SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

PLANNING, RULE DEVELOPMENT, AND AREA SOURCES

ANALYSIS OF EXCEPTINAL EVENTS CONTRIBUTING TO HIGH PM10 CONCENTRATIONS AT THE AZUSA AND FONTANA AIR MONITORING STATIONS IN THE SOUTH COAST AIR BASIN ON JULY 5, 2007

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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 two violations of the 150 μg/m^3 PM10 24-hour National Ambient Air Quality Standard (NAAQS) in the South Coast Air Basin (Basin) as exceptional events due to fireworks displays 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 violations occurred on Thursday, July 5, 2007 at the Azusa (165 μg/m^3) and Fontana (155 μg/m^3) air monitoring stations. These violations occurred due to particulate matter from fireworks in the evening of Independence Day, Wednesday, July 4, 2007. AQMD has submitted the PM10 data from these monitors on this day to the EPA 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 fireworks. This flagging indicates that the ambient air quality data was influenced by fireworks emissions and ensures 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 the Exceptional Events Rule. Section 1, Introduction, describes the purpose, exceptional event criteria, background of the Exceptional Event Rule and background information related to exceptional events in the Basin, including:

- the geographic setting;

[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

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

Section 2 describes the analysis of each PM10 NAAQS violation on July 5, 2007 that occurred due to fireworks. For each exceedance, the Event Summary section summarizes the PM10 measurements and conditions that caused the NAAQS violation and documents how the fireworks event satisfies the criteria of the Exceptional Events Rule, that is,

- Affects Air Quality; and
- Is Not Reasonable Controllable or Preventable.

Further discussion in the Event Summary includes:

- the causal connection between the fireworks 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 fireworks (the "But For" Test);
- that reasonable measures to control PM10 were in effect on the event 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, including particle speciation;
- the meteorological setting;
- conclusions.

Supporting documents for the July 5, 2007 PM10 analysis beyond what is included in the Section 2 are provided in Section 3, Supporting Materials. This includes a listing of Fourth of July fireworks displays throughout the Basin.

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 has previously 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. There was considerable national inconsistency in the flagging and treatment of fireworks events under these earlier guidance documents and fireworks were typically flagged as "Infrequent Large Gatherings." Prior to this event, on July 5, 2007, AQMD has not previously requested flagging of data due to fireworks displays.

On March 22, 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.

In the Exceptional Events Rule, EPA specifically allows the treatment of data influenced by fireworks displays to be treated in a manner similar to exceptional events, provided that the event meets the other criteria of the rule. In the preamble to the Rule, EPA states that:

> *Some national and/or cultural traditions, such as July 4th Independence Day and the Chinese New Year, have long included fireworks displays as important elements of their observances. While this issue is not specifically covered in CAA section 319, EPA believes that Congress did not intend to require EPA to consider air quality violations associated with such cultural traditions in regulatory determinations.*
>
> *We are not aware of any information showing adverse air quality impacts caused by individual use of fireworks in relatively small quantities. However, analyses of monitoring data collected on July 4th and July 5th indicates that large fireworks displays, in combination with other sources, can in some circumstances be potentially significant sources of air pollutant emissions. For this reason, States are encouraged to take reasonable precautions to minimize exposures to emissions from fireworks displays, to explore the use of lower emitting fireworks, as well as to manage associated activities that may also have significant air quality impacts in the areas where these events are held. Such precautions may include alerting the public to the potential for short-term air quality impacts that may result from the discharge of fireworks at large displays, monitoring prevailing winds, and locating displays downwind of concentrations of people. For these reasons, where States can show that the use of fireworks displays was integral to significant traditional national, ethnic, or other cultural events, we proposed that air quality data associated with such events could be excluded similar to exceptional events under this rule.*

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. In Section 50.14 the Rule states that EPA shall exclude data from use in determinations of exceedances and NAAQS violations where a State demonstrates to EPA's satisfaction that emissions from fireworks displays caused a specific air pollution concentration in excess of one or more national ambient air quality standards at a particular air quality monitoring location and otherwise satisfies the requirements of the Rule. Such data will be treated in the same manner as exceptional events under this rule, provided a State demonstrates that such use of fireworks is significantly integral to traditional national, ethnic, or other cultural events including, but not limited to July Fourth celebrations.

