SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

PLANNING, RULE DEVELOPMENT, AND AREA SOURCES

ANALYSIS OF EXCEPTIONAL EVENTS CONTRIBUTING TO A HIGH PM10 CONCENTRATION AT THE PERRIS AIR MONITORING STATION IN THE SOUTH COAST AIR BASIN ON APRIL 12, 2007

Final Report
July 18, 2009

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1 INTRODUCTION

1.1 Purpose

This document substantiates the request by the South Coast Air Quality Management District (AQMD) to flag a violation of the 150 μg/m^3 PM10 24-hour National Ambient Air Quality Standard (NAAQS) in the Perris Valley portion of the South Coast Air Basin as a high-wind natural event under the U.S. Environmental Protection Agency (EPA) Regulation for the Treatment of Data Influenced by Exceptional Events (40 CFR, sections 50.1 & 51.14)[1]. The PM10 NAAQS violation occurred on Thursday, April 12, 2007 (167 μg/m^3) at the AQMD Perris Valley air monitoring station (Perris). AQMD has submitted the PM10 data from this monitor to EPA's Air Quality System (AQS) database and has placed the appropriate flags on the data indicating that the data was affected by exceptional events due to high winds. This flagging indicates that the ambient air quality data was influenced by high winds and insures that the data is properly represented in the regulatory process.

1.2 Organization of this Document

This document is designed to provide summary information to the public as well as the specific detailed analyses to meet the requirements of Exceptional Events Rule. Section 1, Introduction, describes the purpose, exceptional event criteria, background of the Exceptional Event Rule and background information related to high wind events in the Basin, including:

- the geographic setting;
- the regulatory measures, showing that continuing reasonable controls are in effect in the Basin and that ongoing public education programs and event forecasting and notification plans are in place;

[1] EPA 2007. Treatment of Data Influenced by Exceptional Events; Final Rule. 40 CFR Parts 50 and 51; Federal Register Vol. 72, No. 55; March 22, 2007. http://www.smartpdf.com/register/2007/Mar/22/13560A.pdf

- an overview of high PM10 events in the Basin, including a historical perspective of PM10 exceptional events.

Section 2 describes the analysis of the PM10 NAAQS violation on April 12, 2007 that occurred due to a high wind natural event. For this exceedance, the Event Summary section summarizes the PM10 measurements and conditions that caused the NAAQS violation and documents how the episode satisfies the criteria of the Exceptional Events Rule, that is,

- affects air quality;
- is not reasonably controllable or preventable; and
- is either an event caused by human activity that is unlikely to recur at a particular location or a natural event.

Further discussion in the Event Summary includes:

- the causal connection between the high wind event displays and the measured PM10;
- how the measured concentration was in excess of the normal historical fluctuations, including background;
- how there would have been no exceedance "but for" the high wind event (the "But For" Test);
- that reasonable measures to control PM10 were in effect on the episode day and how a public notification and education process was implemented to warn the public before and during the event through forecasts, advisories and real-time air quality data.

Following the Event Summary section, the Detailed Event Analysis describes the analysis that led to the conclusions presented in the Event Summary section, including:

- a summary of the particulate measurements;
- the meteorological setting;
- an analysis of windblown dust source influences;
- conclusions.

Supporting documents for the April 12, 2007 PM10 analysis beyond what is included in the Section 2 are provided in Section 3, Supporting Materials, including:

- news articles;
- National Weather Service (NWS) advisories, hazardous weather outlooks and forecast discussions;
- National Climatic Data Center (NCDC) storm event records; and
- additional wind data.

1.3 Exceptional Events Rule Background

Since 1977, EPA has implemented policies to address the treatment of ambient air quality monitoring data that has been affected by exceptional or natural events. In July 1986, EPA issued a document entitled *Guideline on the Identification and Use of Air Quality Data Affected by Exceptional Events*, introducing a flagging system to identify air quality measurements influenced by exceptional events that, if left unidentified, could lead to possible misinterpretation or misuse of the data. In 1996, EPA developed a guidance document entitled *Areas Affected by PM-10 Natural Events*, which provided criteria and procedures for States to request special treatment (i.e., flagging for exclusion from standard compliance consideration) for data affected by natural events (e.g., wildfire, high wind events, and volcanic and seismic activities). EPA approved several requests made by AQMD, through the California Air Resources Board (CARB), to apply the Natural Events Policy in order to flag violations of the 24-Hour PM10 NAAQS in the Coachella Valley for natural events that involved uncontrollable high winds. Air quality has continued to improve through implementation of best available control technologies/measures, required by AQMD rules. AQMD also protects the public through the issuance of area-specific air quality forecasts and episode notifications in the South Coast Air Basin and the portions Riverside County under AQMD jurisdiction in the Salton Sea Air Basin (Coachella Valley) and the Mojave Desert Air Basin.

On March 14, 2007, EPA promulgated a formal rule, entitled: *The Treatment of Data Influenced by Exceptional Events*, known as the Exceptional Events Rule. Exceptional events are unusual or naturally occurring events that can affect air quality but are not reasonably controllable or preventable using techniques that tribal, state or local air agencies may implement in order to attain and maintain the NAAQS. These events are flagged in the EPA AIR Quality Subsystem (AQS) database as exceptional events. The data remains available to the public but are not counted toward attainment status. The EPA rulemaking:

- ensures that air quality measurements are properly evaluated and characterized with regard to their causes;
- identifies reasonable actions that should be taken to address the air quality and public health impacts caused by these types of events;
- avoids imposing unreasonable planning requirements on state, local and tribal air quality agencies related to violations of the NAAQS due to exceptional events;
- ensures that the use of air quality data, whether afforded special treatment or not, is subject to full public disclosure and review.

The Exceptional Events Rule does not require States to submit formal mitigation plans; however, States must provide public notice, public education, and must provide for implementation of reasonable measures to protect public health when an event occurs.

While AQMD had requested flagging of data influenced by natural events in the Coachella Valley, in the Salton Sea Air Basin, AQMD had not previously requested flagging of data in the South Coast Air Basin, prior to this event on April 12, 2007. Two other PM10 exceptional events that occurred in the Basin in 2007 are also being submitted: July 5 (fireworks) and October 21 (high winds and wildfire). Although 24-hour NAAQS violations did occur occasionally in the South Coast Air Basin prior to 2007, the Basin was still in violation of the annual PM10 federal standard. When the annual federal standard was revoked, effective December 18, 2006, the flagging of exceptional events became more important for the proper calculation of design values and the PM10 attainment status of the Basin.

1.4 Geographic Setting

Southern California's South Coast Air Basin (Basin), shown in Figures 1-1 and 1-2, consists of 10,743 square miles and consists of Orange County and the non-desert portions of Los Angeles, Riverside and San Bernardino Counties. The population of the Basin is approximately 16 million people, with approximately 11 million gasoline powered vehicles and 300,000 diesel vehicles. The coastal plain contains most of the population of the Basin, which is surrounded by tall mountains, including the San Gabriel Mountains to the north, the San Bernardino Mountains to the northeast, and the San Jacinto Mountains to the east. The coastal range of the Santa Ana Mountains separates the inland part of Orange County from Riverside County. The proximity of the Pacific Ocean to the west has a strong influence on the climate, weather patterns and air quality of the Basin.

The city of Perris, in AQMD Forecast Area 24, is located in the Perris Valley, between the Santa Ana Mountains to the west and the San Jacinto Mountains to the east. The valley runs approximately in a north-northwesterly orientation, following the Interstate 215 corridor in Riverside County. Perris is approximately 15 miles southeast the city of Riverside. Figure 1-3 shows the PM10 monitors in the Basin, including the 24-hour Federal Reference Method (FRM) Size-Selective Inlet (SSI) filter samplers, as well as the hourly continuous Beta Attenuation Monitor (BAM) and Tapered Element Oscillating Microbalance (TEOM) samplers.

The Perris Valley is subject to high wind associated with the passage of storm systems, especially when the wind flows have a northerly or northwesterly orientation along the valley. It can also experience strong winds during offshore Santa Ana wind events, when winds can be northerly through northeasterly.

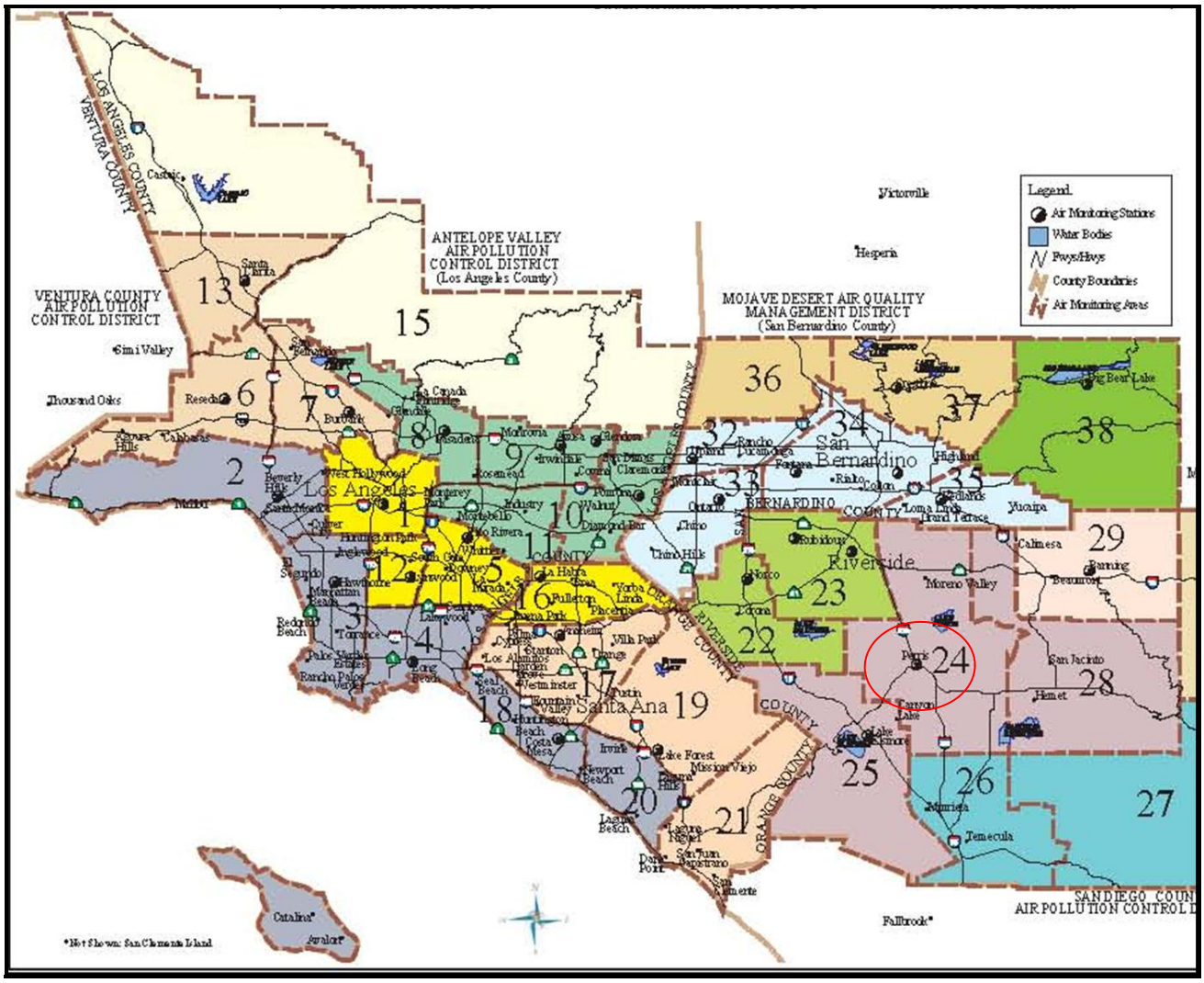


FIGURE 1-1

Map of the South Coast Air Basin Showing Air Monitoring Stations and Forecast Areas

FIGURE 1-2

Map of South Coast Air Basin with Selected Cities and Topography

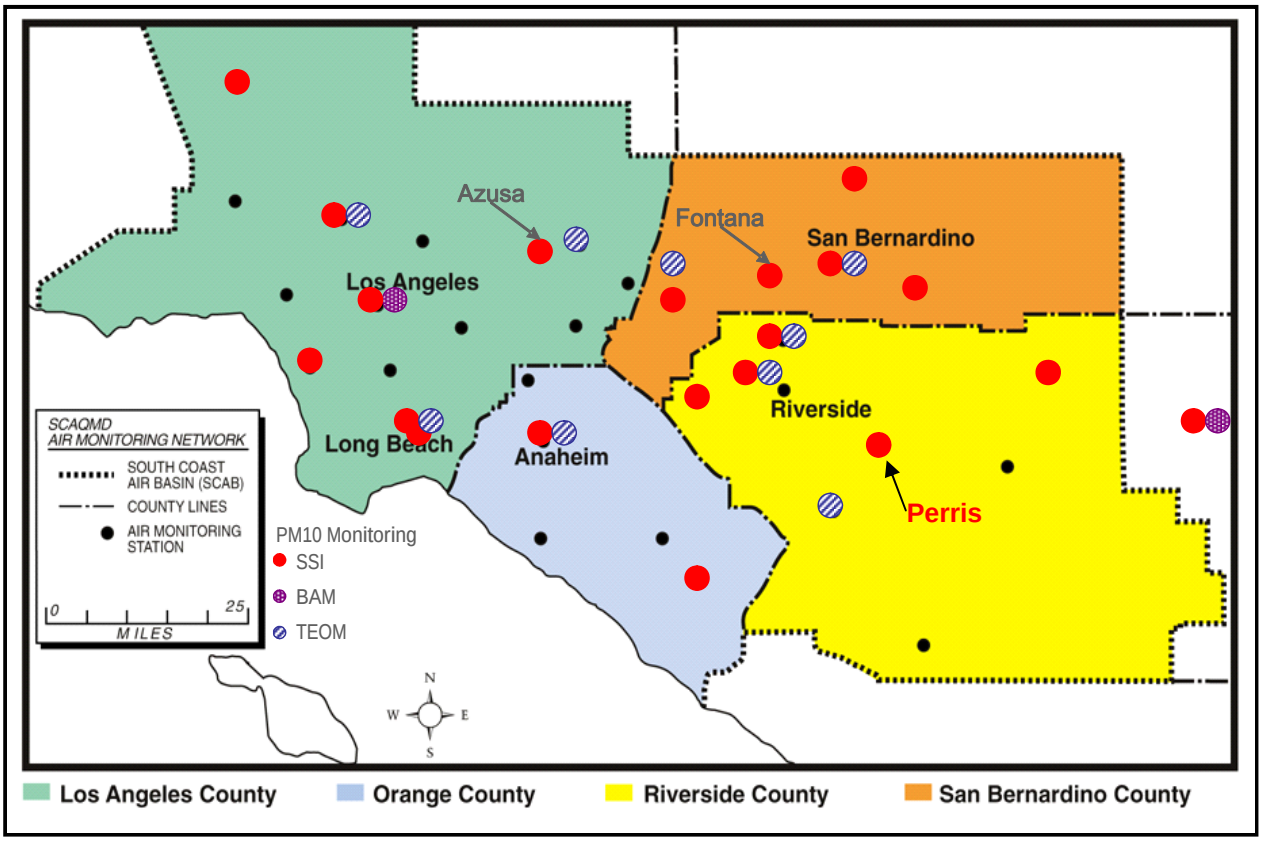


FIGURE 1-3

Map of South Coast Air Basin PM10 Monitors

1.5 Regulatory Measures

AQMD has implemented regulatory measures to control emissions from fugitive dust sources and open burning in the South Coast Air Basin. Implementation of Best Available Control Measures (BACM) in the Basin has been carried out through AQMD Rule 403 (Fugitive Dust), as well as source-specific rules. With its approvals of the South Coast PM10 Attainment Plans in the State Implementation Plan (SIP), EPA has concluded that this control strategy represents BACM and Most Stringent Measures (MSM) for each significant source category, and that the implementation schedule was as expeditious as practicable.

AQMD Rule 403 establishes best available fugitive dust control measures to reduce fugitive dust emissions associated with agricultural operations, construction/demolition activities (including grading, excavation, loading, crushing, cutting, planing, shaping or ground breaking), earth-moving activities, track-out of bulk material onto public paved roadways, and open storage piles or disturbed surface areas.

AQMD Rule 1156, Further Reductions of Particulate Emissions from Cement Manufacturing Facilities, is a source-specific rule that applies to all operations, including material handling, storage and transport at cement manufacturing facilities. It restricts visible emissions from facility operations, open piles, roadways and unpaved areas and requires enclosed systems for loading, unloading and transfer of materials. Other operations must employ wind fencing and wet suppression systems or be enclosed with permitted control equipment.

AQMD Rule 1157, PM10 Emissions Reductions from Aggregate and Related Operations, is a source-specific rule applicable to all permanent and temporary aggregate and related operations that produce sand, gravel, crushed stone or quarried rocks. Like Rule 1156, this rule restricts the discharge of fugitive dust emissions into the atmosphere through plume opacity tests and limiting visible plume travel to within 100 feet of the operation. This rule requires: prompt removal of material spillage; stabilization of piles with dust suppressants; the control of loading, unloading, transferring, conveyors, and crushing or screening activities with dust suppressants or other control methods; stabilization of unpaved roads, parking and staging areas; sweeping of paved roads; and the use of track-out control systems.

AQMD Rule 1158, Storage, Handling, and Transport of Coke, Coal and Sulfur, is a source-specific rule that applies to any facility that produces, stores, handles, transports or uses these materials. This rule restricts visible emissions and requires that piles be maintained in enclosed storage and that unloading operations be conducted in enclosed structures with water spray systems or venting to permitted air pollution control equipment. It also has specific requirements to control emissions from roadways, other facility areas, and conveyors and the loading of materials.

AQMD Rule 1186, PM10 Emissions from Paved and Unpaved Roads and Livestock Operations, requires rapid removal of paved road dust accumulations and establishes a treatment schedule for unpaved roads, street sweeper procurement standards, and design standards for new road construction. AQMD Rule 1186.1, Less-Polluting Sweepers, requires procurement of alternative-fueled equipment when governmental agencies replace street sweepers.

AQMD Rule 444, Open Burning, ensures that open burning is conducted in a manner that minimizes emissions and impacts, and that smoke is managed to protect public health and safety. This rule requires authorization for agricultural and prescribed fire, limited to days that are predicted to be meteorologically conducive to smoke dispersion and that will not contribute to air quality that is unhealthy for sensitive groups or worse. It also restricts residential and waste burning.

AQMD Rule 445, Wood Burning Devices, reduces pollution from wood-burning fireplaces and other devices through requirements for new construction, curtailment of wintertime wood burning in specified areas when poor air quality is forecast and restriction of the sale of unseasoned firewood. The AQMD Healthy Hearths program provides public education on how to reduce air pollution from wood burning and encourages the conversion to natural gas burning fireplaces through an incentive program.

1.6 Historical Perspective of PM10 in the South Coast Air Basin

Table 1-1 summarizes the days with high PM10 in the South Coast Air Basin, defined as days exceeding 150 $\mu g/m^3$, between January 1, 2000 and December 31, 2008. The events prior to 2007 were not flagged for exclusion under the EPA Natural Events Policy, except for August 17, 2001 at Banning Airport which was flagged as a high wind natural event along with the Coachella Valley stations (Indio and Palm Springs) due to thunderstorm winds. All the 24-hour PM10 NAAQS violations that occurred in 2007 have been flagged as requesting exclusion under the EPA Exceptional Events Policy. Since 2000, no 24-hour NAAQS violations occurred in the South Coast Air Basin that were not associated with strong winds, wildfire or fireworks events. Throughout the nine-year period, seven days exceeded the 150 $\mu g/m^3$ NAAQS concentration at air monitoring stations in the Basin, for an overall average of just under 0.8 violations per year Basin-wide.

Perris only exceeded on two days during this period, both in 2007. The highest 24-hour PM10 concentration measured at Perris, and Basin-wide, was 1212 $\mu g/m^3$ on October

21, 2007 during an extreme Santa Ana wind event with windblown dust and sand that also fanned numerous wildfires in the Basin and in San Diego County.

In over 21 years since PM10 sampling began at Perris in October 1987, Perris exceeded the PM10 standard on six days, as are shown in Table 1-2. Thus, Perris exceeds the standard once in every 3.5 years on average and April 12, 2007 had the fifth highest PM10 concentration ever measured at Perris. However, the first four exceedances occurred in the early years of the PM control program, so in the 18 years starting in 1991, only two exceedances occurred at Perris (one exceedance every 9 years, on average). In those 18 years, the April 12, 2007 episode had the second-highest PM10 concentration measured at Perris.

Figure 1-4 shows the distribution of all Federal Reference Method (FRM) Size-Selective Inlet (SSI) PM10 measurements for South Coast Air Basin air monitoring stations from January 1990 through June 2008. The plotted values (black squares) are considered statistical outliers. Concentrations above the 97.5 percentile value (101 $\mu g/m^3$ and above) are above the normal range of data for the Basin. Therefore, any value that exceeds the 24-hour federal PM10 standard of 150 $\mu g/m^3$ is well outside the normal range of data and is above the 99.5 percentile value (139.5 $\mu g/m^3$).

TABLE 1-1

Historical Summary of South Coast Air Basin FRM SSI PM10 24-HourHigh Concentrations Exceeding 150 μg/m^3 between January 1, 2000 and December 31, 2008 with Primary Causal Event

Event Date*	Station	SSI PM10 (μg/m^3)	Cause
January 2, 2001	Ontario Fire Station	**166**	High Winds
August 17, 2001	Banning Airport	**219**	High Wind Natural Event**
July 5, 2003	Rubidoux	**159**	Fireworks
October 27, 2003	Rubidoux	**164**	High Winds/Wildfire
April 12, 2007	Perris	**167**	High Winds**
July 5, 2007	Fontana	**155**	Fireworks**
July 5, 2007	Azusa	**165**	Fireworks**
October 21, 2007	Anaheim	**489**	High Winds/Wildfire**
October 21, 2007	Rubidoux	**559**	High Winds/Wildfire**
October 21, 2007	Mira Loma	**681**	High Winds/Wildfire**
October 21, 2007	Perris	**1212**	High Winds/Wildfire**
October 21, 2007	Norco	**332**	High Winds/Wildfire**
October 21, 2007	Fontana	**276**	High Winds/Wildfire**
October 21, 2007	San Bernardino	**219**	High Winds/Wildfire**
October 21, 2007	Ontario Fire Station	**275**	High Winds/Wildfire**
October 21, 2007	Long Beach	**232**	High Winds/Wildfire**
October 21, 2007	South Long Beach	**432**	High Winds/Wildfire**
October 21, 2007	Santa Clarita	**167**	High Winds/Wildfire**

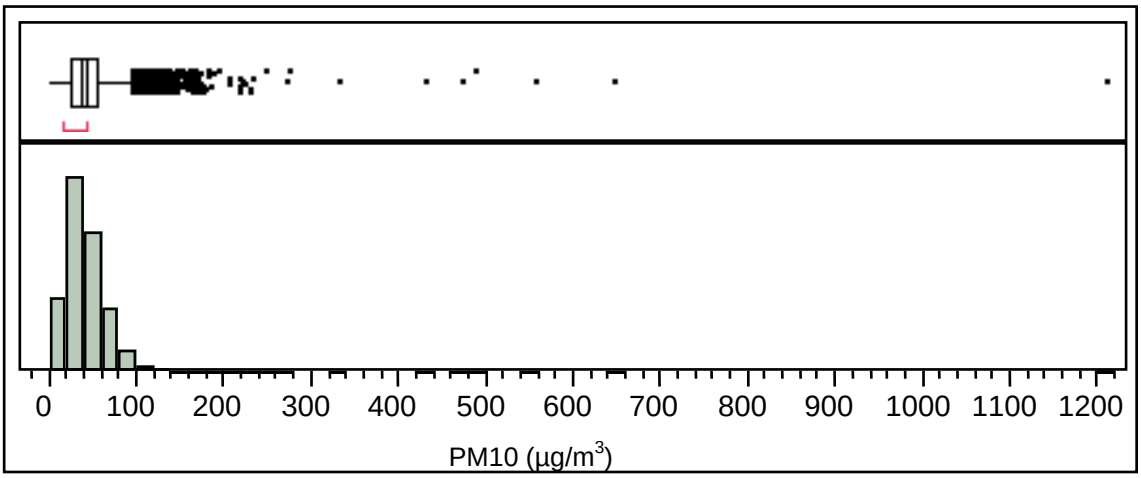
* 1-in-6 day FRM SSI sampling for all stations except 1-in-3 day sampling at Rubidoux.

** All 2007 events have been flagged by AQMD under the Exceptional Events Rule. Prior events in the South Coast Air Basin were not flagged due to ongoing violation of the now-revoked annual PM10 NAAQS, except August 17, 2001 at Banning which was flagged along with Coachella Valley stations during a thunderstorm-related high wind natural event.

TABLE 1-2

Historical Summary of FRM PM10 NAAQS Violations at Perris between October 6, 1987 and December 31, 2008

Event Date	SSI PM10 (μg/m^3)
October 24, 1988	164
October 13, 1989	187
February 28, 1990	180
November 7, 1990	250
April 12, 2007	167
October 21, 2007	1212



Quantiles		PM10 (µg/m^3)
100.0%	maximum	1212.0
99.5%		139.5
97.5%		101.0
90.0%		73.0
75.0%	quartile	54.0
50.0%	median	38.0
25.0%	quartile	26.0
10.0%		16.0
2.5%		10.0
0.5%		5.0
0.0%	minimum	0.0

Moments	PM10 (µg/m^3)
Mean	42.472396
Std Dev	26.819924
Std Err Mean	0.1930991
upper 95% Mean	42.850887
lower 95% Mean	42.093905
N	19291

FIGURE 1-4

Distribution of SSI PM10 Concentrations throughout the South Coast Air Basin from January 1990 through June 2008

(Square symbols show statistically outlying PM10 concentrations)

2 HIGH WIND EXCEPTIONAL EVENT ANALYSIS: April 12, 2007

2.1 Event Summary

April 12, 2007 PM10 Exceptional Event - Perris Air Monitoring Station

A violation of the PM10 NAAQS was recorded in the South Coast Air Basin at the AQMD Perris air quality monitoring station on April 12, 2007. The 24-hour mass concentration was 167 $\mu g/m^3$, as measured with a federal reference method (FRM) size-selective inlet (SSI) filter-based PM10 sampler. This event meets the criteria for high wind natural events as defined in the EPA Exceptional Events Rule.

On April 12, 2007 a strong trough of low pressure developed aloft over the west coast, along with an associated upper level jet of strong winds. Surface pressure gradients were strong from the northwest and west, creating strong winds across the Basin as well as the surrounding mountains and deserts throughout southern California. The pressure gradients were lined up through the city of Riverside and along the Perris Valley, forcing strong winds and windblown dust through the Perris area. Strong winds occurred upwind of the Perris air monitoring station from late morning through mid-afternoon, with blowing dust reported. In San Bernardino County, peak wind gusts were measured to 39 mph at Ontario International Airport and 41 mph at Chino Airport. In Riverside County, peak wind gusts reached 38 mph at Riverside Municipal Airport, and 39 mph at March Air Reserve Base in Riverside. West of the Santa Ana Mountains in Orange County, the Santa Ana/John Wayne International Airport recorded wind gusts to 25 mph. The 1-minute averaged winds at the Perris air monitoring station reached 24 mph in the afternoon (instantaneous gusts are not recorded). PM10 measurements throughout the Basin were elevated, but did not exceed the NAAQS except at Perris. The San Bernardino air monitoring station measured 136 $\mu g/m^3$, Santa Clarita measured 131 $\mu g/m^3$ and Riverside-Rubidoux measured 108 $\mu g/m^3$.

Strong winds were also seen in the Coachella Valley (AQMD jurisdiction in the Salton Sea Air Basin), on the east side of the San Jacinto Mountains on April 12, where the FRM PM10 sampler at Indio recorded 146 $\mu g/m^3$. The Imperial County Air Pollution Control District prepared a request to flag the PM10 measurements at Brawley and Westmorland on this day due to high winds. The Mojave Desert Air Quality Management District also prepared PM10 natural event requests with NAAQS exceedances at Lancaster, Victorville, Lucerne Valley and Barstow. The Arizona Department of Environmental Quality recorded NAAQS exceedances on both April 11 and 12 with their Beta Attenuation Monitor (BAM) at Yuma, AZ.

Due to the widespread winds, sources of the windblown dust were both natural areas, particularly in the mountains and deserts, and BACM-controlled anthropogenic sources. The timing of the this event is verified with the high wind observations and reports of reduced visibility and blowing sand and dust, in conjunction with the hourly TEOM PM10 measurements data from nearby monitors (Perris does not have a continuous PM10 monitor). With the weight of evidence provided, AQMD concludes that the PM10 exceedance would not have occurred without the high winds and wind-entrained dust.

Flagging of Data

AQMD has submitted the PM10 data from the Perris FRM monitor to the EPA AQS database and has placed the appropriate flags on the data indicating that the data was affected by an exceptional event due to high winds (Flag RJ, requesting exclusion due to high winds). Such flagging ensures that the air quality data is properly represented in the overall air quality process.

Exceptional Event Criteria Summary

40 CFR 50.1(j) of the Exceptional Events Regulation defines an exceptional event as an event that:

- affects air quality;
- is not reasonably controllable or preventable;
- is either an event caused by human activity that is unlikely to recur at a particular location or a natural event; and
- is determined by the EPA Administrator in accordance with the Exceptional Events Rule to be an exceptional event.

The following sections describe how the first three criteria are met for the April 12, 2007 high wind natural event at Perris.

Affects Air Quality

For an event to quality as an exceptional event, it is necessary to show that the event affected air quality. This criterion can be met by establishing that the event is associated with a measured exceedance in excess of normal historical fluctuations, including background. The demonstration of a clear causal relationship is necessary to establish that the event affected air quality and is also a separate requirement.

The documentation provided herein for the April 12, 2007 natural event at Perris provides the required information to establish a causal connection between the high winds in the Basin and the high concentration measured at the Perris monitor. The measured 24-hour PM10 concentration of 167 $\mu g/m^3$ at Perris shows that air quality was affected. Concentrations were low on the days before and after the high wind event, as is shown in Table 2-1. The hourly PM10 concentrations in the Basin increased rapidly as the winds peaked, as is shown in Figures 2-1, 2-12 and 2-13. As was shown previously in Section 1.7, in 18 years of analyzed data, high PM10 concentrations exceeding the 24-hour NAAQS do not often occur in the Basin and fall into less than the top 0.5 percent of the data. In the past 7 years, all seven days with PM10 24-hour NAAQS violations in the Basin were due to exceptional events, including strong winds, wildfire and fireworks displays. This was the second highest PM10 measurement recorded at Perris in over 18 years, starting with 1991.

Section 2.2, Detailed Event Analysis, includes meteorological data showing a clear correlation between strong, gusty winds and increased hourly PM10 in the Basin. The supporting documentation also includes a National Weather Service (NWS) forecasts and advisories of high winds and windblown dust, as well as National Climatic Data Center (NCDC) storm damage reports and newspaper accounts. The measured exceedance on April 12, 2007 is in excess of normal fluctuations, as is discussed further below.

Is Not Reasonably Controllable or Preventable

This requirement is met by demonstrating that despite reasonable and appropriate measures in place, the April 12, 2007 wind event caused the NAAQS violation. During this event, there were no other unusual PM10-producing activities occurring in the Basin and anthropogenic emissions were approximately constant before, during and after the event. In addition, reasonable and appropriate measures were in place, as has been described in Section 1.6, Regulatory Measures. A Rule 403.1 High Wind Day forecast was issued by AQMD on April 12, requiring curtailment of dust-producing agricultural and construction activities and the use of mitigation measures on disturbed soil in the Coachella Valley. On April 12, PM2.5 measurements, as well as PM10 sulfate and nitrate measurements in the Basin, were relatively low, indicating primarily crustal material comprising the PM10 mass and not transported or locally generated urban pollution or combustion sources.

A survey of the AQMD complaint records and inspection reports for the Riverside and San Bernardino County portions of the Basin indicated no evidence of unusual emissions on April 12, 2007, other than related to the windblown dust event. Fifteen calls were logged in the two Inland Empire counties along with several more in Los Angeles and Orange Counties. These are summarized in Table 2-14 from the AQMD CLean Air Support System (CLASS) database for complaints and compliance actions.

No Notices of Violation were issued in the Inland Empire for fugitive dust violations on this day. A Notice to Comply with AQMD Rule 403 was issued in Rancho Cucamonga (San Bernardino County), but the AQMD Inspector did not observe fugitive dust crossing the property line or track out from the facility. A second Notice to Comply was issued in Ontario for a facility that did not plan additional water trucks to prevent fugitive dust from crossing the property line prior to its occurrence. Again, no fugitive dust or track out was observed at the time of the inspection. No complaints were logged in Perris. The closest complaints were from Hemet, Corona, and Chino and no significant compliance actions were initiated. The control methods were generally effective throughout the Basin, but were apparently overwhelmed in several instances by the strong, gusty winds, causing windblown dust and sand to be entrained in the atmosphere and to cross property lines.

Two small brush fires were reported in the Basin on April 12, a 50 acre fire in the Beverly Glen area of Los Angeles County that damaged three homes and a 2-3 acre brush fire in Brea in northern Orange County. The smoke from wildfires, agricultural or residential burning did not appear to have added any significant amount of PM10 to the concentration recorded at Perris. The PM2.5 portion of PM10, which would indicate combustion, was very small throughout the Basin. PM10 was emitted from some BACM-controlled sources (mainly agricultural and construction activities) as BACM controls were locally overwhelmed by the high winds. Natural particulate source areas also contributed to the measured PM10, particularly the upwind mountain and desert areas.

Was a Natural Event

Ambient particulate matter concentrations due to dust being raised by unusually high winds will be treated as due to uncontrollable natural events where (1) the dust originated from non-anthropogenic sources, or (2) the dust originated from anthropogenic sources within the State that are determined to be reasonable well controlled at the time the event occurred, or from anthropogenic sources outside the State. Based on previous analyses of windblown dust in the Coachella Valley and the Basin, wind gusts over 22 mph are sufficient to entrain windblown dust in the atmosphere. In the preamble to the Exceptional Events Rule, EPA also explains states must provide appropriate documentation to substantiate why the level of wind speed associated with the event in question should be considered unusual for the affected area during the time of year that the event occurred. On average, the strong wind conditions that lead to PM10 exceedances due to high wind natural events occur less than three times per year, for the entire South Coast Air Basin. EPA also notes in the Exceptional Event Rule that natural events (e.g., high winds, wildfires, etc.) may recur, sometimes frequently. The event on April 12, 2007 was a natural event in which human activity played little or no direct causal role. A portion of the wind-entrained dust originated from anthropogenic sources, including some agricultural

operations and construction activities, that are well controlled in the Basin as described in Section 1.6, Regulatory Measures.

The analysis of the meteorological setting, including weather charts, pressure gradients and satellite imagery, indicate significant potential for strong winds in the Basin on April 12, 2007. Wind speeds in San Bernardino and Riverside Counties upwind of the Perris air monitoring station were high on this day. Sustained high wind speeds that were recorded at National Weather Service (NWS) weather stations include: 25 mph at Chino Airport; 26 mph at Ontario International Airport; 21 mph at Riverside Municipal Airport; and 26 mph at March ARB. Significantly higher wind gusts were also measured at these stations, as well as the NWS RAWS sites in the vicinity, with Chino Airport measuring the highest peak wind gust near Perris (41 mph). The period of gusty winds started near 1000 PST and was over in the early evening, starting out westerly and turning northerly through the afternoon. The strongest winds occurred at March ARB near 1400 and 1500 PST, with blowing dust reported and visibilities to 2.5 miles. These observations support the presence of windblown dust at the Perris monitor, especially in the afternoon of April 12. In addition, NWS forecast discussions and wind advisories, NCDC storm event record reports and newspaper articles also describe strong winds and blowing dust in southern California, providing substantial weight-of-evidence for the sequence of events.

Causal Connection

This documentation shows a clear causal connection between the PM10 measured at Perris and the high winds at Perris and in the Basin upwind of Perris on April 12, 2007. Figures 2-12 and 2-13 show that winds near the closest stations to Perris with continuous PM10 instruments, Lake Elsinore and Riverside-Rubidoux, respectively, increased in the afternoon of April 12 causing increased hourly PM10. At March ARB in Riverside, north of Perris, sustained wind speeds of 26 mph and wind gusts to 39 mph were reported along with reduced visibilities and blowing dust. Riverside Municipal Airport winds gusted to 38 mph with blowing dust and reduced visibilities reported. The Chino Airport reported sustained winds of 25 mph and gusts to 41 mph. Ontario International Airport stations also recorded strong gusty winds and blowing dust. The causal connection is demonstrated by the dramatic increase in hourly PM10 concentrations that coincided with the transport of dust entrained by strong, gusty winds.

Concentration was in Excess of Normal Historical Fluctuations

The 167 μg/m^3 24-hour PM10 concentrations measured at Perris on April 12, 2007 are higher that the 99.5 percentile value of 139.5 μg/m^3 for all South Coast Air Basin FRM measurements since 1990, as shown previously in Section 1.6, Figure 1-4. Concentrations above the 97.5 percentile value (101.0 μg/m^3 and above) are outside the normal range of the data. Therefore any value that exceeds the 24-hour federal PM10 standard of 150 μg/m^3 is clearly in excess of the normal historical fluctuations of data for the Basin. All concentrations exceeding the federal 24-hour PM10 standard in the Basin since at least January 1, 2000 can be attributed to events that would quality as exceptional events, as was shown previously in Table 1-1. The concentration measured on April 12, 2007 is the second highest valid PM10 measured at Perris after November 7, 1990. With the exception of the sample from the October 21, 2007 high wind/wildfire event, no other days exceeded the PM10 24-hour NAAQS at Perris since November 7, 1990.

The "But For" Test

To qualify as an exceptional event, it is necessary to demonstrate that there would have been no exceedance "but for" the event. To meet this "but for" requirement, it must first be shown that no unusual anthropogenic activities occurred in the affected area that could have resulted in the exceedances, besides the high wind event. Activities that generate anthropogenic PM10 were approximately constant in the Basin immediately preceding, during and after the event. Activity levels in the Basin were typical for the time of year and PM10 emissions control programs were being implemented, not only for fugitive dust-generating activities, but also for agricultural burning in the Basin. Furthermore, due to the forecast for high winds on April 12, the AQMD compliance teams were ready to act quickly to fugitive dust complaints to minimize emissions and to enforce mitigation methods like watering and soil stabilization.

