles
23:53	46	38	24	40	240	clear	10
22:53	49	29	26	40	230	haze	4
22:39	50	27	25	36	240	haze	3
22:13	52	24	29	39	240	haze	3
21:53	52	24	25	43	240	haze	2.5
21:17	52	24	18	32	240	haze	2.5
21:01	54	22	23	31	250	haze	4
20:53	53	22	22	35	240	haze	5
19:53	56	18	30	43	240	clear	8
18:53	59	17	30	39	250	clear	7
17:53	62	15	28	41	240	clear	8
16:53	63	15	30	39	210	clear	9
15:53	62	18	20	35	240	clear	9
14:53	60	18	24	38	200	clear	7
13:53	58	21	15	26	210	haze	5
12:53	54	24	15	25	180	clear	7
11:53	53	28	15	25	200	clear	10
10:53	50	36	0			clear	10
9:53	46	43	5		50	clear	10
8:53	42	46	8		70	clear	10
7:53	36	62	5			clear	10
6:53	34	64	0			clear	10
5:53	35	58	3		30	clear	10
4:53	36	56	3		10	clear	10
3:53	37	52	0			clear	10
2:53	36	54	3		130	clear	10
1:53	43	39	5		350	clear	10
0:53	44	38	5		340	clear	10

Table 8: Wind and weather observations for Montrose, Colorado, reported by the University of Utah MesoWest site (<http://www.met.utah.edu/mesowest/>) for April 5, 2010.

Speeds at or above the blowing dust thresholds and weather and visibility (caused by or reduced by dust) have been highlighted in yellow.

Time MDT April 5	Temperature Degrees F	Relative Humidity in %	Wind Speed in mph	Wind Gust in mph	Wind Direction in Degrees	Weather	Visibility in miles
23:53	44	67	15	28	220	lt rain	10
23:50	45	66	21	31	210	lt rain	10
22:53	50	41	7		260	mostly cloudy	10
22:03	54	28	29	45	220	squalls	10
21:53	52	35	12	26	190	mostly cloudy	10
20:53	57	25	25	47	240	mostly cloudy	7
20:28	57	23	44	61	240	haze; squalls	5
19:53	59	23	40	53	200	haze	4
19:51	61	20	35	51	200	haze	4
19:23	61	20	26	44	240	haze	3
19:05	61	20	38	54	240	haze	2.5
18:53	60	21	26	38	240	haze	3
17:53	62	16	15	24	230	haze	4
17:27	63	16	28	35	210	haze	3
16:53	63	15	32	45	210	haze	4
15:53	62	19	30	49	210	haze	6
14:53	62	19	32	41	210	clear	10
13:53	62	20	25	43	230	clear	10
12:53	60	22	29	38	210	clear	10
11:53	58	23	26	41	220	clear	10
10:53	56	24	26	41	210	clear	10
9:53	55	26	18	36	220	clear	10
8:53	53	29	14	23	220	clear	10
7:53	52	32	17	26	200	clear	10
6:53	51	30	6	20	220	clear	10
5:53	51	28	20	35	200	clear	10
4:53	51	28	17	28	200	clear	10
3:53	51	29	6			clear	10
2:53	52	28	12	18	200	clear	10
1:53	54	25	23	31	210	clear	10
0:53	55	23	26	39	210	clear	10

Table 9: Wind and weather observations for Alamosa, Colorado, reported by the University of Utah MesoWest site (<http://www.met.utah.edu/mesowest/>) for April 5, 2010.

Speeds at or above the blowing dust thresholds and weather and visibility (caused by or reduced by dust) have been highlighted in yellow.

Time MDT April 5	Temperature Degrees F	Relative Humidity in %	Wind Speed in mph	Wind Gust in mph	Wind Direction in Degrees	Weather	Visibility in miles
23:52	46	31	35	49	220	clear	10
22:52	48	27	36	45	220	clear	10
21:52	51	24	37	51	230	clear	8
20:52	52	22	33	40	230	clear	10
19:52	53	23	26	35	220	clear	10
18:52	56	20	29	40	230	clear	10
17:52	60	18	35	46	230	clear	10
16:52	61	16	35	48	230	clear	10
15:52	62	16	33	45	220	clear	10
14:52	58	19	38	48	230	clear	10
14:43	59	18	35	49	220	clear	8
14:36	57	19	40	55	230	haze	2.5
13:52	60	18	33	60	230	haze	6
13:29	59	18	40	54	230	haze	3
13:08	57	19	39	60	230	haze	1.25
13:01	57	21	44	54	230	haze	2
12:52	58	19	44	55	220	haze	1.5
12:35	57	19	40	55	220	haze	1.25
12:19	57	19	37	53	220	haze	2
12:15	57	19	40	53	230	haze	1.75
12:04	55	22	39	48	210	haze	2.5
11:55	55	22	37	55	220	haze	1.75
11:52	56	21	39	55	220	haze	3
10:52	55	23	26	37	230	clear	10
9:52	52	28	22	45	240	partly cloudy	8
8:52	48	34	24	35	220	clear	10
8:27	48	34	23	32	210	clear	10
7:52	44	38	3			clear	10
6:52	37	46	8		80	clear	10
5:52	39	39	10	16	20	clear	10
4:52	39	41	0			clear	10
3:52	41	38	18	29	190	clear	10
2:52	43	35	28	40	200	clear	10
1:52	44	33	29	37	210	clear	10
0:52	45	32	25	32	220	clear	10

Table 10: Wind and weather observations for Colorado Springs, Colorado, reported by the University of Utah MesoWest site (<http://www.met.utah.edu/mesowest/>) for April 5, 2010.

Speeds at or above the blowing dust thresholds and weather and visibility (caused by or reduced by dust) have been highlighted in yellow.

Time MDT April 5	Temperature Degrees F	Relative Humidity in %	Wind Speed in mph	Wind Gust in mph	Wind Direction in Degrees	Weather	Visibility in miles
23:54	58	17	23	32	250	haze	6
23:42	57	18	17	26	250	haze	6
23:10	57	19	17		250	haze	6
22:54	59	17	17	28	250	haze	6
21:54	58	17	13		240	haze	6
20:54	58	17	13		240	clear	7
19:54	59	17	12		250	clear	8
18:54	63	14	15	24	240	clear	7
17:54	65	13	31	41	240	haze	5
16:54	65	13	26	37	240	haze	5
15:54	68	12	32	52	240	haze	5
14:54	69	11	32	46	230	clear	7
13:54	67	12	33	43	250	clear	10
12:54	66	13	26	39	250	clear	10
11:54	65	15	25	31	250	clear	10
10:54	62	15	24	38	240	clear	10
9:54	61	14	37	44	260	clear	10
8:54	58	16	20	32	250	clear	10
7:54	45	34	5		140	clear	8
6:54	43	38	5		190	clear	10
5:54	40	43	6		150	clear	10
4:54	35	54	6		80	clear	10
3:54	36	50	8		80	clear	10
2:54	44	38	10		120	clear	10
1:54	46	34	0			clear	10
0:54	48	29	12		130	clear	10

The Grand Junction, Pueblo, Flagstaff, and Albuquerque NWS Forecast Offices issue weather warnings and advisories for northeast Arizona, most of New Mexico, eastern Utah, and western and southeastern Colorado. The weather warnings and advisories issued by these offices for April 5, 2010, are in Appendix B. These warnings and advisories show that strong winds and areas of blowing dust were expected and experienced across this region on April 5, 2010.

Figure 16 shows the NOAA HYSPLIT 24-hour Forward Matrix Trajectories (Draxler and Rolph, 2012) for northeast Arizona and northwest New Mexico starting at 11 PM MST April 4, 2010 (see the following link for more information on HYSPLIT: <http://ready.arl.noaa.gov/HYSPLIT.php>). This analysis shows transport of air over this region into Colorado on April 5. HYSPLIT 24-hour Back Trajectories for April 5, 2010, are presented in Figure 17, Figure 18, Figure 19, Figure 20, Figure 21, and Figure 22 for Durango, Pagosa Springs, Alamosa, Telluride, Delta, and Crested Butte, respectively. These also show that Arizona

and northwest New Mexico were source regions for air transported into Colorado on April 5. ***HYSPLIT forward and backward trajectories provide clear supporting evidence that dust from desert regions of northwest New Mexico and Arizona caused the PM₁₀ exceedances measured across portions of Colorado on April 5, 2010.***

Figure 23 shows the output for blowing dust from the Navy Aerosol Analysis and Prediction System (NAAPS) Global Aerosol Model for April 5, 2010. The NAAPS system models blowing dust emissions and transport based on soil moisture content, soil erodibility factors, and a variety of meteorological factors known to be conducive to blowing dust (for a description of NAAPS see: http://www.nrlmry.navy.mil/aerosol_web/Docs/globaer_model.html).

The 18Z or 11 AM MST April 5, 2010, forecast panel in the upper right of Figure 23 shows blowing dust generation over northeast Arizona, portions of southern Utah, and northwest New Mexico. This area of dust increases in size and moves into Colorado in the 0Z (5 PM) and 6Z (11 PM) panels in the lower half of the figure. Although, the NAAPS forecast products can over predict dust PM₁₀, they do provide an independent calculation of the potential for blowing dust and the spatial extent of blowing dust for this event. ***Forecast products from the Navy Aerosol Analysis and Prediction System model provide evidence for a widespread blowing dust event in the Four Corners states, beginning in Arizona and expanding into Colorado.***

NOAA HYSPLIT MODEL
 Forward trajectories starting at 0600 UTC 05 Apr 10
 EDAS Meteorological Data

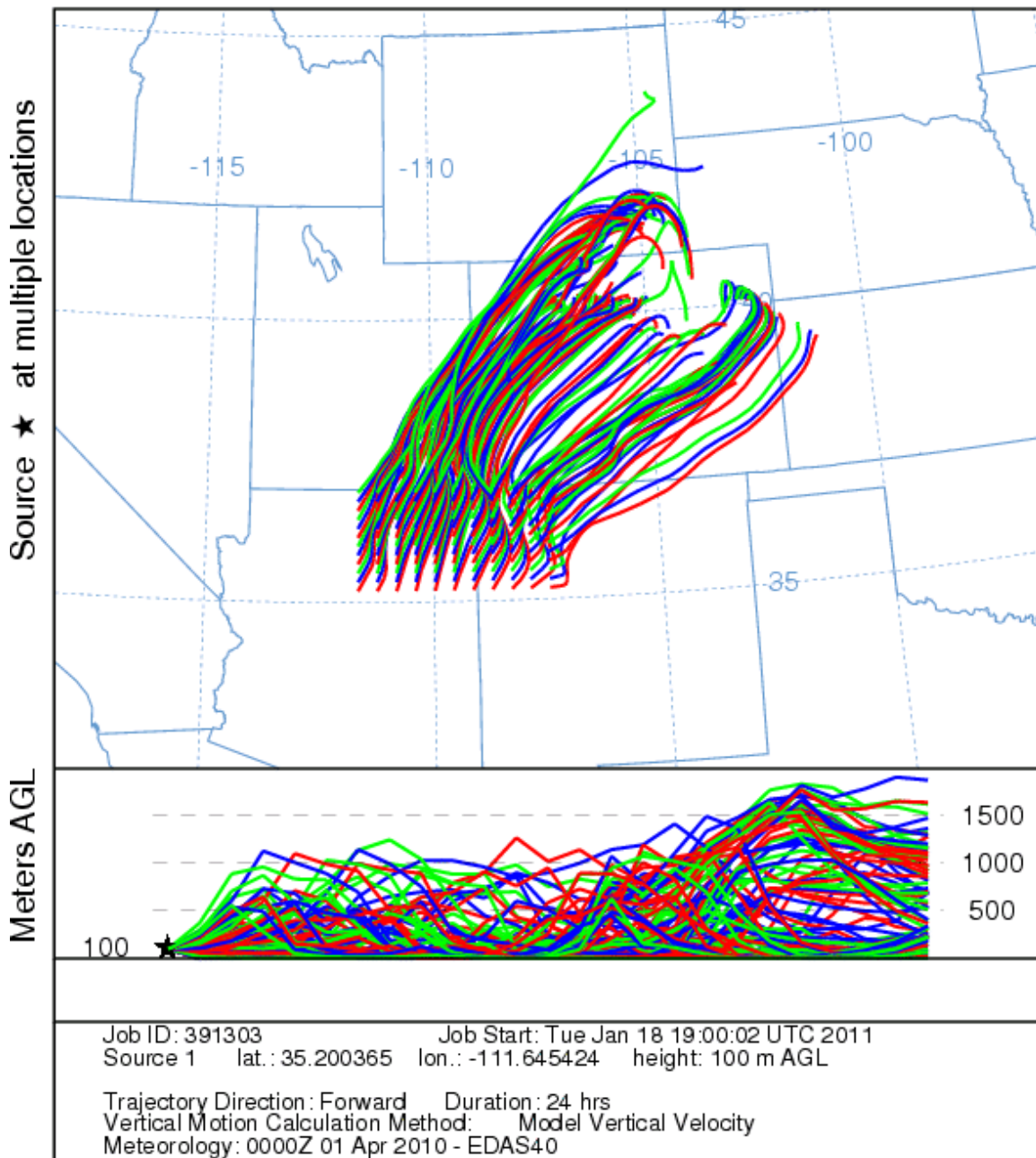


Figure 16: NOAA HYSPLIT 24-hour forward trajectories for northeast Arizona and northwest New Mexico for each hour from 11 PM MST April 4, 2010, to 11 PM MST April 5, 2010, (source: NOAA Air Resources Laboratory at: <http://ready.arl.noaa.gov/HYSPLIT.php>).

NOAA HYSPLIT MODEL
 Backward trajectories ending at 0600 UTC 06 Apr 10
 EDAS Meteorological Data

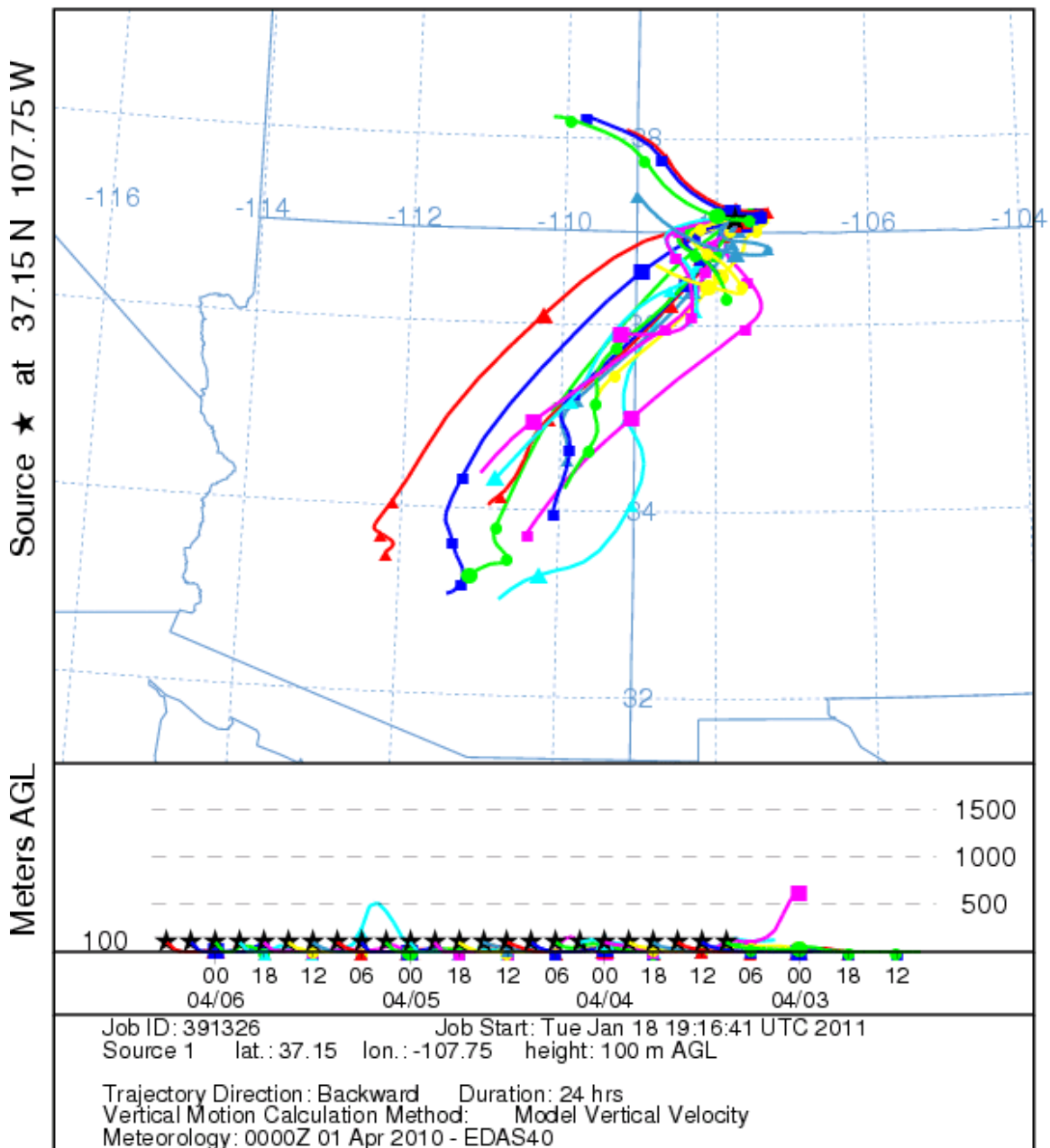


Figure 17: NOAA HYSPLIT 24-hour back trajectories for Durango, Colorado, for each hour from 11 PM MST April 4, 2010, to 11 PM MST April 5, 2010, (source: NOAA Air Resources Laboratory at: <http://ready.arl.noaa.gov/HYSPLIT.php>).

NOAA HYSPLIT MODEL
 Backward trajectories ending at 0600 UTC 06 Apr 10
 EDAS Meteorological Data

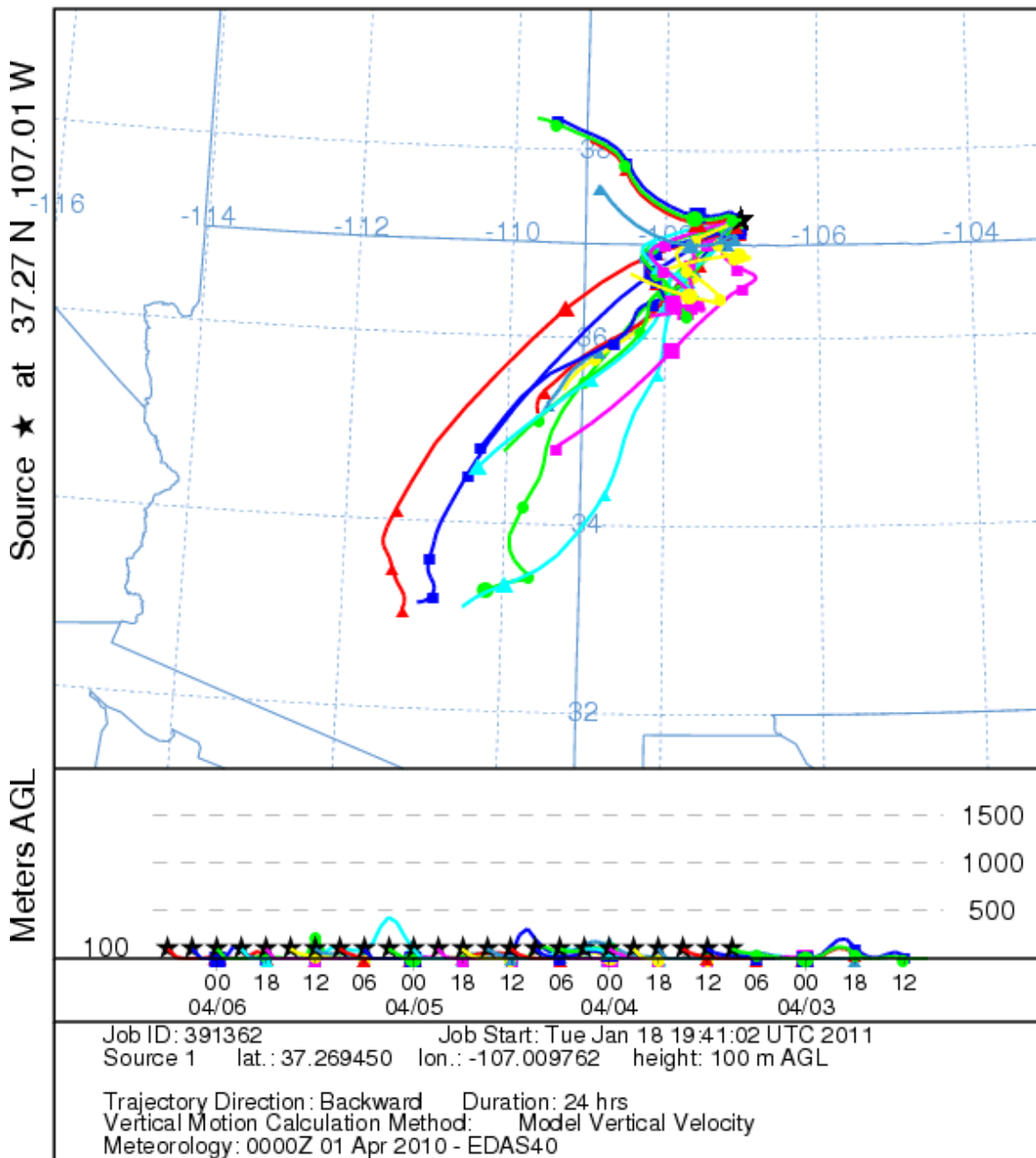


Figure 18: NOAA HYSPLIT 24-hour back trajectories for Pagosa Springs, Colorado, for each hour from 11 PM MST April 4, 2010, to 11 PM MST April 5, 2010, (source: NOAA Air Resources Laboratory at: <http://ready.arl.noaa.gov/HYSPLIT.php>).

NOAA HYSPLIT MODEL
 Backward trajectories ending at 0600 UTC 06 Apr 10
 EDAS Meteorological Data

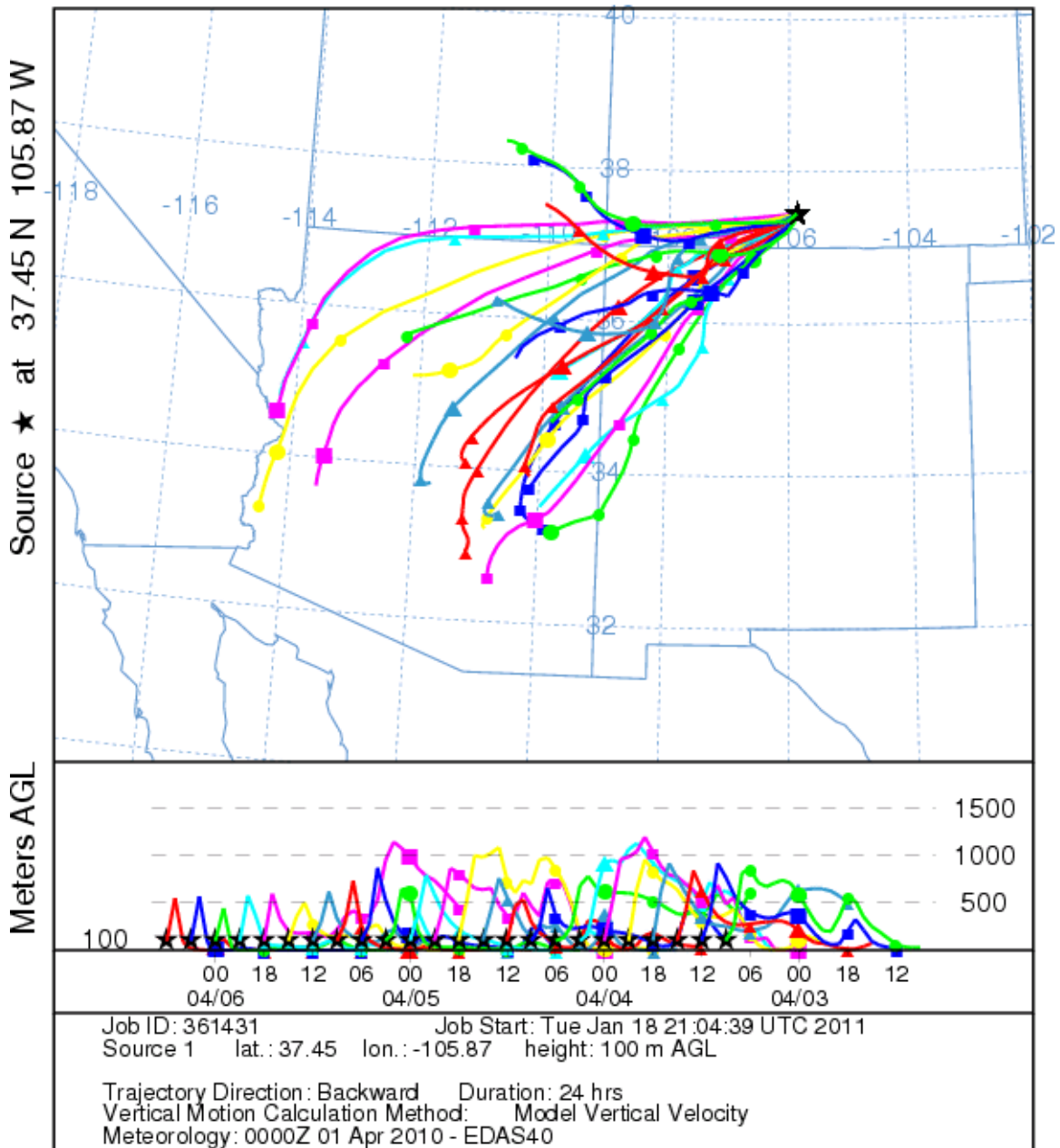


Figure 19: NOAA HYSPLIT 24-hour back trajectories for Alamosa, Colorado, for each hour from 11 PM MST April 4, 2010, to 11 PM MST April 5, 2010, (source: NOAA Air Resources Laboratory at: <http://ready.arl.noaa.gov/HYSPLIT.php>).

NOAA HYSPLIT MODEL
 Backward trajectories ending at 0600 UTC 06 Apr 10
 EDAS Meteorological Data

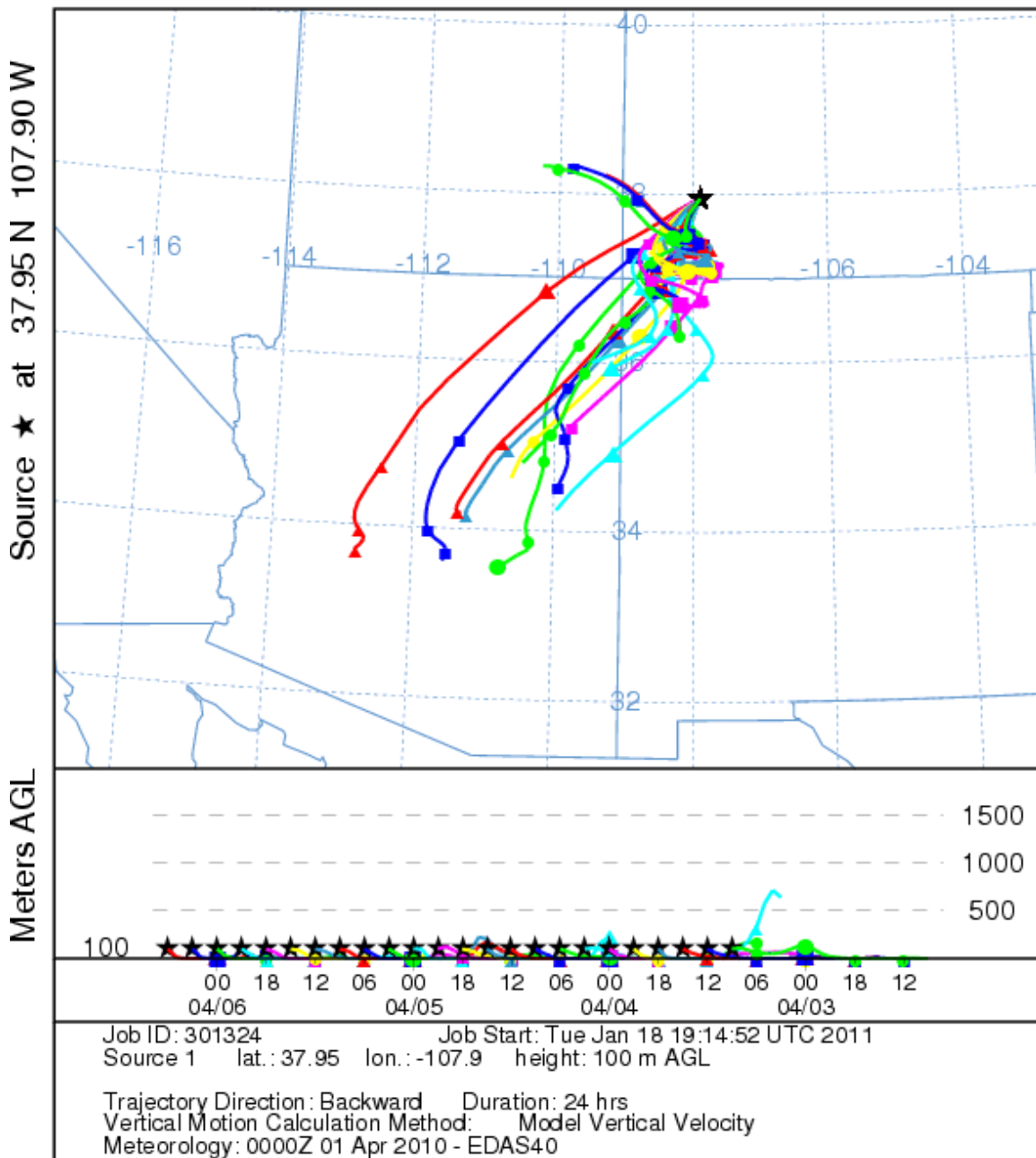


Figure 20: NOAA HYSPLIT 24-hour back trajectories for Telluride, Colorado, for each hour from 11 PM MST April 4, 2010, to 11 PM MST April 5, 2010, (source: NOAA Air Resources Laboratory at: <http://ready.arl.noaa.gov/HYSPLIT.php>).

NOAA HYSPLIT MODEL
 Backward trajectories ending at 0600 UTC 06 Apr 10
 EDAS Meteorological Data

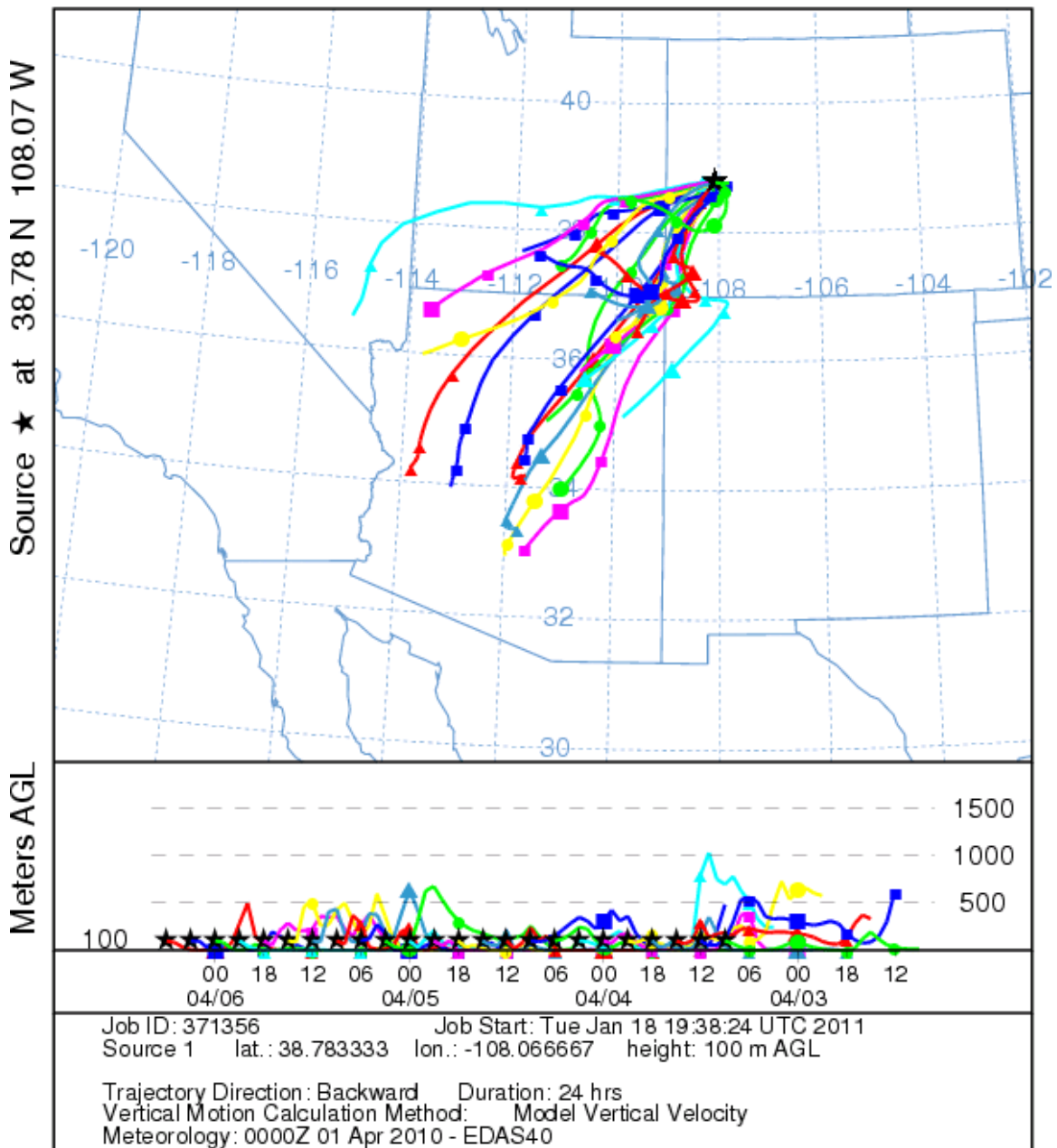


Figure 21: NOAA HYSPLIT 24-hour back trajectories for Delta, Colorado, for each hour from 11 PM MST April 4, 2010, to 11 PM MST April 5, 2010, (source: NOAA Air Resources Laboratory at: <http://ready.arl.noaa.gov/HYSPLIT.php>).

NOAA HYSPLIT MODEL
 Backward trajectories ending at 0600 UTC 06 Apr 10
 EDAS Meteorological Data

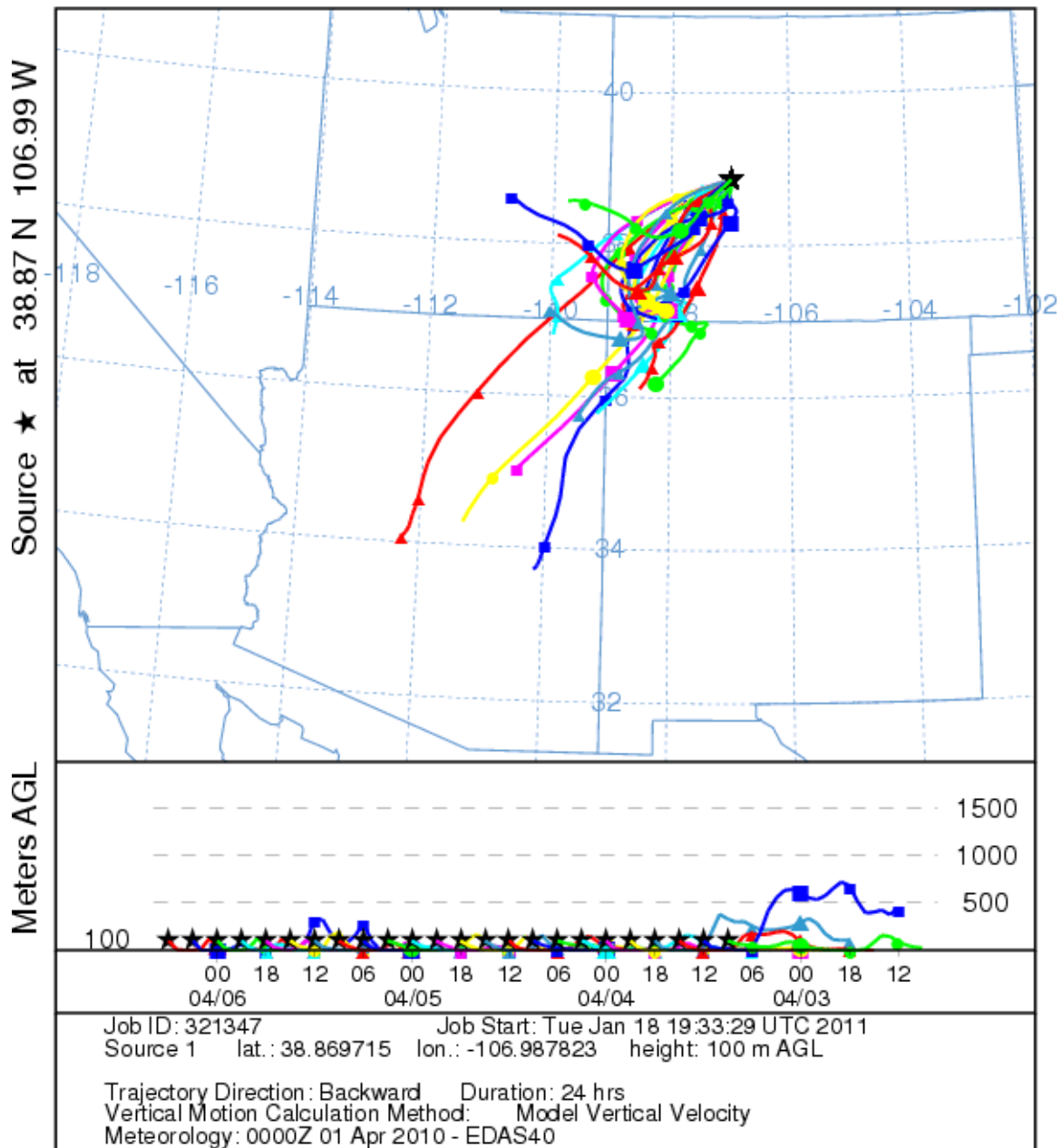


Figure 22: NOAA HYSPLIT 24-hour back trajectories for Crested Butte, Colorado, for each hour from 11 PM MST April 4, 2010, to 11 PM MST April 5, 2010, (source: NOAA Air Resources Laboratory at: <http://ready.arl.noaa.gov/HYSPLIT.php>).

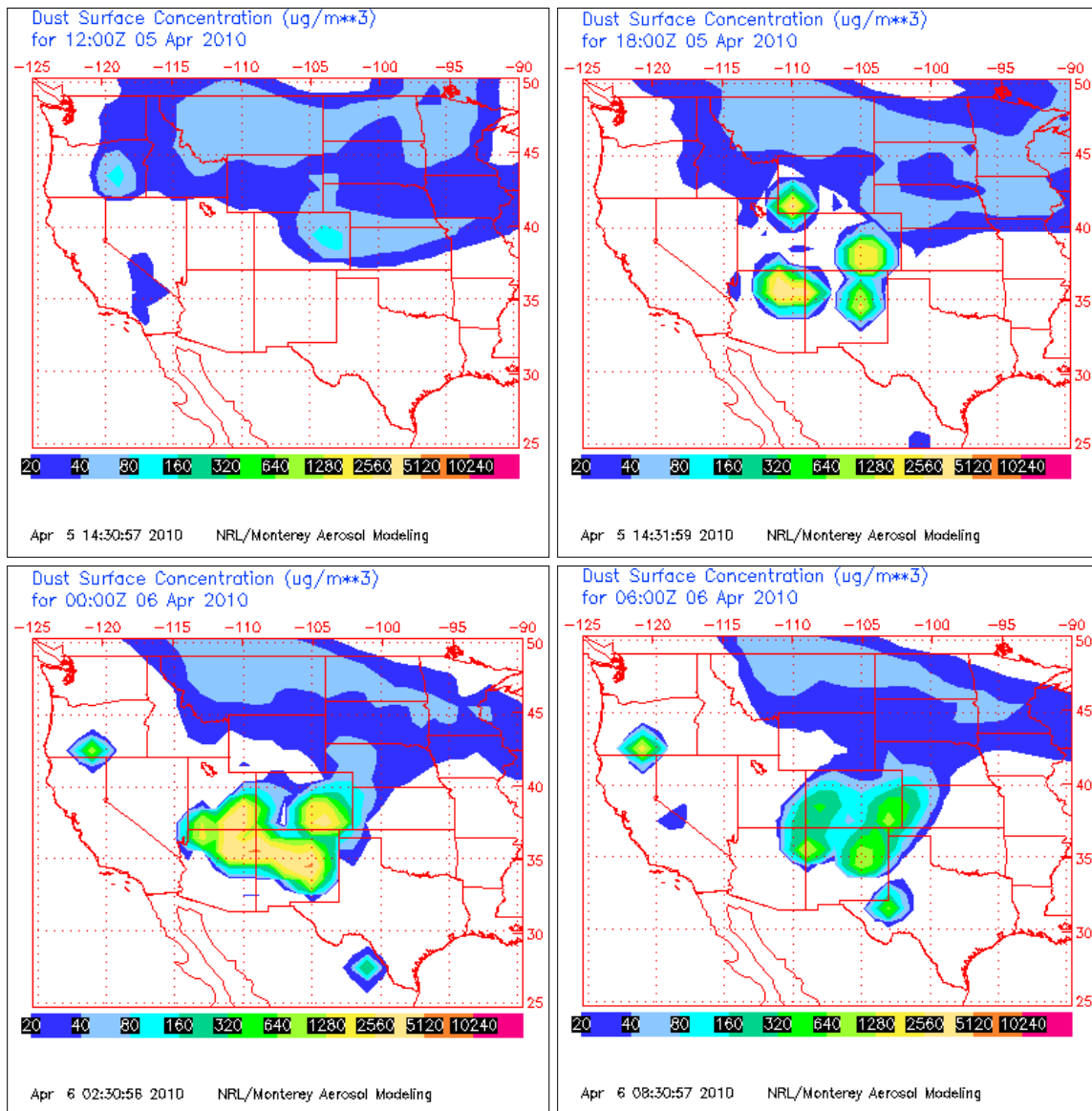


Figure 23: NAAPS forecasted dust concentrations for April 5, 2010, (source: http://www.nrlmry.navy.mil/flambebin/aerosol/display_directory_aer2?DIR=/web/aerosol/public_html/globaer/ops_01/wus/).

The winter snow pack in the mountainous areas of Colorado is often near its seasonal peak in April, and it covers and moistens the soil, greatly reducing the potential for windblown dust from local sources. Figure 24 shows the snow depth analysis for the southern Colorado for April 5, 2010, at 5:00 AM MST. The snow depth analysis shows that the mountains and many of the valleys in the area of Colorado that experienced PM_{10} exceedances had 8 to 100 inches of snow cover. Figure 25 presents the snow cover measurements at the Telluride Ski Resort station located at 12,224 ft MSL and above the town of Telluride. Figure 26 provides the snow cover at Vallecito located in the mountains about 10 miles northeast of Durango. More than 70 plus inches of snow covered the ground at the Telluride Ski Resort with more than 50 inches at Vallecito. Figure 27 and Figure 28 contain the snow cover statistics at two other mountain valley locations in the mountains of southwestern Colorado. Figure 27 is for Ouray where the snow cover melted during the day of April 5, 2010. Figure 28 is for the COOP station in Crested Butte, Colorado. It had 20 plus inches of snow. Crested Butte recorded an exceedance of the PM_{10} standard with a concentration of 174 $\mu\text{g}/\text{m}^3$. The Mount Crested Butte monitor is located about 500 ft above the Crested Butte COOP station, and it is in the same general area. Because of this added elevation, it would have been likely to have had even deeper snow. It exceeded the PM_{10} standard with a concentration of 168 $\mu\text{g}/\text{m}^3$.

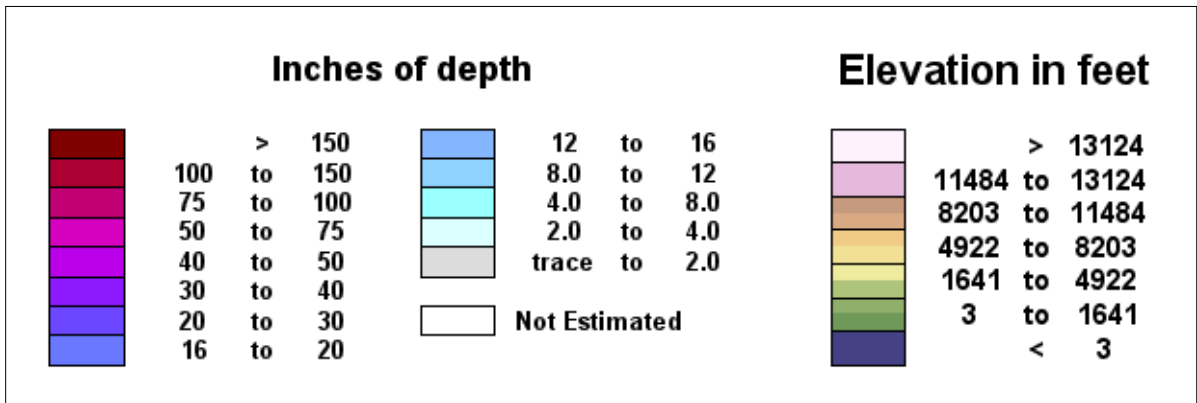
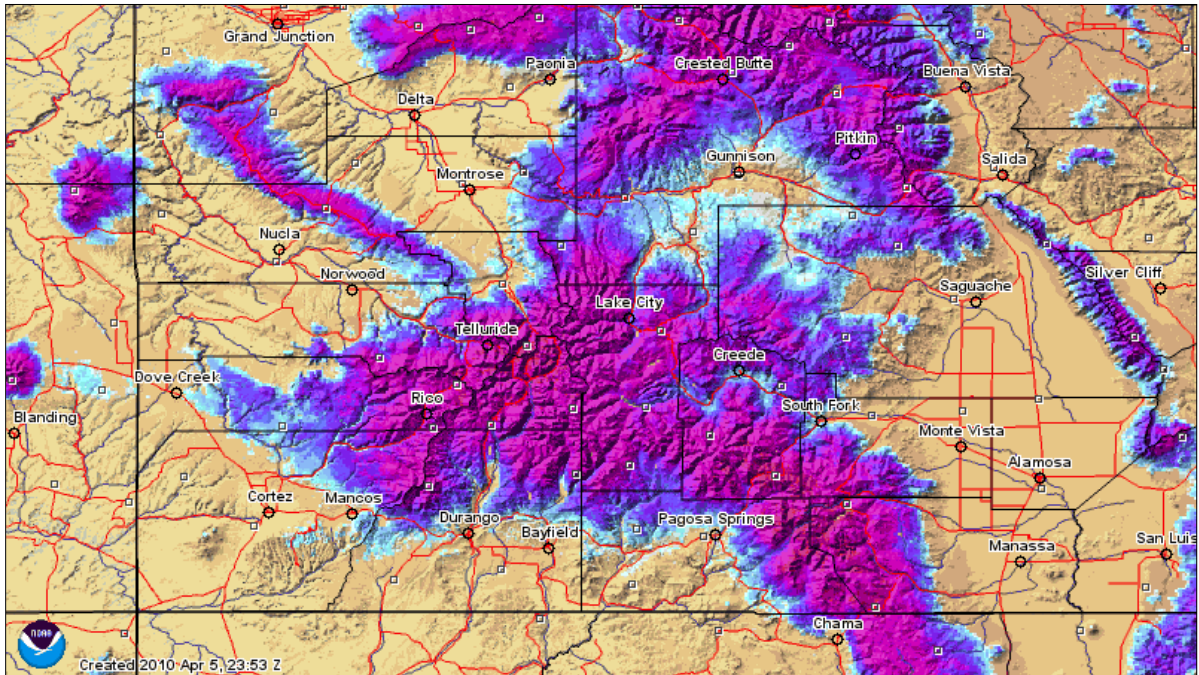


Figure 24: Southern Colorado Snow Depth on April 5, 2010, (source: <http://www.nohrsc.noaa.gov/interactive/html/map.html>).

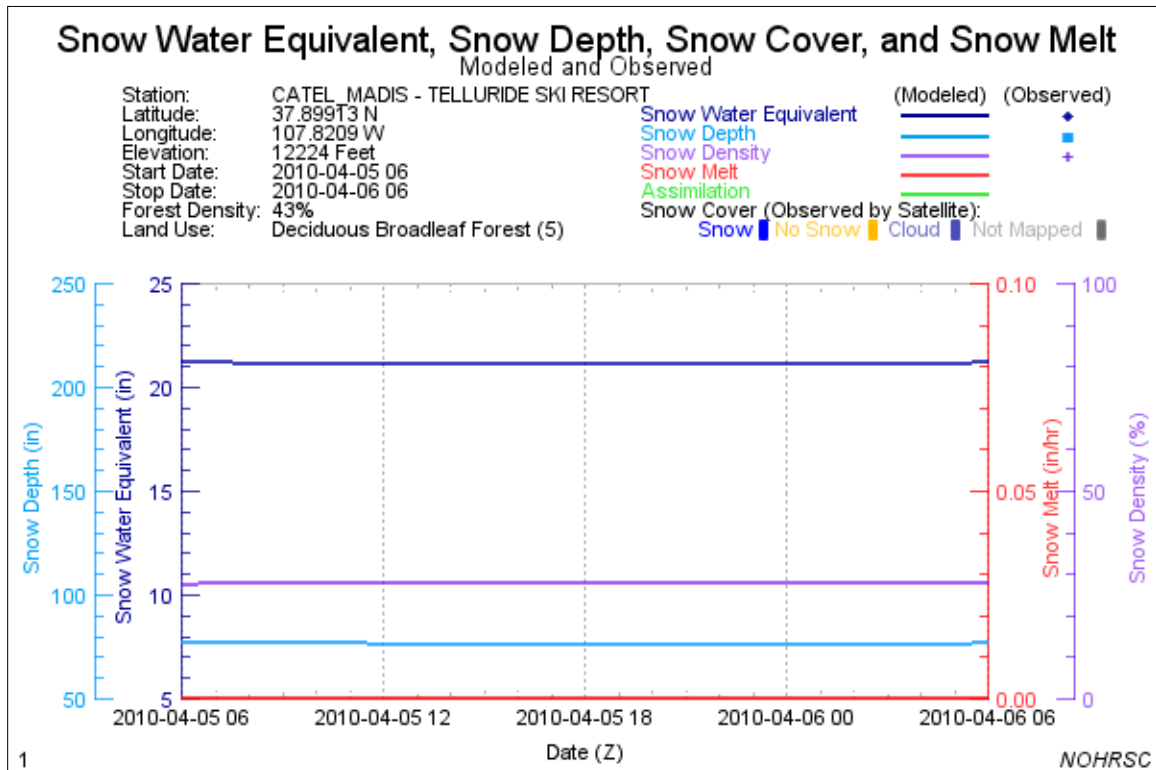


Figure 25: Southern Colorado Snow Depth on April 5, 2010, (source: <http://www.nohrsc.noaa.gov/interactive/html/map.html>).

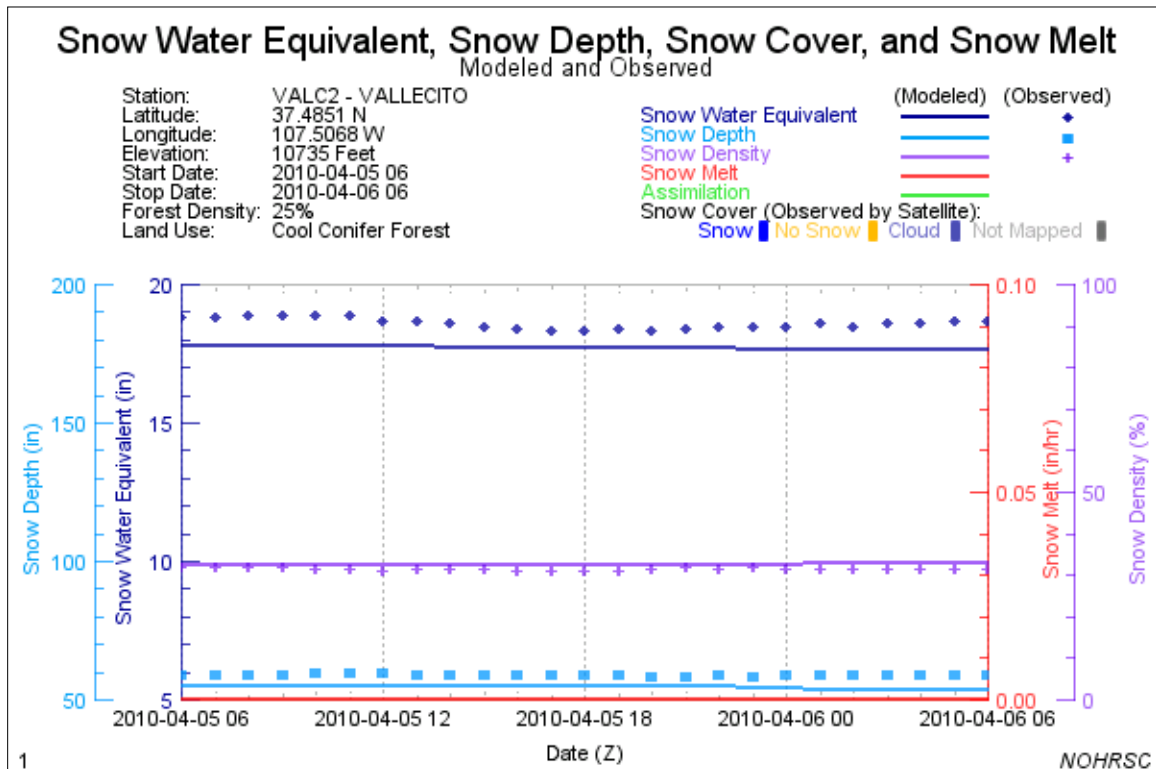


Figure 26: Snow Depth at Vallecito, Colorado, on April 5, 2010, (source: <http://www.nohrsc.noaa.gov/nsa/>).

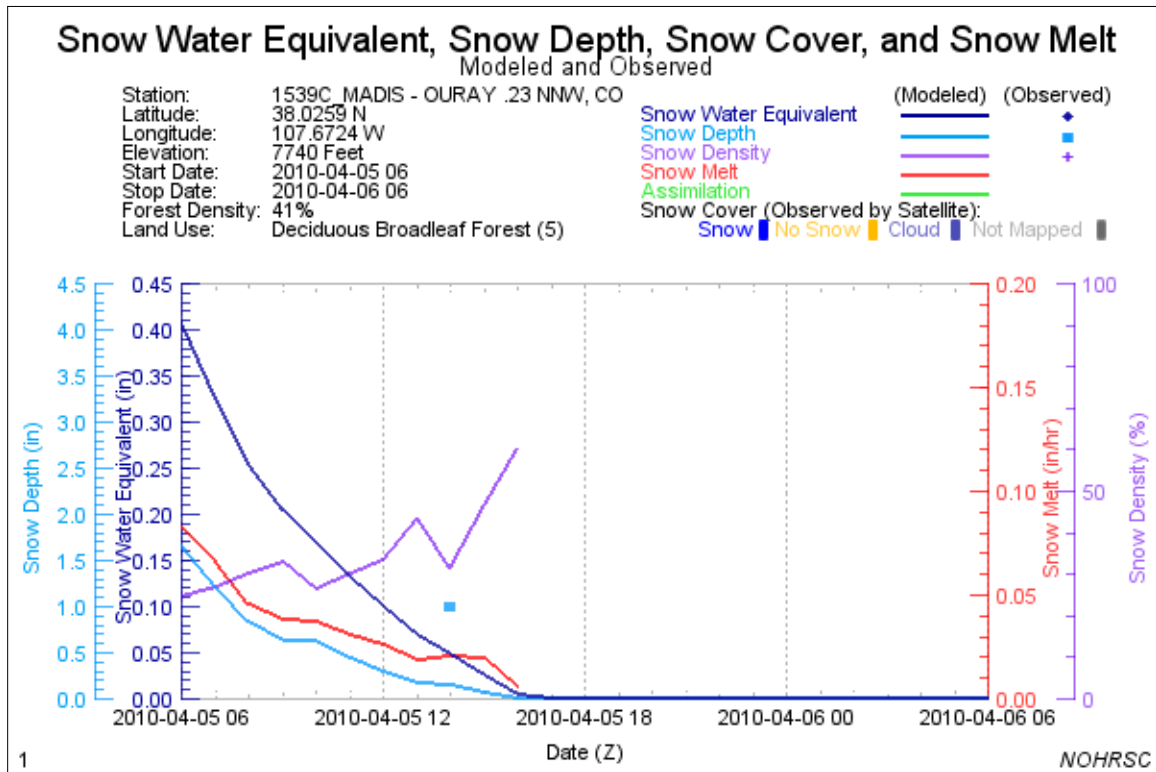


Figure 27: Snow Depth at Ouray, Colorado, on April 5, 2010, (source: <http://www.nohrsc.noaa.gov/nsa/>).

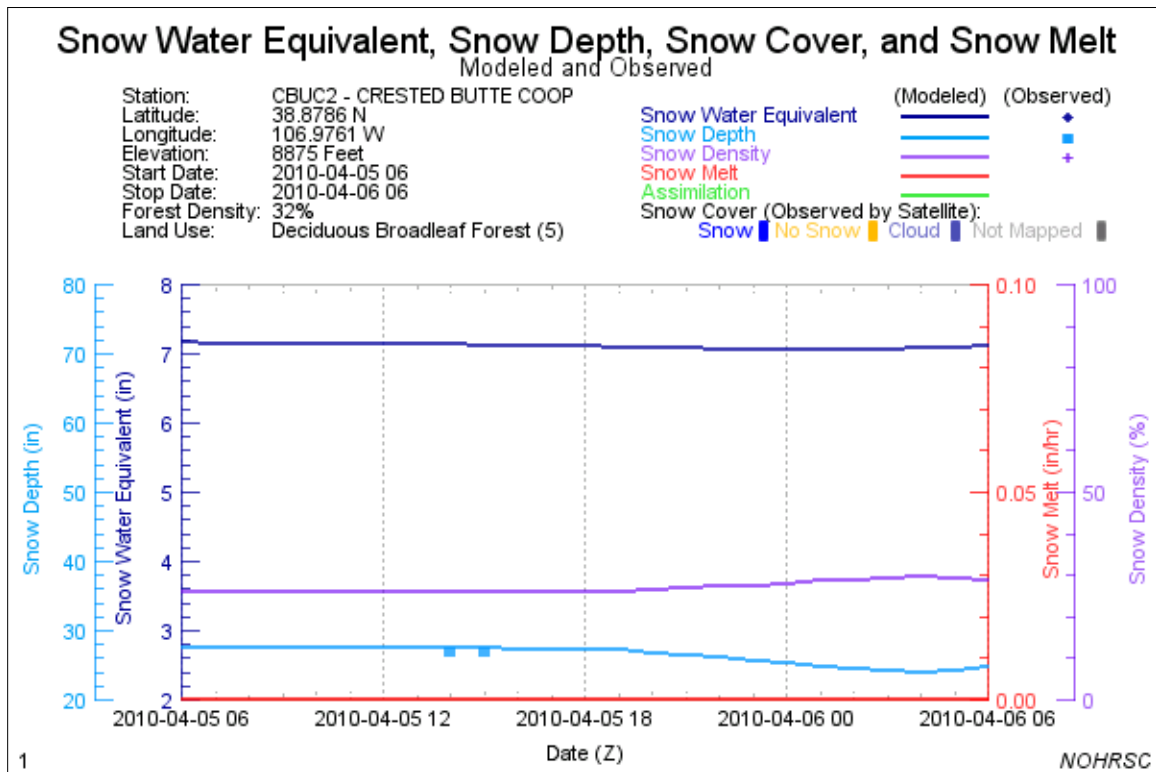


Figure 28: Snow Depth at Crested Butte, Colorado, on April 5, 2010, (source: <http://www.nohrsc.noaa.gov/nsa/>).

Snowpack and snow cover data for the mountains and many valley locations in central and southwestern Colorado demonstrate that blowing dust and elevated PM₁₀ observed in Telluride, Crested Butte, and Mt. Crested Butte were not likely to have been from local sources as the ground was deeply covered in snow. Snow cover data provide strong evidence that a widespread, regional, blowing dust event caused exceedances at these locations rather than local sources.

The Center for Snow and Avalanche Studies has been studying the effects of wind-blown desert dust from Arizona, New Mexico, and Utah on snowpack albedo and snowmelt in the San Juan Mountains of Colorado. Figure 29 is the Center’s log of events that identifies deposits or layers of wind-blown dust on or within the snowpack of the San Juan Mountains. *The Center for Snow and Avalanche Studies lists April 5, 2010, as one of nine Dust-on-Snow events for the 2009/2010 water year, and this provides clear supporting evidence that a regional blowing dust event with long-range transport caused the PM₁₀ exceedances measured across portions of Colorado on April 5, 2010.*

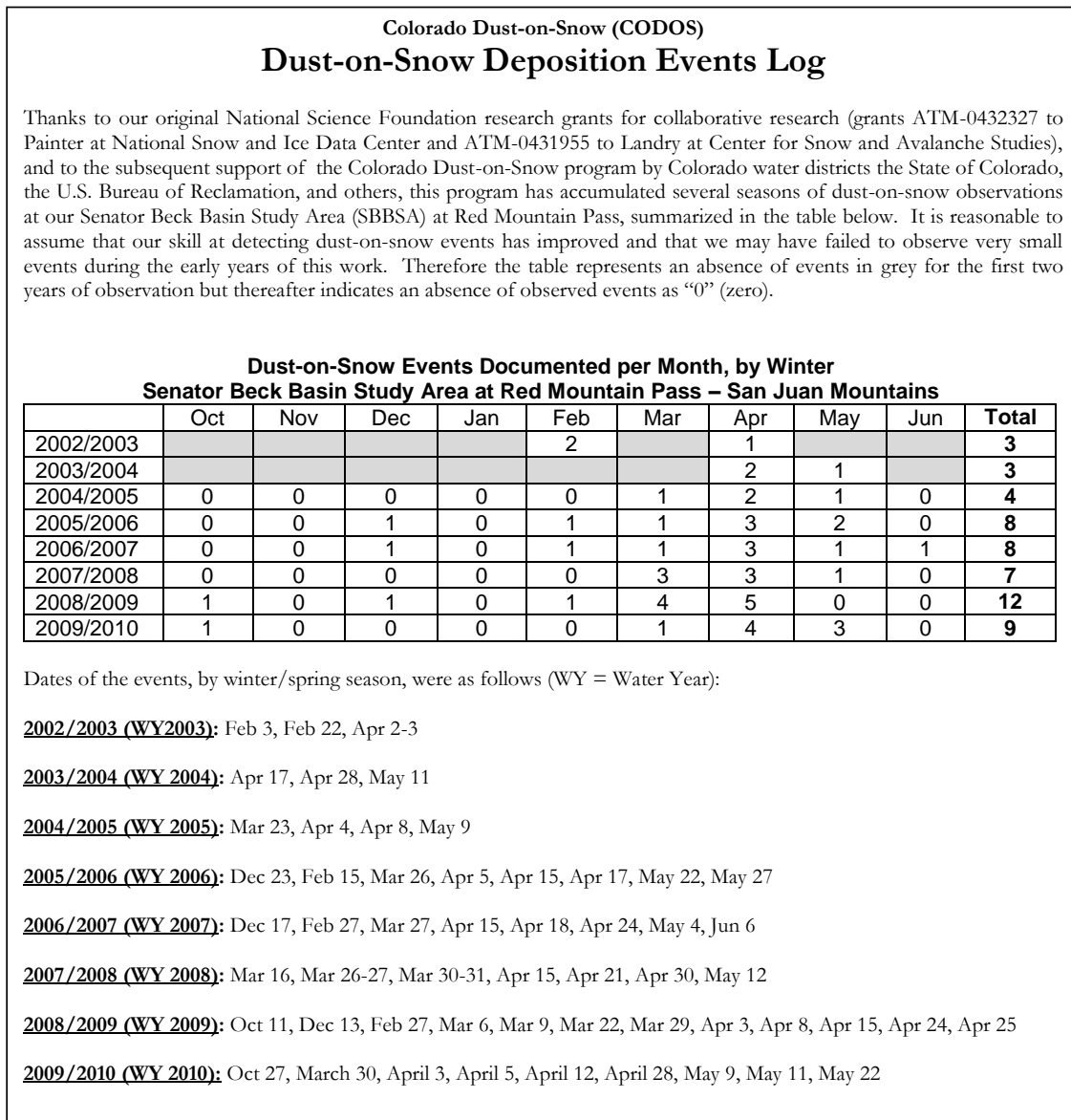


Figure 29: Dust-on-Snow Deposition Events Log at the Senator Beck Basin Study Area on Red Mountain Pass, Colorado. (source: Chris Landry. 9/24/2010).

Figure 30, Figure 31, Figure 32, Figure 33, and Figure 34 show MODIS satellite images for the Four Corners region, Utah, Arizona, New Mexico, and Colorado, respectively, for April 5, 2010. Areas of blowing dust can be seen in Utah, Arizona, and New Mexico. Plumes of blowing dust originating in the Painted Desert region of northeastern Arizona and northwest New Mexico stretched across southwest Colorado and southeastern Utah. ***MODIS satellite imagery shows that the Painted Desert and Four Corners area in general were source regions for blowing dust on April 5, 2010. This is consistent with the climatology for many dust storms in Colorado as described in the Grand Junction, Colorado, Blowing Dust Climatology report contained in Appendix A of this document.***

The U.S. Geological Survey (USGS) Southwest Geographic Science Team: Dust Monitoring web page (http://sgst.wr.usgs.gov/dust_detection/dust-events/2010-2/april-5th-2010/) lists April 5, 2010, as a Dust Event day. The web page for the April 5, 2010, event has various satellite pictures, videos, and time lapse imagery of the dust storm. This web page provides the following characterization for this event:

“Another frontal system advanced into the interior from the Pacific on Monday April 5th, 2010 bringing strong winds and gusts in excess of 50 mph. The dominant wind direction was out of the south-west. There was no apparent dust activity visible from satellite until mid-afternoon and only then in the 4 corners region of the southwest. From the images below it is apparent that yet again the regions just north of the Little Colorado River on the Navajo Nation were the predominant dust sources for this event. We noted an ancillary dust source in New Mexico on the eastern edge of the Navajo Nation. Both Thermal Differencing and Visible images show atmospheric dust moving well into southern Colorado.”

USGS Scientists with expertise in the analysis of dust storms have indicated that regions of the Painted Desert in northeastern Arizona were the predominant dust sources for this event.

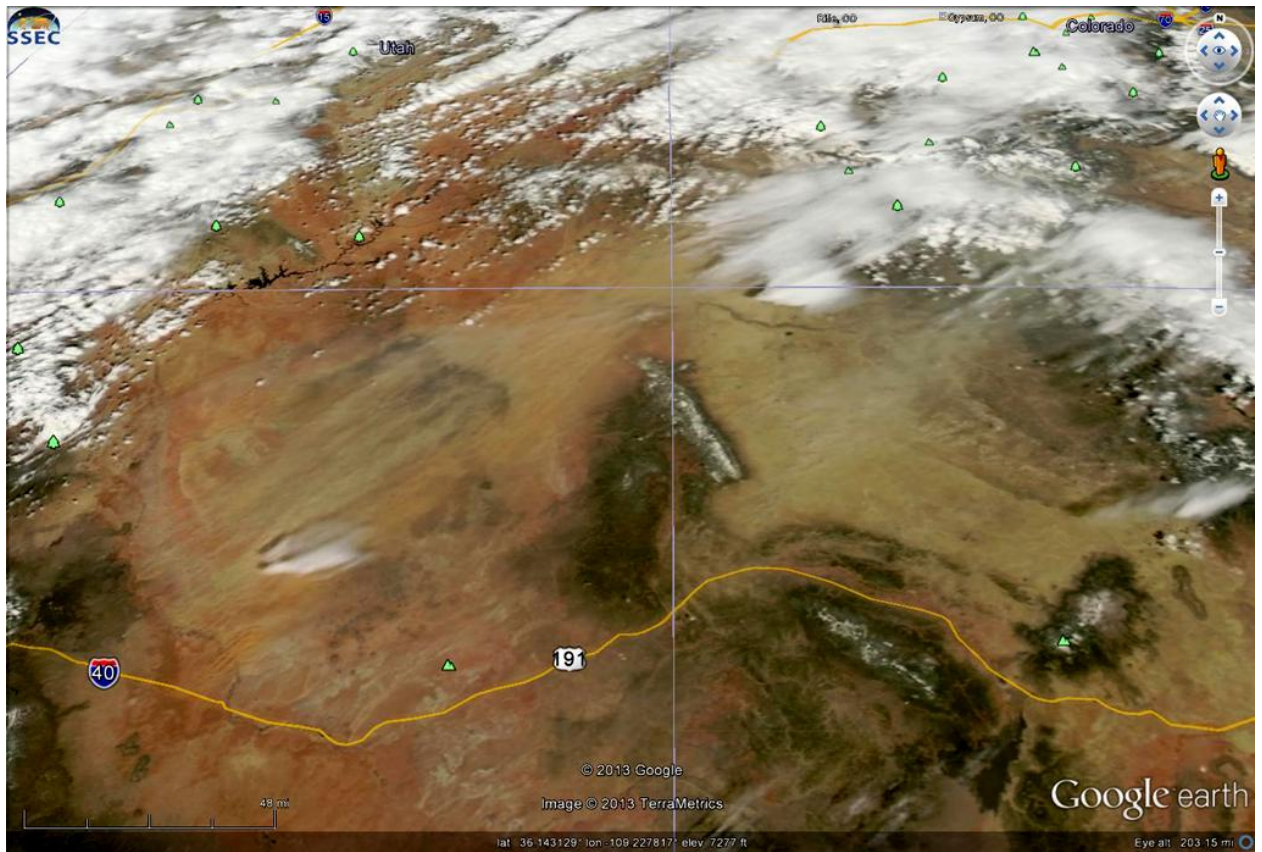


Figure 30: MODIS Aqua image for April 5, 2010, showing plumes of blowing dust in the Four Corners area, with the greatest plume densities in the Painted Desert and northwest New Mexico areas north of I-40 (source: <http://ge.ssec.wisc.edu/modis-today/index.php>).