To summarize, EPA will exclude data from regulatory determinations on a case-by-case basis for monitoring stations whose exceedances or violations have been determined to be caused by emissions from fireworks displays if the following conditions are met:

- the event must be determined to have affected air quality;
- there is a clear causal connection between the emissions from the fireworks event and the measurement at the monitor in question;
- the use of fireworks must be significantly integral to traditional national, ethnic, or other cultural events (e.g., July Fourth celebrations, Chinese New Year celebrations, Diwali, etc.);

- States must assure that reasonable measures were taken to protect the public from the emissions created by the fireworks display;
- States are also strongly encouraged to institute educational programs that alert the public to the health effects associated with exposure to emissions from fireworks displays.

Air quality has continued to improve through implementation of best available control 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 of Riverside County under AQMD jurisdiction in the Salton Sea Air Basin (Coachella Valley) and the Mojave Desert Air 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 Gabriels to the north, the San Bernardinos to the northeast, and the San Jacintos to the east. 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 Azusa, in Forecast Area 9, is south of Azusa Canyon in the San Gabriel Mountains. The city of Fontana, in Forecast Area 34, is south the Cajon Pass in the San Bernardino Mountains. Both cities typically experience onshore sea breeze air flows during the day and weak offshore drainage flows at night. Figure 1-3 shows the PM10 monitors in the Basin, including the 24-hour FRM SSI samplers and the continuous Beta Attenuation Monitor (BAM) and Tapered Element Oscillating Microbalance (TEOM) samplers.