Vehicular traffic, cooking and residential fires do not directly cause PM10 24-hour NAAQS violations in the Basin. Activity levels in the Basin were typical for the time of year and PM10 emissions control programs were being implemented, for fugitive dust-generating activities, as well as open burning. With the deep mixing and unsettled conditions, such emissions would not contribute significantly to the PM10 measured. There were reasonable and appropriate measures in place to control PM10 in the Basin on April 12, 2007, including AQMD Rules 403, 444, 445, 1156, 1157, 1158 and 1186. Moreover, EPA has approved AQMD's BACM demonstration for all significant sources of PM10 in the Basin.

Examining the make-up of the PM10 near Perris at Riverside-Rubidoux on this day using FRM PM2.5 data, the coarse particles (PM10-2.5), which are associated with windblown dust, represent over 90% of the total PM10 mass collected at Rubidoux. At Lake Elsinore, coarse particles accounted for 86% of the PM10 based on BAM PM2.5 and TEOM PM10 24-hour averaged measurements. PM10 sulfates, nitrates and chloride components were also low on the FRM filters throughout the Basin, indicating primarily crustal material in the sample. Based on the data provided in this report, AQMD concludes that there would not have been an exceedance of the PM10 NAAQS at Perris on April 12, 2007 if high winds were not present. The causal connection of the measured PM10 and the strong winds in the Basin, and throughout southern California, along with the high contribution of fugitive dust to the PM10 mass indicate that but for the high wind event this NAAQS violation would not have occurred.

Reasonable Measures

AQMD issued daily air quality forecasts on April 11 and 12, 2007, each valid for the following day, with same-day updates. These warned the public of the air quality in the Basin and the Coachella Valley that was predicted to reach the Moderate range, due to increased particulates in association with the windblown dust that was mainly expected in the mountains and deserts at the time the forecast was issued. Good ventilation and deep mixing were predicted for the Basin and, given the time of year, air quality would be expected to be in the Good range, except for the wind event.

AQMD encourages public awareness of the health impacts of particulate matter through the AQMD website, informational brochures, public meetings and conferences, and press releases. Real-time air quality data and daily air quality forecasts and episode notifications are available through the AQMD website (http://www.aqmd.gov) and through the Interactive Voice Response (IVR) telephone system (1-800-CUT-SMOG). Forecasts and air quality notifications can be received by email (http://www.aqmd.gov/smog/ForecastEmails.html) or by FAX and many schools, recreational facilities, sports organizations and individuals subscribe to these services. AQMD forecasts and current data are also available through the EPA AirNow system (http://www.airnow.gov) and data is available through the CARB website (http://www.arb.ca.gov/aqd/aqdpage.htm).

Public Notification

The South Coast Air Quality Management District (AQMD) has prepared this documentation to demonstrate that this exceedance was due to high-wind natural events, in accordance with the EPA Exceptional Event Rule. Upon transmittal of this document

to the California Air Resources Board (ARB), this document will be posted on the AQMD website for public hearings, notices and meetings (http://www.aqmd.gov/pubinfo/public_notices.htm), requesting review and comment by the public for a minimum of 30 days.

Checklist of Exceptional Event Requirements

AQMD Flagging of Data	✓
Exceptional Event Criteria Summary:	
Affects Air Quality	✓
Is Not Reasonably Controllable or Preventable	✓
Was a Natural Event	✓
Causal Connection	✓
Concentration in Excess of Normal Historical Fluctuations	✓
The "But For" Test	✓
Reasonable Measures	✓
Public Notification	✓*

* This document will be posted on the AQMD website for a 30 days public comment period, when received by CARB

2.2 Detailed Event Analysis

PM Summary

On April 12, 2007, the FRM size-selective inlet (SSI) sampler at the Perris air monitoring station measured a 24-hour PM10 mass concentration of 167 $\mu g/m^3$. The sulfate, nitrate and chloride mass loadings on the Perris filter on this day were 5.2, 6.4 and 2.5 $\mu g/m^3$, respectively, indicating that the PM10 mass was primarily crustal material on this day. There are no hourly BAM or TEOM PM10 measurements at Perris, so the nearby stations at Riverside-Rubidoux, Mira Loma and Lake Elsinore will be used to analyze the timing of the wind event. There are no collocated PM2.5 samplers at Perris; the nearest station with FRM PM2.5 measurements is Riverside-Rubidoux. The FRM 24-hour PM2.5 was 10.1 $\mu g/m^3$, at Rubidoux, which is quite low and well within the PM2.5 24-hour federal standard of 35 $\mu g/m^3$. This again indicates that wind blown sand and dust were the primary components of the measured PM10 with only a small influence from combustion sources.

Table 2-1 shows the FRM SSI data from Perris for the samples taken between April 6 and April 18, 2007, before and after the April 12 exceedance. The AQMD FRM PM10 filter samples are collected on a 1-in-6 day schedule, except at Riverside-Rubidoux and Indio where 1-in-3 day data is collected. Table 2-1 also shows daily 24-hour average PM10 concentrations from the available FRM and continuous, hourly TEOM instruments at the following locations:

- Riverside County – Riverside-Rubidoux, Mira Loma and Lake Elsinore;
- San Bernardino County – Upland, Ontario Fire Station, Norco, Fontana and San Bernardino;
- Orange County – Anaheim; and
- Los Angeles County – Central Los Angeles, Long Beach and Santa Clarita.

The 24-hour averaged daily TEOM measurements indicate that the PM10 had already started to increase slightly on April 11, as the winds had started to increase locally for part of that day. Relatively high PM10 was measured on April 12 at the Riverside County stations in the Basin, closest to Perris, and at the other Basin stations in San Bernardino, Orange and Los Angeles Counties, as well as at Indio in the Coachella Valley (Salton Sea Air Basin). This demonstrates that this windblown particulate event was widespread. Besides Perris, no other stations in the Basin exceeded the 24-hour PM10 standard on this day. The 24-hour FRM PM10 concentrations were 108 $\mu g/m^3$ at Riverside-Rubidoux and 127 $\mu g/m^3$ at Mira Loma. Further south and west of Perris, the Lake Elsinore TEOM PM10 24-hour average was 83 $\mu g/m^3$. Across the San Jacinto and Santa Rosa mountains to the east of Perris, the Indio FRM measured 146 $\mu g/m^3$. The Fontana FRM sampler did not run on April 12, but was run on the following day. The

FRM PM10 concentrations on April 12 at Perris were three times that measured on the sampling days before and after that day. Most other stations were 2-3 times higher than the surrounding days. This indicates the impact of the high winds on April 12 resulting in the higher than typical PM10 concentrations.

TABLE 2-1

24-hour FRM SSI and TEOM PM10 Measurements at Perris and Surrounding Air Monitoring Stations between April 6 and April 18, 2007

(concentrations exceeding 150 μg/m^3 are highlighted in bold type)

Monitoring Site		24-Hour PM10 (μg/m^3)												
		Date (2007)												
Location	Type	April 6	April 7	April 8	April 9	April 10	April 11	**April 12**	April 13	April 14	April 15	April 16	April 17	April 18
Perris	SSI	54						**167**						42
Riverside-Rubidoux	SSI	52			40			108			23			38
Riverside-Rubidoux	TEOM	29	20	22	24	31	38	75	42	41	18	29	36	24
Mira Loma	SSI	66						127						65
Mira Loma	TEOM	33	19	21	27	39	42	88	67	44	21	37	45	35
Lake Elsinore	TEOM	23	15	13	22	32	35	83	46	28	16	29	32	25
Indio (SSAB)	SSI	**157***			69			146			35			84
Upland	TEOM	64	37	36	43	63	74	135	92	56	37	64	74	51
Ontario	SSI	40						85						35
Norco	SSI	35						93						37
Fontana	SSI	58						---	64					54
San Bernardino	SSI	64						136						35
San Bernardino	TEOM	40	23	22	29	36	45	99	40	33	14	29	38	22
Crestline	SSI	38						89						16
Redlands	SSI	66						92						30
Anaheim	SSI	22						69						38
Anaheim	TEOM	29	23	18	22	32	30	56	48	22	22	31	28	15
Central Los Angeles	SSI	32						78						16
Central Los Angeles	TEOM	32	25	23	28	34	40	104	46	33	26	39	41	22
S. Long Beach	SSI	31						123						66
Long Beach	TEOM	28	23	18	23	33	36	82	46	25	30	35	33	36
Santa Clarita	SSI	26						75						38

* Analysis submitted for Indio high wind exceptional event on April 6

The continuous, hourly TEOM data from the available stations in Riverside and San Bernardino Counties are shown in Table 2-2, starting at 1200 PST on April 11, before the concentrations started to increase, and ending at 1200 PST on April 13, after the elevated concentrations ended. Concentrations exceeding 150 μg/m^3 are highlighted in bold type. This data is also plotted as a time series in Figure 2-1. The TEOM measurements started to increase at 1100 PST at the Riverside-Rubidoux and Mira Loma stations quickly in the afternoon, exceeding 150 μg/m^3 at both stations during the 1300 PST hour. Rubidoux only exceed 150 μg/m^3 during the two hours starting at 1300 and 1400 PST, reaching a peak hourly concentration of 272 μg/m^3 at 1300 PST followed by 264 μg/m^3 at 1400 PST. Mira Loma also exceeded 150 μg/m^3 during those hours, and then decreased somewhat for two hours before increasing again for three hours from

1700 through 1900 PST, with a peak concentration of 201 $\mu g/m^3$ at 1700 PST. The Mira Loma and Rubidoux hourly PM10 remained elevated but continued to decrease through the evening of April 12 and dropped to normal levels in the morning of April 13, earlier at Rubidoux than at Mira Loma. While these two stations are relatively close, Mira Loma is approximately 4.3 miles west of Rubidoux, the hourly differences point to the effects of terrain and local dust sources during this gusty wind event. The Perris station is approximately 18 miles toward the south-southeast from Riverside-Rubidoux.

The Lake Elsinore air monitoring station is approximately 10 miles to the southwest of Perris, although the wind flows at Elsinore are likely to be affected by the portion of the Santa Ana Mountains that lie east of Interstate 15, north and west of Lake Elsinore. Hourly PM10 at Elsinore started to increase at 1300 PST, then spiked above 150 $\mu g/m^3$ to 337 $\mu g/m^3$ during the 1400 PST hour. This PM10 spike occurred approximately one hour later than at the Rubidoux station spike. Elsinore reached a peak concentration of 340 $\mu g/m^3$ during the 1500 PST hour. After this, the Elsinore PM10 did not exceed 150 $\mu g/m^3$ but remained elevated until approximately 0600 on April 13.

The San Bernardino County TEOM instruments, at Upland and San Bernardino, show the timing of increased PM10 similar to the Riverside County stations. San Bernardino spiked first at 1200 PST, peaked at 596 $\mu g/m^3$ during the 1300 PST hour, remained high at 390 $\mu g/m^3$ for the next hour then remained below 150 $\mu g/m^3$ for the rest of the day. Upland increased quickly at 1300 PST then remained over 150 $\mu g/m^3$ for 12 hours between 1200 PST on April 12 and 0100 PST on April 13, peaking at 398 $\mu g/m^3$ during the hour beginning at 1800 PST. Upland is approximately 20 miles west of the San Bernardino station and 30 miles toward the northwest of Perris. Further west, the Central Los Angeles BAM shows similar timing of increased PM10, although starting a few hours earlier than the Riverside and San Bernardino County stations.

TABLE 2-2

Hourly TEOM and BAM PM10 Measurements between 1200 PST on April 11 and 1200 PST on April 13, 2007

(concentrations exceeding 150 μg/m^3 are highlighted in bold type)

DATE	HOUR (PST)	Hourly PM10 (μg/m^3)					
		Riverside-Rubidoux TEOM	Mira Loma TEOM	Lake Elsinore TEOM	Upland TEOM	San Bernardino TEOM	Central Los Angeles BAM
4/11/07	1200	51	47	43	74	51	45
	1300	58	49	34	85	55	28
	1400	68	64	67	103	62	31
	1500	60	60	37	104	70	21
	1600	37	35	29	71	56	15
	1700	33	30	29	96	35	16
	1800	25	30	36	94	36	19
	1900	29	38	26	65	23	9
	2000	23	19	15	47	28	31
	2100	17	14	7	38	18	44
	2200	17	16	15	35	19	35
	2300	16	14	10	27	17	30
4/12/07	0000	18	18	13	28	15	39
	0100	15	22	14	27	13	44
	0200	21	17	18	27	19	34
	0300	15	11	19	22	17	21
	0400	21	27	23	29	19	25
	0500	19	31	26	46	18	25
	0600	24	36	41	49	27	45
	0700	23	36	26	47	29	67
	0800	23	20	22	56	19	75
	0900	26	27	30	57	21	23
	1000	34	24	21	54	26	**345**
	1100	51	68	37	43	54	**364**
	1200	50	101	33	47	**277**	145
	1300	**272**	**164**	83	112	**596**	**239**
	1400	**264**	**186**	**337**	**368**	**390**	**190**
	1500	127	137	**340**	**314**	49	104
	1600	57	130	147	**185**	51	112
	1700	119	**201**	131	**291**	113	**159**
	1800	140	**184**	138	**398**	149	**153**
	1900	125	**174**	98	**288**	99	101
	2000	97	145	97	**167**	72	70
	2100	88	125	90	**184**	90	44
	2200	85	119	97	**201**	112	38
	2300	82	111	99	**205**	107	32
4/13/07	0000	81	110	98	**174**	74	48
	0100	75	103	80	**154**	23	42
	0200	65	99	78	128	17	29
	0300	35	111	66	108	16	20
	0400	19	123	82	114	13	29
	0500	24	87	57	81	19	63
	0600	28	63	36	96	20	84
	0700	38	99	28	126	18	113
	0800	32	113	40	143	21	116
	0900	25	51	39	101	36	108
	1000	37	34	53	63	109	101
	1100	50	32	42	60	63	91
	1200	36	36	25	49	64	60

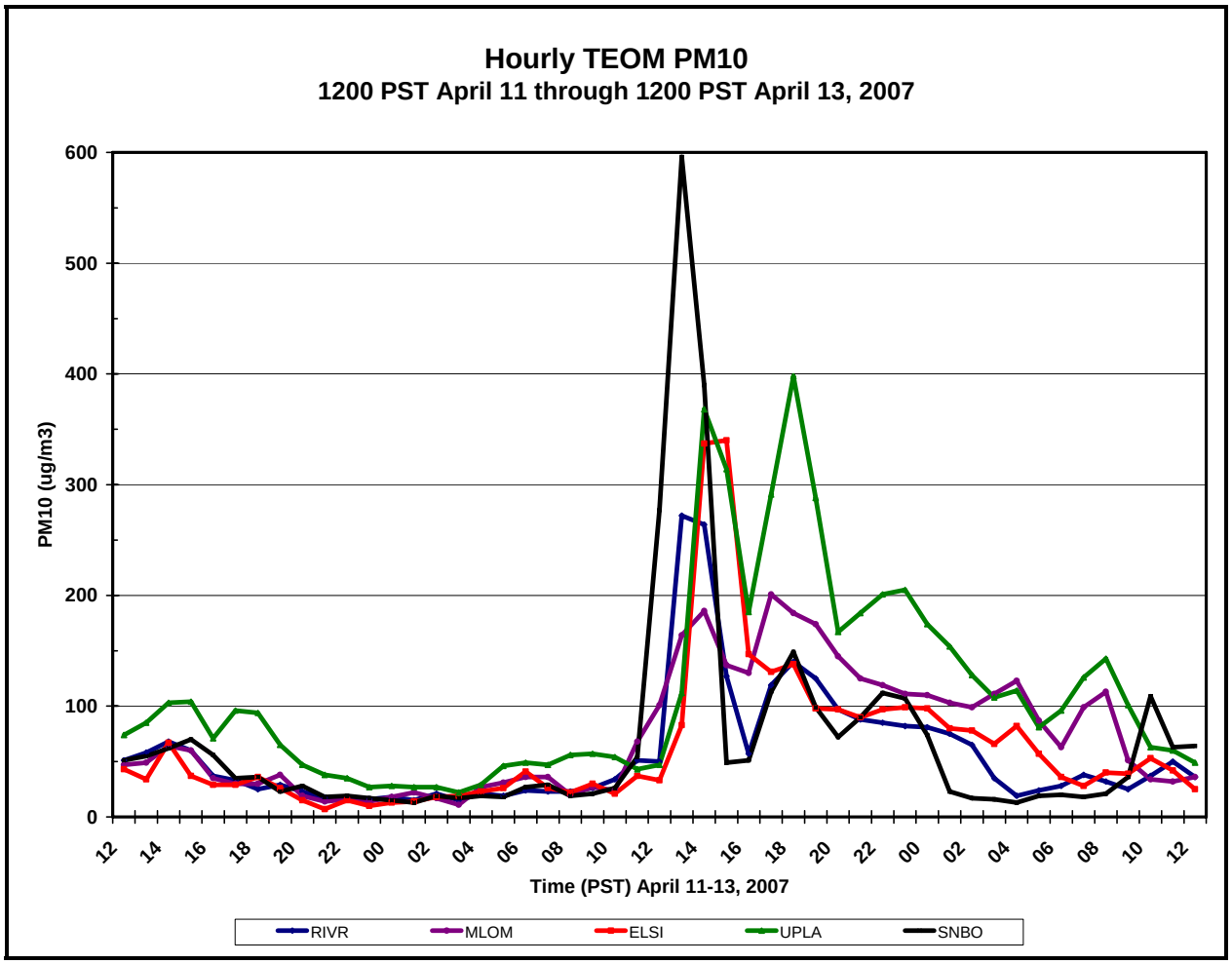


FIGURE 2-1

Time Series of Hourly TEOM PM10 (µg/m^3) from 1200 PST April 11 through 1200 PST April 13, 2007 for AQMD Air Monitoring Stations at Riverside-Rubidoux (RIVR), Mira Loma (MLOM), Lake Elsinore (ELSI), Upland (UPLA) and San Bernardino (SNBO)

Table 2-3 shows 24-hour sulfate, nitrate and chloride species from the PM10 FRM SSI filters for the days surrounding April 12. The average sulfate concentration at Perris for the year 2007 was 3.2 $\mu g/m^3$ and sulfates accounted for an average of 5.8% of the PM10 mass for the year. The sulfate concentration measured at Perris on April 12, 2.4 $\mu g/m^3$, accounts for 1.4% of the PM10 mass on that day. The average nitrate concentration at Perris for the year 2007 was 3.8 $\mu g/m^3$ and accounted for an average of 6.9% of the PM10 mass that year. The nitrate concentration measured at Perris on April 12, 2.2 $\mu g/m^3$, accounts for 1.3% of the PM10 mass on that day. The average chloride concentration at Perris for the year 2007 was 0.20 $\mu g/m^3$ and accounted for an average of 0.5% of the PM10 mass that year. The chloride concentration measured at Perris on April 12, 2.54 $\mu g/m^3$, accounts for 1.5% of the PM10 mass on that day. The below-average PM10 sulfate and nitrate concentration indicate that windblown crustal material was the primary contributor to PM10 on April 12. The elevated chloride concentration is from the strong winds, with a strong westerly component, that transported the windblown salts from ocean waves to the inland areas. Although elevated, the chloride concentrations still were a small fraction of the PM10 measured.

TABLE 2-3

24-hour Sulfate, Nitrate and Chloride from PM10 FRM SSI Measurements at Perris and Surrounding Air Monitoring Stations between April 6 and April 18, 2007

Monitoring Site		24-Hour PM10 Sulfate (µg/m^3)												
		Date (2007)												
Location	**Type**	April 6	April 7	April 8	April 9	April 10	April 11	**April 12**	April 13	April 14	April 15	April 16	April 17	April 18
Perris	SSI	5.7						2.4						2.2
Riverside-Rubidoux	SSI	6.2			4.0			2.1			2.2			2.3
Mira Loma	SSI	6.7						2.6						2.6
Indio (SSAB)	SSI	5.2			3.3			2.4			1.5			2.0
Ontario	SSI	5.7						2.0						2.0
Norco	SSI	5.8						2.2						1.9
Fontana	SSI	8.3						---	0.9					2.8
San Bernardino	SSI	7.8						2.3						2.5
Crestline	SSI	3.8						1.2						0.9
Redlands	SSI	7.6						1.7						2.2
Anaheim	SSI	5.8						2.0						1.8
Central Los Angeles	SSI	7.7						1.8						1.4
S. Long Beach	SSI	7.2						3.0						2.3
Santa Clarita	SSI	9.2						1.3						0.7

Monitoring Site		24-Hour PM10 Nitrate (µg/m^3)												
		Date (2007)												
Location	**Type**	April 6	April 7	April 8	April 9	April 10	April 11	**April 12**	April 13	April 14	April 15	April 16	April 17	April 18
Perris	SSI	9.4						2.2						3.5
Riverside-Rubidoux	SSI	10.3			7.3			2.5			3.3			4.0
Mira Loma	SSI	10.9						3.2						4.6
Indio (SSAB)	SSI	6.4			2.2			3.5			1.9			3.3
Ontario	SSI	6.0						2.2						3.3
Norco	SSI	5.5						2.5						2.7
Fontana	SSI	11.5						---	1.5					5.3
San Bernardino	SSI	16.0						3.2						4.6
Crestline	SSI	3.7						1.5						0.5
Redlands	SSI	15.6						2.2						3.6
Anaheim	SSI	2.7						1.5						1.8
Central Los Angeles	SSI	4.2						1.8						1.9
S. Long Beach	SSI	1.9						2.3						2.1
Santa Clarita	SSI	10.9						1.9						0.8

Monitoring Site		24-Hour PM10 Chloride (µg/m^3)												
		Date (2007)												
Location	**Type**	April 6	April 7	April 8	April 9	April 10	April 11	**April 12**	April 13	April 14	April 15	April 16	April 17	April 18
Perris	SSI	0.01						2.54						0.74
Riverside-Rubidoux	SSI	0.02			0.04			1.89			0.59			1.07
Mira Loma	SSI	0.02						2.00						1.84
Indio (SSAB)	SSI	0.06			0.04			0.71			0.56			0.24
Ontario	SSI	0.03						1.87						1.15
Norco	SSI	0.03						1.56						1.75
Fontana	SSI	0.01						---	0.37					1.09
San Bernardino	SSI	0.01						1.52						0.41
Crestline	SSI	0.06						0.17						0.08
Redlands	SSI	0.01						1.25						0.04
Anaheim	SSI	0.03						2.58						2.39
Central Los Angeles	SSI	0.03						1.26						0.20
S. Long Beach	SSI	0.04						5.83						4.29
Santa Clarita	SSI	0.01						0.47						0.39

Table 2-4 shows 24-hour PM2.5 concentrations from April 6 through 18, 2007, at stations throughout the Basin. PM2.5 is not measured at Perris, so the nearest stations provide an indication of the contribution from PM2.5. PM2.5 is measured with FRM filter samplers at Riverside-Rubidoux, Mira Loma and Indio in Riverside County and at Ontario, Fontana and San Bernardino in San Bernardino County. Anaheim, Central Los Angeles and S. Long Beach show the PM2.5 in the coastal counties. Where 24-hour averaged BAM measurements were available, these have been included to supplement the FRM measurements. The Lake Elsinore BAM PM2.5 instrument is particularly supportive in this case, since that station is relatively close to Perris. The PM2.5 concentrations were relatively low on April 12, with Mira Loma measuring the highest BAM PM2.5 concentration, 19.9 $\mu g/m^3$. The SSI PM2.5 at Riverside-Rubidoux SSI was only10.1 $\mu g/m^3$ and the Lake Elsinore TEOM was only 11.7 $\mu g/m^3$. All PM2.5 measurements on April 12 were well below the 24-hour PM2.5 NAAQS of 35 $\mu g/m^3$.

By comparing the 24-hour PM10 and PM2.5 mass from the same stations, the percentage of PM10 attributed to PM-Course (PM10-2.5) is high at all locations on April 12, as is shown in Table 2-5. The SSI instruments at Riverside-Rubidoux, Mira Loma and Indio in Riverside County all indicate that the coarse fraction was over 90% of the PM10 mass. The Lake Elsinore BAM PM2.5 compared with the TEOM PM10 shows the coarse fraction to be over 85 percent on the PM10 mass. This indicates that the source of the high PM10 throughout the Basin and in the Coachella Valley on April 12 was primarily crustal material due to windblown dust. Table 2-6 shows the hourly BAM PM2.5 concentrations in the Basin. The hourly PM2.5 values increase in the afternoon and evening of April 12 when the windblown dust increased the PM10, but PM2.5 remained a small fraction of the hourly PM10 throughout the day.

TABLE 2-4

24-hour FRM and BAM PM2.5 Measurements Surrounding the South Coast Air Basin Air Monitoring Stations Between April 6 and April 18, 2007

(concentrations exceeding 35 μg/m^3 are highlighted in bold type)

Monitoring Site		24-Hour PM2.5 (μg/m^3)												
		Date (2007)												
Location	Type	April 6	April 7	April 8	April 9	April 10	April 11	**April 12**	April 13	April 14	April 15	April 16	April 17	April 18
Riverside-Rubidoux	SSI	29.2	20.6	25.0	18.9	15.1	14.7	10.1	10.4	8.9	14.1	20.1	8.3	29.2
Riverside-Rubidoux	TEOM	32.6	23.8	30.6	26.1	18.7	18.4	13.2	6.7	12.3	12.1	17.0	24.9	13.9
Mira Loma	SSI	25.3			18.5			8.7			10.9			8.6
Mira Loma	TEOM	**38.7**	28.3	33.6	31.6	24.4	28.2	19.9	13.6	20.7	20.9	24.2	29.3	17.5
Lake Elsinore	TEOM	22.6	14.9	10.1	15.6	16.1	13.9	11.7	6.6	5.1	5.2	11.0	14.3	6.6
Indio (SSAB)	SSI	9.3			16.6			11.1			9.4			7.6
Ontario	SSI	24.3			14.5			8.9			6.9			8.6
Fontana	SSI	33.5			16.8			9.3			10.3			9.1
San Bernardino	SSI	**36.8**			22.3			10.7			10.6			9.0
Anaheim	SSI	13.6	11.3	10.0	6.7	9.3	7.8	7.2	8.9	8.4	7.5	9.9	12.9	7.0
Anaheim	TEOM	22.8	19.8	17.4	16.0	18.0	18.7	12.9	12.0	11.6	12.9	14.5	18.8	8.3
Central Los Angeles	SSI	23.3	18.1	15.6	11.0	11.2	11.3	9.0	8.3	7.8	6.8	10.5	13.9	5.1
Central Los Angeles	TEOM	34.3	26.5	24.3	19.5	19.7	18.8	11.8	12.9	15.8	13.0	17.6	21.6	9.5
S. Long Beach	SSI	13.1	11.8	8.9	7.8	9.3		8.3	8.3	7.2	7.5	9.0	10.9	6.4

TABLE 2-5

Percentage of 24-Hour PM10 Attributed to PM-Coarse (PM10-2.5) from Collocated Measurements between April 6 and April 18, 2007

Monitoring Site		24-Hour (PM10-PM2.5)/PM10 (%)												
		Date (2007)												
Location	Type	April 6	April 7	April 8	April 9	April 10	April 11	**April 12**	April 13	April 14	April 15	April 16	April 17	April 18
Riverside-Rubidoux	SSI	43.8			52.7			90.7			38.6			23.2
Riverside-Rubidoux	TEOM/BAM	-12.4$^+$	-19.0$^+$	-39.2$^+$	-8.9$^+$	39.7	51.6	82.4	84.1	70.0	32.9	41.2	30.8	42.0
Mira Loma	SSI	61.7						93.1						86.8
Mira Loma	TEOM/BAM	-17.3$^+$	-49.1$^+$	-60.1$^+$	-17.0$^+$	37.5	32.9	77.4	79.7	52.9	0.6	34.7	34.9	50.1
Lake Elsinore	TEOM/BAM	1.7	0.6	22.1	29.2	49.7	60.4	85.9	85.7	81.8	67.7	62.2	55.5	73.5
Indio (SSAB)	SSI	94.1			75.9			92.4			73.1			91.0
Ontario	SSI	39.3						89.5						75.4
Fontana	SSI	42.2												83.1
San Bernardino	SSI	42.5						92.1						74.3
Anaheim	SSI	38.2						89.5						81.7
Anaheim	TEOM/BAM	21.4	13.8	3.2	27.1	43.8	37.6	76.9	75.0	47.2	41.5	53.4	33.0	44.7
Central Los Angeles	SSI	27.2						88.5						68.2
Central Los Angeles	BAM	-7.2$^+$	-6.0$^+$	-5.4$^+$	30.5	42.0	53.1	88.7	72.0	52.0	50.0	54.9	47.3	57.0
S. Long Beach	SSI	57.7						93.2						90.3

$^+$ BAM PM2.5 is higher than TEOM/BAM PM10 due to instrument and calibration differences

TABLE 2-6

Hourly BAM PM2.5 Measurements between 1200 PST April 11 and 1200 PST April 13, 2007

(concentrations exceeding 35 μg/m^3 are highlighted in bold type)

DATE	HOUR (PST)	Hourly BAM PM2.5 (μg/m^3)				
		Riverside-Rubidoux	Mira Loma	Lake Elsinore	Anaheim	Central Los Angeles
4/11/07	1200	21	34	18	22	23
	1300		32	18	23	18
	1400		33	18	16	8
	1500		30	14	21	20
	1600	23	26	9	11	16
	1700	13	33	9	17	11
	1800	14	27	8	14	10
	1900	18	22	8	7	11
	2000	13	20	8	10	17
	2100	12	20	7	18	12
	2200	9	17	7	15	12
	2300	8	22	6	17	16
4/12/07	0000	9	23	8	21	18
	0100	11	22	8	13	14
	0200	11	18	7	11	17
	0300	11	1	8	12	17
	0400	11	4	7	12	22
	0500	8		5	17	21
	0600	21	24	7	13	28
	0700		18	9	21	19
	0800	16	19	11	12	3
	0900	15	21	13	18	5
	1000	13	23	10	9	7
	1100	10	15	9	16	6
	1200	16	18	8	10	6
	1300	9	17	9	7	7
	1400	22	21	16	6	8
	1500	24	28	21	9	8
	1600	13	21	25	8	8
	1700	7	21	12	9	14
	1800	19	33	13	18	12
	1900	16	26	15	21	9
	2000	16	32	16	18	9
	2100	15	26	15	10	12
	2200	13	22	15	9	7
	2300	12	25	14	10	6
4/13/07	0000	13	24	16	12	8
	0100	16	23	16	11	5
	0200	12	27	9	11	6
	0300	13	1	10	11	7
	0400	9	1	16	10	14
	0500	5	13	15	22	16
	0600	6	13	9	14	16
	0700	3	9	9	26	22
	0800	3	7	4	20	31
	0900	8	11		18	13
	1000	4	14	2	14	0
	1100	2	9	3	10	16
	1200	1	6	3	7	12

Meteorological Setting

On Wednesday, April 11, the first of two short-wave upper level troughs of low pressure had caused high winds in some areas, mainly in the deserts and mountains. Wind advisories had already been issued by the National Weather Service (NWS) for these areas and the widespread wind events in central and southern California that occurred on April 12 were well predicted (see Section 3 for NWS Forecast Discussions and Advisory text). The winds decreased overnight as the first system moved east. In the morning of April 12, the second, stronger short-wave upper level trough was developing over the west coast. The NWS predicted that this weather system would track across the Owens Valley and the eastern deserts with stronger winds, reduced visibility and blowing dust and sand. In their forecast discussions starting in the morning of April 11, NWS had predicted that the winds on April 12 would peak in the afternoon and evening and be strong at the coastline as the westerly and northwesterly winds gained momentum, crossing the ocean unimpeded. NWS issued marine small craft advisories for the coastal waters due to predicted gale winds, as well as high wave and high surf advisories for the beaches.

Figure 2-2 shows the NWS height analysis chart of the 500 millibar (MB) pressure level at 0400 PST. The center of the low, with heights of 5340 meters (m), was located over the northern California/Nevada border. The winds measured at this level along the southern California coast were approximately 80 mph (70 knots) at Vandenberg Air Force Base and 57 mph (50 knots) at San Diego, indicating a rigorous weather system developing. The exit region of a jet stream at the 300 MB pressure level was over southern California with winds to near 150 mph (130 knot) at that level, indicative of an active weather system and potential for unstable conditions and strong winds. This storm system was associated with a fast-moving cold front through southern California that primarily caused gusty northwesterly winds throughout southern California but little or no rain.

Figure 2-3 shows the NWS surface analysis at 0400 PST April 12. The center of the low is depicted over the deserts at the border of southern California, Nevada and Arizona, with a cold front extending southward over Baja California and to the west. The isobars (lines of constant pressure) are tightly packed over the Owens Valley at this time, indicative of strong winds in that area. The kinked isobars along the southern California coast indicate another frontal boundary that is not drawn on the map. The coastal winds in southern California were northwesterly at approximately 29 mph, while the NWS March Air Reserve Base (ARB) weather station still showed light southeasterly winds.

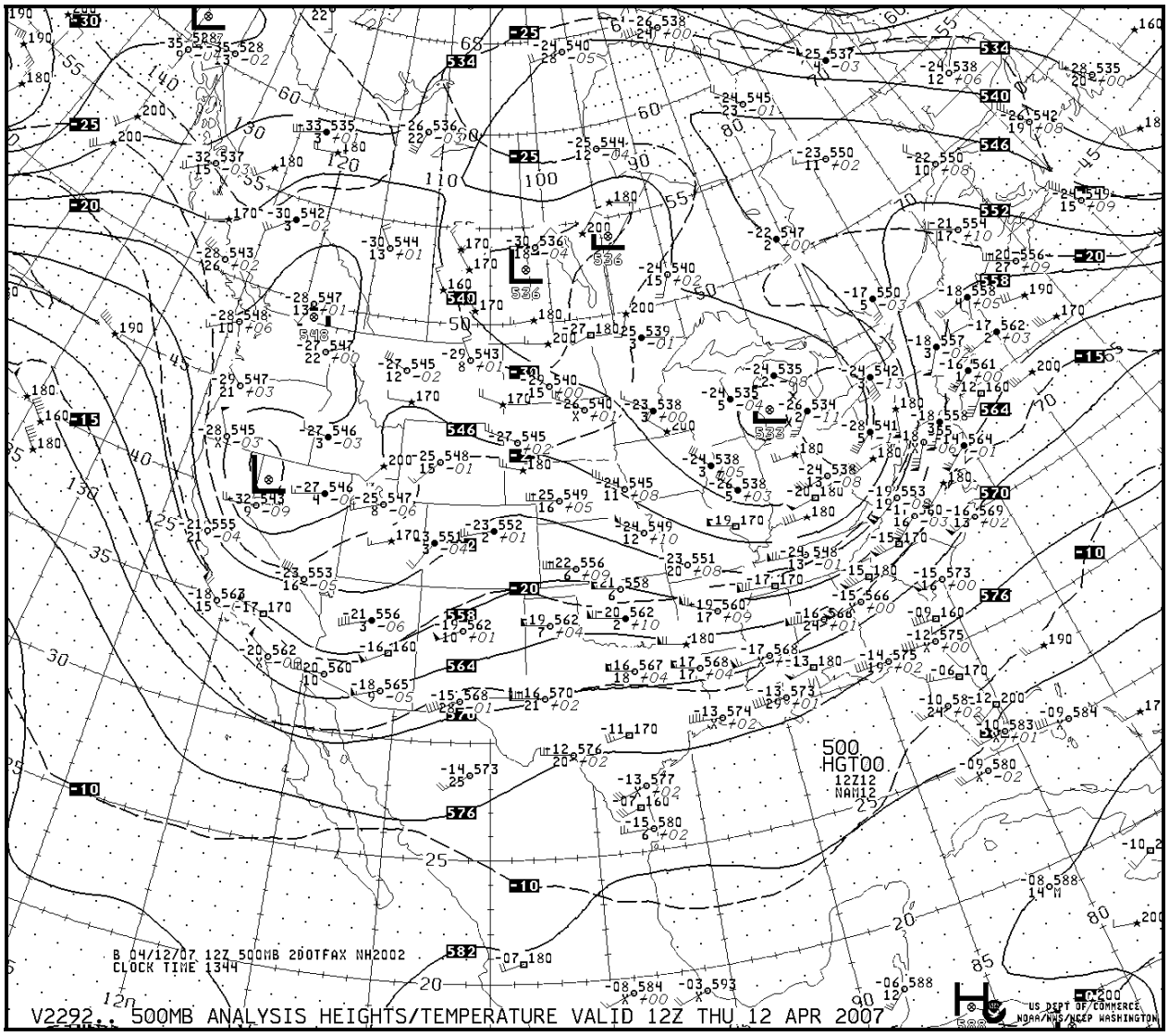


FIGURE 2-2

National Weather Service Height Analysis (solid contours in tens of meters) of the 500 Millibar Pressure Surface for 0400 PST Thursday April 12, 2007

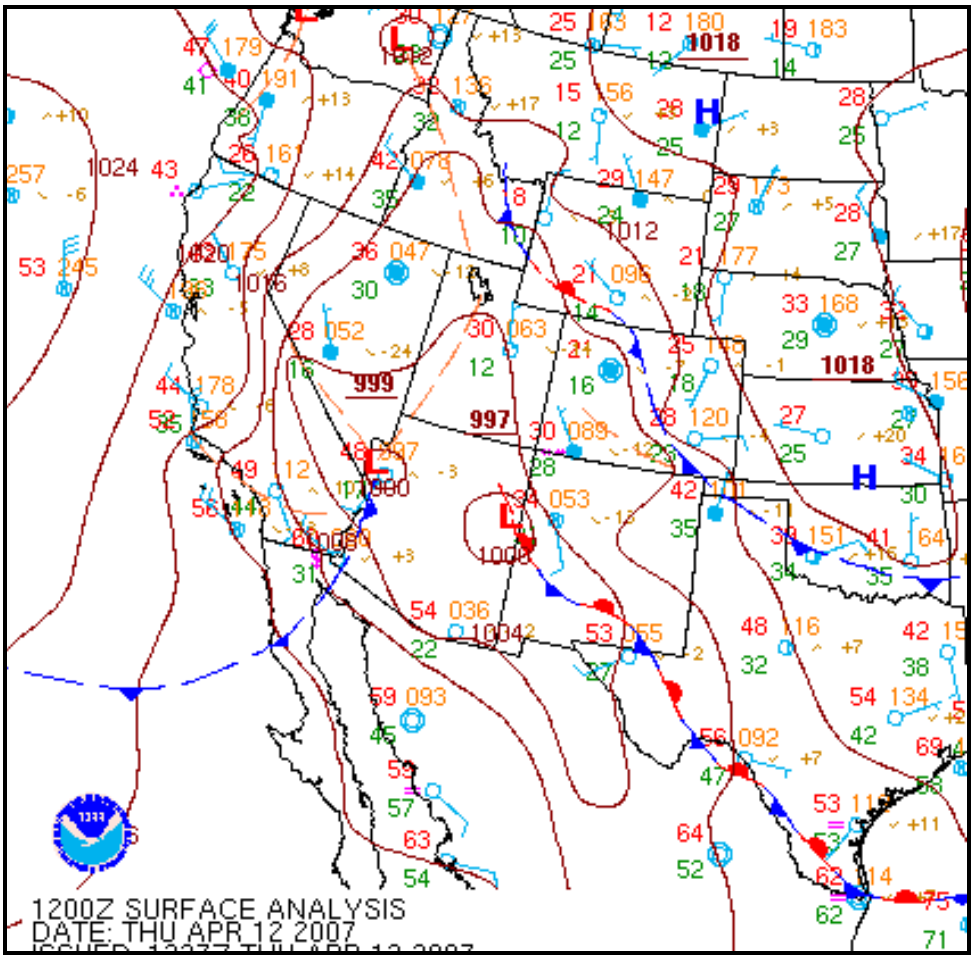


FIGURE 2-3

National Weather Service Sea-Level Pressure Analysis (contours every 4 millibars) for 0400 PST Thursday, April 12, 2007

In their forecast discussion issued at 0406 PST April 12, the NWS Los Angeles/Oxnard Forecast Office noted that the cold air aloft was arriving sooner than expected, bringing stronger winds to the Los Angeles County Valleys, Santa Clarita and the Antelope Valley. The upper level jet, strong winds at all levels aloft and thermal gradient combined to cause strong winds. Wind advisories were in effect for the central California and Santa Barbara coasts, Los Angeles County mountains and inland valleys, including Santa Clarita, with the advisory level increased to a High Wind Warning for the Antelope Valley. A Wind Advisory is issued by NWS when sustained winds of 30 to 39 mph are expected for 1 hour or longer. A High Wind Warning is issued when sustained winds of 40 mph or more are expected for 1 hour or longer, or for wind gusts of 58 mph or more with no time limit. For the coastal waters and offshore, a small craft advisory and a gale warning were in place, along with advisories for high surf and high rip current risk. The winds in these areas were predicted to peak near 1000 PST, with strong winds continuing into the evening.