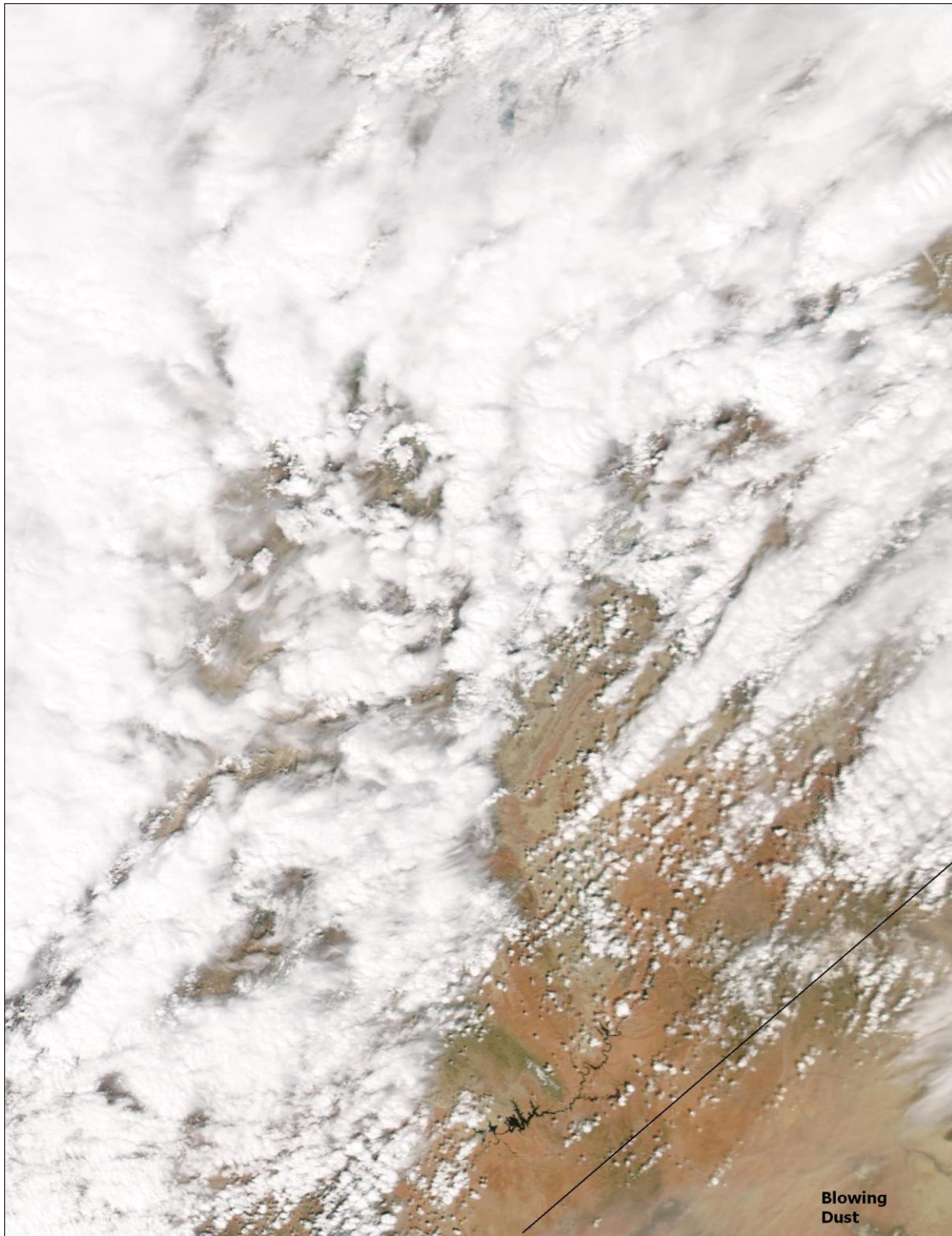


Figure 31: MODIS satellite image of Utah on April 5, 2010 (source: <http://activefiremaps.fs.fed.us/imagery.php>).

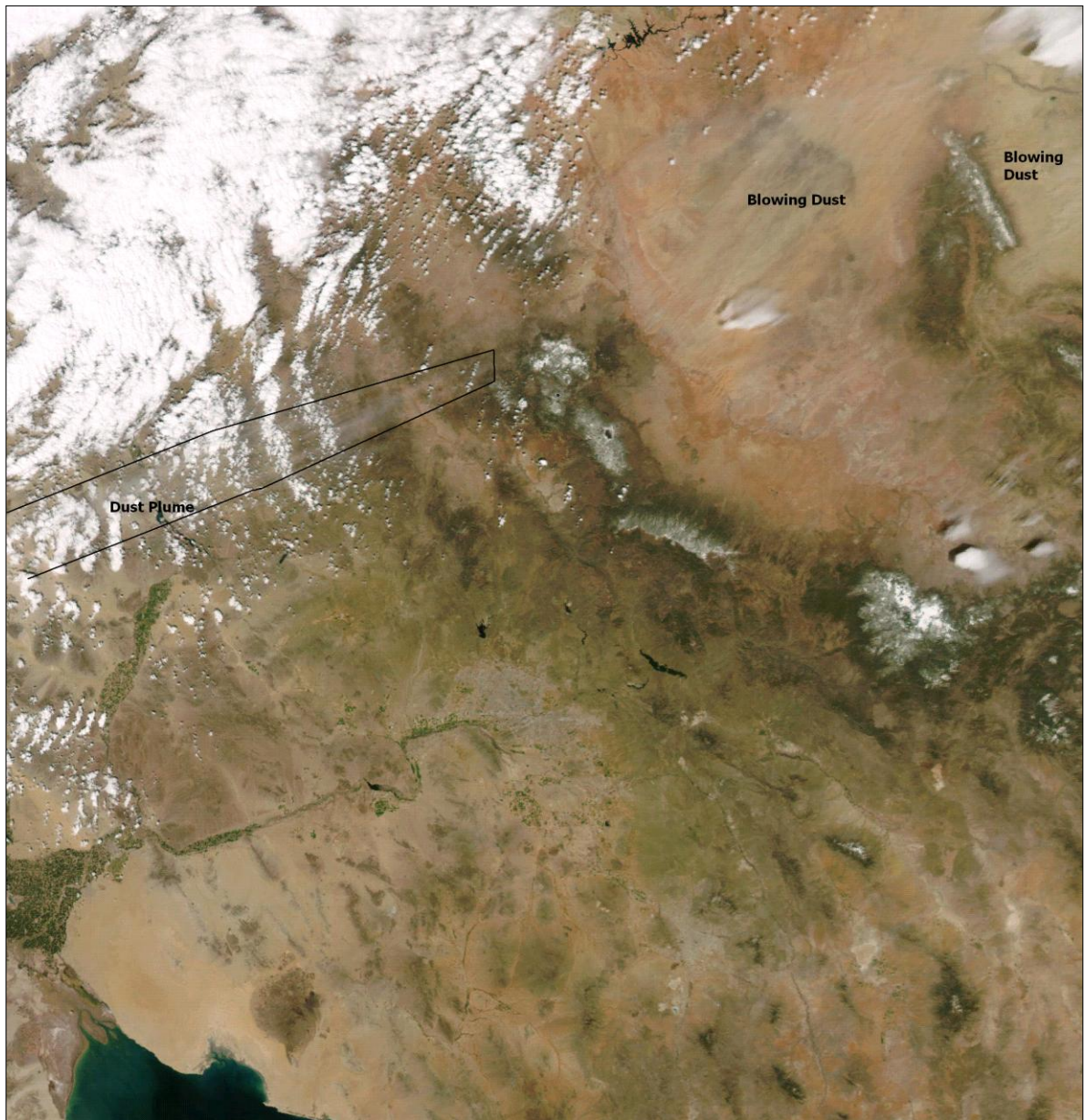


Figure 32; MODIS satellite image of Arizona on April 5, 2010, (source: <http://activefiremaps.fs.fed.us/imagery.php>).

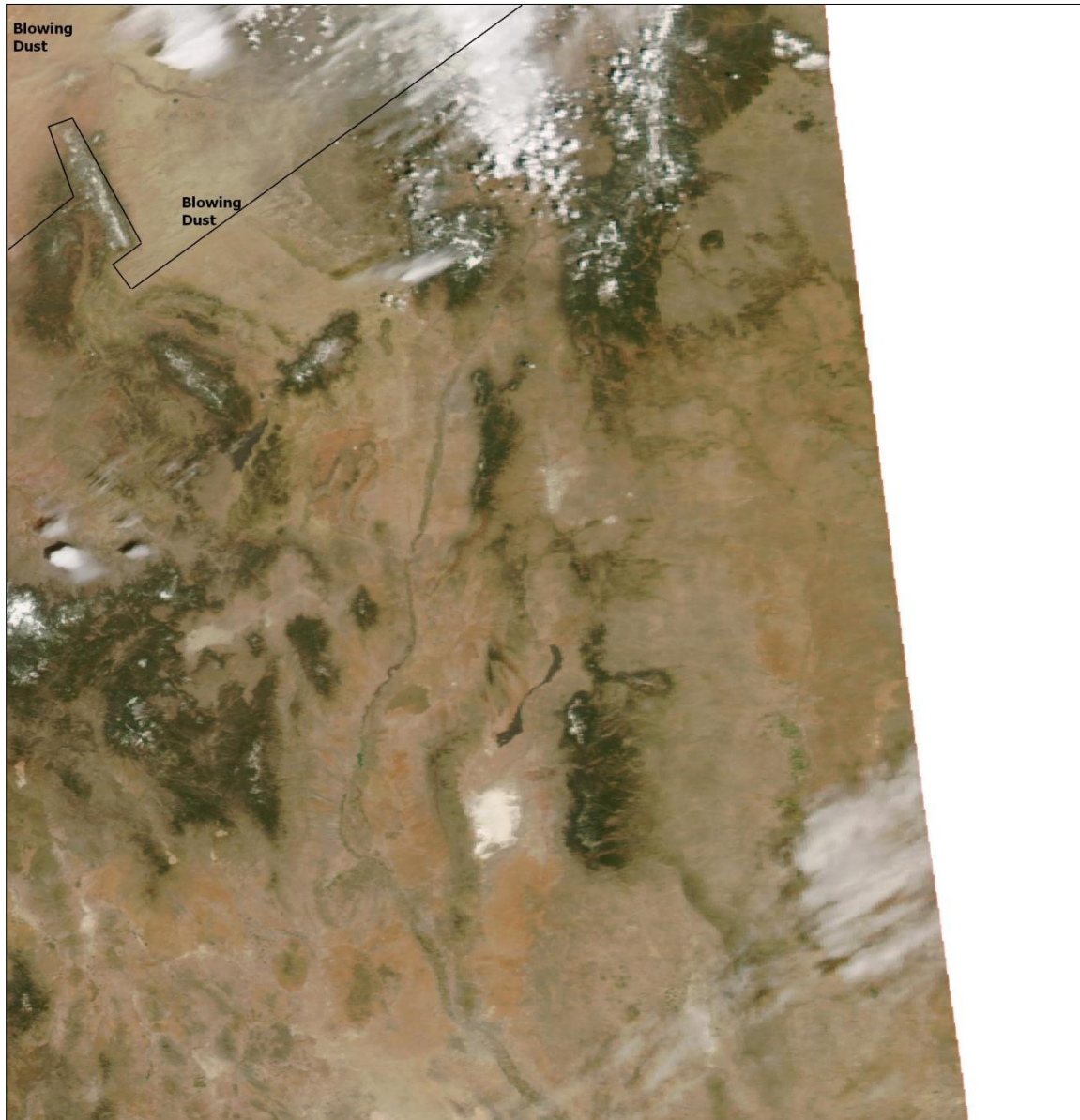


Figure 33: MODIS satellite image of New Mexico on April 5, 2010, (source: <http://activefiremaps.fs.fed.us/imagery.php>).

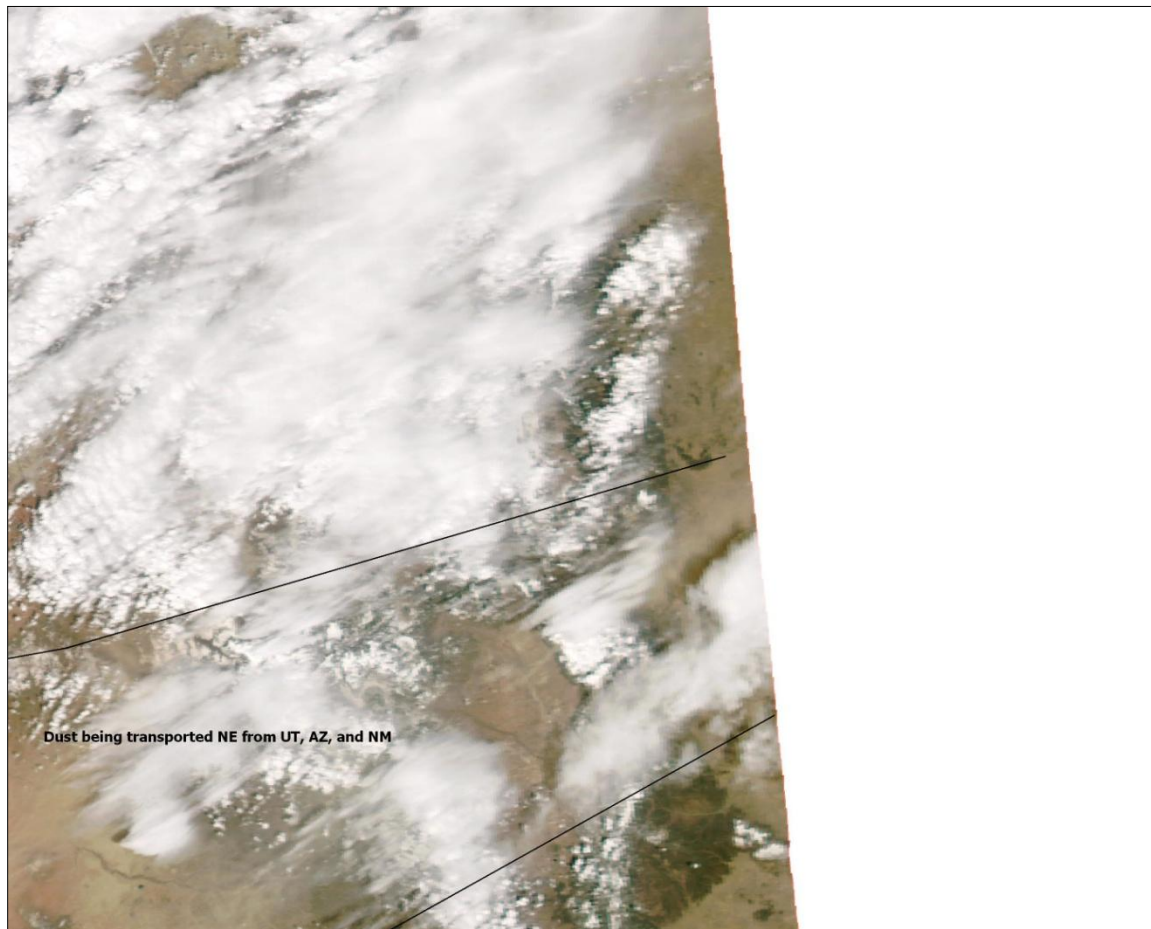


Figure 34: MODIS satellite image of Colorado on April 5, 2010, (source: <http://activefiremaps.fs.fed.us/imagery.php>).

Figure 35 shows the Percent of Normal Precipitation for the Southwest U.S. for the 30 days before April 5, 2010. It shows that much of northeastern Arizona and western New Mexico had less than 70 percent of normal precipitation. Figure 36 is the Calculated Soil Moisture Anomaly for March 2010. Soils across northeastern Arizona, most of Utah, and parts of western Colorado had below normal soil moisture. Figure 37 is the Drought Monitor report for the western U.S. It shows that northeastern Arizona and parts of western New Mexico were classified as Abnormally Dry. The area bounded by the station observations in Tables 1 - 5 was classified as an area with Moderate or Severe Drought. Other precipitation data for March of 2010 is presented in Figure 38. This plot shows that the southern portion of the Painted Desert (an area where plumes of dust were forming in Figure 30) had below 0.5 inches of precipitation in March. These data are consistent with the findings reported in Appendix A that show that blowing dust occurs in northeastern Arizona source regions when soils are dry (typically less than 0.5 inches in a 30-day period at Hopi, Arizona) and winds are strong. *Soils in the Four Corners area and in northeastern Arizona in particular were dry enough to produce blowing dust when winds were above the thresholds for blowing dust.*

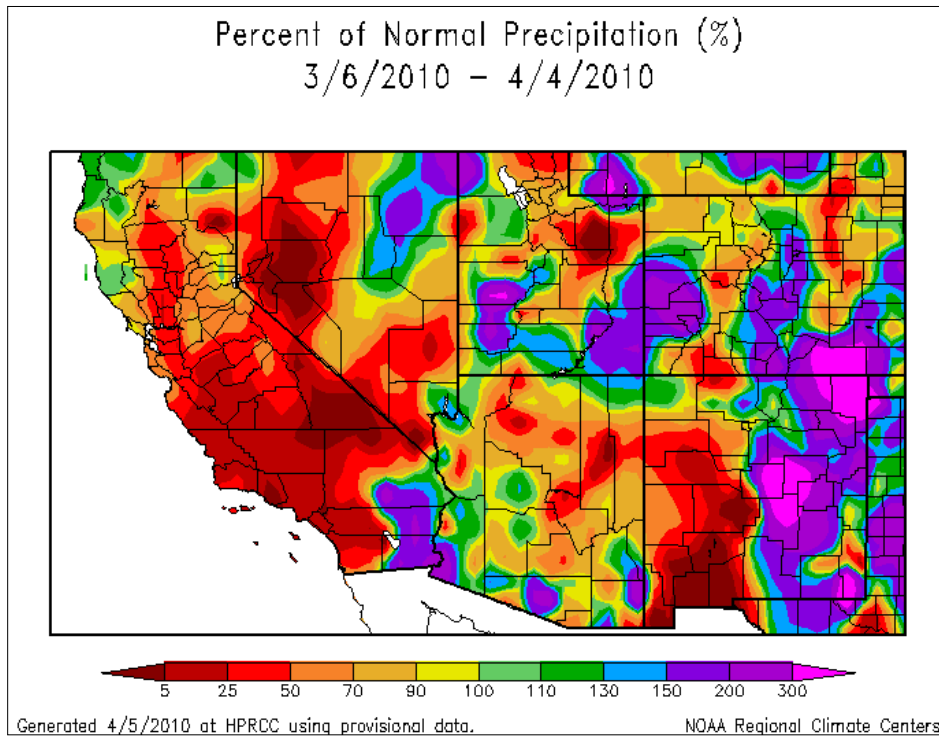


Figure 35: Percent of Normal Precipitation 3/6/2010 – 4/4/2010 (source: <http://www.hprcc.unl.edu/maps/current/index.php?action=viewmap&daterange=7d®ion=HPRCC&product=PData&button=View+Map>).

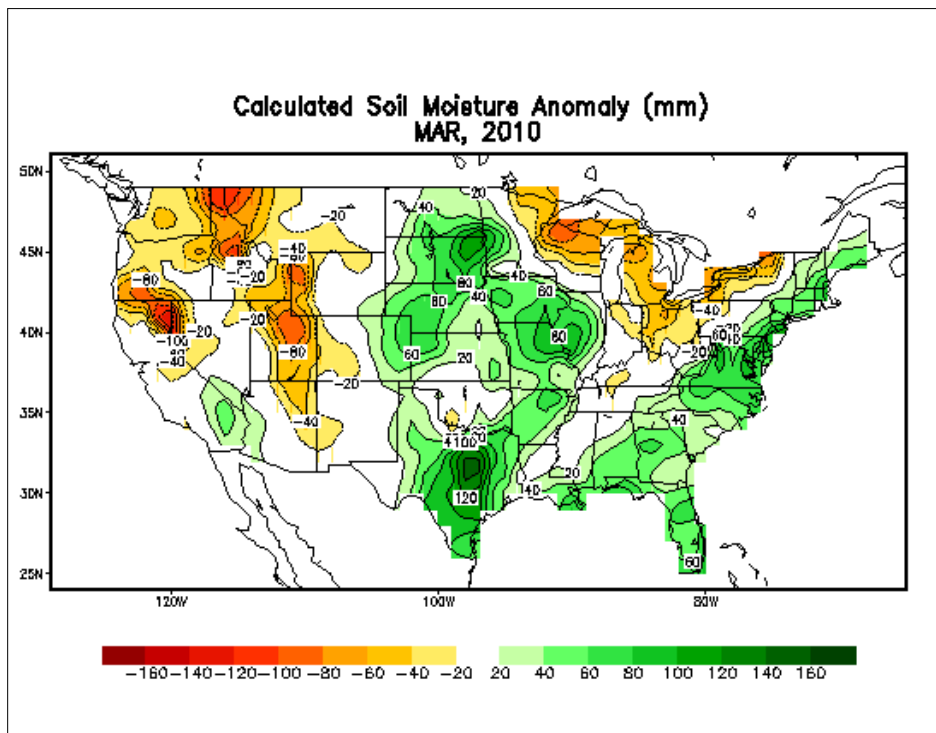


Figure 36: Calculated Soil Moisture Anomaly for March 2010 (source: http://www.cpc.ncep.noaa.gov/cgi-bin/US_Soil-Moisture-Monthly.sh).

U.S. Drought Monitor

West

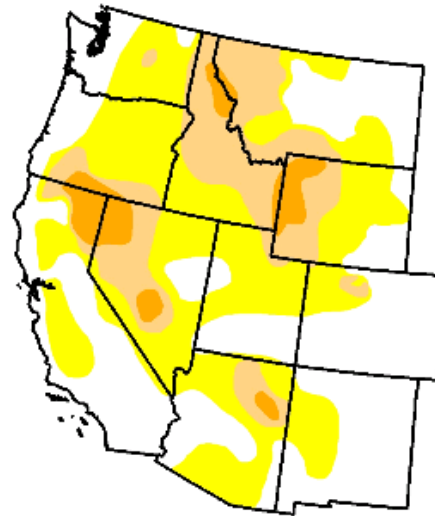
March 30, 2010
Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	42.2	57.8	21.4	4.9	0.0	0.0
Last Week (03/23/2010 map)	39.9	60.1	22.4	5.4	0.0	0.0
3 Months Ago (01/05/2010 map)	40.1	59.9	30.6	9.9	0.5	0.0
Start of Calendar Year (01/05/2010 map)	40.1	59.9	30.6	9.9	0.5	0.0
Start of Water Year (10/06/2009 map)	42.1	57.9	25.4	8.5	0.0	0.0
One Year Ago (03/31/2009 map)	31.7	68.3	28.2	4.2	0.0	0.0

Intensity:

- D0 Abnormally Dry
- D1 Drought - Moderate
- D2 Drought - Severe
- D3 Drought - Extreme
- D4 Drought - Exceptional



The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements

<http://drought.unl.edu/dm>



Released Thursday, April 1, 2010

Author: M. Rosencrans, CPC/NOAA

Figure 37: Drought status for the Colorado on March 30, 2010 (source: the USDA, NOAA, and the National Drought Mitigation Center at: <http://drought.unl.edu/dm/archive.html>).

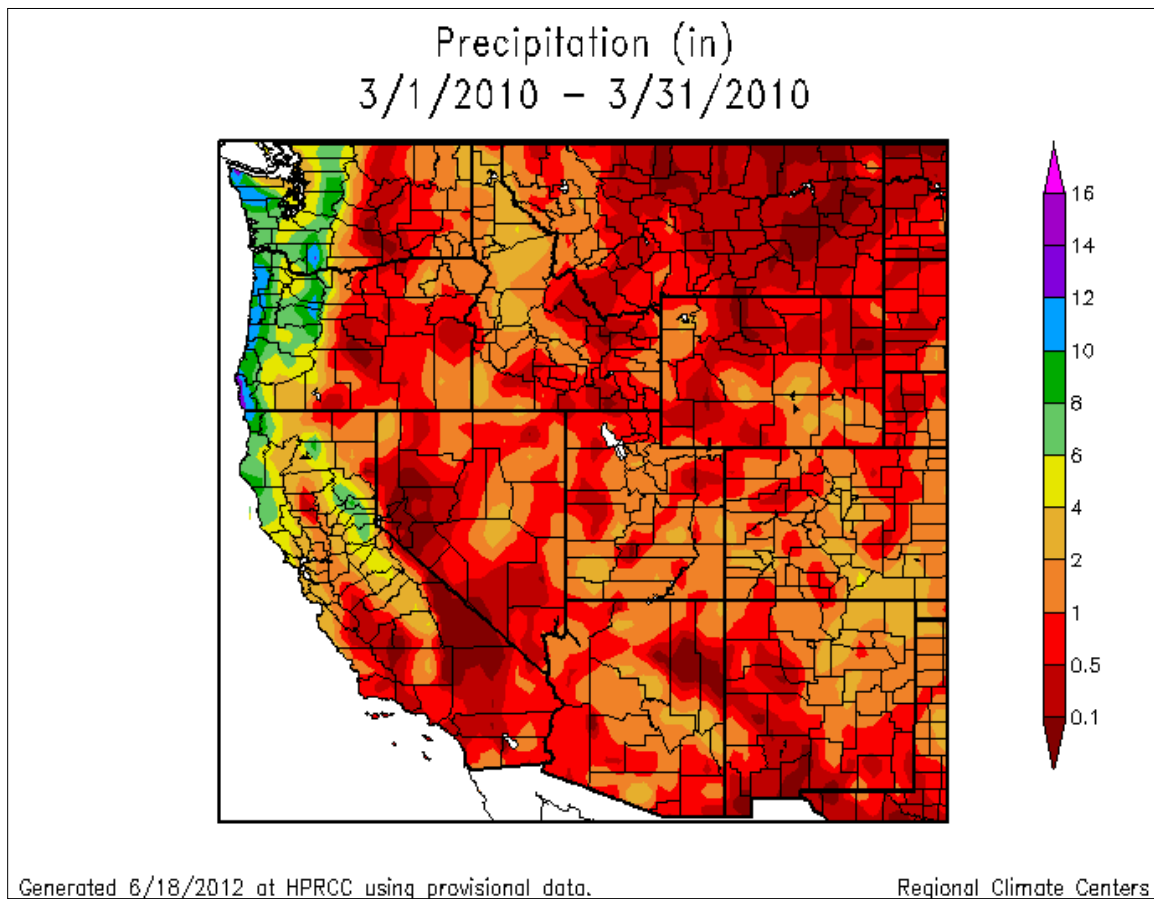


Figure 38: Total precipitation for the month of March, 2010 (source: http://www.hprcc.unl.edu/maps/current/index.php?action=update_userdate&daterange=Mar&year=10).

In a 1997 paper “Factors controlling threshold friction velocity in semiarid and arid areas of the United States” (Marticorena et al., 1997), the authors characterized the erodibility of both disturbed and undisturbed desert soil types. The threshold friction velocity, which is described in detail in this paper, is a measure for conditions necessary for blowing dust and is higher for undisturbed soils and lower for disturbed soils.

Friction velocities have been calculated for 11AM MST and 5 PM MST April 5 using the NARR NAM12 model (data source: http://nomads.ncdc.noaa.gov/data.php?name=access#hires_weather_datasets). These friction velocities are shown in Figures 39 and 40, respectively. According to Marticorena and coauthors (1997), even undisturbed desert soils normally resistant to wind erosion will be susceptible to emission of blowing dust when threshold friction velocities are greater than about 1.0 to 2.0 meters per second. These figures show that a wide area of northern Arizona, northwestern New Mexico, southeastern Utah, and southwestern Colorado had friction velocities above 1.0 meters per second on April 5. High values were present within the Little Colorado River Valley and Painted Desert region of northeastern Arizona where satellite imagery shows the eruption of large plumes of blowing dust. Note that blowing dust will typically only occur where these values are high and the soils are dry and not protected by vegetation, forest cover, boulders, rocks, etc. This is why blowing dust occurred in the desert and more arid areas of northeastern Arizona, and northwestern New Mexico on April 5, 2010.

The elevated friction velocities shown in Figures 39 and 40, the data on soil moisture conditions presented elsewhere in this report, and the prevalence of winds above blowing dust thresholds (all occurring in traditional source regions in northeastern Arizona and northwestern New Mexico) provide evidencethat this dust storm was a natural event that was not reasonably controllable or preventable.

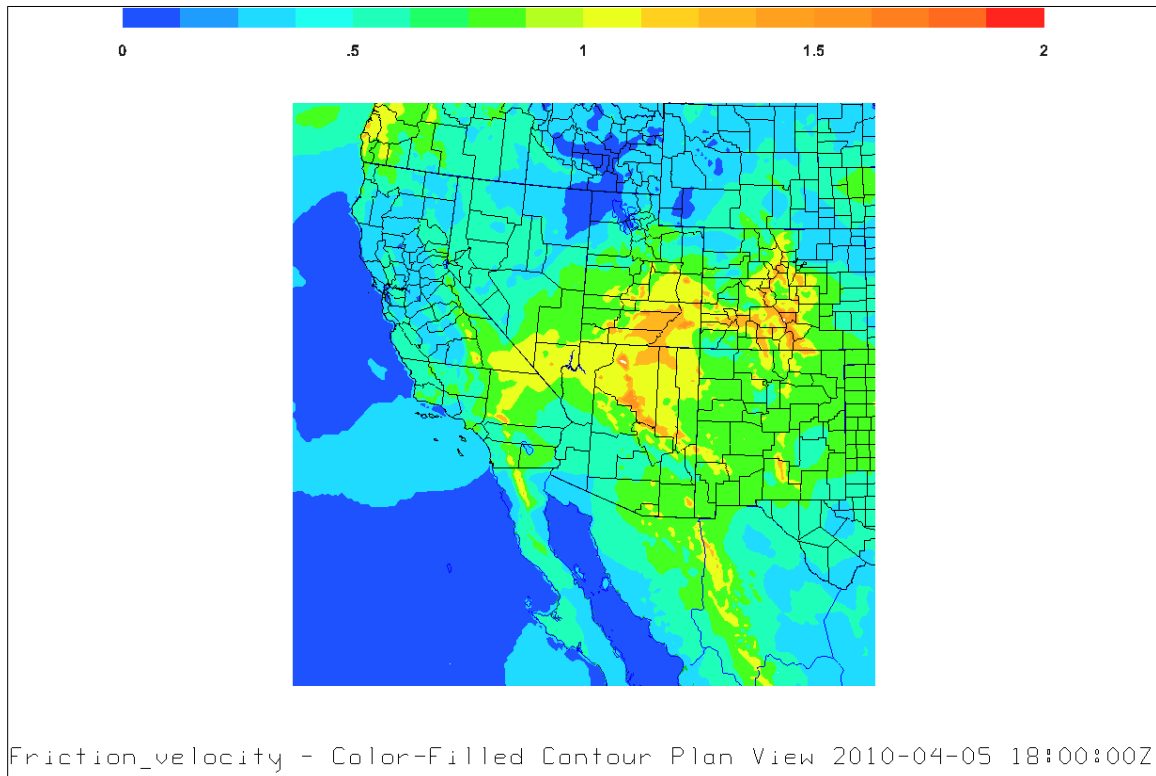


Figure 39: Friction velocities in meters/second from the NOAA NCEP North American Model with 12 kilometer grid spacing at 18Z April 5, 2010 (11 AM MST April 5).

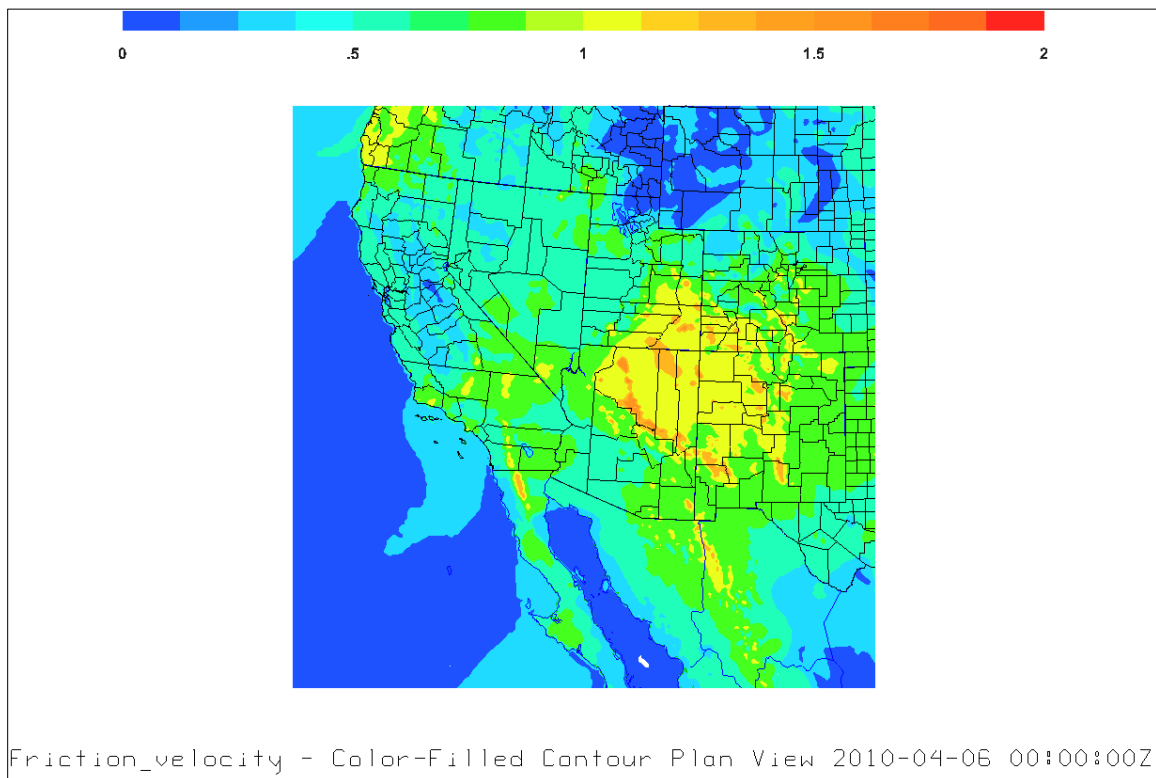


Figure 40: Friction velocities in meters/second from the NOAA NCEP North American Model with 12 kilometer grid spacing at 0Z April 6, 2010 (5 PM MST April 5).

3.0 Evidence-Ambient Air Monitoring Data and Statistics

PM₁₀ concentrations that exceeded the level of the twenty-four-hour PM₁₀ NAAQS were monitored across a broad geographical area of Colorado on Monday April 5, 2010. Values in excess of the PM₁₀ standard were taken using high volume samplers at Alamosa Adams State College (185 µg/m³), Pagosa Springs (349 µg/m³), Durango (320 µg/m³), Crested Butte (174 µg/m³), Mt. Crested Butte (168 µg/m³), and Telluride (354 µg/m³). Additionally, exceptionally high values (greater than the 95th percentile for the site) were recorded at PM₁₀ monitors in Delta (115 µg/m³), Clifton (75 µg/m³), Aspen (70 µg/m³), and Grand Junction Powell (51 µg/m³). These high values would not have occurred if not for the following: (a) dry soil conditions over northeastern Arizona, most of Utah, and parts of western Colorado; (b) a combination of deep mixing and the tight surface pressure gradient associated with the surface low pressure system that created conditions necessary for widespread strong gusty winds over the area of concern; and (c) the deep mixing of the blowing dust from desert regions of northwest New Mexico, Utah, and Arizona that allowed for the transport of the dust to Colorado. This weather system adversely affected the air quality in much of western Colorado.

For a map of the Colorado PM₁₀ monitoring sites and all valid PM₁₀ concentrations on April 5, 2010, see Figure 1. Section 2 provides the meteorological evidence for the spatial extent of this regional blowing dust event including the dust on snow data from the Colorado Dust-on-Snow (CODOS) network. The CODOS network clearly shows that the spatial extent of this dust storm was quite large, covering thousands of square miles (see <http://www.snowstudies.org/CODOS/Compiled%20WY%202010%20CODOS%20Updates.pdf>). PM₁₀ levels before and after the April 5, 2010, episode, were low as can be seen in Table 8 and Figure 32, below.

The APCD reviewed PM₁₀ monitoring data in Western Colorado in the path of the dust storm (see Section 3.1). The PM₁₀ concentrations at affected sites were compared using time series plots for a number of days pre and post event. The time series graphs clearly show that the regional blowing dust storm adversely affected the air quality in Alamosa on April 5, 2010. PM₁₀ samples the day before and the day two days after the event were typical of samples at each affected site.

3.1 Historical Fluctuations of PM₁₀ Concentrations in Alamosa, Pagosa Springs, and Durango

This evaluation of PM₁₀ monitoring data for sites affected by the April 5, 2010, event was made using valid samples from Hi-Vol PM₁₀ samplers in Alamosa, Pagosa Springs, and Durango from 2005 through 2011. The PM₁₀ exceedances from Crested Butte, Mount Crested Butte, and Telluride were also caused by the same regional dust storm. However, since the attainment status of these sites will not be affected by these exceedances (only 1 exceedance in 3 years), the APCD will not provide an extensive analysis in this section for these sites. APCD has been monitoring PM₁₀ concentrations in all six of these towns since 1985. Consistent data collection at all affected sites began in 2005. The data presented in this analysis is from January 2005, through the end of 2011. The overall data summary for the affected sites is presented in Table 11, with all data values being presented in µg/m³:

Table 11: April 5, 2010, PM₁₀ Monitoring Data Summary (Affected Sites)

	<i>Alamosa ASC</i>	<i>Pagosa Springs</i>	<i>Durango</i>	<i>Crested Butte</i>	<i>Mt. Crested Butte</i>	<i>Telluride</i>
4/5/2010	185	349	320	174	168	354
Mean	22.1	22.7	20.7	26.6	20.8	18.7
Median	18	20	18	23	17	15
Mode	16	16	16	17	11	12
SD*	24.05	17.05	18.85	17.54	14.61	18.90
Range	472	347	317	170	167	353
Minimum	1	2	3	4	1	1
Maximum	473	349	320	174	168	354
Monitoring Frequency	daily	Daily	1/3	1/3	daily	1/3
Count	2214	2287	811	826	2262	785

*SD - Standard Deviation

Table 11 shows the monitoring data and basic statistics at the six sites with concentrations exceeding the NAAQS. This information along with the information presented in the meteorological section demonstrates the spatial scope of this event. The regional dust storm on April 5, 2010, was quite extensive geographically and it had a direct impact on PM₁₀ concentrations at multiple sites in Colorado. APCD is requesting exclusion for each of the samples taken at Alamosa ASC, Crested Butte, Mount Crested Butte, Durango, Pagosa Springs, and Telluride. However, only the data sets from Alamosa, Pagosa Springs, and Durango will be discussed in detail, since the exceedances at these three areas could affect the attainment status of the 24-hour PM₁₀ NAAQS in these towns. The attainment status of the other sites (Crested Butte, Mt. Crested Butte, and Telluride) will not be affected by this event. It is a certainty that these three sites were affected by the event to the same extent as Alamosa, Pagosa Springs, and Durango and so they are included here to help define the geographical extent of the affected area.

A summary of data from all those sites affected by the event is presented in Table 12, along with the approximate percentile value that sample value represents for each site for their unique historical data sets, for the month of the event (every sample in any April), and for the year of the event. All percentile calculations presented anywhere in this section were made using the entire dataset, including known high wind events. There is no difference between the two datasets (with and without high wind events) in regards to percentile calculations. All data sets were restricted to valid samples in the interval 2005 – 2011.

Table 12: Data Summary between 2005 and 2011

Evaluation Criteria	<i>Alamosa ASC</i>	<i>Pagosa Springs</i>	<i>Durango</i>	<i>Crested Butte</i>	<i>Mt. Crested Butte</i>	<i>Telluride</i>
4/5/2010	185 µg/m ³	349 µg/m ³	320 µg/m ³	174 µg/m ³	168 µg/m ³	354 µg/m ³
Overall	99.68%	Max Value	Max Value	Max Value	99.98%	Max Value
All April 2010	98.95%	Max Value	Max Value	Max Value	99.96%	Max Value
	99.36%	Max Value	Max Value	Max Value	99.98%	Max Value

This event produced the maximum value in four of the six datasets and exceeded the 98th% value of any evaluation criteria for the other two sites. The overall magnitude and broad geographical

extent of affected sites suggests that there was a contribution to each sample from other than local sources.

The data sets for Alamosa, Pagosa Springs, and Durango, where attainment is threatened are further summarized by month. As with previous exceptional event documentation package submittals these summaries (see Figure 41, Figure 43, Figure 44, Figure 45, Figure 47, Figure 48, and Figure 50) present no obvious season. PM₁₀ levels at any particular site in Colorado do not necessarily fluctuate by season. Of greater importance affecting day-to-day, typical PM₁₀ concentrations are local sources, e.g. road sanding and sweeping, local burning from agriculture and residential heating, vehicle contributions mainly via re-entrained road dust from paved, and unpaved lots or roads, etc. However, there has never been an exceedance that was not associated with high winds carrying PM₁₀ dust from distant sources in these six areas since at least 2005. And, since 2005 there has never been a PM₁₀ exceedance during stable air conditions, such as an all day temperature inversion, which is typical of wintertime PM₁₀ exceedances in the past (pre-SIP and pre-MOU control measures). PM₁₀ exceedances associated with stable air masses are indicative of local anthropogenic sources and are the opposite of natural high wind events. While the historic monthly mean values for the affected sites can be higher during the winter and spring months there is little month-to-month variation. Additionally, some of the sites exhibit monthly medians over this period (winter/spring) that are generally lower than other months of the year. This time frame (winter and early spring) is that which is most likely to experience the regional meteorological and dry conditions exhibited during this event. Although, the maximum values for these months (winter/spring) are the highest in the data set, the ‘typical’ data (i.e. day-to-day, reflective of local conditions) are similar to or lower than the same ‘typical’ data for the rest of the year. The summary data for the month of April (all samples in any April) and for 2010 for Alamosa ASC, Pagosa Springs, and Durango are presented in Table 13:

Table 13: Month and Year PM₁₀ Monitoring Data Summary

Site:	Alamosa ASC		Pagosa Springs		Durango	
	April	2010	April	2010	April	2010
Mean	27.9	23.5	31.2	24.3	34.4	25.3
Median	18	19	24	18	19.5	18
Mode	11	20	23	18	13	18
SD	38.0	26.5	36.9	28.7	51.4	37.7
Minimum	1	2	2	4	6	3
Maximum	295	285	349	349	320	320
Count	192	314	195	310	68	111

Alamosa ASC – 080030001

The PM₁₀ sample on April 5, 2010, at Alamosa ASC of 185 µg/m³ is the 99th percentile value for all April data, exceeds the 99th percentile value for all 2010 data, and is greater than the 99th percentile value (97 µg/m³) for the entire dataset. Overall, this sample is the eighth highest sample in the entire data set and the 2nd largest sample in 2010. The seven samples greater than the event sample are all associated with high wind exceptional events. There are 2214 samples in this dataset. The sample from April 5, 2010 clearly exceeds the value of typical samples for this site.

Figures 41 through 44 graphically characterize the Alamosa ASC PM₁₀ data. Figure 41 is a simple time series; every sample in this dataset (2005 – 2011) greater than 150 µg/m³ is identified. Note the overwhelming number of samples occupying the lower end of the graph; an

interested reader can count the number of samples greater than $100 \mu\text{g}/\text{m}^3$. Of the 2214 samples in this data set less than 1% are greater than $100 \mu\text{g}/\text{m}^3$.

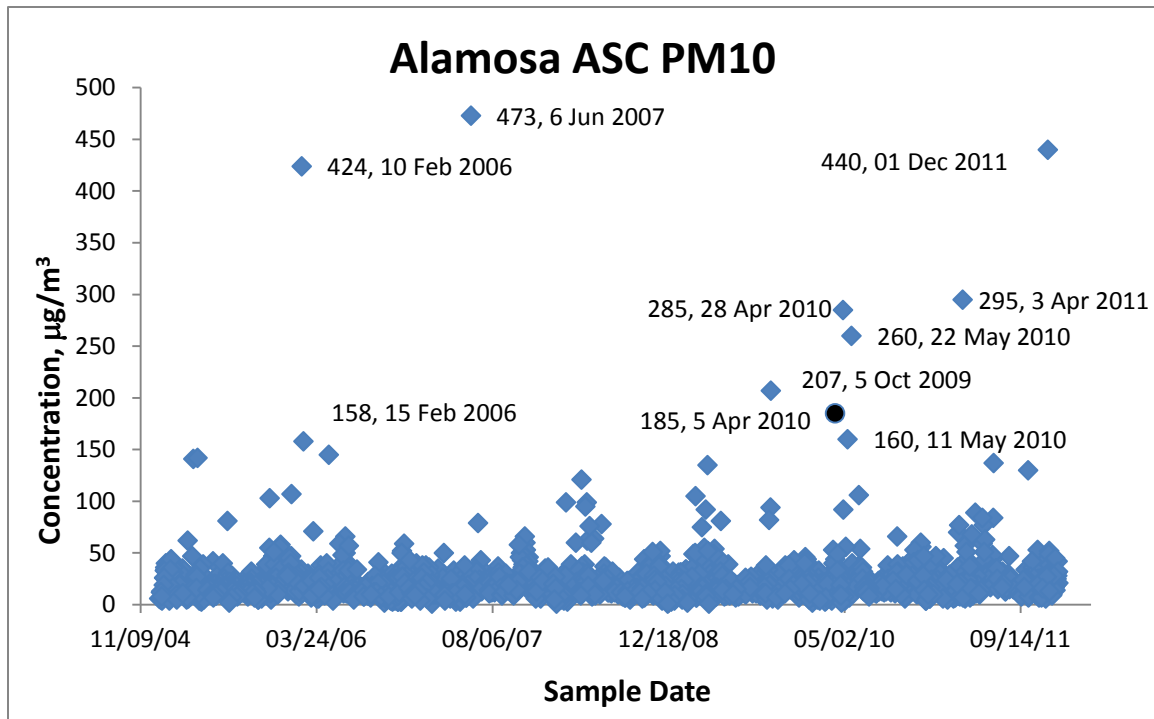


Figure 41: Alamosa ASC PM₁₀

Figure 42 is a simple histogram, demonstrating the overwhelming weight of samples on the low end of the curve. Over 60% of the samples in this data set are less than $20 \mu\text{g}/\text{m}^3$. Even in the highly variable month of April, the month with the largest sample standard deviation, 90% of the samples are less than $50 \mu\text{g}/\text{m}^3$. Clearly the sample on April 5, 2010 exceeds what is typical for this site.

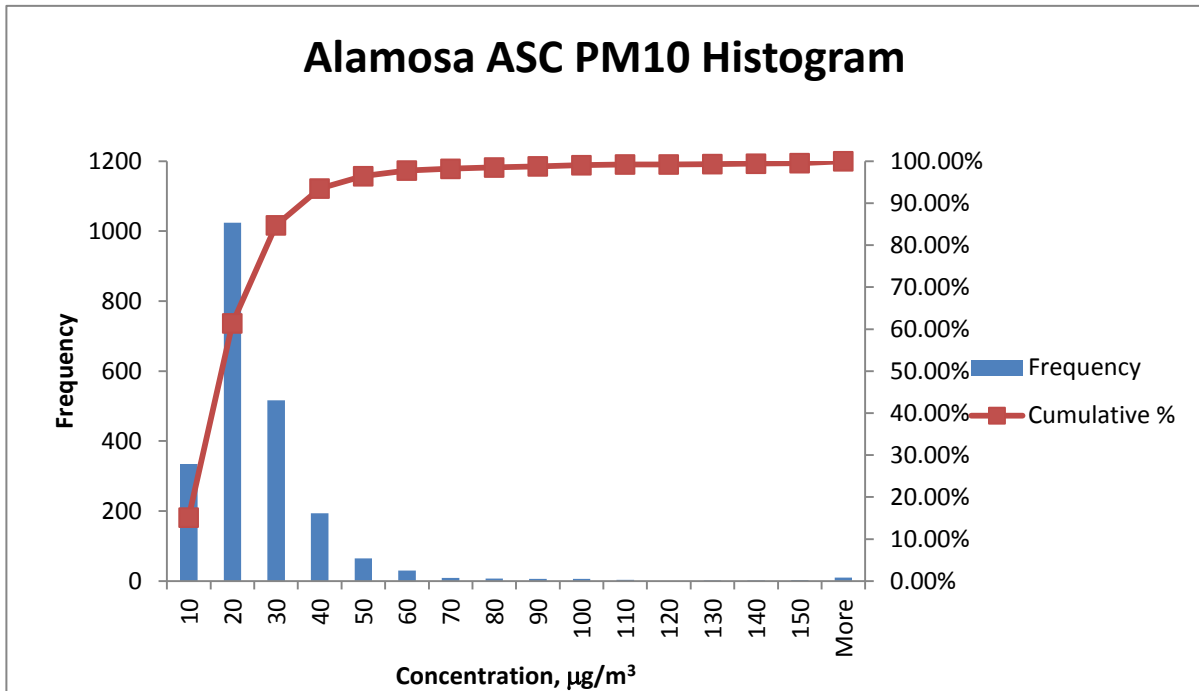


Figure 42: Alamosa ASC PM₁₀ Histogram

The monthly box-whisker plot, Figure 43, highlights the consistency of the majority of data from month to month. Note the greater variability (wider inner-quartile range) and greater range of the data through the winter and early spring months that's accompanied by typically greater monthly maxima. This time period experiences a greater number of days with meteorological conditions similar to those experienced on April 5, 2010. Although these high values affect the variability and central tendency (average) of the dataset they aren't representative of what is typical at the site.

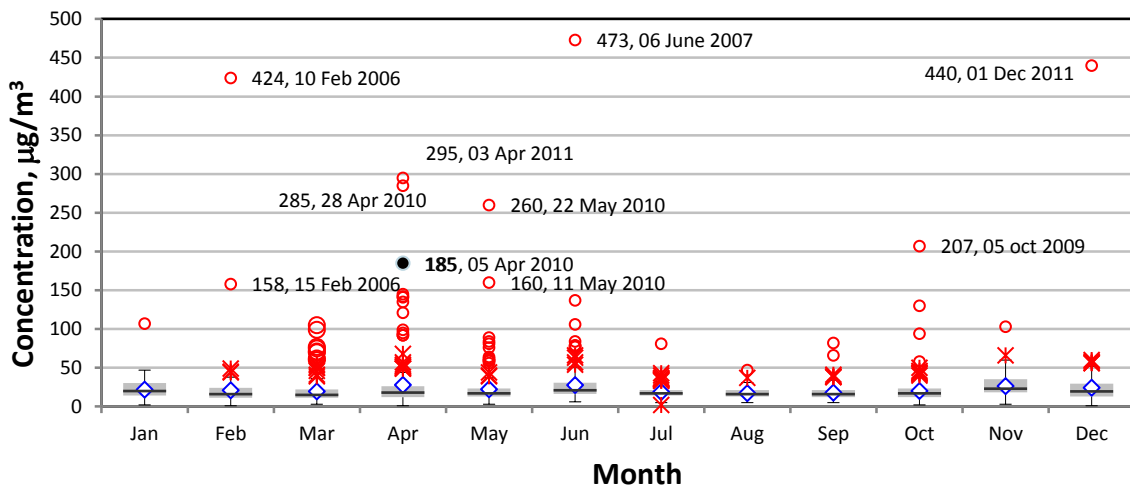


Figure 43: Monthly Alamosa ASC PM₁₀ Box and Whisker Plot

The box and whisker plots graphically represent the overall distribution of each data set including the mean (\diamond), the inner quartile range (IQR, defined to be the distance between the 75th and 25th), the median (represented by the horizontal black line) and two types of outliers identified in these plots: outliers greater than 75th + 1.5*IQR (*) and outliers greater than 75th + 3*IQR (\circ). The outliers that satisfy the last criteria and are greater than 150 µg/m³ are

labeled with sample value and sample date. Each of these outliers is associated with a known high-wind exceptional event similar to that of April 5, 2010.

The presence of the extreme values distorts the graph, losing definition and distorting information presented across the range where the majority of data resides. The same plot graphed to 100 $\mu\text{g}/\text{m}^3$, which includes almost 99% of all the data, in Figure 44.

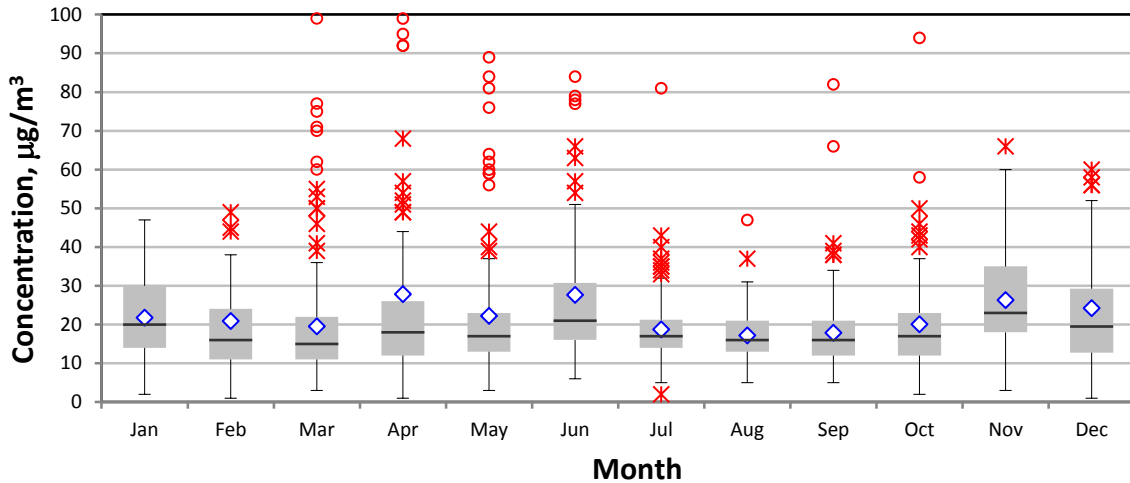


Figure 44: Monthly Alamosa ASC PM₁₀ Box and Whisker Plot (expanded view)

Note the degree to which the April (among other months) data is skewed. The mean ($27.8 \mu\text{g}/\text{m}^3$) is greater than the 75th percentile value ($26 \mu\text{g}/\text{m}^3$). This is due to the presence of a handful of extreme values and can create the perception that those months experiencing these high wind events are somehow dirtier than other months of the year. This data exposes that perception as flawed as the typical data is similar to every other month of the year. The sample of April 5, 2010, clearly exceeds the typical data at this site.

Pagosa Springs - 080070001

The PM₁₀ sample on April 5, 2010, at Pagosa Springs of $349 \mu\text{g}/\text{m}^3$ is the largest sample in the data set for any evaluation criteria. There are 2232 samples in this dataset. The sample of April 5, 2010, clearly exceeds the typical samples for this site.

Figures 45 through 47 graphically characterize the Pagosa Springs PM₁₀ data. Figure 45 is a simple time series, every sample in this dataset (2005 – 2011) greater than $150 \mu\text{g}/\text{m}^3$ is identified. As with the previous time series an overwhelming number of samples occupy the lower end of the graph, over 99% of all the samples in this dataset are less than $75 \mu\text{g}/\text{m}^3$. Of the nearly 2300 samples in this data set exactly eight are greater than $150 \mu\text{g}/\text{m}^3$. Clearly the April 5, 2010, sample is not representative of typical samples at this site.

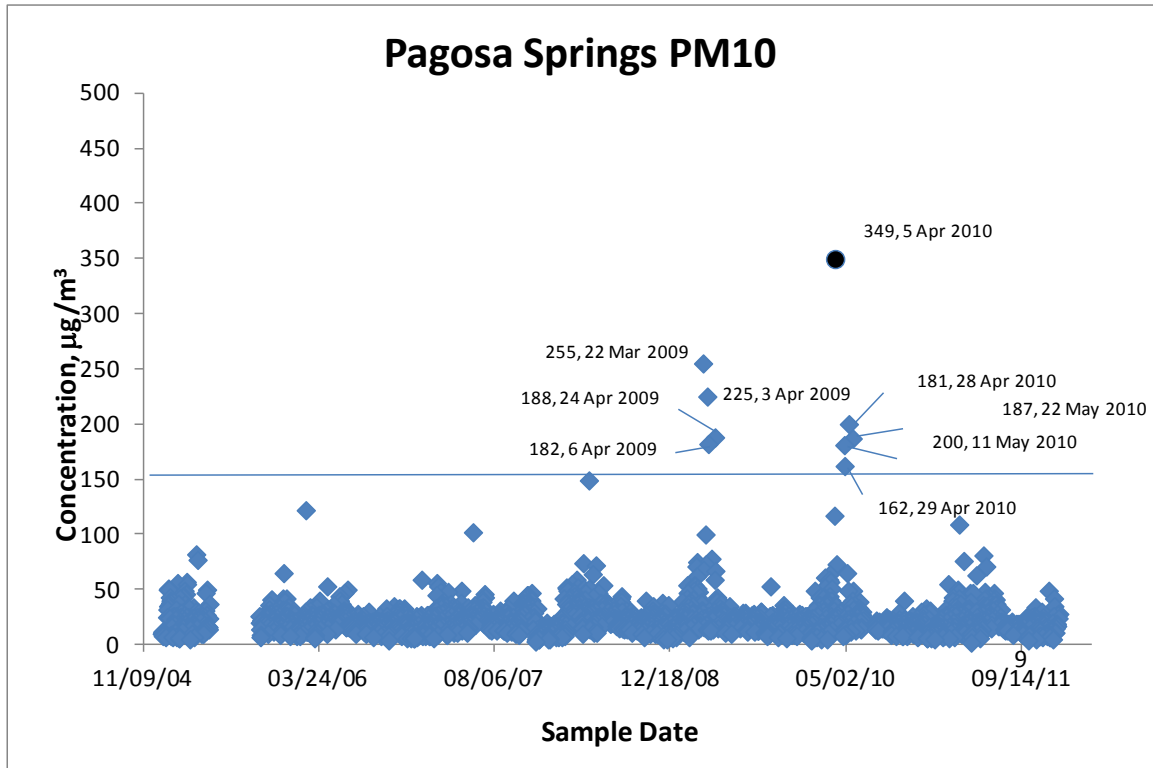


Figure 45: Pagosa Springs PM₁₀

Figure 46 is a simple histogram, demonstrating the overwhelming weight of samples on the low end of the curve. Over 50% of the samples in this data set are less than $20 \mu\text{g}/\text{m}^3$. Even in the highly volatile month of April the month with the largest sample standard deviation, 95% of the samples are less than $50 \mu\text{g}/\text{m}^3$. Clearly the sample on April 5, 2010 exceeds what is typical for this site.

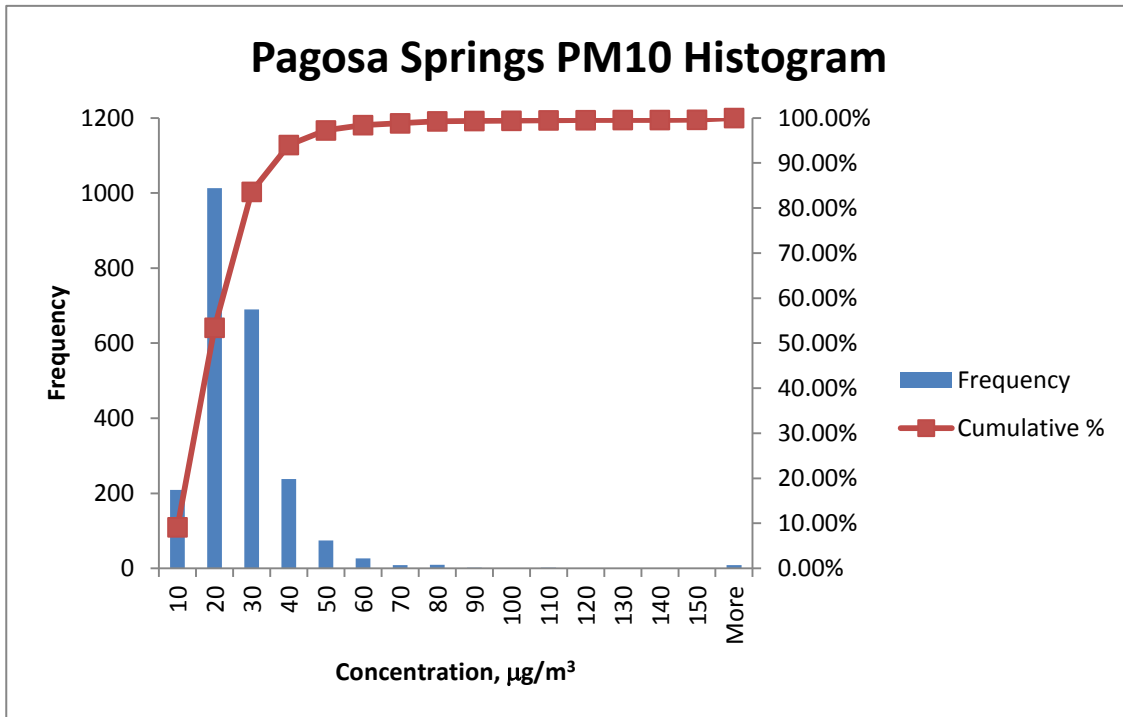


Figure 46: Pagosa Springs PM₁₀ Histogram

The monthly box-whisker plot, Figure 47, highlights the consistency of the majority of data from month to month. Note the greater variability (wider inner-quartile range) and greater range of the data through the winter and early spring months that's accompanied by typically greater monthly maxima. Recall, this time period experiences a greater number of days with meteorological conditions similar to those experienced on April 5, 2010. Although these high values affect the variability and central tendency of the dataset they aren't representative of what is typical at the site.

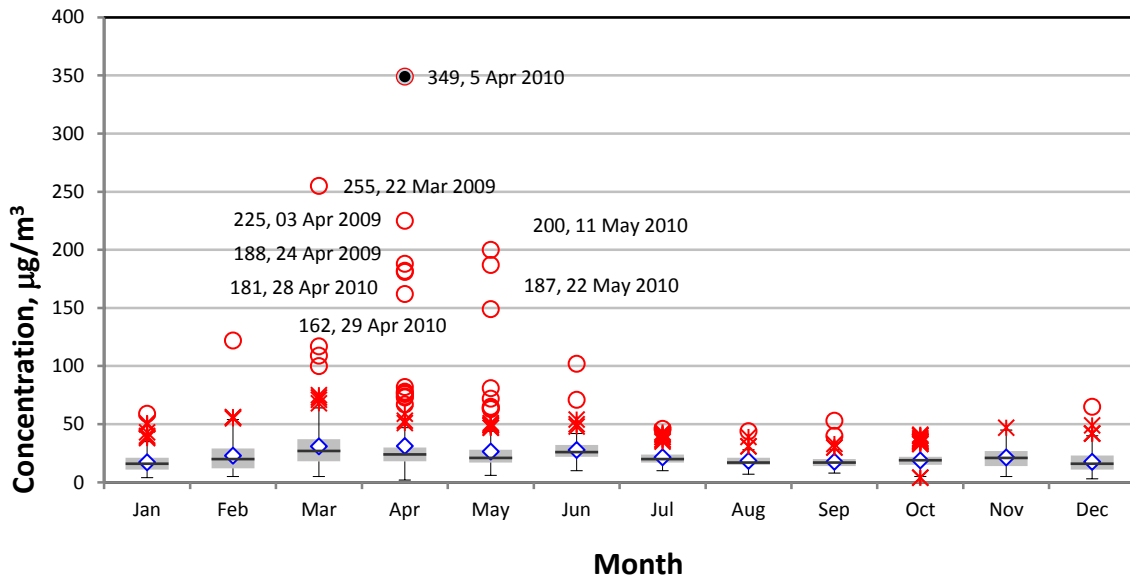


Figure 47: Monthly Pagosa Springs PM₁₀ Box and Whisker Plot

As with the previous box and whisker plots, outliers greater than $150 \mu\text{g}/\text{m}^3$ are identified by concentration and date. Each of these outliers is associated with a known high-wind exceptional event similar to that of April 5, 2010.

Durango - 080670004

The PM_{10} sample on April 5, 2010, at Durango of $320 \mu\text{g}/\text{m}^3$ is the largest sample in the data set for any evaluation criteria. There are 811 samples in this dataset. The sample of April 5, 2010, clearly exceeds the typical samples for this site and sits well beyond the typical data distribution.

Figures 48 through 50 graphically characterize the Durango PM_{10} data. Figure 48 is a simple time series graph, every sample in this dataset (2005 – 2011) greater than $150 \mu\text{g}/\text{m}^3$ is identified. As with the previous time series an overwhelming number of samples occupy the lower end of the graph, over 99% of all the samples in this dataset are less than $75 \mu\text{g}/\text{m}^3$. Of the 811 samples in this data set exactly four are greater than $150 \mu\text{g}/\text{m}^3$; All four of these samples are related to high wind exceptional events similar to this event. Clearly the April 5, 2010, sample is not typical of samples at this site.

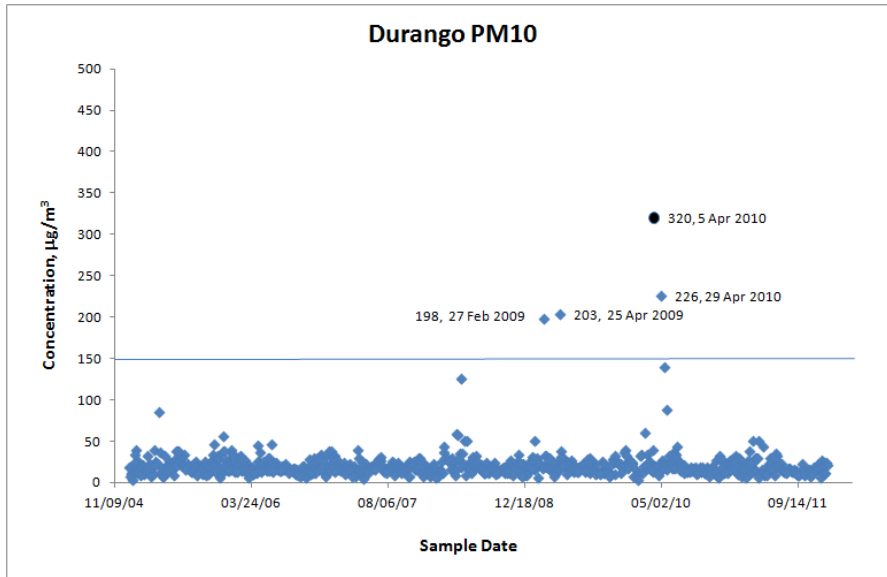


Figure 48: Durango PM_{10}

Figure 49 is a simple histogram, demonstrating the overwhelming weight of samples on the low end of the curve. Almost 50% of the samples in this data set are less than $20 \mu\text{g}/\text{m}^3$. Even in the highly volatile month of April, the month with the largest sample standard deviation, 90% of the samples are less than $50 \mu\text{g}/\text{m}^3$. Clearly, the sample on April 5, 2010, exceeds what is typical for this site.

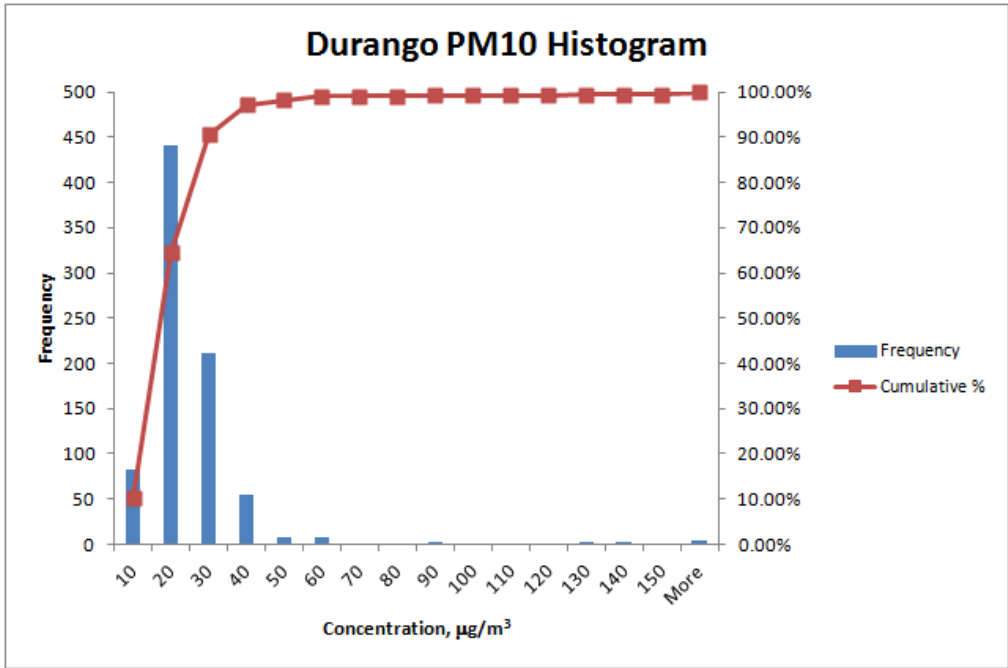


Figure 49: Durango PM₁₀ Histogram

The monthly box-whisker plot, Figure 50, highlights the consistency of the majority of data from month to month. Note the greater variability (wider inner-quartile range) and greater range of the data through the winter and early spring months that's accompanied by typically greater monthly maxima. Recall, this time period experiences a greater number of days with meteorological conditions similar to those experienced on April 5, 2010. Although these high values affect the variability and central tendency of the dataset they aren't representative of what is typical at the site.