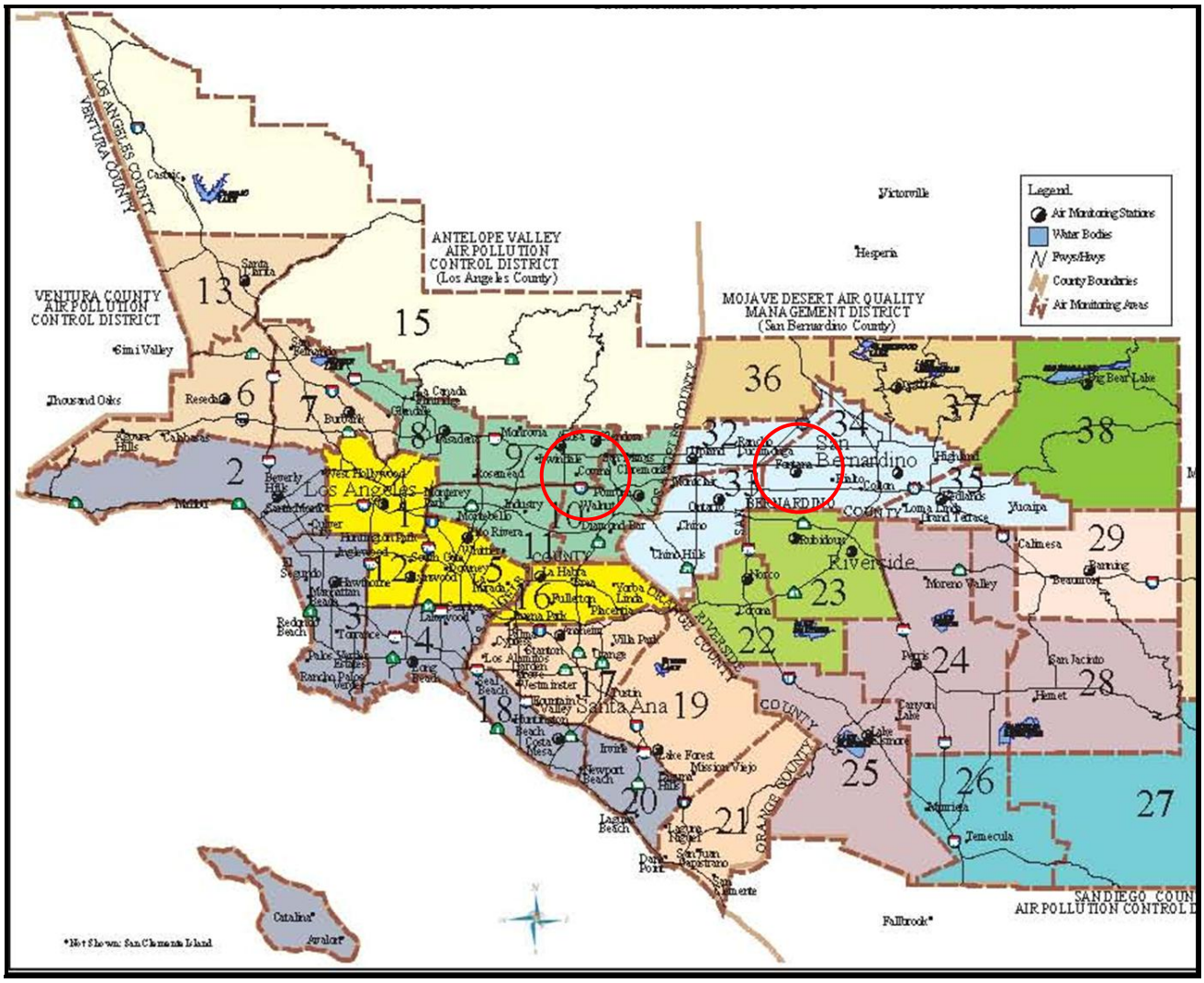


FIGURE 1-1

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

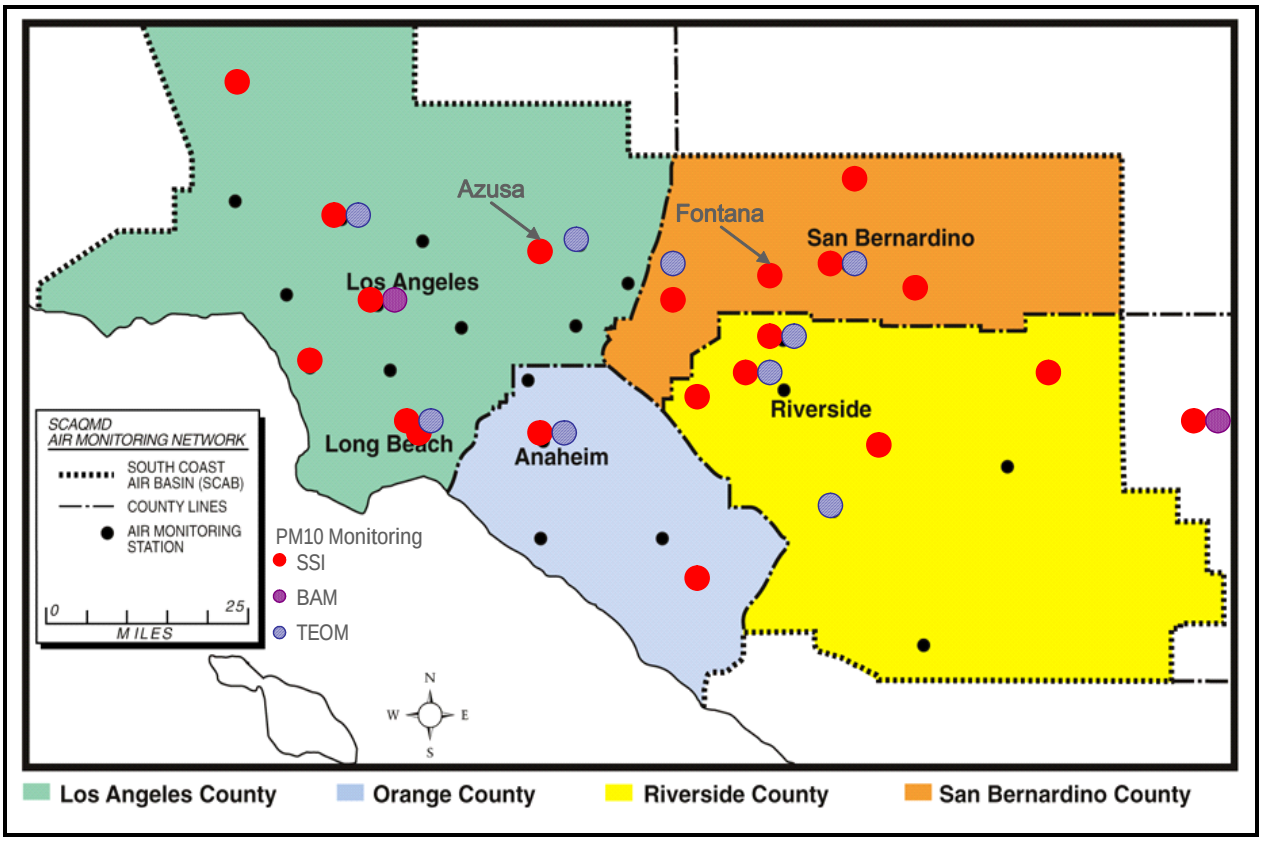


FIGURE 1-3

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 represented 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. The earlier 24-hour NAAQS violations were not flagged since the Basin was still in violation of the annual PM10 NAAQS, which has since been revoked on December 18, 2006. 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. Azusa only exceeded on one day and Fontana only exceeded on two days during this period. Besides the exceedances on July 5, 2007, only one other