Wind advisories from the NWS San Diego Forecast Office were in place at this time, including: the San Bernardino County Mountains, the Riverside County Mountains, San Diego County Mountains, Apple and Lucerne Valleys, the Coachella Valley and the San Diego County Deserts. Northwest winds of 25 to 35 mph and gusts to 55 mph were predicted in these areas, along with reduced visibilities to near zero at times in blowing dust and sand.

The NWS San Diego forecast discussion issued at 0800 PST April 12 reported that winds were already blowing strong on the lee slopes of the mountains and in the Coachella Valley. Winds were predicted to increase in all areas as the cold air advection and mixing helped to translate the strong winds aloft down to the surface. A wind advisory was in effect at this time for the mountains and deserts, with northwest sustained winds predicted between 25 and 35 mph, along with gusts to 55 mph at times and visibility reductions due to blowing dust and sand.

Figure 2-4 shows the NWS surface analysis chart at 1000 PST. The winds shown in southern California were northwesterly at this time. The kink in the isobars increased along the coast and the pressure gradient increased. The cold front shown continued to move south and east, over Arizona and Baja California, as the pressures continued to drop in the center of the low as it continued to move to the east.

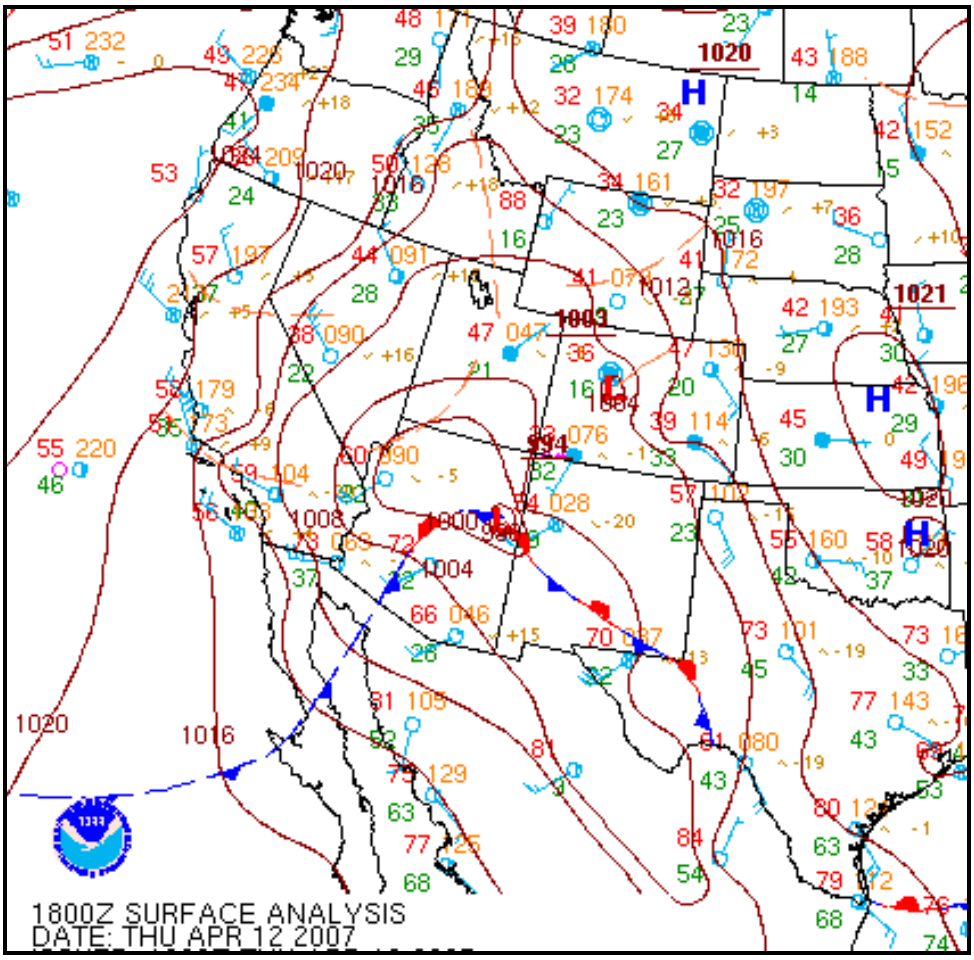


FIGURE 2-4

National Weather Service Sea-Level Pressure Analysis (contours every 4 millibars) for 1000 PST Thursday, April 12, 2007

The true color image from the NASA Terra satellite pass at approximately 1035 PST on April 12 is shown in Figure 2-4. Perris is under cloud cover at this time, so this image does not provide specific evidence of windblown dust at Perris. Some haze is evident to the north and west of Perris. Due to the contrast over water surfaces, areas of windblown dust are particularly evident over the Salton Sea and near the Pacific coast and offshore at this time. This is especially apparent over the ocean water of the California Byte, south of Long Beach down to Mexico, and an area of dust can be seen blowing to the south from Santa Catalina Island. The significant amount of dust over the Salton Sea is evidence of the strong northwesterly winds through the Coachella Valley at this time. The wind advisory issued by NWS San Diego at 1107 PST for the mountains and deserts predicted that the wind speeds would increase to 30-40 mph with 55 mph gusts.

FIGURE 2-5

NASA Terra True Color Satellite Image at 1035 PST April 12, 2007

The composite true color image from NASA Aqua satellite passes at approximately 1215 and 1330 PST on April 12 is shown in Figure 2-5. Perris and most of the inland southern California are under cloud cover at this time, so this image does not provide specific evidence of windblown dust at Perris. Areas of haze are evident west of Riverside and significant areas of windblown dust can be seen off the coast, especially south of the Santa Monica Bay toward Catalina Island from the land areas north and west of Los Angeles. Due to the cloud cover, the Salton Sea area is partially obscured at this time, but dust is evident in the cloud-free areas. A haze layer, likely from windblown dust is also evident in the Central Valley, north of Bakersfield, at this time.

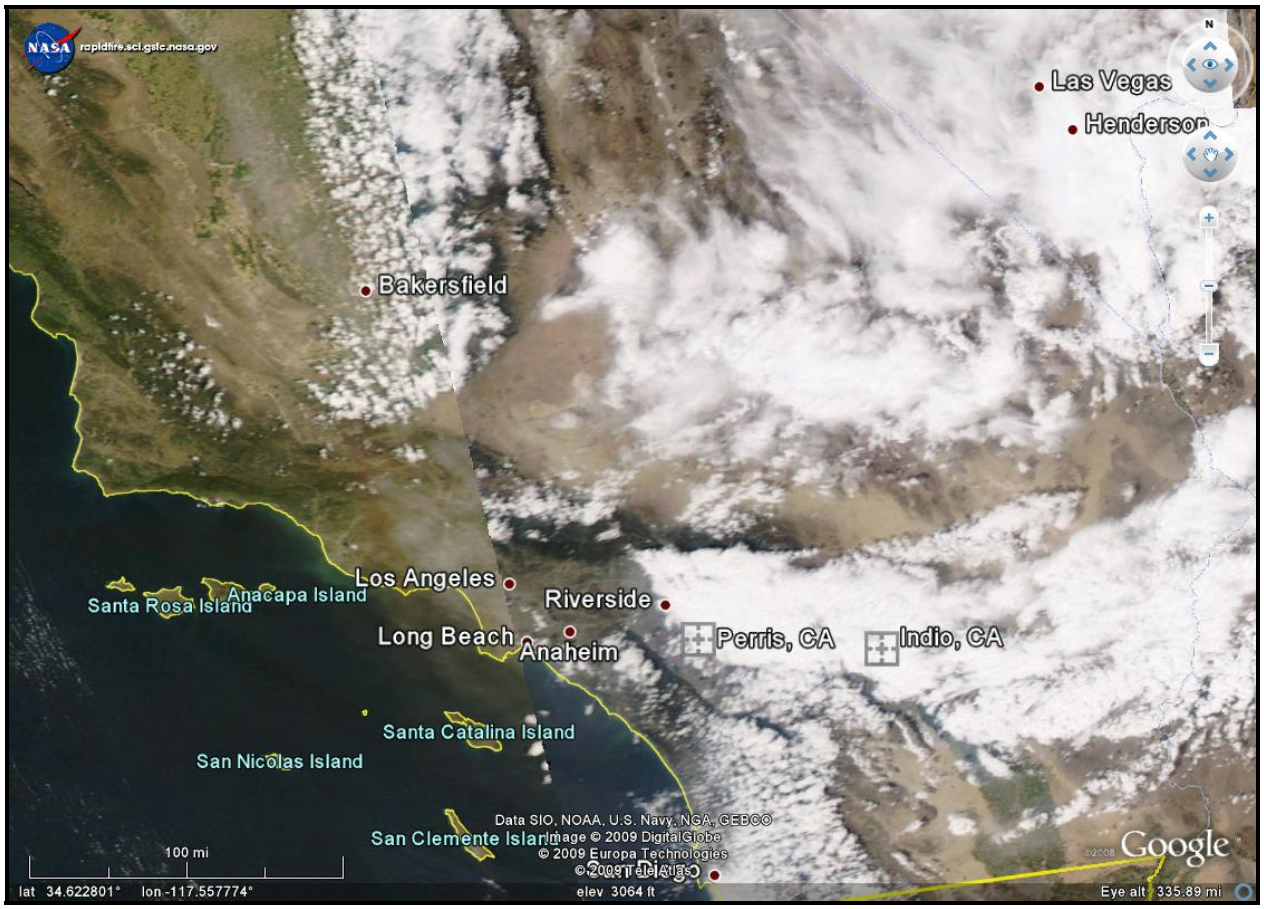


FIGURE 2-6

NASA Aqua True Color Satellite Image between 1215 and 1330 PST April 12, 2007

Diagonal line through Los Angeles due to composite of two passes: right portion at 1215 PST and left portion at 1330 PST)

Figure 2-7 shows the NWS surface analysis at 1300 PST. The center of the low pressure area over eastern Arizona dropped further to 995 MB. The pressure gradients and the winds were northwesterly and had increased over southern California at this time: March ARB winds in Riverside increased to over 29 mph, coastal winds in San Diego reached 29 mph, and the Vandenberg AFB winds were 35 mph. In their 1300 PST forecast discussion, NWS San Diego noted that winds were blowing strong on the lee slopes of the mountains and in the deserts that afternoon. The wind speeds were close to High Wind Warning levels, but a Wind Advisory was still in effect at that time. Winds in the Basin, west of the mountains, were predicted to be 30 to 35 mph. The winds in the mountains and deserts were predicted to be west to northwesterly at 30 to 40 mph with gusts over 55 mph resulting in mountains waves and rotors. NWS San Diego predicted that the mountain waves would be accompanied by strong up- and down-drafts and low-level wind shear. They noted that rotors from strong flow over the

mountains were observed through much of the day at Palm Springs Airport with gusts over 35 mph.

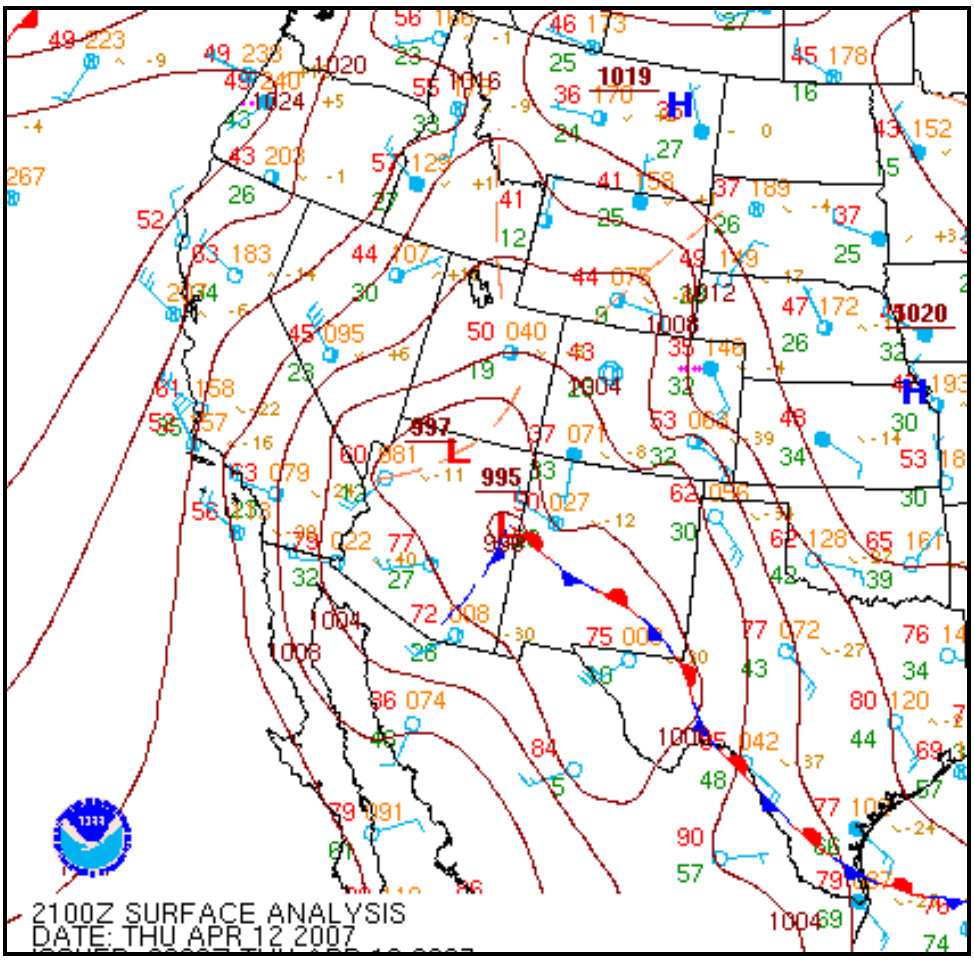


FIGURE 2-7

National Weather Service Sea-Level Pressure Analysis (contours every 4 millibars) for 1300 PST Thursday, April 12, 2007

At 1343 PST, NWS San Diego increased the wind advisory to a high wind warning for the mountains of San Bernardino, Riverside and San Diego Counties through 2000 PST. The winds in these mountain areas were predicted to be from the northwest at 30 to 40 mph with gusts to 70 mph creating hazardous conditions capable of causing property damage and blowing dust and sand causing visibilities near zero at times. The areas covered under the wind advisory were expanded to include the Orange County and San Diego County Coastal Areas, the San Bernardino and Riverside County Valleys (Inland Empire – which includes Perris and the upwind areas in the Basin), the San Diego County Valleys and the Santa Ana Mountains and Foothills. The winds in these areas were predicted to be from the northwest at 25 to 35 mph with gusts to 50 mph and isolated higher gusts. At 1359 PST the NWS Los Angeles forecast discussion mentioned that the wind warnings and advisories continued in that area, with wind advisories also issued for the Los Angeles County coast and the Ventura County valleys. The strong winds were causing low-level wind shear concerns at Santa Barbara, Burbank and Van Nuys airports.

Figure 2-8 shows the NWS 500 MB analysis at 1600 PST April 12. The center of the upper level low had dropped to the south and was now centered over the southern California/Arizona border at the southern tip of Nevada. On the back side of the trough the winds aloft had increased across California, reaching 120 mph (105 knots) from the northwest in the San Diego sounding. At the surface (Figure 2-9), the center of the low continued to move to the east and was now over New Mexico. The pressure gradient relaxed further, but the coastal winds at Vandenberg and San Diego remained northwesterly at 35 mph. The sustained winds shown in Riverside at March ARB had become northerly at 18 mph at this time, although the NWS METAR weather observation shows that gusts to 39 mph had occurred during the hour preceding that observation.

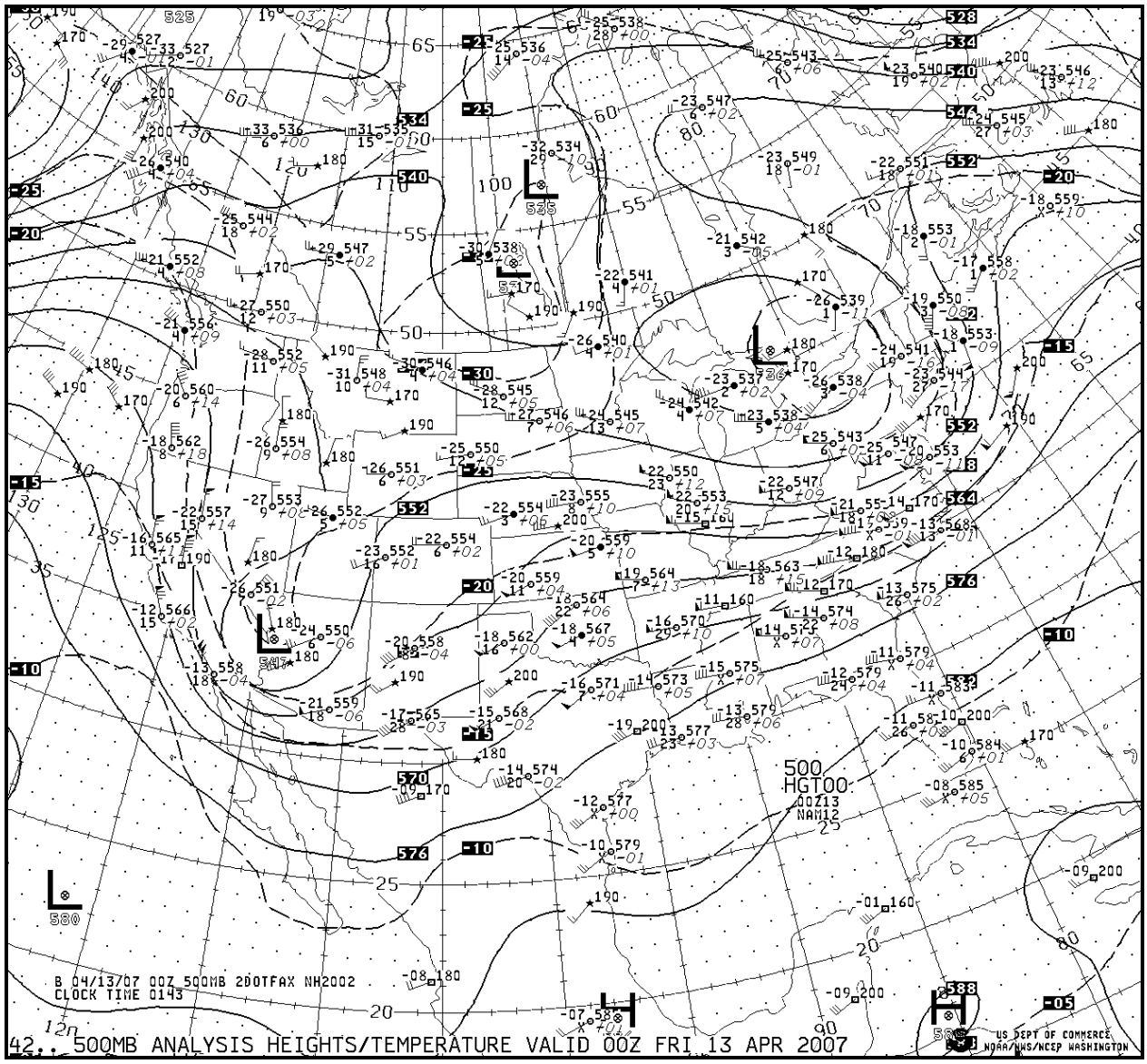


FIGURE 2-8

National Weather Service Height Analysis (solid contours in tens of meters) of the 500 Millibar Pressure Surface for 1600 PST Thursday, April 12, 2007

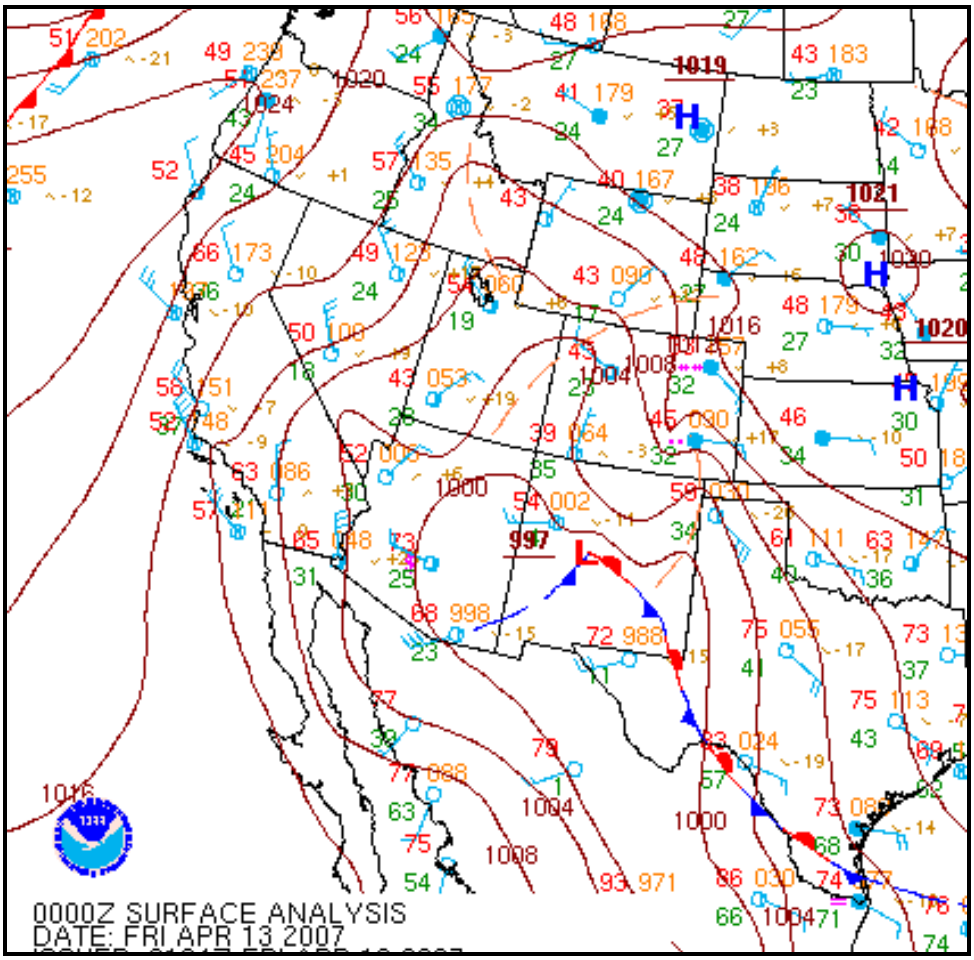


FIGURE 2-9

National Weather Service Sea-Level Pressure Analysis (contours every 4 millibars) for 1600 PST Thursday, April 12, 2007

At 1819 PST, NWS San Diego cancelled their high wind warnings and wind advisories. By 1900 PST, the NWS surface analysis (Figure 2-10) shows the winds had started to decrease in southern California as the pressure gradient relaxed. A weak frontal boundary can still be seen extending across Arizona and southern California where it is depicted as a kink in the isobars. The coastal winds shown in Figure 2-10 had diminished and the March ARB wind inland became more westerly the speeds started to drop.

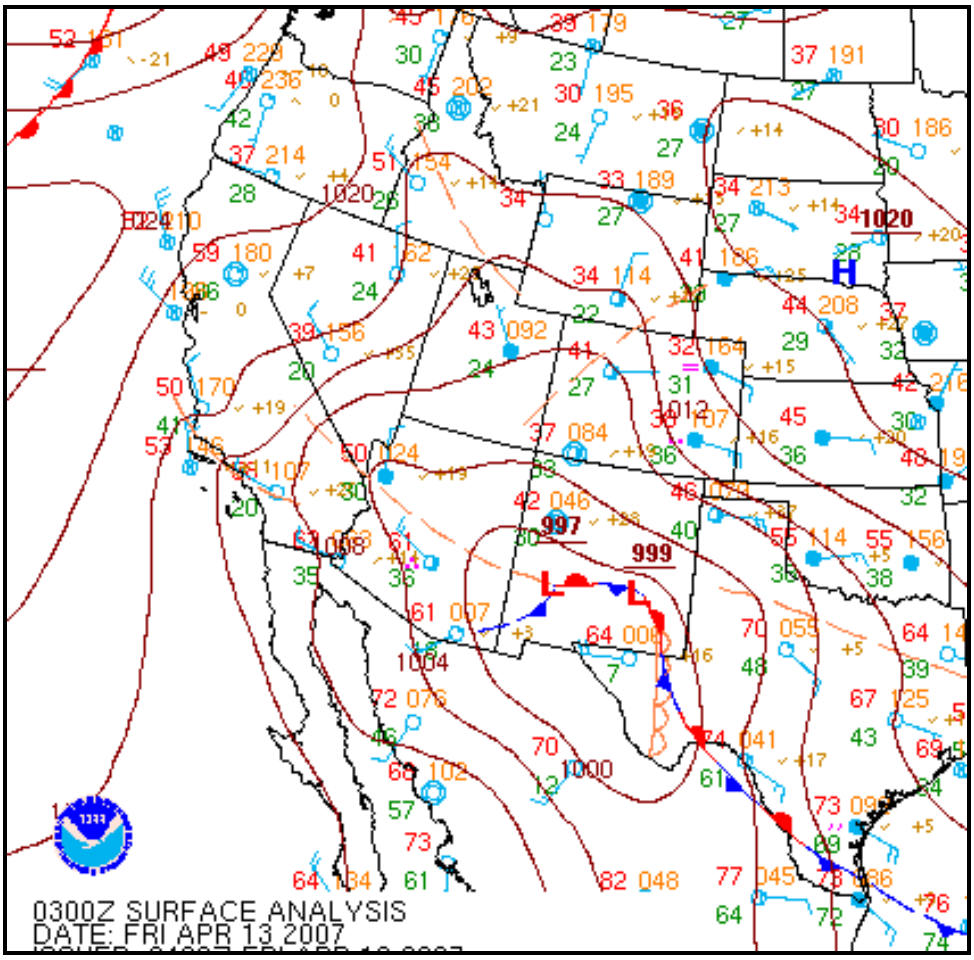


FIGURE 2-10

National Weather Service Sea-Level Pressure Analysis (contours every 4 millibars) for 1900 PST Thursday, April 12, 2007

The NWS San Diego forecast discussion issued at 2030 PST in the evening of April 12 noted that it was still locally windy, but that the winds were expected to continue to decrease through the night as the upper level low continued to depart to the southeast. Some locally gusty offshore winds were expected to develop later on April 13, behind the trough. In their forecast discussion at 2050 PST, NWS Los Angeles reported that the strong winds had been virtually over the entire forecast area and were finally dropping off in the evening with warnings allowed to expire by 2200 PST. Peak wind gusts in Los Angeles County were reported in the NWS Los Angeles forecast discussion, including: 86 mph at Whittaker Peak in the San Gabriel Mountains west of Interstate 5, 39 mph at Downtown Los Angeles, 38 mph at Los Angeles International Airport, 46 at Van Nuys, 41 mph at Long Beach and 54 mph in Lancaster. By 2200 PST, the surface

pressure gradients had relaxed further and the winds had decreased, as is shown in the NWS surface analysis (Figure 2-11).

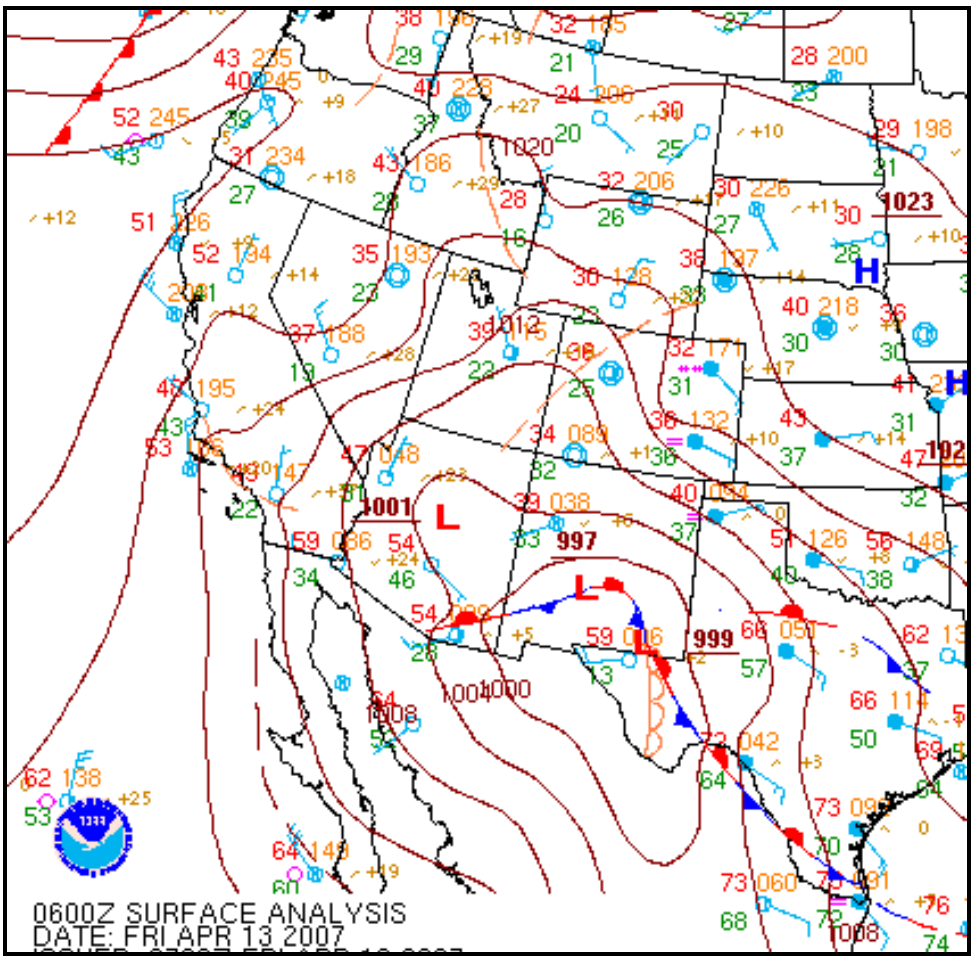


FIGURE 2-11

National Weather Service Sea-Level Pressure Analysis (contours every 4 millibars) for 2200 PST Thursday, April 12, 2007

The National Climatic Data Center's Event Record[2] lists numerous wind events throughout California on April 11 and 12. The full records are reproduced in Section 3.6 and significant wind events on April 12 are summarized below.

Winds in the Kern County Mountains and Deserts on April 12 were reported to gust as high as 81 mph and winds in the Central and Southern San Joaquin Valley and the Tulare County Mountains reached as high as 41 mph. Wind-borne dust in the San Joaquin Valley had prompted a health cautionary statement by the San Joaquin Valley Air Pollution Control District. In the San Bernardino County Mountains east of Big Bear, the Burns Canyon Remote Automated Weather Station (RAWS) measured a 59 mph wind gust between 0851 and 0951 PST on April 12. Strong winds and blowing dust were blamed for two accidents on Interstate 40, about 30 miles east of Barstow, which involved 17 vehicles and two fatalities near 0930 PST.

In the Antelope Valley, the Poppy Park RAWS station, west of Lancaster, reported high winds with a peak gust of 65 mph. The gusty winds in Los Angeles County between 0938 and 1138 PST knocked down trees and power lines, producing widespread power outages and a wildfire in the Beverly Glen area of the Santa Monica Mountains between Westwood and the San Fernando Valley. The fire, caused by a downed power line, was contained at 50 acres after destroying one mansion and damaging two other homes. In Orange County, two individuals were swept off a jetty at Newport Beach and drowned as a result of the large waves. At 1011 PST strong winds and a gust of 58 mph were reported at Barstow/Daggett Airport causing many areas of blowing dust in the Mojave Desert.

The NWS RAWS stations at Whittaker Peak, Sandberg and Warm Springs in the northern San Gabriel Mountains of Los Angeles County measured sustained winds and gusts that met warning criteria between 1050 and 1900 PST on April 12, with Whitaker Peak measuring the highest gust of 86 mph. In the Cleveland National Forest, south and west of the Perris Valley in northern San Diego County, the U.S Forest Service lookout tower on Los Pinos Mountains measured a peak wind gust of 72 mph and high winds were reported on the desert slopes of the mountains between 1214 and 1425 PST. A truck was reported to have been overturned on County Route S22 in the San Diego County Mountains after the driver lost control during a strong gust of wind.

[2] National Climatic Data Center's Event Record: http://www4.ncdc.noaa.gov/cgi-win/wwcgi.dll?wwEvent~Storms

News articles in the Riverside Press-Enterprise, the Los Angeles Times, the Coachella Valley Desert Sun and the California Fire News blog described the winds of April 12. They are reproduced in Section 3.1 and summarized below.

> The Press-Enterprise reported that there were high-wind related power outages in San Bernardino and Riverside Counties. The California Highway Patrol (CHP) reported blowing sand and debris in the Indio area and on Highway 71 in Chino. CHP also reported strong winds along Highway 60 from Ontario to Moreno Valley. In the City of Riverside, winds ripped the roof of one building in the Riverside Auto Center, causing damage to cars. The Los Angeles Times reported that winds kicked up so much dust that visibility was down to two miles in the San Fernando Valley. In the Antelope Valley, visibility was near zero. The Desert Sun reported that doctors at a medical center in the Coachella Valley reported an increase in patients needing additional treatment for respiratory ailments with the high winds. The California Fire News blog described the wind-driven brush fire that damaged homes in the Beverly Glen area of Los Angeles County and a 2-3 acre brush fire that threatened a mobile home park near the Carbon Canyon Dam in Brea (Orange County).

These relatively small brush fires had little contribution the PM10 measured at Perris; very little of the PM10 measured on this day was the result of combustion products in the PM2.5 range.

Windblown Dust Analysis

The AQMD Meteorology Section routinely analyzes pressure gradients in southern California to assess winds and air pollution potential. The Summation Pressure Gradient (SPG) is a good indicator of the strength of the flow and whether it is onshore (positive) or offshore (negative), where

$$SPG = (SAN\text{-}LAS)^3 + (LGB\text{-}DAG)^4 + (RIV\text{-}DAG)^5$$

In the morning of April 12, the 0700 PST Summation Pressure Gradient (SPG) was 24.7 millibars (MB). This signifies a strong onshore flow. In addition, the pressure gradient between San Francisco (SFO) and Thermal (TRM) was 14.7 MB, indicating strong northwesterly flows oriented along the valleys for both the Perris Valley and the Coachella Valley. With this combination of strong onshore and along-valley pressure gradients, the potential for strong, gusty winds in the Perris Valley and for some high winds throughout much of southern California was very high.

The AQMD Meteorology Section predicted high winds on April 12 in the Coachella Valley for AQMD Rule 403.1, which requires specific actions in this area when wind gusts exceed 25 mph. While there are no other AQMD rule requirements to forecast winds in the Basin, the daily forecast issued by AQMD on Wednesday, April 11 for April 12 noted that "Strong gusty winds are expected in the mountains and deserts on Thursday." The particulate matter predicted throughout the Basin was increased on April 12, into the Moderate Air Quality Index (AQI) category, due to the possibility of gusty winds. Without the predicted winds, this forecast would have been in the Good AQI category at this time of year under such conditions of good ventilation and mixing that accompanied the frontal passage. There was good vertical mixing due to the upper level trough. The temperature inversion base in the San Diego sounding at 0400 PST on April 12 was nearly 7000 feet. This deep mixed layer also allowed stronger winds aloft to mix down to the surface.

At 1230 PST on April 12, with real-time BAM instruments at Palm Springs and Indio indicating high PM10 overnight and in the morning, AQMD issued a PM10 Dust Advisory for the Coachella Valley (see Section 3.5 for text). The PM10 measurements in the Coachella Valley are typically affected more than Basin areas by such strong onshore flow and along-valley northwesterly winds. At this time, BAM and TEOM PM10 concentrations in the South Coast Air Basin were relatively low. The particulates at the real-time particulate monitors throughout the Basin did not indicate Unhealthy air quality during this day. Since there are no real-time PM instruments at Perris to indicate this exceedance, there was no specific advisory issued for this event in that area. Prior to

[3] Sea Level Pressure difference between San Diego and Las Vegas
[4] Sea Level Pressure difference between Long Beach and Daggett
[5] Sea Level Pressure difference between Riverside and Daggett

this event in 2007, there had been no PM10 NAAQS exceedances measured at Perris since 1990.