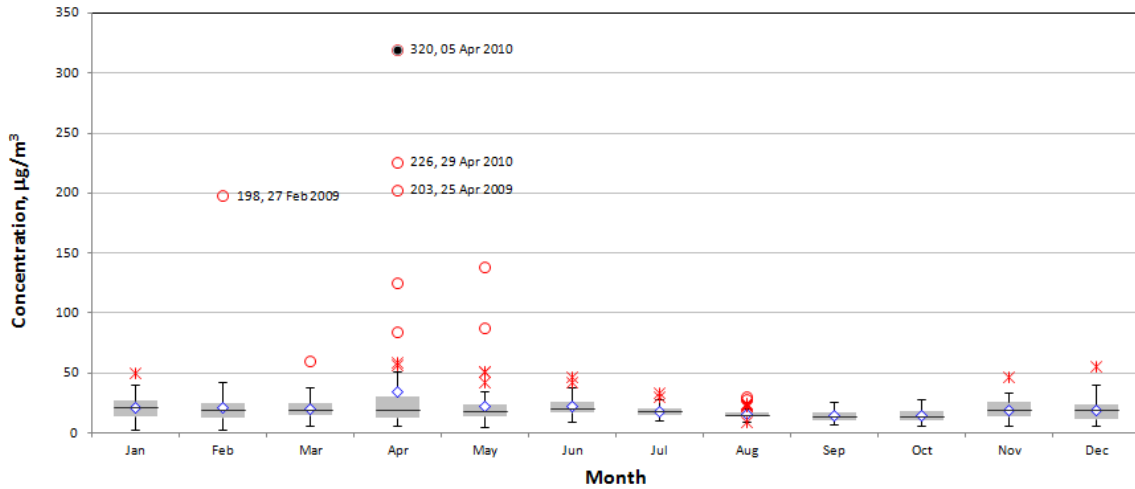
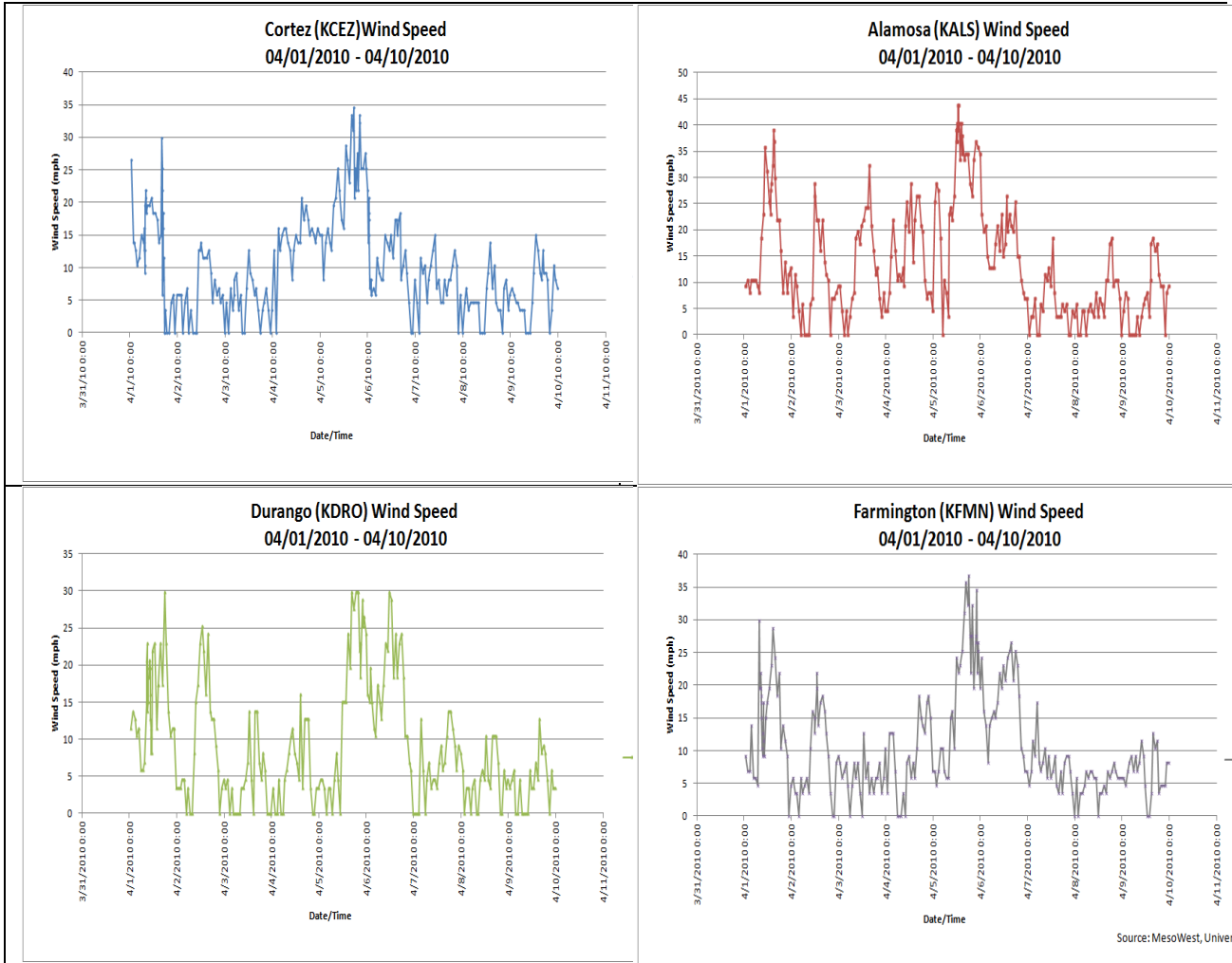


Figure 50: Monthly Durango PM₁₀ Box and Whisker Plot

3.2 Wind Speed Correlations

Wind speeds around the region (Southwest Colorado, Northeast Arizona, Northwest New Mexico) increased early in the morning April 5, 2010, and stayed high through the morning of April 6, gusting to speeds in excess of 60 mph. The charts in Figure 51 display wind speed (mph) as a function of date from six widely dispersed stations across the region. Every one of these stations, despite being in completely disparate locations, exhibits nearly the same behavior in regards to the increasing wind speeds on April 5, 2010.



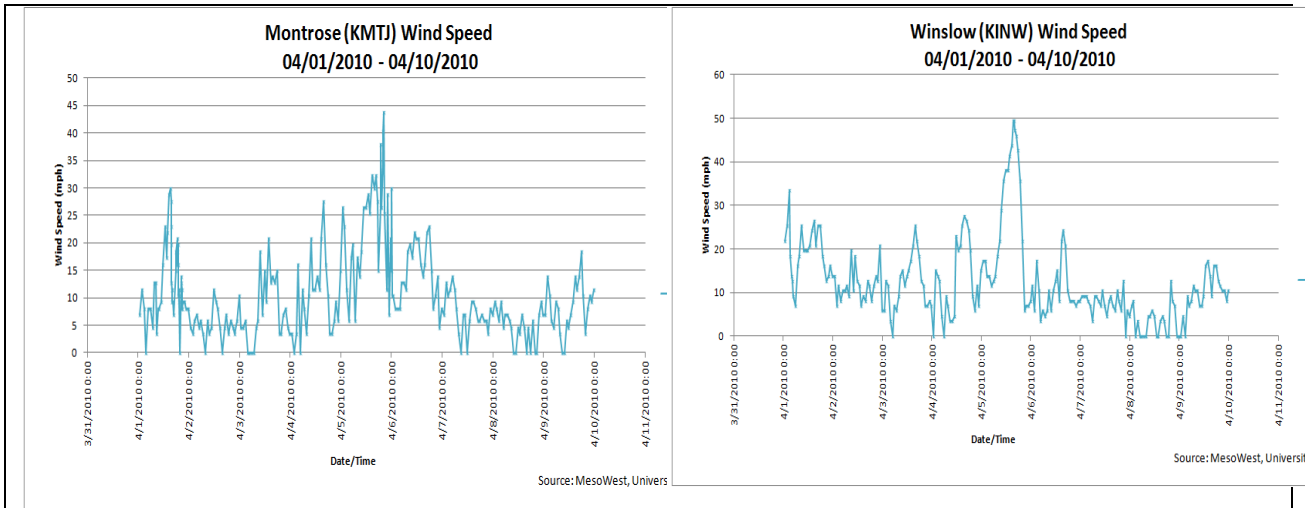


Figure 51: Wind Speed Graphs for Select Areas in Southwest Colorado, Northeast Arizona, and Northwest New Mexico (Wind Speed data courtesy of University of Utah, Mesowest)

Figure 52, plots PM₁₀ concentrations from the affected sites for a small number of days prior to and following the sample(s) of April 5, 2010.

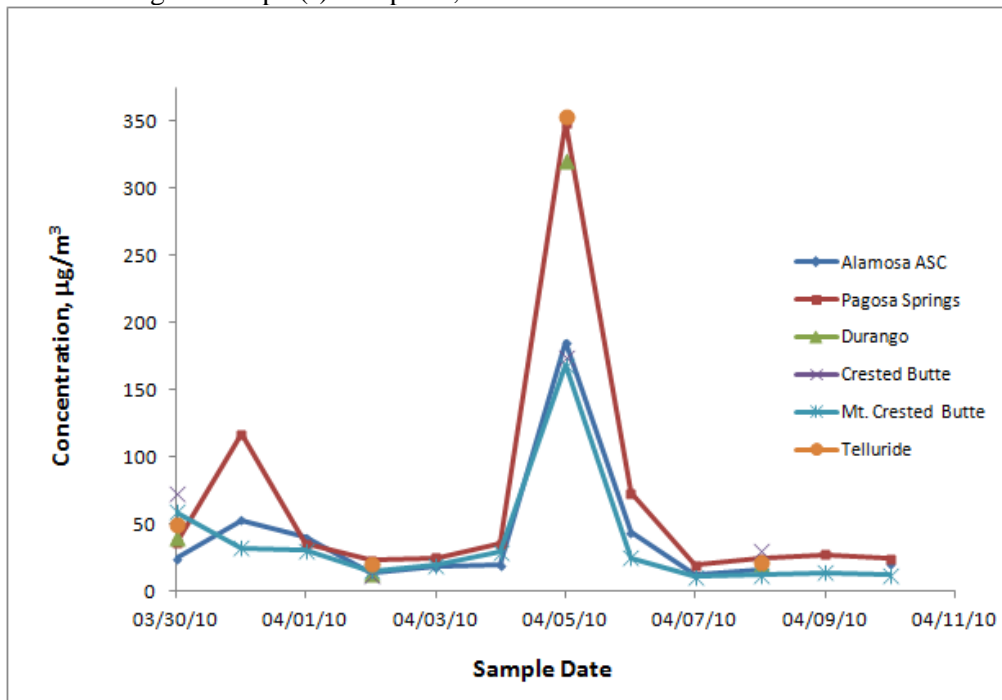


Figure 52: PM₁₀ Concentrations, Select Affected Sites (03/30/2010 – 04/10/2010)

The plot precisely mimics the plots for wind speed, even to the extent that elevated PM₁₀ concentrations on sample dates other than the event date (e.g 31 March and 06 April) are associated with higher winds on those dates. Although these lesser events aren't associated with samples in excess of 150 µg/m³ the elevated concentrations are clearly associated with the elevated wind speeds. Given the wide spatial separation of the sites (meteorological and PM₁₀) the relationship between the two data sets would suggest that the regional high winds had an affect on PM₁₀ samples in Colorado on April 5, 2010.

3.3 Percentiles

Monthly percentile plots for each site demonstrate a high degree of association between monthly median values and relatively high monthly percentile values, e.g. the r^2 value between the Alamosa ASC monthly 90th percentile and the Alamosa ASC monthly median is 0.699. The same value(s) for Pagosa Springs and Durango are 0.827 and 0.613, respectively. As the percentile value decreases (e. g., 90%, 75%) the correlation between those values and the median increases sharply. The monthly percentile plots for each site are presented in Figure 53.

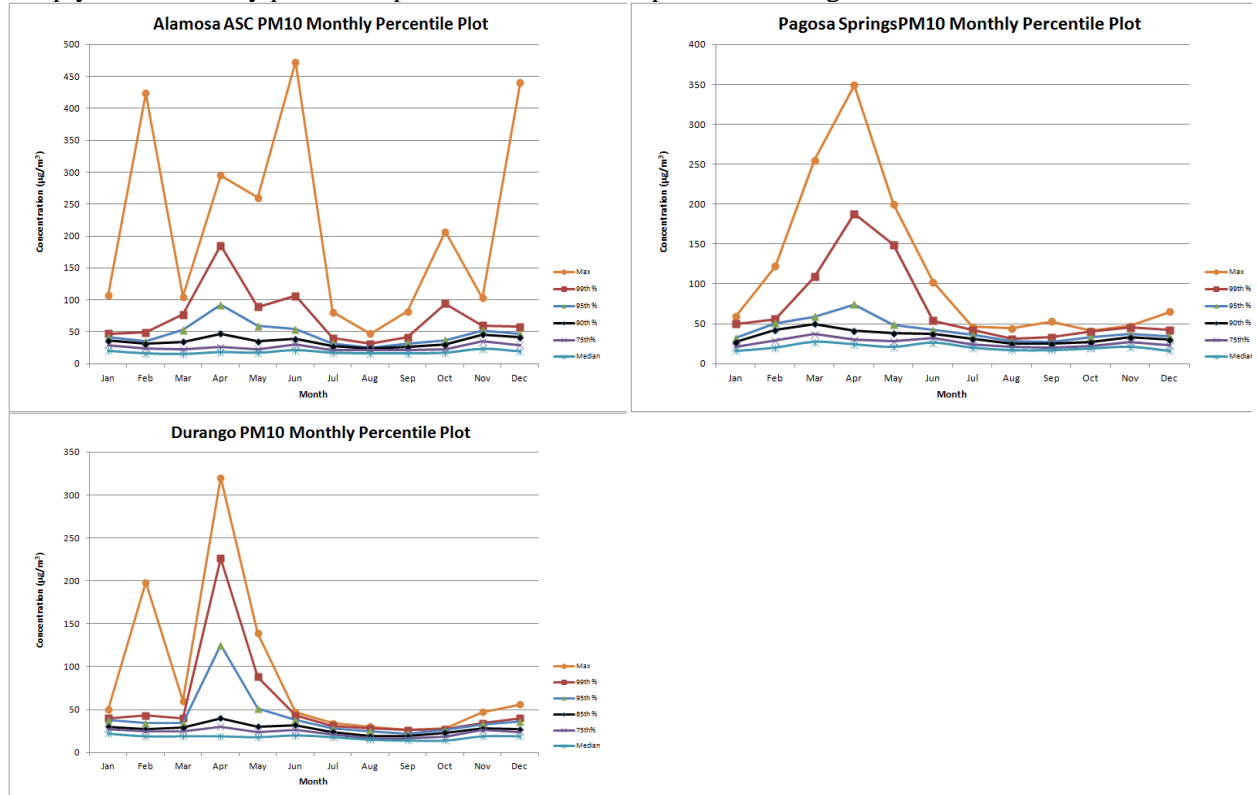


Figure 53: Monthly Percentile Plots for Alamosa ASC, Durango, and Pagosa Springs

It is certainly the case that monthly median PM₁₀ values are indicative of typical, day to day PM₁₀ concentrations. Additionally, there is a range of samples that are a product of normal variation subject to typical, day to day effects due to local PM₁₀ derived dust. This range may be restricted to percentile values that are well correlated with the median. For these data sets a conservative estimate of the percentile value that is reflective of normal, day to day variation is the 90th percentile value. A different way to phrase this may be that most of the variability in the monthly 90th percentile values can be explained by the variation in monthly medians. If we take the 90th percentile as an estimate of the maximum contribution that could have come from local sources then the portion of the sample concentration remaining would be due to the event. Nearly all of the variation in the monthly 84th percentile values can be explained by the variation in monthly medians ($r^2 \sim 0.85$). Table 14 identifies various percentile values for each site from all April data. The range estimate in the “Est. Conc. Above Typical” column was derived using the difference between the actual sample value and the 90th percentile as the minimum estimate and the difference between the actual sample value and the 84th percentile as the maximum estimate.

Table 14: Various Percentile Values for Each Site from all April Data

Site	Event Day Concentration ($\mu\text{g}/\text{m}^3$)	April Median ($\mu\text{g}/\text{m}^3$)	April Average ($\mu\text{g}/\text{m}^3$)	April 75 th % ($\mu\text{g}/\text{m}^3$)	April 84 th % ($\mu\text{g}/\text{m}^3$)	April 90 th % ($\mu\text{g}/\text{m}^3$)	Est. Conc. Above Typical ($\mu\text{g}/\text{m}^3$)
Alamosa ASC	185	18	28	26	33	47	138 - 152
Pagosa Springs	349	24	31	30	34	41	308 - 315
Durango	320	19.5	34	30	40	51	269 - 280

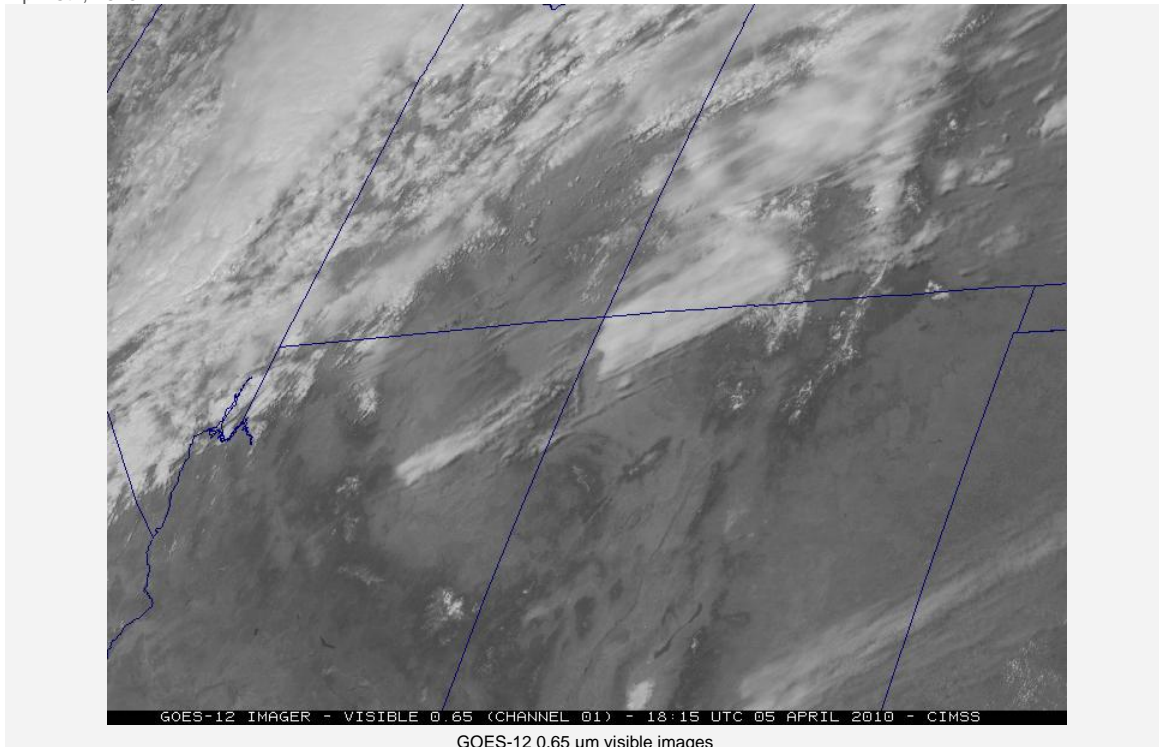
Clearly, there would have been no exceedance but for the additional contribution provided by the event.

Since the local anthropogenic sources are well controlled in Alamosa, Pagosa Springs, and Durango and the sustained surface wind speeds were well above 25 mph in the region of the dust storm, it follows that the dust was transported into the region on April 5, 2010. This high wind blowing dust event affected the air quality in Alamosa, Pagosa Springs, Crested Butte, Mount Crested, Durango, and Telluride in the state of Colorado on April 5, 2010. The size, extent, and origination of the blowing dust storm made the event not preventable and it could not be reasonably controlled. Statistical data clearly shows that but for this high wind blowing dust event Alamosa, Pagosa Springs, and Durango would not have exceeded the 24-hour NAAQS on April 5, 2010.

4.0 News and Credible Evidence

Blowing dust in the Four Corners region of the Southwestern US

April 5th, 2010



McIDAS images of the GOES-12 0.65 μm visible channel data (**above**) showed the development of large plumes of blowing dust that developed late in the day on **05 April 2010** as a result of very strong winds **ahead of an advancing cold frontal boundary**. Winds gusted as high as **70 mph** in northeastern Arizona and **68 mph** in southern Utah (*reducing visibility to near zero in some areas, and forcing some road closures*). The GOES-12 satellite had been placed into Rapid Scan Operations, allowing imagery to be available as frequently as every 5-10 minutes.

An AWIPS image of the POES AVHRR Cloud Top Height product (**below**) indicated that the tops of the blowing dust plumes in northeastern Arizona at 19:45 UTC (*1:45 pm local time*) were around 1-2 km.

Crestone Weather Center

- Keno's Home and Crestone's Official Weather Station -

MONTHLY CLIMATOLOGICAL SUMMARY FOR CRESTONE, CO

(For Daily Climatological Stats, go [here](#))

2010

MONTH	MEAN TEMP	HIGH TEMP	DATE	LOW TEMP	DATE	HEATING DEGREE DAYS	COOLING DEGREE DAYS	TOTAL PRECIP	WIND SPEED AVG	WIND GUST HIGH	DATE	DOM WIND DIR
Jan	22.0°	43.4°	1/14	-3.6°	1/8	1339	0	0.51	3	27	1/22	E
Feb	22.0°	40.4°	2/19	-3.6°	2/2	1207	0	0.97	3	26	2/20	S
March	32.1°	68.2°	3/30	0.2°	3/20	1017	0	1.44	6	44	3/14	E
April	42.3°	68.4°	4/15	14.1°	4/30	692	0	1.73	8	52	4/5	S
May	50.5°	81.2°	5/28	17.1°	5/1	447	2	0.23	9	51	5/22	S
June	63.7°	88.7°	6/9	34.4°	6/15	77	38	0.31	7	43	6/6	E
July	67.8°	92.0°	7/16	40.5°	7/5	14	100	0.87	5	32	7/21	E
Aug	64.5°	85.2°	8/15	41.6°	8/20	39	24	1.87	5	29	8/16	E
Sept	59.2°	84.2°	9/5	31.7°	9/11	167	0	0.83	4	31	9/9	E
Oct	45.4°	80.1°	10/1	10.5°	10/28	536	0	0.54	4	31	10/26	E
Nov	30.2°	62.2°	11/2	-8.7°	11/25	1045	0	0.20	4	37	11/21	E
Dec*	30.6°	55.9°	12/3	-8.7°	12/31	1068	0	0.45	4	30	12/20	E
TOTALS	44.3°	92.0°	7/16	-8.7°	**	7648	164	9.95	5.2	52	4/5	E

*Up until Dec 31. ** Reached twice, first on November 25, and then again on December 31.

Temperatures recorded in degrees Fahrenheit. Wind Speed recorded in MPH.

Precipitation recorded in inches. Heating/Cooling degree base: 65.0°

Crestone Weather Notes For 2010

Nine straight days of freezing fog recorded between January 27 and February 4, with the last five days of January socked in most of the morning and evening hours and in some locations, all day long.

Record low temperature set for the day on February 23 at -3.6° (-4°), old record of -2° was set in 1996.

The .97 inches of precipitation recorded in February was the third most ever for the month, and the 15.3 inches of snow was the fourth highest snow total ever recorded for

February.

The 9.5 inches of snow that fell on March 8 was a record snowfall for that day.

Windy day on March 14, with a top wind gust of 44 MPH recorded, the strongest gust of wind here since May 2008, causes minor damage around town. Some reports of 50 MPH plus wind gusts came in from the Grants.

A cold front hits at 10:25 am on March 19, with the temperature dropping from 34° to 21° in about 30 minutes. A mini snowstorm with blowing snow at noon caused near whiteout conditions for about an hour.

Record low temperature reached on March 20 at 0.2°, breaking the old record of 4°, set in 1998.

With 1.44 inch of precip, and 18.9 inches of snow, these readings were both the fifth wettest, and fifth snowiest March on record.

On April 5 the low temperature (34°) never went below freezing. This marked the first time Crestone did not drop below freezing in a 24 hour period since October 19, 2009.

The first 6 days of April start off very windy. On April 5 (at 520 PM), a top wind gust of 52 MPH was recorded at our weather station. This is the highest recorded gust of wind ever recorded in Crestone (although wind speed has only been recorded here since November of 2002). Reports of 60+ MPH gusts came in from the Grants on this same day.

April 12 marked the first rainfall of the year - be it only a trace, at our weather station. However, heavy rain was reported on the same day just 2 miles south of the station. On April 16 the first measurable rainfall of the year occurred.

Second mini dust storm of the year and month hits on April 28, which was a very windy day. Yet April 29 is even more windier, with a 24 hour average wind speed of 15 MPH, along with some more dust and even stronger winds out in the valley and above 10,000 feet in the mountains.

The high temperature in April only reach 68°, making it only the fifth time since 1982 that a reading of 70° or higher wasn't reach in April, and the first time this has happened since April, 1997.

April turned out to be the windiest month ever for average speed in Crestone, be it that wind speed has only been measured in Crestone since November of 2002.

May also turns out very windy, with a wind gust of 50 MPH May 11, and then a top wind gust of 51 MPH on May 22. The next morning saw blowing dust, and a wind gust of 62 MPH was recorded at the Crestone Charter School, about 4 miles west of our weather station.

On May 25, a record low of 25.9° was reached in the early morning hours.

May saw a total of 9 days where the afternoon humidity reading was below 10%, with a reading of 5% on May 25 being the lowest reading of the month.

May became the windiest month ever for average speed in Crestone, breaking the record set just set in April (see above). May also turned out to be the fifth driest May ever on record.

On June 9 a record high temperature was reached with a reading of 88.7°, breaking the old mark of 87°, set in 2002. Also on this day a humidity reading of 4% was recorded, making this the driest day so far in 2010.

All of Crestone experienced a smoky late afternoon and evening on June 23 from a forest fire ([Medano Fire](#)) burning 19 miles southeast of town at the Great Sand Dunes National Park

A early evening thunderstorm on June 28 left .15" of precipitation in the rain gauge, not a whole lot, but this was the first significant rainfall since May 14, and only the second significant precip event since April 23 when 5.4" of snow fell.

Humidity wise, June was one of the driest months Crestone has seen in years, with 9 days in a row (June 16 thru 24) with afternoon humidity readings below 10% with 4 straight days (June 18 to 21) with afternoon humidity readings at or below 5%, including a 4% humidity reading on June 20, tied with June 9 for the driest day of the year so far. All told, there were 12 days in June where the humidity reading was under 10%.

Precip wise, this June was tied for the sixth driest June on record.

Record high temperature tied on July 16 at 92°, along with a humidity reading of 4% in the afternoon.

For the first time since 2005, Crestone experiences more than 2 days in a row of 90 degree temperatures, with 6 days straight days of 90 plus readings from July 15 till July 20.

Record high low of 59.1° shatters the old record for July 20 of 56°. This reading also ties for fourth place for the warmest ever highest low recorded. The warmest overnight reading ever was 63°, followed by two readings of 60°... Also on July 20, more smoke covers town in the late afternoon from the still burning Mendio fire.

Precip wise, July ended up being the fourth driest July ever, with only .87" of rain falling.

0.68" of rain and hail fell in just 10 minutes time on Aug 5, starting at 2:25pm. It ended up raining only for about another 30 minutes afterwards and that (.09") was the only other precip that came down for the day. Yet the total of .77" total precip that fell in less than an hour's time set a record for the entire date for total precip (old record was .38",

set in 1999).

5% humidity reading in the afternoon on Labor Day, Sept 6.

This year marked the warmest September on record, along with 5 record high temperatures recorded. The high temperature of 82° on September 18, tied the record for the day first set in 2005, then the next day, on September 19, the record high temp was broken with a reading of 83°, the old mark was 82°, set in 1984. Then for the last week of the month, we saw three days in a row with record highs broken or tied: On Sept 27 it reached 82°, tying the old record first set in 2001. Sept 28 saw a new record high of 83°, breaking the old mark of 82°, set in 1998. Then on September 29 another new record was reached at 83°, the old record was 82°, set in 2001.

October started off as September ended, unseasonably warm. The high temperature on October 1 of 80.1°, not only broke the record for the day (old record was 79°), it was the warmest temperature reading ever in October for Crestone and the first time the high temperature reached the 80s in the month.

The first trace of snow reported on October 22 was the latest date for snow to fall in any new snow season (the new snow season starts each year on July 1).

Two interesting notes about the 1.7" of snow that fell on November 21. First, this was the second longest into the new snow season that Crestone had gone before the first inch of snow fell. The latest date remains as December 6, 1989. This 1.7" of snow was also the first time it snowed on November 21 in 27 years of record keeping, and that was the latest date of the calendar year with no snow ever recorded. Now November 8 is latest date and is also now the only day in November to never see measurable snow accumulate.

A record low for the date was reached on November 25 when the temperature fell to -8.7° (or -9°). The old record was -2°, set in 2007.

A record high low temperature was tied on December 10 when the overnight low temperature only fell to 32°.

A record high temperature was tied on December 14 at 50.2°.

An all time record high low temperature for Crestone in December was set on December 20 when the temperature only went down to 36°, smashing the old record for the date of 27°, and replacing the old all time record for the month, which was 34°. This reading of 36° was also only the third time the temperature stayed above freezing for a 24 hour period in December since records were first kept 27 years ago. But that fact would change as the week went on, as this would occur again... Another record high low was set on December 21, this time the reading was 32°, easily surpassing the old record of 21°. Then again the next day, on December 22, another record high low was set when this time the temperature only went down to 33°, surpassing the old record for the date of 25°. Finally, on December 23, and for the fourth day in a row, Crestone recorded one last record high low temperature reading, this time the temperature only

dropped down to 31°, breaking the old record of 27°. For these 4 days, Crestone averaged a low temperature of 33°, when on average the low temp should be in the single digits this time of year.

A record low for the date was tied on December 31 when the thermometer dropped to -9°. The record was first set in 1982.

December 2010 ended up being the warmest December ever record, going back to 1982, the first year weather records were kept in Crestone.

http://www.keno.org/vws/climatological_summary_2010.htm

Heavy dust from New Mexico announces arrival of snowstorm

Garrett Andrews
Herald Staff Writer

Article Last Updated: Tuesday, April 06, 2010 12:36pm

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STEVE LEWIS/Herald

A cyclist pedals through the dusty evening air Monday near East Third Avenue and Eighth Street. A low-pressure system coming from the south picked up dust from New Mexico and sent it north. The National Weather Service forecasts the system could leave as much as 3 inches of snow on the ground today in Durango.

Strong southwesterly winds blew heavy dust into town Monday from New Mexico, ahead of a

low-pressure system and coldfront that could drop 3 inches of snow today.

Matthew Aleksa, meteorologist with the National Weather Service's Grand Junction office, said between 8 and 16 inches of snow could fall in the Southern San Juans, and 80 to 90 mile per hour winds are expected above treeline throughout the day.

A winter storm warning went into effect at 6 p.m. Monday for all mountain zones in Colorado. The warning will remain in effect until 6 a.m. Wednesday.

Aleksa said snow could begin falling early today morning and intermittently throughout the day today, before tapering off Wednesday morning.

gandrews@durangoherald.com

I-40 closed; high wind warning for Little Colorado River Valley

Print Email

April 05, 2010 12:05 pm • DAILY SUN STAFF

(0) Comments

I-40 was closed at 3 p.m. because of blowing dust from high winds.

Initially, the highway was open as visibility diminished, according to information from the Arizona Department of Transportation. Highway patrol and ADOT crews escorted motorists through a 4-mile segment near the State Route 99 junction.

ADOT has not determined when the highway will reopen.

The National Weather Service issued earlier today a high wind warning for the Little Colorado River Valley corridor, which runs from Tuba City down to Two Guns and Winslow. Travel along Interstate 40 from Winslow to the New Mexico stateline is expected to be difficult for high profile vehicles and visibility poor for motorists.

Ben Peterson, a NWS meteorologist at the Bellemont station, said Flagstaff is getting hit with gusts up to 60 mph. Tuba City and Two Guns are getting the hardest hit.

It is a typical storm system for this time of year -- lots of wind and lots of temperature changes, Peterson said. As storms track farther north, this area ends up getting the wind.

For the latest information on highway restrictions, visit www.az511.com, or call 511.

http://azdailysun.com/news/local/i--closed-high-wind-warning-for-little-colorado-river/article_3eaebac-40ef-11df-8f87-001cc4c03286.html

Protecting Your Garden from Wind Damage

April 5, 2010
By Holly Deyo

Breezes in your garden are important for pollinating plants and circulating air keeps leaves and roots healthy. However too much wind can shred leaves, break stems and branches and in worst cases, saw off tender plants at dirt level.

For over a week now, we've dealt with hellish wind that is wearing on nerves and plants alike. One casualty: 70mph gusts blew down a newly framed apartment building (see article below) and threw heaps of dirt into the air. Normally blue skies turned an unhealthy, murky brown. You know it's bad when even "working dogs" don't want to venture outside for bathroom breaks and daily walks.

They weren't the only ones to suffer. Newly planted romaine with their long slender leaves were pummeled by this force of nature. However, damage was easily prevented with the help of a frost blanket.

This photo is of the city of Pueblo and we live in a neighboring rural community to the west. Many of our roads aren't paved and Pueblo was the unhappy recipient of our dirt.



Photo: High winds Thursday kick up dust and dirt, obscuring the landscape around Pueblo including the Comanche power plant.

Since wind in this area comes mostly from the north and west, we attached a barrier cloth on those sides only. This was easy to do since our "lettucey-type" plants are protected by hardware mesh wire. Without a wire fence, jack rabbits and cottontails would make short work of these ready-made salads. By covering only two sides, it still allowed in the sun on the south and west. The fabric literally went up in 3 minutes by clipping the material about every 8" with clothes pins.

NOTE: Doubled over landscape fabric and Sunblocker material with a tight weave (50% and smaller) also work well as wind barriers.

After the fabric was in place, I gave the lettuces a gentle overhead drink.

Excessive wind can quickly dehydrate plants and watering their leaves does two things: It more quickly re-hydrates them since water travels through both leaves and roots, and it removes suffocating dust that clogs leaf pores. Plants with dusty leaves is like breathing through a face mask. It makes them work harder when they need to put their energy into root growth and plant structure.

Normally the idea is to keep most water off leaves since it can promote disease – especially in humid areas. It can sunburn young tender leaves when water droplets act as a magnifying glass and intensify the sun's rays. At this time of year the sun is still at a low angle so it's not a problem.

If winds are prolonged, check seedlings often to see if they need more water.

A week later, the protective fabric is still in place since three more days of high wind is forecast. Plants, people and pups will all be glad to see it leave!

http://standeyo.com/NEWS/10_Food_Water/100405.garden.cloth.wind.html

http://www.standeyo.com/NEWS/10_Food_Water/100405.garden.cloth.wind.html

Strong winds rock Pueblo County

The Associated Press The Denver Post

Posted: POSTED: 04/05/2010 02:21:08 PM MDT
UPDATED: 04/05/2010 02:29:08 PM MDT

DenverPost.com

PUEBLO, Colo.—Strong winds are whipping across southwestern Pueblo County at speeds above 70 mph.

A spokesman from the National Weather Service says a gust of 74 mph was recorded near Colorado City at 1 p.m. Monday. Alamosa and Wetmore have each recorded gusts over 60 mph.

The weather service says winds are blowing around 35 mph to 55 mph, and a high wind warning for the area is in effect until midnight.

The Pueblo County Sheriff's Office says they have not received an immediate reports of serious damage from the wind.

Posted: Tue 9:35 AM, Apr 06, 2010

AA  

Reporter: KKCO [Email](#)

Updated: Tue 9:45 AM, Apr 06, 2010

[Back to Weather](#)

Whipping wind causes widespread damage



GRAND JUNCTION, Colo. - High winds caused damage across Colorado, setting off alarms and knocking over a massive tree in Grand Junction.

One Grand Junction homeowner said he didn't get to his dead tree quickly enough and the wind took care of it for him.

The man lives in a house on 29 Road and late Tuesday night, high wind gusts knocked over a dead Poplar tree he says he'd been planning to cut down this summer.

According to a witness on the scene, the 100 foot tall tree blocked both lanes of 29 Road. It also smashed through his fence, and broke his sprinkler system.

The homeowner used a chainsaw to cut it up. No one was injured.

<http://www.nbc11news.com/weather/headlines/89980027.html>

5.0 Not Reasonably Controllable or Preventable: Local Particulate Matter Control Measures

While it is likely that some dust was generated within the local communities as gusts from the regional dust storm passed through the area, the amount of dust generated locally was easily overwhelmed by, and largely unnoticeable as compared to the dust transported in from the source regions of the dust storm. The following sections will describe in detail the regulations and programs in place designed to control PM₁₀ in each affected community. These sections will demonstrate that the event was not reasonably controllable, as laid out in Section 50.1(j) of Title 40 CFR 50, within the context of reasonable local particulate matter control measures. As shown from the meteorological and monitoring analyses (Sections 2 and 3), the source region for the associated dust that occurred during the April 5, 2010 event originated outside of the monitored areas, primarily from the desert regions of northern and central Arizona and northwestern New Mexico.

The Colorado Air Pollution Control Division (Division) conducted thorough analyses and outreach with local governments to confirm that no unusual anthropogenic PM₁₀-producing activities occurred in these towns and that despite reasonable control measures in place, high wind conditions overwhelmed all reasonably available controls. The following subsections describe in detail Best Available Control Measures (BACM), other reasonable control measures, applicable federal, state, and local regulations, appropriate land use management, and an in-depth analysis of potential areas of local soil disturbance for each affected community during the April 5, 2010 event, as well as subsequent outreach designed to administer these activities. This information shall confirm that no unusual anthropogenic actions occurred in the local areas of Alamosa, Pagosa Springs, or Durango during this time.

Regulatory Measures- State

The Division's regulations on PM₁₀ emissions are summarized in Table 15.

Table 15: State Regulations Regulating Particulate Matter Emissions

Rule/Ordinance	Description
Colorado Department of Public Health and Environment Regulation 1- Emission Control For Particulate Matter, Smoke, Carbon Monoxide, And Sulfur Oxides	Applicable sections include but are not limited to: Everyone who manages a source or activity that is subject to controlling fugitive particulate emissions must employ such control measures and operating procedures through the use of all available practical methods which are technologically feasible and economically reasonable and which reduce, prevent and control emissions so as to facilitate the achievement of the maximum practical degree of air purity in every portion of the State. Section III.D.1.a) Anyone clearing or leveling of land greater than five acres in attainment areas or one acre in non-attainment areas from which fugitive particulate emissions will be emitted are

	<p>required to use all available and practical methods which are technologically feasible and economically reasonable in order to minimize fugitive particulate emissions.(Section III.D.2.b)</p> <p>Control measures or operational procedures for fugitive particulate emissions to be employed may include planting vegetation cover, providing synthetic cover, watering, chemical stabilization, furrows, compacting, minimizing disturbed area in the winter, wind breaks and other methods or techniques approved by the Division. (Section III.D.2.b)</p> <p>Any owner or operator responsible for the construction or maintenance of any existing or new unpaved roadway which has vehicle traffic exceeding 200 vehicles per day in the attainment/maintenance area and surrounding areas must stabilize the roadway in order to minimize fugitive dust emissions (Section III.D.2.a.(i))</p>
<p>Colorado Department of Public Health and Environment Regulation 3- Stationary Source Permitting and Air Pollutant Emission Notice Requirements</p>	<p>Construction Permit required if a land development project exceeds 25 acres and spans longer than 6 months in duration (Section II.D.1.j)</p>
<p>Colorado Department of Public Health and Environment Regulation 6- Standards of Performance for New Stationary Sources</p>	<p>Implements federal standards of performance for new stationary sources including ones that have particulate matter emissions. (Section I)</p>
<p>Colorado Department of Public Health and Environment Regulation 9- Open Burning, Prescribed Fire, and Permitting</p>	<p>Prohibits open burning throughout the state unless a permit has been obtained from the appropriate air pollution control authority. In granting or denying any such permit, the authority will base its action on the potential contribution to air pollution in the area, climatic conditions on the day or days of such burning, and the authority's satisfaction that there is no practical alternate method for the disposal of the material to be burned. Among other permit conditions, the authority granting the permit may impose conditions on wind speed at the time of the burn to minimize smoke impacts on smoke-sensitive areas. (Section III)</p>
<p>Federal Motor Vehicle Emission Control Program</p>	<p>The federal motor vehicle emission control program has reduced PM₁₀ emissions through a continuing process of requiring diesel engine manufacturers to produce new vehicles that meet tighter and tighter emission standards. As</p>

	older, higher emitting diesel vehicles are replaced with newer vehicles; the PM ₁₀ emissions in areas will be reduced.
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5.1 Alamosa

Natural Events Action Plan (NEAP)

The Final NEAP for High Wind Events in Alamosa, Colorado was completed in May 2003. The NEAP addresses public education programs, public notification and health advisory programs, and determines and implements Best Available Control Measures (BACM) for anthropogenic sources in the Alamosa area. The Division followed up with the City and County of Alamosa in January 2007 and in the spring of 2013 on whether the NEAP mitigation measures and commitments were satisfied, the results of which are detailed below. The City of Alamosa, Alamosa County, the Division, and participating federal agencies worked diligently to identify contributing sources and to develop appropriate BACM as required by the Natural Events Policy.

Regulatory Measures- City

The Division and the City of Alamosa are responsible for implementing regulatory measures to control emissions from agricultural sources, stationary sources, fugitive dust sources, and open burning within Alamosa. Alamosa's ordinances of PM₁₀ emissions are summarized in Table 16.

Table 16: Rules and Ordinances Regulating Particulate Matter Emissions in Alamosa

Rule/Ordinance	Description
City of Alamosa Code of Ordinances Article VII of Section 21-140 (5)	Addresses dust control for home occupations
City of Alamosa Code of Ordinances Article V Sec. 17-87(3))	Requires all new roads and alleys to be paved
City of Alamosa Code of Ordinances (Article VI Sec. 21-119(g)(3)).	New large commercial/retail establishments must install underground automatic irrigation systems for all landscaped areas

City of Alamosa

The City of Alamosa has been active in addressing potential PM₁₀ sources within the Alamosa area through various efforts. Some of these efforts, plus other potential future measures, include the adoption of local ordinances to reduce PM₁₀. Copies of current ordinances and any related commitments are included in the NEAP in Appendix C. According to the City's Public Works Director, as of 2013, the City is planning on adding additional dust control best management practices to the International Building Codes that are adopted by the city in the next update. The best management practices will include requiring a Dust Control Plan for any site that is issued a clearing permit for any site over 2 acres. The City is also currently (as of 2013) working on revising part of their landscaping ordinances to require mulch in areas that are not vegetated or covered by rock to help mitigate fugitive particulate emissions. These efforts have been stalled in the past due to employee turnover at City Manager's Office.

Street Sweeping

The City of Alamosa sweeps on an every 4-week schedule or as needed, as determined by local officials on a case by case situation (e.g., following each snowstorm and/or where sand was applied). Sweeping occurs on every single City street with an emphasis on the downtown corridor

where public exposure is expected to be greatest. In fact as of Spring 2013, street sweeping in the downtown corridor currently takes place twice per week according to the City's Public Works Director.

According to the City's Public Works Director, the city currently (as of 2013) owns an Elgin Pelican (mobile mechanical sweeper) and a Tymko 600 (brush-assisted head) street sweeper. As of June 2013, the City will also own a new Elgin Broom Badger street sweeper at which time the Tymko 600 will be sent in for a re-build. The new Elgin Broom Badger street sweeper can be used in the winter months when the Tymko cannot due to freezing of the water delivery system.

Unpaved Roads within the City

The City of Alamosa (as of 2008) requires all new roads and alleys to be paved according to the Municipal Code (Article V Sec. 17-87(3)) and some existing unpaved roads are being treated with dust suppressants until all underground utilities are installed. No new development is allowed until paving is complete unless a performance bond is in place.

According to the City's Public Works Director, as of 2013, less than 3% of City roads are unpaved; most of these unpaved roads are legacy annexations. One of these unpaved roads is scheduled for paving this year (2013). The remaining unpaved roads are all low traffic (less than 100 ADT) and the City continues to seek funding sources for paving these streets.

Sod/Vegetative Cover Projects in the City of Alamosa

As of 2008, the City of Alamosa placed vegetative cover in all city parks and has installed irrigation systems to maintain the cover. As of 2013, the City has been emphasizing more low-water use landscaping with shrubs, mulch, etc. including both organic and rock. All turf areas do have irrigation systems which utilize drip systems for specimen plantings.

Alamosa County

Alamosa County has also been active in addressing blowing dust and is preparing a county ordinance as such.

Unpaved Roads

Alamosa County is presently addressing unpaved roads and lanes that are anticipated to contribute to PM₁₀ emissions in the community. As of 2002, Alamosa County was nearing the end of its five-year road paving plan and was developing their next plan with the intention of paving on a yearly basis, based on traffic, community needs/priorities, and funding availability.

In 2002, Alamosa County addressed approximately ten (10) miles of unpaved roads. This includes the stabilization of approximately five section roads, the seal coating of two roads, and the overlay (repaving) of four (4) additional roads.

In 2003, approximately 14 miles of roads were paved. This includes the Seven Mile Road (three miles long), Road 109 (one mile long), and 10th Street (also one mile long). These roads are in close proximity to the City of Alamosa, are upwind (prevailing) from the city, and have heavy traffic. Paving is anticipated to greatly reduce blowing dust and impacts in the vicinity.

No paving projects took place between 2004 and 2010 due to lack of funding. Between 2010 and 2013 the County was able to get funding but only for maintenance paving on previously paved roads that needed repair. Now that the county is caught up on maintenance paving, it is focusing on paving the remaining unpaved roads. The County's goal is to pave about 2.5 miles of unpaved road per year depending on funding availability.

As of 2013, Alamosa County has funding to pave approximately 2.5 miles of the 106 North which is currently unpaved. After this paving project the County will only have 2.5 miles of unpaved road remaining on the 106 North which is anticipated to be paved in the summer of 2014.

In the summer time the County regularly hauls water and wets down the unpaved roads (mostly gravel, clay and sand) to reduce the fugitive particulate emissions. The County wets the unpaved roads on an as needed basis based on weather conditions and traffic volume. In addition, when it gets cold enough in the area, the County wets down some of the more sandy roads. Once the water soaks in and freezes, good dust suppression is seen. Road construction areas are being dampened with water for dust control. These practices reduce PM₁₀ emissions in and near Alamosa. This control measure is balanced with the availability of water in the area.

Alamosa County used to assess the need to use MgCl₂ treatment on roads in front of residences that request such service. This practice stopped in 2004 when funding was lost. Assessments included the sensitivity to dust of residents, the materials of the road base for safety reasons, and possible environmental concerns of the neighborhood. Most requests for treatment are were granted. Other areas for treatment, such as commercial construction zones or gravel pits, are investigated on a case by case basis. The County hopes to be able to start offering this service again when funding is restored.

Dust Control Plans

Alamosa County may consider changes in local ordinances governing dust control plans at construction sites. This would be addressed through the revision of Alamosa County's Comprehensive Plan and supporting zoning codes. Alamosa County is reviewing language from other successful dust control programs for inclusion in their local ordinances.

The County may update the Comprehensive Plan to include a dust control plan. The Land Use Administrator is researching the potential for a dust control ordinance. This effort is anticipated to reduce PM₁₀ emissions in Alamosa, especially as it relates to impacts on the community and high recorded PM₁₀ values. At the time of this submittal (June 2013), this effort is still underway.

Wind Erosion of Open Areas

To reduce PM₁₀ emissions from open areas outside of the City limits, low tilling and other soil conservation practices continue to be utilized in the community. In addition, the community is using in strategic areas the State of Colorado Agricultural Office's program to purchase and plant shelter trees to reduce wind erosion in open areas. These trees have a demonstrated advantage for the community and for air quality. Once the trees reach maturity, it is anticipated that the equivalent of 112 miles of double-rowed trees will be in place. The survival rate of the tree seedlings varies but according to the District Coordinator for the Seedling Tree Program, potted seedlings have about a 60% to 80% survival rate and the bare root seedlings have about a 40 to 60% survival rate. The Seedling Program recommends Siberian elm and Rocky Mountain juniper trees for low maintenance, drought resistance windbreaks in the valley. In addition, there is ongoing planting of trees (approximately 50) on newly developed Alamosa County property south/southwest of Alamosa (prevailing winds from southwest) and the Airport south of Alamosa for added air quality improvement.

Windblown Dust from Disturbed Soils

Alamosa has a semi-arid climate with approximately 7.25 inches of precipitation annually. The San Luis Valley, as noted within 25 miles of the San Luis Valley Regional Airport in Alamosa, is primarily comprised of forests (43%) and shrublands (42%). Consequently, soils in all areas are

typically a mixture of silt and sand with limited vegetation due to low precipitation. In winter and spring, windstorms are common, especially in drier years. It is due to these high velocity windstorms that Alamosa experiences most of the PM₁₀ problems for the area. Figure 1 illustrates potential areas of local soil disturbance that have been evaluated by the Division for the Alamosa Adams State PM₁₀ monitor.

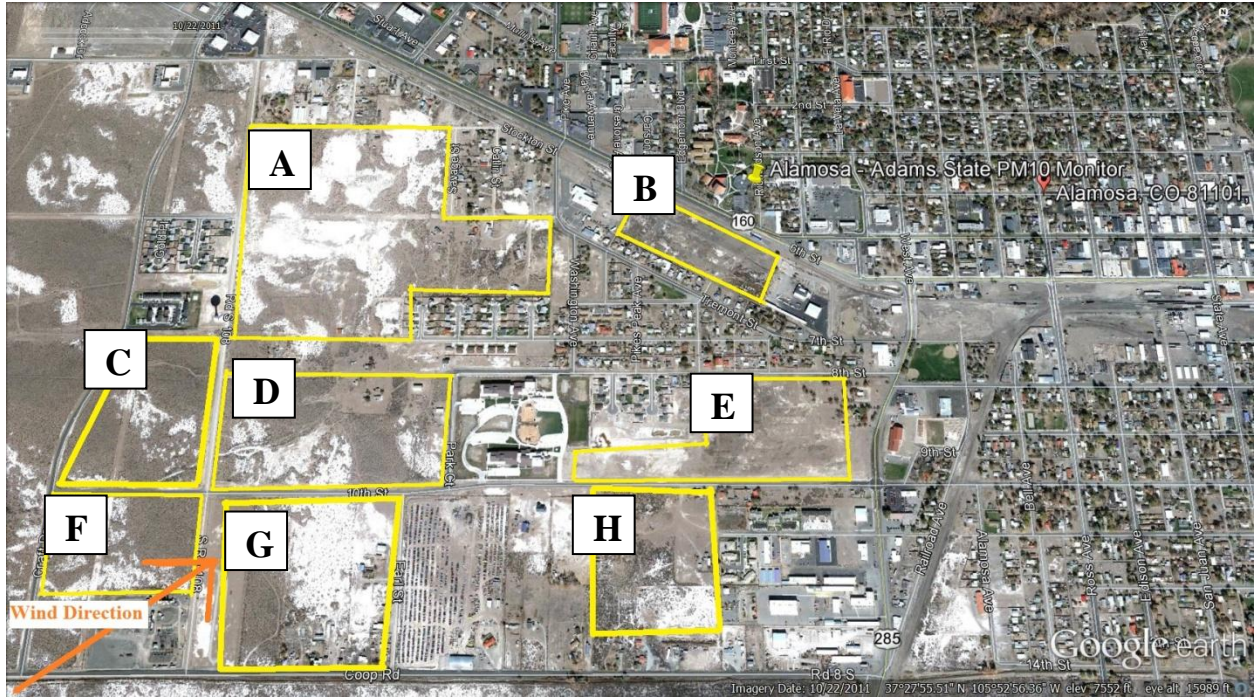


Figure 54: Relative positions of Adam's State College PM₁₀ Monitor and potential disturbed soil. (Image from Google Earth 2007)

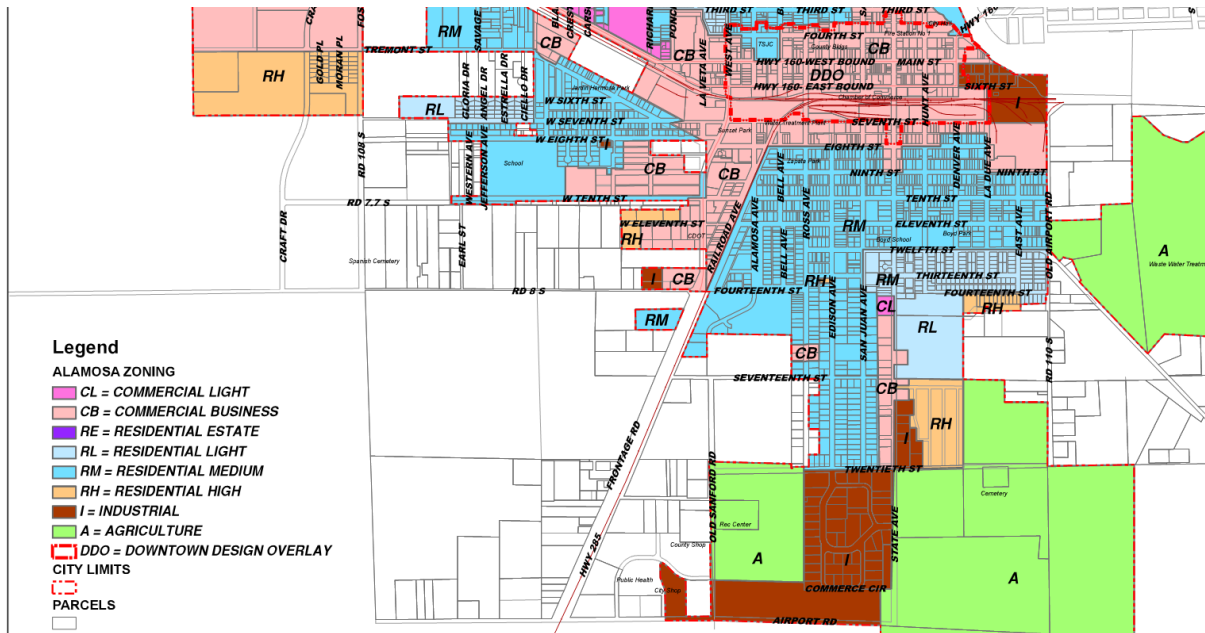


Figure 55: 2011 City of Alamosa Zoning Map (Provided by the Public Works Department)

Site A in Figure 54 (approximately 85 acres) is East of Rd S 108 and South of Chico St. It is zoned outside of the city's limits by the city as a "Parcel" as shown in Figure 55. The eastern portion of Area A is being considered for annexation into the City.

Site C in Figure 54 (approximately 25 acres) is north of 10th St, West of Road 108, and east of Craft St. It is zoned outside of the city's limits by the city as a "Parcel" as shown in Figure 55.

Site D in Figure 54 (approximately 34 acres) is north of 10th street, east of Rd S 108, west of Park Ct, and south of 8th St. It is zoned outside of the city's limits by the city as a "Parcel" as shown in Figure 55.

Site F in Figure 54 (approximately 31 acres) is south of 10th St, east of Craft Dr, west of S Rd 108, and North of Coop Rd. It is zoned outside of the city's limits by the city as a "Parcel" as shown in Figure 55.

Site G in Figure 54 (approximately 41 acres) is east of S Rd 108, north of Coop Rd, west of Earl St, and South of 10th St. It is zoned outside of the city's limits by the city as a "Parcel" as shown in Figure 55.

Sites A, C, D, F, and G are noted by the City of Alamosa's Public Works Director to be vacant land with natural vegetation (i.e. shrubland) with no artificial irrigation and no access restriction. The City emphasizes that the areas are not suited for motorized travel. These lots are not considered to be anthropogenically disturbed soils and should be considered to be natural sources at this time. If future high wind or other exceptional events occur, the Division will re-assess these lots to determine if they are still natural sources.

Site B in Figure 54 (approximately 22 acres) is south of Highway 160 and north east of Tremont St. It is zoned outside of the city's limits by the city as a "Parcel" as shown in Figure 55. Site E in Figure 54 (approximately 30 acres) is north of 10th St, south of 8th St, east of Park Ct, and west of West Ave. It is zoned mostly as a "Commercial Business" as shown in Figure 55. There is a small portion in the top right corner that is zoned outside of the city's limits by the city as a "Parcel". Site H (approximately 23 acres) in Figure 54 is east of Earl St, south of 10th St, and north of Rd 8 S. It is zoned as "Commercial business", "Residential High" and a little "Industrial" as shown in Figure 55. Sites B, E, and H are naturally vegetated and potentially irrigated as shown in Figure 56. Figure 56 demonstrates that these sites are minimally (if at all) disturbed soil areas.



Figure 56: Sites B, E, and H with natural vegetation (Google Earth 2007)

The Division conducted thorough assessments to determine if the potential soil disturbances shown in Figure 54 were present during the 2010 exceedances. During the course of these assessments, the Division discovered that these sites were either reasonably controlled or considered to be natural sources during the April 5, 2010 high wind event. Therefore, these sites were not significant contributors to fugitive dust in the Alamosa area during the April 5, 2010 high wind event.

Sod and Vegetative Projects in the County

The development and construction of a local park, Eastside Park, is complete in Alamosa County. It has been completed with turf grass, shrubs, and landscape rock. No exposed soil remains. This park has reduced blowing dust from this previously undeveloped site.

Numerous other projects to reduce blowing dust and its impacts have happened or are happening at the County Airport. For example:

- Through additional grounds maintenance of the 40-acre Alamosa County airport south of the city, grass is being grown for aesthetics and dust control.
- Sodding and the placement of decorative rock and ground cover have been implemented in the landscaping of the Alamosa County property (2007-2012). These measures have directly abated blowing dust at the Airport.
- Also, the widening of the airport's safety areas (250 feet on either side of the runway) is now complete and seeding of natural grasses was incorporated in the project. Trees and grass were incorporated in the approaches to the airport and have provided additional wind-break advantages to South Alamosa.

In other areas where watering is a problem, xeriscape (the use of native drought resistant vegetation and/or rock cover) is being encouraged for County owned property and for all other property owners.

Colorado State University Co-Op Extension Office

In response to extremely dry conditions, the need to maintain area topsoil, and reduce impacts, the Colorado State University Co-Op Extension Office of Alamosa County provides the following outreach efforts and recommendations:

- Modification of grazing practices to improve protective crop cover
- Increasing crop residues left in the fields to reduce blowing dust
- Planting of Fall crops to maintain fields
- Application of manure to protect top soils from blowing away
- Staggering of the harvest to minimize blowing dust
- Outreach programs on soil conservation efforts
- Development of outreach/education materials (e.g., news articles, newsletters, fact sheets, etc.), and
- Attendance at Statewide workshop to educate other Co-Op offices to various practices to reduce blowing top soil and minimize impacts.

These control strategies are not meant to be enforceable. They are meant only to demonstrate the regional nature of cooperation in addressing blowing dust and its impacts on the community.

Natural Resources Conservation Service (NRCS)

Alamosa County is a predominately agricultural area where limited water, coupled with the frequent high winds experienced during late fall and early spring, can destroy crops, encourage pests, and damage soil surfaces lending them susceptible to wind erosion. Thus, activities that improve the topsoil and prevent its lifting during high wind events are encouraged. Some notable NRCS and agricultural examples include:

- Cover crops and perennial crops (e.g., alfalfa) are recommended to protect soils;
- NRCS works with area farmers in the development of conservation compliance plans to also protect topsoil;
- NRCS encourages the use of perennial crops or the leaving in place of weeds on the corners of area acreage (instead of tilling that might lead to open, barren lands) to reduce the lifting of topsoil;
- NRCS “cost shares” on conservation practices with local farmers to prevent soil erosion, and;
- The NRCS works with Colorado State University to identify other strategies that minimize blowing dust.

Other successful agricultural practices encouraged in the area include: timing of tillage, crop rotation, amount of crop residue left on the land, and proper water usage. These control strategies are not meant to be enforceable. They are meant only to demonstrate the regional nature of cooperation in addressing blowing dust and its impacts on the community.

Please refer to the Final NEAP in Appendix C for more detail if needed.

5.2 Pagosa Springs

Regulatory Measures- City and County

The Division and the Archuleta County Air Quality Department are responsible for implementing regulatory measures to control emissions from agricultural sources, stationary sources, fugitive dust sources, and open burning within Pagosa Springs. Archuleta County regulations of PM₁₀ emissions are summarized in Table 17.

Table 17: Rules and Ordinances Regulating Particulate Matter Emissions in Archuleta County

Rule/Ordinance	Description
Pagosa Springs Land Use and Development Code 6.6.3(h)	Requires that all new developments have paved streets.
Pagosa Springs Land Use and Development Code 6.6.3(m)(i)	All new roads having a projected trip generation of 200 or greater ADT (average daily traffic) shall be paved.

The following control measures resulted in the area's attainment of the PM₁₀ NAAQS, and these measures should ensure continued maintenance of the PM₁₀ NAAQS through the year 2021, which is the duration of the maintenance period.

Control of Emissions through Road Paving

The Town of Pagosa Springs paved 6.5 miles of unpaved roads during 1992, 1993, and 1994 in order to reduce PM₁₀ emissions. This strategy was adopted locally in 1991 and included in State regulation in 1992 (Section I.B. of the State Implementation Plan-Specific Regulations for Nonattainment - Attainment/Maintenance Areas (Local Elements)). The rule was approved by EPA in 1994 and was removed from the Colorado regulation in 2000 as the paving requirements had been completed.

Street Sanding Controls

There is a requirement that any user that applies street sanding material on Highway 160 and Highway 84 in the Pagosa Springs attainment/maintenance area must use materials containing less than one percent fines. Users of street sand on these highways must also use 15 percent less sand than an established base sanding amount. These strategies were adopted in 1992 and approved by EPA in 1994, and they are defined in detail in Sections I.B. and C., respectively, of the —State Implementation Plan-Specific Regulations for Nonattainment - Attainment/Maintenance Areas (Local Elements) Regulations (5 CCR 1001-20).

Control of Emissions from Stationary Sources

Although there are no stationary sources located in the Pagosa Springs attainment/maintenance area, the State's comprehensive permit rules will limit emissions from any new source that may, in the future, locate in the area. These rules are outlined in Table 15.

As indicated above, emissions from new or modified major stationary sources emissions of PM₁₀ are controlled under AQCC Regulation No. 3's nonattainment-area (NAA) new source review (NSR) permitting requirements. The NSR provisions require all new and modified major stationary sources to apply emission control equipment that achieves the "lowest achievable emission rate" (LAER) and to obtain emission offsets from other stationary sources of PM₁₀.

The EPA approval of the original PM₁₀ Maintenance Plan, effective on 08/14/01, reinstates the prevention of significant deterioration (PSD) permitting requirements in the Pagosa Springs Attainment/Maintenance area. The federal PSD requirements are considered a relaxation from the NAA NSR requirements, as LAER is no longer required and is replaced by the less stringent "best available control technology" (BACT), along with the removal of the requirement to offset

PM₁₀ emissions. The future reapplication of NAA NSR provisions appears unlikely in the Pagosa Springs Attainment/Maintenance area based on current PM₁₀ monitoring trends.

Voluntary and State-Only Measures

In addition to the mandatory control measures discussed above, there are other activities that result in the reduction of PM₁₀ emissions that are not classified as “federally enforceable control measures.” Some notable examples include:

The Town of Pagosa Springs has historically cleaned Highway 160 in town throughout the winter and spring using regenerative air vacuum sweepers. The frequency of this voluntary sweeping/cleaning has been about once after each street sanding deployment. The Town of Pagosa Springs is committed to regularly vacuum sweep/clean Highway 160 within four days of the roadway becoming free and clear of snow and ice following each street sanding deployment, as weather, temperature, and street conditions permit, between the intersections of Highway 84 to the east and 14th street to the west. The town also street sweeps regularly on the side streets.

The Town of Pagosa Springs encourages private businesses to properly clean/sweep private parking lots on a regular basis. These strategies are considered to be voluntary local initiatives intended to reduce PM₁₀ emissions. These strategies are not intended to be federally enforceable.

The city of Pagosa Springs has completed the road paving (100% of total segment) of Hot Springs Boulevard.

The city of Pagosa Springs is gradually paving Majestic Road (see Figure 57) depending on funding sources.

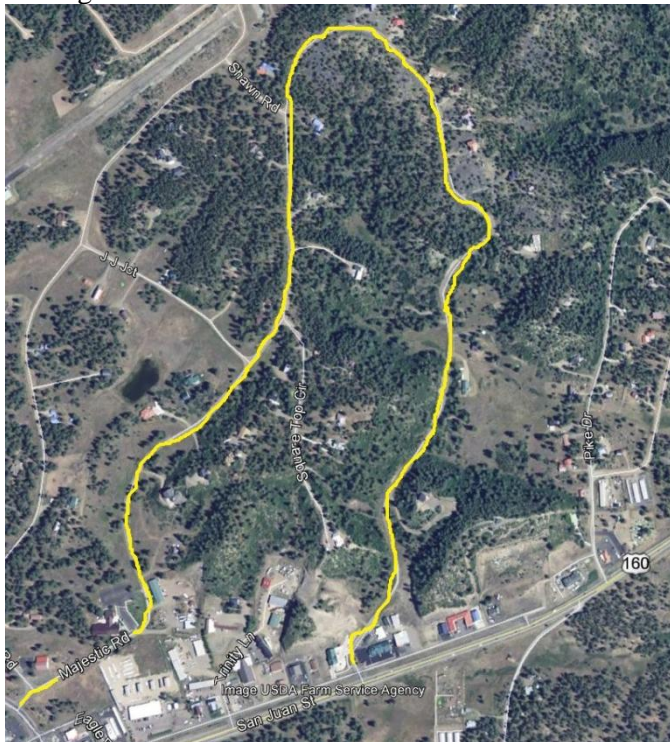


Figure 57: Majestic Road Highlighted in Yellow (Google Earth 2011)

Windblown Dust from Disturbed Soils

Pagosa Springs has a semi-arid climate with approximately 17 inches of precipitation annually. The town is located about 35 miles north of the New Mexico border at 7,000 feet. This area is considered a high desert plateau, creating an unusually mild climate. In winter and spring, regional windstorms are common, especially in drier years. It is during these high velocity windstorms that Pagosa Springs experiences PM₁₀ issues. Figure 58 illustrates potential areas of local soil disturbance that have been evaluated by the Division.



Figure 58: Relative positions of Pagosa Springs PM₁₀ monitor and known or potential disturbed soil. (Image from EPA)

Site A in Figure 58 shows a 1 acre vacant lot that previously contained a small convenience store which was torn down by the new owner between March and April of 2006. Division conversations with neighboring local business owners indicate the owner seeded the vacant lot (site A) with grass soon after demolishing the building. According to several nearby businesses

and a court house clerk, the lot has been under continuous vegetative cover since the seeding in 2006. The grass is well maintained and is enclosed by a small fence (shown in Figure 59) to deter people from walking on the grass. Moreover, the lot is not used for parking or storage.



Figure 59: View of the fence surrounding the vacant lot (Site A)- Google Image 12-2007

Site B in Figure 58 (approximately 2 acres) shows The Springs Resort and Spa. The resort underwent an expansion; construction began in June 2008 and was completed in May 2009. By April 2009, the entire construction site was paved and the building was constructed; the interior was just being finished. Therefore, this project was completed and did not contribute to the April 5, 2010 exceptional event.

Site C in Figure 58 is a 35-acre area of vacant land. According to the Pagosa Springs Parks Department, the area is private property and is entirely naturally vegetated because of a continuous supply of ground water from the nearby stream. The Parks Department also indicates that off-road recreational vehicles are prohibited on the property. The Parks Department is very aware of dust prevention practices and does not believe that the area is a significant source of dust during high winds. With regard to AQCC Regulation 1 requirements (Section III.D.2.b), the Division considers the natural vegetation with regular ground water availability due to the low-lying terrain to be the appropriate available and practical method that is technologically feasible and economically reasonable in order to minimize fugitive particulate emissions for this lot at this time. Local sources, including the Pagosa Daily Post, cite the proposed future 35-acre hotel expansion (Site C) to be projected to occur in several phases over a 10-15 year time period.

The Division will conduct appropriate outreach and compliance assistance so the hotel is aware of potentially applicable AQCC Regulation 1 (Section III.D.2.b) and Regulation 3 (Construction Permit required if the project exceeds 25 acres and spans longer than 6 months in duration) requirements for future construction projects. The Division has specific Air Pollutant Emissions Notices (APENs) for land development and associated guidance documents posted on its website for these type of sources. Additionally, the Division has staff that conduct Small Business Assistance outreach as warranted. Compliance and enforcement inspectors from the Division are assigned regions throughout the state. As part of their workplans, they are required to be reasonably (within 1-2 business days) responsive to community and local government concerns and complaints regarding air quality issues, including fugitive dust.

Site D in Figure 58 is Yamaguchi Park, a 16-acre park consisting mostly of well-maintained turf and some stabilized clay associated with a baseball field. The entire park is irrigated on a regular basis to both maintain the vegetation and to mitigate dust. In the fall of 2008, Pagosa Springs hydro-seeded the park and vegetation emerged around April 2009 which was watered on a regular basis to help the vegetation grow. In Figure 60 below, it is apparent that the park has well maintained vegetation and a small amount of stabilized clay. With regard to AQCC Regulation 1 requirements (Section III.D.2.b), the Division considers hydro-seeding to be the appropriate

available and practical method that is technologically feasible and economically reasonable in order to minimize fugitive particulate emissions for this magnitude of construction project.



Figure 60: Yamaguchi Park- Google Image from 10-2011

The Division conducted thorough assessments to determine if the potential soil disturbances shown in Figure 5 were present during the 2010 exceedances. During the course of these assessments, the Division discovered that these sites were reasonably controlled during the April 5, 2010 high wind event. Therefore, these sites were not significant contributors to fugitive dust in the Pagosa Springs area during the April 5, 2010 high wind event.

5.3 Durango

Regulatory Measures- City and County

The Division, the La Plata County Air Quality Department, and the Southern Ute Indian Tribe are responsible for implementing regulatory measures to control emissions from agricultural sources, stationary sources, fugitive dust sources, and open burning within Durango. A summary of regulations regarding PM₁₀ emissions is in Table 18.

Table 18: Rules and Ordinances Regulating Particulate Matter Emissions in Durango

Rule/Ordinance	Description
City of Durango’s Municipal Code No. 10-1-22 (b)(6 &8)	Requires that all temporary (not to exceed eighteen months) office structures parking areas must have all weather surface gravel to eliminate exposed dirt. Also, the landscaping must have vegetative ground cover in all areas not covered by the building, pavement, or gravel.
City of Durango’s Municipal Code Ord. No. 10-1-6 (a) “Vehicular Circulation Areas” Ord. No. 10-1-28 (a) “Driveways” Ord. No. 10-2-1 (m)(6) “On-site Parking” Ord. No. 4-3-12 (d)(1)	All developed vehicular traffic areas, driveways, on-site parking areas, and off-site parking districts are required to be properly graded for drainage and surfaced with concrete, asphaltic concrete, or any other dust-free surface materials, and maintained in good condition, free of weeds, dust, trash, and debris
City of Durango’s Municipal Code Ord. No. 10-1-8 “Pollution”	Dust from developments is required to be effectively minimized to not be injurious to the neighborhood or detrimental to the general public
City of Durango’s Municipal Code Ord. No. 10-1-17 (f)(14) “Recycling Facilities”	Recycling facilities are permitted and encouraged for redemption and recycling of reusable materials in order to reduce litter. These facilities are not allowed to produce dust that is detectable on neighboring properties.
City of Durango’s Municipal Code Ord. No. 10-1-31 (l) (6) “Self-storage Facilities”	Self-storage facilities are prohibited for any use that produces dust or fumes
City of Durango’s Municipal Code Ord. No. 10-2-4 “Bicycle Parking Spaces”	The surfaces of all bicycle parking spaces do not have to be paved, but shall be finished to reduce mud and dust
City of Durango’s Municipal Code Ord. No. 10-5-14 (a)(6) “Campgrounds”	All recreational campgrounds that have parking spaces and interior roads are required to be paved or treated to reduce dust
City of Durango’s Municipal Code Ord. No. 10-10-16 (c)(11) (e)	Construction sites are required to evaluate and control dust pollutants for runoff potential
City of Durango’s Municipal Code Ord. No. 10-10-16 (y)(1)(d)	Construction sites are required to have an erosion control plan for gravel, sand, dirt, or topsoil removal
City of Durango’s Municipal Code Ord. No. 2000-10, § 1, 5-2-00	All work in the public right-of-way shall control dust and debris and promptly remove dirt and material deposited on roadways
City of Durango’s Municipal Code	All planned residential districts must comply

Ord. No. 6-2-1 (a)(4)	with dust ordinances and not be objectionable due to dust emissions
La Plata County Land Use Code (LPLUC) ² Sec. 82-191-193	Proposed developments must conduct a compatibility assessment, including a neighborhood meeting, if there is a potential to produce dust or significant dust influence. Possible solution for dust may include changing emitter specifications to mitigate problem. Dust emissions cannot have significant adverse impacts on neighbors.
La Plata County Land Use Code (LPLUC) ¹ Sec. 82-167 (b)(3)	Proposed multiple unit developments are required to contain and/or mitigate dust among other external nuisances.
La Plata County Land Use Code (LPLUC) ¹ Sec. 90-124 (c)(8)	Roads and access driveways for all new facilities shall be constructed in a manner that suppresses dust through construction, drilling, and operational activities. Facilities that reduce or destroys existing vegetation may consult with the Soil Conservation Service (renamed the Natural Resources Conservation Service in 1994) and develop a re-vegetation plan, specifying particular species as well as appropriate planting schedules and methods
La Plata County Land Use Code (LPLUC) ¹ Sec. 74-174 (a)	Cattle guards are required to be kept clean of all sand, silt, dirt, and other solid debris.