NAAQS violation was related to fireworks, on July 5, 2003 at the Riverside-Rubidoux station. The remaining days were all associated with high wind events, several of which fanned large wildfires.

TABLE 1-1

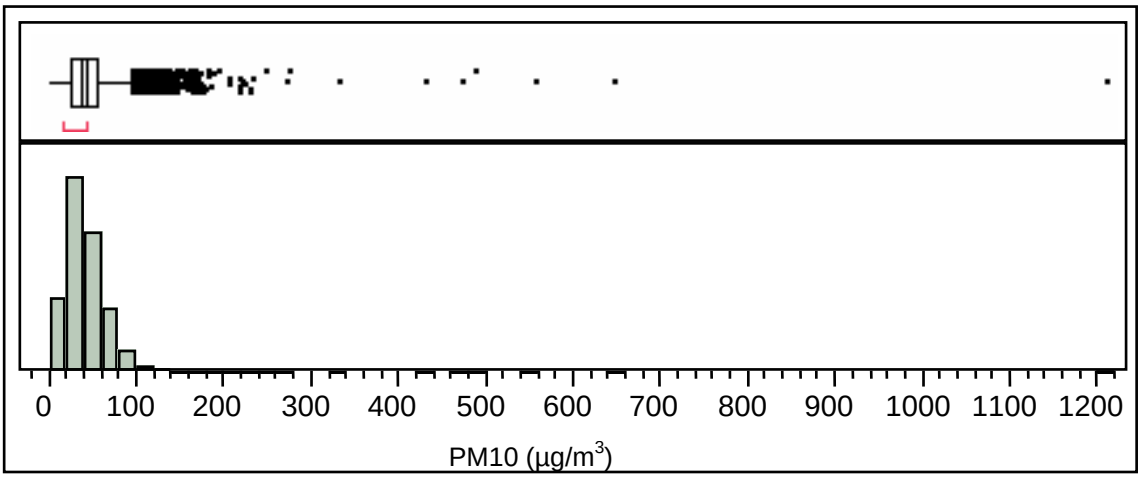
Historical Summary of South Coast Air Basin FRM SSI PM10 24-HourHigh Concentrations Exceeding 150 μg/m^3 between January 1, 2000 and December 31, 2008 with Primary Causal Event

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	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.