The winds at the AQMD Perris air monitoring station (Table 2-7) were relatively light from the south through the early morning of April 12. At 0900 PST the winds became westerly then southwesterly through the morning and the speeds started to increase. At 1200 PST, the hourly average was 12 mph with 1-minute averages to 23 mph. At 1300 PST, the Perris winds became northerly with an hourly average wind speed of 19 mph and a 1-minute peak of 24 mph. This was the highest 1-minute wind measured at this site on this day. The AQMD air monitoring stations do not measure instantaneous gusts; the 1-minute averages are typically significantly lower than the gust data. The hourly average winds decreased during the next hour (1400 PST) to 17 mph with the peak 1-minute wind still high at 23 mph indicating that the gustiness was still a factor. At 1500 PST the winds decreased further to 10 mph with 1-minute winds at 15 mph. At 1600 PST the winds increased again to the highest hourly average of the day at Perris, 21 mph, with a peak 1-minute average of 22 mph. The Perris winds slowly decreased through the evening and were light again by the end of the day, first shifting more westerly then southerly.

The nearest AQMD air monitoring stations to the northwest of Perris, Riverside-Rubidoux and Mira Loma, are over 20 miles away. Winds at these upwind stations, shown in Table 2-7, increase in the early afternoon like they had at Perris. Rubidoux reached a 1-minute averaged wind speed of 23 mph under north-northeasterly flow during the hour beginning at 1300 PST. Mira Loma reached a peak 1-minute average of 25 mph with north-northwesterly flow during the 1400 PST hour. Both of these stations had hourly TEOM PM10 increases at the time of the peak winds, with Rubidoux reading 272 $\mu g/m^3$ for the 1300 PST hour and Mira Loma reading 186 $\mu g/m^3$ for the 1400 hour. The 24-hour averages measured by the TEOM instruments at these stations were significantly lower than that from the FRM filter measurements. While not exceeding the federal standard, the FRM measured 108 $\mu g/m^3$ at Rubidoux and 127 $\mu g/m^3$ at Mira Loma. This demonstrates that significant windblown dust was generated upwind of Perris.

TABLE 2-7

Hourly Wind Directions (degrees), Wind Speeds (mph) and Maximum 1-Minute Average Speed (mph) for AQMD Air Quality Monitoring Stations at Perris, Rubidoux and Mira Loma on April 12, 2007

Date	Hour (PST)	Perris (PERI)			Riverside-Rubidoux (RIVR)			Mira Loma (MRLM)		
		WD (deg)	WS (mph)	Maximum 1-Minute Avg. (mph)	WD (deg)	WS (mph)	Maximum 1-Minute Avg. (mph)	WD (deg)	WS (mph)	Maximum 1-Minute Avg. (mph)
4/11/2007	2100	147	4	6	277	4	7	278	6	10
	2200	148	4	7	215	3	9	290	5	9
	2300	161	6	9	326	6	8	301	4	6
4/12/2007	0000	159	8	8	311	7	7	314	4	7
	0100	160	5	9	196	5	9	296	6	6
	0200	164	5	6	356	4	4	307	4	6
	0300	159	5	7	175	3	6	194	2	6
	0400	168	4	8	310	3	4	211	2	3
	0500	153	1	3	304	3	5	178	1	2
	0600	181	4	7	214	3	5	266	2	5
	0700	185	4	7	208	4	5	225	3	5
	0800	151	5	8	237	6	8	285	8	11
	0900	294	8	12	223	14	14	264	10	15
	1000	231	10	14	260	10	16	251	14	18
	1100	234	9	16	235	16	16	271	12	19
	1200	229	12	23	292	12	18	318	15	20
	1300	360	19	24	24	11	23	48	18	20
	1400	19	17	23	357	17	21	328	15	**25**
	1500	18	10	15	339	11	20	325	11	18
	1600	309	21	22	241	7	14	265	7	14
	1700	300	12	20	238	7	10	276	10	14
	1800	266	9	14	282	6	10	226	8	12
	1900	273	9	13	245	5	8	227	6	9
	2000	157	6	13	288	3	6	211	6	8
	2100	283	2	4	246	2	5	127	3	6
	2200	189	2	3	355	4	4	103	3	4
	2300	201	3	5	33	3	5	132	2	3
4/13/2007	0000	202	2	5	356	4	5	196	2	4
	0100	80	2	6	235	2	5	119	3	5
	0200	161	4	8	342	4	5	22	2	7

The AQMD air monitoring station at Lake Elsinore, approximately 10 miles southwest of Perris also shows a similar wind pattern (Table 2-8) with the peak hourly average of 21 mph at 1300 PST under northwesterly flow, followed by the peak 1-minute average of 24 mph during the 1400 PST hour when the winds became north-northeasterly. Figure 2-12 shows the hourly and 1-minute averaged winds from Lake Elsinore plotted with the hourly TEOM PM10. Although this station did not exceed the PM10 24-hour NAAQS on April 12 (TEOM 24-hour average of 83 $\mu g/m^3$), it is the closest station with continuous PM10 data and shows the relationship of strong winds to increased PM10. The winds speeds at Elsinore spiked during the 1300 PST hour. The following hour the PM10 spiked to 337 $\mu g/m^3$ during the 1400 PST hour. The lag of approximately one hour between increased winds and increased PM10 indicates that the primary source of the windblown particulates at the monitoring station was primarily further upwind of Lake Elsinore. The peak 1-minute wind occurred during the 1400 PST hour followed by the peak PM10 hourly average of 340 $\mu g/m^3$ during the 1500 PST hour. After this, the winds at Elsinore became northwesterly, then westerly, while the speeds decreased and the PM10 dropped below 150 $\mu g/m^3$ for the rest of the day.

TABLE 2-8

Hourly Wind Directions (degrees), Wind Speeds (mph) and Maximum 1-Minute Average Speed (mph) for AQMD Air Quality Monitoring Stations at Lake Elsinore and Banning Airport on April 12, 2007

Date	Hour (PST)	Lake Elsinore (ELSI)			Banning Airport (BNAP)		
		WD (deg)	WS (mph)	Maximum 1-Minute Avg. (mph)	WD (deg)	WS (mph)	Maximum 1-Minute Avg. (mph)
4/11/2007	2100	206	4	8	229	15	17
	2200	195	4	6	242	14	22
	2300	178	3	6	243	14	20
4/12/2007	0000	283	2	4	240	16	20
	0100	222	3	7	253	13	16
	0200	147	4	8	270	15	17
	0300	158	3	5	219	17	22
	0400	164	4	6	231	21	21
	0500	146	3	3	226	20	22
	0600	333	2	4	246	14	20
	0700	134	3	4	237	21	24
	0800	226	8	10	254	16	22
	0900	268	8	12	238	18	19
	1000	245	11	15	272	17	24
	1100	239	14	15	325	21	**27**
	1200	297	9	15	220	15	24
	1300	326	21	21	255	10	19
	1400	25	17	24	235	17	24
	1500	16	11	18	166	9	15
	1600	319	10	16	252	12	14
	1700	285	7	20	210	16	20
	1800	259	8	12	234	16	23
	1900	264	5	8	235	17	**26**
	2000	122	3	6	243	12	19
	2100	146	2	3	258	10	20
	2200	179	2	4	263	7	13
	2300	47	2	4	286	5	13
4/13/2007	0000	298	3	4	297	5	7
	0100	320	2	4	268	4	9
	0200	279	2	3	228	2	5

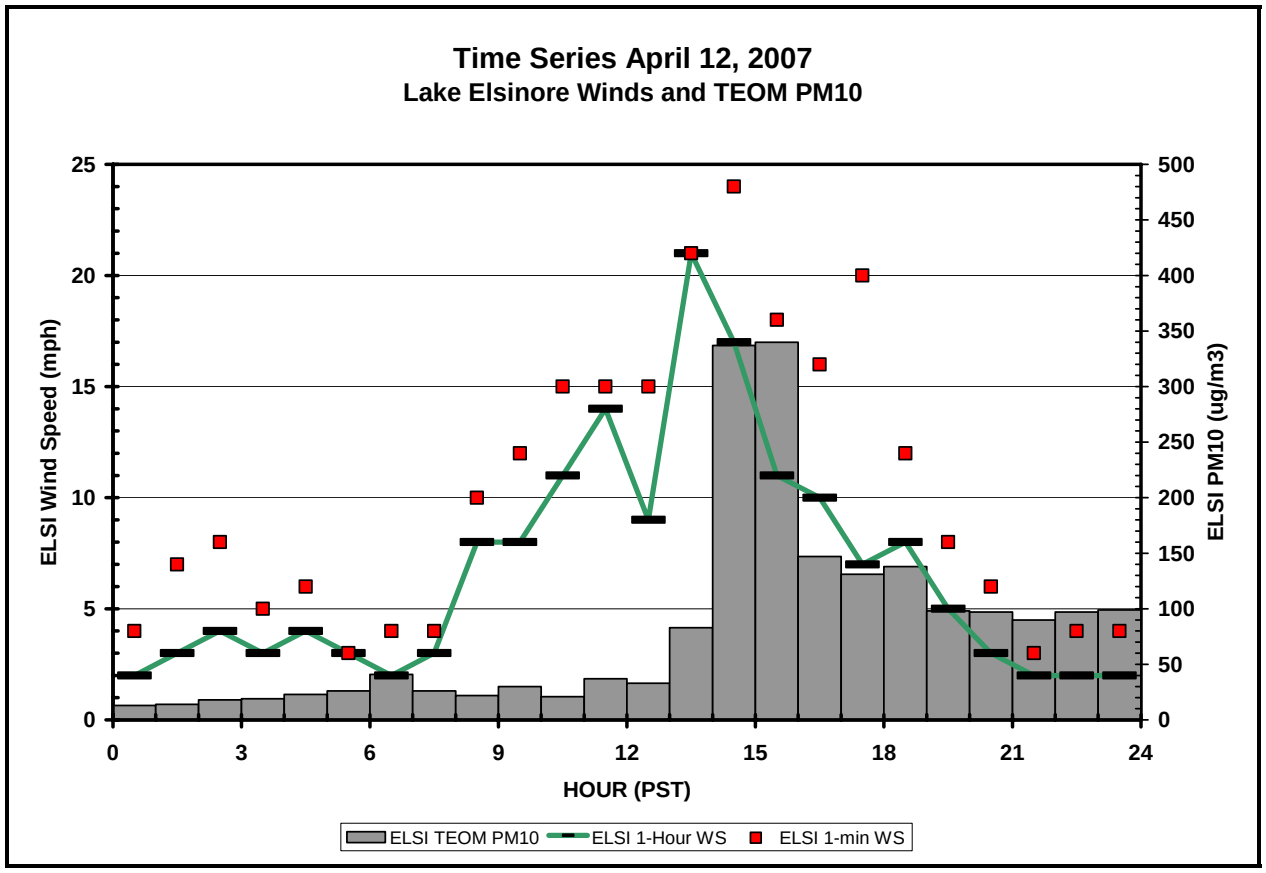


FIGURE 2-12

Time Series of Hourly Wind Speeds and TEOM PM10 for the AQMD Lake Elsinore Air Monitoring Station on April 12, 2007

Approximately 20 miles northeast of Perris, the Banning Airport air monitoring station (Table 2-8) in the San Gorgonio pass peaked a little earlier, at 1100 PST, with a 1-minute average of 27 mph from the west-northwest. Gusty winds were evident at times through the early evening at this location as the larger scale forcing aligned with the terrain of the pass.

While the winds at Perris were sufficiently strong to generate windblown dust locally, this wide-spread wind event contributed dust from throughout the upwind portions of the Basin. Mountain waves that are formed as strong winds flow over the mountains can surface in the lee of the mountains with downdrafts of strong winds. Over 30 miles northwest of Perris in San Bernardino County, the AQMD supplemental meteorological tower at Ontario International Airport (Table 2-9) measured sustained hourly average winds to 22.3 mph at 1300 PST and peak gusts over 27 mph during every hour between 1100 and 1600 PST, with a peak gust of 38.9 mph measured at 1400 PST. The nearby

FRM PM10 sampler at Ontario Fire Station measured a 24-hour average of 85 $\mu g/m^3$, indicating that windblown dust was generated in this area.

Approximately 25 miles north of Perris, the AQMD air monitoring stations at San Bernardino and Fontana also exhibited gusty winds, as are shown in Table 2-9. San Bernardino reached a 1-minute average peak for the day of 31 mph at 1200 PST and 25 mph during the following hour, while Fontana reached a 1-minute average peak of 24 mph at 1400 PST. While the AQMD monitoring stations are mostly not situated in the most wind-prone areas these stations all show that this was a widespread wind event for the Basin and indicate that several areas upwind of Perris were capable of contributing windblown dust. The Fontana FRM PM10 sampler did not run on this day, but the San Bernardino FRM measured 136 $\mu g/m^3$.

TABLE 2-9

Hourly Wind Directions (degrees), Wind Speeds (mph) and Maximum 1-Minute Average Speed (mph) for AQMD Ontario Upper Air Meteorological Station and Air Quality Monitoring Stations at San Bernardino and Fontana on April 12, 2007

Date	Hour (PST)	Ontario Upper Air Station (ONTP)			San Bernardino (SNBO)			Fontana (FONT)		
		WD (deg)	WS (mph)	Peak Gust (mph)	WD (deg)	WS (mph)	Maximum 1-Minute Avg. (mph)	WD (deg)	WS (mph)	Maximum 1-Minute Avg. (mph)
4/11/2007	2100	220	10.0	19.1	256	6	7	264	6	10
	2200	242	9.3	15.3	221	6	7	253	6	10
	2300	259	9.8	14.1	197	3	7	234	5	8
4/12/2007	0000	257	7.8	13.6	260	5	7	258	6	6
	0100	264	7.9	13.1	238	5	9	280	6	6
	0200	263	9.8	13.9	231	6	9	292	5	6
	0300	271	9.8	15.0	205	2	6	282	5	7
	0400	263	6.2	11.0	228	5	6	288	4	6
	0500	246	3.6	13.9	259	4	7	260	4	8
	0600	219	2.6	4.8	227	3	5	225	8	8
	0700	238	3.4	6.3	198	3	6	229	7	10
	0800	211	5.0	9.1	238	5	12	234	10	12
	0900	221	8.9	18.9	225	6	11	233	10	13
	1000	244	12.9	23.7	321	7	15	231	12	16
	1100	235	15.3	**29.4**	310	9	14	237	12	16
	1200	236	17.3	**29.3**	312	18	**31**	227	11	16
	1300	305	22.3	**37.6**	273	18	**25**	38	18	22
	1400	297	18.2	**38.9**	294	11	20	358	16	24
	1500	279	10.3	**27.5**	346	9	16	327	11	18
	1600	249	6.1	15.5	282	13	16	241	9	15
	1700	254	12.6	21.9	257	12	18	230	12	14
	1800	246	14.2	21.5	274	5	8	243	9	11
	1900	257	18.0	**27.4**	27	1	6	207	6	12
	2000	251	9.2	21.9	351	2	3	205	6	10
	2100	205	8.8	13.3	165	4	9	103	3	6
	2200	211	6.6	10.2	125	2	6	76	2	4
	2300	184	3.9	10.3	13	5	5	347	6	6
4/13/2007	0000	38	1.9	6.9	326	5	6	52	5	6
	0100	33	4.0	9.6	322	9	10	5	6	7
	0200	23	3.6	7.5	294	11	15	335	7	8

The NWS weather stations in the areas upwind of Perris also measured strong, gusty winds on April 12. Riverside Municipal Airport (Table 2-10) reported gusty winds through a six-hour period starting at 0953 PST through 1553 PST, with the peak wind gust of 38 mph recorded at 1505 PST and gusts of 30 mph recorded at 1300 and 1440 PST. Visibility reductions down to 5 miles were measured during the 1400 PST hour with blowing dust reported. Figure 2-12 shows a time series of the Riverside Municipal Airport winds on April 12 along with the nearby Riverside-Rubidoux TEOM PM10. The timing of the PM10 increase closely matched the gusty winds that exceeded 25 mph. The hourly PM10 spiked to 272 $\mu g/m^3$ during the 1300 PST hour and 264 $\mu g/m^3$ during the 1400 PST hour before falling back below 150 $\mu g/m^3$ as the winds dropped below 25 mph. Rubidoux did not exceed the 24-hour PM10 NAAQS (24-hour TEOM average of 75 $\mu g/m^3$, SSI of 108 $\mu g/m^3$), indicating that a significant amount of windblown dust was generated in the approximately 20 miles between the Rubidoux and Perris air monitoring stations.

TABLE 2-10

Hourly Wind Directions (degrees), Wind Speeds (mph), Wind Gusts (mph) when reported, Visibilities (statute miles), Weather Conditions and Observer Remarks for the NWS Riverside Municipal Airport Station on Thursday, April 12, 2007

HZ = Haze, BLDU = Blowing Dust, PK WND = Peak Wind Gust since the last hour (direction & speed in knots/time in UTC), WSHFT= Wind Shift followed by time in UTC, SHRA = Rain Showers, TCU = Towering Cumulus Clouds

Riverside Municipal Airport (RAL)							
Date	**Hour (PST)**	**WD (deg)**	**WS (mph)**	**Gust (mph)**	**VIS (miles)**	**Weather**	**Remarks**
4/11/2007	2153	300	7		9		
	2253	320	6		9		
	2353	280	5		8		
4/12/2007	0053	320	3		8		
	0153	300	3		**7**		
	0253	CALM	0		8		
	0353	CALM	0		8		
	0453	CALM	0		8		
	0553	CALM	0		**7**		
	0653	CALM	0		**7**		
	0753	170	3		**6**	**HZ**	
	0853	VRB	5		8		
	0953	260	12	18	10		
	1053	240	15	**25**	9		
	1153	230	15	23	9		
	1253	300	21	**29**	10		
	1300	270		**30**			**PK WND 27026/2100**
	1353	290	8		10		**PK WND 27026/2100**
	1420	30	17	**25**	**7**		**WSHFT 2200**
	1440	060		**30**			**PK WND 06026/2240 WSHFT 2200**
	1453	30	18	**26**	**5**	**BLDU**	**PK WND 06026/2240 WSHFT 2200**
	1505	030		**38**			**PK WND 03033/2305**
	1537	320	13	18	9		**PK WND 03033/2305 WSHFT 2317**
	1553	360	9	21	10		**PK WND 03033/2305 WSHFT 2317**
	1653	250	8		9		
	1753	260	14		**6**	**HZ**	
	1853	260	10		9		
	1953	VRB	7		9		
	2053	250	8		10		
	2153	220	3		10		
	2253	CALM	0		**6**	**HZ**	
	2353	150	3		10		
4/13/2007	0053	CALM	0		10		
	0153	CALM	0		10		
	0253	CALM	0		9		

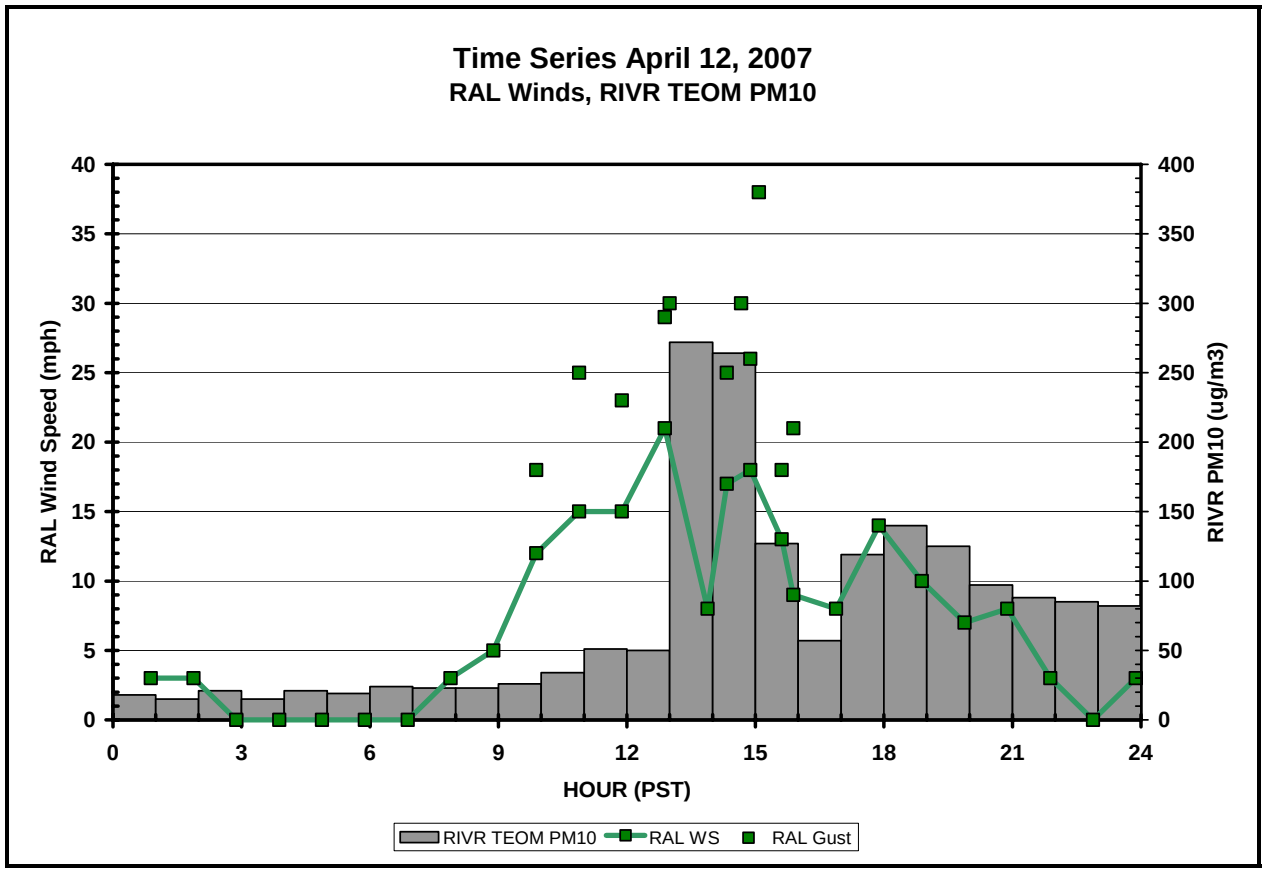


FIGURE 2-13

Time Series of NWS Hourly Sustained Wind Speeds and Gusts from Riverside Municipal Airport and TEOM PM10 from the AQMD Riverside-Rubidoux Air Monitoring Station on April 12, 2007

At the NWS March ARB weather station, approximately 10 miles north of Perris, gusty winds were reported between 0955 PST and 1855 PST, with gusts exceeding 25 mph during five hours starting at 1055 PST (Table 2-11). The peak sustained wind speed was 26 mph reported at 1355 PST and the peak gust for the day was 39 mph at 1418 PST. Visibility dropped to 2.5 miles at the routine observations at 1355 and 1455 PST, followed by 6 miles at the special observation at 1513 PST. Blowing dust was reported at March ARB along with these reduced visibilities.

TABLE 2-11

Hourly Wind Directions (degrees), Wind Speeds (mph), Wind Gusts (mph) when reported, Visibilities (statute miles), Weather Conditions and Observer Remarks for the NWS March Air Reserve Base Station in Riverside on Thursday, April 12, 2007

March ARB (RIV)							
Date	**Hour (PST)**	**WD (deg)**	**WS (mph)**	**Gust (mph)**	**VIS (miles)**	**Weather**	**Remarks**
4/11/2007	2155	100	6		10		
	2255	150	7		10		
	2355	170	7		10		
4/12/2007	0055	190	5		10		
	0155	160	7		10		
	0255	140	6		10		
	0355	140	9		10		
	0455						
	0555	130	8		10		**PRESRR**
	0655	180	7		10		
	0755	220	3		10		
	0855	220	7		10		PRESFR
	0955	280	13	18	10		PRESFR
	1055	260	17	**32**	10		**PK WND 28028/1850**
	1155	280	22	**33**	10		**PK WND 27029/1948**
	1255	270	21	**35**	10		**PK WND 30030/2046**
	1300	270		**30**			**PK WND 27026/2059**
	1316	240	15	**25**	10		**PK WND 27026/2059 WSHFT 2101**
	1355	10	**26**	**38**	**2.5**	**BLDU**	**WSHFT 2101**
	1418	20		**39**			**PK WND 02034/2218**
	1455	350	18	**28**	**2.5**	**BLDU**	**PK WND 02034/2218**
	1456	340		**30**			**PK WND 34026/2256**
	1513	20	16	23	**6**	**BLDU**	
	1550	350	17		**10**		**PK WND 34026/2256 WSHFT 2335**
	1555	340	18	**28**	10		**PK WND 34026/2256 WSHFT 2335**
	1602	330		**30**			**PK WND 33026/0002**
	1655	330	17		10		**PK WND 33026/0002**
	1755	300	12		10		
	1855	280	18	22	10		
	1955	280	9		10		
	2055	330	2		10		PRESSRR
	2155	350	3		10		
	2255	200	2		10		
	2355	190	3		10		
4/13/2007	0055	CALM	0		10		
	0155	CALM	0		10		
	0255	140	8		10		

The NWS station at Chino Airport (Table 2-12), about 25 miles northwest of Perris in western San Bernardino County, measured gusty winds throughout the afternoon. Gusts exceeded 25 mph during each of four hours starting with 1123 PST and peaking at 41 mph at 1236 PST. Sustained winds of 25 mph were reported at 1253 PST. Further north, the NWS weather station at Ontario International Airport (Table 2-13) reported wind gusts during 6 hours starting at 0953 PST, peaking at 31 mph at both 1141 and 1238 PST. The peak sustained wind speed was 26 mph reported at 1253 PST. Blowing dust was reported at 1153 PST at Ontario. At this time the remark in the observation also noted that rain showers were observed to the distant east with blowing dust to the east of the station. Blowing dust was also reported at 1253 PST at the airport, with blowing dust observed from the northeast through the south.

Winds from the six NWS RAWS wind stations closest to Perris are included in Section 3.8, providing further evidence of the widespread gusty winds through the afternoon. These stations are located in the San Jacinto Mountains east of Perris (Beaumont, Class III 14C and Keenwild), the Cleveland National Forest west of Perris (El Cariso) and in the desert near Anza to the southeast of Perris. While some of the gust data from these stations is suspiciously high, all showed strong winds on this day.

TABLE 2-12

Hourly Wind Directions (degrees), Wind Speeds (mph), Wind Gusts (mph) when reported, Visibilities (statute miles), Weather Conditions and Observer Remarks for the National Weather Service Chino Airport Station on Thursday, April 12, 2007

Chino Airport (CNO)							
Date	**Hour (PST)**	**WD (deg)**	**WS (mph)**	**Gust (mph)**	**VIS (miles)**	**Weather**	**Remarks**
4/11/2007	2153	240	12		8		
	2253	290	8		8		
	2353	260	3		**7**		
4/12/2007	0053	280	7		8		
	0153	300	5		**7**		
	0253	300	3		8		
	0353	CALM	0		8		
	0453	CALM	0		**6**		
	0553	CALM	0		**7**		
	0653	CALM	0		**4**	**HZ**	
	0753	CALM	0		**7**		
	0853	230	14		**7**		
	0953	260	14	24	8		
	1053	240	14		10		
	1123	240		**27**			**PK WND 24028/1923**
	1153	220	16	**29**	10		**PK WND 24028/1923**
	1236	290		**41**			**PK WND 29036/2036 WSHFT 2012**
	1253	300	**25**	**37**	10		**PK WND 29036/2036 WSHFT 2012**
	1304	270		**36**			**PK WND 27031/2104**
	1353	300	21	**32**	10		**PK WND 27031/2104**
	1400	290		**33**			**PK WND 29029/2200**
	1453	290	18	**28**	10		**PK WND 29029/2200**
	1553	290	13	23	10		
	1653	270	15		**7**		
	1753	260	15		**6**	**HZ**	
	1853	260	14	23	**7**		
	1953	230	10		8		
	2053	230	9		8		
	2153	230	5		8		
	2253	CALM	0		8		
	2353	CALM	0		8		
4/13/2007	0053	CALM	0		6		
	0153	CALM	0		7	**HZ**	
	0253	CALM	0		7		

TABLE 2-13

Hourly Wind Directions (degrees), Wind Speeds (mph), Wind Gusts (mph) when reported, Visibilities (statute miles), Weather Conditions and Observer Remarks for the NWS Ontario International Airport Station on Thursday, April 12, 2007

Ontario International Airport (ONT)							
Date	**Hour (PST)**	**WD (deg)**	**WS (mph)**	**Gust (mph)**	**VIS (miles)**	**Weather**	**Remarks**
4/11/2007	2153	260	10		10		
	2253	270	12		10		
	2353	240	8		10		
4/12/2007	0053	270	12		10		
	0153	260	9		10		
	0253	280	8		10		
	0353	270	6		10		
	0453	260	5		10		
	0553	0	0		**7**		
	0653	250	6		**5**	**HZ**	
	0753	210	6		**7**		
	0853	230	14		10		
	0953	220	17	21	10		
	1053	220	16	23	10		
	1141	230		**31**			**PK WND 23027/1941**
	1153	220	20	24	10	**BLDU**	**PK WND 23027/1941; SHRA DSNT E; BLDU E**
	1238	340		**31**			**PK WND 34027/2038**
	1253	310	**26**	**30**	10	**BLDU**	**PK WND 34027/2038; WSHFT 2007; BLDU NE-S**
	1314	290		**31**			**PK WND 29027/2114**
	1353	300	13	22	10		**PK WND 29027/2114; TCU DSNT E**
	1453	300	8	18	10		
	1553	VRB	7		10		
	1653	240	13		10		
	1753	250	14		10		
	1853	260	16		10		
	1953	270	7		10		
	2053	220	8		10		
	2153	210	6		10		
	2253	VRB	5		10		
	2353	10	3		10		
4/13/2007	0053	0	0		10		
	0153	30	5		10		
	0253	10	3		10		

Figure 2-14 shows the back trajectories calculated using the NOAA HYSPLIT trajectory model with the 40 km grid resolution EDAS North American Model (NAM) meteorological data. Each chart shows the origin of the airmass over a 24-hour period that reached the Perris monitoring station at the time shown in the afternoon of April 12, that is, for every two hours between 1200 PST (20 UTC) and 1800 PST (02 UTC, April 13). This is the time range when the peak PM10 concentrations were measured by the Lake Elsinore and Rubidoux TEOM instruments. The trajectories show that the airmass that impacted Perris during this time was primarily from the northwest, as the strong winds over the 24-hour period brought air that originated near the Bay Area over the Central Valley, the high deserts and the southern California mountains. While windblown particulate matter generated upwind clearly contributed to the PM10 NAAQS violation at Perris, local contributions were also significant as the strong winds overwhelmed control measures.

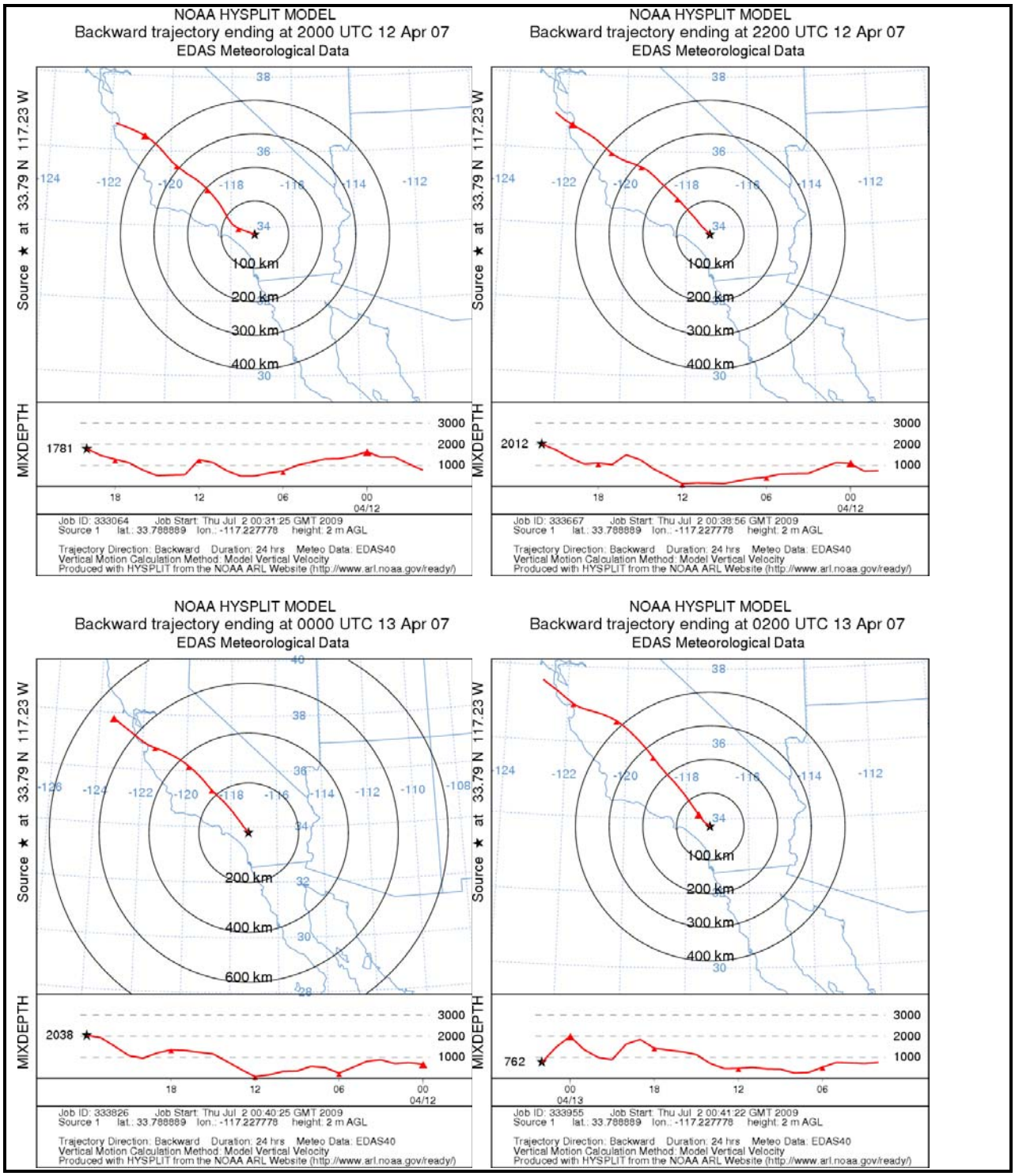


FIGURE 2-14

24-Hour Back Trajectories Reaching the Perris Air Monitoring Station on April 12, 2007 every 2 hours between 1200 PST (2000 UTC) and 1800 PST (0200 UTC) from NOAA HYSPLIT Model using EDAS Meteorological Inputs

(HYSPLIT Use Agreement: http://www.ready.noaa.gov/ready/hysplit_agreement.html)

A survey of the AQMD complaint records and inspection reports for the Riverside and San Bernardino County portions of the Basin indicated no evidence of unusual particulate emissions on April 12, 2007, other than related to the windblown dust event. Due to the forecasted windy conditions, AQMD Compliance staff was prepared for numerous complaints related to windblown dust and 15 calls were logged in the Inland Empire counties along with several more in Los Angeles and Orange Counties. The complaints from the Inland Empire are summarized in Table 2-14 from the AQMD CLean Air Support System (CLASS) database for complaints and compliance actions. No Notices of Violation were issued in the Inland Empire for fugitive dust violations on this day. A Notice to Comply with AQMD Rule 403 was issued in Rancho Cucamonga (San Bernardino County), but the AQMD Inspector did not observe fugitive dust crossing the property line or track out from the site. A second Notice to Comply was issued in Ontario for a facility that did not plan additional water trucks to prevent fugitive dust from crossing the property line prior to its occurrence. Again, no fugitive dust or track out was observed at the time of the inspection. No complaints were logged in Perris. The closest complaints were from Hemet, Corona, and Chino and no significant compliance actions were initiated. The control methods were generally effective throughout the Basin, but were apparently overwhelmed in several instances by the strong, gusty winds, causing windblown dust and sand to be entrained in the atmosphere and to cross property lines.

TABLE 2-14

Summary of PM-Related Complaints in Riverside and San Bernardino Counties on April 12, 2007

Complaint Date/Time	Location	Complaint Description	Disposition
4/12/07 0631 PST	Hemet	Dust from construction site	Numerous complaints from same complainant being evaluated by AQMD Compliance supervisory staff. No compliance action taken.
4/12/07 1305 PST	Rancho Cucamonga	Dust from construction project	Inspector observed no visible fugitive dust or track out but some sites appeared not to be stabilized, no rumble grates or gravel were present at the entrances, and no sign was posted with AQMD complaint telephone number. Issued Notice to Comply.
4/12/07 0822 PST	Moreno Valley	Concrete dust from ready-mix company	Inspector observed track out on roadway but it was hard packed and not disturbed by traffic. Inspector did not observe dust emanating from any of the facility's equipment. Operating in compliance.
4/12/07 1038 PST	Devore (Cajon Pass)	Dust from open land construction site	Complaint of bulldozers clearing land for previous two weeks with no watering and blowing dust. At site visit on following day, inspector viewed some dust for skiploaders but not crossing property line. A water truck was operating. Site operator was not familiar with AQMD Rule 403 but was provide information. No violation issued.
4/12/07 1135 PST	Ontario/Chino	Dust from graded site near Chino Airport	Anonymous complaint. Inspector did not observe fugitive dust during follow-up the next day. Operating in compliance.
4/12/07 1156 PST	San Jacinto	Fugitive dust from construction sites	Operating in compliance. Inspector observed new dirt piles that were mostly stabilized with some fine, loose dirt on perimeter. Site operators agreed to increase watering.
4/12/07 1230 PST	Corona/Ontario	Dust from construction sites	Complainant driving on 60 Freeway noted blowing dust from many sites. Winds were very strong at the time. Winds were moderate during inspection on the following day but inspector did not find any violations of Rule 403. Many pads were sealed with stabilizers. Inspector noted many toppled signs from the strong winds on previous day. Sites operating in compliance at time of inspection.
4/12/07 1244 PST	San Bernardino	Dust from ready-mix company	Inspector found dust from primarily from the natural dry creek bed off the cement plant property with extremely high winds.
4/12/07 1245 PST	Rialto	Dust from unknown source	Source not identified
4/12/07 1305 PST	Rancho Cucamonga	Dust from construction project	No violation observed by inspector: no fugitive dust or track out seen, roads paved/gravel and metal grates at entrance, water trucks onsite. Site operator had stopped all activity at approx. 1200 PST when strong winds began. Operator reported wind gusts reaching 50 mph through one hour. Additional water trucks, 4 total, were brought in at that time. Site operating in compliance.
4/12/07 1326 PST	Ontario	Dust from construction project	Inspector observed no fugitive dust and no track out, but winds were light at time of visit. Water truck was operating. Site operator had stopped all activity at approx. 1000 PST when strong winds began and two additional water trucks were on route. Notice to Comply issued to utilize additional measures to prevent visible fugitive dust. Site operating in compliance at later follow up.
4/12/07 1337 PST	Hemet	Dust blowing from open field	Complaint of dust from an 80 acre open field of 16 5-acre lots filed from an anonymous complainant in the afternoon of 4/12/07. Inspector follow-up on 4/12/07 did not observe any fugitive dust, operating in compliance at time of inspection.
4/12/07 1408 PST	Corona	Dust from open land	Strong NW winds, over 30 mph in the area, were noted at the time of the complaint. Blowing dust had been reported throughout a larger area on 4/12 due to strong winds. During site visit on 4/13, winds were moderate and no dust was evident. A source could not be determined. No further action taken.
4/12/07 1439 PST	Lake Elsinore	Smoke	Report of large plume of white smoke. Source not identified. No violations issued.
4/12/07 1452 PST	Jurupa	Dust from freeway construction	Complaint of dust from CalTrans work on 60 freeway shoulder. Inspector noted strong northerly winds between 0905 and 1045 PST blowing across the freeway toward complainant's house, but did not observe any airborne dust. No violations issued.