The City of Durango, La Plata County, and the Southern Ute Indian Tribe have implemented dust control regulatory measures for numerous sources. Both the City and the County have a number of proactive programs that reduce dust from significant PM₁₀ source categories in La Plata County. The following detail local dust control ordinances as of March 2012 for the Durango area:

Street Sweeping and Sanding Controls

The City of Durango performs street sweeping five days per week in the downtown area on a rotating basis and once every two months in residential areas. The City is responsible for street sweeping State Highways 550 and 160 that run through the City. In 2012, the City estimates sweeping an average of 11,873 miles per year, running sweeper operations 2,130 hours, and removing 4,195 cubic yards of debris. The town of Bayfield in La Plata County performs street sweeping on town streets periodically.

The City of Durango employs a Snow and Ice Division that uses street maintenance crews to remove snow and ice for 30% of their time. This Division de-ices major streets prior to snow with magnesium chloride (MgCl₂). Streets are plowed and sanded according to priority (i.e. hazardous intersections, snow routes, downtown, and bus routes) after snowstorms. The City spends on average 2,968 hours per year plowing streets (as of 2012). The City estimates that it spends on average 979 hours sanding/salting streets (as of 2012).

Dust Suppressant Program

² The LPLUC applies to all county lands, which includes the exterior boundaries of the Southern Ute Indian Reservation, except trust lands, in order to decrease nuisances from approved land uses.

La Plata County currently employs a dust suppressant program. The major focus of the program is to reduce dust from gravel roads. La Plata County has approximately 196 miles of paved roads and about 490 miles of gravel roads. Approximately 220 centerline miles of gravel road are treated with about 950,000 million gallons of MgCl₂ annually. The County typically begins application of MgCl₂ in late April or early May, and continues as needed through September. In May and June (annually), roads not slated to receive new gravel are the first to be treated with MgCl₂. During July through September (annually), other roads are treated, including roads being resurfaced, and those roads needing a second application.

Landfills

La Plata County closed the Durango Landfill in 1990, and has been working with the Colorado Department of Public Health and Environment to ensure post-closure care and maintenance standards are met. These include, but are not limited to, minor grading to correct any erosion, maintenance of the surface drainage, and ground cover enhancement.

The remaining landfill in La Plata County, Bondad Landfill, is located approximately 15 miles south of Durango within the exterior boundaries of the Southern Ute Indian Reservation, and has been in operation since 1997. The landfill is privately owned and operated by WCA Waste Corporation.

The landfill has a fugitive dust emission control plan in its Part 71 permit currently enforced by the Environmental Protection Agency (EPA) (Region 8).

On March 2, 2012, the Southern Ute Indian Tribe received full approval from EPA to administer its

Part 70 Operating Permit Program within the exterior boundaries of the Reservation. The Tribe is currently conducting the process of its Transition Plan to inform the Landfill (and other Title V sources) about the jurisdictional change. The Southern Ute Indian Tribe will transition Part 71 permits to the Tribe-issued Part 70 permits for all Reservation Title V sources. This transition process will take place over a three-year period in accordance with the Tribe's Transition Plan (found at: <http://www.southernute-nsn.gov/air-quality/part-70>). The transition process is planned to be completed by March 2, 2015 (three years (36 months) after the program was approved by EPA).

Durango Train Smoke Mitigation Task Force

The Durango and Silverton Narrow Gauge Railroad operates historic coal-fired steam locomotives from its yard located on the south-side of Durango. Because of the potential for thermal stress damage (cracking) to the antique boilers (greater than 100 years in age) from repeated cycling between cold and hot, they must idle throughout the night in order to be ready for use the next day, creating emissions from various pollutants. In 2001, the train operator installed scrubbers at the train yard roundhouse to control emissions from some of the locomotives while idling overnight. However, space limitations at the roundhouse prevented the operator from controlling all of the locomotives.

In 2007, the train operator pledged to spend \$1 million over 5 years to reduce emissions by 10% each year. The railroad employs several emission-reducing alternatives, including burning wood pellets instead of coal at night to keep engines warm, building a new ash pit in Silverton to reduce idle time in Durango in 2005, using diesel for all switching and track maintenance, and specialized training for engine firemen on how to place coal and wood pellets. Durango Service Clubs collaborated to completely offset the carbon footprint of the D&SNGRR through the purchase of Green Power through La Plata Electric Association. IN 2009, the Urban Reforestation Project to offset Greenhouse gas emissions associated with Railroad vehicle fleet

planted 2,587 trees in Durango and Silverton. The planted trees also reduce wind erosion and blowing dust.

There is a Train Smoke Mitigation Task Force that was created to proactively implement a responsible smoke mitigation program that maintains the railroad's historic steam engine operations while reducing smoke and pollution. The Task Force began meeting in late 2005 to address public and neighborhood concerns. Currently as of 2013, the Train Smoke Mitigation Task Force is seeking funding to construct an expanded scrubber system, estimated at \$1.2 million dollars.

Vegetative Cover/Parks

The Durango Parks and Recreation Department removes sand, dirt, and organic debris from park roads, City parking lots, and hard surfaces twice a year and sweeps the hard surface trails monthly. There are 14.49 miles of hard surface trails in Durango. The multi-use trails systems are either in completion or construction phases, which have multiple benefits, including reducing motor vehicle use and reducing fugitive dust from lengthy unpaved trails. The largest of these projects are the Animas River Trail (ART) and the Safe, Multi-Modal, Aesthetic, Regional Transportation trail aligning along Highway 160 (SMART 160). The ART is an ongoing project to provide a 10 foot wide cement trail along the river corridor. Each year the City completes a new stage of the project as it is all cash funded. The SMART 160 project is also ongoing. There is a large section of the walking trails that will be finished in the summer of 2014. There are approximately 93.2 of natural surface unpaved trails in the open space surrounding Durango that are primarily dirt and native rock.

The City of Durango built a new 15 acre soccer complex at 700 Talon Lane on the Fort Lewis College campus. It is called Smith Sports Complex and it is anticipated to open in the fall of 2013. The 15 acre site was previously open dirt (as shown in Figure 61) and now it is full covered with turf grass, parking, restroom facility and playground area. The complex including the 8-acre turf grass playing fields is irrigated.



Figure 61: Site of the new Smith Sports Complex. (Google Earth 2011)

From 2010-2013, the Three Springs subdivision developer planted and irrigated the vegetation in the 34.78 acre Three Springs Southern Open Space located at 700 Wilson Gulch Drive (shown in Figure 62). Additionally, the 15.28 acre Three Springs Confluence Park has been constructed in phases within the development at 100 Confluence Avenue (also shown in Figure 62).



Figure 62: Three Springs Southern Open Space and the Three Springs Confluence Park before Completion (Google Earth 2011)

Oil and Gas Exploration and Development Standards for Federal Lands

- La Plata County and the Southern Ute Indian Reservation contain oil and gas exploration and development sites. The Bureau of Land Management (BLM) and the Forest Service (FS) have surface operating standards and guidelines for oil and gas exploration and development (see: http://www.blm.gov/pgdata/etc/medialib/blm/wo/MINERALS_REALTY_AND_RESOURCE_PROTECTION_/energy/oil_and_gas.Par.18714.File.dat/OILgas.pdf). These standards control dust from a number of contributing sources, including:
- Road maintenance is required for all roads that will be constructed or used in conjunction with drilling. These maintenance plan activities include blading, surface replacement, dust abatement, spot repairs, slide removal, ditch cleaning, culvert cleaning, litter cleanup, noxious weed control, and snow removal. Key maintenance considerations include regular inspections; reduction of ruts and holes; maintenance of crowns and outslope to keep water off the road; replacement of surfacing materials; clearing of sediment blocking ditches and culverts; maintenance of interim reclamation; and noxious weed control (page 30).
- Regarding BLM resource and FS local roads (page 25):
 - The design speed limit on roads, specific to oil and gas roads, is 10 to 30 miles per hour. For the FS, this should generally be less than 15 miles per hour.
 - The road gradient should not exceed 8 percent except for pitch grades (300 feet or less in length) in order to minimize environmental effects.
 - Drainage control must be ensured over the entire road through the use of drainage dips, insloping, natural rolling topography, ditch turnouts, ditches, or culverts.
- Regarding BLM local and FS collector roads (page 26):

- The design speed limit is generally 15 to 50 miles per hour. For the FS, it is 15 to 25 miles per hour.
- Maximum grades should not exceed 8 percent. Pitch grades for lengths not to exceed 300 feet may be allowed to exceed 8 percent in some cases.
- Regarding BLM collector and FS arterial roads:
 - Design speed is 30 miles per hour or greater unless otherwise directed.
 - Maximum grades should not exceed 8 percent. Pitch grades for lengths not to exceed 300 feet may be allowed to exceed 8 percent in some cases.

Windblown Dust from Disturbed Soils

Durango has a semi-arid climate with approximately 19 inches of precipitation annually. The town is located in southwest Colorado near the Four Corners area where New Mexico, Colorado, Utah, and Arizona connect at about 6,500 feet. In winter and spring, regional windstorms are common, especially in drier years. It is during these high velocity windstorms that Durango may experience PM₁₀ issues. Figure 3 illustrates potential areas of local soil disturbance that have been evaluated by the Division.

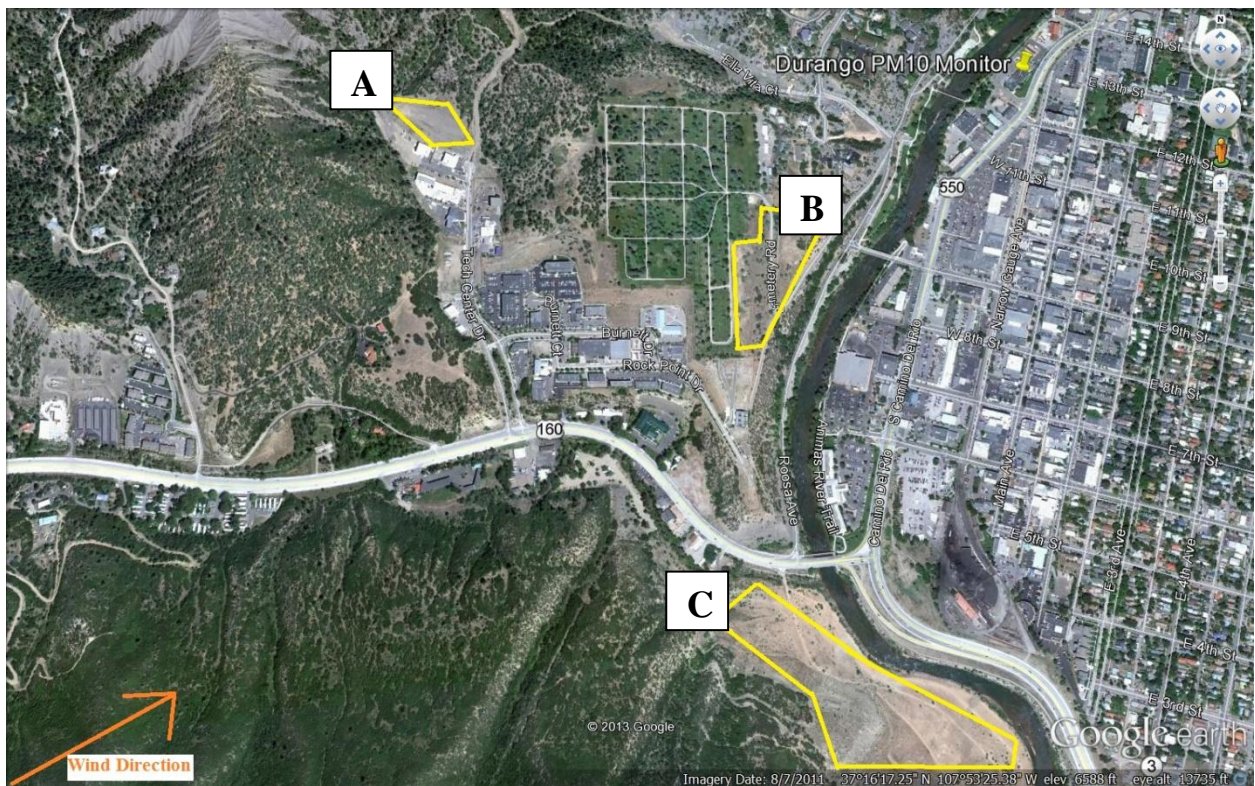


Figure 63: Relative positions of Durango PM₁₀ Monitor and potential disturbed soil. (Image from Google Earth 2011)

Site A (approximately 2.5 acres) in Figure 63 is west of town at the north end of Tech Center Dr. This land is zoned by the City of Durango as “Public”. This site is a privately owned vacant lot.

Site B (approximately 11 acres) in Figure 63 is west of Roosa Ave, south of Ella Vita Court and east of the Greenmount Cemetery. This land is zoned by the City of Durango as “Planned Development”. The cemetery informs us that this land is open space that is naturally vegetated.

Site C (approximately 35 acres) in Figure 63 is along the river to the south west of town. This land is zoned by the City of Durango as “Public”. Further investigation revealed that this site is

the Durango Dog Park Off-Leash area. The park is comprised of scrublands with a natural surface trail and was converted from a city park into an off-leash area in 2003. A sign at the park's entrance and three signs around the park mark the border of the property. The park has no fencing but the Durango Director of Parks and Recreation notes the city has not experienced issues within the park's natural boundaries of Smelter Mountain and the Animas River.

The Division conducted thorough assessments to determine if the potential soil disturbances shown in Figure 63 were present during the 2010 exceedances. During the course of these assessments, the Division discovered that these sites were either reasonably controlled or considered to be natural sources during the April 5, 2010 high wind event. Therefore, these sites were not significant contributors to fugitive dust in the Durango area during the April 5, 2010 high wind event.

6.0 Summary and Conclusions

APCD is requesting exclusion for each of the samples taken at Alamosa ASC (08-003-0001), Crested Butte (08-051-0004), Mount Crested Butte (08-051-0007), Durango-River City Hall (08-067-0004), Pagosa Springs-Middle School (08-007-0001), and Telluride (08-113-0004).

Elevated 24-hour PM₁₀ concentrations were recorded across Colorado on April 5, 2010. All of the noted April 5, 2010, twenty-four-hour PM₁₀ concentrations were above the 90th percentile concentrations for their locations (see Table 14). This event produced the maximum value in four of the six datasets and exceeded the 98th percentile value of any evaluation criteria for the other two sites. The statistical and meteorological data clearly shows that but for this high wind blowing dust event, Alamosa, Pagosa Springs, and Durango would not have exceeded the 24-hour NAAQS on April 5, 2010. There has never been an exceedance that was not associated with high winds carrying PM₁₀ dust from distant sources in these six areas since at least 2005. This is evidence that the event was associated with a measured concentration in excess of normal historical fluctuations including background.

The PM₁₀ exceedances in Durango, Telluride, Pagosa Springs, Crested Butte, Mount Crested Butte and Alamosa on April 5, 2010, would not have occurred if not for the following: (a) dry soil conditions over northeastern Arizona, most of Utah, and parts of western Colorado with 30-day precipitation totals below the threshold identified as a precondition for blowing dust in northeastern Arizona; (b) a strong surface and upper-level low pressure system that caused widespread strong gusty winds through a deep layer of the atmosphere over the area of concern; and (c) friction velocities over the desert regions of northwest New Mexico, Utah, and Arizona that were high enough to allow entrainment of dust from natural sources with subsequent transport of the dust to Colorado in strong, southwesterly winds. These winds were the result of a strong short wave in the upper atmosphere that was moving across the Great Basin and the associated surface cold front and low pressure system.

Surface weather maps for the Four Corner States show evidence of widespread blowing dust and winds above the threshold speeds for blowing dust on April 5, 2010. These surface analyses show that winds above 30 mph with gusts as high as 53 mph occurred. The synoptic weather conditions on April 5, 2010, (illustrated in Figures 2 through 14) show that the conditions necessary for widespread strong gusty winds were in place over the area of concern for the daytime hours of April 5, 2010. These speeds are above the thresholds for blowing dust identified in EPA draft guidance and in detailed analyses completed by the State of Colorado. Specifically, these high values were the consequence of strong southwesterly prefrontal winds in combination with dry conditions which caused significant blowing dust across much of Arizona, northwest New Mexico, southeast Utah and southwest Colorado. These PM₁₀ exceedances were due to an exceptional event associated with regional windstorm-caused emissions from erodible soil sources over a large area of northeastern Arizona, most of Utah, and parts of western Colorado. These sources are not reasonably controllable during a significant windstorm under abnormally dry or moderate drought conditions.

The blowing dust climatology for the Four Corners area indicates that the area can be susceptible to blowing dust when winds are high. Landform imagery shows that northeastern Arizona and southeastern Utah in particular have experienced a long-term pattern of wind erosion and blowing dust when winds have been southwesterly and blowing into western and southern Colorado. Back trajectories, case studies, satellite imagery, and statistical analyses have also shown that northeastern Arizona and southeastern Utah are a significant source for blowing dust transported into Colorado. Soils in the Four Corners area and in northeastern Arizona in particular were dry enough to produce blowing dust when winds were above the thresholds for blowing dust.

Elevated PM_{10} in Grand Junction during windstorms is generally associated with wind gusts of 40 mph or higher at Grand Junction and Hopi in northeastern Arizona and southwesterly flow in Grand Junction. Elevated PM_{10} in Grand Junction is generally associated with 30-day precipitation totals of less than 1.00 inches at Grand Junction and less than 0.50 inches at Hopi.

Both wind speeds and soil moisture in the Four Corners area and northeastern Arizona were conducive to the generation of significant blowing dust. Multiple sources of data for the event in question and analyses of past dust storms in this area prove that this was a natural event and, more specifically, a significant natural dust storm originating in northeastern Arizona and northwestern New Mexico and spreading into southwestern and south-central Colorado. But for the dust storm on April 5, 2010, this exceedance would not have occurred.

Friction velocities provide a measure of the near-surface meteorological conditions necessary to cause blowing dust.

Friction velocities in northern Arizona, northwestern New Mexico, southeastern Utah, and southwestern Colorado were above 1.0 meters per second on April 5, 2010. Even undisturbed desert soils normally resistant to wind erosion will be susceptible to blowing dust when friction velocities are greater than about 1.0 to 2.0 meters per second. Note that blowing dust will typically only occur where these values are high and the soils are dry and not protected by vegetation, forest cover, boulders, rocks, etc. Friction velocities were high enough to sustain blowing dust over undisturbed soils in each of the Four Corners states during this event. This is why blowing dust occurred in the desert and more arid areas of northern Arizona, northwestern New Mexico, southeastern Utah, and southwestern Colorado on April 5, 2010. These elevated friction velocities (shown in Figures 39 and 40) and the data on soil moisture conditions presented elsewhere in this report, and the prevalence of winds above blowing dust thresholds (all occurring in traditional source regions in northeastern Arizona and northwestern New Mexico) prove that this dust storm was a natural event that was not reasonably controllable or preventable.

MODIS satellite imagery shows that the Painted Desert and Four Corners area in general were source regions for blowing dust on April 5, 2010. This is consistent with the climatology for many dust storms in Colorado as described in the Grand Junction, Colorado, Blowing Dust Climatology report contained in Appendix A of this document. The observations of winds above blowing dust thresholds and restricted visibilities in the areas of concern demonstrate that this is a natural event that cannot be reasonably controlled or prevented.

The Center for Snow and Avalanche Studies has been studying the effects of wind-blown desert dust from Arizona, New Mexico, and Utah on snowpack albedo and snowmelt in the San Juan Mountains of Colorado. The Center for Snow and Avalanche Studies lists April 5, 2010, as one of nine Dust-on-Snow events for the 2009/2010 water year, and this provides clear supporting evidence that a regional blowing dust event with long-range transport caused the PM_{10} exceedances measured across portions of Colorado on April 5, 2010. Snowpack and snow cover data for the mountains and many valley locations in central and southwestern Colorado demonstrate that blowing dust and elevated PM_{10} observed in Telluride, Crested Butte, and Mt. Crested Butte were not likely to have been from local sources. Snow cover data provide strong evidence that a widespread, regional, blowing dust event caused exceedances at these locations.

As demonstrated in section 3 and particularly in Table 14 the PM_{10} exceedances and other elevated PM_{10} concentrations in Durango, Telluride, Pagosa Springs, Crested Butte, Mount Crested Butte, Alamosa, Delta and Clifton, Colorado on April 5, 2010, would not have occurred “but for” the large regional dust storm on April 5, 2010.

7.0 References

Colorado Department of Public Health and Environment, City of Lamar, Prowers County Commissioners, *Natural Events Action Plan for High Wind Events – Lamar, Colorado*, April 1998.

Draxler, R.R. and Rolph, G.D., 2012. *HYSPLIT (HYbrid Single-Particle Lagrangian Integrated Trajectory) Model access via NOAA ARL READY Website* (<http://ready.arl.noaa.gov/HYSPLIT.php>). NOAA Air Resources Laboratory, Silver Spring, MD.

Marticorena, B., G. Bergametti, D. Gillette, and J. Belnap, 1997, Factors controlling threshold friction velocity in semiarid and arid areas of the United States, *Journal of Geophysical Research* 102 D19, 23,277-23, 287.

Technical Services Program, Air Pollution Control Division, Colorado Department of Public Health and Environment, November 22, 2011, *Technical Support Document for the January 19, 2009 Lamar Exceptional Event*.

United States Environmental Protection Agency, June 2012, *Draft Guidance on the Preparation of Demonstrations in Support of Requests to Exclude Ambient Air Quality Data Affected by High Winds under the Exceptional Events Rule*.

Appendix A- Grand Junction, Colorado, Blowing Dust Climatology January 24, 2012

There can be significant transport of regional blowing dust into Grand Junction from source regions in Utah and Arizona. While there are sources for wind-blown dust within the Grand Valley and Grand Junction itself, there is evidence from the analysis of soil features, wind and precipitation climatology, and statistical analyses of Grand Junction exceedances of the PM10 standard that regional sources often play a significant role during these blowing dust events. This document provides a weight of evidence analysis for dust transport into Colorado.

Grand Junction, Colorado, is located in a part of the country that is largely arid to semi-arid. Figure A-1 through A-3 show the annual average precipitation for Colorado, Arizona, and Utah, respectively. Grand Junction is in the Grand Valley of Western Colorado where the annual precipitation is typically less than 10 inches. Northeastern Arizona, which is frequently upwind of Grand Junction during blowing dust events, receives between 5 and 15 inches of precipitation each year. The Colorado River Basin in eastern and southeastern Utah, which is also frequently upwind of Grand Junction during blowing dust events, also receives 5 to 10 inches per year.

Figure A-4 shows the 1971-2000 monthly normal precipitation amounts for Grand Junction, Colorado. The annual average for this time period is 8.99 inches. The wettest months are March through May and August through October. The driest months are January, February, June, July, November, and December. These months receive an average of 0.57 inches per month. The annual monthly average precipitation is 0.75 inches.

Arid to semi-arid soils make much of the region susceptible to blowing dust. The map in Figure A-5 shows that portion of the Colorado Plateau (circled in red) where modern wind erosion features are common and clearly visible in Google Earth images. These features include longitudinal dunes and other sand or soil erosion structures with a predominant southwest to northeast orientation. This orientation is the result of the predominant southwesterly flow that occurs during high wind and blowing dust events in the region. Figures A-6 through A-12 present aerial views of ubiquitous erosion features in northeastern Arizona and southeastern Utah. The Painted Desert of northeastern Arizona is frequently the source for much of the blowing dust in the Four Corners region. Figure A-13 provides a particularly good satellite image of a blowing dust event originating in the Painted Desert and extending northeastward across the junction of the Four Corners (source: NASA Tera satellite, <http://earthobservatory.nasa.gov/IOTD/view.php?id=37791>). Strong southwesterly winds caused this blowing dust event.

The text that accompanies this image on NASA's Earth Observatory 10th Anniversary page follows below:

“A dust storm struck northeastern Arizona on April 3, 2009. With winds over 145 kilometers (90 miles) per hour reported near Meteor Crater, east of Flagstaff, the storm reduced visibility and forced the temporary closure of part of Interstate 40, according to *The Arizona Republic*.

The Moderate Resolution Imaging Spectroradiometer ([MODIS](#)) on NASA's [Terra](#) satellite captured this image on April 3, 2009. Clear skies allow a view of multiple source points of this dust storm. The source points occur along an arc that runs from northwest to southeast.

This dust storm occurred in the area known as Arizona's Painted Desert, and the dust plumes show why. Whereas many dust plumes are [uniform in color](#), these plumes resemble a band of multicolored ribbons, ranging from pale beige to red-brown, reflecting the varied soils from which the plumes arise. The landscapes of the Painted Desert are comprised mostly of Chinle Formation rocks—remains of sediments laid down during the time of the first dinosaurs, over 200 million years ago.”

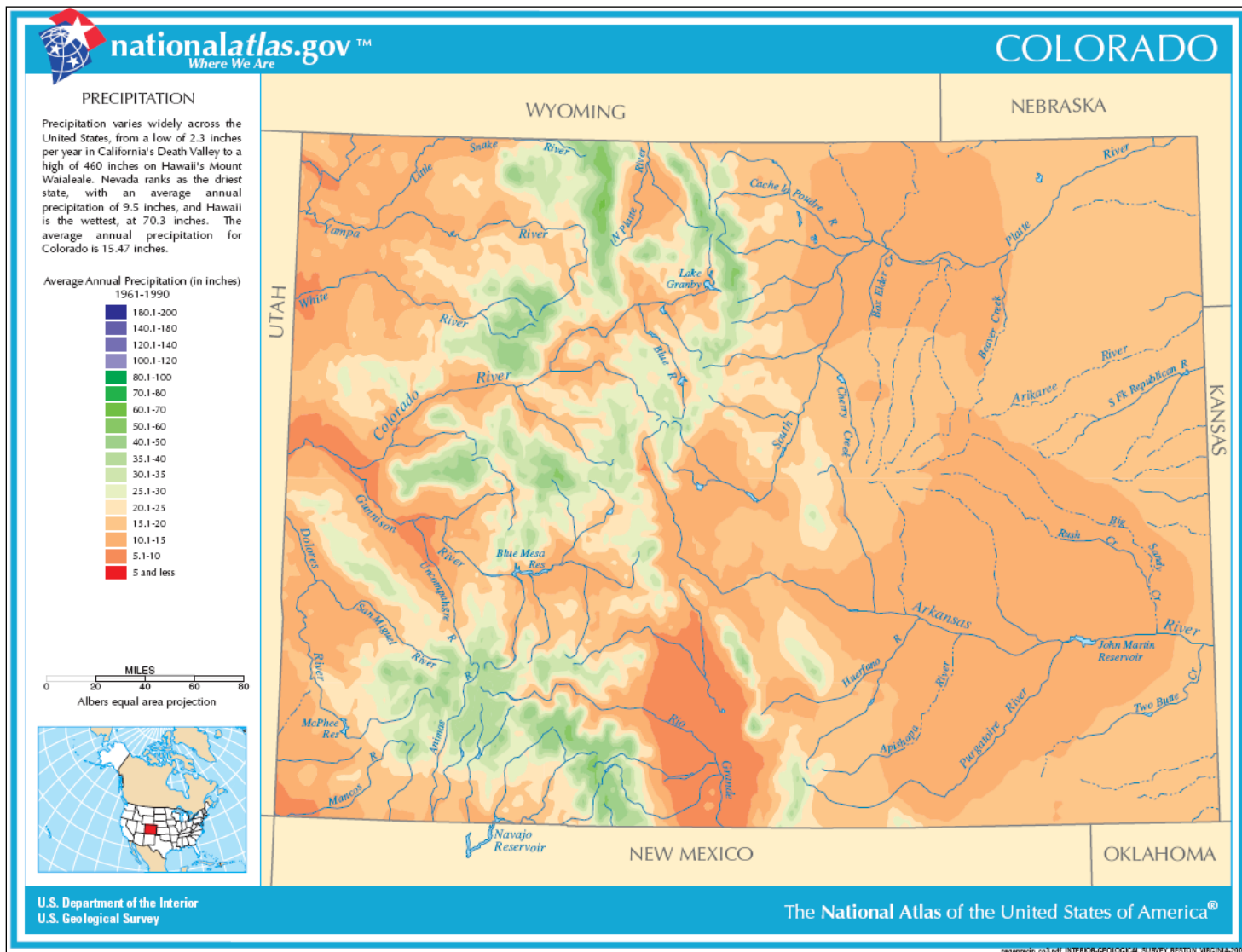


Figure A-1. Average annual precipitation in Colorado based on 1961-1990 normals.

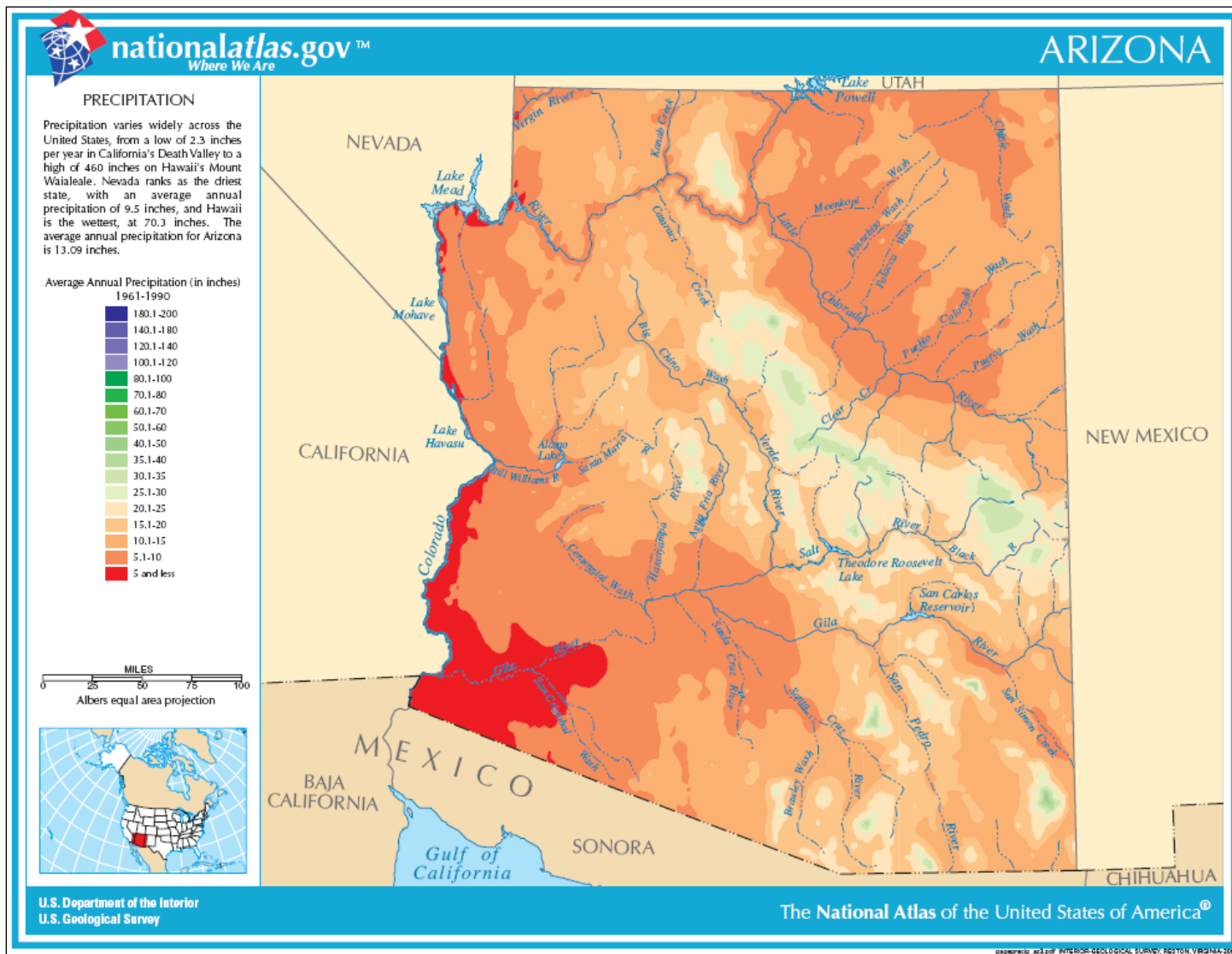


Figure A-2. Average annual precipitation in Arizona based on 1961-1990 normals.

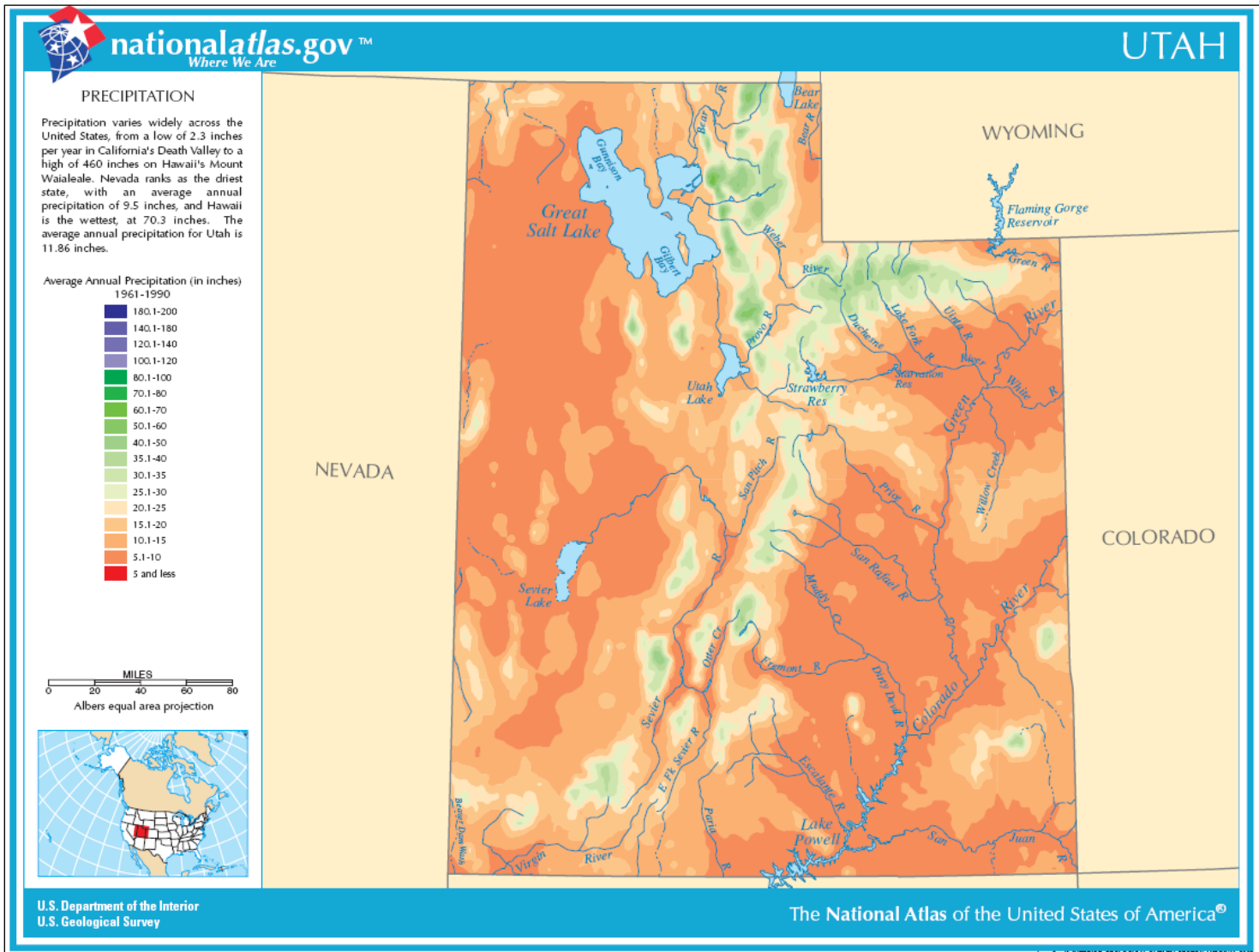


Figure A-3. Average annual precipitation in Utah based on 1961-1990 normals.

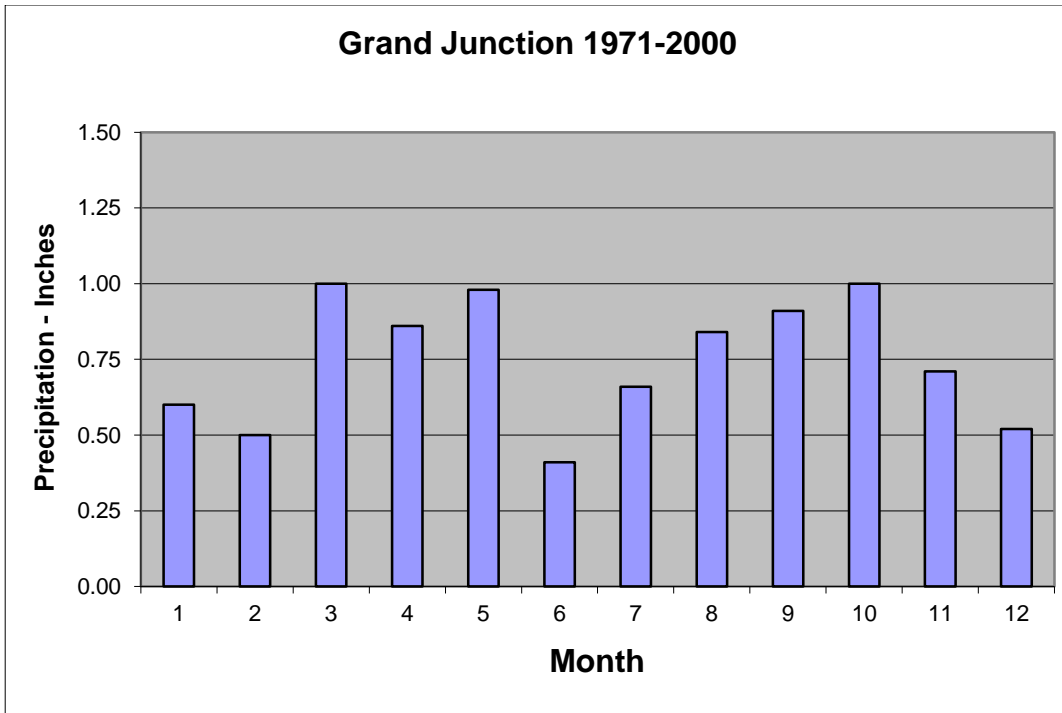


Figure A-4. 1971-2000 monthly normal precipitation in Grand Junction Colorado.



Figure A-5. The portion of the Colorado Plateau in Utah, Arizona, and New Mexico that exhibits widespread surface soil and sand erosion features in Google Earth imagery. Much of the highlighted area within Arizona is within the Painted Desert.

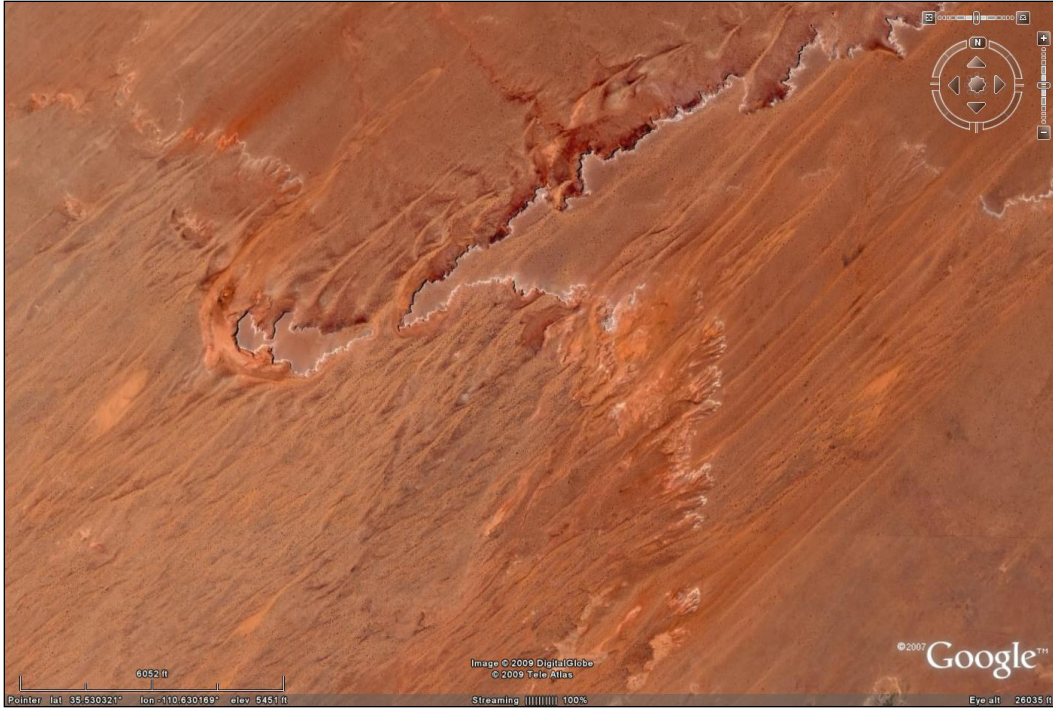


Figure A-6. Southwest to northeast soil and sand erosion structures in southeastern Utah.

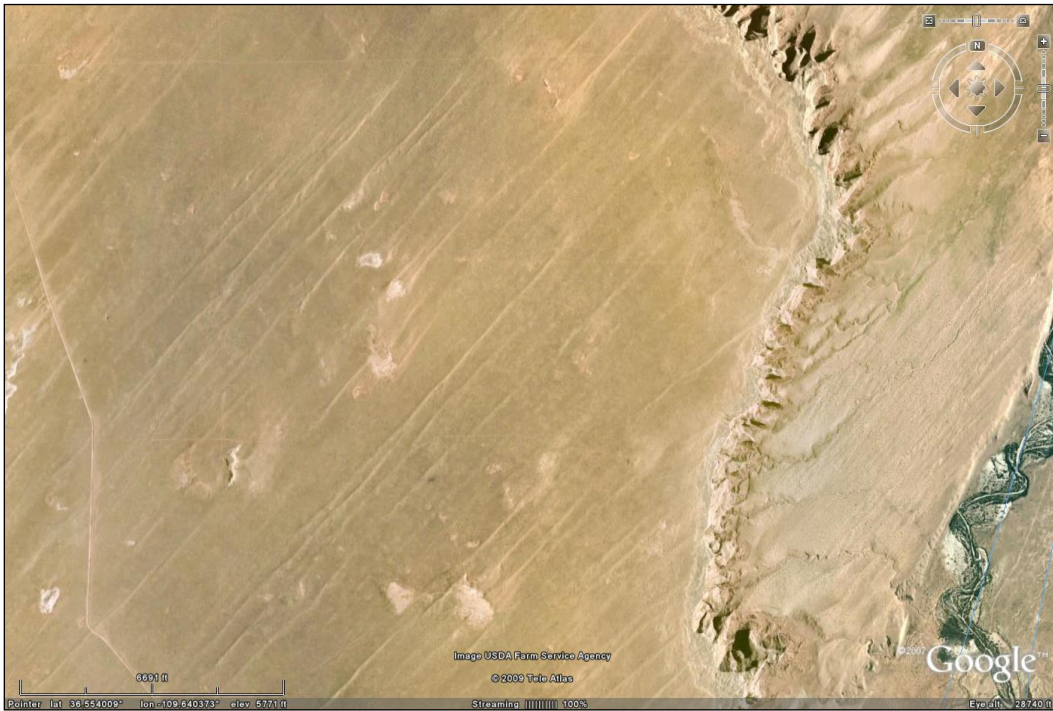


Figure A-7. Southwest to northeast soil and sand erosion structures in northeastern Arizona (Painted Desert).



Figure A-8. Southwest to northeast soil and sand erosion structures in southeastern Utah.

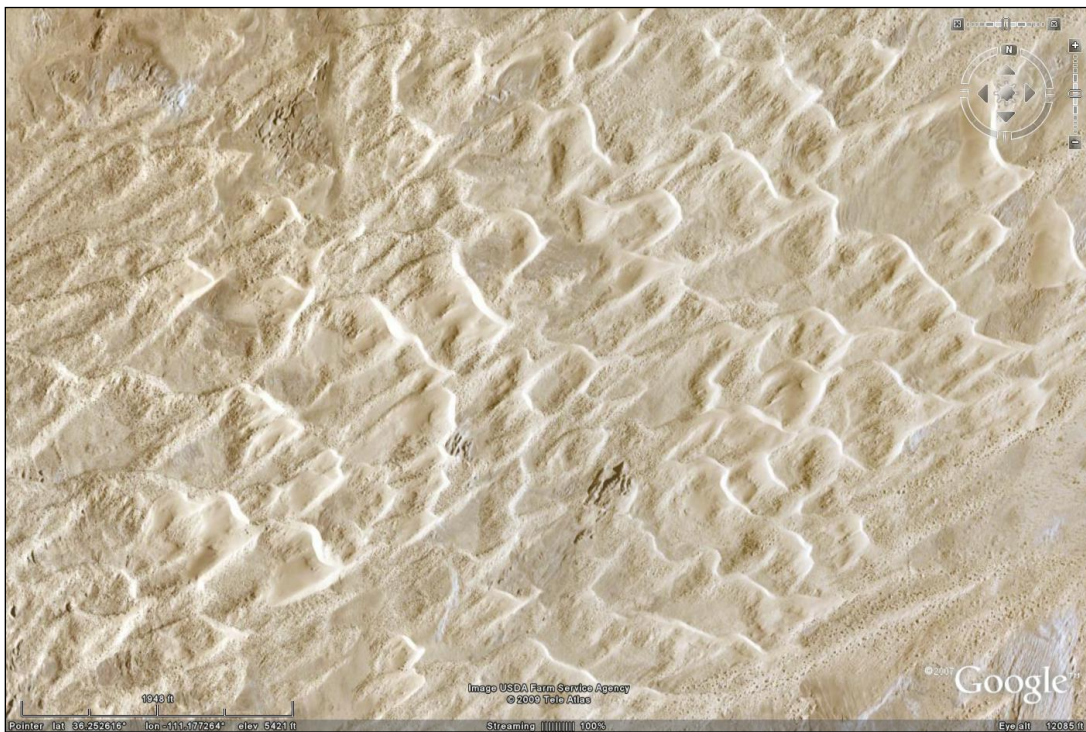


Figure A-9. Southwest to northeast soil and sand erosion structures in northeastern Arizona (Painted Desert). The slip faces of dunes (lighter bands) face in the direction of wind flow – toward the northeast.

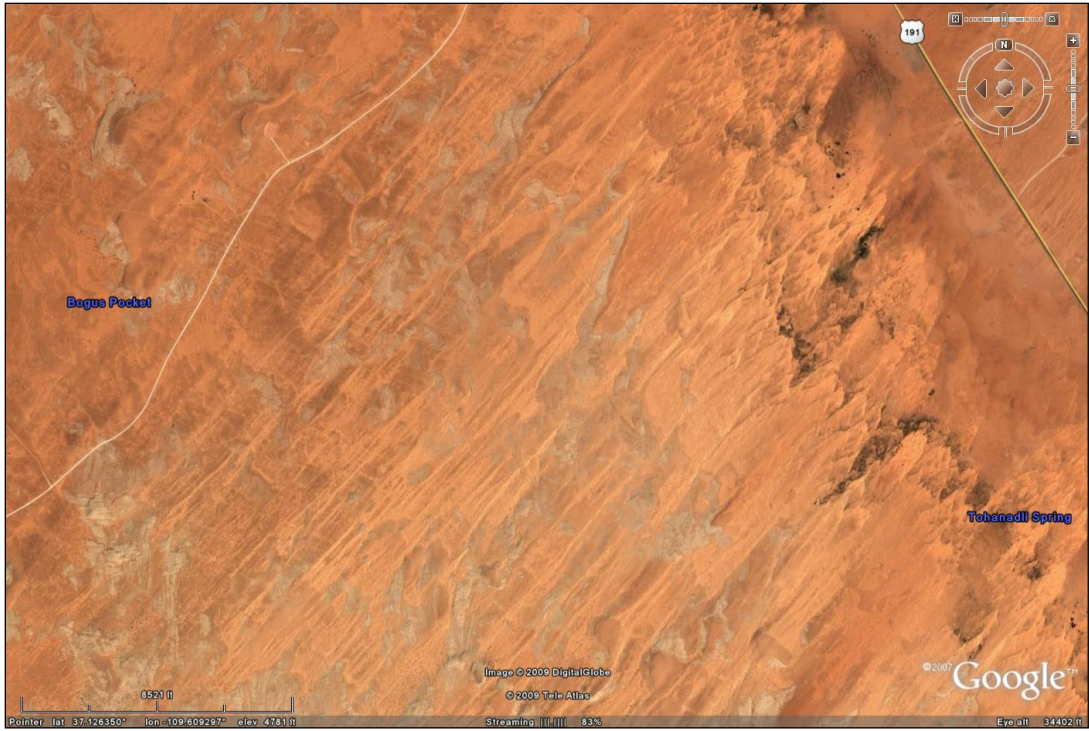


Figure A-10. Southwest to northeast soil and sand erosion structures in southeastern Utah.



Figure A-11. Southwest to northeast soil and sand erosion structures in northeastern Arizona (Painted Desert).



Figure A-12. Southwest to northeast soil and sand erosion structures in northeastern Arizona (Painted Desert).

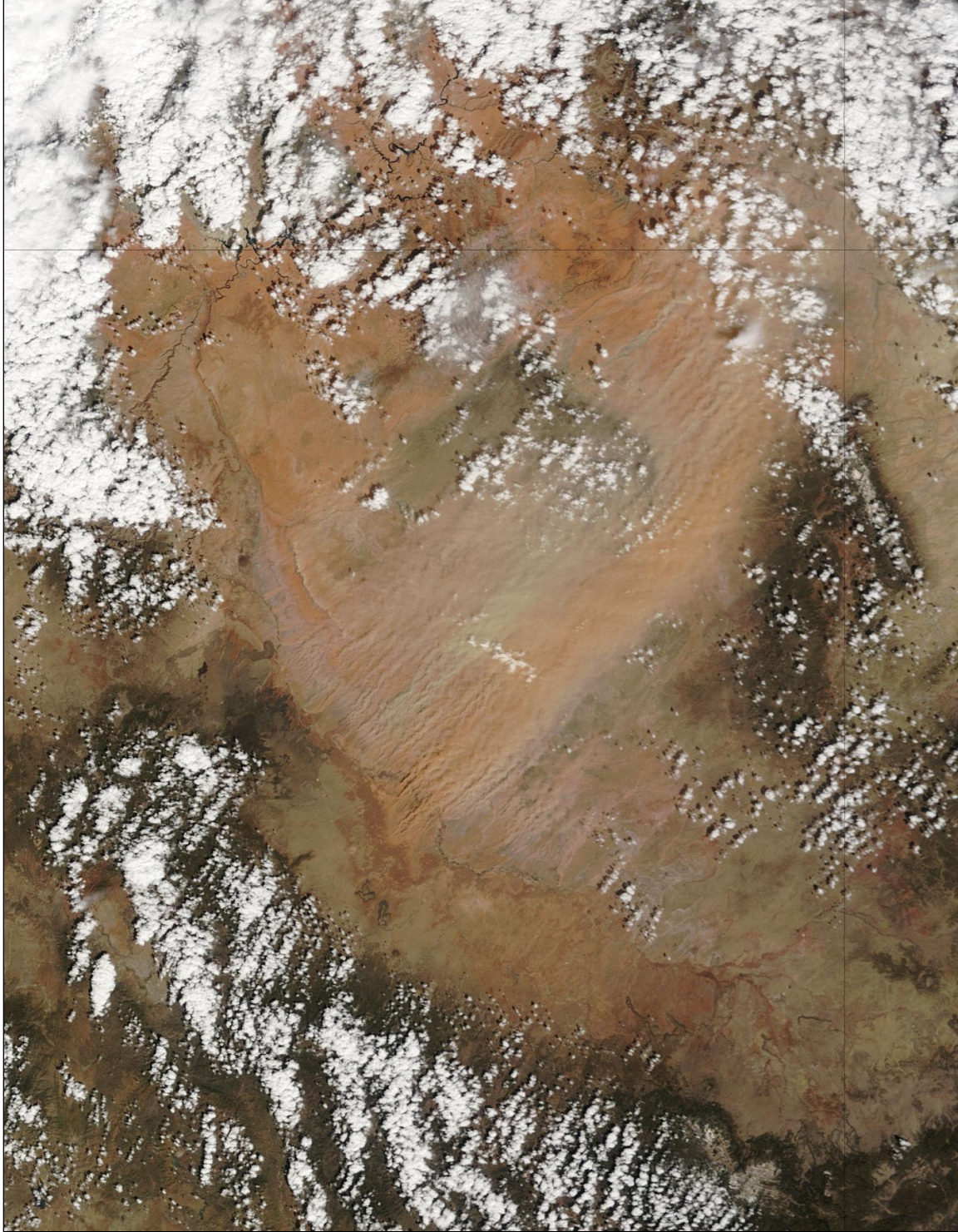


Figure A-13. NASA Tera satellite image of a dust storm on April 3, 2009, in southwesterly flow over the Painted Desert of northeastern Arizona (<http://earthobservatory.nasa.gov/IOTD/view.php?id=37791>).

Figure A-14 displays the surface weather map for this event (00Z April 4, 2009, or 5 PM MST April 3, 2009). A strong low pressure system in southern Colorado, strong southwesterly winds in the Four Corners area, and the blowing dust symbol (infinity sign) at Farmington (New Mexico) and Cortez (Colorado) are evident in this map. Blowing dust in this region is frequently associated with southwesterly flow.

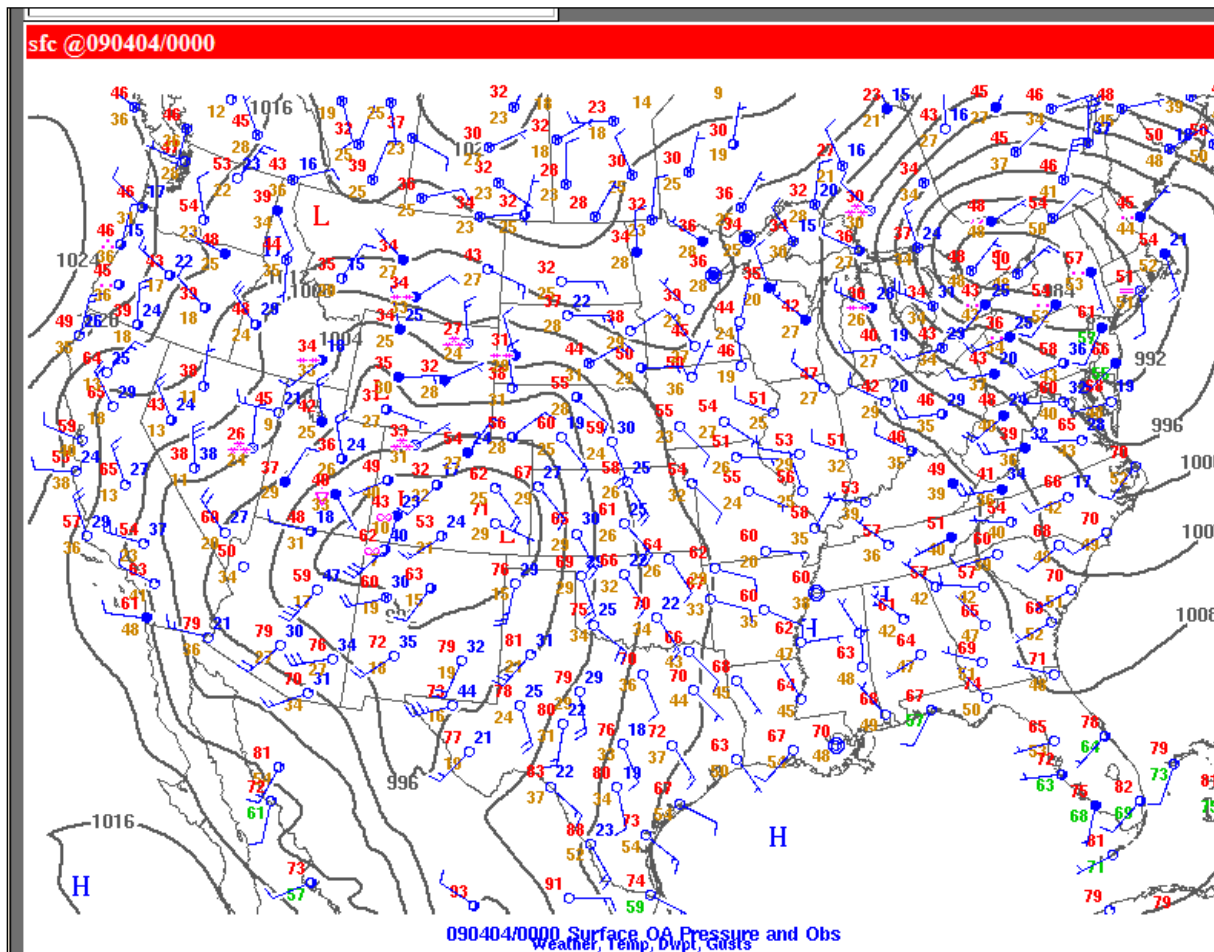


Figure A-14. Surface weather map for 00Z April 4, 2009, (5 PM MST April 3, 2009), showing a strong low pressure system in southern Colorado, strong southwesterly winds in the Four Corners area and the blowing dust symbol (infinity sign) at Farmington (New Mexico) and Cortez (Colorado).

A USGS map of the Colorado Plateau in Figure A-15 shows the prevalence of eolian or wind-blown sand deposits in southeastern Utah and northeastern Arizona. An analysis of the annual frequency of dust storms (Orgill and Sehmel, 1976) in the western half of the U.S. suggests that portions of eastern and western Utah and northeastern Arizona are source regions for blowing dust (see Figure A-16). Soil and sand structures point to the prevalence of southwesterly flow during blowing dust events, and precipitation climatology highlights the potential for blowing dust across much of the region. In addition, an analysis of back trajectories associated with high PM10 concentration events in Grand Junction discussed in the next section of this document supports the conclusion that soils in Arizona and

Utah are likely significant contributors to PM10 measured during many dust storms affecting Grand Junction.

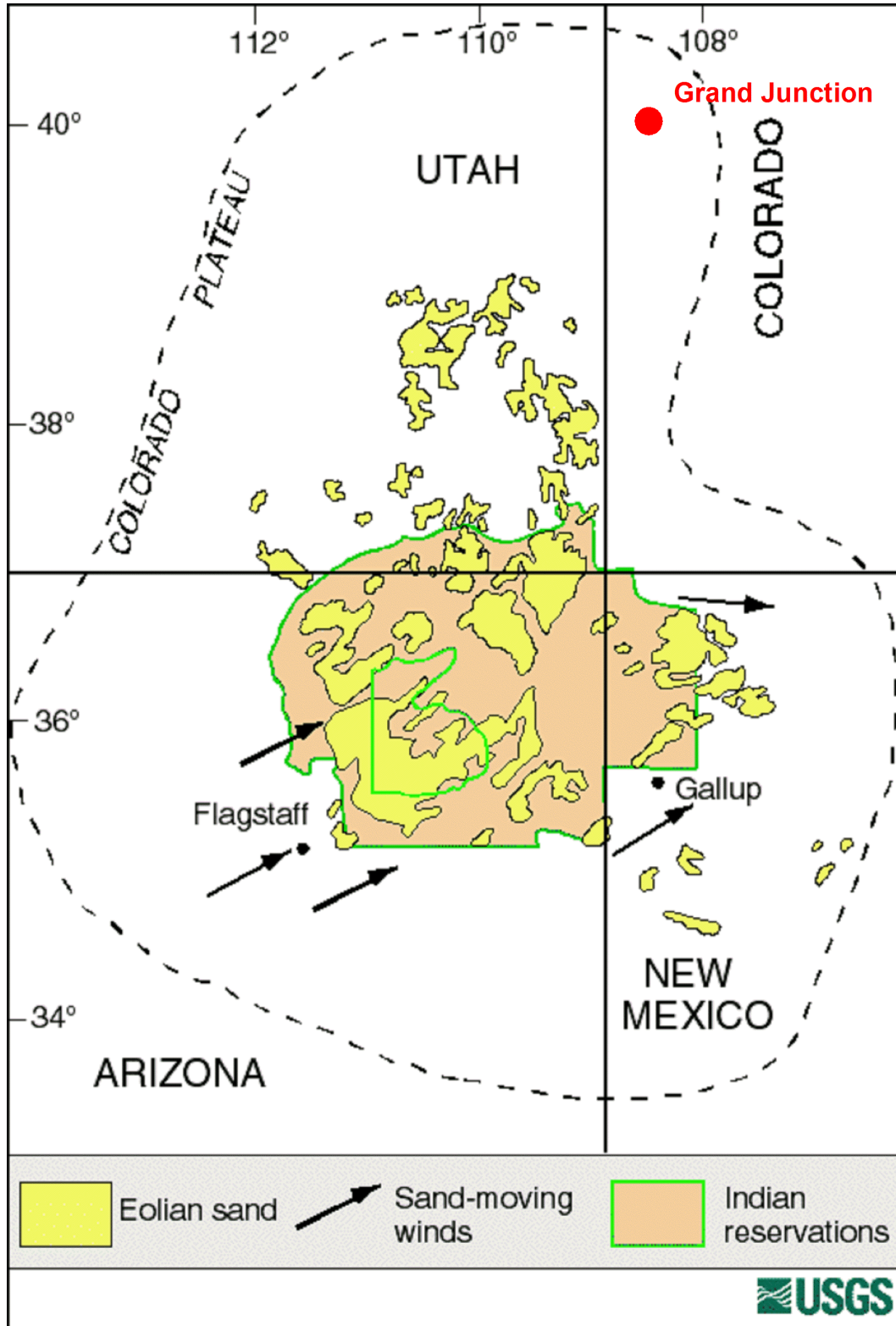


Figure A-15. USGS map of eolian sand features on the Colorado Plateau (<http://geochange.er.usgs.gov/sw/impacts/geology/sand/>).

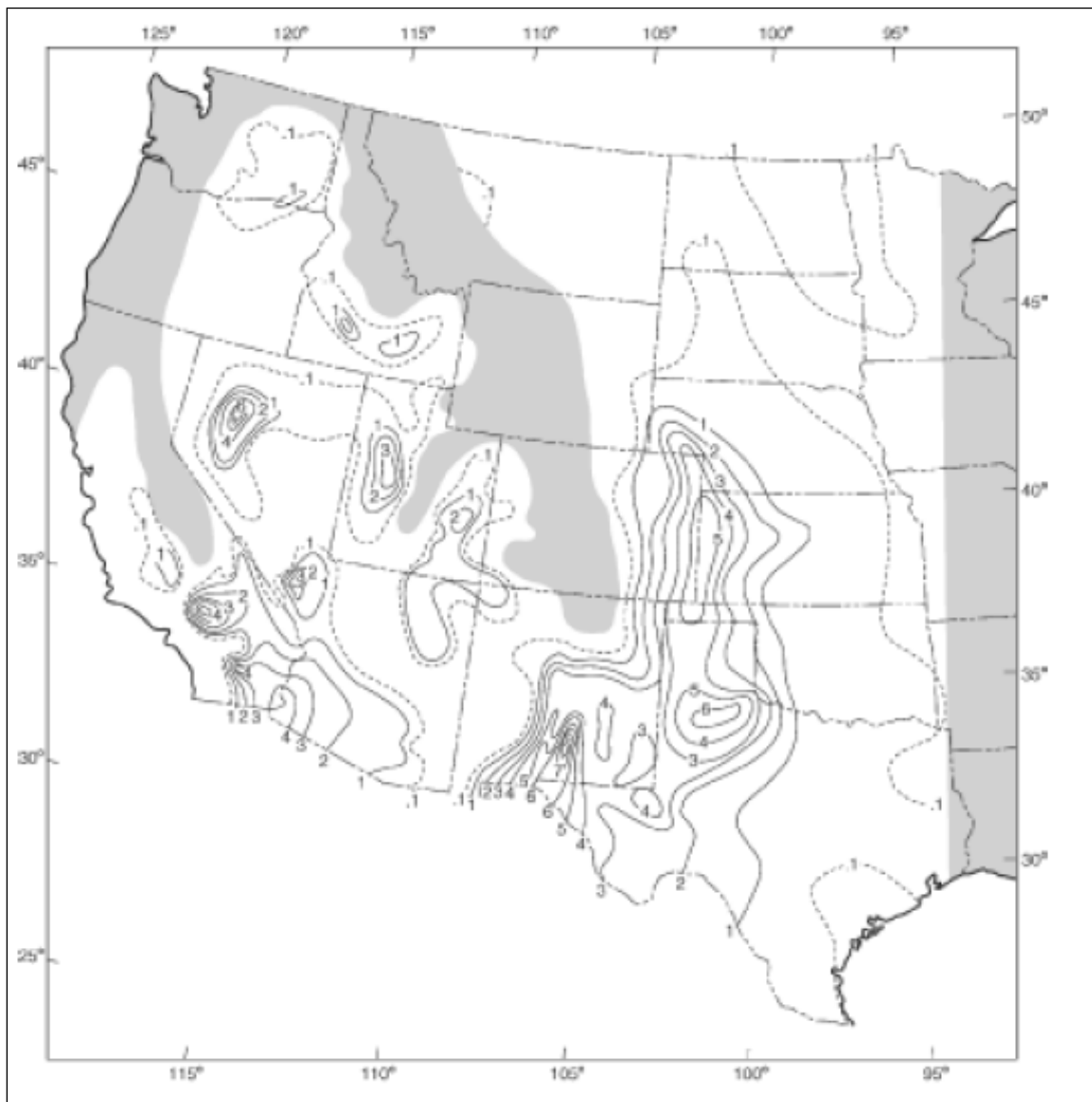


Figure A-16. Number of dust storms per year from: Orgill, M.M., Sehmel, G.A., 1976. Frequency and diurnal variation of dust storms in the contiguous USA. **Atmospheric Environment** 10, 813-825.

NOAA HYSPLIT 36-hour back trajectories were calculated for Grand Junction for the eight 24-hour periods from 2004 through early 2009 with the Powell monitor PM10 concentrations in excess of 75 ug/m³, strong regional winds, and dry soils. Trajectories were modeled every 4 hours for each day. Data presented later in this document provides evidence that the moderate to high PM10 levels on these days were from blowing dust. The 6 back trajectories for each day were calculated for an arrival height of 500 meters using EDAS40 data and model vertical velocities (see: <http://www.arl.noaa.gov/HYSPLIT.php>). The eight days used in the analysis and the Powell monitor concentrations measured on these days are presented in Table A-1.

The back trajectories for these high-concentration days are shown in Figure A-17. Transport was generally from the west through southwest. A high density of trajectory points is found in northeast Arizona and southeast Utah. Most of these trajectories in Figure A-17 are also consistent with transport from or across suspected or known blowing dust source regions highlighted in Figures A-5, A-13, A-15, and A-16.

Table A-1. Grand Junction Powell monitor days with concentrations in excess of 75 ug/m³ and blowing dust conditions (from 2004 through early 2009).

Year	Month	Day	Powell 24-hour PM10 concentration in ug/m ³
2005	4	19	197.8
2008	4	15	116.1
2008	4	21	103.6
2004	9	3	102
2006	3	3	98.3
2008	5	21	86.7
2008	4	30	83.5
2006	6	7	77.9

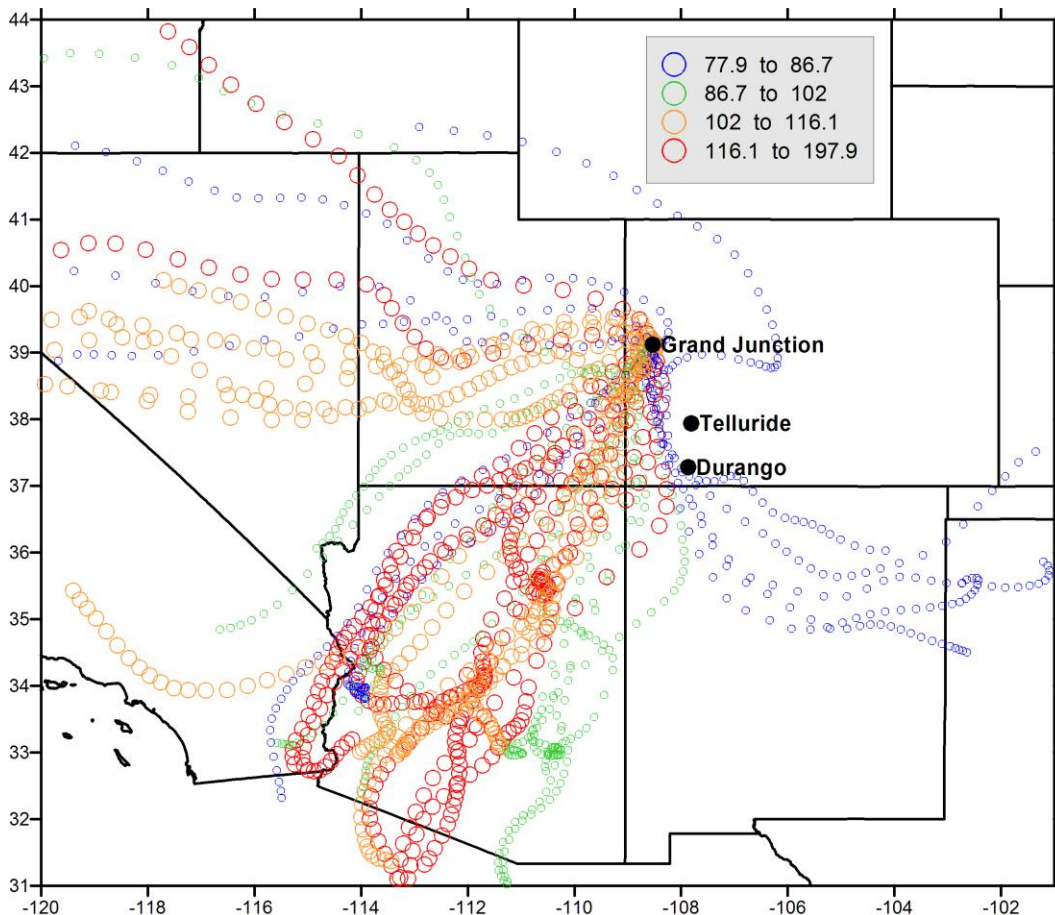


Figure A-17. NOAA HYSPLIT 36-hour back trajectories for Grand Junction for those eight 24-hour periods from 2004 through early 2009 with the Powell monitor PM10 concentrations in excess of 75 ug/m3, strong regional winds, and dry soils. Trajectory points are sized and color-coded to reflect 24-hour PM10 concentrations in ug/m3. Trajectories were calculated every 4 hours for each day.

The trajectories in Figure A-17 point to the possibility that, at times, dust from Utah and Arizona can have a major impact on Grand Junction and less of an impact elsewhere in western Colorado. This non-homogeneity is possible given the fact that dust storms are frequently organized into discreet plumes from discreet areas that maintain their integrity for long distances. An example of this can be seen in Figure A-18 that shows plumes of dust in New Mexico during a windstorm on May 20, 2008.

Figure A-19 shows the NOAA HYSPLIT back trajectories for the highest concentration day during the 2004 through early 2009 period: April 19, 2005. Twenty-four hour back trajectories for each hour during the period with high winds (using EDAS40 data and 500-meter arrival heights) show that the back trajectories for Grand Junction were more likely to have crossed the Painted Desert and southeastern Utah than those for Telluride and Durango, which measured lower PM10 concentrations on this day.