Conclusion

On Thursday, April 12, 2007 a strong trough of low pressure developed aloft over the west coast, along with an associated upper level jet of strong winds and a frontal passage. Surface pressure gradients were strong from the northwest and west, creating strong winds across the Basin, as well as the surrounding mountains and deserts throughout southern California. The pressure gradients were lined up along the Perris Valley. Strong winds occurred upwind of the Perris air monitoring station from late morning through mid-afternoon, with blowing dust reported.

In San Bernardino County, peak wind gusts were measured to 31 mph at Ontario International Airport and 41 mph at Chino Airport. In Riverside County, peak wind gusts reached 38 mph at Riverside Municipal Airport, and 39 mph at March Air Reserve Base. West of the Santa Ana Mountains in Orange County, the Santa Ana/John Wayne International Airport recorded wind gusts to 25 mph. The 1-minute averaged winds at the Perris air monitoring station reached 24 mph in the afternoon (instantaneous gusts are not recorded at this station).

Strong winds were also seen in the Coachella Valley (Salton Sea Air Basin), on the east side of the San Jacinto Mountains on April 12, where the FRM PM10 sampler at Indio recorded 146 $\mu g/m^3$ and an unofficial collocated sampler measured 174 $\mu g/m^3$. The Imperial County Air Pollution Control District prepared a request to flag the PM10 measurements at Brawley and Westmorland on this day due to high winds. The Mojave Desert Air Quality Management District also prepared PM10 natural event requests with NAAQS exceedances at Lancaster, Victorville, Lucerne Valley and Barstow. The Arizona Department of Environmental Quality recorded NAAQS exceedances on both April 11 and 12 with their Beta Attenuation Monitor (BAM) at Yuma, AZ.

Due to the widespread winds, sources of the windblown dust included both natural, undisturbed areas, particularly in the mountains and deserts, and BACM-controlled anthropogenic sources. The timing of the this event is verified with the high wind observations and reports of reduced visibility and blowing sand and dust, in conjunction with the hourly TEOM PM10 measurements from nearby monitors. PM10 measurements throughout the Basin were elevated, but did not exceed the NAAQS, except at Perris. The FRM SSI instruments at the San Bernardino air monitoring station measured 136 $\mu g/m^3$, Santa Clarita measured 131 $\mu g/m^3$ and Riverside-Rubidoux measured 108 $\mu g/m^3$. The closest continuous PM10 measurements to Perris from TEOM instruments at Riverside-Rubidoux and Lake Elsinore show a strong correlation between the strong winds and high hourly PM10 concentrations.

If not for the high wind event and the associated wind-entrained dust, the PM10 NAAQS violation measured at Perris on April 12 would not have occurred. Therefore, with the weight of evidence provided, AQMD staff recommends the flagging of the PM10

NAAQS violations at the Perris air monitoring station on April 12, 2007 as an exceptional event due to high winds in the U.S. EPA Air Quality System (AQS) database.

3 SUPPORTING MATERIALS

3.1 News Articles

Source: Riverside Press-Enterprise, April 13, 2007

Press-Enterprise, The (Riverside, CA)

April 13, 2007

WIND WHIPS REGION // 17-vehicle wreck on I-40 leaves 3 dead, at least 6 injured

Author: PAUL LA ROCCO, SONJA BJELLAND AND JOHN ASBURY; THE PRESS-ENTERPRISE

Edition: SAN BERNARDINO COUNTY; PASS; ALL ZONES
Section: LOCAL
Page: B01
Index Terms: WEATHER, ACCIDENTS, VEHICULAR, FATAL, HIGHWAYS, UTILITIES, ELECTRICITY

Article Text:

High winds wreaked havoc on the Inland area Thursday, leaving hundreds without power and a trail of damage in its path.

About 1,000 customers were without power between San Bernardino and Hesperia throughout the day and into the evening Thursday, said Southern California Edison spokesman Steve Conroy. Crews were working through the night to restore power in outages in San Bernardino and isolated parts of Riverside County and the Coachella Valley.

"We've been hit pretty hard by these winds that kind of got stuck here," Conroy said. "It looks pretty widespread."

As the weather system moved through the region, winds had a sustained range of 20 to 25 mph with gusts up to 35 or 40 mph, said Steve Vanderburg, a meteorologist with the National Weather Service.

The National Weather Service issued a high-wind warning for the mountains and a wind advisory through 9p.m. Thursday. Winds gusting to 40 mph caused blowing sand, downed power lines and low visibility Thursday throughout the Inland area.

The California Highway Patrol reported blowing sand and debris in the Indio area as well as on Highway 71 in Chino. The agency also reported strong winds on Highway 60 from Ontario to Moreno Valley.

The windy, dusty conditions contributed to a 17-vehicle wreck on Interstate 40 in the High Desert that left three people dead and at least six more injured Thursday morning.

The wreck was reported at 10:22 a.m. on the eastbound side of the freeway in rural Newberry Springs. Initial reports described multiple big rigs, passenger cars, motor homes and a FedEx truck involved, said California Highway Patrol Lt. Todd Sturges.

Visibility in the area was down to 50 feet in some places with dust blowing around the area.

A 67-year-old Palmdale man driving a Mitsubishi pickup, identified as William Dale Riddle, died at the scene. Mary Ann Barreau, 69, of Redding, died! Thursday afternoon at Arrowhead Regional Medical Center in Co! lton, ac cording to the San Bernardino County coroner.

A 63-year-old Barstow man died at Barstow Community Hospital, according to the coroner. He had not been identified as of Thursday night.

As of 4:30 p.m., the interstate was back open.

Sturges described the scene as chaotic and said investigators are still working to determine which vehicle first triggered the collision.

The victims were taken by ambulance to various hospitals in the area, since the conditions did not allow a helicopter in, said San Bernardino County Fire Dispatch Supervisor Sue Hood.

Three hours after the crash, officials were still attempting to free motorists from their vehicles, Sturges said.

In Riverside, wind ripped the roof off one building as the wind tore through the Riverside Auto Center on Adams Street and Auto Center Drive, said Steve Caruso, sales manager at Lexus of Riverside.

Shortly after 2 p.m., the wind came roaring through the area and ripped the tarpaper roof siding off a neighboring dealership, Caruso said. The wind launched debris onto about a dozen Lexuses, causing $20,000 to $30,000 in dents and scratches.

Western Riverside and San Bernardino can expect mostly sunny skies today and Saturday with clouds and a slim chance of rain Sunday. Highs in the 70s are forecast for today and Saturday, dropping into the 60s for Sunday. Lows in the 40s are also forecast.

The mountains will be windy through Sunday. Highs forecast in the 60s today and 70s Saturday will drop into the 40s and 50s for Sunday. Lows are forecast in the 20s and 30s through Sunday.

The Coachella Valley will see highs in the 80s this weekend along with mostly sunny skies. Lows are forecast in the 50s today and Saturday and in the 40s Sunday.

* * *

Staff writer David Raclin contributed to this report.

Caption:
(1) GREG VOJTKO/THE PRESS-ENTERPRISE / A field worker plows Thursday as winds kick up dust around a water slide at Pharaoh's Theme & Water Park in Redlands. Winds in the region had a sustained range of 20 to 25 mph, with gusts reaching up to 35 or 40 mph.
(2) GREG VOJTKO/THE PRESS-ENTERPRISE / Problems caused Thursday by winds include this street sign at Tippecanoe and San Bernardino avenues in Redlands. (3) RAMON MENA OWENS/THE PRESS-ENTERPRISE / Roy Vivian, who lives in the Woodcrest area of Riverside, looks over a tree that the wind knocked onto his front yard Thursday. Other problems included power outages and a wreck.PHOTOS
Memo:
STAFF WRITER DAVID RACLIN CONTRIBUTED TO THIS REPORT.

Record Number: 797877

Source: Los Angeles Times, April 13, 2007

Los Angeles Times

California | Local

Strong winds create havoc throughout the region

By Andrew Blankstein, Times Staff Writers and Tami Abdollah, Times Staff Writers
April 13, 2007

Dry north winds blasted Southern California on Thursday, downing scores of trees and power lines, cutting visibility to near zero in some inland valley areas and fanning a brush fire at the north end of Beverly Hills that destroyed one multimillion-dollar home.

It was the latest in a string of rare winter and spring brush fires during the driest year on record in Southern California, which has firefighters on edge.

The Beverly Hills blaze broke out about 1 p.m. in the 1300 block of Beverly Drive and was fueled by thick brush in nearby Franklin Canyon.

A second home was severely damaged and a third sustained damage to the roof. Officials noted that all three homes had highly flammable wood shake roofs.

More than 200 firefighters from the city of Los Angeles, Beverly Hills and Los Angeles County, aided by water-dropping helicopters, battled the blaze. It was started by a power line probably downed by the winds, said L.A. Fire Capt. Antoine McKnight.

Winds kicked up so much dust that visibility was down to two miles Thursday afternoon in the San Fernando Valley. In the Antelope Valley, visibility was near zero.

"It's as bad a dust storm as we can get," said Ryan Kittell, a National Weather Service forecaster.

The high winds knocked out power to almost 120,000 customers, said Kim Hughes, a spokeswoman for the Los Angeles Department of Water and Power. She said it would take up to two or three days to restore all lost power.

The majority of the outages were in the San Fernando Valley, Eagle Rock, Hancock Park and South Los Angeles, she said.

A Southern California Edison spokesman said 89,000 of its residential and business customers lost power for a time, primarily in San Bernardino County and the San Gabriel and Antelope valleys.

Further inland, the winds caused havoc for drivers.

Two men in separate vehicles were killed in a 17-car pileup in Newberry Springs, east of Barstow, according to the California Highway Patrol.

An estimated 30 cars were involved in accidents along Interstate 40 in San Bernardino County amid dust storms packing 50 mph gusts. Strong winds also caused trucks to overturn and shut down a portion of Interstate 10 in Palm Springs.

"It's just a mess out there today," CHP Officer Steve Goforth said.

Swirling winds of up to 50 mph also pounded Los Angeles County. A 26-year-old man was hit by a small piece of a sign at Universal City Walk, fire officials said. He was taken to a local hospital with minor injuries.

Forecasters said the winds that lashed the region were caused by an unusual weather pattern in which the jet stream dipped over Southern California coupled with winds behind a cold front that passed through the area overnight.

Cold, dry winds in the upper atmosphere hit speeds of 140 mph. Closer to the ground that translated to wind shear and turbulent gusts, Kittell said.

Throughout the day gale warnings were posted along much of the coast, while the mountains and deserts were under high wind warnings.

In Los Angeles, the power outages forced many officers onto the streets to direct traffic, as city crews attempted to remove trees from roadways.

The fire in the Beverly Hills area was fueled by a dangerous combination of high winds and bone-dry conditions.

Scott Windus, 57, who owns a home on the street where the blaze erupted, said the power in his house went out about 12:30 p.m.

Windus said he looked out a second-floor window and saw the wind-whipped flames on the hills behind some homes, including the one that was destroyed.

"It's surprising it didn't take out more because [the wind] was blowing so hard and embers were everywhere," he said. "It took out some pine trees and avocado trees, and that's when it jumped over the street, straight into that house."

About 200 people were evacuated from the neighborhood, fire officials said. They were allowed to return about 5:30 p.m.

About 1 1/2 years ago, Beverly Hills passed an ordinance requiring residents to replace wood-shake roofs with fire-retardant roofing by 2013. After viewing the fire, Mayor Jimmy Delshad said he would ask the council to consider moving up the deadline.

Sharon Sistine, 64, who lives across the street from where the fire started, said brush had not been properly cleared in the area. She said she had called the DWP, which city officials said appears to own the property, and the Fire Department about the hillside.

"We get this letter to clear all the time and we do it," she said. "This was an accident waiting to happen."

Los Angeles City Councilman Jack Weiss, whose district covers the fire area, said he would introduce an emergency motion today to call on DWP officials to explain what happened to their power lines and their brush clearance efforts off Franklin Canyon.

The winds hit L.A. neighborhoods such as the South Robertson-Beverlywood area where, at the corner of Pico Boulevard and Livonia Avenue, a 1984 Toyota Cressida was crushed by a tree that was blown down about 2 p.m.

David Castro, 22, a construction worker on a job across the street, said that just before the tree toppled, "The wind was so strong I had to close my eyes, but then I heard a big crack. I turned around and saw the tree fall right on top of the car."

The car's owner, Maya Karayeva, a cashier at a nearby market, said she discovered the damage after she left the store to check out the noise outside. "I was very sad," she said. "That's been my car for many years. Now I guess I'll have to get a new one."

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Times Staff Writer Tony Barboza contributed to this report.

Source: The Desert Sun April 13, 2007

Wind rattles valley

Omar Ornelas, The Desert Sun

Katlin Guzman steps over a tree that fell in his backyard in Cathedral City on Thursday because of high winds. Guzman said he was gardening when he heard a loud "cracking noise" and moved away. Moments later, he said, the tree fell where he had been standing.

BY THE NUMBERS

strongest wind gust 45mph

temperature at 12:18 p.m. 73 degrees F

temperature at 2 p.m. 61 degrees F

Source: AccuWeather

Michelle Mitchell
The Desert Sun
April 13, 2007

Wind gusts topping 45 mph streaked through the Coachella Valley on Thursday, closing roads, toppling trees and sending lawn furniture flying.

The winds also reportedly delayed landings at Palm Springs International Airport as pilots were forced to circle thousands of feet above as they waited for the gusts to ease.

The winds downed power lines and complicated roadway travel, forcing motorists to find alternate routes as several streets were closed due to decreased visibility caused by blowing sand.

A National Weather Service wind advisory ended at about 9 p.m. Thursday.

Officials believe the strongest winds came in gusts throughout the day. "Today it's been on and off," AccuWeather meteorologist Chuck Caracozza said.

"It's not really unusual here," Caracozza said, though this wind storm came later in the season than usual.

More rare than the high winds was the rain, which briefly fell throughout the valley. Accu-Weather registered only a trace of precipitation.

The raindrops did little to settle dust and sand, which blew so hard the South Coast Air Quality Management District issued a dust advisory.

Blowing sand also forced the closure of several roadways.

"It has been a very windy April and we've seen more patients than we usually do," said Dr. David Waldman, chief of allergy at Eisenhower Medical Center, adding that the increase was from people with borderline allergies that needed additional treatment with the high winds.

Doctors and the air quality management district advised susceptible people to stay inside.

But for many people, life went on despite the winds, including pool cleaners at Stevie D's Pool and Spas based in Indio.

"The pools just get dirtier they're black," said Chief Financial Officer Debbie Daniels.

They still went out to check the chemicals in the pools.

"We just work five times harder," she said.

Everyone will get a break today, with winds peaking at 15 mph and air quality predicted to be good to moderate.

Source: California Fire News:
http://calfire.blogspot.com/2007/04/los-angeles-wildland-urban-interface.html

Thursday, April 12, 2007

Los Angeles wildland -Urban interface fire

Los Angeles wildland - Urban interface fire - CA-LFD

Working fire northwest of Beverly Hills, CA in the Beverly Glen area. LA Fire calling it minimum 15 acres with at least one home involved and what their PIO called multiple roof fires. Winds are 25+ mph with temps in the low 70's. K-CAL 9 TV covering it from the ground with no or minimal aircraft due to wind.

BRUSH FIRE SPREADS TO HOMES IN BEVERLY GLEN AREA

Wind Sweeps Embers To Dry Vegetation

LOS ANGELES -- A wind-driven brush fire fueled by dry vegetation damaged homes Thursday afternoon in the Beverly Glen area

The fire started at about 1 p.m. in the 1600 block of North Beverly Drive.
Ron Myers of the Los Angeles Fire Department said the fire burned about 35 acres by 2:50 p.m. "It appears that we're starting to get a handle on it," said Jim Powers of the Los Angeles County Fire Department. "Unfortunately, we've also heard that a few structures have been lost."
Myers said strong winds spread embers onto dry vegetation. He said formal evacuations were not ordered. "I've never seen winds like this," a resident told NBC4. "It's unbelievable. The roads are covered with palm leaves and pine cones. It's a mess." Three water-dropping helicopters were at the scene.
Fire crews said winds pushed some of the water drops off target. Winds were at 25 to 30 mph with strong gusts. NBC4 forecaster Fritz Coleman said gusts Tuesday afternoon reached 60 mph in some areas. "Even though the wind is burning against (the fire), it's still burning uphill because the brush is so dry," said Powers. Powers said the Los Angeles area has received 2.5 inches of rain since the start of 2007. Normal rainfall amounts are between 11 and 12 inches, he said. Powers said crews used a nearby water source, the Lower Franklin Reservoir, which allowed helicopters to make frequent drops.

Brea Brush Fire

A blaze that blackened brush alongside the Carbon Canyon dam in Brea Thursday threatened a mobile home park before firefighters brought the flames under control, a fire captain said.
The fire, reported at 1:37 p.m. in the area of Rose and Valencia drives, grew to two to three acres before hand crews and a water-dropping helicopter stopped its spread, said Orange County Fire Authority Capt. Stephen Miller.
Crews planned to keep an eye out for flying embers that could re-ignite vegetation in the face of conditions Miller described as "a little breezy. "The fire burned the side of the Carbon Canyon dam, leaving it "pretty clean," Miller said.
The cause was unknown, but Miller said there are power lines in the area and the fire could have been sparked by a downed line. In Palmdale, a three-acre fire broke out at North Sierra Highway and Pearblossom Highway at about 1:30 p.m.

Power Outages

High winds also knocked out electricity to about 10,000 Department of Water and Power customers in the Woodland Hills area and about 1,600 others in North Hollywood, officials said. The electrical outages, which also affected other areas, developed late Thursday morning and continued in the afternoon, said MaryAnne Pierson of the DWP. "There are outages throughout our service area due to wind," Pierson said. Crews were working to restore service, she said. Gil Alexander of Southern California Edison told KFWB

radio that about 2,000 of the utility's customers were without electricity as of 1:45 p.m., but the number of people affected was rising as winds increased.
The station also reported that winds knocked down power lines near Laurel Canyon Boulevard and Riverside Drive near Studio City, sparking a small grass fire. Gusting winds were howling across many parts of the Southland.
The National Weather Service issued wind advisories in the San Fernando, San Gabriel and Santa Clarita valleys, and issued high wind warnings in the Antelope Valley and Los Angeles County mountains.
According to the Weather Service, wind gusts of up to 35 mph can be expected in the San Fernando Valley, while the Santa Clarita Valley could experience gusts of up to 55 mph. Antelope Valley and the Los Angeles County Mountains could be even windier, with gusts up to 65 mph. Earlier Thursday, the Weather Service reported peak winds of 58 mph in Saugus and 49 mph in Palmdale.

Posted by California Fire news at 4/12/2007 03:36:00 PM 0 Comments Links to this post

Labels: 2007 fire, CA-LFD, Fire, fire department, Los Angeles, Los Angeles Fire Department, Urban interface fire, wildland

3.2 National Weather Service Watches, Warning & Advisories

NWS San Diego Forecast Office

NWS SRRS PRODUCTS FOR:
2007041200 to 2007041323

WWUS76 KSGX 120255
NPWSGX
URGENT - WEATHER MESSAGE
NATIONAL WEATHER SERVICE SAN DIEGO CA
755 PM PDT WED APR 11 2007 **[1855 PST April 11]**

...WIND ADVISORY FOR THE MOUNTAINS AND DESERTS THROUGH THURSDAY EVENING...

.A POTENT LOW PRESSURE TROUGH MOVING ACROSS CENTRAL CALIFORNIA WILL BRING STRONG WEST WINDS THROUGH THURSDAY EVENING. THE STRONGEST...POTENTIALLY DAMAGING...WINDS WILL OCCUR OVER THE MOUNTAINS AND DESERTS DURING THE DAY THURSDAY. THE WINDS WILL SUBSIDE THURSDAY NIGHT.

CAZ055-056-058-060>062-121200-
/O.CON.KSGX.WI.Y.0016.000000T0000Z-070413T0400Z/
SAN BERNARDINO COUNTY MOUNTAINS-RIVERSIDE COUNTY MOUNTAINS-
SAN DIEGO COUNTY MOUNTAINS-APPLE AND LUCERNE VALLEYS-
COACHELLA VALLEY-SAN DIEGO COUNTY DESERTS-
755 PM PDT WED APR 11 2007

...WIND ADVISORY REMAINS IN EFFECT UNTIL 9 PM PDT THURSDAY...

A WIND ADVISORY REMAINS IN EFFECT UNTIL 9 PM PDT THURSDAY.
WEST TO NORTHWEST WINDS 25 TO 35 MPH WITH GUSTS TO 55 MPH THIS AFTERNOON AND THURSDAY. WINDS DECREASING SLIGHTLY OVERNIGHT.
STRONG WINDS WILL MAKE TRAVEL DIFFICULT. BLOWING DUST AND SAND WILL REDUCE VISIBILITIES TO NEAR ZERO AT TIMES IN THE DESERTS...
AND THE STRONG WINDS WILL MAKE TRAVEL DIFFICULT FOR MOTORISTS IN HIGH PROFILE VEHICLES. USE EXTRA CAUTION AND WATCH FOR BROKEN TREE LIMBS AND DOWNED POWER LINES.
$$

WWUS76 KSGX 121146
NPWSGX
URGENT - WEATHER MESSAGE
NATIONAL WEATHER SERVICE SAN DIEGO CA
446 AM PDT THU APR 12 2007 **[0346 PST April 12]**

...WIND ADVISORY FOR THE MOUNTAINS AND DESERTS THROUGH THURSDAY EVENING...

.A POTENT LOW PRESSURE TROUGH WILL MOVE ACROSS SOUTHERN CALIFORNIA TODAY...BRINGING VERY STRONG NORTHWEST WINDS TO THE MOUNTAINS AND DESERTS. THE STRONGEST...POTENTIALLY DAMAGING...WINDS WILL OCCUR THIS AFTERNOON AND EVENING. THE WINDS WILL SUBSIDE LATER TONIGHT.

CAZ055-056-058-060>062-121900-
/O.CON.KSGX.WI.Y.0016.000000T0000Z-070413T0400Z/
SAN BERNARDINO COUNTY MOUNTAINS-RIVERSIDE COUNTY MOUNTAINS-
SAN DIEGO COUNTY MOUNTAINS-APPLE AND LUCERNE VALLEYS-
COACHELLA VALLEY-SAN DIEGO COUNTY DESERTS-
446 AM PDT THU APR 12 2007

...WIND ADVISORY REMAINS IN EFFECT UNTIL 9 PM PDT THIS EVENING...

POWERFUL...POTENTIALLY DAMAGING NORTHWEST WINDS OF 25 TO 35 MPH WILL GUST TO 55 MPH AT TIMES TODAY. MOTORISTS SHOULD EXERCISE CAUTION IF TRAVELING IN THE MOUNTAINS AND DESERTS...ESPECIALLY IF DRIVING HIGH PROFILE VEHICLES. STRONG...SUDDEN CROSS WINDS CAN CAUSE YOU TO LOSE CONTROL OF YOUR VEHICLE.
BLOWING DUST AND SAND WILL REDUCE VISIBILITIES TO NEAR ZERO AT TIMES IN THE DESERTS. DRIVE AT A RESPONSIBLE RATE OF SPEED...AND USE YOUR HEADLIGHTS TO MAKE YOUR VEHICLE MORE VISIBLE TO OTHER DRIVERS.

BE SAFE...USE EXTRA CAUTION TODAY.

$$
MOEDE

WWUS76 KSGX 121908
NPWSGX
URGENT - WEATHER MESSAGE...CORRECTED
NATIONAL WEATHER SERVICE SAN DIEGO CA
1207 PM PDT THU APR 12 2007 **[1107 PST]**

...WIND ADVISORY FOR THE MOUNTAINS AND DESERTS THROUGH THIS EVENING...

.A POTENT LOW PRESSURE TROUGH WILL MOVE ACROSS SOUTHERN CALIFORNIA TODAY...BRINGING VERY STRONG NORTHWEST WINDS TO THE MOUNTAINS AND DESERTS. THE STRONGEST WINDS WILL OCCUR THIS AFTERNOON AND EVENING. THE WINDS WILL SUBSIDE LATER TONIGHT.

CAZ055-056-058-060>062-130400-
/O.CON.KSGX.WI.Y.0016.000000T0000Z-070413T0400Z/
SAN BERNARDINO COUNTY MOUNTAINS-RIVERSIDE COUNTY MOUNTAINS-
SAN DIEGO COUNTY MOUNTAINS-APPLE AND LUCERNE VALLEYS-
COACHELLA VALLEY-SAN DIEGO COUNTY DESERTS-
1207 PM PDT THU APR 12 2007

...WIND ADVISORY REMAINS IN EFFECT UNTIL 9 PM PDT THIS EVENING...

A WIND ADVISORY REMAINS IN EFFECT UNTIL 9 PM PDT THIS EVENING.
NORTHWEST WINDS 30 TO 40 MPH WITH GUSTS TO 55 MPH. ISOLATED HIGHER GUSTS.
BLOWING DUST AND SAND WILL REDUCE VISIBILITIES TO NEAR ZERO AT TIMES IN THE DESERTS. DRIVE AT A RESPONSIBLE RATE OF SPEED...AND USE YOUR HEADLIGHTS TO MAKE YOUR VEHICLE MORE VISIBLE TO OTHER DRIVERS.

BE SAFE...USE EXTRA CAUTION TODAY.
$$
MM

WWUS76 KSGX 122143
NPWSGX
URGENT - WEATHER MESSAGE
NATIONAL WEATHER SERVICE SAN DIEGO CA
243 PM PDT THU APR 12 2007 **[1343 PST]**

...HIGH WIND WARNING FOR THE MOUNTAINS THROUGH THIS EVENING...
...WIND ADVISORY FOR LOWER ELEVATIONS THIS EVENING...

.A STRONG LOW PRESSURE TROUGH WILL MOVE ACROSS SOUTHERN CALIFORNIA TODAY...BRINGING VERY STRONG NORTHWEST WINDS...ESPECIALLY TO THE MOUNTAINS AND DESERTS. THE STRONGEST WINDS WILL OCCUR THIS AFTERNOON AND EVENING. THE WINDS WILL SUBSIDE LATER TONIGHT.

CAZ055-056-058-130400-
/O.UPG.KSGX.WI.Y.0016.000000T0000Z-070413T0400Z/
/O.NEW.KSGX.HW.W.0008.070412T2143Z-070413T0400Z/
SAN BERNARDINO COUNTY MOUNTAINS-RIVERSIDE COUNTY MOUNTAINS-
SAN DIEGO COUNTY MOUNTAINS-
243 PM PDT THU APR 12 2007

...HIGH WIND WARNING IN EFFECT UNTIL 9 PM PDT THIS EVENING...

THE NATIONAL WEATHER SERVICE IN SAN DIEGO HAS ISSUED A HIGH WIND WARNING...WHICH IS IN EFFECT UNTIL 9 PM PDT THIS EVENING. THE WIND ADVISORY IS NO LONGER IN EFFECT.
NORTHWEST WINDS 30 TO 40 MPH WITH GUSTS TO 70 MPH.
BLOWING DUST AND SAND WILL REDUCE VISIBILITIES TO NEAR ZERO AT TIMES. WATCH FOR BROKEN TREE LIMBS AND DOWNED POWER LINES.
A HIGH WIND WARNING MEANS A HAZARDOUS HIGH WIND EVENT IS EXPECTED OR OCCURRING. SUSTAINED WIND SPEEDS OF AT LEAST 40 MPH OR GUSTS OF 58 MPH OR MORE CAN LEAD TO PROPERTY DAMAGE.
$$

CAZ042-043-048-050-057-130400-
/O.EXA.KSGX.WI.Y.0016.000000T0000Z-070413T0400Z/
ORANGE COUNTY COASTAL AREAS-SAN DIEGO COUNTY COASTAL AREAS-
SAN BERNARDINO AND RIVERSIDE COUNTY VALLEYS-THE INLAND EMPIRE-
SAN DIEGO COUNTY VALLEYS-SANTA ANA MOUNTAINS AND FOOTHILLS-
243 PM PDT THU APR 12 2007

...WIND ADVISORY IN EFFECT UNTIL 9 PM PDT THIS EVENING...

THE NATIONAL WEATHER SERVICE IN SAN DIEGO HAS ISSUED A WIND ADVISORY...WHICH IS IN EFFECT UNTIL 9 PM PDT THIS EVENING.
NORTHWEST WINDS 25 TO 35 MPH WITH GUSTS TO 50 MPH. ISOLATED HIGHER GUSTS.
BLOWING DUST AND SAND WILL REDUCE VISIBILITIES TO NEAR ZERO AT TIMES. WATCH FOR BROKEN TREE LIMBS AND DOWNED POWER LINE.
$$

CAZ060>062-130400-
/O.CON.KSGX.WI.Y.0016.000000T0000Z-070413T0400Z/
APPLE AND LUCERNE VALLEYS-COACHELLA VALLEY-
SAN DIEGO COUNTY DESERTS-
243 PM PDT THU APR 12 2007

...WIND ADVISORY REMAINS IN EFFECT UNTIL 9 PM PDT THIS EVENING...

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

NORTHWEST WINDS 30 TO 40 MPH WITH GUSTS TO 55 MPH. ISOLATED
HIGHER GUSTS.
BLOWING DUST AND SAND WILL REDUCE VISIBILITIES TO NEAR ZERO AT
TIMES IN THE DESERTS. WATCH FOR BROKEN TREE LIMBS AND DOWNED POWER
LINES.
$$
DVA

WWUS76 KSGX 130219
NPWSGX
URGENT - WEATHER MESSAGE
NATIONAL WEATHER SERVICE SAN DIEGO CA
719 PM PDT THU APR 12 2007 **[1819 PST]**
CAZ055-056-058-130330-
/O.CAN.KSGX.HW.W.0008.000000T0000Z-070413T0400Z/
SAN BERNARDINO COUNTY MOUNTAINS-RIVERSIDE COUNTY MOUNTAINS-
SAN DIEGO COUNTY MOUNTAINS-
719 PM PDT THU APR 12 2007

...HIGH WIND WARNING IS CANCELLED...

THE NATIONAL WEATHER SERVICE IN SAN DIEGO HAS CANCELLED THE HIGH
WIND WARNING.
$$

CAZ042-043-048-050-057-060>062-130330-
/O.CAN.KSGX.WI.Y.0016.000000T0000Z-070413T0400Z/
ORANGE COUNTY COASTAL AREAS-SAN DIEGO COUNTY COASTAL AREAS-
SAN BERNARDINO AND RIVERSIDE COUNTY VALLEYS-THE INLAND EMPIRE-
SAN DIEGO COUNTY VALLEYS-SANTA ANA MOUNTAINS AND FOOTHILLS-
APPLE AND LUCERNE VALLEYS-COACHELLA VALLEY-
SAN DIEGO COUNTY DESERTS-
719 PM PDT THU APR 12 2007

...WIND ADVISORY IS CANCELLED...

THE NATIONAL WEATHER SERVICE IN SAN DIEGO HAS CANCELLED THE WIND
ADVISORY.
$$

3.3 National Weather Service Hazardous Weather Outlooks

NWS San Diego Forecast Office

FLUS46 KSGX 121038
HWOSGX

HAZARDOUS WEATHER OUTLOOK
NATIONAL WEATHER SERVICE SAN DIEGO CA
400 AM PDT THU APR 12 2007 **[0300 PST]**

CAZ042-043-048-050-055-056-057-058-060-061-062-PZZ750-PZZ775-130000-
ORANGE COUNTY COASTAL AREAS-
SAN DIEGO COUNTY COASTAL AREAS-
SAN BERNARDINO AND RIVERSIDE COUNTY VALLEYS-THE INLAND EMPIRE-
SAN DIEGO COUNTY VALLEYS-
SAN BERNARDINO COUNTY MOUNTAINS-
RIVERSIDE COUNTY MOUNTAINS-
SANTA ANA MOUNTAINS AND FOOTHILLS-
SAN DIEGO COUNTY MOUNTAINS-
APPLE AND LUCERNE VALLEYS-
COACHELLA VALLEY-
SAN DIEGO COUNTY DESERTS-
COASTAL WATERS FROM SAN MATEO POINT TO THE MEXICAN BORDER AND OUT 30 NM-
WATERS FROM SAN MATEO POINT TO THE MEXICAN BORDER EXTENDING 30 TO 60 NM OUT INCLUDING SAN CLEMENTE ISLAND-
400 AM PDT THU APR 12 2007

THIS HAZARDOUS WEATHER OUTLOOK IS FOR ALL OF EXTREME SOUTHWESTERN CALIFORNIA.

.DAY ONE... TODAY AND TONIGHT.
WIND ADVISORY FOR THE MOUNTAINS AND DESERTS THROUGH THE EVENING...SEE LAXNPWSGX. VISIBILITIES WILL BE REDUCED IN BLOWING DUST AND SAND IN THE DESERTS.

GALE WARNING FOR THE COASTAL WATERS...SEE LAXCWFSGX.

HIGH SURF ADVISORY FOR THE BEACHES...SEE LAXCFWSGX.

HIGH RIP CURRENT RISK FOR THE BEACHES...SEE LAXSRFSGX.

.DAYS TWO THROUGH SEVEN... FRIDAY THROUGH THURSDAY.
MORE STRONG WINDS FOR THE MOUNTAINS AND DESERTS SATURDAY NIGHT THROUGH MONDAY. BLOWING DUST AND SAND IS LIKELY IN THE DESERTS.

HIGH SURF ADVISORY FOR THE BEACHES THROUGH FRIDAY...SEE LAXCFWSGX.

HIGH RIP CURRENT RISK FOR THE BEACHES THROUGH SATURDAY...SEE LAXSRFSGX.

.SPOTTER INFORMATION STATEMENT...
SKYWARN WEATHER ACTIVATION IS NOT REQUESTED FOR THIS AREA...HOWEVER WEATHER SPOTTERS ARE ENCOURAGED TO REPORT SIGNIFICANT WEATHER CONDITIONS.
$$
MOEDE

FLUS46 KSGX 122241
HWOSGX

HAZARDOUS WEATHER OUTLOOK
NATIONAL WEATHER SERVICE SAN DIEGO CA
400 PM PDT THU APR 12 2007 **[1500 PST]**

CAZ042-043-048-050-055-056-057-058-060-061-062-PZZ750-PZZ775-131200-
ORANGE COUNTY COASTAL AREAS-
SAN DIEGO COUNTY COASTAL AREAS-
SAN BERNARDINO AND RIVERSIDE COUNTY VALLEYS-THE INLAND EMPIRE-
SAN DIEGO COUNTY VALLEYS-
SAN BERNARDINO COUNTY MOUNTAINS-
RIVERSIDE COUNTY MOUNTAINS-
SANTA ANA MOUNTAINS AND FOOTHILLS-
SAN DIEGO COUNTY MOUNTAINS-
APPLE AND LUCERNE VALLEYS-
COACHELLA VALLEY-
SAN DIEGO COUNTY DESERTS-
COASTAL WATERS FROM SAN MATEO POINT TO THE MEXICAN BORDER AND OUT 30 NM-
WATERS FROM SAN MATEO POINT TO THE MEXICAN BORDER EXTENDING 30 TO 60 NM OUT INCLUDING SAN CLEMENTE ISLAND-
400 PM PDT THU APR 12 2007

THIS HAZARDOUS WEATHER OUTLOOK IS FOR ALL OF EXTREME SOUTHWESTERN CALIFORNIA.

.DAY ONE... REMAINDER OF TODAY AND TONIGHT.

HIGH WIND WARING FOR THE HIGHER MOUNTAINS AND WIND ADVISORIES FOR THE LOWER ELEVATIONS UNTIL 9 PM TONIGHT. SEE LAXNPWSGX FOR DETAILS.

GALE WARNING FOR THE COASTAL WATERS...SEE LAXCWFSGX.

HIGH SURF ADVISORY FOR THE BEACHES...SEE LAXCFWSGX.

HIGH RIP CURRENT RISK FOR THE BEACHES...SEE LAXSRFSGX.

.DAYS TWO THROUGH SEVEN... FRIDAY THROUGH THURSDAY.

MORE STRONG WINDS FOR THE MOUNTAINS AND DESERTS SATURDAY NIGHT INTO MONDAY. BLOWING DUST AND SAND IS LIKELY IN THE DESERTS.

HIGH SURF ADVISORY FOR THE BEACHES THROUGH FRIDAY...SEE LAXCFWSGX.

HIGH RIP CURRENT RISK FOR THE BEACHES THROUGH SATURDAY...SEE LAXSRFSGX.

.SPOTTER INFORMATION STATEMENT...
SKYWARN WEATHER ACTIVATION IS NOT REQUESTED FOR THIS AREA...HOWEVER WEATHER SPOTTERS ARE ENCOURAGED TO REPORT SIGNIFICANT WEATHER CONDITIONS.

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DVA

FLUS46 KSGX 130223
HWOSGX

HAZARDOUS WEATHER OUTLOOK
NATIONAL WEATHER SERVICE SAN DIEGO CA
730 PM PDT THU APR 12 2007 **[1830 PST]**

CAZ042-043-048-050-055-056-057-058-060-061-062-PZZ750-PZZ775-131200-
ORANGE COUNTY COASTAL AREAS-
SAN DIEGO COUNTY COASTAL AREAS-
SAN BERNARDINO AND RIVERSIDE COUNTY VALLEYS-THE INLAND EMPIRE-
SAN DIEGO COUNTY VALLEYS-
SAN BERNARDINO COUNTY MOUNTAINS-
RIVERSIDE COUNTY MOUNTAINS-
SANTA ANA MOUNTAINS AND FOOTHILLS-
SAN DIEGO COUNTY MOUNTAINS-
APPLE AND LUCERNE VALLEYS-
COACHELLA VALLEY-
SAN DIEGO COUNTY DESERTS-
COASTAL WATERS FROM SAN MATEO POINT TO THE MEXICAN BORDER AND OUT 30 NM-
WATERS FROM SAN MATEO POINT TO THE MEXICAN BORDER EXTENDING 30 TO 60 NM OUT INCLUDING SAN CLEMENTE ISLAND-
730 PM PDT THU APR 12 2007

THIS HAZARDOUS WEATHER OUTLOOK IS FOR ALL OF EXTREME SOUTHWESTERN CALIFORNIA.

.DAY ONE... TONIGHT.

WINDS WILL DECREASE BUT IT WILL STILL BE LOCALLY WINDY IN THE MOUNTAINS AND DESERTS THROUGH EARLY TONIGHT.

HIGH SURF ADVISORY FOR THE BEACHES...SEE LAXCFWSGX.

HIGH RIP CURRENT RISK FOR THE BEACHES...SEE LAXSRFSGX.

.DAYS TWO THROUGH SEVEN... FRIDAY THROUGH THURSDAY.

MORE STRONG WINDS FOR THE MOUNTAINS AND DESERTS SATURDAY NIGHT INTO MONDAY. BLOWING DUST AND SAND IS LIKELY IN THE DESERTS.

HIGH SURF ADVISORY FOR THE BEACHES THROUGH FRIDAY...SEE LAXCFWSGX.

HIGH RIP CURRENT RISK FOR THE BEACHES THROUGH SATURDAY...SEE LAXSRFSGX.

.SPOTTER INFORMATION STATEMENT...
SKYWARN WEATHER ACTIVATION IS NOT REQUESTED FOR THIS AREA...HOWEVER WEATHER SPOTTERS ARE ENCOURAGED TO REPORT SIGNIFICANT WEATHER CONDITIONS.

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DVA

3.4 National Weather Service Forecast Discussions

NWS San Diego Forecast Office

NOTE: The long term (3-5 day) forecast discussion has not been included.

FXUS66 KSGX 111044
AFDSGX

AREA FORECAST DISCUSSION
FXUS66 KSGX 120350
AFDSGX

AREA FORECAST DISCUSSION
NATIONAL WEATHER SERVICE SAN DIEGO CA
930 PM PDT WED APR 11 2007 **[2030 PST April 11]**

.SYNOPSIS...
UPPER LEVEL LOW PRESSURE WILL CAUSE STRONG GUSTY WINDS IN THE MOUNTAINS AND DESERTS THROUGH THURSDAY. THERE WILL ALSO BE PARTLY CLOUDY SKIES WITH A SLIGHT CHANCE OF SHOWERS TONIGHT AND THURSDAY MORNING. HIGH PRESSURE AND OFFSHORE FLOW WILL BRING WARMING FRIDAY. UPPER LEVEL LOW PRESSURE WILL BRING A LITTLE COOLING SATURDAY THEN MORE COOLING AND GUSTY WINDS IN THE MOUNTAINS AND DESERTS SUNDAY. FAIR AND WARMER EARLY NEXT WEEK UNDER HIGH PRESSURE.

&&

.DISCUSSION...FOR EXTREME SOUTHWESTERN CALIFORNIA INCLUDING ORANGE... SAN DIEGO...WESTERN RIVERSIDE AND SOUTHWESTERN SAN BERNARDINO COUNTIES.

.SHORT TERM (TONIGHT-SAT)...
THERE WERE AREAS OF LOW CLOUDS W OF THE MOUNTAINS AND HIGH CLOUDS THIS EVENING. THE 00Z NKX HAD A WEAK INVERSION BASED NEAR 2400 FT AND SHOWED THE HIGH LEVEL MOISTURE IN S**TRONG WLY WINDS ALOFT**. **STRONG ONSHORE GRADIENTS** WITH ABOUT 9 MB SAN-IPL.

UPPER TROUGH WILL CONTINUE TO DIG AND MOVE PAST TO THE N AND E TONIGHT AND THU. THE WINDS ALOFT AND STRONG ONSHORE GRADIENTS WILL CAUSE LOCAL STRONG GUSTY WINDS IN THE MOUNTAINS AND DESERTS THROUGH THU. WINDS WILL MOSTLY BE ADVISORY STRENGTH WITH GUSTS OF 40 TO 50 MPH BUT THERE COULD BE ISOLATED STRONGER GUSTS. THE WINDS WILL CAUSE LOCAL VISIBILITY NEAR ZERO IN BLOWING DUST AND SAND...MAINLY IN THE DESERTS. THE STRONG WINDS WILL LIKELY CAUSE MOUNTAIN WAVE ACTIVITY AND ROTORS IN THE LEE OF THE MOUNTAINS. LIMITED MOISTURE ASSOCIATED WITH THIS VIGOROUS UPPER LOW WILL RESULT IN JUST A SLIGHT CHANCE OF LIGHT SHOWERS TONIGHT AND THU MORNING OVER AND W OF THE MOUNTAINS. THE FLOW TURNS OFFSHORE LATE THU AND FRI MORNING. THERE WILL BE LOCAL GUSTY WINDS THROUGH AND BELOW MOUNTAIN CANYONS AND PASSES FRI MORNING...BUT MOST WINDS SHOULD REMAIN BELOW ADVISORY STRENGTH. COOLER IN MOST AREAS THU...ESPECIALLY INLAND. MOSTLY CLEAR AND WARMER FRI UNDER HIGH PRESSURE WITH WEAKENING OFFSHORE FLOW. MARINE LAYER CLOUDS COULD RETURN AS EARLY AS LATE FRI NIGHT AND SAT MORNING. A LITTLE COOLER SAT AS ONSHORE FLOW RETURNS IN RESPONSE TO ANOTHER TROUGH APPROACHING FROM THE NW.

&&

.AVIATION...
120430Z...**STRONG ONSHORE WEST TO NORTHWEST FLOW** WITH AREAS OF OVERCAST LOW CLOUDS TONIGHT. CLOUD BASES GENERALLY 1500 TO 2500 FEET MSL. CLOUD TOPS WILL BEGIN AROUND 3000 BUT APPROACH 5500 FEET BY SUNRISE. LIGHT RAIN IS POSSIBLE WITH A WEAK FRONT...BUT RAPID CLEARING MOST AREAS MIDDAY THURSDAY. **WINDS 20 TO 30 KNOTS WITH GUSTS TO 45 KNOTS IN THE MOUNTAINS AND IN DESERT AREAS THROUGH THURSDAY...WITH LOCALLY HIGHER GUSTS DESERT SLOPES. BLOWING DUST WITH LOCAL IFR VISIBILITIES AT TIMES DESERT AREAS. STRONG MOUNTAIN WAVE CONDITIONS WITH STRONG UP AND DOWNDRAFTS AND WIND SHEAR ARE EXPECTED...ALONG WITH ROTOR ACTIVITY.**

&&

.MARINE...
OFFSHORE BUOYS INDICATE **SMALL CRAFT ADVISORY CONDITION**S FOR HAZARDOUS SEAS. THE SOUTH SWELL GENERATED BY A VERY STRONG SOUTHERN HEMISPHERE STORM HAS PEAKED AND WILL BEGIN TO SUBSIDE VERY SLOWLY ON INTO FRIDAY. SHORTER PERIOD WEST SWELL SHOULD BUILD THROUGH THU. HIGH SURF CONDITIONS WILL SPREAD SOUTH INTO SAN DIEGO COUNTY AS THE WNW SWELL INCREASES THROUGH THE NIGHT...WITH THE SWELL PEAKING AROUND 12 FEET. SUSTAINED WEST WINDS OF 25 KNOTS OR MORE WILL OCCUR AT TIMES.

&&

.SGX WATCHES/WARNINGS/ADVISORIES...

WIND ADVISORY FOR THE MOUNTAINS AND DESERTS...SEE LAXNPWSGX.
HIGH SURF ADVISORY FOR THE BEACHES...SEE LAXCFWSGX.
HIGH RIP CURRENT RISK FOR THE BEACHES...SEE LAXSRFSGX.
SMALL CRAFT ADVISORY FOR THE COASTAL WATERS...SEE LAXCWFSGX.

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PUBLIC...DVA
AVIATION/MARINE...SMALL

FXUS66 KSGX 121037
AFDSGX

AREA FORECAST DISCUSSION
NATIONAL WEATHER SERVICE SAN DIEGO CA
335 AM PDT THU APR 12 2007 **[0235 PST]**

.SYNOPSIS...
DEEP LOW PRESSURE ALOFT WILL BRING STRONG GUSTY WINDS TODAY. STRONGEST WINDS WILL BE IN THE MOUNTAINS AND DESERTS WHERE BLOWING DUST WILL REDUCE VISIBILITIES AT TIMES. A GALE WARNING IS IN EFFECT FOR THE COASTAL WATERS. THE WINDS WILL SUBSIDE TONIGHT AS WEAK HIGH PRESSURE BUILDS. SUNNY SKIES AND OFFSHORE FLOW WILL BRING WARMER WEATHER FRIDAY. ANOTHER UPPER LEVEL LOW ARRIVES SATURDAY BRINGING COOLING...A DEEPENING MARINE LAYER AND MORE GUSTY WINDS SATURDAY NIGHT AND SUNDAY.

&&

.DISCUSSION...FOR EXTREME SOUTHWESTERN CALIFORNIA INCLUDING ORANGE... SAN DIEGO...WESTERN RIVERSIDE AND SOUTHWESTERN SAN BERNARDINO COUNTIES.

A MIGHTY WIND PART 1. ELEMENTS CONVERGING OVER SOCAL FOR STRONG NW WINDS TODAY...PERHAPS EVEN A LITTLE STRONGER THAN YESTERDAY. THE NOSE OF A 130 KT 300 MB (30KFT) JET TRACKS ACROSS THE MTNS AND DESERTS THIS AFTERNOON. DOWNWARD FORCING ON THE BACKSIDE OF THIS TROUGH WILL SEND SOME OF THIS WIND SURFACEWARD...AND LOCAL WIND PROGRAMS PROJECT MAX WIND GUSTS FROM 55 TO 60 MPH OVER THE MOUNTAINS AND DESERTS. THAT MAKES THIS EVENT A HIGH-END WIND ADVISORY/LOW-END WIND WARNING. EXPECT PEAK GUSTS TO OCCUR IN THE WIND PRONE AREAS OF THE HIGH DESERTS AND THE COACHELLA VALLEY THIS AFTERNOON WHEN THE STRONGEST WINDS ALOFT BARREL ACROSS THE CWA. BLOWING DUST AND SAND WILL BE A FACTOR AGAIN TODAY WITH VIS NEAR ZERO AT TIMES IN THE DESERTS. GALES OVER THE COASTAL WATER WILL RESULT IN DANGEROUS BOATING CONDITIONS.

TEMPS WILL BE LOWER TODAY IN THE COLD NORTH FLOW BEHIND THE TROUGH...MOST NOTICEABLE IN THE DESERTS WHERE IT WILL BE ABOUT 10 DEGREES LOWER. MOISTURE IS CONFINED TO THE LOWEST 5KFT THIS MORNING AND ANY SHOWERS TODAY WILL HAVE TO COME FROM THE MARINE LAYER.

THE STRONG WINDS CONTINUE THROUGH THE EVENING...THEN SUBSIDE OVERNIGHT AS THE JET CORE SHIFTS EAST. BUILDING HIGH PRESSURE WILL BRING LIGHTER WINDS...WEAK OFFSHORE FLOW AND WARMER WEATHER FRIDAY.

&&

.AVIATION...
121000Z...**STRONG ONSHORE WEST TO NORTHWEST FLOW** WITH AREAS OF OVERCAST LOW CLOUDS AND SCATTERED LIGHT RAIN SHOWERS THIS MORNING. CLOUD BASE 2500 FEET MSL. CLOUD TOPS 5500 FEET. RAPID CLEARING MOST AREAS BY MIDDAY TODAY. MOSTLY CLEAR TONIGHT. **WINDS 20 TO 30 KNOTS WITH GUSTS TO 50 KNOTS IN THE MOUNTAINS AND IN DESERT AREAS THROUGH THE DAY...WITH LOCALLY HIGHER GUSTS DESERT SLOPES. BLOWING DUST WITH LOCAL IFR VISIBILITIES AT TIMES DESERT AREAS. STRONG MOUNTAIN WAVE CONDITIONS WITH STRONG UP AND DOWNDRAFTS AND WIND SHEAR ARE EXPECTED...ALONG WITH ROTOR ACTIVITY.**

&&

.MARINE...
THE SOUTH SWELL GENERATED BY A VERY STRONG SOUTHERN HEMISPHERE STORM
HAS PEAKED AND WILL BEGIN TO SUBSIDE VERY SLOWLY ON INTO FRIDAY.
SHORTER PERIOD 12 WEST SWELL SHOULD BUILD THROUGH THE DAY. HIGH SURF
CONDITIONS WILL CONTINUE. SUSTAINED WEST WINDS OF 25 KNOTS OR MORE
WILL OCCUR AT TIMES AND HAVE HOISTED GALE WARNINGS FOR BOTH THE
INNER AND OUTER WATERS THROUGH LATE TONIGHT.

&&

.SGX WATCHES/WARNINGS/ADVISORIES...

WIND ADVISORY FOR THE MOUNTAINS AND DESERTS...SEE LAXNPWSGX.
HIGH SURF ADVISORY FOR THE BEACHES...SEE LAXCFWSGX.
HIGH RIP CURRENT RISK FOR THE BEACHES...SEE LAXSRFSGX.
GALE WARNING FOR THE COASTAL WATERS...SEE LAXCWFSGX.

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PUBLIC...MOEDE
AVIATION/MARINE...MACKECHNIE

FXUS66 KSGX 121533
AFDSGX

AREA FORECAST DISCUSSION
NATIONAL WEATHER SERVICE SAN DIEGO CA
900 AM PDT THU APR 12 2007 **[0800 PST]**

.SYNOPSIS...
DEEP LOW PRESSURE ALOFT WILL BRING STRONG GUSTY WINDS TODAY. STRONGEST WINDS WILL BE IN THE MOUNTAINS AND DESERTS WHERE BLOWING DUST WILL REDUCE VISIBILITIES AT TIMES. A GALE WARNING IS IN EFFECT FOR THE OUTER COASTAL WATERS. THE WINDS WILL SUBSIDE TONIGHT AS WEAK HIGH PRESSURE BUILDS. SUNNY SKIES AND OFFSHORE FLOW WILL BRING WARMER WEATHER FRIDAY. ANOTHER UPPER LEVEL LOW ARRIVES SATURDAY NIGHT BRINGING COOLER WEATHER...A SLIGHT CHANCE OF RAIN AND MORE GUSTY WINDS SATURDAY NIGHT AND SUNDAY.

&&

.DISCUSSION...FOR EXTREME SOUTHWESTERN CALIFORNIA INCLUDING ORANGE... SAN DIEGO...WESTERN RIVERSIDE AND SOUTHWESTERN SAN BERNARDINO COUNTIES.

WINDS WERE ALREADY BLOWING STRONG IN THE LEE SLOPES OF THE MTNS AND IN THE COACHELLA VALLEY THIS MORNING. WINDS WILL INCREASE TODAY IN ALL AREAS WITH THE COLD AIR ADVECTION AND MIXING OUT OF THE MARINE LAYER...HELPING TO TRANSLATE STRONG WINDS ALOFT TO THE SURFACE. RIGHT NOW THE WIND ADVISORY LOOKS OK...BUT WILL MONITOR CLOSELY FOR ANY CHANCE OF A WARNING. THIS MORNING THE MARINE INVERSION WAS HANGING TOUGH AT 6000 FEET OR SO AND ISOLATED DRIZZLE WAS REPORTED IN THE COASTAL BASIN. THE CLOUDS WEST OF THE MTNS WERE SHOWING SIGNS OF ERODING AWAY UNDER THAT **STRONG COLD AIR ADVECTION**. EXPECT CLEARING TO OCCUR FIRST AT THE COAST AND LATER AS YOU GO INLAND. THE TROUGH PASSES THROUGH SOCAL THIS EVE AND WINDS WILL SLOWLY DECREASE BUT GO NORTHERLY OVERNIGHT RESULTING IN SOME OFFSHORE WINDS BELOW PASSES AND CANYONS ON THE COASTAL SIDE OF THE MTNS. BUT THESE WILL NOT BE STRONG. FRI LOOKS REALLY SPECTACULAR WITH A BIG JUMP IN TEMPS FROM THOSE CHILLY TEMPS OF TODAY. THE NEXT TROUGH APPROACHES SAT BUT MOST OF SAT WEATHER WILL BE FAIR. LOW CLOUDS WILL GET AN EARLY START FORMING WEST OF THE MTNS LATE SAT...AND SOME MTN AND DESERT WINDS WILL START TOO. THE MOISTURE IS VERY LIMITED AND RAIN CHANCES APPEAR SLIGHT AGAIN SAT NIGHT AND SUN MORNING. THE ONSHORE GRADIENTS AND WINDS ALOFT WILL GENERATE STRONG WINDS AGAIN AS WELL DURING THAT SAME TIME. THIS SUN TROUGH IS VERY SIMILAR TO THE TROUGH OF TODAY EXCEPT THE RAIN CHANCES LOOK SLIGHTLY HIGHER AND THE WIND SPEEDS SLIGHTLY LOWER. THAT TROUGH SLOWLY MOVES THROUGH SOCAL AND BY MON SOCAL IS IN DRY NORTHERLY FLOW. THE RIDGE REBUILDS RATHER WEAKLY TUE BEFORE THE NEXT TROUGH UPSTREAM ARRIVES WED NORTH OF OUR REGION. THE IMPACT ON SOCAL WILL PROBABLY BE SIMPLY COOLER WEATHER AND A HEALTHY MARINE LAYER.

&&

.AVIATION...
121518Z...MARINE STRATUS BROKEN UP EARLY THIS MORNING WITH MULTIPLE LAYERS AND CLOUD TOPS NEAR FL070. INCREASING ONSHORE SURFACE PRESSURE GRADIENTS SHOULD LIFT THE ISOLATED LOWER BASES THIS MORNING AND HELP MOVE CLOUDS AWAY FROM THE COAST AND KEEP THEM MOST CONCENTRATED OVER THE INLAND VALLEYS AND ON THE COASTAL SLOPES FOR THE REMAINDER OF THE DAY. MOSTLY VFR CIGS/VIS EXCEPT IN ISOLATED SHOWERS AND ON THE COASTAL SLOPES WHERE THE HIGHER TERRAIN WILL BE

OBSCURED AT TIMES. DEVELOPING NORTHERLY FLOW AFTER 03Z SHOULD CLEAR OUT MOST AREAS BY 06Z WITH SKIES REMAINING CLEAR INTO FRI MORNING.
WINDS WILL BE INCREASING WEST OF THE MTNS TODAY WITH SOME GUSTS TO AROUND 25 KTS. WINDS WILL BE CONSIDERABLY STRONGER OVER THE MOUNTAINS AT 25 TO 35 KNOTS WITH GUSTS TO 45 KNOTS FROM THE WEST...WITH LOCALLY HIGHER GUSTS ON THE DESERT SLOPES. MOUNTAIN WAVE CONDITIONS WITH STRONG UP AND DOWNDRAFTS AND WIND SHEAR ARE EXPECTED...ALONG WITH ROTOR ACTIVITY. BLOWING DUST WITH LOCAL IFR VISIBILITIES AT TIMES DESERT AREAS.

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.MARINE...
OFFSHORE BUOYS THIS MORNING AT 14Z SHOW 12-13 FOOT SEAS ALONG WITH SUSTAINED WINDS OF 20 KTS. INNER BUOYS ARE NEAR 8 FEET. THIS SHOULD EASILY MAKE HIGH SURF CRITERIA AGAIN TODAY WITH SOME SETS TO 12 FEET OR MORE...ESPECIALLY SOUTHWEST EXPOSED BEACHES. THE SOUTH SWELL GENERATED BY A VERY STRONG SOUTHERN HEMISPHERE STORM HAS PEAKED AND WILL BEGIN TO SUBSIDE VERY SLOWLY INTO FRIDAY. HOWEVER...SHORTER PERIOD WEST SWELL SHOULD BUILD THROUGH THE DAY. HIGH SURF CONDITIONS WILL CONTINUE THROUGH FRIDAY.

WINDS WILL INCREASE AGAIN THIS AFTERNOON AS A STRONG TROUGH MOVES OVER THE NORTHERN DESERTS. SUSTAINED NORTHWEST WINDS OF 25 KNOTS IN THE INNER WATERS...ALONG WITH ROUGH SEAS TO 12 FEET HAVE PROMPTED A SMALL CRAFT ADVISORY THROUGH TONIGHT. FARTHER OUT...A GALE WARNING IS IN EFFECT AS WINDS OCCASIONALLY REACH 35 KTS WITH SEAS IN EXCESS OF 12 FEET. THE WINDS ARE EXPECTED TO RAPIDLY DIMINISH AFTER MIDNIGHT AND BE BELOW 20 KNOTS BY FRI MORNING.

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.SGX WATCHES/WARNINGS/ADVISORIES...

WIND ADVISORY FOR THE MOUNTAINS AND DESERTS...SEE LAXNPWSGX.
HIGH SURF ADVISORY FOR THE BEACHES...SEE LAXCFWSGX.
HIGH RIP CURRENT RISK FOR THE BEACHES...SEE LAXSRFSGX.
GALE WARNING FOR THE OUTER COASTAL WATERS...SEE LAXCWFSGX.
SMALL CRAFT ADVISORY FOR THE INNER COASTAL WATERS...SEE LAXCWFSGX.

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PUBLIC...MM
AVIATION/MARINE...JAD

FXUS66 KSGX 122039
AFDSGX

AREA FORECAST DISCUSSION
NATIONAL WEATHER SERVICE SAN DIEGO CA
200 PM PDT THU APR 12 2007 **[1300 PST]**

.SYNOPSIS...
DEEP LOW PRESSURE ALOFT WILL BRING STRONG GUSTY WINDS THAT WILL DIMINISH OVERNIGHT. STRONGEST WINDS WILL BE IN THE MOUNTAINS AND DESERTS WHERE BLOWING DUST WILL REDUCE VISIBILITIES AT TIMES. A GALE WARNING IS IN EFFECT FOR THE OUTER COASTAL WATERS. HIGH PRESSURE BUILDS FRIDAY PROMISING SUNNY WARMER WEATHER. ANOTHER UPPER LEVEL LOW ARRIVES SATURDAY NIGHT BRINGING COOLER WEATHER...A SLIGHT CHANCE OF RAIN AND MORE GUSTY WINDS SATURDAY NIGHT AND SUNDAY. FAIR WEATHER IS EXPECTED MONDAY AND TUESDAY AS HIGH PRESSURE RETURNS.

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.DISCUSSION...FOR EXTREME SOUTHWESTERN CALIFORNIA INCLUDING ORANGE... SAN DIEGO...WESTERN RIVERSIDE AND SOUTHWESTERN SAN BERNARDINO COUNTIES.

WINDS WERE BLOWING STRONG IN THE LEE SLOPES OF THE MTNS AND IN THE DESERTS THIS AFTERNOON. THE WIND SPEEDS ARE COMING CLOSE TO WARNING LEVELS...BUT SO FAR NOT QUITE. A FEW SNOW FLURRIES WERE NOTED IN THE SAN BERNARDINO MTNS. THE CLOUDS WILL GRADUALLY CLEAR IN ALL AREAS OVERNIGHT. **THE TROUGH PASSES THROUGH SOCAL THIS EVE AND WINDS WILL SLOWLY DECREASE BUT GO NORTHERLY OVERNIGHT RESULTING IN SOME OFFSHORE WINDS BELOW PASSES AND CANYONS ON THE COASTAL SIDE OF THE MTNS...BUT THESE WILL NOT BE VERY STRONG.** FRI LOOKS REALLY SPECTACULAR WITH A BIG JUMP IN TEMPS FROM THOSE CHILLY TEMPS OF TODAY. THE NEXT TROUGH APPROACHES SAT BUT MOST OF THE WEATHER SAT WILL BE FAIR. LOW CLOUDS WILL GET AN EARLY START FORMING WEST OF THE MTNS LATE SAT...AND SOME MTN AND DESERT WINDS WILL START TOO. THE MOISTURE IS VERY LIMITED AND RAIN CHANCES APPEAR SMALL SAT NIGHT AND SUN MORNING...BUT SCATTERED SHOWERS ARE POSSIBLE. THE ONSHORE GRADIENTS AND WINDS ALOFT WILL GENERATE STRONG WINDS AGAIN AS WELL DURING THAT SAME TIME. THIS SUN TROUGH IS VERY SIMILAR TO THE TROUGH OF TODAY EXCEPT THE RAIN CHANCES LOOK SLIGHTLY HIGHER AND THE WIND SPEEDS SLIGHTLY LOWER. THAT TROUGH SLOWLY MOVES THROUGH SOCAL LEAVING US IN DRY NORTHERLY FLOW BY MON. THE RIDGE REBUILDS RATHER WEAKLY TUE BEFORE THE NEXT TROUGH UPSTREAM ARRIVES WED NORTH OF OUR REGION. THE IMPACT ON SOCAL WILL PROBABLY BE SIMPLY COOLER WEATHER AND A HEALTHY MARINE LAYER.

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.AVIATION...
122000Z...CONSIDERABLE CLOUD COVER CONTINUES ACROSS THE FORECAST AREA AT 20Z **AS POWERFUL JET CORE AND ASSOCIATED DYNAMICS TRAVERSE THE AREA. STRONG ONSHORE FLOW** WILL KEEP BROKEN MVFR-VFR CIGS WITH LAYERS TO AROUND FL120 THROUGH 03Z BEFORE THE SYSTEM PASSES AND WINDS TURN MORE OFFSHORE FOR RAPID CLEARING. A FEW RAIN AND SNOW SHOWERS WILL MOVE THROUGH THE MOUNTAINS AND FOOTHILLS THROUGH 03Z BRIEFLY REDUCING VISIBILITY. THE IMMEDIATE COAST SHOULD REMAIN SCATTERED BUT MAY BRIEFLY CLOUD OVER AGAIN THIS EVENING AS THE FLOW TURNS MORE NORTHERLY. CLEARING MOST BETWEEN 05Z AND 08Z. VFR ALL AREAS FRIDAY.

WINDS ARE THE BIG STORY WITH GENERAL FLOW FROM THE WEST...BECOMING

MORE NORTHERLY AFTER 03Z IN THE MOUNTAINS. WEST OF THE MOUNTAINS EXPECT SOME GUSTS TO AROUND 25 TO 30 KTS THROUGH 01Z. OVER THE MTNS AND POINTS EAST...WEST TO NORTHWEST FLOW OF 25 TO 35 KTS WITH GUSTS TO AROUND 50 KTS ARE LIKELY RESULTING IN MOUNTAIN WAVES AND ROTORS. KPSP HAS BEEN ROTORING MUCH OF THE DAY WITH GUSTS OVER 30 KTS. EXPECT THIS TO BECOME MORE UNIFORM OUT OF THE NW SOMETIME THIS EVENING. THE MOUNTAIN WAVES WILL BE ACCOMPANIED BY STRONG UP AND DOWNDRAFTS AND LOW-LEVEL WIND SHEAR. BLOWING DUST WITH LOCAL IFR VISIBILITIES AT TIMES DESERT AREAS.

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.MARINE...
OFFSHORE BUOYS SHOW 12-13 FOOT SEAS CONTINUE ALONG WITH SUSTAINED WINDS OF 25 KTS. INNER BUOYS ARE NEAR 8 FEET. THE SOUTH SWELL GENERATED BY A VERY STRONG SOUTHERN HEMISPHERE STORM HAS PEAKED AND WILL BEGIN TO SUBSIDE VERY SLOWLY INTO FRIDAY. HOWEVER...SHORTER PERIOD WEST SWELL SHOULD BUILD INTO THIS EVENING. HIGH SURF CONDITIONS WILL CONTINUE THROUGH FRIDAY AT GENERALLY 5 TO 10 FEET WITH A FEW STAND OUT SETS OF 12 FEET OR MORE.

SUSTAINED NORTHWEST WINDS OF 25 KNOTS IN THE INNER WATERS...ALONG WITH ROUGH SEAS TO 12 FEET HAVE PROMPTED A SMALL CRAFT ADVISORY THROUGH TONIGHT. FARTHER OUT...A GALE WARNING IS IN EFFECT AS WINDS OCCASIONALLY REACH 35 KTS WITH SEAS IN EXCESS OF 12 FEET. THE WINDS ARE EXPECTED TO RAPIDLY DIMINISH AFTER MIDNIGHT AND FALL BELOW 20 KNOTS BY FRI MORNING.

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.SGX WATCHES/WARNINGS/ADVISORIES...

WIND ADVISORY FOR THE MOUNTAINS AND DESERTS...SEE LAXNPWSGX.
HIGH SURF ADVISORY FOR THE BEACHES...SEE LAXCFWSGX.
HIGH RIP CURRENT RISK FOR THE BEACHES...SEE LAXSRFSGX.
GALE WARNING FOR THE OUTER COASTAL WATERS...SEE LAXCWFSGX.
SMALL CRAFT ADVISORY FOR THE INNER COASTAL WATERS...SEE LAXCWFSGX.

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PUBLIC...MM
AVIATION/MARINE...JAD

FXUS66 KSGX 130357
AFDSGX

AREA FORECAST DISCUSSION
NATIONAL WEATHER SERVICE SAN DIEGO CA
930 PM PDT THU APR 12 2007 **[2030 PST]**

.SYNOPSIS...
DEPARTING UPPER LEVEL LOW PRESSURE WILL RESULT IN DECREASING WINDS AND MOSTLY CLEAR SKIES TONIGHT. HIGH PRESSURE AND OFFSHORE FLOW WILL BRING SUNNY AND WARMER WEATHER FRIDAY WITH LOCAL GUSTY WINDS THROUGH AND BELOW MOUNTAIN CANYONS AND PASSES. UPPER LEVEL LOW PRESSURE APPROACHING FROM THE NORTHWEST WILL BRING A LITTLE COOLING SATURDAY WITH A SLIGHT CHANCE OF SHOWERS SATURDAY NIGHT AND SUNDAY MORNING. COOLER SUNDAY. LOCAL STRONG GUSTY WINDS SATURDAY NIGHT AND SUNDAY...MAINLY IN THE MOUNTAINS AND DESERTS. FAIR AND WARMER EARLY NEXT WEEK THEN COOLER WITH MORE CLOUDS DURING THE SECOND HALF OF THE WEEK.

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.DISCUSSION...FOR EXTREME SOUTHWESTERN CALIFORNIA INCLUDING ORANGE... SAN DIEGO...WESTERN RIVERSIDE AND SOUTHWESTERN SAN BERNARDINO COUNTIES.

.SHORT TERM (TONIGHT-SUN)...
SKIES WERE BECOMING MOSTLY CLEAR AND WINDS WERE GENERALLY DECREASING THIS EVENING. WEAKENING ONSHORE GRADIENTS WITH ABOUT 5 MB SAN-IPL.

WHILE IT WILL STILL BE LOCALLY WINDY...THE WINDS WILL CONTINUE TO DECREASE TONIGHT AS THE UPPER LOW MOVES SE. OFFSHORE FLOW WILL DEVELOP EARLY FRI WITH BUILDING HIGH PRESSURE ALOFT. THERE WILL BE LOCAL GUSTY WINDS THROUGH AND BELOW MOUNTAIN CANYONS AND PASSES FRI MORNING. MOST WINDS SHOULD REMAIN BELOW ADVISORY STRENGTH...EXCEPT PERHAPS STRONGER GUSTS IN AND BELOW THE CAJON PASS. MOSTLY SUNNY AND WARMER WITH A FEW HIGH CLOUDS FRI. ONSHORE FLOW AND PATCHY MARINE LAYER CLOUDINESS COULD RETURN AS EARLY AS FRI NIGHT AND SAT MORNING. FAIR SAT EXCEPT FOR AREAS OF COASTAL LOW CLOUDS AND PATCHY FOG IN THE MORNING. COOLER SAT AS A TROUGH APPROACHES FROM THE NW. THIS TROUGH WILL AGAIN BRING LOCAL STRONG GUSTY WINDS SAT NIGHT AND SUN...ESPECIALLY IN THE MOUNTAINS AND DESERTS. THE VIGOROUS LOW PRESSURE SYSTEM WILL HAVE LIMITED MOISTURE BUT WILL DEEPEN THE MARINE LAYER AND COULD CAUSE A FEW LIGHT SHOWERS SAT NIGHT AND SUN MORNING. COOLER SUN. WEST AND SOUTH SWELL WILL CONTINUE HIGH SURF THROUGH FRI NIGHT.

.AVIATION...
130400Z...SKIES HAVE CLEARED AND **WINDS HAVE SLACKENED**. VFR AND CLEAR SKIES EXPECTED TONIGHT THROUGH FRIDAY. **NO PARTICULAR WIND PROBLEMS.**

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.SGX WATCHES/WARNINGS/ADVISORIES...

HIGH SURF ADVISORY FOR THE BEACHES...SEE LAXCFWSGX.
HIGH RIP CURRENT RISK FOR THE BEACHES...SEE LAXSRFSGX.

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PUBLIC...DVA
AVIATION/MARINE...MACKECHNIE

FXUS66 KSGX 131028
AFDSGX

AREA FORECAST DISCUSSION
NATIONAL WEATHER SERVICE SAN DIEGO CA
325 AM PDT FRI APR 13 2007 **[0225 PST April 13]**

.SYNOPSIS...
HIGH PRESSURE AND OFFSHORE FLOW WILL BRING SUNNY...WARMER WEATHER TODAY. EXCEPT FOR GUSTY NORTHERLY WINDS FUNNELING THROUGH SOME OF THE MOUNTAIN PASSES...**LIGHTER WINDS WILL PREVAIL TODAY.** ON SATURDAY...LOW PRESSURE APPROACHING FROM THE NORTHWEST WILL BRING COOLING AND A SLIGHT CHANCE OF SHOWERS SATURDAY NIGHT AND SUNDAY. THIS SYSTEM WILL BRING WIDESPREAD GUSTY WINDS SUNDAY...WITH STRONGEST WINDS IN THE MOUNTAINS AND DESERTS.

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.DISCUSSION...FOR EXTREME SOUTHWESTERN CALIFORNIA INCLUDING ORANGE... SAN DIEGO...WESTERN RIVERSIDE AND SOUTHWESTERN SAN BERNARDINO COUNTIES.

TODAY IS A DAY TO RECOVER AND PICK UP THE PIECES AFTER YESTERDAYS STRONG WINDS. THE OFFENDING TROUGH MOVED OVER AZ LAST NIGHT...AND TODAY IT WILL TRACK NORTHEAST AND BRING A WINTRY MIX OF WEATHER TO COLORADO AND KANSAS. BUT BACK HERE IN SOCAL A BUILDING RIDGE OF HIGH PRESSURE WILL BRING SUNNY...WARMER WEATHER. GUSTY WINDS WILL BE A FACTOR IN AND BELOW THE MOUNTAIN PASSES TODAY AS LOW LEVEL WINDS SHIFT NORTHEAST. THE NAM MODELS FORECAST 975 MB WINDS FROM 20 TO 30 KTS TODAY...MAINLY IN SAN BERNARDINO COUNTY...AND THE FUNNELING EFFECTS THROUGH THE CAJON PASS WILL PRODUCE GUSTY WINDS IN AND BELOW THE PASSES TODAY.

THIS BRIEF OFFSHORE EVENT WILL FADE AS QUICKLY AS IT DEVELOPED. IT WILL COME TO AN END TONIGHT AS THE NEXT SHORTWAVE TROUGH APPROACHES FROM THE PACIFIC. POCKETS OF COASTAL CLOUDS MAY ARRIVE AT THE COAST SATURDAY MORNING AS THE ONSHORE FLOW BEGINS. BUT AS THE TROUGH NEARS SATURDAY AFTERNOON AND THE ONSHORE PRESSURE GRADIENTS REALLY GET CRANKING...THE MARINE LAYER CLOUDS WILL RETURN RAPIDLY SATURDAY AFTERNOON/EVENING.

THIS TROUGH WILL BE ANOTHER WIND MACHINE. ANTICIPATE MORE WIND ADVISORIES WILL BE NEEDED SATURDAY NIGHT AND SUNDAY ALONG WITH SMALL CRAFT OR GALE WARNING FOR THE COASTAL WATERS...AND MORE BLOWING DUST AND SAND IN THE DESERTS. MOISTURE IS LACKING. HOWEVER...THE UPPER DYNAMICS AND COLD AIR ALOFT WILL TRIGGER SCATTERED CONVECTIVE CELLS FOR LIGHT PRECIP.

ON MONDAY...A STRONG NORTHERLY JET ON THE BACK SIDE OF THE DEPARTING TROUGH WILL BRING BLUSTERY WINDS TO THE MOUNTAINS AND DESERTS. WIND DECREASE MONDAY NIGHT WITH WARMER WEATHER TUESDAY UNDER TRANSIENT WEAK HIGH PRESSURE.

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.AVIATION...
130900Z...CLEAR SKIES THROUGH TONIGHT. ANOTHER TROUGH MOVES IN RAPIDLY AND WILL DEVELOP THE MARINE LAYER AGAIN SATURDAY MORNING THROUGH AFTERNOON. WINDS WILL CONTINUE TO DECREASE. WEAK OFFSHORE FLOW THIS MORNING WILL END QUICKLY AS FLOW GOES ONSHORE BY LATE MORNING. WINDS AT 5K FT...NORTH 10-15 KT...BECOMING NORTHWEST 5-10

AFTERNOON...BECOMING SOUTHWEST 5 KT SAT MORNING...THEN SOUTHWEST TO
WEST 15-20 KT SAT LATE MORNING THROUGH AFTERNOON. WINDS AT 10K
FT...NORTH 20-25 KT BECOMING NORTH 10-15 KT AFTERNOON...THEN
NORTHWEST 5 KT TONIGHT....THEN SOUTHWEST 15-20 KT SAT MORNING...THEN
SOUTHWEST 35 KT SAT AFTERNOON.