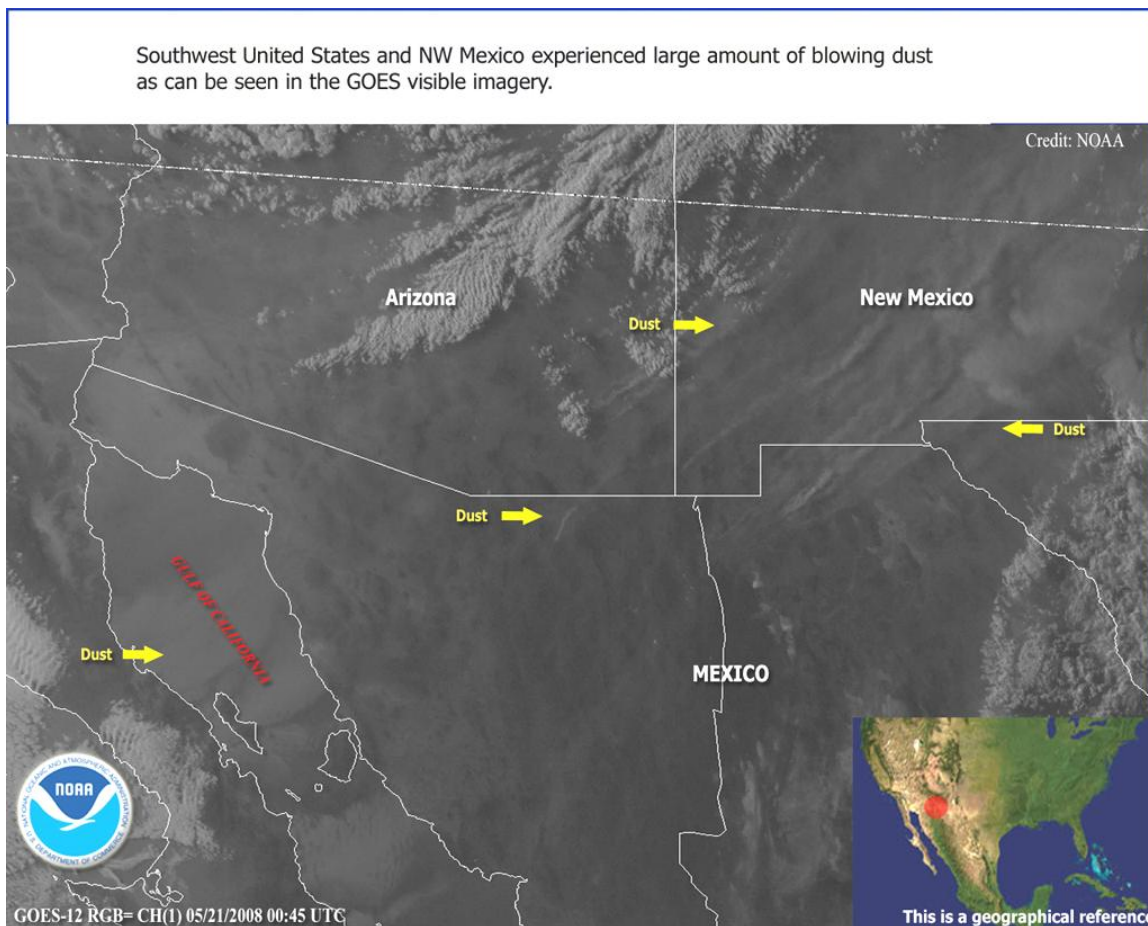


Figure A-18. Discreet plumes of blowing dust in New Mexico, Mexico, and Arizona visible in GOES satellite imagery for May 20, 2008 (http://www.osei.noaa.gov/Events/Dust/US_Southwest/2008/DSTusmx142_G12.jpg).

K-means cluster analysis has been applied to Grand Junction Powell PM10 concentrations, Grand Junction and Painted Desert 30-day total precipitation for each PM10 monitoring day, and Grand Junction and Painted Desert daily maximum wind gust speeds for each monitoring day. K-means cluster analysis is a statistical method for identifying clusters or groupings of values for many variables. For environmental variables, these clusters often represent distinct processes, conditions, or events. In this case, cluster analysis differentiates PM10 concentrations associated with strong winds, low soil moistures, and blowing dust by providing mean values for these 5 variables for 5 distinct categories of PM10 events. The period of record considered was from January 2004 through March 2009. The Hopi weather station located in the central portion of the Painted Desert was used to represent Painted Desert conditions in northeastern Arizona, and the Grand Junction National Weather Service station was used to represent Grand Junction conditions. The 30-day total precipitation values appear to be a better metric for blowing dust conditions than shorter-term totals.

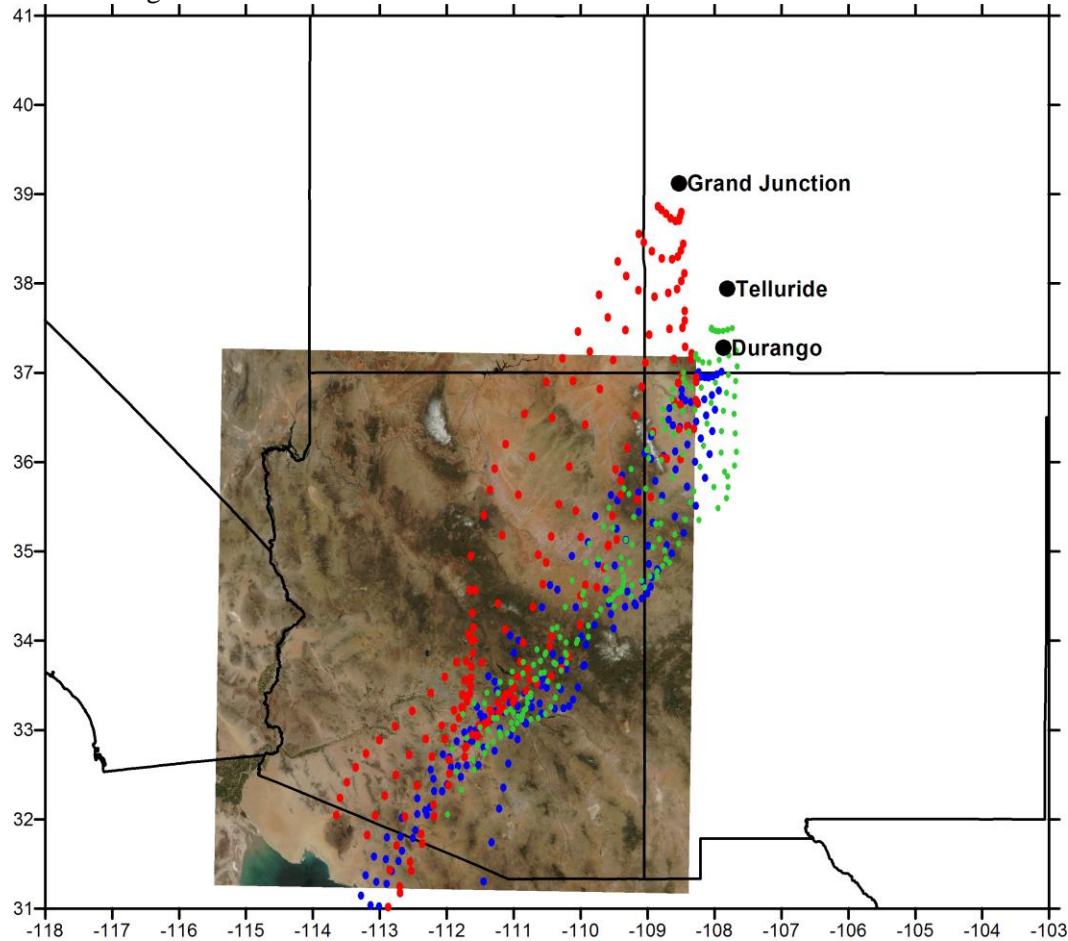


Figure A-19. 24-hour NOAA HYSPLIT back trajectories for every hour from 1500 MST to 2200 MST for Grand Junction (red), Telluride (green), and Durango (blue) for the dust storm of April 19, 2005.

The results of the cluster analysis are presented in Table A-2 below. Cluster 1 represents high soil moisture conditions, moderate gust speeds, and low PM10 concentrations. Cluster 2 represents very low soil moisture, moderate PM10, and low gust speeds. Cluster 3 represents low soil moisture, moderate gusts, and low PM10. Cluster 4 represents moderate soil moisture, low gusts, and low PM10. Finally, Cluster 5 represents high PM10, high gusts, and low soil moisture. Cluster numbers, Grand Junction Powell PM10 concentrations, and Grand Junction daily maximum gust speeds are plotted in Figure A-20.

The data in Figure A-20 clearly show that the highest PM10 concentrations tend to occur in Cluster 5 with gusts above 40 mph. The only exceedance in this period occurred on a day with a peak gust of 43 mph. Cluster 2 is likely to be indicative of wintertime inversion conditions with lighter winds and moderately elevated PM10. Figure A-21 shows the concentrations and cluster values associated with Hopi station daily maximum gust speeds. The overall pattern is similar. The highest concentration day is associated with a peak gust of 47 mph at Hopi. All of the days/events presented in Figure A-17, A-19, and Table A-1 were classified as Cluster 5.

Table A-2. K-means cluster analysis means for Grand Junction PM10 and meteorological variables.

Cluster Variables	Cluster 1 Means	Cluster 2 Means	Cluster 3 Means	Cluster 4 Means	Cluster 5 Means
Powell 24-hour PM10 in ug/m ³	24.5	37.3	24.3	21.8	74.9
Hopi Wind Gust in mph	20.8	18.0	32.5	20.7	40.5
Grand Junction Wind Gust in mph	20.4	16.5	31.8	19.6	43.1
Grand Junction 30-day Precipitation	1.7	0.4	0.5	0.8	0.6
Hopi 30-day Precipitation	1.8	0.2	0.5	0.7	0.3
Count	85	120	170	147	24

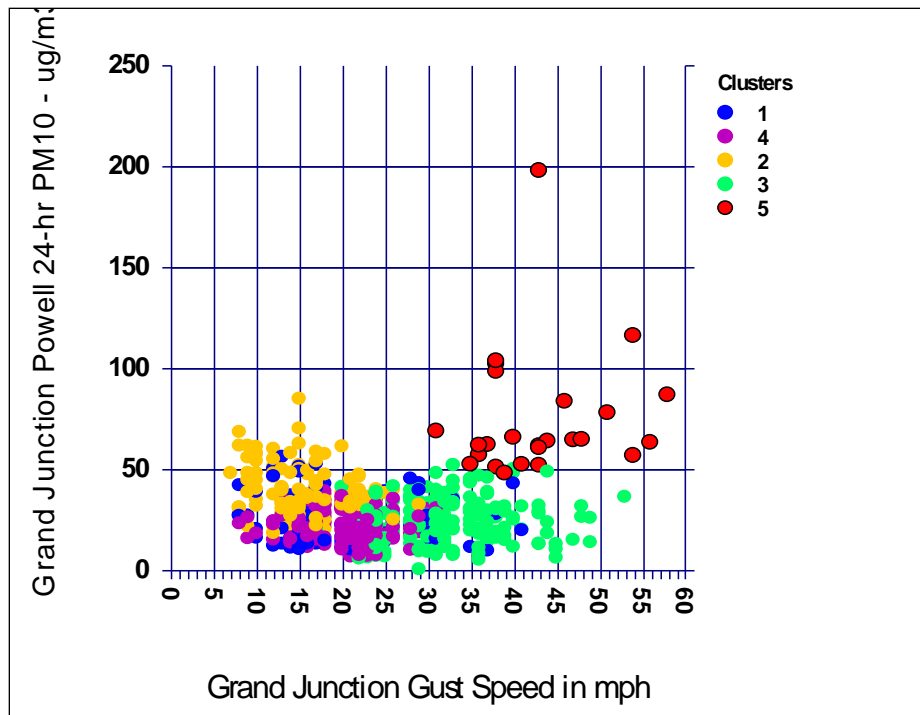


Figure A-20. Grand Junction Powell 24-hour PM10 concentrations versus Grand Junction gust speed by cluster.

Figures A-22 and A-23 show Powell PM10 concentrations versus Grand Junction and Hopi 30-day precipitation totals, respectively, by cluster. The blowing dust group, Cluster 5, is generally associated with 30-day precipitation totals of less than 1.00 inches at Grand Junction and less than 0.50 inches at Hopi. While this is not proof that the measured dust in Grand Junction is from Arizona, it adds to the weight of evidence that the Painted Desert makes a significant contribution to PM10 concentrations in Grand Junction during many blowing dust events. Of interest in this regard are the two high concentrations (greater than 100 ug/m³) that occurred when Grand Junction 30-day precipitation totals were greater than an inch (see Figure A-22). One of these occurred when transport was from the southwest. On this day (April 21, 2008) the NOAA Satellite Smoke Text Archive reported the following (see <http://www.ssd.noaa.gov/PS/FIRE/smoke.html>):

“Blowing dust is seen over most of Utah (and part of western Nevada) and the dust is moving toward the northeast, reaching into northwestern Colorado and southern Wyoming.”

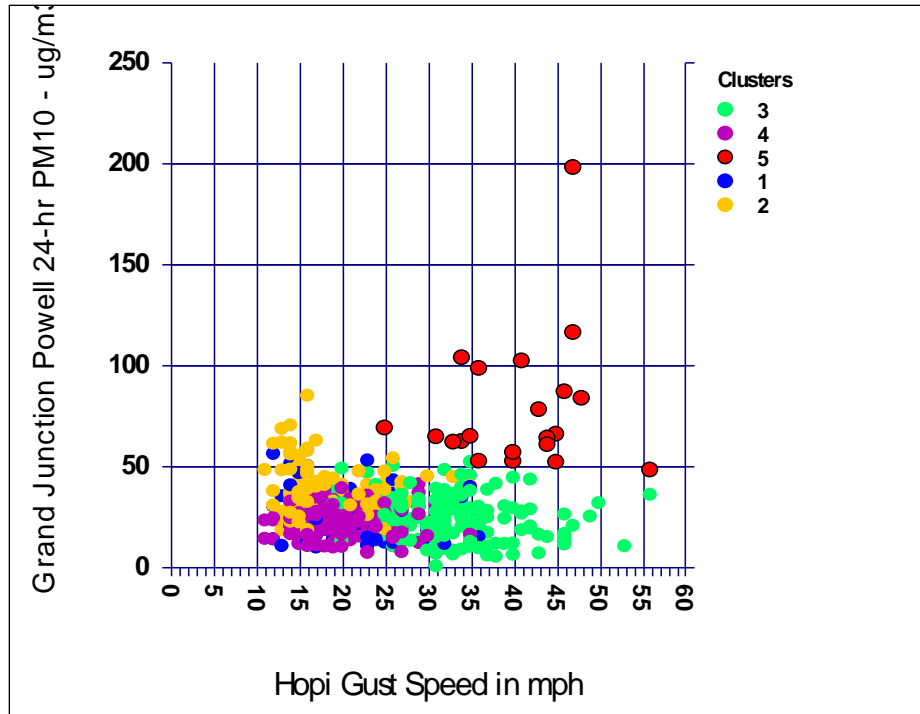


Figure A-21. Grand Junction Powell 24-hour PM10 concentrations versus Hopi gust speed by cluster.

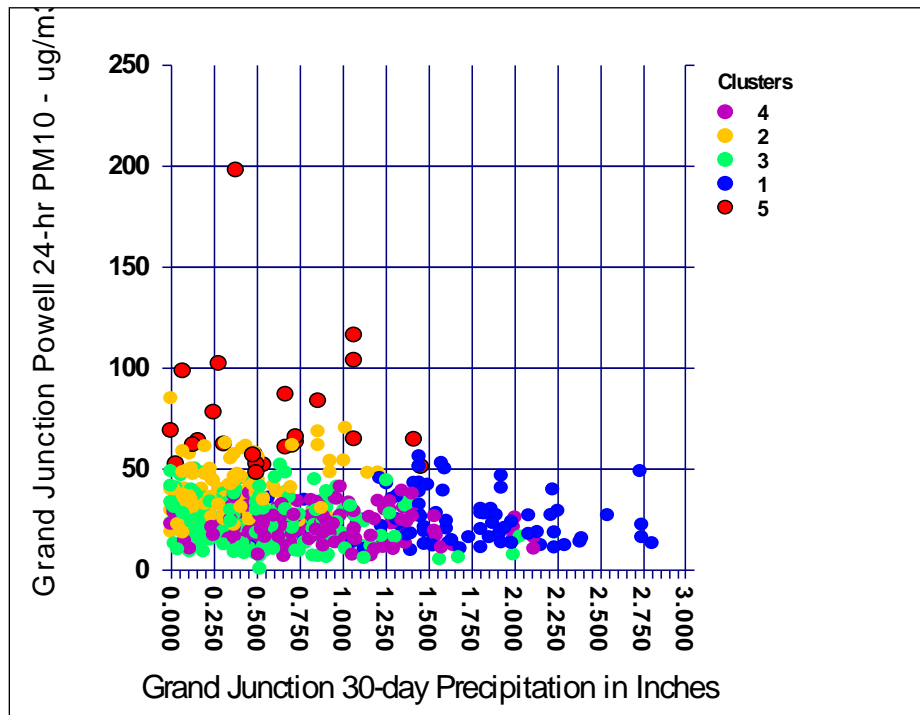


Figure A-22. Grand Junction Powell 24-hour PM10 concentrations versus Grand Junction 30-day total precipitation by cluster.

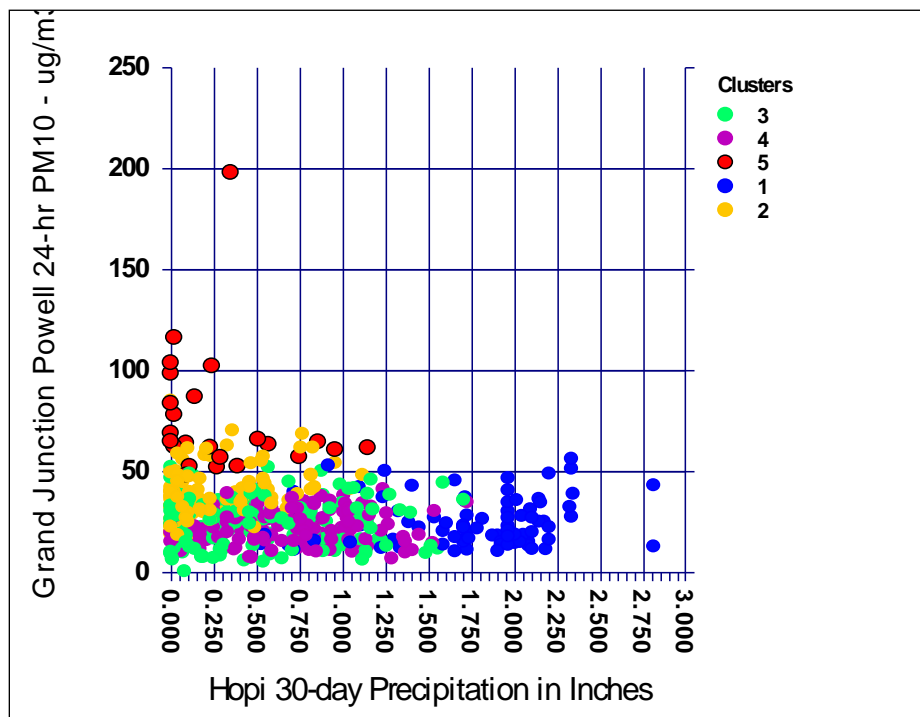


Figure A-23. Grand Junction Powell 24-hour PM10 concentrations versus Hopi 30-day total precipitation by cluster.

The other occurred on April 15, 2008, when the flow was from Arizona and southeast Utah. The transport conditions, the discrepancy between high recent precipitation in Grand Junction and low recent precipitation at Hopi for these two days, and, in one case, analyst discussion of what was visible in satellite images suggest that much of the dust might have originated from outside of the Grand Junction environment.

Figure A-24 shows Grand Junction Powell 24-hour PM10 concentrations versus peak gust wind directions at the Little Delores RAWS weather station about 25 miles west-southwest of Grand Junction. Grand Junction is situated on the floor of the Grand Valley, a major northwest to southeast trending basin that can force or channel synoptic scale flows. As a result, surface wind directions in Grand Junction may not be useful indicators of the direction of longer-range transport. Little Delores is on the Uncompahgre Plateau, and winds here are more likely to reflect the larger-scale transport directions for the region. This graph indicates that high PM10 at Grand Junction (Cluster 5) is associated with winds from the south-southeast to west-southwest at Little Delores. These directions point to dust sources in southeast Utah and northeastern Arizona. This is further evidence that dust from these areas may make a significant contribution to PM10 measured in Grand Junction during blowing dust events.

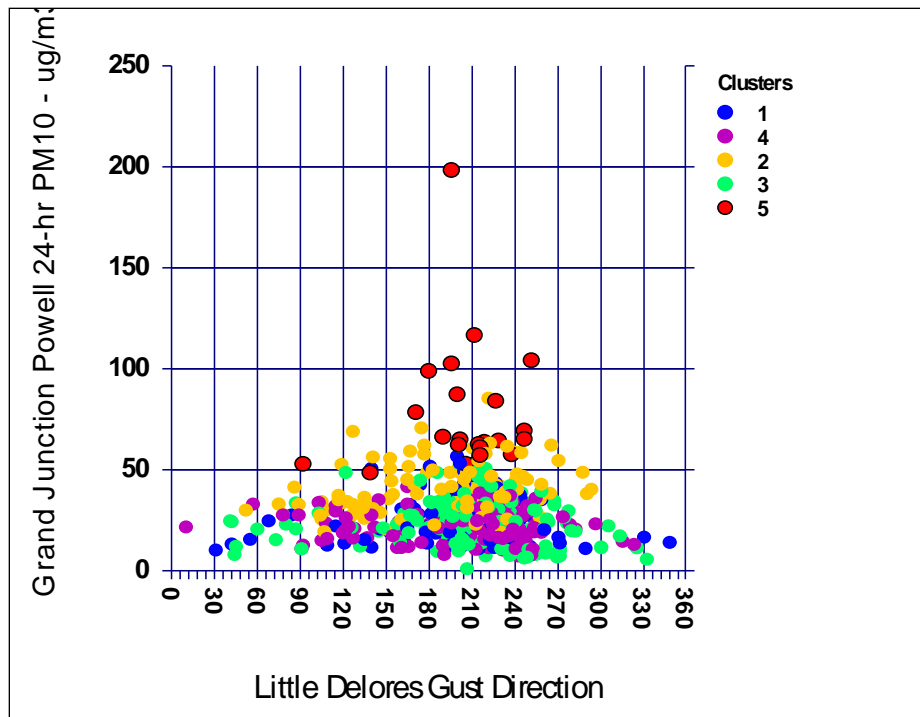


Figure A-24. Grand Junction Powell 24-hour PM10 concentrations versus peak gust wind directions at the Little Delores RAWS weather station, by cluster.

Figure A-25 presents monthly percentiles for Grand Junction gust speeds. Wind gusts generally considered to be high enough for significant blowing dusts (40 mph or higher) are within the upper 5 to 15 percent during each month of the year. Consequently, these events can be viewed as exceptional rather than normal. Gusts in this category can occur any month of the year, but are most likely in March, April, May and October. Figure A-4 shows that in Grand Junction these are typically among the wettest months of the year. It is in drier years, therefore, that blowing dust may be most prevalent during the spring and fall months. January, February, and June are typically very dry, and might be expected to have a significant proportion of blowing dust events.

Figures A-26 and A-27 show histograms for Grand Junction and Hopi wind gusts, respectively. The 95th percentile gust speed for Grand Junction is 43 mph. For Hopi it is 41 mph. For both sites, it is clear that gusts in the range that is associated with blowing dust are the exception rather than the rule. Cluster analysis also shows that the blowing dust events represent only 4% of the PM10 sample days (from Table A-2, Cluster 5 had 24 cases out of a total of 546). The weight of evidence presented in this document clearly suggests that source regions in Arizona and Utah can have a significant impact on PM10 concentrations in Grand Junction during blowing dust events and that these events occur when dry soils are affected by winds of exceptional strength. Control of these sources, which are outside of Colorado, may not be reasonably achievable or possible.

The precipitation climatology for the Four Corners area indicates that the area can be susceptible to blowing dust when winds are high. Landform imagery shows that northeastern Arizona and southeastern Utah in particular have experienced a long-term pattern of wind erosion and blowing dust when winds have been southwesterly and blowing into western and southern Colorado. Back trajectories, case studies, satellite imagery, and statistical analyses have also shown that northeastern Arizona and southeastern Utah are a significant source for blowing dust transported into Colorado. Elevated PM10 in Grand Junction during windstorms is generally associated with wind gusts of 40 mph or higher at Grand Junction and Hopi in

northeastern Arizona and southwesterly flow in Grand Junction. Elevated PM10 in Grand Junction is generally associated with 30-day precipitation totals of less than 1.00 inches at Grand Junction and less than 0.50 inches at Hopi.

Reference:

Orgill, M.M., Sehmel, G.A., 1976. Frequency and diurnal variation of dust storms in the contiguous USA. **Atmospheric Environment** 10, 813-825

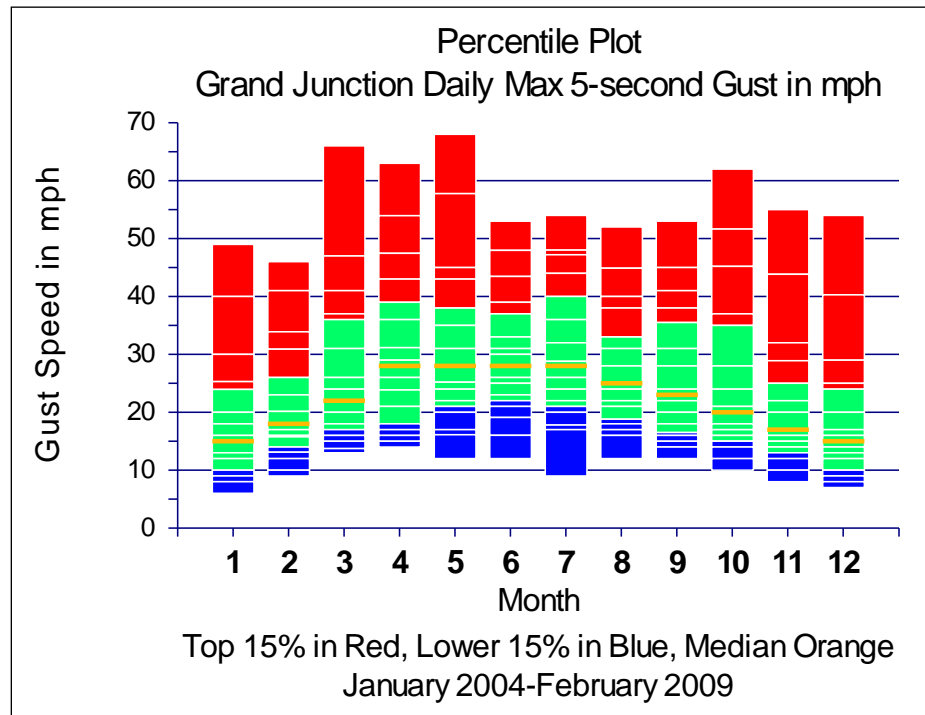


Figure A-25. Percentile plot of Grand Junction daily maximum 5-second gust speed in miles per hour showing that gusts of 40 mph or greater always occur within the top 15 percentile speeds for each month of the year.

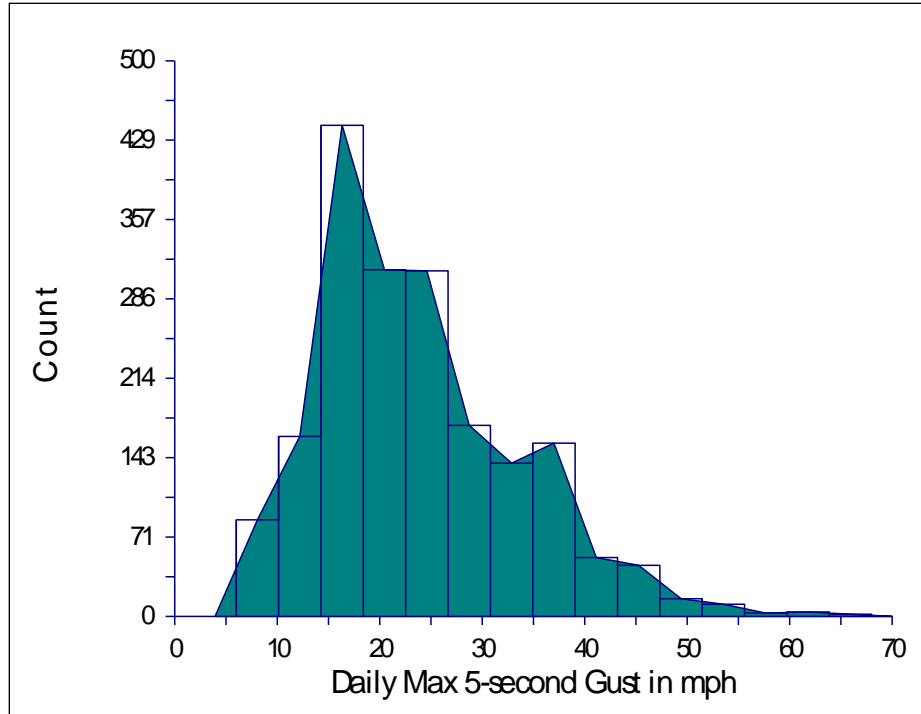


Figure A-26. Histogram of daily maximum 5-second wind gusts at Grand Junction based on January 2004 – February 2009.

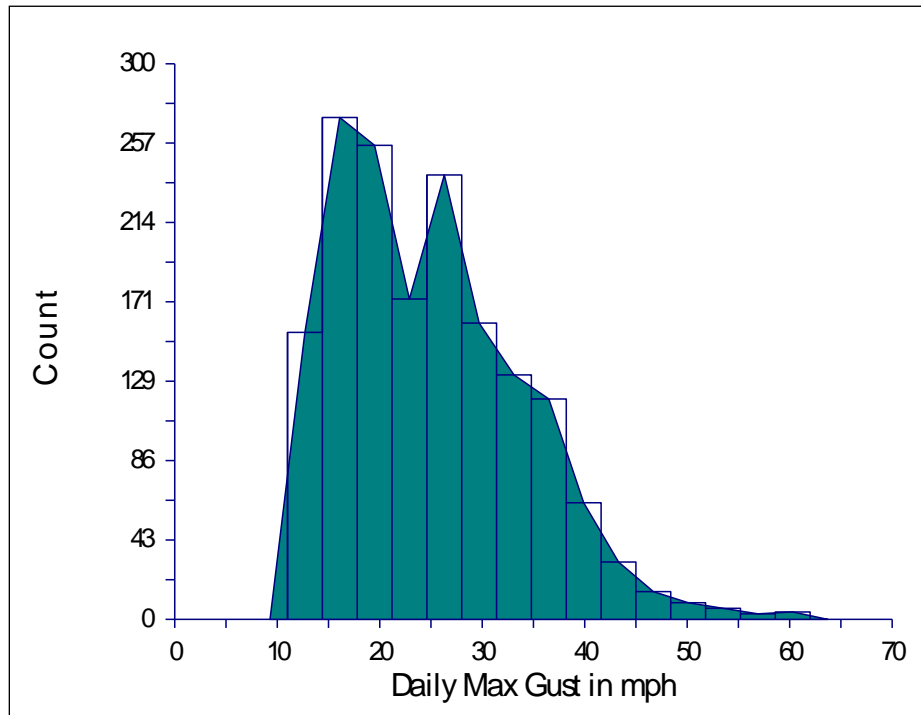


Figure A-27. Histogram of daily maximum 5-second wind gusts at Hopi based on January 2004 – February 2009.

Appendix B- Weather Warnings and Blowing Dust Advisories for April 5, 2010

The following advisories were posted on the APCD website on April 5, 2010:

Denver Metro/Front Range:

Issued: 4/5/2010 2:59:00 PM

No Advisories - No Action Day

Effective: 4/5/2010 4:00:00 PM - 4/6/2010 4:00:00 PM

Other Areas:

Blowing Dust Advisory for Western, Southwestern and portions of Southeastern Colorado for 10 AM to 10 PM, Monday April 5, 2010. Blowing Dust Advisory for South-Central and Southeastern Colorado for 10 AM to 6 PM on Tuesday April 6. Issued by the Colorado Department of Public Health and Environment at 3 PM April 5, 2010. Blowing dust is possible across much of western, southwestern and portions of southeastern Colorado Monday afternoon and evening as strong winds move across drier areas of Arizona, Colorado, and Utah. Winds gusting to 45 to 70 mph in these states and in areas of Colorado may contribute to blowing dust. Grand Junction, Rifle, Montrose, Delta, Cortez, Durango, Telluride, Alamosa, Pueblo, Colorado Springs, and nearby areas may be affected on Monday. Large plumes of dust are spreading northeastward from the Four Corners area into Colorado and from the San Luis Valley towards Colorado Springs at 4PM. Blowing dust is once again possible in south-central and southeastern Colorado Tuesday morning through Tuesday afternoon – including Alamosa, Pueblo, Lamar, Springfield and nearby areas. If significant blowing dust is present and reducing visibility to less than 10 miles across a wide area, the elderly, the very young, and those with respiratory problems should avoid prolonged exertion; everyone else should limit prolonged exertion. Limiting outdoor exposure is also advised.

Denver Metro/Front Range:

Issued: 4/5/2010 10:36:00 AM

No Advisories - No Action Day

Effective: 4/4/2010 4:00:00 PM - 4/5/2010 4:00:00 PM

Other Areas:

Blowing Dust Advisory for Western and Southwestern Colorado for 10 AM to 10 PM, Monday April 5, 2010. Issued by the Colorado Department of Public Health and Environment at 10 AM April 5, 2010. Blowing dust is possible across much of western and southwestern Colorado Tuesday afternoon and evening as strong winds across drier areas of Arizona, and Utah move into the state. Winds gusting to 45 to 70 mph in these states and in areas of Colorado may contribute to blowing dust. Grand Junction, Rifle, Montrose, Delta, Cortez, Durango, Telluride, Alamosa, and nearby towns may be affected. If significant blowing dust is present and reducing visibility to less than 10 miles across a wide area, the elderly, the very young, and those with respiratory problems should avoid prolonged exertion; everyone else should limit prolonged exertion. Limiting outdoor exposure is also advised.

Denver Metro/Front Range:
Issued: 4/5/2010 10:34:00 AM
No Advisories - No Action Day
Effective: 4/5/2010 4:00:00 PM - 4/6/2010 4:00:00 PM

Other Areas:

Blowing Dust Advisory for Western and Southwestern Colorado for 10 AM to 10 PM, Monday April 5, 2010. Issued by the Colorado Department of Public Health and Environment at 10 AM April 5, 2010. Blowing dust is possible across much of western and southwestern Colorado Tuesday afternoon and evening as strong winds across drier areas of Arizona, and Utah move into the state. Winds gusting to 45 to 70 mph in these states and in areas of Colorado may contribute to blowing dust. Grand Junction, Rifle, Montrose, Delta, Cortez, Durango, Telluride, Alamosa, and nearby towns may be affected. If significant blowing dust is present and reducing visibility to less than 10 miles across a wide area, the elderly, the very young, and those with respiratory problems should avoid prolonged exertion; everyone else should limit prolonged exertion. Limiting outdoor exposure is also advised.

NWS SRRS PRODUCTS FOR:
2010040412 to 2010040523

WWUS75 KPUB 051226

NPWPUB

URGENT - WEATHER MESSAGE

NATIONAL WEATHER SERVICE PUEBLO CO

626 AM MDT MON APR 5 2010

COZ072>075-079>082-051830-

/O.NEW.KPUB.HW.W.0002.100405T1226Z-100406T0600Z/

NORTHERN SANGRE DE CRISTO MOUNTAINS BETWEEN 8500 AND 11000 FT-

NORTHERN SANGRE DE CRISTO MOUNTAINS ABOVE 11000 FEET-

SOUTHERN SANGRE DE CRISTO MOUNTAINS BETWEEN 7500 AND 11000 FT-

SOUTHERN SANGRE DE CRISTO MOUNTAINS ABOVE 11000 FT-

WET MOUNTAINS BETWEEN 6300 AND 10000 FT-

WET MOUNTAINS ABOVE 10000 FT-

TELLER COUNTY/RAMPART RANGE ABOVE 7500 FT/PIKES PEAK BETWEEN

7500 AND 11000 FT-PIKES PEAK ABOVE 11000 FT-

INCLUDING...LA VETA PASS...PONCHA PASS...BLANCA PEAK...CUCHARA...

STONEWALL...WESTON...SPANISH PEAKS...RYE...GREENHORN MTN...

WOODLAND PARK...PIKES PEAK

626 AM MDT MON APR 5 2010

...**HIGH WIND WARNING IN EFFECT** UNTIL MIDNIGHT MDT TONIGHT...

THE NATIONAL WEATHER SERVICE IN PUEBLO HAS ISSUED A HIGH WIND WARNING...WHICH IS IN EFFECT UNTIL MIDNIGHT MDT TONIGHT.

* LOCATION...THE SANGRE DE CRISTO MOUNTAINS...THE WET MOUNTAINS AND THE PIKES PEAK AND THE TELLER COUNTY RAMPART RANGE REGION.

* CAUSE AND TIMING...STRONG AND POTENTIALLY DAMAGING WINDS ARE EXPECTED TO DEVELOP TODAY AND CONTINUE INTO THIS EVENING OVER PORTIONS OF THE SANGRE DE CRISTO MOUNTAINS...THE WET MOUNTAINS AND THE PIKES PEAK...TELLER COUNTY...RAMPART RANGE REGION.

* **WIND..SOUTHWEST TO WEST WINDS OF 35 TO 55 MPH WITH WIND GUSTS IN EXCESS OF 75 MPH** AT TIMES ARE ANTICIPATED TODAY AND THIS EVENING.

PRECAUTIONARY/PREPAREDNESS ACTIONS...
HIGH WINDS CAPABLE OF CAUSING POWER OUTAGES AND PROPERTY DAMAGE
ARE EXPECTED.
THESE WINDS CAN CAUSE LIGHTWEIGHT OBJECTS TO BECOME DANGEROUS
AIRBORNE PROJECTILES. HIGH PROFILE VEHICLES AND VEHICLES PULLING
TRAILERS CAN BE FLIPPED BY CROSSWINDS. **BLOWING DUST AND/OR BLOWING
SNOW CAN QUICKLY REDUCE VISIBILITY TO NEAR ZERO.**...RESULTING IN
HAZARDOUS DRIVING CONDITIONS AND ACCIDENTS INVOLVING MOTORISTS
TAKEN BY SURPRISE. **BLOWING DUST OR SAND CAN ALSO BE A HEALTH
HAZARD FOR THOSE WITH RESPIRATORY PROBLEMS.** SECURE LIGHTWEIGHT
OBJECTS. AVOID TRAVELING ON ROADS WITH CROSSWINDS.
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WWUS75 KPUB 051637

NPWPUB

URGENT - WEATHER MESSAGE

NATIONAL WEATHER SERVICE PUEBLO CO

1037 AM MDT MON APR 5 2010

COZ086-052300-

/O.EXA.KPUB.HW.W.0002.000000T0000Z-100406T0600Z/

PUEBLO AND VICINITY/PUEBLO COUNTY BELOW 6300 FT-

INCLUDING...PUEBLO

1037 AM MDT MON APR 5 2010

...**HIGH WIND WARNING IN EFFECT** UNTIL MIDNIGHT MDT TONIGHT...

THE NATIONAL WEATHER SERVICE IN PUEBLO HAS ISSUED A HIGH WIND
WARNING...WHICH IS IN EFFECT UNTIL MIDNIGHT MDT TONIGHT.

* LOCATION...THE PLAINS OF SOUTHWEST PUEBLO COUNTY...ADJACENT TO
THE WET MOUNTAINS...INCLUDING THE COLORADO CITY AREA AND THE
I-25 CORRIDOR IN SOUTHWESTERN PUEBLO COUNTY.

* CAUSE AND TIMING...STRONG AND DAMAGING WINDS ASSOCIATED WITH A
STRONG JETSTREAM OVER THE REGION ARE EXPECTED TODAY INTO THIS
EVENING.

* **WIND...SOUTHWEST WINDS 35 TO 55 MPH WITH GUSTS TO 75 MPH** AT TIMES
ARE EXPECTED TODAY AND THIS EVENING. WINDS OF THIS MAGNITUDE
WILL LIKELY CAUSE SOME PROPERTY DAMAGE.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

HIGH WINDS CAPABLE OF CAUSING POWER OUTAGES AND PROPERTY DAMAGE
ARE EXPECTED.

THESE WINDS CAN CAUSE LIGHTWEIGHT OBJECTS TO BECOME DANGEROUS
AIRBORNE PROJECTILES. HIGH PROFILE VEHICLES AND VEHICLES PULLING
TRAILERS CAN BE FLIPPED BY CROSSWINDS. **BLOWING DUST AND/OR
BLOWING SNOW CAN QUICKLY REDUCE VISIBILITY TO NEAR ZERO.**...
RESULTING IN HAZARDOUS DRIVING CONDITIONS AND ACCIDENTS INVOLVING
MOTORISTS TAKEN BY SURPRISE. **BLOWING DUST OR SAND CAN ALSO BE A
HEALTH HAZARD FOR THOSE WITH RESPIRATORY PROBLEMS.** SECURE
LIGHTWEIGHT OBJECTS. AVOID TRAVELING ON ROADS WITH CROSSWINDS.

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COZ072>075-079>082-052300-

/O.CON.KPUB.HW.W.0002.000000T0000Z-100406T0600Z/

NORTHERN SANGRE DE CRISTO MOUNTAINS BETWEEN 8500 AND 11000 FT-

NORTHERN SANGRE DE CRISTO MOUNTAINS ABOVE 11000 FEET-

SOUTHERN SANGRE DE CRISTO MOUNTAINS BETWEEN 7500 AND 11000 FT-

SOUTHERN SANGRE DE CRISTO MOUNTAINS ABOVE 11000 FT-
WET MOUNTAINS BETWEEN 6300 AND 10000 FT-
WET MOUNTAINS ABOVE 10000 FT-
TELLER COUNTY/RAMPART RANGE ABOVE 7500 FT/PIKES PEAK BETWEEN
7500 AND 11000 FT-PIKES PEAK ABOVE 11000 FT-
INCLUDING...LA VETA PASS...PONCHA PASS...BLANCA PEAK...CUCHARA...
STONEWALL...WESTON...SPANISH PEAKS...RYE...GREENHORN MTN...
WOODLAND PARK...PIKES PEAK
1037 AM MDT MON APR 5 2010
...HIGH WIND WARNING REMAINS IN EFFECT UNTIL MIDNIGHT MDT
TONIGHT...
A HIGH WIND WARNING REMAINS IN EFFECT UNTIL MIDNIGHT MDT TONIGHT.
* LOCATION...THE SANGRE DE CRISTO MOUNTAINS...THE WET
MOUNTAINS...PIKES PEAK...TELLER COUNTY AND THE RAMPART RANGE
REGION.
* CAUSE AND TIMING...STRONG AND POTENTIALLY DAMAGING WINDS ARE
EXPECTED TO DEVELOP TODAY AND CONTINUE INTO THIS EVENING OVER
PORTIONS OF THE SANGRE DE CRISTO MOUNTAINS...THE WET
MOUNTAINS...PIKES PEAK...TELLER COUNTY...AND THE RAMPART RANGE
REGION.
* WIND...**SOUTHWEST WINDS OF 35 TO 55 MPH WITH GUSTS IN EXCESS OF
75 MPH** AT TIMES ARE ANTICIPATED TODAY AND THIS EVENING.
PRECAUTIONARY/PREPAREDNESS ACTIONS...
HIGH WINDS CAPABLE OF CAUSING POWER OUTAGES AND PROPERTY DAMAGE
ARE EXPECTED.
THESE WINDS CAN CAUSE LIGHTWEIGHT OBJECTS TO BECOME DANGEROUS
AIRBORNE PROJECTILES. HIGH PROFILE VEHICLES AND VEHICLES PULLING
TRAILERS CAN BE FLIPPED BY CROSSWINDS. **BLOWING DUST AND/OR
BLOWING SNOW CAN QUICKLY REDUCE VISIBILITY TO NEAR ZERO...**
RESULTING IN HAZARDOUS DRIVING CONDITIONS AND ACCIDENTS INVOLVING
MOTORISTS TAKEN BY SURPRISE. **BLOWING DUST OR SAND CAN ALSO BE A
HEALTH HAZARD FOR THOSE WITH RESPIRATORY PROBLEMS.** SECURE
LIGHTWEIGHT OBJECTS. AVOID TRAVELING ON ROADS WITH CROSSWINDS.
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WWUS75 KPUB 052139

NPWPUB

URGENT - WEATHER MESSAGE

NATIONAL WEATHER SERVICE PUEBLO CO

339 PM MDT MON APR 5 2010

COZ072>075-079>082-086-060345-

/O.CON.KPUB.HW.W.0002.000000T0000Z-100406T0600Z/

NORTHERN SANGRE DE CRISTO MOUNTAINS BETWEEN 8500 AND 11000 FT-

NORTHERN SANGRE DE CRISTO MOUNTAINS ABOVE 11000 FEET-

SOUTHERN SANGRE DE CRISTO MOUNTAINS BETWEEN 7500 AND 11000 FT-

SOUTHERN SANGRE DE CRISTO MOUNTAINS ABOVE 11000 FT-

WET MOUNTAINS BETWEEN 6300 AND 10000 FT-

WET MOUNTAINS ABOVE 10000 FT-

TELLER COUNTY/RAMPART RANGE ABOVE 7500 FT/PIKES PEAK BETWEEN

7500 AND 11000 FT-PIKES PEAK ABOVE 11000 FT-

PUEBLO AND VICINITY/PUEBLO COUNTY BELOW 6300 FT-

INCLUDING...LA VETA PASS...PONCHA PASS...BLANCA PEAK...CUCHARA...

STONEWALL...WESTON...SPANISH PEAKS...RYE...GREENHORN MTN...

WOODLAND PARK...PIKES PEAK...PUEBLO

339 PM MDT MON APR 5 2010

..HIGH WIND WARNING REMAINS IN EFFECT UNTIL MIDNIGHT MDT
TONIGHT...

A HIGH WIND WARNING REMAINS IN EFFECT UNTIL MIDNIGHT MDT TONIGHT.

* LOCATION...THE PLAINS OF SOUTHWEST PUEBLO COUNTY...ADJACENT TO
THE WET MOUNTAINS...INCLUDING THE COLORADO CITY AREA AND THE
INTERSTATE 25 CORRIDOR IN SOUTHWESTERN PUEBLO COUNTY.

* CAUSE AND TIMING...STRONG TO DAMAGING WINDS ASSOCIATED WITH A
STRONG JET STREAM OVER THE REGION ARE EXPECTED TODAY INTO THIS
EVENING.

* **WIND..SOUTHWEST WINDS 35 TO 50 MPH WITH GUSTS TO 75 MPH** AT TIMES
ARE EXPECTED TODAY AND THIS EVENING. WINDS OF THIS MAGNITUDE ARE
CAPABLE OF CAUSING SOME PROPERTY DAMAGE.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

HIGH WINDS CAPABLE OF CAUSING POWER OUTAGES AND PROPERTY DAMAGE
ARE EXPECTED.

THESE WINDS CAN CAUSE LIGHTWEIGHT OBJECTS TO BECOME DANGEROUS
AIRBORNE PROJECTILES. HIGH PROFILE VEHICLES AND VEHICLES PULLING
TRAILERS CAN BE FLIPPED BY CROSSWINDS. **BLOWING DUST AND/OR**
BLOWING SNOW CAN QUICKLY REDUCE VISIBILITY TO NEAR ZERO...

RESULTING IN HAZARDOUS DRIVING CONDITIONS AND ACCIDENTS INVOLVING
MOTORISTS TAKEN BY SURPRISE. **BLOWING DUST OR SAND CAN ALSO BE A**
HEALTH HAZARD FOR THOSE WITH RESPIRATORY PROBLEMS. SECURE
LIGHTWEIGHT OBJECTS. AVOID TRAVELING ON ROADS WITH CROSSWINDS.

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NWS SRRS PRODUCTS FOR:

2010040412 to 2010040523

WWUS75 KGJT 041844

NPWGJT

URGENT - WEATHER MESSAGE

NATIONAL WEATHER SERVICE GRAND JUNCTION CO

1244 PM MDT SUN APR 4 2010

...GUSTY WINDS TODAY WILL BECOME STRONG TONIGHT AND MONDAY...

.THE STRONGEST IN A SERIES OF PACIFIC STORMS WILL WORK INTO THE
GREAT BASIN TONIGHT AND MONDAY...THEN PASS ON TUESDAY. SOUTHWEST
WINDS WILL BECOME STRONG OVER THE MOUNTAINS OF SOUTHEAST UTAH AND
SOUTHWEST COLORADO TONIGHT...THEN MIX DOWN INTO THE SURROUNDING
VALLEYS MONDAY MORNING. THE WINDS WILL SHIFT TO WEST AND DIMINISH
MONDAY EVENING AS AN ASSOCIATED COLD FRONT PASSES.

COZ003-009-013-017>019-UTZ025-028-050400-

/O.CON.KGJT.WI.Y.0003.100405T0600Z-100406T0600Z/

ROAN AND TAVAPUTS PLATEAUS-GRAND AND BATTLEMENT MESAS-FLATTOPS-
UNCOMPAHGRE PLATEAU AND DALLAS DIVIDE-

NORTHWEST SAN JUAN MOUNTAINS-SOUTHWEST SAN JUAN MOUNTAINS-

TAVAPUTS PLATEAU-LA SAL AND ABAJO MOUNTAINS-

INCLUDING THE CITIES OF...RIO BLANCO...SKYWAY...BUFORD...

TRAPPERS LAKE...RIDGWAY...GLADE PARK...OURAY...TELLURIDE...

LAKE CITY...SILVERTON...RICO...HESPERUS...MONTICELLO AND VICINITY

1244 PM MDT SUN APR 4 2010

... WIND ADVISORY REMAINS IN EFFECT FROM MIDNIGHT TONIGHT TO MIDNIGHT MDT MONDAY NIGHT...

A WIND ADVISORY REMAINS IN EFFECT FROM MIDNIGHT TONIGHT TO MIDNIGHT MDT MONDAY NIGHT.

* TIMING...THE STRONGEST WINDS ARE EXPECTED MONDAY AFTERNOON.

* WINDS...SOUTHWEST WINDS WILL INCREASE TO 20 TO 40 MPH AFTER MIDNIGHT TONIGHT...WITH GUSTS OF 60 TO 70 MPH POSSIBLE THROUGH MONDAY EVENING.

* VISIBILITY...BLOWING AND DRIFTING SNOW WILL DEVELOP MONDAY AFTERNOON AND EVENING...LOWERING VISIBILITIES TO LESS THAN A QUARTER MILE AT TIMES.

* IMPACTS...BUFFETING WINDS WILL MAKE TRAVEL HAZARDOUS AT TIMES. PRECAUTIONARY/PREPAREDNESS ACTIONS...

A WIND ADVISORY MEANS THAT A SIGNIFICANT WIND EVENT IS EXPECTED OR OCCURRING. WINDS THIS STRONG CAN MAKE DRIVING DIFFICULT. USE EXTRA CAUTION.

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COZ001-002-006-007-011-020>023-UTZ022-027-029-050400-

/O.CON.KGJT.WI.Y.0003.100405T1500Z-100406T0300Z/

LOWER YAMPA RIVER BASIN-CENTRAL YAMPA RIVER BASIN-GRAND VALLEY-DEBEQUE TO SILT CORRIDOR-

CENTRAL GUNNISON AND UNCOMPAHGRE RIVER BASIN-

PARADOX VALLEY/LOWER DOLORES RIVER-

FOUR CORNERS/UPPER DOLORES RIVER-ANIMAS RIVER BASIN-

SAN JUAN RIVER BASIN-SOUTHEAST UTAH-ARCHES/GRAND FLAT-

CANYONLANDS/NATURAL BRIDGES-

INCLUDING THE CITIES OF...RANGELY...DINOSAUR...CRAIG...HAYDEN...

MEEKER...GRAND JUNCTION...FRUITA...PALISADE...RIFLE...SILT...

PARACHUTE...MESA...CEDAREDGE...DELTA...HOTCHKISS...MONTROSE...

GATEWAY...NUCLA...CORTEZ...DOVE CREEK...MANCOS...DURANGO...

BAYFIELD...IGNACIO...PAGOSA SPRINGS AND VICINITY...BLANDING...

BLUFF...MEXICAN HAT...MOAB...CASTLE VALLEY...THOMPSON SPRINGS

1244 PM MDT SUN APR 4 2010

... WIND ADVISORY REMAINS IN EFFECT FROM 9 AM TO 9 PM MDT MONDAY...

A WIND ADVISORY REMAINS IN EFFECT FROM 9 AM TO 9 PM MDT MONDAY.

* TIMING...THE STRONGEST WINDS ARE EXPECTED MONDAY AFTERNOON.

* WINDS...SOUTHWEST WINDS WILL INCREASE TO 20 TO 30 MPH MONDAY... WITH GUSTS OF 45 TO 55 MPH POSSIBLE IN THE AFTERNOON.

* VISIBILITY...AREAS OF BLOWING DUST COULD REDUCE VISIBILITIES AT TIMES.

* IMPACTS...AGRICULTURAL BURNING IS DISCOURAGED AS FIRE CONTROL WILL BECOME VERY DIFFICULT. BUFFETING WINDS MAY MAKE DRIVING DIFFICULT.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

A WIND ADVISORY MEANS THAT A SIGNIFICANT WIND EVENT IS EXPECTED OR OCCURRING. WINDS THIS STRONG CAN MAKE DRIVING DIFFICULT. USE EXTRA CAUTION.

PEOPLE...ESPECIALLY THOSE WITH RESPIRATORY ILLNESSES... HEART DISEASE...THE ELDERLY...AND CHILDREN ARE RECOMMENDED TO STAY INDOORS AND AVOID PROLONGED OUTDOOR EXERCISE OR HEAVY EXERTION DUE TO WIND-BLOWN DUST.

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WWUS75 KGJT 042105

NPWGT

URGENT - WEATHER MESSAGE

NATIONAL WEATHER SERVICE GRAND JUNCTION CO

305 PM MDT SUN APR 4 2010

...GUSTY WINDS TODAY WILL BECOME STRONG TONIGHT AND MONDAY...
.THE STRONGEST IN A SERIES OF PACIFIC STORMS WILL WORK INTO THE
GREAT BASIN TONIGHT AND MONDAY...THEN PASS ON TUESDAY. SOUTHWEST
WINDS WILL BECOME STRONG OVER THE MOUNTAINS OF SOUTHEAST UTAH AND
SOUTHWEST COLORADO TONIGHT...**THEN MIX DOWN INTO THE SURROUNDING
VALLEYS MONDAY MORNING.** THE WINDS WILL SHIFT TO WEST AND DIMINISH
MONDAY EVENING AS AN ASSOCIATED COLD FRONT PASSES.

COZ003-009-013-UTZ025-050500-

/O.EXT.KGJT.WI.Y.0003.100405T0600Z-100405T1800Z/

ROAN AND TAVAPUTS PLATEAUS-GRAND AND BATTLEMENT MESAS-FLATTOPS-

TAVAPUTS PLATEAU-

INCLUDING THE CITIES OF...RIO BLANCO...SKYWAY...BUFORD...

TRAPPERS LAKE

305 PM MDT SUN APR 4 2010

...**WIND ADVISORY NOW IN EFFECT** FROM MIDNIGHT TONIGHT TO NOON MDT
MONDAY...

THE WIND ADVISORY IS NOW IN EFFECT FROM MIDNIGHT TONIGHT TO NOON
MDT MONDAY.

* TIMING...THE STRONGEST WINDS ARE EXPECTED MONDAY AFTERNOON.

* **WINDS...SOUTHWEST WINDS WILL INCREASE TO 20 TO 40 MPH AFTER
MIDNIGHT TONIGHT...WITH GUSTS OF 60 TO 70 MPH POSSIBLE THROUGH
MONDAY EVENING.**

* VISIBILITY...BLOWING AND DRIFTING SNOW WILL DEVELOP MONDAY
AFTERNOON AND EVENING...LOWERING VISIBILITIES TO LESS THAN A
QUARTER MILE AT TIMES.

* IMPACTS...BUFFETING WINDS WILL MAKE TRAVEL HAZARDOUS AT TIMES.
PRECAUTIONARY/PREPAREDNESS ACTIONS...

A WIND ADVISORY MEANS THAT A SIGNIFICANT WIND EVENT IS EXPECTED
OR OCCURRING. WINDS THIS STRONG CAN MAKE DRIVING DIFFICULT. USE
EXTRA CAUTION.

&&

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COZ017>019-UTZ028-050500-

/O.CON.KGJT.WI.Y.0003.100405T0600Z-100406T0600Z/

UNCOMPAHGRE PLATEAU AND DALLAS DIVIDE-

NORTHWEST SAN JUAN MOUNTAINS-SOUTHWEST SAN JUAN MOUNTAINS-

LA SAL AND ABAJO MOUNTAINS-

INCLUDING THE CITIES OF...RIDGWAY...GLADE PARK...OURAY...

TELLURIDE...LAKE CITY...SILVERTON...RICO...HESPERUS...

MONTICELLO AND VICINITY

305 PM MDT SUN APR 4 2010

...**WIND ADVISORY REMAINS IN EFFECT** FROM MIDNIGHT TONIGHT TO
MIDNIGHT MDT MONDAY NIGHT...

A WIND ADVISORY REMAINS IN EFFECT FROM MIDNIGHT TONIGHT TO
MIDNIGHT MDT MONDAY NIGHT.

* TIMING...THE STRONGEST WINDS ARE EXPECTED MONDAY AFTERNOON.

* **WINDS...SOUTHWEST WINDS WILL INCREASE TO 20 TO 40 MPH AFTER
MIDNIGHT TONIGHT...WITH GUSTS OF 60 TO 70 MPH POSSIBLE THROUGH**

MONDAY EVENING.

* VISIBILITY...BLOWING AND DRIFTING SNOW WILL DEVELOP MONDAY AFTERNOON AND EVENING...LOWERING VISIBILITIES TO LESS THAN A QUARTER MILE AT TIMES.

* IMPACTS...BUFFETING WINDS WILL MAKE TRAVEL HAZARDOUS AT TIMES. PRECAUTIONARY/PREPAREDNESS ACTIONS...

A WIND ADVISORY MEANS THAT A SIGNIFICANT WIND EVENT IS EXPECTED OR OCCURRING. WINDS THIS STRONG CAN MAKE DRIVING DIFFICULT. USE EXTRA CAUTION.

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COZ001-002-006-007-011-020>023-UTZ022-027-029-050500-

/O.CON.KGJT.WI.Y.0003.100405T1500Z-100406T0300Z/

LOWER YAMPA RIVER BASIN-CENTRAL YAMPA RIVER BASIN-GRAND VALLEY-DEBEQUE TO SILT CORRIDOR-

CENTRAL GUNNISON AND UNCOMPAHGRE RIVER BASIN-

PARADOX VALLEY/LOWER DOLORES RIVER-

FOUR CORNERS/UPPER DOLORES RIVER-ANIMAS RIVER BASIN-

SAN JUAN RIVER BASIN-SOUTHEAST UTAH-ARCHES/GRAND FLAT-

CANYONLANDS/NATURAL BRIDGES-

INCLUDING THE CITIES OF...RANGELY...DINOSAUR...CRAIG...HAYDEN...

MEEKER...GRAND JUNCTION...FRUITA...PALISADE...RIFLE...SILT...

PARACHUTE...MESA...CEDAREEDGE...DELTA...HOTCHKISS...MONTROSE...

GATEWAY...NUCLA...CORTEZ...DOVE CREEK...MANCOS...DURANGO...

BAYFIELD...IGNACIO...PAGOSA SPRINGS AND VICINITY...BLANDING...

BLUFF...MEXICAN HAT...MOAB...CASTLE VALLEY...THOMPSON SPRINGS

305 PM MDT SUN APR 4 2010

...**WIND ADVISORY REMAINS IN EFFECT** FROM 9 AM TO 9 PM MDT MONDAY...

A WIND ADVISORY REMAINS IN EFFECT FROM 9 AM TO 9 PM MDT MONDAY.

* TIMING...THE STRONGEST WINDS ARE EXPECTED MONDAY AFTERNOON.

* **WINDS...SOUTHWEST WINDS WILL INCREASE TO 20 TO 30 MPH MONDAY...**

WITH GUSTS OF 45 TO 55 MPH POSSIBLE IN THE AFTERNOON.

* VISIBILITY...**AREAS OF BLOWING DUST COULD REDUCE VISIBILITIES**

AT TIMES.

* IMPACTS...AGRICULTURAL BURNING IS DISCOURAGED AS FIRE CONTROL WILL BECOME VERY DIFFICULT. BUFFETING WINDS MAY MAKE DRIVING DIFFICULT.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

A WIND ADVISORY MEANS THAT A SIGNIFICANT WIND EVENT IS EXPECTED OR OCCURRING. WINDS THIS STRONG CAN MAKE DRIVING DIFFICULT. USE EXTRA CAUTION.

PEOPLE...ESPECIALLY THOSE WITH RESPIRATORY ILLNESSES... HEART DISEASE...THE ELDERLY...AND CHILDREN ARE RECOMMENDED TO STAY INDOORS AND AVOID PROLONGED OUTDOOR EXERCISE OR HEAVY EXERTION DUE TO WIND-BLOWN DUST.

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WWUS75 KGJT 042105

NPWGJT

URGENT - WEATHER MESSAGE

NATIONAL WEATHER SERVICE GRAND JUNCTION CO

305 PM MDT SUN APR 4 2010

...GUSTY WINDS TODAY WILL BECOME STRONG TONIGHT AND MONDAY...

.THE STRONGEST IN A SERIES OF PACIFIC STORMS WILL WORK INTO THE GREAT BASIN TONIGHT AND MONDAY...THEN PASS ON TUESDAY. SOUTHWEST WINDS WILL BECOME STRONG OVER THE MOUNTAINS OF SOUTHEAST UTAH AND SOUTHWEST COLORADO TONIGHT...THEN MIX DOWN INTO THE SURROUNDING VALLEYS MONDAY MORNING. THE WINDS WILL SHIFT TO WEST AND DIMINISH MONDAY EVENING AS AN ASSOCIATED COLD FRONT PASSES.

COZ003-009-013-UTZ025-050500-

/O.EXT.KGJT.WI.Y.0003.100405T0600Z-100405T1800Z/

ROAN AND TAVAPUTS PLATEAUS-GRAND AND BATTLEMENT MESAS-FLATTOPS-TAVAPUTS PLATEAU-

INCLUDING THE CITIES OF...RIO BLANCO...SKYWAY...BUFORD...

TRAPPERS LAKE

305 PM MDT SUN APR 4 2010

...WIND ADVISORY NOW IN EFFECT FROM MIDNIGHT TONIGHT TO NOON MDT MONDAY...

THE WIND ADVISORY IS NOW IN EFFECT FROM MIDNIGHT TONIGHT TO NOON MDT MONDAY.

* TIMING...THE STRONGEST WINDS ARE EXPECTED MONDAY AFTERNOON.

* WINDS...SOUTHWEST WINDS WILL INCREASE TO 20 TO 40 MPH AFTER MIDNIGHT TONIGHT...WITH GUSTS OF 60 TO 70 MPH POSSIBLE THROUGH MONDAY EVENING.

* VISIBILITY...BLOWING AND DRIFTING SNOW WILL DEVELOP MONDAY AFTERNOON AND EVENING...LOWERING VISIBILITIES TO LESS THAN A QUARTER MILE AT TIMES.

* IMPACTS...BUFFETING WINDS WILL MAKE TRAVEL HAZARDOUS AT TIMES. PRECAUTIONARY/PREPAREDNESS ACTIONS...

A WIND ADVISORY MEANS THAT A SIGNIFICANT WIND EVENT IS EXPECTED OR OCCURRING. WINDS THIS STRONG CAN MAKE DRIVING DIFFICULT. USE EXTRA CAUTION.

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COZ017>019-UTZ028-050500-

/O.CON.KGJT.WI.Y.0003.100405T0600Z-100406T0600Z/

UNCOMPAHGRE PLATEAU AND DALLAS DIVIDE-

NORTHWEST SAN JUAN MOUNTAINS-SOUTHWEST SAN JUAN MOUNTAINS-LA SAL AND ABAJO MOUNTAINS-

INCLUDING THE CITIES OF...RIDGWAY...GLADE PARK...OURAY...

TELLURIDE...LAKE CITY...SILVERTON...RICO...HESPERUS...

MONTICELLO AND VICINITY

305 PM MDT SUN APR 4 2010

...WIND ADVISORY REMAINS IN EFFECT FROM MIDNIGHT TONIGHT TO MIDNIGHT MDT MONDAY NIGHT...

A WIND ADVISORY REMAINS IN EFFECT FROM MIDNIGHT TONIGHT TO MIDNIGHT MDT MONDAY NIGHT.

* TIMING...THE STRONGEST WINDS ARE EXPECTED MONDAY AFTERNOON.

* WINDS...SOUTHWEST WINDS WILL INCREASE TO 20 TO 40 MPH AFTER MIDNIGHT TONIGHT...WITH GUSTS OF 60 TO 70 MPH POSSIBLE THROUGH MONDAY EVENING.

* VISIBILITY...BLOWING AND DRIFTING SNOW WILL DEVELOP MONDAY AFTERNOON AND EVENING...LOWERING VISIBILITIES TO LESS THAN A QUARTER MILE AT TIMES.

* IMPACTS...BUFFETING WINDS WILL MAKE TRAVEL HAZARDOUS AT TIMES. PRECAUTIONARY/PREPAREDNESS ACTIONS...

A WIND ADVISORY MEANS THAT A SIGNIFICANT WIND EVENT IS EXPECTED

OR OCCURRING. WINDS THIS STRONG CAN MAKE DRIVING DIFFICULT. USE
EXTRA CAUTION.

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COZ001-002-006-007-011-020>023-UTZ022-027-029-050500-

/O.CON.KGJT.WI.Y.0003.100405T1500Z-100406T0300Z/

LOWER YAMPA RIVER BASIN-CENTRAL YAMPA RIVER BASIN-GRAND VALLEY-
DEBEQUE TO SILT CORRIDOR-

CENTRAL GUNNISON AND UNCOMPAHGRE RIVER BASIN-

PARADOX VALLEY/LOWER DOLORES RIVER-

FOUR CORNERS/UPPER DOLORES RIVER-ANIMAS RIVER BASIN-

SAN JUAN RIVER BASIN-SOUTHEAST UTAH-ARCHES/GRAND FLAT-

CANYONLANDS/NATURAL BRIDGES-

INCLUDING THE CITIES OF...RANGELY...DINOSAUR...CRAIG...HAYDEN...

MEEKER...GRAND JUNCTION...FRUITA...PALISADE...RIFLE...SILT...

PARACHUTE...MESA...CEDAREDEGE...DELTA...HOTCHKISS...MONTROSE...

GATEWAY...NUCLA...CORTEZ...DOVE CREEK...MANCOS...DURANGO...

BAYFIELD...IGNACIO...PAGOSA SPRINGS AND VICINITY...BLANDING...

BLUFF...MEXICAN HAT...MOAB...CASTLE VALLEY...THOMPSON SPRINGS

305 PM MDT SUN APR 4 2010

...WIND ADVISORY REMAINS IN EFFECT FROM 9 AM TO 9 PM MDT MONDAY...

A WIND ADVISORY REMAINS IN EFFECT FROM 9 AM TO 9 PM MDT MONDAY.

* TIMING...THE STRONGEST WINDS ARE EXPECTED MONDAY AFTERNOON.

* **WINDS...SOUTHWEST WINDS WILL INCREASE TO 20 TO 30 MPH MONDAY...**

WITH GUSTS OF 45 TO 55 MPH POSSIBLE IN THE AFTERNOON.

* VISIBILITY...**AREAS OF BLOWING DUST COULD REDUCE VISIBILITIES**

AT TIMES.

* IMPACTS...AGRICULTURAL BURNING IS DISCOURAGED AS FIRE CONTROL
WILL BECOME VERY DIFFICULT. BUFFETING WINDS MAY MAKE DRIVING
DIFFICULT.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

A WIND ADVISORY MEANS THAT A SIGNIFICANT WIND EVENT IS EXPECTED
OR OCCURRING. WINDS THIS STRONG CAN MAKE DRIVING DIFFICULT. USE
EXTRA CAUTION.

**PEOPLE...ESPECIALLY THOSE WITH RESPIRATORY ILLNESSES... HEART
DISEASE...THE ELDERLY...AND CHILDREN ARE RECOMMENDED TO STAY
INDOORS AND AVOID PROLONGED OUTDOOR EXERCISE OR HEAVY EXERTION
DUE TO WIND-BLOWN DUST**

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WWUS75 KGJT 050504

NPWGJT

URGENT - WEATHER MESSAGE

NATIONAL WEATHER SERVICE GRAND JUNCTION CO

1104 PM MDT SUN APR 4 2010

...STRONG GUSTY WINDS OVERNIGHT AND MONDAY...

.THE STRONGEST IN A SERIES OF PACIFIC STORMS WILL WORK INTO THE
GREAT BASIN THROUGH MONDAY...THEN PASS ON TUESDAY. SOUTHWEST
WINDS WILL BECOME STRONG OVER THE MOUNTAINS OF SOUTHEAST UTAH AND
SOUTHWEST COLORADO OVERNIGHT...THEN MIX DOWN INTO THE SURROUNDING
VALLEYS MONDAY MORNING. THE WINDS WILL SHIFT TO WEST AND DIMINISH
MONDAY EVENING AS AN ASSOCIATED COLD FRONT PASSES.

COZ017>019-UTZ028-051400-

/O.CON.KGJT.WI.Y.0003.100405T0600Z-100406T0600Z/
UNCOMPAHGRE PLATEAU AND DALLAS DIVIDE-
NORTHWEST SAN JUAN MOUNTAINS-SOUTHWEST SAN JUAN MOUNTAINS-
LA SAL AND ABAJO MOUNTAINS-
INCLUDING THE CITIES OF...RIDGWAY...GLADE PARK...OURAY...
TELLURIDE...LAKE CITY...SILVERTON...RICO...HESPERUS...
MONTICELLO AND VICINITY
1104 PM MDT SUN APR 4 2010

...WIND ADVISORY REMAINS IN EFFECT UNTIL MIDNIGHT MDT MONDAY
NIGHT...

A WIND ADVISORY REMAINS IN EFFECT UNTIL MIDNIGHT MDT MONDAY
NIGHT.

* TIMING...THE STRONGEST WINDS ARE EXPECTED MONDAY AFTERNOON.

* WINDS...SOUTHWEST WINDS WILL INCREASE TO 20 TO 40 MPH AFTER
MIDNIGHT TONIGHT...WITH GUSTS OF 60 TO 70 MPH POSSIBLE THROUGH
MONDAY EVENING.

* VISIBILITY...BLOWING AND DRIFTING SNOW WILL DEVELOP MONDAY
AFTERNOON AND EVENING...LOWERING VISIBILITIES TO LESS THAN A
QUARTER MILE AT TIMES.

* IMPACTS...BUFFETING WINDS WILL MAKE TRAVEL HAZARDOUS AT TIMES.
PRECAUTIONARY/PREPAREDNESS ACTIONS...

A WIND ADVISORY MEANS THAT A SIGNIFICANT WIND EVENT IS EXPECTED
OR OCCURRING. WINDS THIS STRONG CAN MAKE DRIVING DIFFICULT. USE
EXTRA CAUTION.

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COZ003-009-013-UTZ025-051400-

/O.CON.KGJT.WI.Y.0003.100405T0600Z-100405T1800Z/

ROAN AND TAVAPUTS PLATEAUS-GRAND AND BATTLEMENT MESAS-FLATTOPS-
TAVAPUTS PLATEAU-

INCLUDING THE CITIES OF...RIO BLANCO...SKYWAY...BUFORD...

TRAPPERS LAKE

1104 PM MDT SUN APR 4 2010

...WIND ADVISORY REMAINS IN EFFECT UNTIL NOON MDT MONDAY...

A WIND ADVISORY REMAINS IN EFFECT UNTIL NOON MDT MONDAY.

* TIMING...THE STRONGEST WINDS ARE EXPECTED LATE MONDAY MORNING
INTO MONDAY AFTERNOON.

* WINDS...SOUTHWEST WINDS WILL INCREASE TO 20 TO 40 MPH AFTER
MIDNIGHT TONIGHT...WITH GUSTS OF 60 TO 70 MPH POSSIBLE THROUGH
MONDAY EVENING.

* VISIBILITY...BLOWING AND DRIFTING SNOW WILL DEVELOP MONDAY
AFTERNOON AND EVENING...LOWERING VISIBILITIES TO LESS THAN A
QUARTER MILE AT TIMES.

* IMPACTS...BUFFETING WINDS WILL MAKE TRAVEL HAZARDOUS AT TIMES.
PRECAUTIONARY/PREPAREDNESS ACTIONS...

A WIND ADVISORY MEANS THAT A SIGNIFICANT WIND EVENT IS EXPECTED
OR OCCURRING. WINDS THIS STRONG CAN MAKE DRIVING DIFFICULT. USE
EXTRA CAUTION.

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COZ001-002-006-007-011-020>023-UTZ022-027-029-051400-

/O.CON.KGJT.WI.Y.0003.100405T1500Z-100406T0300Z/

LOWER YAMPA RIVER BASIN-CENTRAL YAMPA RIVER BASIN-GRAND VALLEY-
DEBEQUE TO SILT CORRIDOR-

CENTRAL GUNNISON AND UNCOMPAHGRE RIVER BASIN-
PARADOX VALLEY/LOWER DOLORES RIVER-
FOUR CORNERS/UPPER DOLORES RIVER-ANIMAS RIVER BASIN-
SAN JUAN RIVER BASIN-SOUTHEAST UTAH-ARCHES/GRAND FLAT-
CANYONLANDS/NATURAL BRIDGES-
INCLUDING THE CITIES OF...RANGELY...DINOSAUR...CRAIG...HAYDEN...
MEEKER...GRAND JUNCTION...FRUITA...PALISADE...RIFLE...SILT...
PARACHUTE...MESA...CEDAREEDGE...DELTA...HOTCHKISS...MONTROSE...
GATEWAY...NUCLA...CORTEZ...DOVE CREEK...MANCOS...DURANGO...
BAYFIELD...IGNACIO...PAGOSA SPRINGS AND VICINITY...BLANDING...
BLUFF...MEXICAN HAT...MOAB...CASTLE VALLEY...THOMPSON SPRINGS
1104 PM MDT SUN APR 4 2010

...WIND ADVISORY REMAINS IN EFFECT FROM 9 AM TO 9 PM MDT MONDAY...

A WIND ADVISORY REMAINS IN EFFECT FROM 9 AM TO 9 PM MDT MONDAY.

* TIMING...THE STRONGEST WINDS ARE EXPECTED MONDAY AFTERNOON.

* WINDS...SOUTHWEST WINDS WILL INCREASE TO 20 TO 30 MPH MONDAY...
WITH GUSTS OF 45 TO 55 MPH POSSIBLE IN THE AFTERNOON.

* VISIBILITY...AREAS OF BLOWING DUST COULD REDUCE VISIBILITIES
AT TIMES.

* IMPACTS...AGRICULTURAL BURNING IS DISCOURAGED AS FIRE CONTROL
WILL BECOME VERY DIFFICULT. BUFFETING WINDS MAY MAKE DRIVING
DIFFICULT.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

A WIND ADVISORY MEANS THAT A SIGNIFICANT WIND EVENT IS EXPECTED
OR OCCURRING. WINDS THIS STRONG CAN MAKE DRIVING DIFFICULT. USE
EXTRA CAUTION.

PEOPLE...ESPECIALLY THOSE WITH RESPIRATORY ILLNESSES... HEART
DISEASE...THE ELDERLY...AND CHILDREN ARE RECOMMENDED TO STAY
INDOORS AND AVOID PROLONGED OUTDOOR EXERCISE OR HEAVY EXERTION
DUE TO WIND-BLOWN DUST.

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WWUS75 KGJT 051032

NPWGJT

URGENT - WEATHER MESSAGE

NATIONAL WEATHER SERVICE GRAND JUNCTION CO

432 AM MDT MON APR 5 2010

...STRONG GUSTY WINDS TODAY...

.THE STRONGEST IN A SERIES OF PACIFIC STORMS WILL WORK INTO THE
GREAT BASIN TODAY...THEN PASS ON TUESDAY. SOUTHWEST
WINDS WILL BECOME STRONG OVER THE MOUNTAINS OF SOUTHEAST UTAH AND
SOUTHWEST COLORADO EARLY THIS MORNING...THEN MIX DOWN INTO THE
SURROUNDING VALLEYS LATER THIS MORNING. THE WINDS WILL SHIFT TO
WEST AND DIMINISH LATER THIS EVENING AS AN ASSOCIATED COLD FRONT
PASSES.

COZ017>019-UTZ028-051845-

/O.CON.KGJT.WI.Y.0003.000000T0000Z-100406T0600Z/

UNCOMPAHGRE PLATEAU AND DALLAS DIVIDE-

NORTHWEST SAN JUAN MOUNTAINS-SOUTHWEST SAN JUAN MOUNTAINS-

LA SAL AND ABAJO MOUNTAINS-

INCLUDING THE CITIES OF...RIDGWAY...GLADE PARK...OURAY...

TELLURIDE...LAKE CITY...SILVERTON...RICO...HESPERUS...

MONTICELLO AND VICINITY

432 AM MDT MON APR 5 2010

...WIND ADVISORY REMAINS IN EFFECT UNTIL MIDNIGHT MDT TONIGHT...

A WIND ADVISORY REMAINS IN EFFECT UNTIL MIDNIGHT MDT TONIGHT.

* TIMING...THE STRONGEST WINDS ARE EXPECTED THIS AFTERNOON.

* WINDS...SOUTHWEST WINDS WILL INCREASE TO 20 TO 40 MPH AFTER MIDNIGHT TONIGHT...WITH GUSTS OF 60 TO 70 MPH POSSIBLE THROUGH THIS EVENING.

* VISIBILITY...BLOWING AND DRIFTING SNOW WILL DEVELOP THIS AFTERNOON AND EVENING...LOWERING VISIBILITIES TO LESS THAN A QUARTER MILE AT TIMES.

* IMPACTS...BUFFETING WINDS WILL MAKE TRAVEL HAZARDOUS AT TIMES. PRECAUTIONARY/PREPAREDNESS ACTIONS...

A WIND ADVISORY MEANS THAT A SIGNIFICANT WIND EVENT IS EXPECTED OR OCCURRING. WINDS THIS STRONG CAN MAKE DRIVING DIFFICULT. USE EXTRA CAUTION.

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COZ003-009-013-UTZ025-051800-

/O.CON.KGJT.WI.Y.0003.000000T0000Z-100405T1800Z/

ROAN AND TAVAPUTS PLATEAUS-GRAND AND BATTLEMENT MESAS-FLATTOPS-TAVAPUTS PLATEAU-

INCLUDING THE CITIES OF...RIO BLANCO...SKYWAY...BUFORD...

TRAPPERS LAKE

432 AM MDT MON APR 5 2010

...WIND ADVISORY REMAINS IN EFFECT UNTIL NOON MDT TODAY...

A WIND ADVISORY REMAINS IN EFFECT UNTIL NOON MDT TODAY.

* TIMING...THE STRONGEST WINDS ARE EXPECTED LATE THIS MORNING INTO THIS AFTERNOON.

* WINDS...SOUTHWEST WINDS WILL INCREASE TO 20 TO 40 MPH AFTER MIDNIGHT TONIGHT...WITH GUSTS OF 60 TO 70 MPH POSSIBLE THROUGH THIS EVENING.

* VISIBILITY...BLOWING AND DRIFTING SNOW WILL DEVELOP THIS AFTERNOON AND EVENING...LOWERING VISIBILITIES TO LESS THAN A QUARTER MILE AT TIMES.

* IMPACTS...BUFFETING WINDS WILL MAKE TRAVEL HAZARDOUS AT TIMES. PRECAUTIONARY/PREPAREDNESS ACTIONS...

A WIND ADVISORY MEANS THAT A SIGNIFICANT WIND EVENT IS EXPECTED OR OCCURRING. WINDS THIS STRONG CAN MAKE DRIVING DIFFICULT. USE EXTRA CAUTION.

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COZ001-002-006-007-011-020>023-UTZ022-027-029-051845-

/O.CON.KGJT.WI.Y.0003.100405T1500Z-100406T0300Z/

LOWER YAMPA RIVER BASIN-CENTRAL YAMPA RIVER BASIN-GRAND VALLEY-DEBEQUE TO SILT CORRIDOR-

CENTRAL GUNNISON AND UNCOMPAHGRE RIVER BASIN-

PARADOX VALLEY/LOWER DOLORES RIVER-

FOUR CORNERS/UPPER DOLORES RIVER-ANIMAS RIVER BASIN-

SAN JUAN RIVER BASIN-SOUTHEAST UTAH-ARCHES/GRAND FLAT-

CANYONLANDS/NATURAL BRIDGES-

INCLUDING THE CITIES OF...RANGELY...DINOSAUR...CRAIG...HAYDEN...

MEEKER...GRAND JUNCTION...FRUITA...PALISADE...RIFLE...SILT...

PARACHUTE...MESA...CEDAREDGE...DELTA...HOTCHKISS...MONTROSE...

GATEWAY...NUCLA...CORTEZ...DOVE CREEK...MANCOS...DURANGO...

BAYFIELD...IGNACIO...PAGOSA SPRINGS AND VICINITY...BLANDING...
BLUFF...MEXICAN HAT...MOAB...CASTLE VALLEY...THOMPSON SPRINGS
432 AM MDT MON APR 5 2010

...**WIND ADVISORY REMAINS IN EFFECT** FROM 9 AM THIS MORNING TO 9 PM
MDT THIS EVENING...

A WIND ADVISORY REMAINS IN EFFECT FROM 9 AM THIS MORNING TO 9 PM
MDT THIS EVENING.

* TIMING...THE STRONGEST WINDS ARE EXPECTED THIS AFTERNOON.

* **WINDS...SOUTHWEST WINDS WILL INCREASE TO 20 TO 30 MPH TODAY...
WITH GUSTS OF 45 TO 55 MPH POSSIBLE IN THE AFTERNOON.**

* VISIBILITY...**AREAS OF BLOWING DUST COULD REDUCE VISIBILITIES**
AT TIMES.

* IMPACTS...AGRICULTURAL BURNING IS DISCOURAGED AS FIRE CONTROL
WILL BECOME VERY DIFFICULT. BUFFETING WINDS MAY MAKE DRIVING
DIFFICULT.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

A WIND ADVISORY MEANS THAT A SIGNIFICANT WIND EVENT IS EXPECTED
OR OCCURRING. WINDS THIS STRONG CAN MAKE DRIVING DIFFICULT. USE
EXTRA CAUTION.

**PEOPLE...ESPECIALLY THOSE WITH RESPIRATORY ILLNESSES... HEART
DISEASE...THE ELDERLY...AND CHILDREN ARE RECOMMENDED TO STAY
INDOORS AND AVOID PROLONGED OUTDOOR EXERCISE OR HEAVY EXERTION
DUE TO WIND-BLOWN DUST.**

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WWUS75 KGJT 051837

NPWGJT

URGENT - WEATHER MESSAGE

NATIONAL WEATHER SERVICE GRAND JUNCTION CO

1237 PM MDT MON APR 5 2010

...STRONG GUSTY WINDS THIS AFTERNOON...

.THE STRONGEST IN A SERIES OF PACIFIC STORMS WILL WORK INTO THE
GREAT BASIN THIS AFTERNOON...THEN PASS ON TUESDAY. SOUTHWEST
WINDS WILL REMAIN STRONG OVER THE VALLEYS AND MOUNTAINS OF
SOUTHEAST UTAH AND SOUTHWEST COLORADO. THE WINDS WILL SHIFT TO
WEST AND DIMINISH LATER THIS EVENING AS AN ASSOCIATED COLD FRONT
PASSES.

COZ017>019-060000-

/O.EXT.KGJT.WI.Y.0003.000000T0000Z-100406T0000Z/

UNCOMPAHGRE PLATEAU AND DALLAS DIVIDE-
NORTHWEST SAN JUAN MOUNTAINS-SOUTHWEST SAN JUAN MOUNTAINS-
INCLUDING THE CITIES OF...RIDGWAY...GLADE PARK...OURAY...
TELLURIDE...LAKE CITY...SILVERTON...RICO...HESPERUS

1237 PM MDT MON APR 5 2010

...**WIND ADVISORY NOW IN EFFECT** UNTIL 6 PM MDT THIS EVENING...

THE WIND ADVISORY IS NOW IN EFFECT UNTIL 6 PM MDT THIS EVENING.

* TIMING...THE STRONGEST WINDS ARE EXPECTED THIS AFTERNOON.

* **WINDS...SOUTHWEST WINDS WILL INCREASE TO 20 TO 40 MPH AFTER
MIDNIGHT TONIGHT...WITH GUSTS OF 60 TO 70 MPH POSSIBLE THROUGH
THIS EVENING.**

* VISIBILITY...BLOWING AND DRIFTING SNOW WILL DEVELOP THIS
AFTERNOON AND EVENING...LOWERING VISIBILITIES TO LESS THAN A
QUARTER MILE AT TIMES.

* IMPACTS...BUFFETING WINDS WILL MAKE TRAVEL HAZARDOUS AT TIMES.
PRECAUTIONARY/PREPAREDNESS ACTIONS...
A WIND ADVISORY MEANS THAT A SIGNIFICANT WIND EVENT IS EXPECTED
OR OCCURRING. WINDS THIS STRONG CAN MAKE DRIVING DIFFICULT. USE
EXTRA CAUTION.

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COZ001-002-060000-

/O.EXT.KGJT.WI.Y.0003.000000T0000Z-100406T0000Z/

LOWER YAMPA RIVER BASIN-CENTRAL YAMPA RIVER BASIN-
INCLUDING THE CITIES OF...RANGELY...DINOSAUR...CRAIG...HAYDEN...
MEEKER

1237 PM MDT MON APR 5 2010

...WIND ADVISORY NOW IN EFFECT UNTIL 6 PM MDT THIS EVENING...

THE WIND ADVISORY IS NOW IN EFFECT UNTIL 6 PM MDT THIS EVENING.

* TIMING...THE STRONGEST WINDS ARE EXPECTED THIS AFTERNOON.

* WINDS...SOUTHWEST WINDS WILL INCREASE TO 20 TO 30 MPH TODAY...
WITH GUSTS OF 45 TO 55 MPH POSSIBLE IN THE AFTERNOON.

* VISIBILITY...AREAS OF BLOWING DUST COULD REDUCE VISIBILITIES
AT TIMES.

* IMPACTS...AGRICULTURAL BURNING IS DISCOURAGED AS FIRE CONTROL
WILL BECOME VERY DIFFICULT. BUFFETING WINDS MAY MAKE DRIVING
DIFFICULT.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

A WIND ADVISORY MEANS THAT A SIGNIFICANT WIND EVENT IS EXPECTED
OR OCCURRING. WINDS THIS STRONG CAN MAKE DRIVING DIFFICULT. USE
EXTRA CAUTION.

PEOPLE...ESPECIALLY THOSE WITH RESPIRATORY ILLNESSES... HEART
DISEASE...THE ELDERLY...AND CHILDREN ARE RECOMMENDED TO STAY
INDOORS AND AVOID PROLONGED OUTDOOR EXERCISE OR HEAVY EXERTION
DUE TO WIND-BLOWN DUST.

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UTZ028-060300-

/O.CON.KGJT.WI.Y.0003.000000T0000Z-100406T0600Z/

LA SAL AND ABAJO MOUNTAINS-
INCLUDING THE CITY OF...MONTICELLO AND VICINITY

1237 PM MDT MON APR 5 2010

...WIND ADVISORY REMAINS IN EFFECT UNTIL MIDNIGHT MDT TONIGHT...

A WIND ADVISORY REMAINS IN EFFECT UNTIL MIDNIGHT MDT TONIGHT.

* TIMING...THE STRONGEST WINDS ARE EXPECTED THIS AFTERNOON.

* WINDS...SOUTHWEST WINDS WILL INCREASE TO 20 TO 40 MPH AFTER
MIDNIGHT TONIGHT...WITH GUSTS OF 60 TO 70 MPH POSSIBLE THROUGH
THIS EVENING.

* VISIBILITY...BLOWING AND DRIFTING SNOW WILL DEVELOP THIS
AFTERNOON AND EVENING...LOWERING VISIBILITIES TO LESS THAN A
QUARTER MILE AT TIMES.

* IMPACTS...BUFFETING WINDS WILL MAKE TRAVEL HAZARDOUS AT TIMES.
PRECAUTIONARY/PREPAREDNESS ACTIONS...

A WIND ADVISORY MEANS THAT A SIGNIFICANT WIND EVENT IS EXPECTED
OR OCCURRING. WINDS THIS STRONG CAN MAKE DRIVING DIFFICULT. USE
EXTRA CAUTION.

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COZ006-007-011-020>023-UTZ022-027-029-060300-
/O.CON.KGJT.WI.Y.0003.000000T0000Z-100406T0300Z/
GRAND VALLEY-DEBEQUE TO SILT CORRIDOR-
CENTRAL GUNNISON AND UNCOMPAHGRE RIVER BASIN-
PARADOX VALLEY/LOWER DOLORES RIVER-
FOUR CORNERS/UPPER DOLORES RIVER-ANIMAS RIVER BASIN-
SAN JUAN RIVER BASIN-SOUTHEAST UTAH-ARCHES/GRAND FLAT-
CANYONLANDS/NATURAL BRIDGES-
INCLUDING THE CITIES OF...GRAND JUNCTION...FRUITA...PALISADE...
RIFLE...SILT...PARACHUTE...MESA...CEDAREEDGE...DELTA...HOTCHKISS...
MONTROSE...GATEWAY...NUCLA...CORTEZ...DOVE CREEK...MANCOS...
DURANGO...BAYFIELD...IGNACIO...PAGOSA SPRINGS AND VICINITY...
BLANDING...BLUFF...MEXICAN HAT...MOAB...CASTLE VALLEY...
THOMPSON SPRINGS

1237 PM MDT MON APR 5 2010

...**WIND ADVISORY REMAINS IN EFFECT** UNTIL 9 PM MDT THIS EVENING...

A WIND ADVISORY REMAINS IN EFFECT UNTIL 9 PM MDT THIS EVENING.

* TIMING...THE STRONGEST WINDS ARE EXPECTED THIS AFTERNOON.

* **WINDS...SOUTHWEST WINDS WILL INCREASE TO 20 TO 30 MPH TODAY...
WITH GUSTS OF 45 TO 55 MPH POSSIBLE IN THE AFTERNOON.**

* VISIBILITY...**AREAS OF BLOWING DUST COULD REDUCE VISIBILITIES**
AT TIMES.

* IMPACTS...AGRICULTURAL BURNING IS DISCOURAGED AS FIRE CONTROL
WILL BECOME VERY DIFFICULT. BUFFETING WINDS MAY MAKE DRIVING
DIFFICULT.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

A WIND ADVISORY MEANS THAT A SIGNIFICANT WIND EVENT IS EXPECTED
OR OCCURRING. WINDS THIS STRONG CAN MAKE DRIVING DIFFICULT. USE
EXTRA CAUTION.

**PEOPLE...ESPECIALLY THOSE WITH RESPIRATORY ILLNESSES... HEART
DISEASE...THE ELDERLY...AND CHILDREN ARE RECOMMENDED TO STAY
INDOORS AND AVOID PROLONGED OUTDOOR EXERCISE OR HEAVY EXERTION
DUE TO WIND-BLOWN DUST.**

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NWS SRRS PRODUCTS FOR:
2010040412 to 2010040523

WWUS75 KFGZ 042206

NPWFGZ

URGENT - WEATHER MESSAGE

NATIONAL WEATHER SERVICE FLAGSTAFF AZ

306 PM MST SUN APR 4 2010

...STRONG WINDS EXPECTED ACROSS NORTHERN ARIZONA ON MONDAY...

.A PACIFIC STORM SYSTEM AND COLD FRONT WILL APPROACH ARIZONA
OVERNIGHT AND MOVE ACROSS THE STATE ON MONDAY. **WINDS WILL
INCREASE SUBSTANTIALLY DURING THE DAY MONDAY WITH SOUTHWEST WINDS
OF 25 TO 40 MPH WITH GUSTS AS HIGH AS 50 TO 60 MPH POSSIBLE.**

AZZ004>017-039-040-051315-

/O.CON.KFGZ.HW.A.0003.100405T1500Z-100406T0400Z/

KAIBAB PLATEAU-MARBLE AND GLEN CANYONS-GRAND CANYON COUNTRY-
COCONINO PLATEAU-YAVAPAI COUNTY MOUNTAINS-

NORTHEAST PLATEAUS AND MESAS HWY 264 NORTHWARD-CHINLE VALLEY-
CHUSKA MOUNTAINS AND DEFIANCE PLATEAU-
LITTLE COLORADO RIVER VALLEY IN COCONINO COUNTY-
LITTLE COLORADO RIVER VALLEY IN NAVAJO COUNTY-
LITTLE COLORADO RIVER VALLEY IN APACHE COUNTY-
WESTERN MOGOLLON RIM-EASTERN MOGOLLON RIM-WHITE MOUNTAINS-
BLACK MESA AREA-NORTHEAST PLATEAUS AND MESAS SOUTH OF HWY 264-
INCLUDING THE CITIES OF...JACOB LAKE...FREDONIA...PAGE...
LEES FERRY...GRAND CANYON VILLAGE...SUPAI...NORTH RIM...VALLE...
PRESCOTT...SELIGMAN...ASH FORK...KEAMS CANYON...KAIBITO...
CANYON DE CHELLY...CHINLE...KAYENTA...WINDOW ROCK...GANADO...
WUPATKI N.M....TUBA CITY...WINSLOW...HOLBROOK...SNOWFLAKE...
ST. JOHNS...SPRINGERVILLE...FLAGSTAFF...WILLIAMS...MUNDS PARK...
HEBER...HAPPY JACK...FOREST LAKES...SHOW LOW...GREER...PINETOP...
NAVAJO N.M....DILKON...KYKOTSMOVI

306 PM MST SUN APR 4 2010

...**HIGH WIND WATCH REMAINS IN EFFECT** FROM MONDAY MORNING THROUGH
MONDAY EVENING...

A HIGH WIND WATCH REMAINS IN EFFECT FROM MONDAY MORNING THROUGH
MONDAY EVENING.

A PACIFIC STORM SYSTEM AND COLD FRONT WILL MOVE ACROSS THE STATE
ON MONDAY. **WINDS WILL INCREASE SUBSTANTIALLY DURING THE DAY MONDAY
WITH SOUTHWEST WINDS OF 25 TO 40 MPH WITH GUSTS AS HIGH AS 50 TO
60 MPH POSSIBLE.**

PRECAUTIONARY/PREPAREDNESS ACTIONS...

A HIGH WIND WATCH MEANS THERE IS THE POTENTIAL FOR A HAZARDOUS
HIGH WIND EVENT...WITH SUSTAINED WINDS GREATER THAN 40 MPH...OR
GUSTS GREATER THAN 58 MPH. MONITOR THE LATEST FORECASTS AND
WARNINGS FOR UPDATES ON THIS SITUATION. ADDITIONAL WEATHER
INFORMATION IS ON THE WEB AT WWW.WEATHER.GOV/FLAGSTAFF.

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WWUS75 KFGZ 050415

NPWFGZ

URGENT - WEATHER MESSAGE

NATIONAL WEATHER SERVICE FLAGSTAFF AZ

915 PM MST SUN APR 4 2010

AZZ012>014-040-051330-

/O.UPG.KFGZ.HW.A.0003.100405T1500Z-100406T0400Z/

/O.NEW.KFGZ.HW.W.0002.100405T1600Z-100406T0300Z/

LITTLE COLORADO RIVER VALLEY IN COCONINO COUNTY-

LITTLE COLORADO RIVER VALLEY IN NAVAJO COUNTY-

LITTLE COLORADO RIVER VALLEY IN APACHE COUNTY-

NORTHEAST PLATEAUS AND MESAS SOUTH OF HWY 264-

INCLUDING THE CITIES OF...WUPATKI N.M....TUBA CITY...WINSLOW...

HOLBROOK...SNOWFLAKE...ST. JOHNS...SPRINGERVILLE...DILKON...

KYKOTSMOVI

915 PM MST SUN APR 4 2010

...**HIGH WIND WARNING IN EFFECT** FROM 9 AM TO 8 PM MST MONDAY...

THE NATIONAL WEATHER SERVICE IN FLAGSTAFF HAS ISSUED A HIGH WIND
WARNING...WHICH IS IN EFFECT FROM 9 AM TO 8 PM MST MONDAY. THE
HIGH WIND WATCH IS NO LONGER IN EFFECT.

A PACIFIC STORM SYSTEM AND COLD FRONT WILL MOVE ACROSS THE STATE

ON MONDAY...BRINGING STRONG WINDS TO EAST CENTRAL ARIZONA. WINDS WILL INCREASE DURING THE MORNING HOURS...**BECOMING SOUTHWEST AT 35 TO 45 MPH WITH GUSTS OF 55 TO 65 MPH BY MIDDAY. THE STRONG WINDS WILL ALSO CAUSE AREAS OF BLOWING DUST**...REDUCING VISIBILITY AT TIMES ACROSS THE AREA...INCLUDING THE INTERSTATE 40 CORRIDOR. WINDS WILL SUBSIDE BY MID EVENING MONDAY.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

A HIGH WIND WARNING MEANS A HAZARDOUS HIGH WIND EVENT IS EXPECTED OR OCCURRING...WITH SUSTAINED WIND SPEEDS GREATER THAN 40 MPH OR GUSTS GREATER THAN 58 MPH. WINDS THIS STRONG CAN CAUSE PROPERTY DAMAGE. CONTINUE TO MONITOR THE LATEST FORECASTS. ADDITIONAL WEATHER INFORMATION IS ON THE WEB AT WWW.WEATHER.GOV/FLAGSTAFF.

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AZZ004>011-015>017-039-051330-

/O.UPG.KFGZ.HW.A.0003.100405T1500Z-100406T0400Z/

/O.NEW.KFGZ.WI.Y.0005.100405T1600Z-100406T0300Z/

KAIBAB PLATEAU-MARBLE AND GLEN CANYONS-GRAND CANYON COUNTRY-COCONINO PLATEAU-YAVAPAI COUNTY MOUNTAINS-

NORTHEAST PLATEAUS AND MESAS HWY 264 NORTHWARD-CHINLE VALLEY-

CHUSKA MOUNTAINS AND DEFIANCE PLATEAU-WESTERN MOGOLLON RIM-

EASTERN MOGOLLON RIM-WHITE MOUNTAINS-BLACK MESA AREA-

INCLUDING THE CITIES OF...JACOB LAKE...FREDONIA...PAGE...

LEES FERRY...GRAND CANYON VILLAGE...SUPAI...NORTH RIM...VALLE...

PRESCOTT...SELIGMAN...ASH FORK...KEAMS CANYON...KAIBITO...

CANYON DE CHELLY...CHINLE...KAYENTA...WINDOW ROCK...GANADO...

FLAGSTAFF...WILLIAMS...MUNDS PARK...HEBER...HAPPY JACK...

FOREST LAKES...SHOW LOW...GREER...PINETOP...NAVAJO N.M.

915 PM MST SUN APR 4 2010

...**WIND ADVISORY IN EFFECT** FROM 9 AM TO 8 PM MST MONDAY...

THE NATIONAL WEATHER SERVICE IN FLAGSTAFF HAS ISSUED A WIND ADVISORY...WHICH IS IN EFFECT FROM 9 AM TO 8 PM MST MONDAY. THE HIGH WIND WATCH IS NO LONGER IN EFFECT.

A PACIFIC STORM SYSTEM AND COLD FRONT WILL APPROACH THE STATE OVERNIGHT...THEN MOVE ACROSS THE REGION ON MONDAY. BREEZY

CONDITIONS WILL PERSIST FOR THE REST OF TONIGHT...**THEN WINDS WILL INCREASE SUBSTANTIALLY BY MONDAY MORNING WITH SOUTHWEST WINDS OF 25 TO 35 MPH GUSTING TO 45 TO 55 MPH INTO EARLY EVENING MONDAY.**

WINDS WILL SUBSIDE BY MID EVENING MONDAY.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

A WIND ADVISORY MEANS THAT SUSTAINED WINDS OF 30 TO 39 MPH...OR GUSTS FROM 40 TO 57 MPH...ARE EXPECTED. WINDS THIS STRONG CAN

MAKE DRIVING DIFFICULT...ESPECIALLY FOR HIGH PROFILE VEHICLES.

CONSIDER SECURING LOOSE BELONGINGS ON YOUR PROPERTY. ADDITIONAL WEATHER INFORMATION IS ON THE WEB AT WWW.WEATHER.GOV/FLAGSTAFF.

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AZZ038-051330-

/O.NEW.KFGZ.WI.Y.0005.100405T1600Z-100406T0300Z/

OAK CREEK AND SYCAMORE CANYONS-

INCLUDING THE CITY OF...SEDONA

915 PM MST SUN APR 4 2010

...**WIND ADVISORY IN EFFECT** FROM 9 AM TO 8 PM MST MONDAY...

THE NATIONAL WEATHER SERVICE IN FLAGSTAFF HAS ISSUED A WIND

ADVISORY...WHICH IS IN EFFECT FROM 9 AM TO 8 PM MST MONDAY.
A PACIFIC STORM SYSTEM AND COLD FRONT WILL APPROACH THE STATE
OVERNIGHT...THEN MOVE ACROSS THE REGION ON MONDAY. BREEZY
CONDITIONS WILL PERSIST FOR THE REST OF TONIGHT...THEN WINDS WILL
INCREASE SUBSTANTIALLY BY MONDAY MORNING WITH SOUTHWEST WINDS OF
25 TO 30 MPH GUSTING UP TO 45 MPH INTO EARLY EVENING MONDAY. WINDS
WILL SUBSIDE BY MID EVENING MONDAY.
PRECAUTIONARY/PREPAREDNESS ACTIONS...
A WIND ADVISORY MEANS THAT SUSTAINED WINDS OF 30 TO 39 MPH...OR
GUSTS FROM 40 TO 57 MPH...ARE EXPECTED. WINDS THIS STRONG CAN
MAKE DRIVING DIFFICULT...ESPECIALLY FOR HIGH PROFILE VEHICLES.
CONSIDER SECURING LOOSE BELONGINGS ON YOUR PROPERTY. ADDITIONAL
WEATHER INFORMATION IS ON THE WEB AT WWW.WEATHER.GOV/FLAGSTAFF.
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WWUS75 KFGZ 051027

NPWFGZ

URGENT - WEATHER MESSAGE

NATIONAL WEATHER SERVICE FLAGSTAFF AZ

327 AM MST MON APR 5 2010

AZZ012>014-040-051830-

/O.CON.KFGZ.HW.W.0002.100405T1600Z-100406T0300Z/

LITTLE COLORADO RIVER VALLEY IN COCONINO COUNTY-

LITTLE COLORADO RIVER VALLEY IN NAVAJO COUNTY-

LITTLE COLORADO RIVER VALLEY IN APACHE COUNTY-

NORTHEAST PLATEAUS AND MESAS SOUTH OF HWY 264-

INCLUDING THE CITIES OF...WUPATKI N.M....TUBA CITY...WINSLOW...

HOLBROOK...SNOWFLAKE...ST. JOHNS...SPRINGERVILLE...DILKON...

KYKOTSMOVI

327 AM MST MON APR 5 2010

...HIGH WIND WARNING REMAINS IN EFFECT FROM 9 AM THIS MORNING TO
8 PM MST THIS EVENING...

A HIGH WIND WARNING REMAINS IN EFFECT FROM 9 AM THIS MORNING TO
8 PM MST THIS EVENING.

A PACIFIC STORM SYSTEM AND COLD FRONT WILL MOVE ACROSS THE STATE
TODAY...BRINGING STRONG WINDS TO EAST CENTRAL ARIZONA. WINDS WILL
INCREASE DURING THE MORNING HOURS...BECOMING SOUTHWEST AT 35 TO 45
MPH WITH GUSTS OF 55 TO 65 MPH BY MID DAY. THE STRONG WINDS WILL
ALSO CAUSE AREAS OF BLOWING DUST...REDUCING VISIBILITY AT TIMES
ACROSS THE AREA...INCLUDING THE INTERSTATE 40 CORRIDOR. WINDS WILL
DIMINISH BY MID EVENING.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

A HIGH WIND WARNING MEANS A HAZARDOUS HIGH WIND EVENT IS EXPECTED
OR OCCURRING...WITH SUSTAINED WIND SPEEDS GREATER THAN 40 MPH OR
GUSTS GREATER THAN 58 MPH. WINDS THIS STRONG CAN CAUSE PROPERTY
DAMAGE. CONTINUE TO MONITOR THE LATEST FORECASTS. ADDITIONAL
WEATHER INFORMATION IS ON THE WEB AT WWW.WEATHER.GOV/FLAGSTAFF.

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AZZ004>011-015>017-038-039-051830-

/O.CON.KFGZ.WI.Y.0005.100405T1600Z-100406T0300Z/

KAIBAB PLATEAU-MARBLE AND GLEN CANYONS-GRAND CANYON COUNTRY-

COCONINO PLATEAU-YAVAPAI COUNTY MOUNTAINS-

NORTHEAST PLATEAUS AND MESAS HWY 264 NORTHWARD-CHINLE VALLEY-
CHUSKA MOUNTAINS AND DEFIANCE PLATEAU-WESTERN MOGOLLON RIM-
EASTERN MOGOLLON RIM-WHITE MOUNTAINS-
OAK CREEK AND SYCAMORE CANYONS-BLACK MESA AREA-
INCLUDING THE CITIES OF...JACOB LAKE...FREDONIA...PAGE...
LEES FERRY...GRAND CANYON VILLAGE...SUPAI...NORTH RIM...VALLE...
PRESCOTT...SELIGMAN...ASH FORK...KEAMS CANYON...KAIBITO...
CANYON DE CHELLY...CHINLE...KAYENTA...WINDOW ROCK...GANADO...
FLAGSTAFF...WILLIAMS...MUNDS PARK...HEBER...HAPPY JACK...
FOREST LAKES...SHOW LOW...GREER...PINETOP...SEDONA...NAVAJO N.M.
327 AM MST MON APR 5 2010

...WIND ADVISORY REMAINS IN EFFECT FROM 9 AM THIS MORNING TO 8 PM
MST THIS EVENING...

A WIND ADVISORY REMAINS IN EFFECT FROM 9 AM THIS MORNING TO 8 PM
MST THIS EVENING.

A PACIFIC STORM SYSTEM AND COLD FRONT WILL MOVE ACROSS THE REGION
TODAY. **WINDS WILL INCREASE SUBSTANTIALLY BY MID MORNING WITH
SOUTHWEST WINDS OF 25 TO 35 MPH GUSTING TO 45 TO 55 MPH UNTIL EARLY
EVENING.**

PRECAUTIONARY/PREPAREDNESS ACTIONS...

**A WIND ADVISORY MEANS THAT SUSTAINED WINDS OF 30 TO 39 MPH...OR
GUSTS FROM 40 TO 57 MPH...ARE EXPECTED.** WINDS THIS STRONG CAN
MAKE DRIVING DIFFICULT...ESPECIALLY FOR HIGH PROFILE VEHICLES.
CONSIDER SECURING LOOSE BELONGINGS ON YOUR PROPERTY. ADDITIONAL
WEATHER INFORMATION IS ON THE WEB AT WWW.WEATHER.GOV/FLAGSTAFF.

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WWUS75 KFGZ 051709

NPWFGZ

URGENT - WEATHER MESSAGE

NATIONAL WEATHER SERVICE FLAGSTAFF AZ

1009 AM MST MON APR 5 2010

AZZ012>014-040-060300-

/O.CON.KFGZ.HW.W.0002.000000T0000Z-100406T0300Z/

LITTLE COLORADO RIVER VALLEY IN COCONINO COUNTY-

LITTLE COLORADO RIVER VALLEY IN NAVAJO COUNTY-

LITTLE COLORADO RIVER VALLEY IN APACHE COUNTY-

NORTHEAST PLATEAUS AND MESAS SOUTH OF HWY 264-

INCLUDING THE CITIES OF...WUPATKI N.M....TUBA CITY...WINSLOW...

HOLBROOK...SNOWFLAKE...ST. JOHNS...SPRINGERVILLE...DILKON...

KYKOTSMOVI

1009 AM MST MON APR 5 2010

...**HIGH WIND WARNING REMAINS IN EFFECT** UNTIL 8 PM MST THIS
EVENING...

A HIGH WIND WARNING REMAINS IN EFFECT UNTIL 8 PM MST THIS
EVENING.

A COLD FRONT WILL AFFECT THE STATE TODAY. **WINDS WILL CONTINUE TO
INCREASE DURING THE MORNING HOURS...BECOMING SOUTHWEST AT 35 TO 45
MPH WITH GUSTS OF 55 TO 65 MPH BY LATE MORNING. THE STRONG WINDS
WILL ALSO CAUSE AREAS OF BLOWING DUST.**...REDUCING VISIBILITY AT
TIMES ACROSS THE AREA...INCLUDING THE I-40 CORRIDOR FROM TWO GUNS
TO THE NEW MEXICO BORDER.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

A HIGH WIND WARNING MEANS A HAZARDOUS HIGH WIND EVENT IS EXPECTED OR OCCURRING...WITH SUSTAINED WIND SPEEDS GREATER THAN 40 MPH OR GUSTS GREATER THAN 58 MPH. WINDS THIS STRONG CAN CAUSE PROPERTY DAMAGE. CONTINUE TO MONITOR THE LATEST FORECASTS. ADDITIONAL WEATHER INFORMATION IS ON THE WEB AT WWW.WEATHER.GOV/FLAGSTAFF.

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AZZ004>011-015>017-038-039-060300-

/O.CON.KFGZ.WI.Y.0005.000000T0000Z-100406T0300Z/

KAIBAB PLATEAU-MARBLE AND GLEN CANYONS-GRAND CANYON COUNTRY-

COCONINO PLATEAU-YAVAPAI COUNTY MOUNTAINS-

NORTHEAST PLATEAUS AND MESAS HWY 264 NORTHWARD-CHINLE VALLEY-

CHUSKA MOUNTAINS AND DEFIANCE PLATEAU-WESTERN MOGOLLON RIM-

EASTERN MOGOLLON RIM-WHITE MOUNTAINS-

OAK CREEK AND SYCAMORE CANYONS-BLACK MESA AREA-

INCLUDING THE CITIES OF...JACOB LAKE...FREDONIA...PAGE...

LEES FERRY...GRAND CANYON VILLAGE...SUPAI...NORTH RIM...VALLE...

PRESCOTT...SELIGMAN...ASH FORK...KEAMS CANYON...KAIBITO...

CANYON DE CHELLY...CHINLE...KAYENTA...WINDOW ROCK...GANADO...

FLAGSTAFF...WILLIAMS...MUNDS PARK...HEBER...HAPPY JACK...

FOREST LAKES...SHOW LOW...GREER...PINETOP...SEDONA...NAVAJO N.M.

1009 AM MST MON APR 5 2010

... WIND ADVISORY REMAINS IN EFFECT UNTIL 8 PM MST THIS EVENING...

A WIND ADVISORY REMAINS IN EFFECT UNTIL 8 PM MST THIS EVENING.

A COLD FRONT WILL AFFECT THE REGION TODAY. WINDS WILL CONTINUE TO INCREASE THROUGH THE MORNING. EXPECT SOUTHWEST WINDS OF 25 TO 35 MPH GUSTING TO 45 TO 55 MPH UNTIL EARLY EVENING.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

A WIND ADVISORY MEANS THAT SUSTAINED WINDS OF 30 TO 39 MPH...OR GUSTS FROM 40 TO 57 MPH...ARE EXPECTED. WINDS THIS STRONG CAN

MAKE DRIVING DIFFICULT...ESPECIALLY FOR HIGH PROFILE VEHICLES.

CONSIDER SECURING LOOSE BELONGINGS ON YOUR PROPERTY. ADDITIONAL WEATHER INFORMATION IS ON THE WEB AT WWW.WEATHER.GOV/FLAGSTAFF.

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NWS SRRS PRODUCTS FOR:

2010040412 to 2010040523

WWUS75 KABQ 041717

NPWABQ

URGENT - WEATHER MESSAGE

NATIONAL WEATHER SERVICE ALBUQUERQUE NM

1117 AM MDT SUN APR 4 2010

...WINDY START TO THE WORK WEEK ACROSS NEW MEXICO...

...STRONG WINDS IN ADVANCE OF AN APPROACHING NORTH PACIFIC STORM...

ALONG WITH DEEPENING SURFACE LOW PRESSURE OVER NORTHEAST NEW

MEXICO...WILL PRODUCE CONDITIONS FAVORABLE FOR A VERY WINDY

MONDAY. THE FORECAST CALLS FOR THE STRONGEST WINDS TO BE OVER

WESTERN NEW MEXICO FROM THE CONTINENTAL DIVIDE WEST TO THE ARIZONA BORDER...AND ACROSS THE THE CENTRAL MOUNTAIN...THEIR EAST SLOPES

AND NORTHEAST NEW MEXICO. A COLD FRONT SWEEPING FROM WEST TO EAST

MONDAY NIGHT INTO TUESDAY WILL KEEP WINDS GUSTY INTO MONDAY

EVENING. STRONG WINDS ARE POSSIBLE AGAIN ON TUESDAY.

NMZ501-502-505-506-508-509-042200-

/O.CON.KABQ.HW.A.0004.100405T1600Z-100406T0300Z/

NORTHWEST PLATEAU-CHUSKA MOUNTAINS-WEST CENTRAL PLATEAU-

WEST CENTRAL MOUNTAINS-SOUTHWEST MOUNTAINS-

SAN FRANCISCO RIVER VALLEY-

1117 AM MDT SUN APR 4 2010

...**HIGH WIND WATCH REMAINS IN EFFECT** FROM MONDAY MORNING THROUGH MONDAY EVENING...

A HIGH WIND WATCH REMAINS IN EFFECT FROM MONDAY MORNING THROUGH MONDAY EVENING.

* LOCATION...EXPECT STRONG WINDS MONDAY FROM THE ARIZONA BORDER EAST TO THE CONTINENTAL DIVIDE...WITH STRONGEST WINDS OVER SUMMITS AND THROUGH GAPS AND PASSES.

* WINDS...**SOUTHWEST WINDS INCREASING IN SPEED TO 35 TO 45 MPH...WITH GUSTS TO 60 MPH POSSIBLE THROUGHOUT THE DAY.**

* TIMING...WIND SPEEDS WILL INCREASE STEADILY THROUGH THE MORNING...WITH STRONGEST WINDS BY MID AFTERNOON. WINDS WILL DECREASE BY MID EVENING.

* **VISIBILITY...EXPECT POOR VISIBILITIES IN BLOWING DUST.**

* LOCAL IMPACTS...EXPECT STRONG AND GUSTY WINDS ACROSS INTERSTATE 40 FROM THE ARIZONA LINE TO GRANTS. WINDS WILL BE STRONG ENOUGH TO LIFT LOOSE OBJECTS AND CAUSE POSSIBLE LOSS OF CONTROL OF LARGE OR TALL VEHICLES.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

REMEMBER...A HIGH WIND WATCH MEANS CONDITIONS ARE FAVORABLE FOR A POTENTIALLY DAMAGING HIGH WIND EVENT IN AND CLOSE TO THE WATCH AREA. MONITOR THE LATEST FORECASTS AT WEATHER.GOV/ABQ...LISTEN TO NOAA WEATHER RADIO OR YOUR FAVORITE MEDIA OUTLET.

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NMZ513-515-523-524-526>533-042200-

/O.CON.KABQ.HW.A.0004.100405T1600Z-100406T0300Z/

NORTHERN SANGRE DE CRISTO MOUNTAINS ABOVE 9500 FEET/RED RIVER-

EAST SLOPES SANGRE DE CRISTO MOUNTAINS-CENTRAL HIGHLANDS-

SOUTH CENTRAL HIGHLANDS-SOUTH CENTRAL MOUNTAINS-

RATON RIDGE/JOHNSON MESA-FAR NORTHEAST HIGHLANDS-

NORTHEAST HIGHLANDS-UNION COUNTY-HARDING COUNTY-

EASTERN SAN MIGUEL COUNTY-GUADALUPE COUNTY-

1117 AM MDT SUN APR 4 2010

...**HIGH WIND WATCH REMAINS IN EFFECT** FROM MONDAY MORNING THROUGH MONDAY EVENING...

A HIGH WIND WATCH REMAINS IN EFFECT FROM MONDAY MORNING THROUGH MONDAY EVENING.

* LOCATION...EXPECT STRONG WINDS MONDAY OVER THE SUMMITS AND EAST SLOPES OF THE SANGRE DE CRISTO MOUNTAINS...THE CENTRAL MOUNTAINS ...AND OVER THE ADJACENT PLAINS. EXPECT STRONGEST WINDS OVER SUMMITS AND THROUGH GAPS AND PASSES.

* WINDS...**SOUTHWEST WINDS INCREASING SPEED TO 35 TO 45 MPH...WITH GUSTS TO 60 MPH** POSSIBLE THROUGHOUT THE DAY.

* TIMING...WIND SPEEDS WILL INCREASE STEADILY THROUGH THE MORNING...WITH STRONGEST WINDS BY MID AFTERNOON. WINDS WILL DECREASE IN SPEED BY MID EVENING.

* VISIBILITY...**EXPECT LOCALLY REDUCED VISIBILITIES IN BLOWING**

DUST...ESPECIALLY OVER THE NORTHEAST PLAINS.

* LOCAL IMPACTS...EXPECT STRONG AND GUSTY WINDS ACROSS INTERSTATE 25 FROM GLORIETA PASS TO THE COLORADO LINE AT RATON PASS...AND ACROSS INTERSTATE 40 FROM TIJERAS TO NEWKIRK. WINDS WILL BE STRONG ENOUGH TO LIFT LOOSE OBJECTS AND CAUSE POSSIBLE LOSS OF CONTROL OF LARGE OR TALL VEHICLES.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

REMEMBER...A HIGH WIND WATCH MEANS CONDITIONS ARE FAVORABLE FOR A POTENTIALLY DAMAGING HIGH WIND EVENT IN AND CLOSE TO THE WATCH AREA. MONITOR THE LATEST FORECASTS AT WEATHER.GOV/ABQ...LISTEN TO NOAA WEATHER RADIO OR YOUR FAVORITE MEDIA OUTLET.

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WWUS75 KABQ 042146

NPWABQ

URGENT - WEATHER MESSAGE

NATIONAL WEATHER SERVICE ALBUQUERQUE NM

346 PM MDT SUN APR 4 2010

...WINDY START TO THE WORK WEEK ACROSS NEW MEXICO...

...STRONG WINDS IN ADVANCE OF AN APPROACHING NORTHWEST PACIFIC STORM...ALONG WITH DEEPENING SURFACE LOW PRESSURE OVER NORTHEAST NEW MEXICO...WILL PRODUCE A VERY WINDY MONDAY OVER NORTHERN AND CENTRAL NEW MEXICO. THE FORECAST CALLS FOR THE STRONGEST WINDS TO BE OVER THE WESTERN AND CENTRAL MOUNTAINS ONTO THE EASTERN HIGH PLAINS. A COLD FRONT SWEEPING FROM WEST TO EAST MONDAY NIGHT INTO TUESDAY WILL KEEP WINDS UP...WITH STRONG WINDS POSSIBLE ON TUESDAY ACROSS THE EASTERN PLAINS.

NMZ502-505-506-508-050400-

/O.UPG.KABQ.HW.A.0004.100405T1600Z-100406T0300Z/

/O.NEW.KABQ.HW.W.0005.100405T1800Z-100406T0300Z/

CHUSKA MOUNTAINS-WEST CENTRAL PLATEAU-WEST CENTRAL MOUNTAINS-SOUTHWEST MOUNTAINS-

346 PM MDT SUN APR 4 2010

...**HIGH WIND WARNING IN EFFECT FROM NOON TO 9 PM MDT MONDAY**...

THE NATIONAL WEATHER SERVICE IN ALBUQUERQUE HAS ISSUED A HIGH WIND WARNING...WHICH IS IN EFFECT FROM NOON TO 9 PM MDT MONDAY. THE HIGH WIND WATCH IS NO LONGER IN EFFECT.

* **LOCATION...THIS INCLUDES AREAS FROM THE ARIZONA BORDER EAST TO THE CONTINENTAL DIVIDE.**

* **WINDS...SOUTHWEST WINDS 35 TO 45 MPH...WITH GUSTS AROUND 60 OR 65 MPH.**

* **TIMING...WIND SPEEDS WILL INCREASE STEADILY THROUGH THE MORNING...WITH STRONGEST WINDS BY MID AFTERNOON. WINDS WILL DECREASE BY MID EVENING.**

* **VISIBILITY...EXPECT POOR VISIBILITIES BELOW 1 MILE IN BLOWING DUST.**

* **LOCAL IMPACTS...EXPECT STRONG AND GUSTY WINDS ON HIGHWAYS INCLUDING INTERSTATE 40 FROM THE ARIZONA LINE TO GRANTS.** DRIVING WILL BE DIFFICULT...ESPECIALLY IN HIGH PROFILE AND LARGE VEHICLES. UNSECURED OR HIGH PROFILE OBJECTS WILL SHIFT AND MAY BECOME AIRBORNE. ELECTRICAL POWER COULD BE INTERRUPTED.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

REMEMBER...A HIGH WIND WARNING MEANS DAMAGING WINDS ARE IMMINENT OR HIGHLY LIKELY. SUSTAINED WIND SPEEDS OF AT LEAST 40 MPH OR GUSTS OF 58 MPH OR MORE CAN LEAD TO PROPERTY DAMAGE.

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NMZ513-515-523-526>529-050400-

/O.UPG.KABQ.HW.A.0004.100405T1600Z-100406T0300Z/

/O.NEW.KABQ.HW.W.0005.100405T1900Z-100406T0300Z/

NORTHERN SANGRE DE CRISTO MOUNTAINS ABOVE 9500 FEET/RED RIVER-

EAST SLOPES SANGRE DE CRISTO MOUNTAINS-CENTRAL HIGHLANDS-

SOUTH CENTRAL MOUNTAINS-RATON RIDGE/JOHNSON MESA-

FAR NORTHEAST HIGHLANDS-NORTHEAST HIGHLANDS-

346 PM MDT SUN APR 4 2010

...HIGH WIND WARNING IN EFFECT FROM 1 PM TO 9 PM MDT MONDAY...

THE NATIONAL WEATHER SERVICE IN ALBUQUERQUE HAS ISSUED A HIGH

WIND WARNING...WHICH IS IN EFFECT FROM 1 PM TO 9 PM MDT MONDAY.

THE HIGH WIND WATCH IS NO LONGER IN EFFECT.

* LOCATION...THIS INCLUDES PORTIONS OF THE SANGRE DE CRISTO MOUNTAINS...THE SOUTH CENTRAL MOUNTAINS...AND OVER THE ADJACENT EASTERN HIGHLANDS.

* WINDS...**SOUTHWEST WINDS 35 TO 45 MPH...WITH GUSTS TO 60 MPH.**

* TIMING...WIND SPEEDS WILL INCREASE STEADILY THROUGH THE MORNING...WITH STRONGEST WINDS BY MID AFTERNOON. WINDS WILL DECREASE BY MID EVENING...BUT MAY CONTINUE TO BE GUSTY MONDAY NIGHT.

* VISIBILITY...**EXPECT LOCALLY REDUCED VISIBILITIES BELOW 1 MILE IN BLOWING DUST...**ESPECIALLY OVER THE NORTHEAST HIGHLANDS.

* LOCAL IMPACTS...EXPECT STRONG AND GUSTY WINDS ON HIGHWAYS...INCLUDING INTERSTATE 25 FROM GLORIETA PASS TO THE COLORADO LINE. DRIVING WILL BE DIFFICULT ESPECIALLY IN HIGH PROFILE AND LARGE VEHICLES. UNSECURED OR HIGH PROFILE OBJECTS WILL SHIFT AND MAY BECOME AIRBORNE. ELECTRICAL POWER COULD BE INTERRUPTED.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

REMEMBER...A HIGH WIND WARNING MEANS DAMAGING WINDS ARE IMMINENT OR HIGHLY LIKELY. SUSTAINED WIND SPEEDS OF AT LEAST 40 MPH OR GUSTS OF 58 MPH OR MORE CAN LEAD TO PROPERTY DAMAGE.

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NMZ512-514-521-522-050400-

/O.NEW.KABQ.HW.W.0005.100405T1900Z-100406T0300Z/

WEST SLOPES SANGRE DE CRISTO MOUNTAINS-

SOUTHERN SANGRE DE CRISTO MOUNTAINS ABOVE 9500 FEET-

SANDIA/MANZANO MOUNTAINS-ESTANCIA VALLEY-

346 PM MDT SUN APR 4 2010

...HIGH WIND WARNING IN EFFECT FROM 1 PM TO 9 PM MDT MONDAY...

THE NATIONAL WEATHER SERVICE IN ALBUQUERQUE HAS ISSUED A HIGH

WIND WARNING...WHICH IS IN EFFECT FROM 1 PM TO 9 PM MDT MONDAY.

* LOCATION...THIS INCLUDES PORTIONS OF THE SANGRE DE CRISTO MOUNTAINS...THE CENTRAL MOUNTAINS...AND THE ESTANCIA VALLEY.

* WINDS...**SOUTHWEST WINDS 35 TO 45 MPH...WITH GUSTS TO 60 MPH.**

* TIMING...WIND SPEEDS WILL INCREASE STEADILY THROUGH THE MORNING...WITH STRONGEST WINDS BY MID AFTERNOON. WINDS WILL DECREASE BY MID EVENING.

* VISIBILITY...**EXPECT LOCALLY REDUCED VISIBILITIES BELOW 1 MILE IN**

BLOWING DUST...ESPECIALLY OVER THE NORTHEAST PLAINS.

* LOCAL IMPACTS...EXPECT STRONG AND GUSTY WINDS ON HIGHWAYS... INCLUDING INTERSTATE 40 FROM TIJERAS TO NEAR MILAGRO. DRIVING WILL BE DIFFICULT ESPECIALLY IN HIGH PROFILE AND LARGE VEHICLES. UNSECURED OR HIGH PROFILE OBJECTS WILL SHIFT AND MAY BECOME AIRBORNE. ELECTRICAL POWER COULD BE INTERRUPTED.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

REMEMBER...A HIGH WIND WARNING MEANS DAMAGING WINDS ARE IMMINENT OR HIGHLY LIKELY. SUSTAINED WIND SPEEDS OF AT LEAST 40 MPH OR GUSTS OF 58 MPH OR MORE CAN LEAD TO PROPERTY DAMAGE.

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NMZ501-509-524-050400-

/O.UPG.KABQ.HW.A.0004.100405T1600Z-100406T0300Z/

/O.NEW.KABQ.WI.Y.0014.100405T1800Z-100406T0300Z/

NORTHWEST PLATEAU-SAN FRANCISCO RIVER VALLEY-
SOUTH CENTRAL HIGHLANDS-

346 PM MDT SUN APR 4 2010

...WIND ADVISORY IN EFFECT FROM NOON TO 9 PM MDT MONDAY...

THE NATIONAL WEATHER SERVICE IN ALBUQUERQUE HAS ISSUED A WIND ADVISORY...WHICH IS IN EFFECT FROM NOON TO 9 PM MDT MONDAY. THE HIGH WIND WATCH IS NO LONGER IN EFFECT.

* LOCATION...THIS INCLUDES THE NORTHWEST PLATEAU...SAN FRANCISCO RIVER VALLEY AND SOUTH CENTRAL HIGHLANDS.

* WINDS...SOUTHWEST WINDS 30 TO 40 MPH...WITH GUSTS TO 55 MPH.

* TIMING...WIND SPEEDS WILL INCREASE STEADILY THROUGH THE MORNING...WITH STRONGEST WINDS BY MID AFTERNOON. WINDS WILL DECREASE BY MID EVENING.

* VISIBILITY...**EXPECT POOR VISIBILITIES UNDER 2 MILES IN BLOWING DUST.**

* LOCAL IMPACTS...EXPECT STRONG AND GUSTY WINDS ON HIGHWAYS. WINDS WILL BE STRONG ENOUGH TO CAUSE POSSIBLE LOSS OF CONTROL OF LARGE OR TALL VEHICLES AND BLOW LIGHT OR UNSECURED ITEMS AROUND.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

MOTORISTS SHOULD EXERCISE CAUTION WHILE TRAVELLING. SUDDEN GUSTS OF WIND MAY CAUSE YOU TO LOSE CONTROL OF YOUR VEHICLE. EXTRA ATTENTION SHOULD BE GIVEN TO CROSS WINDS.

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NMZ530>533-050400-

/O.UPG.KABQ.HW.A.0004.100405T1600Z-100406T0300Z/

/O.NEW.KABQ.WI.Y.0014.100405T1900Z-100406T0300Z/

UNION COUNTY-HARDING COUNTY-EASTERN SAN MIGUEL COUNTY-
GUADALUPE COUNTY-

346 PM MDT SUN APR 4 2010

...**WIND ADVISORY IN EFFECT** FROM 1 PM TO 9 PM MDT MONDAY...

THE NATIONAL WEATHER SERVICE IN ALBUQUERQUE HAS ISSUED A WIND ADVISORY...WHICH IS IN EFFECT FROM 1 PM TO 9 PM MDT MONDAY. THE HIGH WIND WATCH IS NO LONGER IN EFFECT.

* LOCATION...THIS INCLUDES NORTHEAST NEW MEXICO.

* WINDS...**SOUTHWEST WINDS 25 TO 40 MPH...WITH GUSTS OF 50 TO 55 MPH.**

* TIMING...WIND SPEEDS WILL INCREASE STEADILY THROUGH THE MORNING...WITH STRONGEST WINDS BY MID AFTERNOON. WINDS WILL

DECREASE BY MID EVENING.

* VISIBILITY...**EXPECT LOCALLY REDUCED VISIBILITIES AROUND 1 MILE IN BLOWING DUST.**

* LOCAL IMPACTS...EXPECT STRONG AND GUSTY WINDS ON HIGHWAYS. WINDS WILL BE STRONG ENOUGH TO LIFT LOOSE OBJECTS AND CAUSE POSSIBLE LOSS OF CONTROL OF LARGE OR TALL VEHICLES AND BLOW LIGHT OR UNSECURED ITEMS AROUND.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

MOTORISTS SHOULD EXERCISE CAUTION WHILE TRAVELLING. SUDDEN GUSTS OF WIND MAY CAUSE YOU TO LOSE CONTROL OF YOUR VEHICLE. EXTRA ATTENTION SHOULD BE GIVEN TO CROSS WINDS.

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NMZ503-504-507-510-511-516>520-525-050400-

/O.NEW.KABQ.WI.Y.0014.100405T1800Z-100406T0300Z/

FAR NORTHWEST HIGHLANDS-NORTHWEST HIGHLANDS-
WEST CENTRAL HIGHLANDS-SAN JUAN MOUNTAINS-JEMEZ MOUNTAINS-
UPPER RIO GRANDE VALLEY-LOWER CHAMA RIVER VALLEY-
SANTA FE METRO AREA-ALBUQUERQUE METRO AREA-
LOWER RIO GRANDE VALLEY-UPPER TULAROSA VALLEY-
346 PM MDT SUN APR 4 2010

...**WIND ADVISORY IN EFFECT** FROM NOON TO 9 PM MDT MONDAY...

THE NATIONAL WEATHER SERVICE IN ALBUQUERQUE HAS ISSUED A WIND ADVISORY...WHICH IS IN EFFECT FROM NOON TO 9 PM MDT MONDAY.

* LOCATION...THIS INCLUDES NORTHWEST AND NORTH CENTRAL NEW MEXICO.

* WINDS...**SOUTHWEST WINDS 25 TO 40 MPH...WITH GUSTS OF 45 TO 55 MPH.**

* TIMING...WIND SPEEDS WILL INCREASE STEADILY THROUGH THE MORNING...WITH STRONGEST WINDS BY MID AFTERNOON. WINDS WILL DECREASE BY MID EVENING.

* VISIBILITY...**EXPECT LOCALLY REDUCED VISIBILITIES AROUND 1 MILE IN BLOWING DUST.**

* LOCAL IMPACTS...EXPECT STRONG AND GUSTY WINDS ON HIGHWAYS. WINDS WILL BE STRONG ENOUGH TO LIFT LOOSE OBJECTS AND CAUSE POSSIBLE LOSS OF CONTROL OF LARGE OR TALL VEHICLES AND BLOW LIGHT OR UNSECURED ITEMS AROUND.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

MOTORISTS SHOULD EXERCISE CAUTION WHILE TRAVELLING. SUDDEN GUSTS OF WIND MAY CAUSE YOU TO LOSE CONTROL OF YOUR VEHICLE. EXTRA ATTENTION SHOULD BE GIVEN TO CROSS WINDS.

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NMZ534>540-050400-

/O.NEW.KABQ.WI.Y.0014.100405T1900Z-100406T0300Z/

QUAY COUNTY-CURRY COUNTY-ROOSEVELT COUNTY-DE BACA COUNTY-
CHAVES COUNTY PLAINS-EASTERN LINCOLN COUNTY-
SOUTHWEST CHAVES COUNTY-
346 PM MDT SUN APR 4 2010

...**WIND ADVISORY IN EFFECT** FROM 1 PM TO 9 PM MDT MONDAY...

THE NATIONAL WEATHER SERVICE IN ALBUQUERQUE HAS ISSUED A WIND ADVISORY...WHICH IS IN EFFECT FROM 1 PM TO 9 PM MDT MONDAY.

* LOCATION...THIS INCLUDES PORTIONS OF THE EASTERN PLAINS.

* WINDS...**SOUTHWEST WINDS 25 TO 40 MPH...WITH GUSTS OF 45 TO 55**

MPH.

* TIMING...WIND SPEEDS WILL INCREASE STEADILY THROUGH THE MORNING...WITH STRONGEST WINDS BY MID AFTERNOON. WINDS WILL DECREASE BY MID EVENING.

* VISIBILITY...EXPECT LOCALLY REDUCED VISIBILITIES AROUND 1 MILE IN BLOWING DUST.

* LOCAL IMPACTS...EXPECT STRONG AND GUSTY WINDS ON HIGHWAYS. WINDS WILL BE STRONG ENOUGH TO LIFT LOOSE OBJECTS AND CAUSE POSSIBLE LOSS OF CONTROL OF LARGE OR TALL VEHICLES AND BLOW LIGHT OR UNSECURED ITEMS AROUND.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

MOTORISTS SHOULD EXERCISE CAUTION WHILE TRAVELLING. SUDDEN GUSTS OF WIND MAY CAUSE YOU TO LOSE CONTROL OF YOUR VEHICLE. EXTRA ATTENTION SHOULD BE GIVEN TO CROSS WINDS.

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WWUS75 KABQ 050344

NPWABQ

URGENT - WEATHER MESSAGE

NATIONAL WEATHER SERVICE ALBUQUERQUE NM

944 PM MDT SUN APR 4 2010

...STRONG WINDS EXPECTED OVER THE LAND OF ENCHANTMENT ON MONDAY... A STRONG PACIFIC STORM SYSTEM WILL COMBINE WITH DEEPENING SURFACE LOW PRESSURE OVER NORTHEAST NEW MEXICO TO PRODUCE STRONG WINDS OVER NORTHERN AND CENTRAL NEW MEXICO MONDAY AFTERNOON AND EVENING. THE STRONGEST WINDS ARE EXPECTED TO OCCUR OVER THE WESTERN AND CENTRAL MOUNTAINS ONTO THE EASTERN HIGH PLAINS. DAMAGING WIND GUSTS OF 60 MPH OR HIGHER WILL BE POSSIBLE IN THESE AREAS. THE STRONG WINDS WILL LIKELY CREATE AREAS OF BLOWING DUST LEADING TO REDUCED VISIBILITIES. IN ADDITION...A COLD FRONT SWEEPING FROM WEST TO EAST MONDAY NIGHT INTO TUESDAY WILL KEEP WINDY CONDITIONS IN PLACE MONDAY NIGHT AND TUESDAY...ESPECIALLY OVER THE EASTERN PLAINS.

NMZ502-505-506-508-051100-

/O.CON.KABQ.HW.W.0005.100405T1800Z-100406T0300Z/

CHUSKA MOUNTAINS-WEST CENTRAL PLATEAU-WEST CENTRAL MOUNTAINS-SOUTHWEST MOUNTAINS-

944 PM MDT SUN APR 4 2010

...HIGH WIND WARNING REMAINS IN EFFECT FROM NOON TO 9 PM MDT MONDAY...

A HIGH WIND WARNING REMAINS IN EFFECT FROM NOON TO 9 PM MDT MONDAY.

* LOCATION...THIS INCLUDES AREAS FROM THE ARIZONA BORDER EAST TO THE CONTINENTAL DIVIDE.

* WINDS...SOUTHWEST WINDS 35 TO 45 MPH...WITH GUSTS OF 60 TO 65 MPH.

* TIMING...WIND SPEEDS WILL INCREASE STEADILY THROUGH THE MORNING...WITH THE STRONGEST WINDS EXPECTED BY MID AFTERNOON. WINDS WILL DECREASE BY MID EVENING.

* VISIBILITY...EXPECT POOR VISIBILITIES BELOW 1 MILE IN BLOWING DUST.

* LOCAL IMPACTS...EXPECT STRONG AND GUSTY WINDS ON HIGHWAYS INCLUDING INTERSTATE 40 FROM THE ARIZONA LINE TO GRANTS.

DRIVING WILL BE DIFFICULT...ESPECIALLY IN HIGH PROFILE AND
LARGE VEHICLES. UNSECURED OR HIGH PROFILE OBJECTS WILL SHIFT
AND MAY BECOME AIRBORNE. ELECTRICAL POWER COULD BE
INTERRUPTED.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

REMEMBER...A HIGH WIND WARNING MEANS DAMAGING WINDS ARE IMMINENT
OR HIGHLY LIKELY. SUSTAINED WIND SPEEDS OF AT LEAST 40 MPH OR
GUSTS OF 58 MPH OR MORE CAN LEAD TO PROPERTY DAMAGE.

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NMZ512>515-521>523-526>529-051100-

/O.CON.KABQ.HW.W.0005.100405T1900Z-100406T0300Z/

WEST SLOPES SANGRE DE CRISTO MOUNTAINS-

NORTHERN SANGRE DE CRISTO MOUNTAINS ABOVE 9500 FEET/RED RIVER-

SOUTHERN SANGRE DE CRISTO MOUNTAINS ABOVE 9500 FEET-

EAST SLOPES SANGRE DE CRISTO MOUNTAINS-SANDIA/MANZANO MOUNTAINS-

ESTANCIA VALLEY-CENTRAL HIGHLANDS-SOUTH CENTRAL MOUNTAINS-

RATON RIDGE/JOHNSON MESA-FAR NORTHEAST HIGHLANDS-

NORTHEAST HIGHLANDS-

944 PM MDT SUN APR 4 2010

...HIGH WIND WARNING REMAINS IN EFFECT FROM 1 PM TO 9 PM MDT
MONDAY...

A HIGH WIND WARNING REMAINS IN EFFECT FROM 1 PM TO 9 PM MDT
MONDAY.

* LOCATION...THIS INCLUDES PORTIONS OF THE SANGRE DE CRISTO
MOUNTAINS...THE SOUTH CENTRAL MOUNTAINS...AND OVER THE
ADJACENT EASTERN HIGHLANDS.

* WINDS...SOUTHWEST WINDS 35 TO 45 MPH...WITH GUSTS OF 60 TO 65 MPH.

* TIMING...WIND SPEEDS WILL INCREASE STEADILY THROUGH THE
MORNING...WITH THE STRONGEST WINDS EXPECTED BY MID AFTERNOON.
WINDS WILL DECREASE BY MID EVENING...BUT MAY CONTINUE TO BE
GUSTY MONDAY NIGHT.

* VISIBILITY...EXPECT LOCALLY REDUCED VISIBILITIES BELOW 1 MILE
IN BLOWING DUST...ESPECIALLY OVER THE NORTHEAST HIGHLANDS.

* LOCAL IMPACTS...EXPECT STRONG AND GUSTY WINDS ON HIGHWAYS...
INCLUDING INTERSTATE 25 FROM GLORIETA PASS TO THE COLORADO
LINE. DRIVING WILL BE DIFFICULT ESPECIALLY IN HIGH PROFILE AND
LARGE VEHICLES. UNSECURED OR HIGH PROFILE OBJECTS WILL SHIFT
AND MAY BECOME AIRBORNE. ELECTRICAL POWER COULD BE
INTERRUPTED.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

REMEMBER...A HIGH WIND WARNING MEANS DAMAGING WINDS ARE IMMINENT
OR HIGHLY LIKELY. SUSTAINED WIND SPEEDS OF AT LEAST 40 MPH OR
GUSTS OF 58 MPH OR MORE CAN LEAD TO PROPERTY DAMAGE.

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NMZ501-503-504-507-509>511-516>520-524-525-051100-

/O.CON.KABQ.WI.Y.0014.100405T1800Z-100406T0300Z/

NORTHWEST PLATEAU-FAR NORTHWEST HIGHLANDS-NORTHWEST HIGHLANDS-

WEST CENTRAL HIGHLANDS-SAN FRANCISCO RIVER VALLEY-

SAN JUAN MOUNTAINS-JEMEZ MOUNTAINS-UPPER RIO GRANDE VALLEY-

LOWER CHAMA RIVER VALLEY-SANTA FE METRO AREA-

ALBUQUERQUE METRO AREA-LOWER RIO GRANDE VALLEY-

SOUTH CENTRAL HIGHLANDS-UPPER TULAROSA VALLEY-

944 PM MDT SUN APR 4 2010

...WIND ADVISORY REMAINS IN EFFECT FROM NOON TO 9 PM MDT MONDAY...

A WIND ADVISORY REMAINS IN EFFECT FROM NOON TO 9 PM MDT MONDAY.

* LOCATION...THIS INCLUDES NORTHWEST AND NORTH CENTRAL NEW MEXICO.