&&

.MARINE...
SOUTH AND NORTHWEST SWELLS WILL CONTINUE TO DECREASE THROUGH
SATURDAY. HIGH SURF THROUGH TONIGHT. NEXT NORTHWEST SWELL EXPECTED
LATE SUNDAY THROUGH MONDAY. WINDS WILL BE STRONG IN THE COASTAL
WATERS SATURDAY AFTERNOON THROUGH SUNDAY.

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.SGX WATCHES/WARNINGS/ADVISORIES...

HIGH SURF ADVISORY FOR THE BEACHES...SEE LAXCFWSGX.
HIGH RIP CURRENT RISK FOR THE BEACHES...SEE LAXSRFSGX.

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PUBLIC...MOEDE
AVIATION/MARINE...WHITLOW

NWS Los Angeles/Oxnard Forecast Office

NOTE: The long term (3-5 day) forecast discussion has not been included.

FXUS66 KLOX 120432
AFDLOX

SOUTHWEST CALIFORNIA AREA FORECAST DISCUSSION
NATIONAL WEATHER SERVICE LOS ANGELES/OXNARD CA
928 PM PDT WED APR 11 2007 **[2028 PST April 11]**

.SHORT TERM (TONIGHT-SAT)...**MAIN STORY TONIGHT HAS BEEN AREAS OF WEST TO NORTHWEST WINDS ACROSS MUCH OF THE FORECAST AREA. STRONGEST WINDS WERE ACROSS THE ANTELOPE VALLEY...ALL MOUNTAIN ZONES AND THE CENTRAL COAST TO VENTURA COUNTY COASTAL AREAS AS WIND ADVISORIES SEEM TO HANDLE THIS EVENT WELL. WINDS WILL BEGIN TO TAPER OFF ACROSS THE COASTAL AREAS SOME OVERNIGHT. A VERY STRONG JET STREAM HAS BEGUN TO APPROACH THE WEST COAST OUT OF THE WEST AT 95 KT. THIS JET WILL BEGIN TO SHIFT OUT OF THE NORTHWEST OVERNIGHT AND INCREASE TO 120 KT OVERNIGHT. THE COMBINATION OF THIS STRONG JET AND GOOD NORTHERLY SFC GRADIENTS IN PLACE...DECIDED TO UPGRADE HIGH WIND WATCH FOR THE LA/VTU/SBA MOUNTAINS AND THE ANTELOPE VALLEY BEGINNING EARLY THURSDAY MORNING. THE WARNING FOR THE MOUNTAINS WILL BEGIN AT 3 AM...WITH THE ANTELOPE VALLEY TO FOLLOW AT 7 AM. BOTH WARNINGS WILL BE VALID THROUGH 10 PM THURSDAY EVENING.**

SOME LINGERING MOISTURE ACROSS THE SAN JOAQUIN VALLEY WILL PILE UP AGAINST THE NORTHERN SLOPES OF THE SBA/VTU AND WEST LA COUNTY MOUNTAINS OVERNIGHT AND INTO THURSDAY MORNING **DUE TO STRONG WINDS.** THIS WILL HELP BRINGING A CHANCE OF SOME SHOWERS AND 1 TO 2 INCHES OF SNOWFALL ABOVE 5000 FT POSSIBLE...ESPECIALLY NEAR THE GRAPEVINE.

LATEST SATELLITE IMAGERY INDICATES MOST OF THE ENERGY WITH THIS COLD FRONT IS TO THE EAST OF THE FORECAST AREA. SOME COLD CLOUD TOPS HAVE BEGUN TO ENHANCE EAST OF THE AREA AS THE FRONT BEGINS TO INFUSE WITH THIS COLD FRONT. **THERE COULD BE INSTABILITY TO THE EAST OF THE FORECAST AREA OVERNIGHT AND TOMORROW...BUT OUR CONCERNS WILL REMAIN WITH VERY WINDY CONDITIONS. THERE WILL LIKELY NEED TO BE ADDITIONAL ADVISORIES ACROSS PORTIONS OF THE SOUTHLAND TOMORROW AS WELL.** TEMPS WILL BE COOLER ACROSS MOST OF THE FORECAST AREA AS THICKNESS LEVELS AND HEIGHTS DROP AS UPPER LOW MOVES CLOSER TO OUR EAST. EXPECT BETWEEN 5 TO 10 DEGREES COOLER IN MOST LOCATIONS.

AS THE UPPER LOW MOVES TO THE EAST A RIDGE WILL BUILD IN ACROSS SOUTHERN CALIFORNIA CREATING OFFSHORE FLOW AND HELPING TEMPS TO REBOUND BACK INTO THE 70S TO NEAR 80 IN SOME VALLEY LOCATIONS. WARM TEMPS WILL BE SHORT LIVED AS ANOTHER TROUGH BEGINS TO APPROACH THE AREA ON SAT. BOTH WRF AND GFS DIG THIS TROUGH A BIT FARTHER SOUTH THEN THE PREVIOUS MODEL RUNS HAD. THIS WILL AT THE LEAST...COOL DOWN TEMPS AND ADDED 20 PERCENT POPS TO AREAS N OF POINT CONCEPTION. LATER SHIFTS WILL GET A BETTER LOOK AT THIS AND WILL UPDATE ACCORDINGLY. SO A FEW SHOWERS COULD FALL IN SLO AND SBA COUNTIES. A RATHER STRONG VORT MAX ASSOCIATED WITH THIS SYSTEM COULD BRING SOME INSTABILITY OVER THE SAME AREA WITH COLD TEMPS ALOFT AND APRIL SUN TO HELP HEAT THE LOWER LEVELS.
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.AVIATION...10/2300Z...
VFR CONDITIONS WILL PREVAIL AT ALL AIRFIELDS THROUGH THIS EVENING. **A MOSTLY DRY AND FAST MOVING COLD FRONT WILL MOVE THROUGH THE**

AREA...WHICH WILL BRING AN OUTSIDE CHANCE OF A SHOWER AT KPRB THIS MORNING. **WINDY CONDITIONS WILL OCCUR ONCE THE FRONT PASSES THROUGH THE AREA LATER TODAY...WITH GUSTY NW WINDS NEARLY EVERYWHERE BY THURSDAY. GUSTY W TO NW WINDS ARE EXPECTED TO OCCUR AFTER 20Z AT KOXR KSMX KSBP KWJF KPMD...AS POSSIBLY KLAX AND KBUR AS WELL. BLDU MAY OCCUR AT KPMD AND KWJF...BUT SHOULD NO BE BELOW MVFR AS THE WORST. LLWS WILL BE A CONCERN TODAY AT KSBA BY AS EARLY AS 22Z...AND MAY AFFECT KVNY AND KBUR BUT NOT SURE HOW CLOSE THE NWLY WINDS ALOFT WILL GET TO THE SURFACE.** NO STRATUS EXPECTED OVERNIGHT.

KLAX WILL BE FIRMLY VFR AFTER 19Z...AND LASTING THROUGH THE EVENING. WESTERLY SEABREEZE WILL FORM BY 19Z...AND MAY BECOME GUSTY AFTER 21Z...WITH GUSTS INTO THE LOW 20 KT RANGE. WINDS SHOULD SETTLE DOWN SOME AFTER MIDNIGHT. ANOTHER BREEZY DAY ON TAP FOR THU...WITH NO STRATUS EXPECTED.

KBUR WILL BE VFR THROUGH TONIGHT. SOUTHERLY WINDS PICK UP AROUND 19Z TO 20Z...WITH GUSTS UP TO 20 KT POSSIBLE BETWEEN 22Z AND 02Z. LLWS MAY BE A CONCERN WITH NWLY WINDS ALOFT...BUT MOST LIKELY WILL STAY ABOVE 2000 FT.

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.LOX WATCHES/WARNINGS/ADVISORIES...
HIGH WIND WATCH (SEE LAXNPWLOX).
WIND ADVISORY (SEE LAXNPWLOX).
GALE WARNING (SEE LAXCWFLOX).
SMALL CRAFT ADVISORY (SEE LAXCWFLOX).
HIGH SURF ADVISORY (SEE LAXCFWLOX).
HIGH RIP CURRENT RISK (SEE LAXSRFLOX).

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PUBLIC...KAPLAN
AVIATION...KITTELL

WWW.WEATHER.GOV/LOSANGELES

FXUS66 KLOX 121039
AFDLOX

SOUTHWEST CALIFORNIA AREA FORECAST DISCUSSION
NATIONAL WEATHER SERVICE LOS ANGELES/OXNARD CA
339 AM PDT THU APR 12 2007 **[0239 PST April 12]**

.SHORT TERM (TODAY-SATURDAY)...**SATELLITE IMAGERY INDICATES A JET STREAK PUSHING SOUTH ALONG THE CALIFORNIA COAST THIS MORNING WITH THE COLDEST AIR ALOFT ASSOCIATED WITH THE STORM JUST PUSHING INTO THE NORTHERN PORTION OF THE AREA. WITH GOOD THERMAL GRADIENTS AND STRONG WINDS AT 850 AND 700 MB...WIND ADVISORIES HAVE BEEN EXPANDED TO THE CENTRAL COAST AND THE SANTA MONICA RANGE. WIND ADVISORIES WILL ALSO CONTINUE FOR THE SANTA BARBARA SOUTH COAST. WIND HEADLINES MAY NEED TO BE EXTENDED EVEN FURTHER IF WINDS DO DIMINISH THIS EVENING AS RAPIDLY AS EXPECTED.** BY FRIDAY...WINDS SHOULD DIMINISH ENOUGH TO PERMIT A WARMING TREND TO BEGIN AREAWIDE GOING INTO THE WEEKEND. WARMING SHOULD CONTINUE INTO SATURDAY AHEAD OF THE NEXT SYSTEM ARRIVING.

MODELS ARE TRENDING BACK TO A STRONGER SOLUTION FOR THE STORM SYSTEM FOR LATE SATURDAY AFTERNOON INTO SUNDAY. 06Z RUNS IS SLIGHTLY STRONGER TO THE 00Z SOLUTION IN TRENDING THE STORM SYSTEM FROM AN INSIDE SLIDER TO AN OFFSHORE SYSTEM. NAM AND GFS DIG THE SYSTEMS MAIN VORTICITY MAXIMUM TO POINT CONCEPTION BY SATURDAY EVENING THEN TAKE IT MORE EAST THAN SOUTH. AS MODELS FREQUENTLY STRUGGLE WITH THE INSIDE SLIDER PATTERN...IT APPEARS THIS SYSTEM MAY BE MORE MORE OF MIX OF WINDS AND PRECIPITATION. SOME CONCERN IS BEING PLACED WITH THE DEVELOPMENT OF THE SUBTROPICAL TAP OCCURRING IN THE SYSTEM AT 26 N AND 145 W. UPPER-LEVEL WINDS IN THE GFS SOLUTION DO NOT SEEM REPRESENTATIVE OF THE ENHANCEMENT TAKING PLACE WITH THE DISTURBANCE. MUCH SPECULATION COULD IMPLIED TO THE REASONING FOR THIS OCCURRENCE. HOPEFULLY...THE MODELS WILL CATCH ONTO THIS IN THE NEXT RUN...BUT INTENSIFICATION OF THE WESTERLIES IS ANOTHER STRUGGLING POINT.

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.AVIATION...10/2300Z...VFR CONDITIONS WILL PREVAIL AT ALL AIRFIELDS THROUGH THIS EVENING. **A MOSTLY DRY AND FAST MOVING COLD FRONT WILL MOVE THROUGH THE AREA...WHICH WILL BRING AN OUTSIDE CHANCE OF A SHOWER AT KPRB THIS MORNING. WINDY CONDITIONS WILL OCCUR ONCE THE FRONT PASSES THROUGH THE AREA LATER TODAY...WITH GUSTY NW WINDS NEARLY EVERYWHERE BY THURSDAY. GUSTY W TO NW WINDS ARE EXPECTED TO OCCUR AFTER 20Z AT KOXR KSMX KSBP KWJF KPMD...AS POSSIBLY KLAX AND KBUR AS WELL. BLDU MAY OCCUR AT KPMD AND KWJF...BUT SHOULD NO BE BELOW MVFR AS THE WORST. LLWS WILL BE A CONCERN TODAY AT KSBA BY AS EARLY AS 22Z...AND MAY AFFECT KVNY AND KBUR BUT NOT SURE HOW CLOSE THE NWLY WINDS ALOFT WILL GET TO THE SURFACE.** NO STRATUS EXPECTED OVERNIGHT.

KLAX WILL BE FIRMLY VFR AFTER 19Z...AND LASTING THROUGH THE EVENING. WESTERLY SEABREEZE WILL FORM BY 19Z...AND MAY BECOME GUSTY AFTER 21Z...WITH GUSTS INTO THE LOW 20 KT RANGE. WINDS SHOULD SETTLE DOWN SOME AFTER MIDNIGHT. ANOTHER BREEZY DAY ON TAP FOR THU...WITH NO STRATUS EXPECTED.

KBUR WILL BE VFR THROUGH TONIGHT. SOUTHERLY WINDS PICK UP AROUND 19Z TO 20Z...WITH GUSTS UP TO 20 KT POSSIBLE BETWEEN 22Z AND 02Z. LLWS MAY BE A CONCERN WITH NWLY WINDS ALOFT...BUT MOST LIKELY WILL STAY ABOVE 2000 FT.

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.LOX WATCHES/WARNINGS/ADVISORIES...
HIGH WIND WARNING (SEE LAXNPWLOX).
WIND ADVISORY (SEE LAXNPWLOX).
HIGH SURF ADVISORY (SEE LAXCFWLOX).
SMALL CRAFT ADVISORY (SEE LAXCWFLOX).
GALE WARNING (SEE LAXCWFLOX).

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PUBLIC...HALL
AVIATION...KITTELL

WWW.WEATHER.GOV/LOSANGELES

FXUS66 KLOX 121206
AFDLOX

SOUTHWEST CALIFORNIA AREA FORECAST DISCUSSION...UPDATED
NATIONAL WEATHER SERVICE LOS ANGELES/OXNARD CA
506 AM PDT THU APR 12 2007 **[0406 PST]**

.UPDATE...COLD AIR ALOFT ARRIVING SLIGHTLY SOONER THAN EXPECTED AND WINDS STREGTHENING MUCH FASTER AND STRONGER THAN EXPECTED. ESPECIALLY OF NOTE...WINDS HAVE STRENGTHENED IN THE LOS ANGELES COUNTY VALLEYS INCLUDING THE SANTA CLARITA AND THE ANTELOPE VALLEY. 06Z GFS MOS GUIDANCE INDICATED THIS OCCURRING...BUT PLAN WAS TO WAIT TO SEE IF 12Z MODELS BACKED UP THE CHANGE IN MOS GUIDANCE. WINDS JUMPED WITHIN THE LAST HOUR. SO...WIND ADVISORIES HAVE BEEN ISSUED FOR THE LOS ANGELES COUNTY VALLEYS AND THE SANTA CLARITA VALLEY...THE WIND ADVISORY EFFECTIVE TIME BUMPED UP FOR THE SANTA MONICA RANGE...AND THE HIGH WIND WARNING EFFECTIVE TIME BUMPED UP FOR THE ANTELOPE VALLEY. EXPECT WINDS TO CONTINUE TO STRENGTHEN THROUGH 11AM WHEN PEAK SHOULD BE REACHED. PEAK WINDS WILL CONTINUE INTO THE EVENING. IF TREND CONTINUES...WIND ADVISORY MAY BE NEED TO BE EXPANDED TO THE THE LOS ANGELES COUNTY COASTS AND THE VENTURA COUNTY VALLEYS. FEELINGS ARE THAT THESE AREAS ARE NOT FAVORABLE IN THE FLOW PATTERN THOUGH.

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.SHORT TERM (TODAY-SATURDAY)...SATELLITE IMAGERY INDICATES A JET STREAK PUSHING SOUTH ALONG THE CALIFORNIA COAST THIS MORNING WITH THE COLDEST AIR ALOFT ASSOCIATED WITH THE STORM JUST PUSHING INTO THE NORTHERN PORTION OF THE AREA. WITH GOOD THERMAL GRADIENTS AND STRONG WINDS AT 850 AND 700 MB...WIND ADVISORIES HAVE BEEN EXPANDED TO THE CENTRAL COAST AND THE SANTA MONICA RANGE. WIND ADVISORIES WILL ALSO CONTINUE FOR THE SANTA BARBARA SOUTH COAST. WIND HEADLINES MAY NEED TO BE EXTENDED EVEN FURTHER IF WINDS DO DIMINISH THIS EVENING AS RAPIDLY AS EXPECTED. BY FRIDAY...WINDS SHOULD DIMINISH ENOUGH TO PERMIT A WARMING TREND TO BEGIN AREAWIDE GOING INTO THE WEEKEND. WARMING SHOULD CONTINUE INTO SATURDAY AHEAD OF THE NEXT SYSTEM ARRIVING.

MODELS ARE TRENDING BACK TO A STRONGER SOLUTION FOR THE STORM SYSTEM FOR LATE SATURDAY AFTERNOON INTO SUNDAY. 06Z RUNS IS SLIGHTLY STRONGER TO THE 00Z SOLUTION IN TRENDING THE STORM SYSTEM FROM AN INSIDE SLIDER TO AN OFFSHORE SYSTEM. NAM AND GFS DIG THE SYSTEMS MAIN VORTICITY MAXIMUM TO POINT CONCEPTION BY SATURDAY EVENING THEN TAKE IT MORE EAST THAN SOUTH. AS MODELS FREQUENTLY STRUGGLE WITH THE INSIDE SLIDER PATTERN...IT APPEARS THIS SYSTEM MAY BE MORE MORE OF MIX OF WINDS AND PRECIPITATION. SOME CONCERN IS BEING PLACED WITH THE DEVELOPMENT OF THE SUBTROPICAL TAP OCCURRING IN THE SYSTEM AT 26 N AND 145 W. UPPER-LEVEL WINDS IN THE GFS SOLUTION DO NOT SEEM REPRESENTATIVE OF THE ENHANCEMENT TAKING PLACE WITH THE DISTURBANCE. MUCH SPECULATION COULD IMPLIED TO THE REASONING FOR THIS OCCURRENCE. HOPEFULLY...THE MODELS WILL CATCH ONTO THIS IN THE NEXT RUN...BUT INTENSIFICATION OF THE WESTERLIES IS ANOTHER STRUGGLING POINT.

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.AVIATION...12/1200Z...VFR CONDITIONS WILL PREVAIL AT ALL AIRFIELDS THROUGH THROUGH THE DAY...WITH SOME SCT-BKN HIGH CLOUDS. **WINDY CONDITIONS HAVE BEGUN TO BUILD IN THE WAKE OF A WEAK COLD FRONT... WITH GUSTY W TO NW WINDS NEARLY EVERYWHERE BY 20Z. BLDU MAY OCCUR AT**

KPMD AND KWJF...BUT SHOULD NOT BE BELOW MVFR AS THE WORST. LLWS CONTINUES TO BE A CONCERN TODAY AT KSBA AND KBUR...AND POSSIBLY KVNY. WINDS EXPECTED TO CALM SOME BY FRIDAY.

KLAX WILL REMAIN VFR THROUGH THE PERIOD. WESTERLY SEABREEZE SHOULD PICK UP EARLY TODAY BY 16Z...AND SHOULD BECOME GUSTY AFTER 20Z. SOME GUSTS COULD REACH UP TO 25 KTS. WINDS SHOULD SETTLE SOME 02Z...BUT REMAIN WESTERLY UNTIL AFTER SUNSET.

KBUR WILL BE VFR THROUGH THE PERIOD. NORTH-NORTHWEST WINDS HAVE ALREADY BEGUN TO PICK UP...AND GUSTS UP TO 20 KT ARE POSSIBLE BETWEEN 18Z AND 02Z. LLWS MAY BE A CONCERN WITH NWLY WINDS ALOFT... BUT MOST LIKELY WILL STAY ABOVE 2000 FT.

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.LOX WATCHES/WARNINGS/ADVISORIES...
HIGH WIND WARNING (SEE LAXNPWLOX).
WIND ADVISORY (SEE LAXNPWLOX).
HIGH SURF ADVISORY (SEE LAXCFWLOX).
HIGH RIP CURRENT RISK (SEE LAXSRFLOX).
SMALL CRAFT ADVISORY (SEE LAXCWFLOX).
GALE WARNING (SEE LAXCWFLOX).

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PUBLIC...HALL
AVIATION...MEIER

WWW.WEATHER.GOV/LOSANGELES

FXUS66 KLOX 122005
AFDLOX

SOUTHWEST CALIFORNIA AREA FORECAST DISCUSSION
NATIONAL WEATHER SERVICE LOS ANGELES/OXNARD CA
105 PM PDT THU APR 12 2007 **[1205 PST]**

NEW AVIATION/MARINE DISCUSSION

.UPDATE...COLD AIR ALOFT ARRIVING SLIGHTLY SOONER THAN EXPECTED AND WINDS STREGTHENING MUCH FASTER AND STRONGER THAN EXPECTED. ESPECIALLY OF NOTE...WINDS HAVE STRENGTHENED IN THE LOS ANGELES COUNTY VALLEYS INCLUDING THE SANTA CLARITA AND THE ANTELOPE VALLEY. 06Z GFS MOS GUIDANCE INDICATED THIS OCCURRING...BUT PLAN WAS TO WAIT TO SEE IF 12Z MODELS BACKED UP THE CHANGE IN MOS GUIDANCE. WINDS JUMPED WITHIN THE LAST HOUR. SO...WIND ADVISORIES HAVE BEEN ISSUED FOR THE LOS ANGELES COUNTY VALLEYS AND THE SANTA CLARITA VALLEY...THE WIND ADVISORY EFFECTIVE TIME BUMPED UP FOR THE SANTA MONICA RANGE...AND THE HIGH WIND WARNING EFFECTIVE TIME BUMPED UP FOR THE ANTELOPE VALLEY. EXPECT WINDS TO CONTINUE TO STRENGTHEN THROUGH 11AM WHEN PEAK SHOULD BE REACHED. PEAK WINDS WILL CONTINUE INTO THE EVENING. IF TREND CONTINUES...WIND ADVISORY MAY BE NEED TO BE EXPANDED TO THE THE LOS ANGELES COUNTY COASTS AND THE VENTURA COUNTY VALLEYS. FEELINGS ARE THAT THESE AREAS ARE NOT FAVORABLE IN THE FLOW PATTERN THOUGH.

&&

.SHORT TERM (TODAY-SATURDAY)...SATELLITE IMAGERY INDICATES A JET STREAK PUSHING SOUTH ALONG THE CALIFORNIA COAST THIS MORNING WITH THE COLDEST AIR ALOFT ASSOCIATED WITH THE STORM JUST PUSHING INTO THE NORTHERN PORTION OF THE AREA. WITH GOOD THERMAL GRADIENTS AND STRONG WINDS AT 850 AND 700 MB...WIND ADVISORIES HAVE BEEN EXPANDED TO THE CENTRAL COAST AND THE SANTA MONICA RANGE. WIND ADVISORIES WILL ALSO CONTINUE FOR THE SANTA BARBARA SOUTH COAST. WIND HEADLINES MAY NEED TO BE EXTENDED EVEN FURTHER IF WINDS DO DIMINISH THIS EVENING AS RAPIDLY AS EXPECTED. BY FRIDAY...WINDS SHOULD DIMINISH ENOUGH TO PERMIT A WARMING TREND TO BEGIN AREAWIDE GOING INTO THE WEEKEND. WARMING SHOULD CONTINUE INTO SATURDAY AHEAD OF THE NEXT SYSTEM ARRIVING.

MODELS ARE TRENDING BACK TO A STRONGER SOLUTION FOR THE STORM SYSTEM FOR LATE SATURDAY AFTERNOON INTO SUNDAY. 06Z RUNS IS SLIGHTLY STRONGER TO THE 00Z SOLUTION IN TRENDING THE STORM SYSTEM FROM AN INSIDE SLIDER TO AN OFFSHORE SYSTEM. NAM AND GFS DIG THE SYSTEMS MAIN VORTICITY MAXIMUM TO POINT CONCEPTION BY SATURDAY EVENING THEN TAKE IT MORE EAST THAN SOUTH. AS MODELS FREQUENTLY STRUGGLE WITH THE INSIDE SLIDER PATTERN...IT APPEARS THIS SYSTEM MAY BE MORE MORE OF MIX OF WINDS AND PRECIPITATION. SOME CONCERN IS BEING PLACED WITH THE DEVELOPMENT OF THE SUBTROPICAL TAP OCCURRING IN THE SYSTEM AT 26 N AND 145 W. UPPER-LEVEL WINDS IN THE GFS SOLUTION DO NOT SEEM REPRESENTATIVE OF THE ENHANCEMENT TAKING PLACE WITH THE DISTURBANCE. MUCH SPECULATION COULD IMPLIED TO THE REASONING FOR THIS OCCURRENCE. HOPEFULLY...THE MODELS WILL CATCH ONTO THIS IN THE NEXT RUN...BUT INTENSIFICATION OF THE WESTERLIES IS ANOTHER STRUGGLING POINT.

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.AVIATION...12/2000Z...
VFR CONDITIONS WILL CONTINUE AT ALL AIRFIELDS THROUGH TONIGHT. THE

MAIN AVIATION CHALLENGE WILL RESULT FROM THE STRONG WINDS. LOW LEVEL WIND SHEAR WILL AFFECT KSBA...KBUR AND POSSIBLY KVNY.

KLAX WILL BE VFR THROUGH TONIGHT...WITH A GUSTY WESTERLY SEABREEZE THIS AFTERNOON. WINDS SHOULD SETTLE DOWN SOME AFTER MIDNIGHT.

KBUR WILL BE VFR THROUGH TONIGHT. THERE WILL BE ISSUES OF LOW LEVEL WIND SHEAR INTO EARLY THIS EVENING. WINDS WILL DIE DOWN LATER THIS EVENING.

&&

.MARINE...12/2000Z...
STRONG NW FLOW WILL CONTINUE THROUGH LATE THURSDAY NIGHT...PEAKING THIS AFTERNOON AND EVENING...WITH WIDESPREAD GALE CONDITIONS OVER THE COASTAL WATERS. IN ADDITION...A LARGE NW SWELL AND A MODERATE SOUTHERLY SWELL WILL BUILD THROUGH FRIDAY...WITH WIDESPREAD SEAS WELL ABOVE 10 FT OVER THE OUTER WATERS THROUGH FRIDAY...AND NEAR 9 FT OVER INNER WATERS TONIGHT. A HIGH SURF ADVISORY REMAINS IN EFFECT FOR VENTURA AND LOS ANGELES COUNTIES THROUGH FRIDAY EVENING.

&&

.LOX WATCHES/WARNINGS/ADVISORIES...
HIGH WIND WARNING (SEE LAXNPWLOX).
WIND ADVISORY (SEE LAXNPWLOX).
HIGH SURF ADVISORY (SEE LAXCFWLOX).
HIGH RIP CURRENT RISK (SEE LAXSRFLOX).
SMALL CRAFT ADVISORY (SEE LAXCWFLOX).
GALE WARNING (SEE LAXCWFLOX).

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PUBLIC...HALL
AVIATION...SWEET

WWW.WEATHER.GOV/LOSANGELES

FXUS66 KLOX 122159
AFDLOX

SOUTHWEST CALIFORNIA AREA FORECAST DISCUSSION
NATIONAL WEATHER SERVICE LOS ANGELES/OXNARD CA
259 PM PDT THU APR 12 2007 **[1359 PST]**

.SHORT TERM...MADE MINOR CHANGES THROUGH THE PERIOD. **WILL CONTINUE WITH WIND WARNINGS AS WELL AS ADVISORIES THROUGH THE EVENING AND INCLUDE LA COUNTY COAST AND VENTURA VALLEYS. GUIDANCE INITIALIZED THE LOW PRESSURE SYSTEM CENTERED OVER SOUTHERN NEVADA AND CALIFORNIA STATE LINE AND RIDGE AXIS OVER NORTHERN CALIFORNIA WELL. A STRONG PRESSURE GRADIENT WAS CENTERED OVER THE AREA WHICH WILL BECOME MODERATE THROUGH THE EVENING AS THE SYSTEM EAST OF THE AREA ACCELERATES SOUTH.** ISOLATED SHOWERS SKIRTING THE AREA ALONG THE KERN COUNTY LINE IN THE VICINITY OF VENTURA COUNTY WILL DISSIPATE LATER IN THE AFTERNOON. TEMPERATURES WERE NEARLY 20 DEGREES COOLER IN THE MOUNTAINS FROM YESTERDAY AT THIS TIME WITH LITTLE CHANGE ALONG THE COAST. TREND WILL REVERSE FRI WITH 15 DEGREE WARMING INALND AND NEARLY 10 ALONG THE COAST. GUIDANCE WAS CONSISTENT WITH MOVING THE SYSTEM CURRENTLY EXTENDING ALONG 150W THIS AFTERNOON OVER THE AREA SAT. WILL CONTINUE WITH LOW POPS AT THIS TIME AS THE SYSTEM ACCELERATES OVER THE EASTERN PAC THROUGH THE LOW AMPLITUDE LONG WAVE RIDGE BETWEEN NOW AND SAT. WILL CONTINUE WITH COOLING TREND THROUGH THE WEEKEND WITH TEMPERATURES 5 TO 10 DEGREES BELOW NORMAL. NORTH WINDS ARE EXPECTED TO ACCELERATE AS WELL AND REMAIN GUSTY THROUGH MON.

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.AVIATION...12/2000Z...
VFR CONDITIONS WILL CONTINUE AT ALL AIRFIELDS THROUGH TONIGHT. **THE MAIN AVIATION CHALLENGE WILL RESULT FROM THE STRONG WINDS. LOW LEVEL WIND SHEAR WILL AFFECT KSBA...KBUR AND POSSIBLY KVNY.**

KLAX WILL BE VFR THROUGH TONIGHT...WITH A GUSTY WESTERLY SEABREEZE THIS AFTERNOON. WINDS SHOULD SETTLE DOWN SOME AFTER MIDNIGHT.

KBUR WILL BE VFR THROUGH TONIGHT. THERE WILL BE ISSUES OF LOW LEVEL WIND SHEAR INTO EARLY THIS EVENING. WINDS WILL DIE DOWN LATER THIS EVENING.

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.MARINE...STRONG NW FLOW WILL CONTINUE THROUGH LATE THURSDAY NIGHT...PEAKING THIS AFTERNOON AND EVENING...WITH WIDESPREAD GALE CONDITIONS OVER THE COASTAL WATERS. IN ADDITION...A LARGE NW SWELL AND A MODERATE SOUTHERLY SWELL WILL BUILD THROUGH FRIDAY...WITH WIDESPREAD SEAS WELL ABOVE 10 FT OVER THE OUTER WATERS THROUGH FRIDAY...AND NEAR 9 FT OVER INNER WATERS TONIGHT. A HIGH SURF ADVISORY REMAINS IN EFFECT FOR VENTURA AND LOS ANGELES COUNTIES THROUGH FRIDAY EVENING.

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.LOX WATCHES/WARNINGS/ADVISORIES...
CA...HIGH WIND WARNING (SEE LAXNPWLOX).
WIND ADVISORY (SEE LAXNPWLOX).
HIGH SURF ADVISORY (SEE LAXCFWLOX).
PACIFIC COASTAL WATERS...GALE WARNING (SEE LAXCWFLOX).
SMALL CRAFT ADVISORY (SEE LAXCWFLOX).

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PUBLIC...FORWOOD
AVIATION...SWEET

WWW.WEATHER.GOV/LOSANGELES

FXUS66 KLOX 130502
AFDLOX

SOUTHWEST CALIFORNIA AREA FORECAST DISCUSSION
NATIONAL WEATHER SERVICE LOS ANGELES/OXNARD CA
950 PM PDT THU APR 12 2007 **[2050 PST]**

.SHORT TERM...AFTER A DAY WITH STRONG WINDS OVER VIRTUALLY THE ENTIRE FORECAST AREA...WINDS WERE FINALLY BEGINNING TO DROP OFF SLOWLY THIS EVENING AS UPPER LEVEL JET AND BEST UPPER SUPPORT SHIFTS TO THE E OF THE AREA. STILL...STRONG WINDS CONTD IN THE MTNS AND LOCALLY IN THE VLYS THIS EVENING. SINCE WINDS HAVE DROPPED BELOW WARNING LEVELS IN MOST MTN LOCATIONS...WILL ALLOW WARNINGS TO EXPIRE AT 10 PM. WILL LIKELY PUT WIND ADVISORIES IN PLACE FOR THE REMAINDER OF THE NIGHT INTO FRI MORNING FOR THE MTNS OF L.A...VTU AND SBA COUNTIES. **WIND ADVISORIES IN THE VLYS WILL BE ALLOWED TO EXPIRE... EXCEPT FOR THE SANTA CLARITA VLY...WHERE ADVISORIES WILL LIKELY BE EXTENDED. WIND ADVISORIES WILL ALSO BE EXTENDED FOR A FEW HOURS FOR THE ANTELOPE VLY.**

SOME OF THE PEAK WIND GUSTS TODAY (SINCE 6 AM PDT) INCLUDE

LOS ANGELES COUNTY

LOS ANGELES INTL AIRPORT.....WEST 38 MPH.
DOWNTOWN LOS ANGELES.....NORTH 39 MPH
HAWTHORNE.....NORTHWEST 44 MPH.
LONG BEACH AIRPORT.....NORTH 41 MPH.
BURBANK.....NORTH 48 MPH.
VAN NUYS.....NORTH 46 MPH.
WHITTIER HILLS.....NORTHWEST 56 MPH
NEWHALL.....NORTH 46 MPH.
SAUGUS.....NORTHWEST 65 MPH.
CAMP NINE.....NORTH 64 MPH.
CHILAO.....NORTHWEST 51 MPH.
CLEAR CREEK.....EAST 64 MPH.
SANDBERG.....NORTH 69 MPH.
WARM SPRINGS.....NORTHWEST 75 MPH.
WHITAKER PEAK.....NORTHWEST 86 MPH.
PALMDALE.....NORTHWEST 52 MPH.
POPPY PARK.....NORTHWEST 65 MPH.
LANCASTER.....NORTHWEST 54 MPH.

VENTURA COUNTY

CAMARILLO.....WEST 37 MPH.
PIRU.....NORTH 39 MPH.
ROSE VALLEY.....NORTHWEST 54 MPH.

SANTA BARBARA COUNTY

SANTA BARBARA AIRPORT.....NORTHWEST 45 MPH.
LAS FLORES CANYON.....NORTH 43 MPH.
MONTECITO HILLS.....NORTH 47 MPH.
SANTA MARIA.....NORTHWEST 40 MPH.

SAN LUIS OBISPO COUNTY

SAN LUIS OBISPO.....NORTHWEST 37 MPH.
MORRO BAY.....NORTHWEST 39 MPH.

CARRIZO.....NORTH 45 MPH.

THE VIGOROUS UPPER LOW NEAR THE AZ/CA BORDER THIS EVENING WILL MOVE FAIRLY QUICKLY EWD OVERNIGHT AND FRI AS UPPER RIDGING BUILDS INTO THE AREA. W-E GRADS WILL START OFF THE DAY WKLY OFFSHORE...WHILE N-S GRADS WILL BE MDT. HGTS/THICKNESSES REBOUND QUICKLY ON FRI AND 850 AND 950 MB TEMPS RISE QUITE A BIT. THIS SHOULD LEAD TO SIGNIFICANT WARMING ACRS MOST OF THE AREA ON FRI...WITH MANY LOCATIONS IN THE VLYS AND POSSIBLY ACRS INLAND SXNS OF THE CSTL PLAIN REACHING 80 DEGREES.

THE UPPER RIDGE WILL SHIFT TO THE W OF THE AREA FRI NIGHT AND SAT AS A STRONG SHORT WAVE TROUGH APCHS THE W CST. MODELS HAVE GENERALLY BEEN TRENDING A BIT SHARPER AND FARTHER W WITH THIS SYSTEM WITH EACH RUN. WHILE IT STILL APPEARS THAT THE DEEPEST MSTR AND BEST DYNAMICS WILL REMAIN TO THE N OF THE FCST AREA...A DEEPENING MOIST LAYER WILL LIKELY CAUSE CLOUDS TO INCREASE ACRS THE AREA ON SAT...WITH A THREAT OF RAIN AT LEAST ACRS SLO AND SBA COUNTIES SAT AFTERNOON. SHOULD BE SIGNIFICANTLY COOLER ACRS THE AREA ON SAT. WHETHER OR NOT RAIN MAKES ITS WAY SWD ACRS THE REMAINDER OF THE FCST AREA IS STILL IN QUESTION...BUT BASED ON LATEST MODEL RUNS...IT IS CERTAINLY A POSSIBILITY. THEN...BEHIND THE SYSTEM...ANOTHER DAY OF WDSPRD STRONG NWLY TO NLY WINDS LOOKS LIKELY ON SUNDAY...WITH ADVISORY LVL WINDS IN MOST AREAS...AND WARNING LEVEL WINDS POSSIBLE IN THE MTNS AS A 130 KT NLY JET NOSES INTO THE AREA. LOOKS LIKE MORE IN THE WAY OF MSTR ON NRN MTN SLOPES SUNDAY...WITH THE POTENTIAL FOR LOW SNOW LEVELS (BELOW 5000 FEET)...WITH A FEW INCHES OF SNOW POSSIBLE.

&&

.AVIATION...12/2000Z...
VFR CONDITIONS WILL CONTINUE AT ALL AIRFIELDS THROUGH TONIGHT. **THE MAIN AVIATION CHALLENGE WILL RESULT FROM THE STRONG WINDS. LOW LEVEL WIND SHEAR WILL AFFECT KSBA...KBUR AND POSSIBLY KVNY.**

KLAX WILL BE VFR THROUGH TONIGHT...WITH A GUSTY WESTERLY SEABREEZE THIS AFTERNOON. WINDS SHOULD SETTLE DOWN SOME AFTER MIDNIGHT.