* WINDS...SOUTHWEST WINDS 25 TO 35 MPH...WITH GUSTS OF 45 TO 55 MPH.

* TIMING...WIND SPEEDS WILL INCREASE STEADILY THROUGH THE MORNING WITH THE STRONGEST WINDS EXPECTED BY MID AFTERNOON. WINDS WILL DECREASE BY MID EVENING.

* VISIBILITY...EXPECT LOCALLY REDUCED VISIBILITIES AROUND 1 MILE IN BLOWING DUST.

* LOCAL IMPACTS...EXPECT STRONG AND GUSTY WINDS ON HIGHWAYS. WINDS WILL BE STRONG ENOUGH TO LIFT LOOSE OBJECTS AND CAUSE POSSIBLE LOSS OF CONTROL OF LARGE OR TALL VEHICLES AND BLOW LIGHT OR UNSECURED ITEMS AROUND.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

MOTORISTS SHOULD EXERCISE CAUTION WHILE TRAVELING. SUDDEN GUSTS OF WIND MAY CAUSE YOU TO LOSE CONTROL OF YOUR VEHICLE. EXTRA ATTENTION SHOULD BE GIVEN TO CROSS WINDS.

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NMZ530>540-051100-

/O.CON.KABQ.WI.Y.0014.100405T1900Z-100406T0300Z/

UNION COUNTY-HARDING COUNTY-EASTERN SAN MIGUEL COUNTY-

GUADALUPE COUNTY-QUAY COUNTY-CURRY COUNTY-ROOSEVELT COUNTY-

DE BACA COUNTY-CHAVES COUNTY PLAINS-EASTERN LINCOLN COUNTY-

SOUTHWEST CHAVES COUNTY-

944 PM MDT SUN APR 4 2010

...WIND ADVISORY REMAINS IN EFFECT FROM 1 PM TO 9 PM MDT MONDAY...

A WIND ADVISORY REMAINS IN EFFECT FROM 1 PM TO 9 PM MDT MONDAY.

* LOCATION...THIS INCLUDES PORTIONS OF THE EASTERN PLAINS.

* WINDS...SOUTHWEST WINDS 25 TO 35 MPH...WITH GUSTS OF 45 TO 55 MPH.

* TIMING...WIND SPEEDS WILL INCREASE STEADILY THROUGH THE MORNING WITH THE STRONGEST WINDS EXPECTED BY MID AFTERNOON. WINDS WILL DECREASE BY MID EVENING.

* VISIBILITY...EXPECT LOCALLY REDUCED VISIBILITIES AROUND 1 MILE IN BLOWING DUST.

* LOCAL IMPACTS...EXPECT STRONG AND GUSTY WINDS ON HIGHWAYS. WINDS WILL BE STRONG ENOUGH TO LIFT LOOSE OBJECTS AND CAUSE POSSIBLE LOSS OF CONTROL OF LARGE OR TALL VEHICLES AND BLOW LIGHT OR UNSECURED ITEMS AROUND.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

MOTORISTS SHOULD EXERCISE CAUTION WHILE TRAVELING. SUDDEN GUSTS OF WIND MAY CAUSE YOU TO LOSE CONTROL OF YOUR VEHICLE. EXTRA ATTENTION SHOULD BE GIVEN TO CROSS WINDS.

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WWUS75 KABQ 050943

NPWABQ

URGENT - WEATHER MESSAGE

NATIONAL WEATHER SERVICE ALBUQUERQUE NM

343 AM MDT MON APR 5 2010

...STRONG WINDS ACROSS NEW MEXICO TODAY...WITH STRONG WINDS REDEVELOPING OVER CENTRAL AND EASTERN NEW MEXICO ON TUESDAY...
.A PACIFIC STORM SYSTEM WILL MOVE FROM THE CENTRAL CALIFORNIA COAST TO THE FOUR CORNERS AREA TODAY...AND SWEEP ACROSS NORTHERN NEW MEXICO ON TUESDAY. STRONG SOUTHWEST WINDS AHEAD OF THIS SYSTEM COMBINED WITH DEEPENING SURFACE LOW PRESSURE OVER EASTERN COLORADO TODAY WILL SUPPORT A WINDY DAY ACROSS NEW MEXICO...WITH STRONGEST WINDS FROM THE ARIZONA BORDER TO THE CONTINENTAL DIVIDE...AND ACROSS SUMMITS...EAST SLOPES...AND ADJACENT PLAINS OF THE SANGRE DE CRISTO MOUNTAINS...AND THE CENTRAL MOUNTAIN CHAIN. WIND SPEEDS WILL TAPER OFF GRADUALLY BY MID EVENING BUT REMAIN GUSTY OVERNIGHT. AS THE PACIFIC STORM SYSTEM SWEEPS ACROSS NORTHERN NEW MEXICO ON TUESDAY...A COLD FRONT PLUNGING FROM THE FOUR CORNERS TO THE SOUTHEAST CORNER OF THE STATE DURING THE DAY WILL SET UP ANOTHER WINDY DAY FROM THE CENTRAL MOUNTAIN CHAIN EASTWARD TO THE TEXAS BORDER. WIND SPEEDS WILL DECREASE GRADUALLY TUESDAY EVENING TO EASE THE HIGH WIND DANGER.

NMZ512>515-522-523-527>529-051800-

/O.NEW.KABQ.HW.A.0005.100406T1800Z-100407T0300Z/

/O.CON.KABQ.HW.W.0005.100405T1900Z-100406T0300Z/

WEST SLOPES SANGRE DE CRISTO MOUNTAINS-

NORTHERN SANGRE DE CRISTO MOUNTAINS ABOVE 9500 FEET/RED RIVER-

SOUTHERN SANGRE DE CRISTO MOUNTAINS ABOVE 9500 FEET-

EAST SLOPES SANGRE DE CRISTO MOUNTAINS-ESTANCIA VALLEY-

CENTRAL HIGHLANDS-RATON RIDGE/JOHNSON MESA-

FAR NORTHEAST HIGHLANDS-NORTHEAST HIGHLANDS-

343 AM MDT MON APR 5 2010

...HIGH WIND WARNING REMAINS IN EFFECT FROM 1 PM THIS AFTERNOON TO 9 PM MDT THIS EVENING...

...HIGH WIND WATCH IN EFFECT FROM TUESDAY AFTERNOON THROUGH TUESDAY EVENING...

THE NATIONAL WEATHER SERVICE IN ALBUQUERQUE HAS ISSUED A HIGH WIND WATCH...WHICH IS IN EFFECT FROM TUESDAY AFTERNOON THROUGH TUESDAY EVENING. A HIGH WIND WARNING REMAINS IN EFFECT FROM 1 PM THIS AFTERNOON TO 9 PM MDT THIS EVENING.

* LOCATION...THIS INCLUDES SUMMITS AND SLOPES OF THE SANGRE DE CRISTO MOUNTAINS...PORTIONS OF THE CENTRAL MOUNTAIN CHAIN...AND ADJACENT PLAINS.

* WINDS...SOUTHWEST WINDS TO 40 MPH...WITH GUSTS TO 60 MPH. EXPECT LOCALLY STRONGER WINDS OVER SUMMITS AND THROUGH GAPS.

* TIMING...WIND SPEEDS WILL INCREASE STEADILY THROUGH THE MORNING...WITH THE STRONGEST WINDS EXPECTED BY MID AFTERNOON. WINDS WILL DECREASE BY MID EVENING...BUT WILL REMAIN GUSTY THROUGH MONDAY NIGHT. STRONG WINDS WILL REDEVELOP BY TUESDAY AFTERNOON AND CONTINUE INTO TUESDAY EVENING BEFORE TAPERING OFF BY MIDNIGHT.

* VISIBILITY...EXPECT LOCALLY REDUCED VISIBILITIES BELOW 1 MILE IN BLOWING DUST...ESPECIALLY OVER THE NORTHEAST HIGHLANDS.

* LOCAL IMPACTS...EXPECT STRONG AND GUSTY WINDS ON HIGHWAYS...INCLUDING INTERSTATE 25 FROM GLORIETA PASS TO THE COLORADO LINE. DRIVING WILL BE DIFFICULT ESPECIALLY IN HIGH PROFILE AND LARGE VEHICLES. UNSECURED OR HIGH PROFILE OBJECTS WILL SHIFT AND MAY BECOME AIRBORNE. ELECTRICAL POWER COULD BE

INTERRUPTED.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

REMEMBER...A HIGH WIND WARNING MEANS DAMAGING WINDS ARE IMMINENT OR HIGHLY LIKELY. SUSTAINED WIND SPEEDS OF AT LEAST 40 MPH OR GUSTS OF 58 MPH OR MORE CAN LEAD TO PROPERTY DAMAGE.

REMEMBER...A HIGH WIND WATCH MEANS CONDITIONS ARE FAVORABLE FOR A POTENTIALLY DAMAGING HIGH WIND EVENT IN AND CLOSE TO THE WATCH AREA. SUSTAINED WIND SPEEDS OF AT LEAST 40 MPH OR GUSTS OF 58 MPH OR MORE CAN LEAD TO PROPERTY DAMAGE. MONITOR THE LATEST FORECASTS AT WEATHER.GOV/ABQ...LISTEN TO NOAA WEATHER RADIO OR YOUR FAVORITE MEDIA OUTLET.

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NMZ502-505-506-508-051800-

/O.CON.KABQ.HW.W.0005.100405T1800Z-100406T0300Z/

CHUSKA MOUNTAINS-WEST CENTRAL PLATEAU-WEST CENTRAL MOUNTAINS-SOUTHWEST MOUNTAINS-

343 AM MDT MON APR 5 2010

...HIGH WIND WARNING REMAINS IN EFFECT FROM NOON TODAY TO 9 PM MDT THIS EVENING...

A HIGH WIND WARNING REMAINS IN EFFECT FROM NOON TODAY TO 9 PM MDT THIS EVENING.

* LOCATION...THIS INCLUDES AREAS FROM THE ARIZONA BORDER EAST TO THE CONTINENTAL DIVIDE.

* WINDS...SOUTHWEST WINDS TO 40 MPH...WITH GUSTS OF 60 MPH. EXPECT LOCALLY STRONGER WINDS OVER SUMMITS AND HILLTOPS AND THROUGH GAPS.

* TIMING...WIND SPEEDS WILL INCREASE STEADILY THROUGH THE MORNING...WITH THE STRONGEST WINDS EXPECTED BY MID AFTERNOON. WINDS WILL DECREASE BY MID EVENING.

* VISIBILITY...EXPECT POOR VISIBILITIES BELOW 1 MILE IN BLOWING DUST.

* LOCAL IMPACTS...EXPECT STRONG AND GUSTY WINDS ON HIGHWAYS INCLUDING INTERSTATE 40 FROM THE ARIZONA LINE TO GRANTS. DRIVING WILL BE DIFFICULT...ESPECIALLY IN HIGH PROFILE AND LARGE VEHICLES. UNSECURED OR HIGH PROFILE OBJECTS WILL SHIFT AND MAY BECOME AIRBORNE. ELECTRICAL POWER COULD BE INTERRUPTED.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

REMEMBER...A HIGH WIND WARNING MEANS DAMAGING WINDS ARE IMMINENT OR HIGHLY LIKELY. SUSTAINED WIND SPEEDS OF AT LEAST 40 MPH OR GUSTS OF 58 MPH OR MORE CAN LEAD TO PROPERTY DAMAGE.

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NMZ521-526-051800-

/O.CON.KABQ.HW.W.0005.100405T1900Z-100406T0300Z/

SANDIA/MANZANO MOUNTAINS-SOUTH CENTRAL MOUNTAINS-

343 AM MDT MON APR 5 2010

...HIGH WIND WARNING REMAINS IN EFFECT FROM 1 PM THIS AFTERNOON TO 9 PM MDT THIS EVENING...

A HIGH WIND WARNING REMAINS IN EFFECT FROM 1 PM THIS AFTERNOON TO 9 PM MDT THIS EVENING.

* LOCATION...THIS INCLUDES THE SANDIA AND MANZANO MOUNTAINS...AND THE SOUTH CENTRAL MOUNTAINS OF LINCOLN COUNTY.

* WINDS...SOUTHWEST WINDS TO 40 MPH...WITH GUSTS TO 60 MPH. EXPECT

LOCALLY STRONGER WINDS OVER SUMMITS AND THROUGH GAPS.

* TIMING...WIND SPEEDS WILL INCREASE STEADILY THROUGH THE MORNING...WITH THE STRONGEST WINDS EXPECTED BY MID AFTERNOON. WINDS WILL DECREASE BY MID EVENING...BUT WILL REMAIN GUSTY THROUGH TONIGHT.

* VISIBILITY...**EXPECT LOCALLY REDUCED VISIBILITIES BELOW 1 MILE IN BLOWING DUST.**

* LOCAL IMPACTS...EXPECT STRONG AND GUSTY WINDS ON HIGHWAYS...INCLUDING INTERSTATE 40 FROM TIJERAS TO MORIARTY...AND ACROSS HIGHWAYS 70 AND 380...AND HIGHWAY 54 IN LINCOLN COUNTY. DRIVING WILL BE DIFFICULT ESPECIALLY IN HIGH PROFILE AND LARGE VEHICLES. UNSECURED OR HIGH PROFILE OBJECTS WILL SHIFT AND MAY BECOME AIRBORNE. ELECTRICAL POWER COULD BE INTERRUPTED.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

REMEMBER...A HIGH WIND WARNING MEANS DAMAGING WINDS ARE IMMINENT OR HIGHLY LIKELY. SUSTAINED WIND SPEEDS OF AT LEAST 40 MPH OR GUSTS OF 58 MPH OR MORE CAN LEAD TO PROPERTY DAMAGE.

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NMZ524-051800-

/O.NEW.KABQ.HW.A.0005.100406T1800Z-100407T0300Z/

/O.CON.KABQ.WI.Y.0014.100405T1800Z-100406T0300Z/

SOUTH CENTRAL HIGHLANDS-

343 AM MDT MON APR 5 2010

...WIND ADVISORY REMAINS IN EFFECT FROM NOON TODAY TO 9 PM MDT THIS EVENING...

...HIGH WIND WATCH IN EFFECT FROM TUESDAY AFTERNOON THROUGH TUESDAY EVENING...

THE NATIONAL WEATHER SERVICE IN ALBUQUERQUE HAS ISSUED A HIGH WIND WATCH...WHICH IS IN EFFECT FROM TUESDAY AFTERNOON THROUGH TUESDAY EVENING. A WIND ADVISORY REMAINS IN EFFECT FROM NOON TODAY TO 9 PM MDT THIS EVENING.

* LOCATION...THIS INCLUDES THE SACRAMENTO MOUNTAINS OF LINCOLN COUNTY.

* WINDS...**SOUTHWEST WINDS WILL INCREASE TO 35 MPH...WITH GUSTS OF 45 TO 55 MPH DEVELOPING BY AFTERNOON. ON TUESDAY...EXPECT SOUTHWEST WINDS TO 40 MPH WITH GUSTS TO 60 MPH...WITH LOCALLY STRONGER** WINDS OVER SUMMITS AND THROUGH GAPS.

* TIMING...WIND SPEEDS WILL INCREASE STEADILY THROUGH THE MORNING WITH THE STRONGEST WINDS EXPECTED BY MID AFTERNOON. WINDS WILL DECREASE BY MID EVENING. ON TUESDAY...STRONG WINDS WILL REDEVELOP BY EARLY AFTERNOON BEFORE TAPERING OFF BY LATE TUESDAY EVENING.

* **VISIBILITY...EXPECT LOCALLY REDUCED VISIBILITIES AROUND 1 MILE IN BLOWING DUST.**

* LOCAL IMPACTS...EXPECT STRONG AND GUSTY WINDS ON HIGHWAYS...INCLUDING HIGHWAYS 70 AND 380 ACROSS LINCOLN COUNTY. WINDS WILL BE STRONG ENOUGH TO LIFT LOOSE OBJECTS AND CAUSE POSSIBLE LOSS OF CONTROL OF LARGE OR TALL VEHICLES AND BLOW LIGHT OR UNSECURED ITEMS AROUND.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

MOTORISTS SHOULD EXERCISE CAUTION WHILE TRAVELING. SUDDEN GUSTS OF WIND MAY CAUSE YOU TO LOSE CONTROL OF YOUR VEHICLE. EXTRA ATTENTION SHOULD BE GIVEN TO CROSS WINDS.

REMEMBER...A HIGH WIND WATCH MEANS CONDITIONS ARE FAVORABLE FOR

A POTENTIALLY DAMAGING HIGH WIND EVENT IN AND CLOSE TO THE WATCH AREA. SUSTAINED WIND SPEEDS OF AT LEAST 40 MPH OR GUSTS OF 58 MPH OR MORE CAN LEAD TO PROPERTY DAMAGE. MONITOR THE LATEST FORECASTS AT WEATHER.GOV/ABQ...LISTEN TO NOAA WEATHER RADIO OR YOUR FAVORITE MEDIA OUTLET.

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NMZ530>540-051800-

/O.NEW.KABQ.HW.A.0005.100406T1800Z-100407T0300Z/

/O.CON.KABQ.WI.Y.0014.100405T1900Z-100406T0300Z/

UNION COUNTY-HARDING COUNTY-EASTERN SAN MIGUEL COUNTY-GUADALUPE COUNTY-QUAY COUNTY-CURRY COUNTY-ROOSEVELT COUNTY-DE BACA COUNTY-CHAVES COUNTY PLAINS-EASTERN LINCOLN COUNTY-SOUTHWEST CHAVES COUNTY-

343 AM MDT MON APR 5 2010

...WIND ADVISORY REMAINS IN EFFECT FROM 1 PM THIS AFTERNOON TO 9 PM MDT THIS EVENING...

...HIGH WIND WATCH IN EFFECT FROM TUESDAY AFTERNOON THROUGH TUESDAY EVENING...

THE NATIONAL WEATHER SERVICE IN ALBUQUERQUE HAS ISSUED A HIGH WIND WATCH...WHICH IS IN EFFECT FROM TUESDAY AFTERNOON THROUGH TUESDAY EVENING. A WIND ADVISORY REMAINS IN EFFECT FROM 1 PM THIS AFTERNOON TO 9 PM MDT THIS EVENING.

* LOCATION...THIS INCLUDES PORTIONS OF THE EASTERN PLAINS.

* WINDS...EXPECT SOUTHWEST WINDS TO 35 MPH...WITH GUSTS OF 45 TO 55 MPH. ON TUESDAY...EXPECT SOUTHWEST WINDS TO 40 MPH WITH GUSTS TO 60 MPH...WITH LOCALLY STRONGER WINDS OVER HILLTOPS.

* TIMING...WIND SPEEDS WILL INCREASE STEADILY THROUGH THE MORNING WITH THE STRONGEST WINDS EXPECTED BY MID AFTERNOON. WINDS WILL DECREASE BY MID EVENING. ON TUESDAY...STRONG WINDS WILL REDEVELOP BY AFTERNOON BEFORE TAPERING OFF BY LATE EVENING.

* VISIBILITY...EXPECT LOCALLY REDUCED VISIBILITIES AROUND 1 MILE IN BLOWING DUST.

* LOCAL IMPACTS...EXPECT STRONG AND GUSTY WINDS ON HIGHWAYS...INCLUDING HIGHWAYS 64 AND 87...HIGHWAY 56...STATE ROADS 39...104 AND 120...HIGHWAY 60...AND HIGHWAY 285. WINDS WILL BE STRONG ENOUGH TO LIFT LOOSE OBJECTS AND CAUSE POSSIBLE LOSS OF CONTROL OF LARGE OR TALL VEHICLES AND BLOW LIGHT OR UNSECURED ITEMS AROUND.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

MOTORISTS SHOULD EXERCISE CAUTION WHILE TRAVELING. SUDDEN GUSTS OF WIND MAY CAUSE YOU TO LOSE CONTROL OF YOUR VEHICLE. EXTRA ATTENTION SHOULD BE GIVEN TO CROSS WINDS.

REMEMBER...A HIGH WIND WATCH MEANS CONDITIONS ARE FAVORABLE FOR A POTENTIALLY DAMAGING HIGH WIND EVENT IN AND CLOSE TO THE WATCH AREA. SUSTAINED WIND SPEEDS OF AT LEAST 40 MPH OR GUSTS OF 58 MPH OR MORE CAN LEAD TO PROPERTY DAMAGE. MONITOR THE LATEST FORECASTS AT WEATHER.GOV/ABQ...LISTEN TO NOAA WEATHER RADIO OR YOUR FAVORITE MEDIA OUTLET.

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NMZ501-503-504-507-509>511-516>520-525-051800-

/O.CON.KABQ.WI.Y.0014.100405T1800Z-100406T0300Z/

NORTHWEST PLATEAU-FAR NORTHWEST HIGHLANDS-NORTHWEST HIGHLANDS-

WEST CENTRAL HIGHLANDS-SAN FRANCISCO RIVER VALLEY-
SAN JUAN MOUNTAINS-JEMEZ MOUNTAINS-UPPER RIO GRANDE VALLEY-
LOWER CHAMA RIVER VALLEY-SANTA FE METRO AREA-
ALBUQUERQUE METRO AREA-LOWER RIO GRANDE VALLEY-
UPPER TULAROSA VALLEY-
343 AM MDT MON APR 5 2010

**...WIND ADVISORY REMAINS IN EFFECT FROM NOON TODAY TO 9 PM MDT
THIS EVENING...**

A WIND ADVISORY REMAINS IN EFFECT FROM NOON TODAY TO 9 PM MDT
THIS EVENING.

* LOCATION...THIS INCLUDES NORTHWEST AND NORTH CENTRAL NEW
MEXICO...THE SANTA FE AND ALBUQUERQUE METRO AREAS...THE
SOUTHWEST MOUNTAINS...AND SOCORRO COUNTY.

*** WINDS...SOUTHWEST WINDS TO 35 MPH...WITH GUSTS OF 45 TO 55 MPH.**
EXPECT LOCALLY STRONGER WINDS OVER SUMMITS AND THROUGH GAPS.

* TIMING...WIND SPEEDS WILL INCREASE STEADILY THROUGH THE
MORNING WITH THE STRONGEST WINDS EXPECTED BY MID AFTERNOON.
WINDS WILL DECREASE BY MID EVENING.

* VISIBILITY...**EXPECT LOCALLY REDUCED VISIBILITIES AROUND 1 MILE
IN BLOWING DUST.**

* LOCAL IMPACTS...EXPECT STRONG AND GUSTY WINDS ON HIGHWAYS.
WINDS WILL BE STRONG ENOUGH TO LIFT LOOSE OBJECTS AND CAUSE
POSSIBLE LOSS OF CONTROL OF LARGE OR TALL VEHICLES AND BLOW
LIGHT OR UNSECURED ITEMS AROUND.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

MOTORISTS SHOULD EXERCISE CAUTION WHILE TRAVELING. SUDDEN GUSTS
OF WIND MAY CAUSE YOU TO LOSE CONTROL OF YOUR VEHICLE. EXTRA
ATTENTION SHOULD BE GIVEN TO CROSS WINDS.

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WWUS75 KABQ 050943

NPWABQ

URGENT - WEATHER MESSAGE

NATIONAL WEATHER SERVICE ALBUQUERQUE NM

343 AM MDT MON APR 5 2010

...STRONG WINDS ACROSS NEW MEXICO TODAY...WITH STRONG WINDS
REDEVELOPING OVER CENTRAL AND EASTERN NEW MEXICO ON TUESDAY...
.A PACIFIC STORM SYSTEM WILL MOVE FROM THE CENTRAL CALIFORNIA
COAST TO THE FOUR CORNERS AREA TODAY...AND SWEEP ACROSS NORTHERN
NEW MEXICO ON TUESDAY. STRONG SOUTHWEST WINDS AHEAD OF THIS SYSTEM
COMBINED WITH DEEPENING SURFACE LOW PRESSURE OVER EASTERN COLORADO
TODAY WILL SUPPORT A WINDY DAY ACROSS NEW MEXICO...**WITH STRONGEST
WINDS FROM THE ARIZONA BORDER TO THE CONTINENTAL DIVIDE...**AND
ACROSS SUMMITS...EAST SLOPES...AND ADJACENT PLAINS OF THE SANGRE
DE CRISTO MOUNTAINS...AND THE CENTRAL MOUNTAIN CHAIN. WIND SPEEDS
WILL TAPER OFF GRADUALLY BY MID EVENING BUT REMAIN GUSTY
OVERNIGHT. AS THE PACIFIC STORM SYSTEM SWEEPS ACROSS NORTHERN NEW
MEXICO ON TUESDAY...A COLD FRONT PLUNGING FROM THE FOUR CORNERS TO
THE SOUTHEAST CORNER OF THE STATE DURING THE DAY WILL SET UP
ANOTHER WINDY DAY FROM THE CENTRAL MOUNTAIN CHAIN EASTWARD TO THE
TEXAS BORDER. WIND SPEEDS WILL DECREASE GRADUALLY TUESDAY EVENING
TO EASE THE HIGH WIND DANGER.

NMZ512>515-522-523-527>529-051800-
/O.NEW.KABQ.HW.A.0005.100406T1800Z-100407T0300Z/
/O.CON.KABQ.HW.W.0005.100405T1900Z-100406T0300Z/

WEST SLOPES SANGRE DE CRISTO MOUNTAINS-
NORTHERN SANGRE DE CRISTO MOUNTAINS ABOVE 9500 FEET/RED RIVER-
SOUTHERN SANGRE DE CRISTO MOUNTAINS ABOVE 9500 FEET-
EAST SLOPES SANGRE DE CRISTO MOUNTAINS-ESTANCIA VALLEY-
CENTRAL HIGHLANDS-RATON RIDGE/JOHNSON MESA-
FAR NORTHEAST HIGHLANDS-NORTHEAST HIGHLANDS-
343 AM MDT MON APR 5 2010

**...HIGH WIND WARNING REMAINS IN EFFECT FROM 1 PM THIS AFTERNOON
TO 9 PM MDT THIS EVENING...**

...HIGH WIND WATCH IN EFFECT FROM TUESDAY AFTERNOON THROUGH
TUESDAY EVENING...

THE NATIONAL WEATHER SERVICE IN ALBUQUERQUE HAS ISSUED A HIGH
WIND WATCH...WHICH IS IN EFFECT FROM TUESDAY AFTERNOON THROUGH
TUESDAY EVENING. A HIGH WIND WARNING REMAINS IN EFFECT FROM 1 PM
THIS AFTERNOON TO 9 PM MDT THIS EVENING.

* LOCATION...THIS INCLUDES SUMMITS AND SLOPES OF THE SANGRE DE
CRISTO MOUNTAINS...PORTIONS OF THE CENTRAL MOUNTAIN CHAIN...AND
ADJACENT PLAINS.

* WINDS...**SOUTHWEST WINDS TO 40 MPH...WITH GUSTS TO 60 MPH.** EXPECT
LOCALLY STRONGER WINDS OVER SUMMITS AND THROUGH GAPS.

* TIMING...WIND SPEEDS WILL INCREASE STEADILY THROUGH THE
MORNING...WITH THE STRONGEST WINDS EXPECTED BY MID AFTERNOON.
WINDS WILL DECREASE BY MID EVENING...BUT WILL REMAIN GUSTY
THROUGH MONDAY NIGHT. STRONG WINDS WILL REDEVELOP BY TUESDAY
AFTERNOON AND CONTINUE INTO TUESDAY EVENING BEFORE TAPERING OFF
BY MIDNIGHT.

* VISIBILITY...**EXPECT LOCALLY REDUCED VISIBILITIES BELOW 1 MILE
IN BLOWING DUST...** ESPECIALLY OVER THE NORTHEAST HIGHLANDS.

* LOCAL IMPACTS...EXPECT STRONG AND GUSTY WINDS ON HIGHWAYS...
INCLUDING INTERSTATE 25 FROM GLORIETA PASS TO THE COLORADO
LINE. DRIVING WILL BE DIFFICULT ESPECIALLY IN HIGH PROFILE AND
LARGE VEHICLES. UNSECURED OR HIGH PROFILE OBJECTS WILL SHIFT
AND MAY BECOME AIRBORNE. ELECTRICAL POWER COULD BE
INTERRUPTED.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

REMEMBER...A HIGH WIND WARNING MEANS DAMAGING WINDS ARE IMMINENT
OR HIGHLY LIKELY. SUSTAINED WIND SPEEDS OF AT LEAST 40 MPH OR
GUSTS OF 58 MPH OR MORE CAN LEAD TO PROPERTY DAMAGE.

REMEMBER...A HIGH WIND WATCH MEANS CONDITIONS ARE FAVORABLE FOR
A POTENTIALLY DAMAGING HIGH WIND EVENT IN AND CLOSE TO THE WATCH
AREA. SUSTAINED WIND SPEEDS OF AT LEAST 40 MPH OR GUSTS OF 58 MPH
OR MORE CAN LEAD TO PROPERTY DAMAGE. MONITOR THE LATEST FORECASTS
AT WEATHER.GOV/ABQ...LISTEN TO NOAA WEATHER RADIO OR YOUR
FAVORITE MEDIA OUTLET.

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NMZ502-505-506-508-051800-
/O.CON.KABQ.HW.W.0005.100405T1800Z-100406T0300Z/

CHUSKA MOUNTAINS-WEST CENTRAL PLATEAU-WEST CENTRAL MOUNTAINS-
SOUTHWEST MOUNTAINS-
343 AM MDT MON APR 5 2010

...HIGH WIND WARNING REMAINS IN EFFECT FROM NOON TODAY TO 9 PM MDT THIS EVENING...

A HIGH WIND WARNING REMAINS IN EFFECT FROM NOON TODAY TO 9 PM MDT THIS EVENING.

- * LOCATION...THIS INCLUDES AREAS FROM THE ARIZONA BORDER EAST TO THE CONTINENTAL DIVIDE.
- * WINDS...SOUTHWEST WINDS TO 40 MPH...WITH GUSTS OF 60 MPH. EXPECT LOCALLY STRONGER WINDS OVER SUMMITS AND HILLTOPS AND THROUGH GAPS.
- * TIMING...WIND SPEEDS WILL INCREASE STEADILY THROUGH THE MORNING...WITH THE STRONGEST WINDS EXPECTED BY MID AFTERNOON. WINDS WILL DECREASE BY MID EVENING.
- * VISIBILITY...EXPECT POOR VISIBILITIES BELOW 1 MILE IN BLOWING DUST.
- * LOCAL IMPACTS...EXPECT STRONG AND GUSTY WINDS ON HIGHWAYS INCLUDING INTERSTATE 40 FROM THE ARIZONA LINE TO GRANTS. DRIVING WILL BE DIFFICULT...ESPECIALLY IN HIGH PROFILE AND LARGE VEHICLES. UNSECURED OR HIGH PROFILE OBJECTS WILL SHIFT AND MAY BECOME AIRBORNE. ELECTRICAL POWER COULD BE INTERRUPTED.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

REMEMBER...A HIGH WIND WARNING MEANS DAMAGING WINDS ARE IMMINENT OR HIGHLY LIKELY. SUSTAINED WIND SPEEDS OF AT LEAST 40 MPH OR GUSTS OF 58 MPH OR MORE CAN LEAD TO PROPERTY DAMAGE.

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NMZ521-526-051800-

/O.CON.KABQ.HW.W.0005.100405T1900Z-100406T0300Z/

SANDIA/MANZANO MOUNTAINS-SOUTH CENTRAL MOUNTAINS-

343 AM MDT MON APR 5 2010

...HIGH WIND WARNING REMAINS IN EFFECT FROM 1 PM THIS AFTERNOON TO 9 PM MDT THIS EVENING...

A HIGH WIND WARNING REMAINS IN EFFECT FROM 1 PM THIS AFTERNOON TO 9 PM MDT THIS EVENING.

- * LOCATION...THIS INCLUDES THE SANDIA AND MANZANO MOUNTAINS...AND THE SOUTH CENTRAL MOUNTAINS OF LINCOLN COUNTY.
- * WINDS...SOUTHWEST WINDS TO 40 MPH...WITH GUSTS TO 60 MPH. EXPECT LOCALLY STRONGER WINDS OVER SUMMITS AND THROUGH GAPS.
- * TIMING...WIND SPEEDS WILL INCREASE STEADILY THROUGH THE MORNING...WITH THE STRONGEST WINDS EXPECTED BY MID AFTERNOON. WINDS WILL DECREASE BY MID EVENING...BUT WILL REMAIN GUSTY THROUGH TONIGHT.
- * VISIBILITY...EXPECT LOCALLY REDUCED VISIBILITIES BELOW 1 MILE IN BLOWING DUST.
- * LOCAL IMPACTS...EXPECT STRONG AND GUSTY WINDS ON HIGHWAYS... INCLUDING INTERSTATE 40 FROM TIJERAS TO MORIARTY...AND ACROSS HIGHWAYS 70 AND 380...AND HIGHWAY 54 IN LINCOLN COUNTY. DRIVING WILL BE DIFFICULT ESPECIALLY IN HIGH PROFILE AND LARGE VEHICLES. UNSECURED OR HIGH PROFILE OBJECTS WILL SHIFT AND MAY BECOME AIRBORNE. ELECTRICAL POWER COULD BE INTERRUPTED.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

REMEMBER...A HIGH WIND WARNING MEANS DAMAGING WINDS ARE IMMINENT OR HIGHLY LIKELY. SUSTAINED WIND SPEEDS OF AT LEAST 40 MPH OR GUSTS OF 58 MPH OR MORE CAN LEAD TO PROPERTY DAMAGE.

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NMZ524-051800-

/O.NEW.KABQ.HW.A.0005.100406T1800Z-100407T0300Z/

/O.CON.KABQ.WI.Y.0014.100405T1800Z-100406T0300Z/

SOUTH CENTRAL HIGHLANDS-

343 AM MDT MON APR 5 2010

...WIND ADVISORY REMAINS IN EFFECT FROM NOON TODAY TO 9 PM MDT THIS EVENING...

...HIGH WIND WATCH IN EFFECT FROM TUESDAY AFTERNOON THROUGH TUESDAY EVENING...

THE NATIONAL WEATHER SERVICE IN ALBUQUERQUE HAS ISSUED A HIGH WIND WATCH...WHICH IS IN EFFECT FROM TUESDAY AFTERNOON THROUGH TUESDAY EVENING. A WIND ADVISORY REMAINS IN EFFECT FROM NOON TODAY TO 9 PM MDT THIS EVENING.

* LOCATION...THIS INCLUDES THE SACRAMENTO MOUNTAINS OF LINCOLN COUNTY.

* WINDS...SOUTHWEST WINDS WILL INCREASE TO 35 MPH...WITH GUSTS OF 45 TO 55 MPH DEVELOPING BY AFTERNOON. ON TUESDAY...EXPECT SOUTHWEST WINDS TO 40 MPH WITH GUSTS TO 60 MPH...WITH LOCALLY STRONGER WINDS OVER SUMMITS AND THROUGH GAPS.

* TIMING...WIND SPEEDS WILL INCREASE STEADILY THROUGH THE MORNING WITH THE STRONGEST WINDS EXPECTED BY MID AFTERNOON. WINDS WILL DECREASE BY MID EVENING. ON TUESDAY...STRONG WINDS WILL REDEVELOP BY EARLY AFTERNOON BEFORE TAPERING OFF BY LATE TUESDAY EVENING.

* VISIBILITY...EXPECT LOCALLY REDUCED VISIBILITIES AROUND 1 MILE IN BLOWING DUST.

* LOCAL IMPACTS...EXPECT STRONG AND GUSTY WINDS ON HIGHWAYS...INCLUDING HIGHWAYS 70 AND 380 ACROSS LINCOLN COUNTY. WINDS WILL BE STRONG ENOUGH TO LIFT LOOSE OBJECTS AND CAUSE POSSIBLE LOSS OF CONTROL OF LARGE OR TALL VEHICLES AND BLOW LIGHT OR UNSECURED ITEMS AROUND.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

MOTORISTS SHOULD EXERCISE CAUTION WHILE TRAVELING. SUDDEN GUSTS OF WIND MAY CAUSE YOU TO LOSE CONTROL OF YOUR VEHICLE. EXTRA ATTENTION SHOULD BE GIVEN TO CROSS WINDS.

REMEMBER...A HIGH WIND WATCH MEANS CONDITIONS ARE FAVORABLE FOR A POTENTIALLY DAMAGING HIGH WIND EVENT IN AND CLOSE TO THE WATCH AREA. SUSTAINED WIND SPEEDS OF AT LEAST 40 MPH OR GUSTS OF 58 MPH OR MORE CAN LEAD TO PROPERTY DAMAGE. MONITOR THE LATEST FORECASTS AT WEATHER.GOV/ABQ...LISTEN TO NOAA WEATHER RADIO OR YOUR FAVORITE MEDIA OUTLET.

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NMZ530>540-051800-

/O.NEW.KABQ.HW.A.0005.100406T1800Z-100407T0300Z/

/O.CON.KABQ.WI.Y.0014.100405T1900Z-100406T0300Z/

UNION COUNTY-HARDING COUNTY-EASTERN SAN MIGUEL COUNTY-

GUADALUPE COUNTY-QUAY COUNTY-CURRY COUNTY-ROOSEVELT COUNTY-

DE BACA COUNTY-CHAVES COUNTY PLAINS-EASTERN LINCOLN COUNTY-

SOUTHWEST CHAVES COUNTY-

343 AM MDT MON APR 5 2010

...WIND ADVISORY REMAINS IN EFFECT FROM 1 PM THIS AFTERNOON TO 9 PM MDT THIS EVENING...

...HIGH WIND WATCH IN EFFECT FROM TUESDAY AFTERNOON THROUGH

TUESDAY EVENING...

THE NATIONAL WEATHER SERVICE IN ALBUQUERQUE HAS ISSUED A HIGH WIND WATCH...WHICH IS IN EFFECT FROM TUESDAY AFTERNOON THROUGH TUESDAY EVENING. A WIND ADVISORY REMAINS IN EFFECT FROM 1 PM THIS AFTERNOON TO 9 PM MDT THIS EVENING.

* LOCATION...THIS INCLUDES PORTIONS OF THE EASTERN PLAINS.

* WINDS...**EXPECT SOUTHWEST WINDS TO 35 MPH...WITH GUSTS OF 45 TO 55 MPH.** ON TUESDAY...EXPECT SOUTHWEST WINDS TO 40 MPH WITH GUSTS TO 60 MPH...WITH LOCALLY STRONGER WINDS OVER HILLTOPS.

* TIMING...WIND SPEEDS WILL INCREASE STEADILY THROUGH THE MORNING WITH THE STRONGEST WINDS EXPECTED BY MID AFTERNOON. WINDS WILL DECREASE BY MID EVENING. ON TUESDAY...STRONG WINDS WILL REDEVELOP BY AFTERNOON BEFORE TAPERING OFF BY LATE EVENING.

* VISIBILITY...**EXPECT LOCALLY REDUCED VISIBILITIES AROUND 1 MILE IN BLOWING DUST.**

* LOCAL IMPACTS...EXPECT STRONG AND GUSTY WINDS ON HIGHWAYS...INCLUDING HIGHWAYS 64 AND 87...HIGHWAY 56...STATE ROADS 39...104 AND 120...HIGHWAY 60...AND HIGHWAY 285. WINDS WILL BE STRONG ENOUGH TO LIFT LOOSE OBJECTS AND CAUSE POSSIBLE LOSS OF CONTROL OF LARGE OR TALL VEHICLES AND BLOW LIGHT OR UNSECURED ITEMS AROUND.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

MOTORISTS SHOULD EXERCISE CAUTION WHILE TRAVELING. SUDDEN GUSTS OF WIND MAY CAUSE YOU TO LOSE CONTROL OF YOUR VEHICLE. EXTRA ATTENTION SHOULD BE GIVEN TO CROSS WINDS.

REMEMBER...A HIGH WIND WATCH MEANS CONDITIONS ARE FAVORABLE FOR A POTENTIALLY DAMAGING HIGH WIND EVENT IN AND CLOSE TO THE WATCH AREA. SUSTAINED WIND SPEEDS OF AT LEAST 40 MPH OR GUSTS OF 58 MPH OR MORE CAN LEAD TO PROPERTY DAMAGE. MONITOR THE LATEST FORECASTS AT WEATHER.GOV/ABQ...LISTEN TO NOAA WEATHER RADIO OR YOUR FAVORITE MEDIA OUTLET.

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NMZ501-503-504-507-509>511-516>520-525-051800-

/O.CON.KABQ.WI.Y.0014.100405T1800Z-100406T0300Z/

NORTHWEST PLATEAU-FAR NORTHWEST HIGHLANDS-NORTHWEST HIGHLANDS-

WEST CENTRAL HIGHLANDS-SAN FRANCISCO RIVER VALLEY-

SAN JUAN MOUNTAINS-JEMEZ MOUNTAINS-UPPER RIO GRANDE VALLEY-

LOWER CHAMA RIVER VALLEY-SANTA FE METRO AREA-

ALBUQUERQUE METRO AREA-LOWER RIO GRANDE VALLEY-

UPPER TULAROSA VALLEY-

343 AM MDT MON APR 5 2010

...**WIND ADVISORY REMAINS IN EFFECT FROM NOON TODAY TO 9 PM MDT THIS EVENING...**

A WIND ADVISORY REMAINS IN EFFECT FROM NOON TODAY TO 9 PM MDT THIS EVENING.

* LOCATION...THIS INCLUDES NORTHWEST AND NORTH CENTRAL NEW MEXICO...THE SANTA FE AND ALBUQUERQUE METRO AREAS...THE SOUTHWEST MOUNTAINS...AND SOCORRO COUNTY.

* WINDS...**SOUTHWEST WINDS TO 35 MPH...WITH GUSTS OF 45 TO 55 MPH.** EXPECT LOCALLY STRONGER WINDS OVER SUMMITS AND THROUGH GAPS.

* TIMING...WIND SPEEDS WILL INCREASE STEADILY THROUGH THE MORNING WITH THE STRONGEST WINDS EXPECTED BY MID AFTERNOON. WINDS WILL DECREASE BY MID EVENING.

* VISIBILITY...**EXPECT LOCALLY REDUCED VISIBILITIES AROUND 1 MILE IN BLOWING DUST.**

* LOCAL IMPACTS...EXPECT STRONG AND GUSTY WINDS ON HIGHWAYS. WINDS WILL BE STRONG ENOUGH TO LIFT LOOSE OBJECTS AND CAUSE POSSIBLE LOSS OF CONTROL OF LARGE OR TALL VEHICLES AND BLOW LIGHT OR UNSECURED ITEMS AROUND.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

MOTORISTS SHOULD EXERCISE CAUTION WHILE TRAVELING. SUDDEN GUSTS OF WIND MAY CAUSE YOU TO LOSE CONTROL OF YOUR VEHICLE. EXTRA ATTENTION SHOULD BE GIVEN TO CROSS WINDS.

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WWUS75 KABQ 051743

NPWABQ

URGENT - WEATHER MESSAGE

NATIONAL WEATHER SERVICE ALBUQUERQUE NM

1143 AM MDT MON APR 5 2010

...STRONG WINDS ACROSS NEW MEXICO TODAY...WITH STRONG WINDS AGAIN OVER CENTRAL AND EASTERN NEW MEXICO ON TUESDAY...

.A PACIFIC STORM SYSTEM WILL APPROACH THE FOUR CORNERS AREA LATE TODAY...AND SWEEP ACROSS NORTHERN NEW MEXICO ON TUESDAY. STRONG SOUTHWEST WINDS AHEAD OF THIS SYSTEM COMBINED WITH DEEPENING SURFACE LOW PRESSURE OVER EASTERN COLORADO TODAY WILL SUPPORT STRONG WINDS ACROSS NEW MEXICO. STRONGEST WINDS WILL BE OVER THE WESTERN MOUNTAINS...CENTRAL MOUNTAIN CHAIN...ONTO THE EASTERN HIGH PLAINS. WIND SPEEDS WILL TAPER OFF GRADUALLY BY MID EVENING BUT REMAIN GUSTY OVERNIGHT. A COLD FRONT PLUNGING FROM THE FOUR CORNERS TO THE SOUTHEAST CORNER OF THE STATE ON TUESDAY WILL SET UP ANOTHER WINDY DAY...ESPECIALLY FROM THE CENTRAL MOUNTAIN CHAIN EAST TO THE TEXAS BORDER. WIND SPEEDS WILL GRADUALLY DECREASE TUESDAY EVENING TO EASE THE HIGH WIND DANGER.

NMZ512>515-522-523-527>529-052200-

/O.CON.KABQ.HW.W.0005.100405T1900Z-100406T0300Z/

/O.CON.KABQ.HW.A.0005.100406T1800Z-100407T0300Z/

WEST SLOPES SANGRE DE CRISTO MOUNTAINS-

NORTHERN SANGRE DE CRISTO MOUNTAINS ABOVE 9500 FEET/RED RIVER-

SOUTHERN SANGRE DE CRISTO MOUNTAINS ABOVE 9500 FEET-

EAST SLOPES SANGRE DE CRISTO MOUNTAINS-ESTANCIA VALLEY-

CENTRAL HIGHLANDS-RATON RIDGE/JOHNSON MESA-

FAR NORTHEAST HIGHLANDS-NORTHEAST HIGHLANDS-

1143 AM MDT MON APR 5 2010

...**HIGH WIND WARNING REMAINS IN EFFECT UNTIL 9 PM MDT THIS EVENING...**

...HIGH WIND WATCH REMAINS IN EFFECT FROM TUESDAY AFTERNOON THROUGH TUESDAY EVENING...

A HIGH WIND WARNING REMAINS IN EFFECT UNTIL 9 PM MDT THIS EVENING. A HIGH WIND WATCH REMAINS IN EFFECT FROM TUESDAY AFTERNOON THROUGH TUESDAY EVENING.

* LOCATION...THIS INCLUDES THE SANGRE DE CRISTO MOUNTAINS...

PORTIONS OF THE CENTRAL MOUNTAIN CHAIN... AND ADJACENT PLAINS.

* WINDS...**SOUTHWEST WINDS TO 40 MPH...WITH GUSTS TO 60 MPH.**

EXPECT LOCALLY STRONGER WINDS OVER SUMMITS AND THROUGH GAPS.

* TIMING...WIND SPEEDS WILL INCREASE STEADILY THROUGH THE MIDDAY HOURS...WITH THE STRONGEST WINDS EXPECTED BY MID AFTERNOON. WINDS WILL DECREASE BY MID EVENING...BUT WILL REMAIN GUSTY THROUGH TONIGHT. STRONG WINDS WILL REDEVELOP BY TUESDAY AFTERNOON AND CONTINUE INTO TUESDAY EVENING BEFORE TAPERING OFF BEFORE MIDNIGHT.

* VISIBILITY...**EXPECT LOCALLY REDUCED VISIBILITIES BELOW 1 MILE IN BLOWING DUST...**ESPECIALLY OVER THE NORTHEAST HIGHLANDS.

* LOCAL IMPACTS...EXPECT STRONG AND GUSTY WINDS ON HIGHWAYS... INCLUDING INTERSTATE 25 FROM GLORIETA PASS TO THE COLORADO LINE. DRIVING WILL BE DIFFICULT ESPECIALLY IN HIGH PROFILE AND LARGE VEHICLES. UNSECURED OR HIGH PROFILE OBJECTS WILL SHIFT AND MAY BECOME AIRBORNE. ELECTRICAL POWER COULD BE INTERRUPTED.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

REMEMBER...A HIGH WIND WARNING MEANS DAMAGING WINDS ARE IMMINENT OR HIGHLY LIKELY. SUSTAINED WIND SPEEDS OF AT LEAST 40 MPH OR GUSTS OF 58 MPH OR MORE CAN LEAD TO PROPERTY DAMAGE.

REMEMBER...A HIGH WIND WATCH MEANS CONDITIONS ARE FAVORABLE FOR A POTENTIALLY DAMAGING HIGH WIND EVENT IN AND CLOSE TO THE WATCH AREA. MONITOR THE LATEST FORECASTS AT WEATHER.GOV/ABQ...LISTEN TO NOAA WEATHER RADIO OR YOUR FAVORITE MEDIA OUTLET.

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NMZ502-505-506-508-052200-

/O.CON.KABQ.HW.W.0005.100405T1800Z-100406T0300Z/

CHUSKA MOUNTAINS-WEST CENTRAL PLATEAU-WEST CENTRAL MOUNTAINS-SOUTHWEST MOUNTAINS-

1143 AM MDT MON APR 5 2010

...**HIGH WIND WARNING REMAINS IN EFFECT UNTIL 9 PM MDT THIS EVENING...**

A HIGH WIND WARNING REMAINS IN EFFECT UNTIL 9 PM MDT THIS EVENING.

* LOCATION...THIS INCLUDES THE WESTERN HIGHLANDS AND MOUNTAINS.

* WINDS...**SOUTHWEST WINDS TO 40 MPH...WITH GUSTS OF 60 MPH.** EXPECT LOCALLY STRONGER WINDS OVER SUMMITS AND HILLTOPS AND THROUGH GAPS.

* TIMING...WIND SPEEDS WILL INCREASE STEADILY THROUGH THE MORNING...WITH THE STRONGEST WINDS EXPECTED BY MID AFTERNOON. WINDS WILL DECREASE BY MID EVENING.

* VISIBILITY...**EXPECT POOR VISIBILITIES BELOW 1 MILE IN BLOWING DUST.**

* LOCAL IMPACTS...EXPECT STRONG AND GUSTY WINDS ON HIGHWAYS INCLUDING INTERSTATE 40 FROM THE ARIZONA LINE TO GRANTS. DRIVING WILL BE DIFFICULT...ESPECIALLY IN HIGH PROFILE AND LARGE VEHICLES. UNSECURED OR HIGH PROFILE OBJECTS WILL SHIFT AND MAY BECOME AIRBORNE. ELECTRICAL POWER COULD BE INTERRUPTED.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

REMEMBER...A HIGH WIND WARNING MEANS DAMAGING WINDS ARE IMMINENT OR HIGHLY LIKELY. SUSTAINED WIND SPEEDS OF AT LEAST 40 MPH OR GUSTS OF 58 MPH OR MORE CAN LEAD TO PROPERTY DAMAGE.

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NMZ521-526-052200-

/O.CON.KABQ.HW.W.0005.100405T1900Z-100406T0300Z/

SANDIA/MANZANO MOUNTAINS-SOUTH CENTRAL MOUNTAINS-

1143 AM MDT MON APR 5 2010

...HIGH WIND WARNING REMAINS IN EFFECT UNTIL 9 PM MDT THIS EVENING...

A HIGH WIND WARNING REMAINS IN EFFECT UNTIL 9 PM MDT THIS EVENING.

* LOCATION...THIS INCLUDES THE SANDIA AND MANZANO MOUNTAINS... AND THE SOUTH CENTRAL MOUNTAINS OF LINCOLN COUNTY.

* WINDS...**SOUTHWEST WINDS TO 40 MPH...WITH GUSTS TO 60 MPH.**

* TIMING...WIND SPEEDS WILL INCREASE STEADILY THROUGH THE MIDDAY HOURS...WITH THE STRONGEST WINDS EXPECTED BY MID AFTERNOON. WINDS WILL DECREASE BY MID EVENING...BUT WILL REMAIN GUSTY THROUGH TONIGHT.

* VISIBILITY...**EXPECT LOCALLY REDUCED VISIBILITIES BELOW 1 MILE IN BLOWING DUST.**

* LOCAL IMPACTS...EXPECT STRONG AND GUSTY WINDS ON HIGHWAYS... INCLUDING INTERSTATE 40 FROM TIJERAS TO MORIARTY...AND ACROSS HIGHWAYS 70 AND 380...AND HIGHWAY 54 IN LINCOLN COUNTY. DRIVING WILL BE DIFFICULT ESPECIALLY IN HIGH PROFILE AND LARGE VEHICLES. UNSECURED OR HIGH PROFILE OBJECTS WILL SHIFT AND MAY BECOME AIRBORNE. ELECTRICAL POWER COULD BE INTERRUPTED.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

REMEMBER...A HIGH WIND WARNING MEANS DAMAGING WINDS ARE IMMINENT OR HIGHLY LIKELY. SUSTAINED WIND SPEEDS OF AT LEAST 40 MPH OR GUSTS OF 58 MPH OR MORE CAN LEAD TO PROPERTY DAMAGE.

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NMZ524-052200-

/O.CON.KABQ.WI.Y.0014.100405T1800Z-100406T0300Z/

/O.CON.KABQ.HW.A.0005.100406T1800Z-100407T0300Z/

SOUTH CENTRAL HIGHLANDS-

1143 AM MDT MON APR 5 2010

...WIND ADVISORY REMAINS IN EFFECT UNTIL 9 PM MDT THIS EVENING...

...HIGH WIND WATCH REMAINS IN EFFECT FROM TUESDAY AFTERNOON THROUGH TUESDAY EVENING...

A WIND ADVISORY REMAINS IN EFFECT UNTIL 9 PM MDT THIS EVENING. A HIGH WIND WATCH REMAINS IN EFFECT FROM TUESDAY AFTERNOON THROUGH TUESDAY EVENING.

* LOCATION...THIS INCLUDES THE SOUTH CENTRAL HIGHLANDS OF LINCOLN...TORRANCE AND SOCORRO COUNTIES.

* WINDS...**SOUTHWEST WINDS WILL INCREASE TO 35 MPH...WITH GUSTS OF 45 TO 55 MPH DEVELOPING BY AFTERNOON.** ON TUESDAY...EXPECT SOUTHWEST WINDS TO 40 MPH WITH GUSTS TO 60 MPH.

* TIMING...WIND SPEEDS WILL INCREASE STEADILY THROUGH THE MIDDAY HOURS WITH THE STRONGEST WINDS EXPECTED BY MID AFTERNOON. WINDS WILL DECREASE BY MID EVENING. ON TUESDAY...STRONG WINDS WILL REDEVELOP BY EARLY AFTERNOON BEFORE TAPERING OFF BY LATE TUESDAY EVENING.

* VISIBILITY...**EXPECT LOCALLY REDUCED VISIBILITIES AROUND 1 MILE IN BLOWING DUST.**

* LOCAL IMPACTS...EXPECT STRONG AND GUSTY WINDS ON HIGHWAYS... INCLUDING HIGHWAYS 70 AND 380 ACROSS LINCOLN COUNTY. WINDS

WILL BE STRONG ENOUGH TO LIFT LOOSE OBJECTS AND CAUSE POSSIBLE LOSS OF CONTROL OF LARGE OR TALL VEHICLES AND BLOW LIGHT OR UNSECURED ITEMS AROUND.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

MOTORISTS SHOULD EXERCISE CAUTION WHILE TRAVELING. SUDDEN GUSTS OF WIND MAY CAUSE YOU TO LOSE CONTROL OF YOUR VEHICLE. EXTRA ATTENTION SHOULD BE GIVEN TO CROSS WINDS.

REMEMBER...A HIGH WIND WATCH MEANS CONDITIONS ARE FAVORABLE FOR A POTENTIALLY DAMAGING HIGH WIND EVENT IN AND CLOSE TO THE WATCH AREA. MONITOR THE LATEST FORECASTS AT WEATHER.GOV/ABQ...LISTEN TO NOAA WEATHER RADIO OR YOUR FAVORITE MEDIA OUTLET.

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NMZ530>540-052200-

/O.CON.KABQ.WI.Y.0014.100405T1900Z-100406T0300Z/

/O.CON.KABQ.HW.A.0005.100406T1800Z-100407T0300Z/

UNION COUNTY-HARDING COUNTY-EASTERN SAN MIGUEL COUNTY-GUADALUPE COUNTY-QUAY COUNTY-CURRY COUNTY-ROOSEVELT COUNTY-DE BACA COUNTY-CHAVES COUNTY PLAINS-EASTERN LINCOLN COUNTY-SOUTHWEST CHAVES COUNTY-

1143 AM MDT MON APR 5 2010

...WIND ADVISORY REMAINS IN EFFECT UNTIL 9 PM MDT THIS EVENING...

...HIGH WIND WATCH REMAINS IN EFFECT FROM TUESDAY AFTERNOON THROUGH TUESDAY EVENING...

A WIND ADVISORY REMAINS IN EFFECT UNTIL 9 PM MDT THIS EVENING. A HIGH WIND WATCH REMAINS IN EFFECT FROM TUESDAY AFTERNOON THROUGH TUESDAY EVENING.

* LOCATION...THIS INCLUDES PORTIONS OF THE EASTERN PLAINS.

* WINDS...**EXPECT SOUTHWEST WINDS TO 35 MPH... WITH GUSTS OF 45 TO 55 MPH.** ON TUESDAY...EXPECT SOUTHWEST WINDS TO 40 MPH WITH GUSTS TO 60 MPH.

* TIMING...WIND SPEEDS WILL INCREASE STEADILY THROUGH THE MIDDAY HOURS WITH THE STRONGEST WINDS EXPECTED BY MID AFTERNOON. WINDS WILL DECREASE BY MID EVENING. ON TUESDAY...STRONG WINDS WILL REDEVELOP BY AFTERNOON BEFORE TAPERING OFF BY LATE EVENING.

* VISIBILITY...**EXPECT LOCALLY REDUCED VISIBILITIES AROUND 1 MILE IN BLOWING DUST.**

* LOCAL IMPACTS...EXPECT STRONG AND GUSTY WINDS ON HIGHWAYS 64 AND 87...HIGHWAY 56...HIGHWAY 60...AND HIGHWAY 285. WINDS WILL BE STRONG ENOUGH TO LIFT LOOSE OBJECTS AND CAUSE POSSIBLE LOSS OF CONTROL OF LARGE OR TALL VEHICLES AND BLOW LIGHT OR UNSECURED ITEMS AROUND.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

MOTORISTS SHOULD EXERCISE CAUTION WHILE TRAVELING. SUDDEN GUSTS OF WIND MAY CAUSE YOU TO LOSE CONTROL OF YOUR VEHICLE. EXTRA ATTENTION SHOULD BE GIVEN TO CROSS WINDS.

REMEMBER...A HIGH WIND WATCH MEANS CONDITIONS ARE FAVORABLE FOR A POTENTIALLY DAMAGING HIGH WIND EVENT IN AND CLOSE TO THE WATCH AREA. MONITOR THE LATEST FORECASTS AT WEATHER.GOV/ABQ...LISTEN TO NOAA WEATHER RADIO OR YOUR FAVORITE MEDIA OUTLET.

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NMZ501-503-504-507-509>511-516>520-525-052200-

/O.CON.KABQ.WI.Y.0014.100405T1800Z-100406T0300Z/
NORTHWEST PLATEAU-FAR NORTHWEST HIGHLANDS-NORTHWEST HIGHLANDS-
WEST CENTRAL HIGHLANDS-SAN FRANCISCO RIVER VALLEY-
SAN JUAN MOUNTAINS-JEMEZ MOUNTAINS-UPPER RIO GRANDE VALLEY-
LOWER CHAMA RIVER VALLEY-SANTA FE METRO AREA-
ALBUQUERQUE METRO AREA-LOWER RIO GRANDE VALLEY-
UPPER TULAROSA VALLEY-
1143 AM MDT MON APR 5 2010

...WIND ADVISORY REMAINS IN EFFECT UNTIL 9 PM MDT THIS EVENING...
A WIND ADVISORY REMAINS IN EFFECT UNTIL 9 PM MDT THIS EVENING.
* LOCATION...THIS INCLUDES NORTHWEST AND CENTRAL NEW
MEXICO...INCLUDING THE SANTA FE AND ALBUQUERQUE METRO AREAS.
* WINDS...SOUTHWEST WINDS TO 35 MPH...WITH GUSTS OF 45 TO 55 MPH.
* TIMING...WIND SPEEDS WILL INCREASE STEADILY THROUGH THE MIDDAY
HOURS WITH THE STRONGEST WINDS EXPECTED BY MID AFTERNOON. WINDS
WILL DECREASE BY MID EVENING.
* VISIBILITY...EXPECT LOCALLY REDUCED VISIBILITIES AROUND 1 MILE
IN BLOWING DUST.
* LOCAL IMPACTS...EXPECT STRONG AND GUSTY WINDS ON HIGHWAYS.
WINDS WILL BE STRONG ENOUGH TO LIFT LOOSE OBJECTS AND CAUSE
POSSIBLE LOSS OF CONTROL OF LARGE OR TALL VEHICLES AND BLOW
LIGHT OR UNSECURED ITEMS AROUND.
PRECAUTIONARY/PREPAREDNESS ACTIONS...
MOTORISTS SHOULD EXERCISE CAUTION WHILE TRAVELING. SUDDEN GUSTS
OF WIND MAY CAUSE YOU TO LOSE CONTROL OF YOUR VEHICLE. EXTRA
ATTENTION SHOULD BE GIVEN TO CROSS WINDS.

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WWUS75 KABQ 052129
NPWABQ
URGENT - WEATHER MESSAGE
NATIONAL WEATHER SERVICE ALBUQUERQUE NM
329 PM MDT MON APR 5 2010

...STRONG WINDS ACROSS NEW MEXICO INTO THIS EVENING...WITH STRONG
WINDS AGAIN OVER CENTRAL AND EASTERN NEW MEXICO ON TUESDAY...
.A PACIFIC STORM SYSTEM WILL APPROACH THE FOUR CORNERS AREA LATE
TODAY...AND SWEEP ACROSS NORTHERN NEW MEXICO ON TUESDAY. STRONG
SOUTHWEST WINDS AHEAD OF THIS SYSTEM COMBINED WITH DEEPENING
SURFACE LOW PRESSURE OVER EASTERN COLORADO WILL SUPPORT STRONG
WINDS ACROSS NEW MEXICO THROUGH THIS EVENING. OVER THE HIGHER
PEAKS OF THE CENTRAL MOUNTAIN CHAIN HIGH WINDS WILL CONTINUE
THROUGH THE DAY TUESDAY. WIND SPEEDS WILL TAPER OFF GRADUALLY
ELSEWHERE BY MID EVENING BUT REMAIN GUSTY OVERNIGHT. A COLD FRONT
PLUNGING FROM THE FOUR CORNERS TO THE SOUTHEAST CORNER OF THE
STATE ON TUESDAY WILL SET UP ANOTHER WINDY DAY...ESPECIALLY FROM
THE CENTRAL MOUNTAIN CHAIN EAST TO THE TEXAS BORDER. WIND SPEEDS
WILL GRADUALLY DECREASE TUESDAY EVENING TO EASE THE HIGH WIND
DANGER.

NMZ512>514-060300-
/O.CAN.KABQ.HW.A.0005.100406T1800Z-100407T0300Z/
/O.EXT.KABQ.HW.W.0005.000000T0000Z-100407T0000Z/
WEST SLOPES SANGRE DE CRISTO MOUNTAINS-

NORTHERN SANGRE DE CRISTO MOUNTAINS ABOVE 9500 FEET/RED RIVER-
SOUTHERN SANGRE DE CRISTO MOUNTAINS ABOVE 9500 FEET-
329 PM MDT MON APR 5 2010

...HIGH WIND WARNING NOW IN EFFECT UNTIL 6 PM MDT TUESDAY...

...HIGH WIND WATCH FOR TUESDAY IS CANCELLED...

THE NATIONAL WEATHER SERVICE IN ALBUQUERQUE HAS CANCELLED THE
HIGH WIND WATCH. THE HIGH WIND WARNING IS NOW IN EFFECT UNTIL
6 PM MDT TUESDAY.

* LOCATION...THIS INCLUDES THE SANGRE DE CRISTO MOUNTAINS EXCEPT
ALONG THE EAST SLOPES.

* WINDS...SOUTHWEST WINDS TO 45 MPH...WITH GUSTS TO 60 MPH.

* TIMING...WIND SPEEDS WILL INCREASE TONIGHT AND CONTINUE STRONG
THROUGH THE DAY ON TUESDAY BEFORE DIMINISHING TUESDAY EVENING.

* VISIBILITY...EXPECT LOCALLY REDUCED VISIBILITIES BELOW 1 MILE
IN BLOWING DUST...ESPECIALLY OVER THE NORTHEAST HIGHLANDS.

* LOCAL IMPACTS...EXPECT STRONG AND GUSTY WINDS ON HIGHWAYS.
DRIVING WILL BE DIFFICULT ESPECIALLY IN HIGH PROFILE AND LARGE
VEHICLES. UNSECURED OR HIGH PROFILE OBJECTS WILL SHIFT AND MAY
BECOME AIRBORNE. ELECTRICAL POWER COULD BE INTERRUPTED.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

REMEMBER...A HIGH WIND WATCH MEANS CONDITIONS ARE FAVORABLE FOR A
POTENTIALLY DAMAGING HIGH WIND EVENT IN AND CLOSE TO THE WATCH
AREA. MONITOR THE LATEST FORECASTS AT WEATHER.GOV/ABQ...LISTEN TO
NOAA WEATHER RADIO OR YOUR FAVORITE MEDIA OUTLET.

REMEMBER...A HIGH WIND WARNING MEANS DAMAGING WINDS ARE IMMINENT
OR HIGHLY LIKELY. SUSTAINED WIND SPEEDS OF AT LEAST 40 MPH OR
GUSTS OF 58 MPH OR MORE CAN LEAD TO PROPERTY DAMAGE.

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NMZ521-526-060300-

/O.EXT.KABQ.HW.W.0005.000000T0000Z-100407T0000Z/

SANDIA/MANZANO MOUNTAINS-SOUTH CENTRAL MOUNTAINS-

329 PM MDT MON APR 5 2010

...HIGH WIND WARNING NOW IN EFFECT UNTIL 6 PM MDT TUESDAY...

THE HIGH WIND WARNING IS NOW IN EFFECT UNTIL 6 PM MDT TUESDAY.

* LOCATION...THIS INCLUDES THE SANDIA AND MANZANO MOUNTAINS...
AND THE SOUTH CENTRAL MOUNTAINS OF LINCOLN COUNTY.

* WINDS...SOUTHWEST WINDS TO 40 MPH...WITH GUSTS TO 60 MPH.

* TIMING...WIND SPEEDS WILL INCREASE STEADILY TONIGHT AND CONTINUE
STRONG THROUGH TUESDAY AFTERNOON...BEFORE DIMINISHING TUESDAY
EVENING.

* VISIBILITY...EXPECT LOCALLY REDUCED VISIBILITIES BELOW 1 MILE
IN BLOWING DUST.

* LOCAL IMPACTS...EXPECT STRONG AND GUSTY WINDS ON HIGHWAYS...
INCLUDING INTERSTATE 40 FROM TIJERAS TO EDGEWOOD. DRIVING WILL
BE DIFFICULT ESPECIALLY IN HIGH PROFILE AND LARGE VEHICLES.
UNSECURED OR HIGH PROFILE OBJECTS WILL SHIFT AND MAY BECOME
AIRBORNE. ELECTRICAL POWER COULD BE INTERRUPTED.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

REMEMBER...A HIGH WIND WARNING MEANS DAMAGING WINDS ARE IMMINENT
OR HIGHLY LIKELY. SUSTAINED WIND SPEEDS OF AT LEAST 40 MPH OR
GUSTS OF 58 MPH OR MORE CAN LEAD TO PROPERTY DAMAGE.

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NMZ515-522-523-527>529-060300-

/O.EXT.KABQ.HW.A.0005.100406T1200Z-100407T0200Z/

/O.CON.KABQ.HW.W.0005.000000T0000Z-100406T0300Z/

EAST SLOPES SANGRE DE CRISTO MOUNTAINS-ESTANCIA VALLEY-

CENTRAL HIGHLANDS-RATON RIDGE/JOHNSON MESA-

FAR NORTHEAST HIGHLANDS-NORTHEAST HIGHLANDS-

329 PM MDT MON APR 5 2010

...HIGH WIND WARNING REMAINS IN EFFECT UNTIL 9 PM MDT THIS EVENING...

...HIGH WIND WATCH NOW IN EFFECT FROM TUESDAY MORNING THROUGH TUESDAY EVENING...

THE HIGH WIND WATCH IS NOW IN EFFECT FROM TUESDAY MORNING THROUGH TUESDAY EVENING. A HIGH WIND WARNING REMAINS IN EFFECT UNTIL 9 PM MDT THIS EVENING.

* LOCATION...THIS INCLUDES THE EAST SLOPES SANGRE DE CRISTO MOUNTAINS...THE ESTANCIA VALLEY...CENTRAL HIGHLANDS AND NORTHEAST HIGH TERRAIN.

* WINDS...SOUTHWEST WINDS TO 40 MPH...WITH GUSTS TO 60 MPH THROUGH 9 PM.

* TIMING...WIND SPEEDS WILL STRONG INTO THE EARLY EVENING HOURS BEFORE THEY DECREASE BY MID EVENING. WINDS WILL REMAIN GUSTY THROUGH TONIGHT. STRONG WINDS WILL REDEVELOP BY TUESDAY AFTERNOON AND CONTINUE INTO TUESDAY EVENING BEFORE TAPERING OFF BEFORE MIDNIGHT.

* VISIBILITY...EXPECT LOCALLY REDUCED VISIBILITIES BELOW 1 MILE IN BLOWING DUST...ESPECIALLY OVER THE NORTHEAST HIGHLANDS.

* LOCAL IMPACTS...EXPECT STRONG AND GUSTY WINDS ON HIGHWAYS... INCLUDING INTERSTATE 25. DRIVING WILL BE DIFFICULT ESPECIALLY IN HIGH PROFILE AND LARGE VEHICLES. UNSECURED OR HIGH PROFILE OBJECTS WILL SHIFT AND MAY BECOME AIRBORNE. ELECTRICAL POWER COULD BE INTERRUPTED.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

REMEMBER...A HIGH WIND WARNING MEANS DAMAGING WINDS ARE IMMINENT OR HIGHLY LIKELY. SUSTAINED WIND SPEEDS OF AT LEAST 40 MPH OR GUSTS OF 58 MPH OR MORE CAN LEAD TO PROPERTY DAMAGE.

REMEMBER...A HIGH WIND WATCH MEANS CONDITIONS ARE FAVORABLE FOR A POTENTIALLY DAMAGING HIGH WIND EVENT IN AND CLOSE TO THE WATCH AREA. MONITOR THE LATEST FORECASTS AT WEATHER.GOV/ABQ...LISTEN TO NOAA WEATHER RADIO OR YOUR FAVORITE MEDIA OUTLET.

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NMZ502-505-506-508-060300-

/O.CON.KABQ.HW.W.0005.000000T0000Z-100406T0300Z/

CHUSKA MOUNTAINS-WEST CENTRAL PLATEAU-WEST CENTRAL MOUNTAINS-

SOUTHWEST MOUNTAINS-

329 PM MDT MON APR 5 2010

...HIGH WIND WARNING REMAINS IN EFFECT UNTIL 9 PM MDT THIS EVENING...

A HIGH WIND WARNING REMAINS IN EFFECT UNTIL 9 PM MDT THIS EVENING.

* LOCATION...THIS INCLUDES THE WESTERN HIGHLANDS AND MOUNTAINS.

* WINDS...SOUTHWEST WINDS TO 40 MPH...WITH GUSTS OF 60 MPH.

* TIMING...WIND SPEEDS WILL CONTINUE STRONG THROUGH LATE AFTERNOON BEFORE THEY DECREASE BY MID EVENING.