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.MARINE...STRONG NW FLOW WILL CONTINUE THROUGH LATE THURSDAY NIGHT...PEAKING THIS AFTERNOON AND EVENING...WITH WIDESPREAD GALE CONDITIONS OVER THE COASTAL WATERS. IN ADDITION...A LARGE NW SWELL AND A MODERATE SOUTHERLY SWELL WILL BUILD THROUGH FRIDAY...WITH WIDESPREAD SEAS WELL ABOVE 10 FT OVER THE OUTER WATERS THROUGH FRIDAY...AND NEAR 9 FT OVER INNER WATERS TONIGHT. A HIGH SURF ADVISORY REMAINS IN EFFECT FOR VENTURA AND LOS ANGELES COUNTIES THROUGH FRIDAY EVENING.

&&

.LOX WATCHES/WARNINGS/ADVISORIES...
CA...
WIND ADVISORY (SEE LAXNPWLOX).
HIGH SURF ADVISORY (SEE LAXCFWLOX).
PACIFIC COASTAL WATERS...GALE WARNING (SEE LAXCWFLOX).

&&

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PUBLIC...FORWOOD/BRUNO
AVIATION...SWEET

WWW.WEATHER.GOV/LOSANGELES

FXUS66 KLOX 130541 AAA
AFDLOX

SOUTHWEST CALIFORNIA AREA FORECAST DISCUSSION...UPDATED
NATIONAL WEATHER SERVICE LOS ANGELES/OXNARD CA
1041 PM PDT THU APR 12 2007 **[2141 PST]**

.SHORT TERM...AFTER A DAY WITH STRONG WINDS OVER VIRTUALLY THE ENTIRE FORECAST AREA...WINDS WERE FINALLY BEGINNING TO DROP OFF SLOWLY THIS EVENING AS UPPER LEVEL JET AND BEST UPPER SUPPORT SHIFTS TO THE E OF THE AREA. STILL...STRONG WINDS CONTD IN THE MTNS AND LOCALLY IN THE VLYS THIS EVENING. SINCE WINDS HAVE DROPPED BELOW WARNING LEVELS IN MOST MTN LOCATIONS...WILL ALLOW WARNINGS TO EXPIRE AT 10 PM. WILL LIKELY PUT WIND ADVISORIES IN PLACE FOR THE REMAINDER OF THE NIGHT INTO FRI MORNING FOR THE MTNS OF L.A...VTU AND SBA COUNTIES. WIND ADVISORIES IN THE VLYS WILL BE ALLOWED TO EXPIRE... EXCEPT FOR THE SANTA CLARITA VLY...WHERE ADVISORIES WILL LIKELY BE EXTENDED. WIND ADVISORIES WILL ALSO BE EXTENDED FOR A FEW HOURS FOR THE ANTELOPE VLY.

SOME OF THE PEAK WIND GUSTS TODAY (SINCE 6 AM PDT) INCLUDE

LOS ANGELES COUNTY

LOS ANGELES INTL AIRPORT.....WEST 38 MPH.
DOWNTOWN LOS ANGELES.....NORTH 39 MPH
HAWTHORNE.....NORTHWEST 44 MPH.
LONG BEACH AIRPORT.....NORTH 41 MPH.
BURBANK.....NORTH 48 MPH.
VAN NUYS.....NORTH 46 MPH.
WHITTIER HILLS.....NORTHWEST 56 MPH
NEWHALL.....NORTH 46 MPH.
SAUGUS.....NORTHWEST 65 MPH.
CAMP NINE.....NORTH 64 MPH.
CHILAO.....NORTHWEST 51 MPH.
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PALMDALE.....NORTHWEST 52 MPH.
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LANCASTER.....NORTHWEST 54 MPH.

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SANTA BARBARA AIRPORT.....NORTHWEST 45 MPH.
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SAN LUIS OBISPO COUNTY

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CARRIZO.....NORTH 45 MPH.

THE VIGOROUS UPPER LOW NEAR THE AZ/CA BORDER THIS EVENING WILL MOVE FAIRLY QUICKLY EWD OVERNIGHT AND FRI AS UPPER RIDGING BUILDS INTO THE AREA. W-E GRADS WILL START OFF THE DAY WKLY OFFSHORE...WHILE N-S GRADS WILL BE MDT. HGTS/THICKNESSES REBOUND QUICKLY ON FRI AND 850 AND 950 MB TEMPS RISE QUITE A BIT. THIS SHOULD LEAD TO SIGNIFICANT WARMING ACRS MOST OF THE AREA ON FRI...WITH MANY LOCATIONS IN THE VLYS AND POSSIBLY ACRS INLAND SXNS OF THE CSTL PLAIN REACHING 80 DEGREES.

THE UPPER RIDGE WILL SHIFT TO THE W OF THE AREA FRI NIGHT AND SAT AS A STRONG SHORT WAVE TROUGH APCHS THE W CST. MODELS HAVE GENERALLY BEEN TRENDING A BIT SHARPER AND FARTHER W WITH THIS SYSTEM WITH EACH RUN. WHILE IT STILL APPEARS THAT THE DEEPEST MSTR AND BEST DYNAMICS WILL REMAIN TO THE N OF THE FCST AREA...A DEEPENING MOIST LAYER WILL LIKELY CAUSE CLOUDS TO INCREASE ACRS THE AREA ON SAT...WITH A THREAT OF RAIN AT LEAST ACRS SLO AND SBA COUNTIES SAT AFTERNOON. SHOULD BE SIGNIFICANTLY COOLER ACRS THE AREA ON SAT. WHETHER OR NOT RAIN MAKES ITS WAY SWD ACRS THE REMAINDER OF THE FCST AREA IS STILL IN QUESTION...BUT BASED ON LATEST MODEL RUNS...IT IS CERTAINLY A POSSIBILITY. THEN...BEHIND THE SYSTEM...ANOTHER DAY OF WDSPRD STRONG NWLY TO NLY WINDS LOOKS LIKELY ON SUNDAY...WITH ADVISORY LVL WINDS IN MOST AREAS...AND WARNING LEVEL WINDS POSSIBLE IN THE MTNS AS A 130 KT NLY JET NOSES INTO THE AREA. LOOKS LIKE MORE IN THE WAY OF MSTR ON NRN MTN SLOPES SUNDAY...WITH THE POTENTIAL FOR LOW SNOW LEVELS (BELOW 5000 FEET)...WITH A FEW INCHES OF SNOW POSSIBLE.

&&

.AVIATION...13/0535Z...WIND SHEAR AND UPDRAFT/DOWNDRAFT ISSUES WILL CONTINUE AT MOST SITES SOUTH OF POINT CONCEPTION THROUGH 09Z. I N GENERAL...THESE ISSUE ARE ON THE DECREASE THROUGH THE NEXT FOUR TO SIX HOURS. VFR CONDITIONS WILL PERSIST OTHERWISE THROUGH FRIDAY EVENING. ALTHOUGH NOT LIKELY AT THIS TIME...STRATUS AND FOG COULD BECOME AN ISSUE ON FRIDAY EVENING IF AN EDDY CIRCULATION HAPPENS TO DEVELOP.

KLAX...**WIND SHEAR WITH MODERATE UPDRAFT/DOWNDRAFTS WILL PERSIST** INTO **INTO AT LEAST 09Z....BUT MORE LIKELY 11Z.** VFR CONDITIONS WILL PREVAIL OTHERWISE. A GUSTY SEABREEZE OF 12 KTS IS EXPECTED ON FRIDAY AFTERNOON. ALTHOUGH NOT LIKELY AT THIS TIME...STRATUS AND FOG COULD BECOME AN ISSUE ON FRIDAY EVENING IF AN EDDY CIRCULATION HAPPENS TO DEVELOP.

KBUR...WIND SHEAR WITH MODERATE UPDRAFT/DOWNDRAFTS WILL PERSIST INTO INTO AT LEAST 10Z....BUT MORE LIKELY 11Z. VFR CONDITIONS WILL PREVAIL OTHERWISE. A LIGHT SOUTH WIND IS EXPECTED IN THE AFTERNOON.

&&

.MARINE...STRONG NW FLOW WILL CONTINUE THROUGH LATE THURSDAY NIGHT...PEAKING THIS AFTERNOON AND EVENING...WITH WIDESPREAD GALE CONDITIONS OVER THE COASTAL WATERS. IN ADDITION...A LARGE NW SWELL AND A MODERATE SOUTHERLY SWELL WILL BUILD THROUGH FRIDAY...WITH WIDESPREAD SEAS WELL ABOVE 10 FT OVER THE OUTER WATERS THROUGH FRIDAY...AND NEAR 9 FT OVER INNER WATERS TONIGHT. A HIGH SURF ADVISORY REMAINS IN EFFECT FOR VENTURA AND LOS ANGELES COUNTIES THROUGH FRIDAY EVENING.

&&

.LOX WATCHES/WARNINGS/ADVISORIES...
CA...
WIND ADVISORY (SEE LAXNPWLOX).
HIGH SURF ADVISORY (SEE LAXCFWLOX).
PACIFIC COASTAL WATERS...GALE WARNING (SEE LAXCWFLOX).

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PUBLIC...FORWOOD/BRUNO
AVIATION...SWEET

WWW.WEATHER.GOV/LOSANGELES

3.5 SCAQMD Windblown Dust Advisory

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
COACHELLA VALLEY PM10 DUST ADVISORY NOTIFICATION
THURSDAY, APRIL 12, 2007

Today's Revised Air Quality: Valid Thursday, April 12, 2007

A PM10 Dust Advisory is in effect for Area 30, the Coachella Valley for today, Friday, April 12, 2007. PM10 concentrations in association with high winds are being observed and are predicted to remain unhealthful in the Coachella Valley through out the day. Children, the elderly, and those persons with heart or respiratory disease are advised to minimize outdoor activities.

Tomorrow's Forecast: Valid Friday, April 13, 2007

Tomorrow, April 13, 2007, air quality is predicted to be GOOD to MODERATE in all areas. Air pollution levels will not exceed 100 on the Air Quality Index (AQI).

What To Do When Air Pollution Reaches Unhealthy Levels

In areas with **UNHEALTHY-SENSITIVE** (AQI of 101 to 150) air quality, sensitive or susceptible persons, such as those with heart or lung disease, should minimize outdoor activity.

In areas with **UNHEALTHY** (AQI of 151 to 200) air quality or an **Ozone HEALTH ADVISORY Alert** (AQI of 151 to 200 for 1-hour ozone), everyone should discontinue prolonged, vigorous outdoor exercise lasting longer than one hour. Examples of the kinds of outdoor activities that should be avoided are calisthenics, basketball, running, soccer, football, tennis, swimming laps, and water polo. Susceptible persons, such as those with heart or lung disease, should avoid outdoor activity entirely.

In areas with **VERY UNHEALTHY** (AQI of 201 or above) air quality or an **Ozone STAGE-1 Alert** (AQI of 201 or above for 1-hour ozone), everyone should discontinue all vigorous outdoor activities regardless of duration.

3.6 National Climatic Data Center Weather Event Records

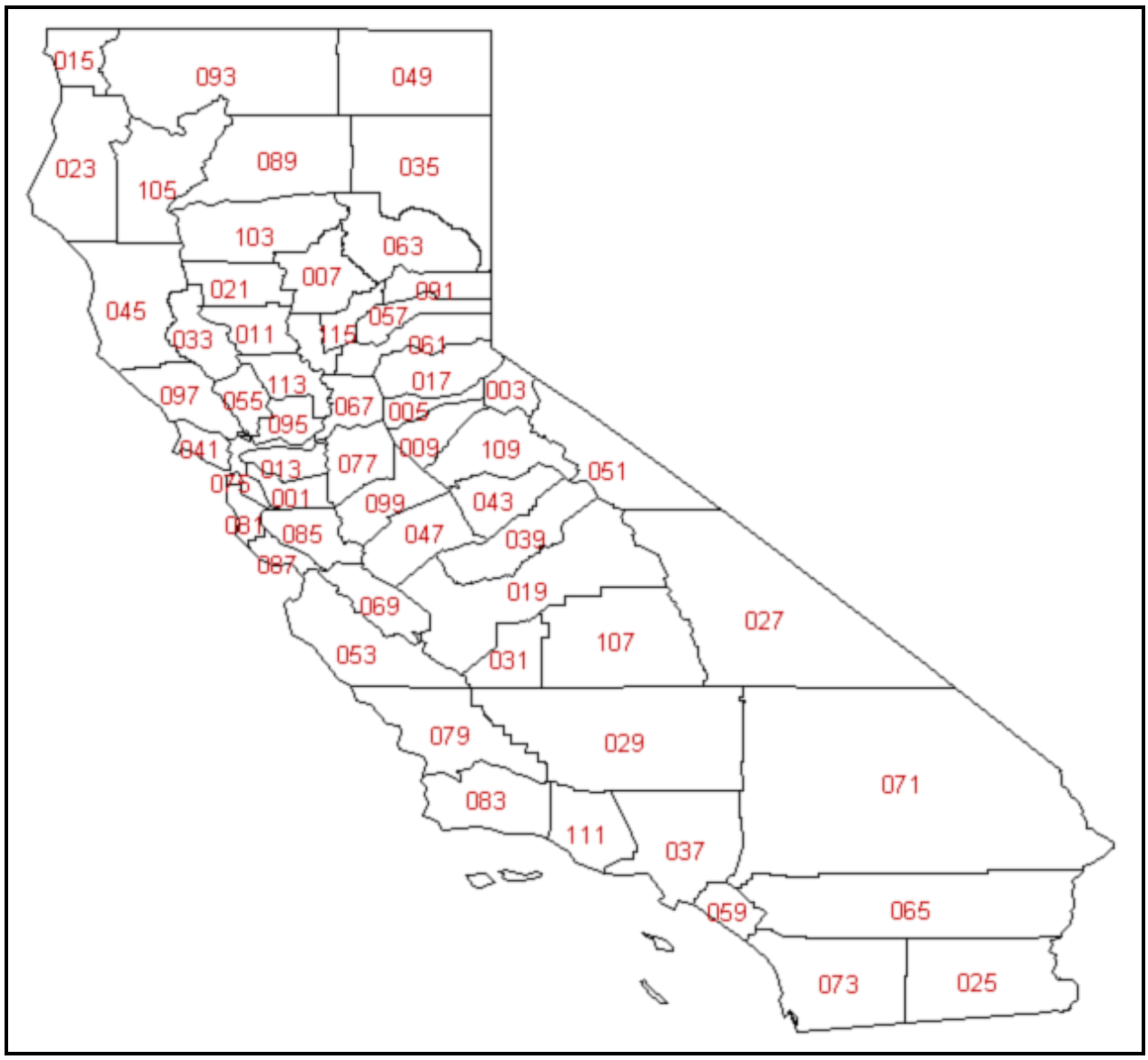

FIGURE 3-1

Map of NCDC Event Record Zones in California

NOAA Satellite and Information Service
National Environmental Satellite, Data, and Information Service (NESDIS)

National Climatic Data Center
U.S. Department of Commerce

DOC >NOAA >NESDIS >NCDC

Search Field: Search NCDC

Event Record Details

Event: **High Wind**
Begin Date: **11 Apr 2007, 11:00:00 AM PST**
Begin Location: **Not Known**
End Date: **12 Apr 2007, 20:00:00 PM PST**
End Location: **Not Known**
Magnitude: **64 knots**
Fatalities: **0**
Injuries: **0**
Property Damage: **$ 1.0K**
Crop Damage: **$ 0.0K**

State: **California**
Map of Counties
County: **Caz095 - 098 - 099**

Description:
High winds developed behind a Pacific storm system from late in the morning of the 11th through the evening of the 12th. Winds gusted as high as 81 mph in the Kern County Mountains and Desert. Strong winds were also recorded in the Central and Southern San Joaquin Valley, as well as the Tulare County Mountains, with gusts as high as 41 mph. Wind-borne dust in the San Joaquin Valley prompted a health cautionary statement by the local air pollution control district.

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http://www4.ncdc.noaa.gov/cgi-win/wwcgi.dll?wwEvent~storms
Please send questions or comments about this system to Stuart.Hinson@noaa.gov
Please see the NCDC Contact Page if you have questions or comments.

NOAA Satellite and Information Service
National Environmental Satellite, Data, and Information Service (NESDIS)

National Climatic Data Center
U.S. Department of Commerce

DOC >NOAA >NESDIS >NCDC

Search Field: Search NCDC

Event Record Details

Event: **Strong Wind**
Begin Date: **11 Apr 2007, 12:00:00 PM PST**
Begin Location: **Not Known**
End Date: **12 Apr 2007, 11:00:00 AM PST**
End Location: **Not Known**
Magnitude: **40**
Fatalities: **0**
Injuries: **0**
Property Damage: **$ 1.0K**
Crop Damage: **$ 0.0K**

State: **California**
Map of Counties
County: **Caz097**

Description:
High winds developed behind a Pacific storm system from late in the morning of the 11th through the evening of the 12th. Winds gusted as high as 81 mph in the Kern County Mountains and Desert. Strong winds were also recorded in the Central and Southern San Joaquin Valley, as well as the Tulare County Mountains, with gusts as high as 41 mph. Wind-borne dust in the San Joaquin Valley prompted a health cautionary statement by the local air pollution control district.

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NOAA Satellite and Information Service
National Environmental Satellite, Data, and Information Service (NESDIS)

National Climatic Data Center
U.S. Department of Commerce

DOC >NOAA >NESDIS >NCDC Search Field: Search NCDC

Event Record Details

Event: **High Wind**
Begin Date: **11 Apr 2007, 13:00:00 PM PST**
Begin Location: **Not Known**
End Date: **11 Apr 2007, 13:00:00 PM PST**
End Location: **Not Known**
Magnitude: **62 knots**
Fatalities: **0**
Injuries: **0**
Property Damage: **$ 0.0K**
Crop Damage: **$ 0.0K**

State: **California**
Map of Counties
County: **Caz519**

Description:
A gust to 71 mph was measured 4 miles SW of Independence, CA.A Pacific storm moving into California brought high winds to the eastern Sierra slopes and Mojave Desert.

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This page dynamically generated 26 Jun 2009 from:
http://www4.ncdc.noaa.gov/cgi-win/wwcgi.dll?wwEvent~storms
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NOAA Satellite and Information Service
National Environmental Satellite, Data, and Information Service (NESDIS)

National Climatic Data Center
U.S. Department of Commerce

DOC >NOAA >NESDIS >NCDC Search Field: Search NCDC

Event Record Details

Event: **High Wind**
Begin Date: **11 Apr 2007, 15:51:00 PM PST**
Begin Location: **Not Known**
End Date: **11 Apr 2007, 15:51:00 PM PST**
End Location: **Not Known**
Magnitude: **60 knots**
Fatalities: **0**
Injuries: **0**
Property Damage: **$ 0.0K**
Crop Damage: **$ 0.0K**

State: **California**
Map of Counties
County: **Caz523**

Description:
A gust to 69 mph was measured 29 miles SSW of Searles Valley, CA.A Pacific storm moving into California brought high winds to the eastern Sierra slopes and Mojave Desert.

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National Environmental Satellite, Data, and Information Service (NESDIS)

National Climatic Data Center
U.S. Department of Commerce

DOC >NOAA >NESDIS >NCDC Search Field: Search NCDC

Event Record Details

Event: **High Wind**
Begin Date: **11 Apr 2007, 17:36:00 PM PST**
Begin Location: **Not Known**
End Date: **11 Apr 2007, 17:36:00 PM PST**
End Location: **Not Known**
Magnitude: **50 knots**
Fatalities: **0**
Injuries: **0**
Property Damage: **$ 0.0K**
Crop Damage: **$ 0.0K**

State: **California**
Map of Counties
Forecast Zones affected: **RIVERSIDE COUNTY MOUNTAINS**

Description:
A 58 mph wind gust was measured by the Pinyon RAWS.A low pressure trough moving across the area caused isolated high wind on the desert slopes of the mountains. A truck overturned on S22 in the San Diego County mountains after the driver lost control of his rig during a strong gust of wind.

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Event Record Details

Event: **Strong Wind**
Begin Date: **12 Apr 2007, 07:00:00 AM PST**
Begin Location: **Not Known**
End Date: **12 Apr 2007, 17:00:00 PM PST**
End Location: **Not Known**
Magnitude: **32**
Fatalities: **0**
Injuries: **0**
Property Damage: **$ 1.0K**
Crop Damage: **$ 0.0K**

State: **California**
Map of Counties
County: **Caz089>092**

Description:
High winds developed behind a Pacific storm system from late in the morning of the 11th through the evening of the 12th. Winds gusted as high as 81 mph in the Kern County Mountains and Desert. Strong winds were also recorded in the Central and Southern San Joaquin Valley, as well as the Tulare County Mountains, with gusts as high as 41 mph. Wind-borne dust in the San Joaquin Valley prompted a health cautionary statement by the local air pollution control district.

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Event Record Details

Event: **High Wind**
Begin Date: **12 Apr 2007, 08:51:00 AM PST**
Begin Location: **Not Known**
End Date: **12 Apr 2007, 09:51:00 AM PST**
End Location: **Not Known**
Magnitude: **51 knots**
Fatalities: **0**
Injuries: **0**
Property Damage: **$ 0.0K**
Crop Damage: **$ 0.0K**

State: **California**
Map of Counties
Forecast Zones affected: **SAN BERNARDINO COUNTY MOUNTAIN**

Description:
A 59 mph wind gust was measured by the Burns Canyon RAWS.A low pressure trough moving across the area caused isolated high wind on the desert slopes of the mountains. A truck overturned on S22 in the San Diego County mountains after the driver lost control of his rig during a strong gust of wind.

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Event Record Details

Event: **Strong Wind**
Begin Date: **12 Apr 2007, 09:30:00 AM PST**
Begin Location: **Not Known**
End Date: **12 Apr 2007, 09:30:00 AM PST**
End Location: **Not Known**
Magnitude: **45**
Fatalities: **0**
Injuries: **0**
Property Damage: **$ 100.0K**
Crop Damage: **$ 0.0K**

State: **California**
Map of Counties
County: **Caz523**

Description:
Strong winds and blowing dust caused two pileups on Interstate 40 about 30 miles east of Barstow, CA - one on the westbound side and one on the eastbound side. A total of 17 vehicles were involved in the crashes, and two people were killed.The same low pressure system which brought isolated high winds on the 11th caused widespread strong winds and many areas of blowing dust in the Mojave Desert.

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Event Record Details

Event: **High Wind**
Begin Date: **12 Apr 2007, 09:38:00 AM PST**
Begin Location: **Not Known**
End Date: **12 Apr 2007, 11:38:00 AM PST**
End Location: **Not Known**
Magnitude: **56 knots**
Fatalities: **0**
Injuries: **0**
Property Damage: **$ 0.0K**
Crop Damage: **$ 0.0K**

State: **California**
Map of Counties
Forecast Zones affected: **ANTELOPE VALLEY**

Description:
The Poppy Park RAWS sensor reported high winds with a peak gust of 65 MPH.The combination of an upper level disturbance and strong onshore gradients produced strong and damaging winds across Southern California, especially across southern Santa Barbara county, the mountains of Ventura and Los Angeles counties and the Antelope Valley. The gusty winds knocked down trees and power lines, producing widespread power outages across sections of Los Angeles county and a damaging wildfire in the Beverly Glen area. Across the coastal waters off of Ventura, Los Angeles and Orange counties, large wind waves and a combination of large northwest and south swell produced very hazardous conditions. At Newport Beach, two individuals were swept off of a jetty and drowned as a result of the large waves. In Ventura county, two individuals were rescued off of Ventura Pier when they jumped into the water on a bet.

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Event Record Details

Event: **High Wind**
Begin Date: **12 Apr 2007, 10:11:00 AM PST**
Begin Location: **Not Known**
End Date: **12 Apr 2007, 10:11:00 AM PST**
End Location: **Not Known**
Magnitude: **50 knots**
Fatalities: **0**
Injuries: **0**
Property Damage: **$ 0.0K**
Crop Damage: **$ 0.0K**

State: **California**
Map of Counties
County: **Caz523**

Description:
A gust to 58 mph was measured by the KDAG ASOS (Daggett, CA).The same low pressure system which brought isolated high winds on the 11th caused widespread strong winds and many areas of blowing dust in the Mojave Desert.

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Event Record Details

Event: **High Wind**
Begin Date: **12 Apr 2007, 10:50:00 AM PST**
Begin Location: **Not Known**
End Date: **12 Apr 2007, 19:00:00 PM PST**
End Location: **Not Known**
Magnitude: **75 knots**
Fatalities: **0**
Injuries: **0**
Property Damage: **$ 0.0K**
Crop Damage: **$ 0.0K**

State: **California**
Map of Counties
Forecast Zones affected: **Los Angeles County Mountains E, Ventura County Mountains**

Description:
RAWS observations across the mountains measured very strong and gusty winds. At Whitaker Peak RAWS a peak northwest wind gust of 86 MPH was reported. Other sensors, including Sandberg and Warm Springs, indicated sustained winds and gust that met warning criteria.The combination of an upper level disturbance and strong onshore gradients produced strong and damaging winds across Southern California, especially across southern Santa Barbara county, the mountains of Ventura and Los Angeles counties and the Antelope Valley. The gusty winds knocked down trees and power lines, producing widespread power outages across sections of Los Angeles county and a damaging wildfire in the Beverly Glen area. Across the coastal waters off of Ventura, Los Angeles and Orange counties, large wind waves and a combination of large northwest and south swell produced very hazardous conditions. At Newport Beach, two individuals were swept off of a jetty and drowned as a result of the large waves. In Ventura county, two individuals were rescued off of Ventura Pier when they jumped into the water on a bet.

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Event Record Details

Event: **Wildfire**
Begin Date: **12 Apr 2007, 12:00:00 PM PST**
Begin Location: **Not Known**
End Date: **12 Apr 2007, 20:00:00 PM PST**
End Location: **Not Known**
Magnitude: **0**
Fatalities: **0**
Injuries: **0**
Property Damage: **$ 0.0K**
Crop Damage: **$ 0.0K**

State: **California**
Map of Counties
Forecast Zones affected: **LOS ANGELES COUNTY COASTS INCL**

Description:
A downed power line sparked a 50 acre wildfire in the Beverly Glen area, just northwest of Beverly Hills. This fire destroyed one mansion and damaged two other homes. No deaths or injuries were reported.The combination of an upper level disturbance and strong onshore gradients produced strong and damaging winds across Southern California, especially across southern Santa Barbara county, the mountains of Ventura and Los Angeles counties and the Antelope Valley. The gusty winds knocked down trees and power lines, producing widespread power outages across sections of Los Angeles county and a damaging wildfire in the Beverly Glen area. Across the coastal waters off of Ventura, Los Angeles and Orange counties, large wind waves and a combination of large northwest and south swell produced very hazardous conditions. At Newport Beach, two individuals were swept off of a jetty and drowned as a result of the large waves. In Ventura county, two individuals were rescued off of Ventura Pier when they jumped into the water on a bet.

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Event Record Details

Event: **Strong Wind**
Begin Date: **12 Apr 2007, 12:00:00 PM PST**
Begin Location: **Not Known**
End Date: **12 Apr 2007, 12:00:00 PM PST**
End Location: **Not Known**
Magnitude: **47**
Fatalities: **0**
Injuries: **0**
Property Damage: **$ 1.0K**
Crop Damage: **$ 0.0K**

State: **California**
Map of Counties
County: **Caz525**

Description:
Power line blown down in Twentynine Palms, CA.The same low pressure system which brought isolated high winds on the 11th caused widespread strong winds and many areas of blowing dust in the Mojave Desert.

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Event Record Details

Event: **High Wind**
Begin Date: **12 Apr 2007, 12:14:00 PM PST**
Begin Location: **Not Known**
End Date: **12 Apr 2007, 14:25:00 PM PST**
End Location: **Not Known**
Magnitude: **63 knots**
Fatalities: **0**
Injuries: **0**
Property Damage: **$ 35.0K**
Crop Damage: **$ 0.0K**

State: **California**
Map of Counties
Forecast Zones affected: **SAN DIEGO COUNTY MOUNTAINS**

Description:
A 72 mph wind gust was measured at the Cleveland National Forest lookout tower on Los Pinos Mountain. The gusty winds caused a truck to overturn on S22.A low pressure trough moving across the area caused isolated high wind on the desert slopes of the mountains. A truck overturned on S22 in the San Diego County mountains after the driver lost control of his rig during a strong gust of wind.

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Event Record Details

Event: **High Wind**
Begin Date: **12 Apr 2007, 21:14:00 PM PST**
Begin Location: **Not Known**
End Date: **13 Apr 2007, 00:14:00 AM PST**
End Location: **Not Known**
Magnitude: **63 knots**
Fatalities: **0**
Injuries: **0**
Property Damage: **$ 0.0K**
Crop Damage: **$ 0.0K**

State: **California**
Map of Counties
Forecast Zones affected: **Santa Barbara County Mountains, Santa Barbara County South Coa**

Description:
The RAWS sensor at Montecito reported high winds across southern Santa Barbara county. Sustained winds between 30 and 45 MPH with gusts to 73 MPH were reported. The winds knocked down a tree on the University of California Santa Barbara campus.The combination of an upper level disturbance and strong onshore gradients produced strong and damaging winds across Southern California, especially across southern Santa Barbara county, the mountains of Ventura and Los Angeles counties and the Antelope Valley. The gusty winds knocked down trees and power lines, producing widespread power outages across sections of Los Angeles county and a damaging wildfire in the Beverly Glen area. Across the coastal waters off of Ventura, Los Angeles and Orange counties, large wind waves and a combination of large northwest and south swell produced very hazardous conditions. At Newport Beach, two individuals were swept off of a jetty and drowned as a result of the large waves. In Ventura county, two individuals were rescued off of Ventura Pier when they jumped into the water on a bet.

3.7 U. S. Forest Service Web Cam

Pristine Conditions

Original Image Documentation

Site Name:	Red Mountain Lookout	Vista Reference:	Red Mtn Lkout - Cucamonga South Vista
Forest Reference:	San Bernardino National Forest	Wilderness Reference:	Cucamonga Wilderness
Original Image Filename:	CUCS1200704111500.JPG	Region:	Pacific Southwest
Site Abbr:	CUCS1	State:	CA
Date:	04/11/2007	Time of Day:	03:00 pm
Comments:			

Qualitative Summaries

Scene Code:	Overcast > half of sky, Weather concealing scene	Estimated dv:	
Image Code:	Valid	Estimated VR(km):	
		Estimated Bext(Mm^{-1}):	

Pristine Conditions

Original Image Documentation

Site Name:	Red Mountain Lookout	Vista Reference:	Red Mtn Lkout - Cucamonga South Vista
Forest Reference:	San Bernardino National Forest	Wilderness Reference:	Cucamonga Wilderness
Original Image Filename:	CUCS1200704120900.JPG	Region:	Pacific Southwest
Site Abbr:	CUCS1	State:	CA
Date:	04/12/2007	Time of Day:	09:00 am
Comments:			

Qualitative Summaries

Scene Code:	Weather concealing scene, Weather concealing scene	Estimated dv:	
Image Code:	Valid	Estimated VR(km):	
		Estimated Bext(Mm^{-1}):	

Pristine Conditions

Original Image Documentation

Site Name:	Red Mountain Lookout	Vista Reference:	Red Mtn Lkout - Cucamonga South Vista
Forest Reference:	San Bernardino National Forest	Wilderness Reference:	Cucamonga Wilderness
Original Image Filename:	CUCS1200704121200.JPG	Region:	Pacific Southwest
Site Abbr:	CUCS1	State:	CA
Date:	04/12/2007	Time of Day:	12:00 pm
Comments:			

Qualitative Summaries

Scene Code:	Overcast > half of sky, Weather concealing scene	Estimated dv:	
Image Code:	Valid	Estimated VR(km):	
		Estimated Bext(Mm^{-1}):	

Pristine Conditions

Original Image Documentation

Site Name:	Red Mountain Lookout	Vista Reference:	Red Mtn Lkout - Cucamonga South Vista
Forest Reference:	San Bernardino National Forest	Wilderness Reference:	Cucamonga Wilderness
Original Image Filename:	CUCS1200704121500.JPG	Region:	Pacific Southwest
Site Abbr:	CUCS1	State:	CA
Date:	04/12/2007	Time of Day:	03:00 pm
Comments:			

Qualitative Summaries

Scene Code:	Overcast > half of sky, Weather concealing scene	Estimated dv:	
Image Code:	Valid	Estimated VR(km):	
		Estimated Bext(Mm^{-1}):	

3.8 Additional Wind Data

TABLE 3-1

Hourly Wind Directions (degrees), Wind Speeds (mph) and Wind Gusts (mph) for the Beaumont and Class III 14C POP NWS Remote Automated Weather Stations (RAWS) on Thursday, April 12, 2007

Beaumont RAWS					Class III 14C POP RAWS				
Date	**Time (PST)**	**WD (deg)**	**WS (mph)**	**Gust (mph)**	**Date**	**Time (PST)**	**WD (deg)**	**WS (mph)**	**Gust (mph)**
4/11/2007	2112	205	10	18	**4/11/2007**	2108	295	14	23
	2212	210	8	18		2208	267	6	**25**
	2312	211	9	19		2308	284	4	10
4/12/2007	0012	214	10	22	**4/12/2007**	0008	306	21	**29**
	0112	226	10	21		0108	314	**25**	**47**
	0212	219	9	19		0208	304	24	**36**
	0312	226	9	23		0308	305	**28**	**43**
	0412	212	9	18		0408	302	**26**	**40**
	0512	219	11	20		0508	301	**30**	**43**
	0612	219	10	20		0608	303	**28**	**46**
	0712	214	10	**25**		0708	307	**29**	**44**
	0812	234	9	20		0808	309	**29**	**43**
	0912	232	10	20		0908	307	23	**38**
	1012	266	10	**25**		1008	315	22	**33**
	1112	51	13	**32**		1108	320	24	**35**
	1212	336	12	**34**		1208	309	22	**34**
	1312	310	7	**25**		1308	318	18	**30**
	1412	325	10	**27**		1408	315	17	**27**
	1512	270	7	**27**		1508	324	17	**28**
	1612	329	19	**34**		1608	322	15	**26**
	1712	68	7	**36**		1708	332	13	23
	1812	319	9	**32**		1808	328	13	22
	1912	167	5	**30**		1908	327	10	20
	2012	236	6	21		2008	326	10	19
	2112	250	10	21		2108	318	7	14
	2212	254	5	23		2208	300	10	12
	2312	241	4	15		2308	250	8	12
4/13/2007	0012	255	4	13	**4/13/2007**	0008	251	8	13
	0112	211	1	11		0108	212	3	14
	0212	261	3	9		0208	243	6	10

TABLE 3-2

Hourly Wind Directions (degrees), Wind Speeds (mph) and Wind Gusts (mph) for the Keenwild and Anza NWS Remote Automated Weather Stations (RAWS) on Thursday, April 12, 2007

Keenwild RAWS					Anza RAWS				
Date	**Time (PST)**	**WD (deg)**	**WS (mph)**	**Gust (mph)**	**Date**	**Time (PST)**	**WD (deg)**	**WS (mph)**	**Gust* (mph)**
4/11/2007	2119	70	4	13	**4/11/2007**	2154	282	7	**95**
	2219	5	3	10		2254	277	6	10
	2319	218	5	8		2354	307	10	**67**
4/12/2007	0019	99	4	12	**4/12/2007**	0054	310	10	18
	0119	--	--	--		0154	306	11	**75**
	0219	135	5	14		0254	277	12	**95**
	0319	314	5	13		0354	273	11	16
	0419	179	4	12		0454	287	7	**48**
	0519	225	5	12		0554	281	8	15
	0619	9	5	11		0654	268	12	**45**
	0719	65	6	11		0754	261	12	19
	0819	187	7	13		0854	266	15	**41**
	0919	8	7	17		0954	279	18	**97**
	1019	330	10	18		1054	259	18	**30**
	1119	287	12	**25**		1154	250	17	**91**
	1219	116	14	**32**		1254	246	22	**91**
	1319	240	9	**34**		1354	304	14	**99**
	1419	287	10	**24**		1454	302	13	**98**
	1519	146	8	**28**		1554	303	14	24
	1619	283	5	22		1654	298	13	23
	1719	270	5	14		1754	279	10	**90**
	1819	150	6	16		1854	285	9	**85**
	1919	307	8	21		1954	288	11	**29**
	2019	10	7	20		2054	301	10	17
	2119	10	4	16		2154	267	5	**72**
	2229	40	3	15		2254	283	7	**54**
	2319	92	2	13		2354	275	5	**59**
4/13/2007	0019	85	3	8	**4/13/2007**	0054	356	3	**48**
	0119	CALM	0	8		0154	358	4	6
	0219	CALM	0	5		0254	334	4	6

* Anza RAWS gust data is suspect

TABLE 3-3

Hourly Wind Directions (degrees), Wind Speeds (mph) and Wind Gusts (mph) for the Clark and El Cariso NWS Remote Automated Weather Stations (RAWS) on Thursday, April 12, 2007

Clark RAWS					El Cariso RAWS				
Date	**Time (PST)**	**WD (deg)**	**WS (mph)**	**Gust* (mph)**	**Date**	**Time (PST)**	**WD (deg)**	**WS (mph)**	**Gust (mph)**
4/11/2007	2154	58	4	9	**4/11/2007**	2104	321	8	20
	2254	27	4	**90**		2204	338	6	14
	2354	173	2	6		2304	313	6	9
4/12/2007	0054	274	6	9	**4/12/2007**	0004	348	6	11
	0154	117	2	6		0104	6	9	9
	0254	130	3	5		0204	360	8	14
	0354	113	5	**47**		0304	335	6	11
	0454	184	5	9		0404	311	5	10
	0554	130	3	5		0504	359	6	7
	0654	160	3	6		0604	355	5	9
	0754	210	3	7		0704	291	8	9
	0854	229	10	**41**		0804	306	10	13
	0954	283	14	**65**		0904	21	17	18
	1054	256	19	**89**		1004	27	13	**29**
	1154	245	19	**71**		1104	44	19	**34**
	1254	260	21	**55**		1204	42	17	**36**
	1354	354	21	**69**		1304	18	11	**32**
	1454	355	20	**90**		1404	104	13	**29**
	1554	340	21	**103**		1504	113	13	**26**
	1654	347	15	**63**		1604	108	8	**27**
	1754	268	13	21		1704	63	9	**27**
	1854	264	15	**87**		1804	332	10	18
	1954	256	9	**37**		1904	336	6	17
	2054	251	6	**29**		2004	266	6	14
	2154	260	6	9		2104	286	5	13
	2254	175	2	5		2204	285	2	7
	2354	213	2	5		2304	CALM	0	7
4/13/2007	0054	18	6	10	**4/13/2007**	0004	240	1	11
	0154	292	6	9		0104	CALM	0	4
	0254	349	13	**48**		0204	88	8	14

* Clark RAWS gust data is suspect