* VISIBILITY...**EXPECT POOR VISIBILITIES BELOW 1 MILE IN BLOWING DUST.**

* LOCAL IMPACTS...**EXPECT STRONG AND GUSTY WINDS ON HIGHWAYS INCLUDING INTERSTATE 40 FROM THE ARIZONA LINE TO GRANTS.**

DRIVING WILL BE DIFFICULT...ESPECIALLY IN HIGH PROFILE AND LARGE VEHICLES. UNSECURED OR HIGH PROFILE OBJECTS WILL SHIFT AND MAY BECOME AIRBORNE. ELECTRICAL POWER COULD BE INTERRUPTED.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

REMEMBER...A HIGH WIND WARNING MEANS DAMAGING WINDS ARE IMMINENT OR HIGHLY LIKELY. SUSTAINED WIND SPEEDS OF AT LEAST 40 MPH OR GUSTS OF 58 MPH OR MORE CAN LEAD TO PROPERTY DAMAGE.

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NMZ524-060300-

/O.EXT.KABQ.HW.A.0005.100406T1200Z-100407T0200Z/

/O.CON.KABQ.WI.Y.0014.000000T0000Z-100406T0300Z/

SOUTH CENTRAL HIGHLANDS-

329 PM MDT MON APR 5 2010

...WIND ADVISORY REMAINS IN EFFECT UNTIL 9 PM MDT THIS EVENING...

...HIGH WIND WATCH NOW IN EFFECT FROM TUESDAY MORNING THROUGH TUESDAY EVENING...

THE HIGH WIND WATCH IS NOW IN EFFECT FROM TUESDAY MORNING THROUGH TUESDAY EVENING. A WIND ADVISORY REMAINS IN EFFECT UNTIL 9 PM MDT THIS EVENING.

* LOCATION...THIS INCLUDES THE SOUTH CENTRAL HIGHLANDS OF LINCOLN...TORRANCE AND SOCORRO COUNTIES.

* WINDS...**SOUTHWEST WINDS OF 35 MPH...WITH GUSTS TO 50 MPH.**Irs10nomore ON

TUESDAY...EXPECT SOUTHWEST WINDS TO 40 MPH WITH GUSTS TO 60 MPH.

* TIMING...WIND SPEEDS WILL STRONG THROUGH LATE AFTERNOON.

WINDS WILL DECREASE BY MID EVENING. ON TUESDAY...STRONG WINDS WILL REDEVELOP BY EARLY AFTERNOON BEFORE TAPERING OFF BY LATE TUESDAY EVENING.

* VISIBILITY...**EXPECT LOCALLY REDUCED VISIBILITIES AROUND 1 MILE IN BLOWING DUST.**

* LOCAL IMPACTS...EXPECT STRONG AND GUSTY WINDS...INCLUDING HIGHWAYS 70 AND 380 ACROSS LINCOLN COUNTY. WINDS WILL BE STRONG ENOUGH TO LIFT LOOSE OBJECTS AND CAUSE POSSIBLE LOSS OF CONTROL OF LARGE OR TALL VEHICLES AND BLOW LIGHT OR UNSECURED ITEMS AROUND.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

MOTORISTS SHOULD EXERCISE CAUTION WHILE TRAVELING. SUDDEN GUSTS OF WIND MAY CAUSE YOU TO LOSE CONTROL OF YOUR VEHICLE. EXTRA ATTENTION SHOULD BE GIVEN TO CROSS WINDS.

REMEMBER...A HIGH WIND WATCH MEANS CONDITIONS ARE FAVORABLE FOR A POTENTIALLY DAMAGING HIGH WIND EVENT IN AND CLOSE TO THE WATCH AREA. MONITOR THE LATEST FORECASTS AT WEATHER.GOV/ABQ...LISTEN TO NOAA WEATHER RADIO OR YOUR FAVORITE MEDIA OUTLET.

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NMZ530>540-060300-

/O.EXT.KABQ.HW.A.0005.100406T1200Z-100407T0200Z/

/O.CON.KABQ.WI.Y.0014.000000T0000Z-100406T0300Z/

UNION COUNTY-HARDING COUNTY-EASTERN SAN MIGUEL COUNTY-
GUADALUPE COUNTY-QUAY COUNTY-CURRY COUNTY-ROOSEVELT COUNTY-
DE BACA COUNTY-CHAVES COUNTY PLAINS-EASTERN LINCOLN COUNTY-
SOUTHWEST CHAVES COUNTY-

329 PM MDT MON APR 5 2010

...**WIND ADVISORY REMAINS IN EFFECT UNTIL 9 PM MDT THIS EVENING...**

...HIGH WIND WATCH NOW IN EFFECT FROM TUESDAY MORNING THROUGH
TUESDAY EVENING...

THE HIGH WIND WATCH IS NOW IN EFFECT FROM TUESDAY MORNING THROUGH
TUESDAY EVENING. A WIND ADVISORY REMAINS IN EFFECT UNTIL 9 PM MDT
THIS EVENING.

* LOCATION...THIS INCLUDES PORTIONS OF THE EASTERN PLAINS.

* WINDS...**EXPECT SOUTHWEST WINDS TO 35 MPH...WITH GUSTS OF 50 MPH.**

ON TUESDAY...EXPECT SOUTHWEST WINDS TO 40 MPH WITH GUSTS TO 60
MPH.

* TIMING...WIND SPEEDS WILL CONTINUE STRONG THROUGH LATE AFTERNOON.
WINDS WILL DECREASE BY MID EVENING. ON TUESDAY...STRONG WINDS
WILL REDEVELOP BY AFTERNOON BEFORE TAPERING OFF BY LATE EVENING.

* VISIBILITY...**EXPECT LOCALLY REDUCED VISIBILITIES AROUND 1 MILE
IN BLOWING DUST.**

* LOCAL IMPACTS...EXPECT STRONG AND GUSTY WINDS. WINDS WILL BE
STRONG ENOUGH TO LIFT LOOSE OBJECTS AND CAUSE POSSIBLE LOSS OF
CONTROL OF LARGE OR TALL VEHICLES AND BLOW LIGHT OR UNSECURED
ITEMS AROUND.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

MOTORISTS SHOULD EXERCISE CAUTION WHILE TRAVELING. SUDDEN GUSTS
OF WIND MAY CAUSE YOU TO LOSE CONTROL OF YOUR VEHICLE. EXTRA
ATTENTION SHOULD BE GIVEN TO CROSS WINDS.

REMEMBER...A HIGH WIND WATCH MEANS CONDITIONS ARE FAVORABLE FOR A
POTENTIALLY DAMAGING HIGH WIND EVENT IN AND CLOSE TO THE WATCH
AREA. MONITOR THE LATEST FORECASTS AT WEATHER.GOV/ABQ...LISTEN TO
NOAA WEATHER RADIO OR YOUR FAVORITE MEDIA OUTLET.

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NMZ501-503-504-507-509>511-516>520-525-060300-

/O.CON.KABQ.WI.Y.0014.000000T0000Z-100406T0300Z/

NORTHWEST PLATEAU-FAR NORTHWEST HIGHLANDS-NORTHWEST HIGHLANDS-

WEST CENTRAL HIGHLANDS-SAN FRANCISCO RIVER VALLEY-

SAN JUAN MOUNTAINS-JEMEZ MOUNTAINS-UPPER RIO GRANDE VALLEY-

LOWER CHAMA RIVER VALLEY-SANTA FE METRO AREA-

ALBUQUERQUE METRO AREA-LOWER RIO GRANDE VALLEY-

UPPER TULAROSA VALLEY-

329 PM MDT MON APR 5 2010

...**WIND ADVISORY REMAINS IN EFFECT UNTIL 9 PM MDT THIS EVENING...**

A WIND ADVISORY REMAINS IN EFFECT UNTIL 9 PM MDT THIS EVENING.

* LOCATION...THIS INCLUDES NORTHWEST AND CENTRAL NEW MEXICO...
INCLUDING THE SANTA FE AND ALBUQUERQUE METRO AREAS.

* WINDS...**SOUTHWEST WINDS TO 35 MPH...WITH GUSTS OF 45 TO 55 MPH.**

* TIMING...WIND SPEEDS WILL REMAIN STRONG THROUGH LATE AFTERNOON.
WINDS WILL DECREASE BY MID EVENING.

* VISIBILITY...**EXPECT LOCALLY REDUCED VISIBILITIES AROUND 1 MILE
IN BLOWING DUST.**

* LOCAL IMPACTS...EXPECT STRONG AND GUSTY WINDS ON HIGHWAYS.
WINDS WILL BE STRONG ENOUGH TO LIFT LOOSE OBJECTS AND CAUSE

POSSIBLE LOSS OF CONTROL OF LARGE OR TALL VEHICLES AND BLOW
LIGHT OR UNSECURED ITEMS AROUND.
PRECAUTIONARY/PREPAREDNESS ACTIONS...
MOTORISTS SHOULD EXERCISE CAUTION WHILE TRAVELING. SUDDEN GUSTS
OF WIND MAY CAUSE YOU TO LOSE CONTROL OF YOUR VEHICLE. EXTRA
ATTENTION SHOULD BE GIVEN TO CROSS WINDS.

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WWUS75 KABQ 052129

NPWABQ

URGENT - WEATHER MESSAGE

NATIONAL WEATHER SERVICE ALBUQUERQUE NM

329 PM MDT MON APR 5 2010

...STRONG WINDS ACROSS NEW MEXICO INTO THIS EVENING...WITH STRONG
WINDS AGAIN OVER CENTRAL AND EASTERN NEW MEXICO ON TUESDAY...
.A PACIFIC STORM SYSTEM WILL APPROACH THE FOUR CORNERS AREA LATE
TODAY...AND SWEEP ACROSS NORTHERN NEW MEXICO ON TUESDAY. STRONG
SOUTHWEST WINDS AHEAD OF THIS SYSTEM COMBINED WITH DEEPENING
SURFACE LOW PRESSURE OVER EASTERN COLORADO WILL SUPPORT STRONG
WINDS ACROSS NEW MEXICO THROUGH THIS EVENING. OVER THE HIGHER
PEAKS OF THE CENTRAL MOUNTAIN CHAIN HIGH WINDS WILL CONTINUE
THROUGH THE DAY TUESDAY. WIND SPEEDS WILL TAPER OFF GRADUALLY
ELSEWHERE BY MID EVENING BUT REMAIN GUSTY OVERNIGHT. A COLD FRONT
PLUNGING FROM THE FOUR CORNERS TO THE SOUTHEAST CORNER OF THE
STATE ON TUESDAY WILL SET UP ANOTHER WINDY DAY...ESPECIALLY FROM
THE CENTRAL MOUNTAIN CHAIN EAST TO THE TEXAS BORDER. WIND SPEEDS
WILL GRADUALLY DECREASE TUESDAY EVENING TO EASE THE HIGH WIND
DANGER.

NMZ512>514-060300-

/O.CAN.KABQ.HW.A.0005.100406T1800Z-100407T0300Z/

/O.EXT.KABQ.HW.W.0005.000000T0000Z-100407T0000Z/

WEST SLOPES SANGRE DE CRISTO MOUNTAINS-

NORTHERN SANGRE DE CRISTO MOUNTAINS ABOVE 9500 FEET/RED RIVER-

SOUTHERN SANGRE DE CRISTO MOUNTAINS ABOVE 9500 FEET-

329 PM MDT MON APR 5 2010

...HIGH WIND WARNING NOW IN EFFECT UNTIL 6 PM MDT TUESDAY...

...HIGH WIND WATCH FOR TUESDAY IS CANCELLED...

THE NATIONAL WEATHER SERVICE IN ALBUQUERQUE HAS CANCELLED THE
HIGH WIND WATCH. THE HIGH WIND WARNING IS NOW IN EFFECT UNTIL
6 PM MDT TUESDAY.

* LOCATION...THIS INCLUDES THE SANGRE DE CRISTO MOUNTAINS EXCEPT
ALONG THE EAST SLOPES.

* WINDS...SOUTHWEST WINDS TO 45 MPH...WITH GUSTS TO 60 MPH.

* TIMING...WIND SPEEDS WILL INCREASE TONIGHT AND CONTINUE STRONG
THROUGH THE DAY ON TUESDAY BEFORE DIMINISHING TUESDAY EVENING.

* VISIBILITY...EXPECT LOCALLY REDUCED VISIBILITIES BELOW 1 MILE
IN BLOWING DUST...ESPECIALLY OVER THE NORTHEAST HIGHLANDS.

* LOCAL IMPACTS...EXPECT STRONG AND GUSTY WINDS ON HIGHWAYS.
DRIVING WILL BE DIFFICULT ESPECIALLY IN HIGH PROFILE AND LARGE
VEHICLES. UNSECURED OR HIGH PROFILE OBJECTS WILL SHIFT AND MAY
BECOME AIRBORNE. ELECTRICAL POWER COULD BE INTERRUPTED.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

REMEMBER...A HIGH WIND WATCH MEANS CONDITIONS ARE FAVORABLE FOR A POTENTIALLY DAMAGING HIGH WIND EVENT IN AND CLOSE TO THE WATCH AREA. MONITOR THE LATEST FORECASTS AT WEATHER.GOV/ABQ...LISTEN TO NOAA WEATHER RADIO OR YOUR FAVORITE MEDIA OUTLET.

REMEMBER...A HIGH WIND WARNING MEANS DAMAGING WINDS ARE IMMINENT OR HIGHLY LIKELY. SUSTAINED WIND SPEEDS OF AT LEAST 40 MPH OR GUSTS OF 58 MPH OR MORE CAN LEAD TO PROPERTY DAMAGE.

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NMZ521-526-060300-

/O.EXT.KABQ.HW.W.0005.000000T0000Z-100407T0000Z/

SANDIA/MANZANO MOUNTAINS-SOUTH CENTRAL MOUNTAINS-

329 PM MDT MON APR 5 2010

...**HIGH WIND WARNING NOW IN EFFECT** UNTIL 6 PM MDT TUESDAY...

THE HIGH WIND WARNING IS NOW IN EFFECT UNTIL 6 PM MDT TUESDAY.

* LOCATION...THIS INCLUDES THE SANDIA AND MANZANO MOUNTAINS...

AND THE SOUTH CENTRAL MOUNTAINS OF LINCOLN COUNTY.

* WINDS...**SOUTHWEST WINDS TO 40 MPH...WITH GUSTS TO 60 MPH.**

* TIMING...WIND SPEEDS WILL INCREASE STEADILY TONIGHT AND CONTINUE STRONG THROUGH TUESDAY AFTERNOON...BEFORE DIMINISHING TUESDAY EVENING.

* VISIBILITY...**EXPECT LOCALLY REDUCED VISIBILITIES BELOW 1 MILE IN BLOWING DUST.**

* LOCAL IMPACTS...EXPECT STRONG AND GUSTY WINDS ON HIGHWAYS... INCLUDING INTERSTATE 40 FROM TIJERAS TO EDGEWOOD. DRIVING WILL BE DIFFICULT ESPECIALLY IN HIGH PROFILE AND LARGE VEHICLES. UNSECURED OR HIGH PROFILE OBJECTS WILL SHIFT AND MAY BECOME AIRBORNE. ELECTRICAL POWER COULD BE INTERRUPTED.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

REMEMBER...A HIGH WIND WARNING MEANS DAMAGING WINDS ARE IMMINENT OR HIGHLY LIKELY. SUSTAINED WIND SPEEDS OF AT LEAST 40 MPH OR GUSTS OF 58 MPH OR MORE CAN LEAD TO PROPERTY DAMAGE.

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EAST SLOPES SANGRE DE CRISTO MOUNTAINS-ESTANCIA VALLEY-

CENTRAL HIGHLANDS-RATON RIDGE/JOHNSON MESA-

FAR NORTHEAST HIGHLANDS-NORTHEAST HIGHLANDS-

329 PM MDT MON APR 5 2010

...**HIGH WIND WARNING REMAINS IN EFFECT** UNTIL 9 PM MDT THIS EVENING...

...HIGH WIND WATCH NOW IN EFFECT FROM TUESDAY MORNING THROUGH TUESDAY EVENING...

THE HIGH WIND WATCH IS NOW IN EFFECT FROM TUESDAY MORNING THROUGH TUESDAY EVENING. A HIGH WIND WARNING REMAINS IN EFFECT UNTIL 9 PM MDT THIS EVENING.

* LOCATION...THIS INCLUDES THE EAST SLOPES SANGRE DE CRISTO MOUNTAINS...THE ESTANCIA VALLEY...CENTRAL HIGHLANDS AND NORTHEAST HIGH TERRAIN.

* WINDS...**SOUTHWEST WINDS TO 40 MPH...WITH GUSTS TO 60 MPH** THROUGH 9 PM.

* TIMING...WIND SPEEDS WILL STRONG INTO THE EARLY EVENING HOURS

BEFORE THEY DECREASE BY MID EVENING. WINDS WILL REMAIN GUSTY THROUGH TONIGHT. STRONG WINDS WILL REDEVELOP BY TUESDAY AFTERNOON AND CONTINUE INTO TUESDAY EVENING BEFORE TAPERING OFF BEFORE MIDNIGHT.

* VISIBILITY...**EXPECT LOCALLY REDUCED VISIBILITIES BELOW 1 MILE IN BLOWING DUST.**...ESPECIALLY OVER THE NORTHEAST HIGHLANDS.

* LOCAL IMPACTS...EXPECT STRONG AND GUSTY WINDS ON HIGHWAYS... INCLUDING INTERSTATE 25. DRIVING WILL BE DIFFICULT ESPECIALLY IN HIGH PROFILE AND LARGE VEHICLES. UNSECURED OR HIGH PROFILE OBJECTS WILL SHIFT AND MAY BECOME AIRBORNE. ELECTRICAL POWER COULD BE INTERRUPTED.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

REMEMBER...A HIGH WIND WARNING MEANS DAMAGING WINDS ARE IMMINENT OR HIGHLY LIKELY. SUSTAINED WIND SPEEDS OF AT LEAST 40 MPH OR GUSTS OF 58 MPH OR MORE CAN LEAD TO PROPERTY DAMAGE.

REMEMBER...A HIGH WIND WATCH MEANS CONDITIONS ARE FAVORABLE FOR A POTENTIALLY DAMAGING HIGH WIND EVENT IN AND CLOSE TO THE WATCH AREA. MONITOR THE LATEST FORECASTS AT WEATHER.GOV/ABQ...LISTEN TO NOAA WEATHER RADIO OR YOUR FAVORITE MEDIA OUTLET.

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CHUSKA MOUNTAINS-WEST CENTRAL PLATEAU-WEST CENTRAL MOUNTAINS-SOUTHWEST MOUNTAINS-

329 PM MDT MON APR 5 2010

...**HIGH WIND WARNING REMAINS IN EFFECT** UNTIL 9 PM MDT THIS EVENING...

A HIGH WIND WARNING REMAINS IN EFFECT UNTIL 9 PM MDT THIS EVENING.

* LOCATION...THIS INCLUDES THE WESTERN HIGHLANDS AND MOUNTAINS.

* WINDS...**SOUTHWEST WINDS TO 40 MPH...WITH GUSTS OF 60 MPH.**

* TIMING...WIND SPEEDS WILL CONTINUE STRONG THROUGH LATE AFTERNOON BEFORE THEY DECREASE BY MID EVENING.

* VISIBILITY...**EXPECT POOR VISIBILITIES BELOW 1 MILE IN BLOWING DUST.**

* LOCAL IMPACTS...EXPECT STRONG AND GUSTY WINDS ON HIGHWAYS INCLUDING INTERSTATE 40 FROM THE ARIZONA LINE TO GRANTS. DRIVING WILL BE DIFFICULT...ESPECIALLY IN HIGH PROFILE AND LARGE VEHICLES. UNSECURED OR HIGH PROFILE OBJECTS WILL SHIFT AND MAY BECOME AIRBORNE. ELECTRICAL POWER COULD BE INTERRUPTED.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

REMEMBER...A HIGH WIND WARNING MEANS DAMAGING WINDS ARE IMMINENT OR HIGHLY LIKELY. SUSTAINED WIND SPEEDS OF AT LEAST 40 MPH OR GUSTS OF 58 MPH OR MORE CAN LEAD TO PROPERTY DAMAGE.

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SOUTH CENTRAL HIGHLANDS-

329 PM MDT MON APR 5 2010

...**WIND ADVISORY REMAINS IN EFFECT** UNTIL 9 PM MDT THIS EVENING...

...HIGH WIND WATCH NOW IN EFFECT FROM TUESDAY MORNING THROUGH TUESDAY EVENING...
THE HIGH WIND WATCH IS NOW IN EFFECT FROM TUESDAY MORNING THROUGH TUESDAY EVENING. A WIND ADVISORY REMAINS IN EFFECT UNTIL 9 PM MDT THIS EVENING.

* LOCATION...THIS INCLUDES THE SOUTH CENTRAL HIGHLANDS OF LINCOLN...TORRANCE AND SOCORRO COUNTIES.

* WINDS...SOUTHWEST WINDS OF 35 MPH...WITH GUSTS TO 50 MPH. ON TUESDAY...EXPECT SOUTHWEST WINDS TO 40 MPH WITH GUSTS TO 60 MPH.

* TIMING...WIND SPEEDS WILL STRONG THROUGH LATE AFTERNOON. WINDS WILL DECREASE BY MID EVENING. ON TUESDAY...STRONG WINDS WILL REDEVELOP BY EARLY AFTERNOON BEFORE TAPERING OFF BY LATE TUESDAY EVENING.

* VISIBILITY...EXPECT LOCALLY REDUCED VISIBILITIES AROUND 1 MILE IN BLOWING DUST.

* LOCAL IMPACTS...EXPECT STRONG AND GUSTY WINDS...INCLUDING HIGHWAYS 70 AND 380 ACROSS LINCOLN COUNTY. WINDS WILL BE STRONG ENOUGH TO LIFT LOOSE OBJECTS AND CAUSE POSSIBLE LOSS OF CONTROL OF LARGE OR TALL VEHICLES AND BLOW LIGHT OR UNSECURED ITEMS AROUND.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

MOTORISTS SHOULD EXERCISE CAUTION WHILE TRAVELING. SUDDEN GUSTS OF WIND MAY CAUSE YOU TO LOSE CONTROL OF YOUR VEHICLE. EXTRA ATTENTION SHOULD BE GIVEN TO CROSS WINDS.

REMEMBER...A HIGH WIND WATCH MEANS CONDITIONS ARE FAVORABLE FOR A POTENTIALLY DAMAGING HIGH WIND EVENT IN AND CLOSE TO THE WATCH AREA. MONITOR THE LATEST FORECASTS AT WEATHER.GOV/ABQ...LISTEN TO NOAA WEATHER RADIO OR YOUR FAVORITE MEDIA OUTLET.

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UNION COUNTY-HARDING COUNTY-EASTERN SAN MIGUEL COUNTY-

GUADALUPE COUNTY-QUAY COUNTY-CURRY COUNTY-ROOSEVELT COUNTY-

DE BACA COUNTY-CHAVES COUNTY PLAINS-EASTERN LINCOLN COUNTY-

SOUTHWEST CHAVES COUNTY-

329 PM MDT MON APR 5 2010

...WIND ADVISORY REMAINS IN EFFECT UNTIL 9 PM MDT THIS EVENING...

...HIGH WIND WATCH NOW IN EFFECT FROM TUESDAY MORNING THROUGH TUESDAY EVENING...

THE HIGH WIND WATCH IS NOW IN EFFECT FROM TUESDAY MORNING THROUGH TUESDAY EVENING. A WIND ADVISORY REMAINS IN EFFECT UNTIL 9 PM MDT THIS EVENING.

* LOCATION...THIS INCLUDES PORTIONS OF THE EASTERN PLAINS.

* WINDS...EXPECT SOUTHWEST WINDS TO 35 MPH...WITH GUSTS OF 50 MPH. ON TUESDAY...EXPECT SOUTHWEST WINDS TO 40 MPH WITH GUSTS TO 60 MPH.

* TIMING...WIND SPEEDS WILL CONTINUE STRONG THROUGH LATE AFTERNOON. WINDS WILL DECREASE BY MID EVENING. ON TUESDAY...STRONG WINDS WILL REDEVELOP BY AFTERNOON BEFORE TAPERING OFF BY LATE EVENING.

* VISIBILITY...EXPECT LOCALLY REDUCED VISIBILITIES AROUND 1 MILE IN BLOWING DUST.

* LOCAL IMPACTS...EXPECT STRONG AND GUSTY WINDS. WINDS WILL BE

STRONG ENOUGH TO LIFT LOOSE OBJECTS AND CAUSE POSSIBLE LOSS OF CONTROL OF LARGE OR TALL VEHICLES AND BLOW LIGHT OR UNSECURED ITEMS AROUND.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

MOTORISTS SHOULD EXERCISE CAUTION WHILE TRAVELING. SUDDEN GUSTS OF WIND MAY CAUSE YOU TO LOSE CONTROL OF YOUR VEHICLE. EXTRA ATTENTION SHOULD BE GIVEN TO CROSS WINDS.

REMEMBER...A HIGH WIND WATCH MEANS CONDITIONS ARE FAVORABLE FOR A POTENTIALLY DAMAGING HIGH WIND EVENT IN AND CLOSE TO THE WATCH AREA. MONITOR THE LATEST FORECASTS AT WEATHER.GOV/ABQ...LISTEN TO NOAA WEATHER RADIO OR YOUR FAVORITE MEDIA OUTLET.

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/O.CON.KABQ.WI.Y.0014.000000T0000Z-100406T0300Z/

NORTHWEST PLATEAU-FAR NORTHWEST HIGHLANDS-NORTHWEST HIGHLANDS-

WEST CENTRAL HIGHLANDS-SAN FRANCISCO RIVER VALLEY-

SAN JUAN MOUNTAINS-JEMEZ MOUNTAINS-UPPER RIO GRANDE VALLEY-

LOWER CHAMA RIVER VALLEY-SANTA FE METRO AREA-

ALBUQUERQUE METRO AREA-LOWER RIO GRANDE VALLEY-

UPPER TULAROSA VALLEY-

329 PM MDT MON APR 5 2010

...WIND ADVISORY REMAINS IN EFFECT UNTIL 9 PM MDT THIS EVENING...

A WIND ADVISORY REMAINS IN EFFECT UNTIL 9 PM MDT THIS EVENING.

* LOCATION...THIS INCLUDES NORTHWEST AND CENTRAL NEW MEXICO...

INCLUDING THE SANTA FE AND ALBUQUERQUE METRO AREAS.

* WINDS...**SOUTHWEST WINDS TO 35 MPH...WITH GUSTS OF 45 TO 55 MPH.**

* TIMING...WIND SPEEDS WILL REMAIN STRONG THROUGH LATE AFTERNOON.

WINDS WILL DECREASE BY MID EVENING.

* VISIBILITY...**EXPECT LOCALLY REDUCED VISIBILITIES AROUND 1 MILE**

IN BLOWING DUST.

* LOCAL IMPACTS...EXPECT STRONG AND GUSTY WINDS ON HIGHWAYS.

WINDS WILL BE STRONG ENOUGH TO LIFT LOOSE OBJECTS AND CAUSE POSSIBLE LOSS OF CONTROL OF LARGE OR TALL VEHICLES AND BLOW LIGHT OR UNSECURED ITEMS AROUND.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

MOTORISTS SHOULD EXERCISE CAUTION WHILE TRAVELING. SUDDEN GUSTS OF WIND MAY CAUSE YOU TO LOSE CONTROL OF YOUR VEHICLE. EXTRA ATTENTION SHOULD BE GIVEN TO CROSS WINDS.

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Appendix C- Final Natural Events Action Plan For High Wind Events, Alamosa, Colorado

FINAL NATURAL EVENTS ACTION PLAN

FOR

HIGH WIND EVENTS

ALAMOSA, COLORADO



**Colorado Department
of Public Health
and Environment**

**CITY OF ALAMOSA,
ALAMOSA COUNTY,
and
COLORADO AIR POLLUTION CONTROL DIVISION
4300 Cherry Creek Drive South
Denver, Colorado 80222-1530
(303) 692-3100**

May 2003

ALAMOSA NATURAL EVENTS ACTION PLAN

I. EXECUTIVE SUMMARY

On March 31 and April 9, 1999 and again on April 18 and December 17, 2000, the monitor located in Alamosa, Colorado recorded exceedances of the 24-hour National Ambient Air Quality Standard (NAAQS) for PM₁₀ (particulate matter having a nominal aerodynamic diameter equal to or less than 10 microns). Each of these exceedances was associated with high winds and blowing dust in the Alamosa area.

Recognizing that certain uncontrollable natural events, such as high winds, wildfires, and volcanic/seismic activity can have on the NAAQS, the Environmental Protection Agency (EPA) issued a Natural Events Policy (NEP) on May 30, 1996. The NEP sets forth procedures through the development of a Natural Events Action Plan (NEAP) for protecting public health in areas where the PM₁₀ standard may be violated due to these uncontrollable natural events. The guiding principles of the policy are:

1. Federal, State, and local air quality agencies must protect public health;
2. The public must be informed whenever air quality is unhealthy;
3. All valid ambient air quality data should be submitted to the EPA Aerometric Information Retrieval System (AIRS) and made available for public access;
4. Reasonable measures safeguarding public health must be taken regardless of the source of PM₁₀ emissions; and,
5. Emission controls should be applied to sources that contribute to exceedances of the PM₁₀ NAAQS when those controls will result in fewer violations of the standards.

In response to Alamosa's four exceedances of the PM₁₀ NAAQS in 1999 and 2000, the Colorado Department of Public Health and Environment's Air Pollution Control Division (Division), in conjunction with the City of Alamosa, Alamosa County, and other agencies developed a NEAP for the Alamosa area. The referenced NEAP was developed based on Natural Events Policy that calls for states to "develop a NEAP for any area where natural events cause or have caused a PM₁₀ NAAQS to be violated within eighteen (18) months of the date of the violation." April 18, 2000 was the triggering event for the development of the NEAP. The referenced NEAP was developed and submitted to EPA in October 2001. A revised version of the NEAP (including U.S. EPA recommendations) was submitted February 2002. A copy of the letter of concurrence for these submittals is available in the Appendix.

The Natural Events Policy also indicates that in attainment areas (such as Alamosa), best available control measures (BACM) must be implemented within three (3) years after the triggering event. With that, this *Final Natural Events Action Plan for Alamosa, Colorado*

ALAMOSA NATURAL EVENTS ACTION PLAN

includes BACM not identified in the February 2002 submittal and includes additional efforts in the community to limit blowing dust and its impacts on public health.

The *Final Natural Events Action Plan* also addresses PM10 exceedances experienced in the area that have occurred since the December 17, 2000 event.

The plan provides analysis and documentation of the exceedances as attributable to uncontrollable natural events due to unusually high winds. In addition, the NEAP is designed to protect public health, educate the public about high wind events; mitigate health impacts on the community during future events; and, identify and implement Best Available Control Measures (BACM) for anthropogenic sources of windblown dust.

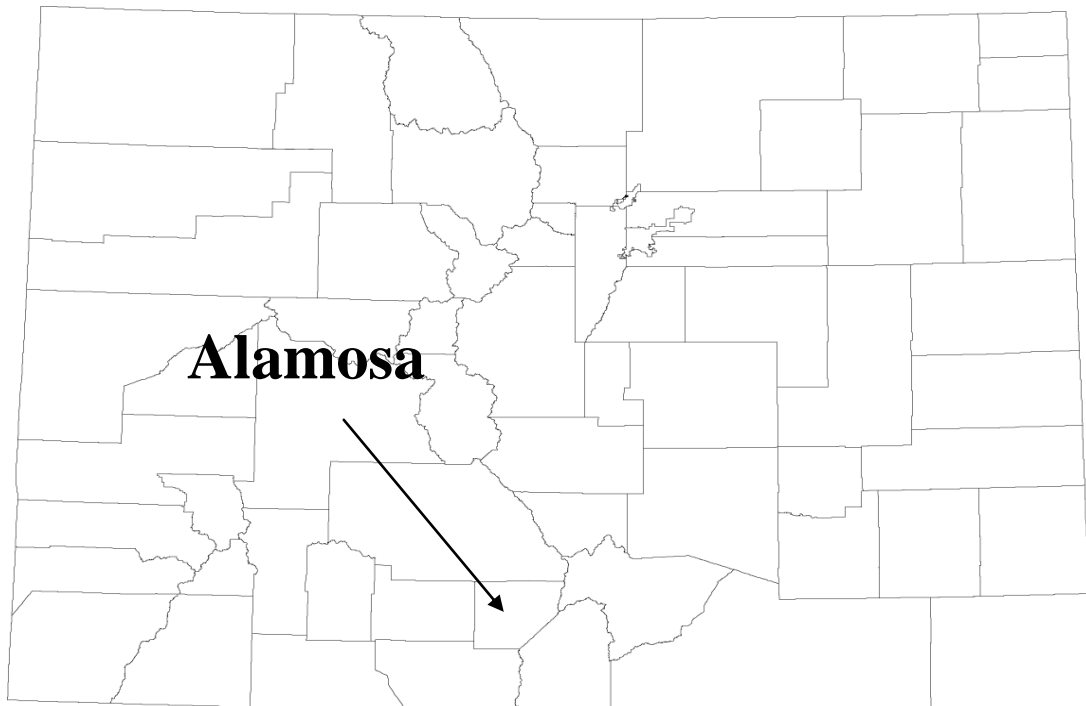
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II. INTRODUCTION

The City of Alamosa is located in Alamosa County in south central Colorado. Situated in the San Luis Valley, Alamosa serves as one of the largest cities and the agricultural center for south central Colorado. The area surrounding Alamosa consists of gently rolling to nearly level uplands where the dominant slopes are less than 3 percent. The climate is generally mild and semiarid. Annual precipitation is about 7.5 inches. Summers are considered short and cool, with winters long and cold. In winter and spring, windstorms are common, especially in drier years. It is due to these high velocity windstorms that Alamosa experiences most of the PM10 problems for the area.

Area Map



On March 31 and April 9, 1999 and again on April 18 and December 17, 2000 the PM10 monitor located on the roof of Alamosa's Adams State College recorded exceedances of the primary 24-hour NAAQS for PM10. The PM10 concentrations of $263 \mu\text{g}/\text{m}^3$, $190 \mu\text{g}/\text{m}^3$, $238 \mu\text{g}/\text{m}^3$, and $217 \mu\text{g}/\text{m}^3$ respectively, were recorded on these days - as were unusually high wind speeds and little or no precipitation. The circumstances surrounding the Alamosa exceedances has provided

adequate reason for the Division to believe the high wind events and blowing dust have caused exceedances of the NAAQS that otherwise would not have occurred.

As required by the NEP, each of the exceedances was flagged by the Division's Technical Services Program in the AIRS system. The flags appear after the recorded values in AIRS with the descriptor code "A" for high winds. According to EPA guidance the type and amount of documentation provided for each event should be sufficient to demonstrate that the natural event occurred, and that it impacted a particular monitoring site in such a way as to cause the PM10 concentrations measured. This documentation has been previously submitted to EPA.

Recognizing the need to protect public health in areas where PM10 exceeds the NAAQS due to natural events such as the unusually high winds, a Natural Events Action Plan has been developed for the Alamosa area based on the NEP guidance. This plan outlines specific procedures to be taken in response to future high wind events. In short, the purpose of the plan is to:

- 1. Educate the public about the problem;
- 2. Mitigate health impacts on exposed populations during future events; and
- 3. Identify and implement Best Available Control Measures (BACM) for anthropogenic sources of windblown dust.

A. Background

High winds are common to the southern region of Colorado. Under some conditions, these winds are strong enough to lift particulate matter into the air and cause elevated levels of PM10 above the Federal and State standards. Due to observed problems in Alamosa, particulate monitoring of total suspended particulate pollution was instituted at the Adams State College monitoring site in 1970. In 1989, monitoring for PM10 began.

More recently, an additional monitoring site has been established in the Alamosa area. Specifically, a second PM10 monitor was established at the Alamosa Municipal Building to ensure adequate coverage of local air quality monitoring and to ensure protection of public health. This monitor, like the first PM10 monitor at Adams State College, operates on an everyday sampling protocol.

Alamosa's monitoring history shows that the annual PM10 standard of 50 $\mu\text{g}/\text{m}^3$ (averaged over an annual period) has never been exceeded. The 24-hour PM10 standard of 150 $\mu\text{g}/\text{m}^3$ has been exceeded on a number of occasions. However, all exceedances have been due to natural events. The associated weather conditions on each of the exceedance days conform to a repeated pattern of regional high winds and blowing dust. In each case an intense, fast-moving, surface low-pressure system tracked through Colorado. Typically these systems had surface lows that were

not collocated with a closed upper low or nearly-closed upper level trough. This distinction is important because the collocated or vertically “coupled” systems usually bring significant up slope snow or rain to the region. The intensity of the lows associated with the PM10 exceedances is evident in the average central pressure of 990 mb (corrected to sea level). This value is typical of a deep, well-organized system. Such well-organized systems usually generate high winds in the vicinity of the low center.

The NEP applies only to emissions caused by natural events that have occurred since January 1, 1994. Only those high wind events experienced since that time are addressed by this NEAP. This submittal includes those exceedances occurring since the previous NEAP submittal as well. See table on page 6 for more details of all area exceedances.

B. The Natural Events Policy

1. Background

On May 30, 1996, EPA issued the Natural Events Policy in a memorandum from Mary D. Nichols, Assistant Administrator for Air and Radiation. In this memorandum EPA announced its new policy for protecting public health when the PM10 NAAQS are violated due to natural events. Under this policy three categories of natural events are identified as affecting the PM10 NAAQS: (1) volcanic and seismic activity; (2) wildland fires; and, (3) high wind events. Only high wind events will be addressed in this NEAP.

Based on EPA’s natural events policy high winds are defined as uncontrollable natural events under the following conditions: (1) the dust originated from non-anthropogenic sources; or, (2) the dust originated from anthropogenic sources controlled with best available control measures (BACM). Furthermore, the conditions that create high wind events vary from area to area with soil type, precipitation, and the speed of wind gusts.

2. Content

In order for exceedances of the NAAQS to be considered as due to a natural event, a Natural Events Action Plan must be developed to address future events. The following is a summary of the specific EPA guidance regarding development of a NEAP.

1. Analysis and documentation of the event should show a clear causal relationship between the measured exceedance and the natural event. The type and amount of documentation provided should be sufficient to demonstrate that the natural event occurred, and that it

ALAMOSA NATURAL EVENTS ACTION PLAN

- impacted a particular monitoring site in such a way as to cause the PM10 concentrations measured.
2. Establish education programs. Such programs may be designed to educate the public about the short-term and long-term harmful effects that high concentrations of PM10 could have on their health and inform them that: (a) certain types of natural events affect the air quality of the area periodically, (b) a natural event is imminent, and (c) specific actions are being taken to minimize the health impacts of events.
 3. Minimize public exposure to high concentrations of PM10 through a public notification and health advisory program. Programs to minimize public exposure should (a) identify the people most at risk, (b) notify the at-risk population that a natural event is imminent or currently taking place, (c) suggest actions to be taken by the public to minimize their exposure to high concentrations of PM10, and (d) suggest precautions to take if exposure cannot be avoided.
 4. Abate or minimize appropriate contributing controllable sources of PM10. Programs to minimize PM10 emissions for high winds may include: the application of BACM to any sources of soil that have been disturbed by anthropogenic activities. The BACM application criteria require analysis of the technological and economic feasibility of individual control measures on a case-by-case basis. The NEAP should include analyses of BACM for contributing sources. If BACM are not defined for the anthropogenic sources in question, step 5 listed below is required.
 5. Identify, study, and implement practical mitigating measures as necessary. The NEAP may include commitments to conduct pilot tests of new emission reduction techniques. For example, it may be desirable to test the feasibility and effectiveness of new strategies for minimizing sources of windblown dust through pilot programs. The plan must include a timely schedule for conducting such studies and implementing measures that are technologically and economically feasible.
 6. Periodically reevaluate: (a) the conditions causing violations of a PM10 NAAQS in the area, (b) the status of implementation of the NEAP, and (c) the adequacy of the actions being implemented. The State should reevaluate the NEAP for an area every 5 years at a minimum and make appropriate changes to the plan.
 7. The NEAP should be developed by the State in conjunction with the stakeholders affected by the plan.
 8. The NEAP should be made available for public review and comment and may, but is not required, to be adopted as a revision to the State Implementation Plan (SIP) if current SIP

rules are not revised.

9. The NEAP should be submitted to the EPA for review and comment.

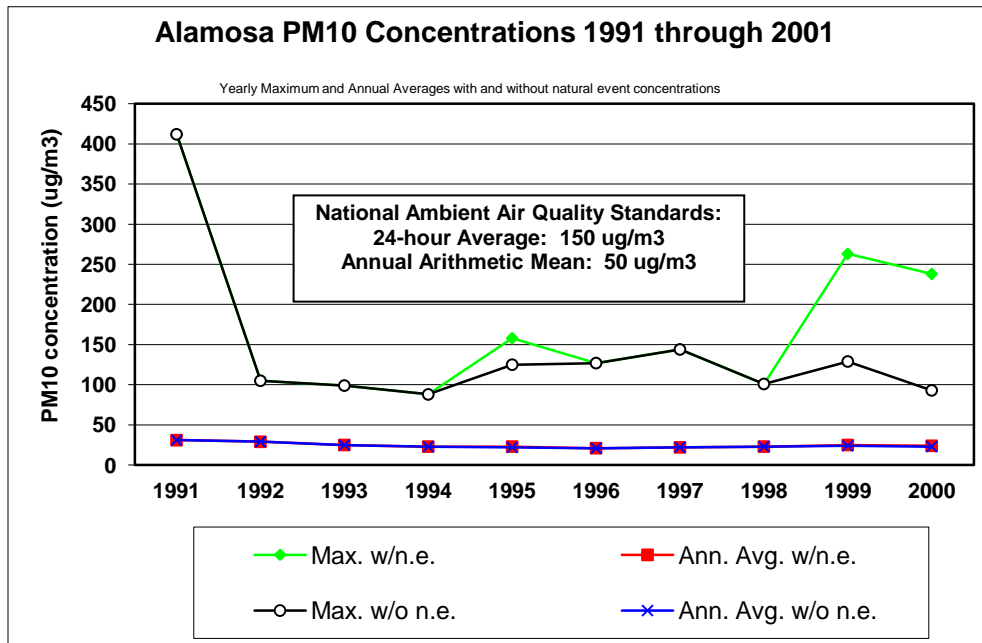
The following text describes the Alamosa NEAP and its conformance with the above-described EPA guidance on natural events.

III. NATURAL EVENTS ACTION PLAN

A. Element 1: Documentation & Analysis

On March 31 and April 9, 1999 and again on April 18 and December 17, 2000, the air quality monitor located in Alamosa, Colorado recorded exceedances of the 24-hour National Ambient Air Quality Standard (NAAQS) for PM10 (Figure 1). Each of these exceedances was associated with unusually high winds in the Alamosa area (Table 1).

Figure 1. Recent Alamosa PM10 Concentrations



n.e.- Natural Event

On October 29, 1999 and again on March 30, 2000 the Division submitted documentation to EPA Region VIII in support of Alamosa's most recent exceedances of the PM10 NAAQS due to

ALAMOSA NATURAL EVENTS ACTION PLAN

natural events. The documentation contained monitoring data, meteorological data, PM10 filter analysis and receptor model results, maps of the area, news accounts of the events and other miscellaneous supporting material. On July 3, 2001, EPA concurred that the aforementioned natural events were, in fact, high wind events (Table 1). The EPA letter of concurrence can be found in the Appendix of this NEAP.

More recently (since the February 2002 submittal), several additional exceedances of the PM10 NAAQS have been experienced in the community. These exceedances were recorded at the Adams State site only; none have been seen at the recently sited PM10 monitor at the Municipal Complex. Details are included in the table below and documentation for these events is on file with EPA.

Table 1. Recent 24 Hour PM-10 Values in Alamosa Colorado

<u>EVENT</u> <u>Date</u>	PM-10 Concentration	<i>Details</i>
3/31/99	263 ug/m ³	Natural Event- EPA concurrence on July 3, 2001
4/9/99	190 ug/m ³	Natural Event- EPA concurrence on July 3, 2001
4/18/00	238 ug/m ³	Natural Event- EPA concurrence on July 3, 2001
12/17/00	217 ug/m ³	Natural Event- EPA concurrence on July 3, 2001
2/8/02	215 ug/m ³	Natural Event Under EPA consideration
2/25/02	182 ug/m ³	Natural Event Under EPA consideration
3/23/02	164 ug/m ³	Natural Event Under EPA consideration
5/21/02	160 ug/m ³	<i>Natural Event Under EPA consideration</i>

Taken together, the supporting documentation establishes a clear, casual relationship between the measured exceedances and the natural events as required by the NEP. On the days of Alamosa's PM10 exceedances, unusually high winds and/or wind gusts were experienced over a prolonged period of time. For example, meteorological data in and around the area (Trinidad, Colorado) demonstrate that on April 18, 2000, maximum wind speeds were over 41 miles per hour and gust speeds were as high as nearly 59 miles per hour. Meteorological data for the December 18, 2000 event indicate that gusts were as high as 49 miles per hour in the Alamosa area. Both events were coupled with dry periods of weather.

According to the Natural Events Policy, "the conditions that create high wind events vary from area to area with soil type, precipitation and the speed of wind gusts." Thus, states are to determine the conditions that define high winds in an area. Making a precise determination, however, is a complex task that requires detailed information on soil moisture, daily wind speeds, temperature, and a number of other variables that are not readily available at this time.

Until such research and/or guidance is available, the Division will use the definition of high winds included in the *Guideline on the Identification and Use of Air Quality Data Affected by Exceptional Events* for the Alamosa area. According to this guidance, high winds are defined as: “An hourly wind speed of greater than or equal to 30 mph or gusts equal to or greater than 40 mph, with no precipitation or only a trace of precipitation.” In all these high wind events, hourly wind speeds and/or wind gust data coupled with low precipitation levels meet this high wind definition.

The analysis and documentation of the natural high wind events fulfill Element 1 as described on page 3 of this NEAP.

B. Element 2: Public Education Programs

The purpose of this program is to inform and educate the public about the problem. The Division has worked with the City of Alamosa, Alamosa County Commissioners, and interested stakeholders to educate the public about the problems associated with elevated levels of PM10 in the Alamosa area. Several meetings have taken place with the City and County governments to discuss these issues and to develop a plan to address future high wind events in Alamosa. Elements of the public education program include: informing the public when air quality in the area is unhealthy; explaining what the public can expect when high wind events occur; what steps will be taken to control dust emissions during future high wind events; and, how to minimize the public’s exposure to high concentrations of PM10 during high wind conditions. The public notification and education programs will include but are not limited to:

- An informational and health-related brochure has been and will continue to be distributed by the local governments, the Alamosa County Health Nurses, and Alamosa County conservation and agricultural extension agencies to sensitive populations (elderly and local school districts) as well as the general public. Distribution of the *Blowing Dust Health Advisory Brochure* began in March 2000. A copy of this brochure is available in the Appendix. More recent (since the February 2002 submittal of the NEAP) activities include: 1) the revision of the area brochure to highlight additional activities in the community and make the document more reader friendly; 2) a review of the effectiveness of the brochure distribution in the community. The brochure is now available at additional sites in the community (e.g., County Land Use office), and; 3) the development of a Spanish version of the brochure.
- Beginning in February 2002, blowing dust watches and health advisories are being issued by the Alamosa County Public Health Nursing office during the high wind season (see Appendix for details). More recent (since the February 2002 submittal of the NEAP) activities include: 1) expanding the public education effort to include staff from the

ALAMOSA NATURAL EVENTS ACTION PLAN

County Land Use office; 2) meetings with city, county, and local public health nurse to devise improved ways to educate/reach the community regarding blowing dust and its impacts.

- Media press releases for both the print and local radio will be issued in the community as needed. More recent (since the February 2002 submittal of the NEAP) activities include: 1) newspaper articles highlighting the significant impacts of the drought on blowing dust in the Alamosa area (e.g., “Biblical Level Help Needed for Drought,” *The Denver Post*, April 22, 2002. This referenced article also highlighted some of the mitigation strategies underway to limit impacts), and; 2) identifying possible Public Service Announcement outlets for additional outreach into the community and the ongoing development of an area press release on the NEAP development and control strategies.
- Meetings have been held to review the requirements of and local involvement in the NEAP. Other meetings will be convened as deemed necessary by State and/or local agencies.
- Advertising at local meetings (e.g. Sunshine Festival - Summer 2003) of ongoing efforts to reduce blowing dust and its impacts. This is new effort not part of the February 2002 submittal.
- Development of a logo/brand to better familiarize area residents to the NEAP and components of that plan including the blowing dust advisory. An example of that logo can be found on the revised *Blowing Dust Health Advisory Brochure*, located in the Appendix. This is new effort not part of the February 2002 submittal.
- Ongoing development of educational materials to be made available through the County’s tax announcement (2004). These educational materials will be distributed in the mail alongside tax announcements and are expected to go to all area residents (approximately 13,000 notices). Materials are likely to be in both English and Spanish. This is new effort not part of the February 2002 submittal.
- The Division in conjunction with the area County Public Health Nurse is revising the blowing dust education/notification procedure to highlight public health issues associated with blowing dust.
- Finally, County building inspectors will also educate citizens (home owners and contractors) about blowing dust issues and strategies to minimize such. This will be done in all construction zones in the county and documented as an item on the inspector’s checklist of building issues covered during the permitting process. This is new effort not part of the February 2002 submittal.

This section fulfills the requirement of Element 2 as described on page 4.

C. Element 3: Public Notification Program and Health Advisory Program

The Blowing Dust Health Advisory program will notify the public that a high wind/blowing dust event is imminent or currently taking place, and will include an advisory suggesting what actions can be taken to minimize PM10 emissions and exposure to high concentrations of particulate matter.

Advisories are issued by the Alamosa area Public Health Nursing office, with forecasting assistance provided by the National Weather Service (Pueblo) and the Colorado Air Pollution Control Division. Since 2002, five (5) advisories have been issued locally. The forecasting methodology, the public education brochure, and a copy of the text of blowing dust forecasts and health advisories are provided in the Appendix.

Alamosa County will be investigating, during 2003, the possibility of modifying the 911 data base for reverse notification of sensitive populations during high wind events. This is new activity not included in the February 2002 submittal.

Finally, high winds are currently being documented to determine if the Division and the local agencies can better address these issues. For example, the Alamosa County Public Health Nursing office maintains records of all blowing wind events and the associated notifications. Included in this analysis is a rudimentary review of the high wind data to identify patterns of events and possible solutions to minimize public exposure. Given the drought conditions affecting the Alamosa area over the past several years, no consistent pattern (outside of extremely dry conditions and lack of rainfall) has been noted. Nonetheless, the Division is committed to continually investigating this issue and improving the advisory as possible. Ongoing review of those records will continue to investigate patterns of the exceedances and the notifications. This is a new activity that was not part of the February 2002 submittal and demonstrates additional efforts by the Division and the local agencies to minimize blowing dust and protect public health.

This section fulfills the requirement of Element 3 as described on page 4.

D. Element 4: Determination and Implementation of BACM

1. BACM Determination

According to the NEP, Best Available Control Measures (BACM) must be implemented for anthropogenic sources contributing to NAAQS exceedances in attainment and unclassifiable areas, like Alamosa. BACM must be in place for those contributing sources within *three years* after the first NAAQS violation attributed to high wind event(s) for sources in the Alamosa area. BACM must be in place no later than April 18, 2003. BACM for PM10 are defined (in 59 F.R. 42010, August 16, 1994) as techniques that achieve the maximum degree of emissions reduction from a source as determined on a case-by-case basis considering technological and economic feasibility.

On September 2, 1999 the Division attended several meetings in Alamosa with officials representing the City of Alamosa and Alamosa County Commissioners. Discussed were the monitoring data, meteorological data, potential contributing sources to the high wind events, the development of a NEAP, and possible control measures. In addition, meetings in December 2001 and February 2002 and numerous correspondences at other times have covered the same. The meetings, coupled with the analyses of the supporting documentation, identified two distinct sets of circumstances that lead to Alamosa's high wind/blowing dust exceedances of the PM10 NAAQS:

10. High concentrations of PM10 caused by a mixture of anthropogenic and non-anthropogenic sources coming largely from outside the area under high wind conditions; and,
2. Prolonged climatic conditions of low precipitation over an extended period of time that act to dry area soils, making them more susceptible to airborne activity under high wind conditions.

Discussions with the community stakeholders also covered local agricultural practices. Alamosa County is a predominately agricultural area where a lack of water, coupled with the frequent high winds experienced during late fall and early spring, can destroy crops, encourage pests, and damage soil surfaces lending them susceptible to wind erosion.

Other potential contributing sources may include construction sites, wind erosion of open areas, paved and unpaved roads, residential wood burning, and/or open burning. See below for more details on each of these potentially contributing sources and their consideration for BACM.

2. **BACM Options Considered**

Based on the contributing source analysis and/or in review with community stakeholders, the following BACM options were considered as possible PM10 control measures for the community:

- a) Street Sweeping Activities- community street sweeping programs have demonstrated effectiveness in other communities. Such activities were considered as a local control measure. Expanding the current street sweeping program was also reviewed.
- b) Construction/Demolition Activity – local ordinances to control emissions from construction and demolition sites have been implemented in other parts of the state with good success.
- c) Wind Erosion of Open Areas – several practices were reviewed regarding the wind erosion of open areas, including both local and regional efforts.
- d) Control of Stationary Source Emissions- as identified elsewhere in this NEAP, a review of stationary sources and their relative contribution to overall PM concentrations was completed. It was determined that six PM-10 sources exist in the area, appearing to contribute a small amount of particulate matter to the overall inventory.
- e) Road Stabilization- In a effort to better understand the effects of road stabilization, several options were reviewed including the use of chemical stabilizers and water as a stabilizing measure.

Also, periodic assessments to determine if traffic levels on unpaved roads surpass Colorado Regulation No. 1 limits were considered. If daily traffic counts exceed 200 trips per day on unpaved roads, state regulations apply that reduce PM-10 emissions from those roads. Specifically, periodic assessments of traffic levels on unpaved roads within the city limits and within one mile of the city limits were considered. State regulation calls for a road traffic count and dust control plan for roads that exceed the 200 trips threshold.

In addition, Alamosa currently suggests that drivers maintain their vehicles at a slow speed on unpaved roads and other dirt surfaces to reduce dust emissions.

- f) Woodburning Curtailment Programs- the possibility of instituting a citywide curtailment program was reviewed and considered. This consideration includes discouraging wood burning on high wind days.

g) Open Burning- The usefulness of imposing and maintaining an open burning curtailment program during high wind events was reviewed. Current state air pollution control laws and regulations provide some guidance on the effort.

h) Avoidance of Dust Producing Equipment- The effectiveness of avoiding the use of dust producing equipment has also been considered. Currently Alamosa discourages the use of dust-producing equipment (e.g., leaf blowers) in an effort to reduce PM10 emissions and does so through public education and outreach efforts.

(i) Reducing or Postponing Tilling and Plowing or Other Agricultural Practices that Contribute to PM10 Emissions- It is well recognized that dust-producing activities such as tilling, plowing, and other agricultural practices increase the amount of PM10 released. As such, these control measures were discussed as part of the effort to reduce PM10 impacts on Alamosa. Review of existing and potentially future control practices were considered at the local, regional, state, and federal (e.g., Natural Resources Conservation Service) level.

j) Wind Break- Various trees are found throughout Alamosa. However, the placement of one row of barrier trees (e.g., Russian Olives) would block potential contributing sources. The Russian Olive is a quick growing large shrub/small tree will do well given the windy climate of Alamosa. According to section 3.5.2.1 of EPA guidance entitled Fugitive Dust Background Document and Technical Information Document for Best Available Control Measures, dated September 1992, one-row of trees is considered an effective windbreak.

k) Vegetative Cover/Sod- Efforts elsewhere in the State have demonstrated the usefulness of using a vegetative cover at sites where dust is known to blow. Efforts to use this control measure were reviewed for applicability and effectiveness.

Alamosa PM10 Stationary Source Emissions

To ensure that PM10 emissions from local stationary sources are not a significant contributing factor to area exceedances, an emission inventory was prepared and reviewed. Identified stationary sources are as follows: Public Service Company (natural gas/fuel oil plant), Rakhra Mushroom Farm Corporation (coal-fired boilers and one natural gas fired boiler), Rocky Mountain Soils (fugitive dust emissions), Rogers Family Mortuary (crematorium), San Luis Valley Regional Medical Center (biomedical waste incinerator), and Southwest Ready Mix (concrete batch plant). While no emission inventory of natural sources was prepared as part of this NEAP, appreciation for the significant sand dunes at Great Sand Dunes National Monument highlights that these few and limited stationary sources have very little effect on the total PM10 emission inventory for the Alamosa area. The following table demonstrates their limited impacts on the total emission estimation.

Alamosa PM10 Emission Inventory (circa 2003)

Source	Emissions in lbs/day
Public Service Company of Colorado	44.4
Southwest Ready Mix	4.4
San Luis Valley Regional Medical Center	0.1
Rakhra Mushroom Farm Corp.	11.1
Rocky Mountain Soils, Inc.	11.5
Rogers Family Mortuary	0.5
<i>TOTAL EMISSIONS</i>	<i>72.1</i>

Limited Stationary Source Impacts

The largest of these stationary sources, Public Service Company of Alamosa (PSC), is 44.4 pounds per day of particulate matter (as reported to the Colorado APCD). At PSC, the site consists of two turbines that can run on natural gas, #1 fuel oil, #2 fuel oil, or a combination thereof. PSC must stay in compliance with Colorado Air Quality Regulation No. 1 particulate standard. PSC must also meet the state 20% opacity standard.

Other Alamosa area stationary sources have considerably smaller particulate matter emissions than PSC and their own existing control measures in place. For example:

Southwest Ready-Mix has a concrete batch plant in the City of Alamosa. Southwest Ready-Mix has several outside storage piles for their raw materials (sand & aggregate). There exists a sprinkler system at the facility to keep these piles watered. Cement and fly ash are stored in silos, each controlled with a baghouse to capture particulate when the silos are being loaded. When all of the raw materials are loaded into the concrete trucks, 25% of the total water is loaded first, followed by rock, sand, cement, and then the remaining water. This helps to minimize the particulate emissions from the truck during loading. The baghouses are part of the Southwest Ready-Mix permit, and as such are required. This source is also subject to the 20% opacity standard. Finally, Southwest Ready-Mix may be upgrading their baghouses.

San Luis Valley Regional Medical Center has a permit for a biomedical waste incinerator, which is natural gas fired. The incinerator is subject to New Source Performance Standards which limit opacity to 10% and also has a particulate standard. Ash removal from the incinerator must be done in an enclosed area to limit particulate emissions. Ash must be completely enclosed during transport as well.

3. BACM Options Discounted

Several BACM options were discounted from further consideration based on meteorological analysis, on-site inspections, and discussions with local government officials and sources.

Woodburning curtailment was discounted because high wind events are actually beneficial to good atmospheric clearing of particulate matter. In addition, woodburning curtailment was not recognized as an effective control measure on high wind days. Lastly, many of the community citizens rely on woodburning as their sole source of home heating- reducing or eliminating wood burning is thus not an option.

BACM of stationary sources at great distances from the City were discounted as their impacts would be negligible, if seen at all.

Finally, for this revised NEAP (since the February 2002 submittal), the community remains committed to meet BACM in all instances, as feasible. For example, meetings with local officials indicate that the ongoing regional drought may significantly impact the amount of water available as a control measure (e.g., watering of roads to reduce PM10). With that, water restrictions (and related economic impacts of the drought) will likely dictate the utility of this control measure.

4. BACM Implemented

Refer to the stakeholder agreements for details of selected BACM.

IV. STAKEHOLDER AGREEMENTS

The City of Alamosa, Alamosa County, the Division, and participating federal agencies have been working diligently to identify contributing sources and to develop appropriate BACM as required by the Natural Events Policy. A copy of relevant agreements and supplemental information are included in the Appendix. This section fulfills the requirements of Element 4 as described on page 4.

City of Alamosa

The City of Alamosa has been active in addressing potential PM10 sources within the Alamosa area through various efforts. Some of these efforts, plus other potential future measures, include the adoption of local ordinances to reduce PM10. Copies of current ordinances and any related commitments are included in the Appendix.

Street Sweeping

Currently, the City of Alamosa sweeps on an every 6-week schedule or as needed, as determined by local officials on a case by case situation (e.g., following each snowstorm and/or where sand was applied). Sweeping occurs on every single City street with an emphasis on the downtown corridor where public exposure is expected to be greatest. In fact, street sweeping in the downtown corridor currently takes place three times per week.

In addition, the City recently agreed to lease/own a new TYMCO 600 (brush-assisted head) sweeper. Efforts are underway to get this effective piece of equipment into place immediately. This new sweeper will complement a mobile mechanical sweeper already in use.

Unpaved Roads within the City

While very few unpaved roads exist in the City of Alamosa, the city did recently annex new land. This annexation includes roadways not currently paved. The City of Alamosa is discussing the paving of these annexed roads. At a minimum, the City of Alamosa commits to continually provide in-kind engineering services for the development of the annexed lands.

Sod/Vegetative Cover Projects in the City of Alamosa

The development and construction of a local park, Eastside Park, is underway in Alamosa. It is anticipated that sodding at the park will take place this year. This commitment is anticipated to reduce blowing dust from this previously undeveloped site.

Alamosa County

Alamosa County has also been active in addressing blowing dust and is preparing county ordinance as such. Examples can be found below and available supporting documents in the Appendix.

Unpaved Roads

Alamosa County is presently addressing unpaved roads and lanes that are anticipated to contribute to PM10 emissions in the community. As of 2002, Alamosa County was nearing the end of its five-year road paving plan and was developing their next plan with the intention of paving on a yearly basis, based on traffic and community needs/priorities.

In 2002, Alamosa County addressed approximately ten (10) miles of unpaved roads. This includes the stabilization of approximately five section roads, the seal coating of two roads, and the overlay (repaving) of four (4) additional roads.

For 2003, approximately 14 miles of roads are scheduled for paving. This includes the Seven Mile Road (three miles long), Road 109 (one mile long), and 10th Street (also one mile long). These roads are in close proximity to the City of Alamosa, are upwind (prevailing) from the city,

and have heavy traffic. Paving is anticipated to greatly reduce blowing dust and impacts in the vicinity.

In addition, once it gets cold enough in the area, the County will wet down some of the more sandy roads. Once the water soaks in and freezes, it is anticipated that good dust suppression will be seen. These commitments are anticipated to reduce PM10 emissions in and near Alamosa. This control measure will be balanced with the availability of water in the area.

Finally, Alamosa County assesses the need to use MgCl₂ treatment on roads in front of residences that request such service. Assessments include the sensitivity to dust of residents, the materials of the road base for safety reasons, and possible environmental concerns of the neighborhood. Most requests for treatment are granted. Road construction areas are being dampened with water for dust control. Other areas for treatment, such as commercial construction zones or gravel pits, are investigated on a case by case basis.

Dust Control Plans

Alamosa County is considering changes in local ordinances governing dust control plans at construction sites. This will be addressed through the revision of Alamosa County's Comprehensive Plan and supporting zoning codes. Alamosa County is currently reviewing language from other successful dust control programs for inclusion in their local ordinances. The process is due for completion in December 2003 or early 2004 and will specifically include dust control language. This effort is anticipated to reduce PM10 emissions in Alamosa, especially as it relates to impacts on the community and high recorded PM10 values. The Division commits to providing copies of this language to EPA upon finalization and availability.

Wind Erosion of Open Areas

To reduce PM10 emissions from open areas outside of the City limits, low tilling and other soil conservation practices will continue to be utilized in the community. In addition, the community is using in strategic areas the State of Colorado Agricultural Office's program to purchase and plant shelter trees to reduce wind erosion in open areas. These trees have a demonstrated advantage for the community and for air quality. Once the trees reach maturity, it is anticipated that the equivalent of 112 miles of double-rowed trees will be in place.

In addition, there is ongoing planting of trees (approximately 50) on newly developed Alamosa County property south/southwest of Alamosa (prevailing winds from southwest) and the Airport south of Alamosa for added air quality improvement.

These commitments are anticipated to further reduce the PM-10 emissions in Alamosa.

Sod and Vegetative Projects in the County

Numerous projects to reduce blowing dust and its impacts have happened or are happening at the County Airport. For example:

- Through additional grounds maintenance of the 40-acre Alamosa County airport south of the city, grass is being grown for aesthetics and dust control.
- Sodding and the placement of decorative rock and ground cover will be implemented in the landscaping of the Alamosa County property, as well. These measures will directly abate blowing dust at the Airport.
- Also, the widening of the airport's safety areas (250 feet on either side of the runway) is now complete and seeding of natural grasses was incorporated in the project. Trees and grass were incorporated in the approaches to the airport and have provided additional wind-break advantages to South Alamosa.

In other areas where watering is a problem, xeriscape (the use of native drought resistant vegetation and/or rock cover) is being encouraged for County owned property and for all other property owners.

These efforts are anticipated to further reduce PM10 emissions in Alamosa.

Open Burning Issues at the County

The Colorado air pollution control laws and regulations prohibit open burning throughout the state unless a permit has been obtained from the appropriate air pollution control authority. In granting or denying any such permit, the authority will base its action on the potential contribution to air pollution in the area, climatic conditions on the day or days of such burning, and the authority's satisfaction that there is no practical alternate method for the disposal of the material to be burned. No open burning is allowed when local wind speeds exceed 5 miles per hour.

Colorado State University Co-Op Extension Office

In response to extremely dry conditions, the need to maintain area topsoil, and reduce impacts, the Colorado State University Co-Op Extension Office of Alamosa County provides the following outreach efforts and recommendations:

- Modification of grazing practices to improve protective crop cover
- Increasing crop residues left in the fields to reduce blowing dust
- Planting of Fall crops to maintain fields
- Application of manure to protect top soils from blowing away
- Staggering of the harvest to minimize blowing dust

- Outreach programs on soil conservation efforts
- Development of outreach/education materials (e.g., news articles, newsletters, fact sheets, etc.), and
- Attendance at Statewide workshop to educate other Co-Op offices to various practices to reduce blowing top soil and minimize impacts

These control strategies are not meant to be enforceable. They are meant only to demonstrate the regional nature of cooperation in addressing blowing dust and its impacts on the community.

Natural Resources Conservation Service

As stated elsewhere in this NEAP, Alamosa County is a predominately agricultural area where limited water, coupled with the frequent high winds experienced during late fall and early spring, can destroy crops, encourage pests, and damage soil surfaces lending them susceptible to wind erosion. Thus, activities that improve the topsoil and prevent its lifting during high wind events are encouraged. Some notable NRCS and agricultural examples include:

- Cover crops and perennial crops (e.g., alfalfa) are recommended to protect soils;
- NRCS works with area farmers in the development of conservation compliance plans to also protect topsoil;
- NRCS encourages the use of perennial crops or the leaving in place of weeds on the corners of area acreage (instead of tilling that might lead to open, barren lands) to reduce the lifting of topsoil;
- NRCS “cost shares” on conservation practices with local farmers to prevent soil erosion, and;
- The NRCS works with Colorado State University to identify other strategies that minimize blowing dust.

Other successful agricultural practices encouraged in the area include: timing of tillage, crop rotation, amount of crop residue left on the land, and proper water usage.

These control strategies are not meant to be enforceable. They are meant only to demonstrate the regional nature of cooperation in addressing blowing dust and its impacts on the community.

Natural Events Policy guidance indicates that control options must be implemented within three years of the exceedance in question. For Alamosa, BACM must be in place no later than April 18, 2003. This submittal is meant to meet that three year commitment.

This section fulfills the requirement of Element 4.

V. PUBLIC REVIEW AND PERIODIC EVALUATION

This section describes the public process used to develop this NEAP and the commitment made to periodically evaluate the plan.

Stakeholder Involvement

The EPA's NEAP development guidance states that the NEAP should be developed by the State in conjunction with the stakeholders affected by the Plan. The Colorado APCD worked with stakeholders mentioned throughout this document. Numerous meetings and telephone conversations occurred with stakeholders, and the final agreement here reflects control measures offered as part of the NEAP.

Public Review

The Division made this documentation available for and presented the NEAP and its strategies to the public to ensure public review and comment. Examples of these efforts in Alamosa, beginning with the earliest community involvement, include:

- Briefing of the San Luis Valley County Commissioners, "Air Quality Briefing," San Luis Valley County Commissioners' Association Meeting, September 1999.
- "Control Alamosa's Dust? Lots of Luck." Newspaper article appearing in *Pueblo Chieftan* indicating the area is developing a plan (NEAP) to address blowing dust – November 1, 2001.
- Briefing of the Alamosa City Council, "Alamosa Air Quality and the Development of a Local Natural Events Action Plan," a meeting to reintroduce the NEAP to City Council staff, February 6, 2002.
- Placement of *Natural Events Action Plan for Alamosa, Colorado* at the area library (Southern Peaks Public Library) for public review, February 2002.
- "Odd Issues Keep Alamosa Busy." Newspaper article appearing in *Valley Courier* indicating NEAP being developed and available for public review at the Southern Peaks Public Library, February 2002.
- Briefing of the Alamosa City Council, "Alamosa Natural Events Action Plan," a meeting to incorporate comments from the City Council, local stakeholders, and the public, February 20, 2002.
- Briefing of the Colorado Air Quality Control Commission, "Natural Events Action Plan for Alamosa, Colorado," May 2002.
- Briefing of the Colorado Air Quality Control Commission, "Alamosa Natural Events Action Plan – Final Activities," January 2003.
- Public Notice, "Natural Events Action Plan for Alamosa, Colorado" Available for Public Review and Comment at the Public Library, April 2003.
- "Media Advisory" notifying public of upcoming Alamosa City Council meeting to

discuss the NEAP, monthly city council meeting agenda published in the area newspaper, May 2003.

- “Media Advisory” notifying public of City Council meeting to discuss the NEAP, Channel Ten Cable Access Channel Public Service Announcement, May 2003.
- Briefing of the Alamosa City Council, “Final Alamosa Natural Events Action Plan,” May 2003.

Periodic Evaluation

EPA’s Natural Events Policy guidance requires the state to periodically reevaluate: 1) the conditions causing violations of the PM10 NAAQS in the area, 2) the status of implementation of the NEAP, and 3) the adequacy of the actions being implemented. The State will reevaluate the NEAP for Alamosa at a minimum of every 5 years and make appropriate changes to the plan accordingly.

Evaluation of the effectiveness of the NEAP included several key strategies to ensure protection of public health and a robust plan. Strategies included: review of Natural Events Policy in specific relation to the Alamosa community, review of the effectiveness/appropriateness of ongoing control strategies, consideration of new/additional control options, review of meteorological and climatological conditions leading to blowing dust, review of local and regional PM10 monitoring data, discussions with other States (e.g., South Dakota, Washington) and Federal (US EPA) personnel regarding NEAP updates and protocols, review of the established emission inventory and identification of any new emission sources, review of the blowing dust advisory protocol and notification records, public/stakeholder meetings and community outreach/education efforts, etc.

The Division commits to continually review the effectiveness of the Alamosa Natural Events Action Plan and improve the effort, where feasible.

The Division commits to evaluate the NEAP at a minimum of every five years.

Submittal to EPA

The NEAP was submitted in its initial form to EPA in October 2001. Following EPA comment and input from stakeholders, appropriate changes were made to the NEAP. The Alamosa City Council heard and approved the NEAP in February 2002. Since that period, meetings with local agencies and stakeholders have led to finalization of stakeholder agreements (found elsewhere in the NEAP). The *Final Natural Events Action Plan for Alamosa, Colorado* and its Best Available Control Measures, where feasible, are presented here as required under the Natural Events Policy.

This section fulfills the requirements of Elements 6, 7, 8, and 9 as described on page 4 and 5.

Appendix D – Copy of Affidavit of Public Notice