Figure 1-4 shows the concentration 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 μg/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 μg/m^3 is well outside the normal range of data and is above the 99.5 percentile value (139.5 μg/m^3).



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

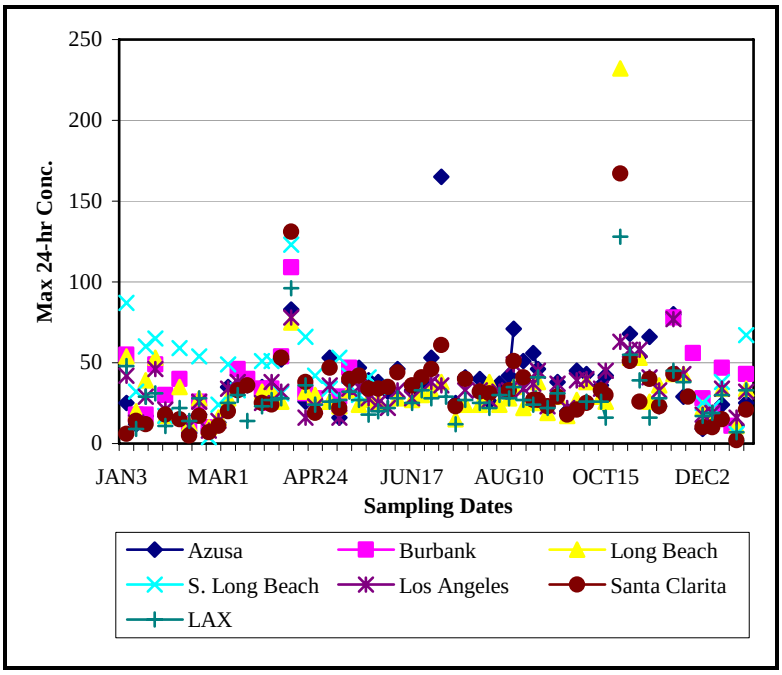
(Black squares show statistically outlying PM10 concentrations)

Figure 1-5 shows the 2007 time series of maximum 24-hour average FRM SSI PM10 concentrations from Los Angeles County, including the Azusa station, and from San Bernardino County, including the Fontana station. Five days exhibit distinct peak PM10 concentrations above 100 $\mu g/m^3$ in Los Angeles and San Bernardino Counties during 2007, as follows:

- April 12, 2007, high PM10 Basin-wide due to strong northwesterly winds caused by a weather system passage;
- July 5, 2007, high PM10 due to fireworks displays on July 4;
- October 21, 2007, high PM10 Basin-wide due primarily to a high wind event (strong Santa Ana) that precipitated a major wildfire event;
- October 27, 2007, elevated PM10 due to ongoing wildfires and ash (PM10 NAAQS not exceeded); and
- November 20, 2007, high PM10 concentrations to 107 $\mu g/m^3$ in San Bernardino County and 122 $\mu g/m^3$ in Riverside County (PM10 NAAQS not excceded) due to strong northwesterly winds caused by a weather system passage.

Three of these high PM10 events in 2007 involved violations of the PM10 NAAQS which have been flagged for exclusion under the EPA Exceptional Events Rule:

- April 12, 2007, PM10 NAAQS exceedance at Perris flagged as a high wind natural event;
- July 5, 2007, PM10 NAAQS exceedances at Azusa and Fontana flagged for fireworks; and
- October 21, 2007, PM10 NAAQS exceedances at Anaheim, Long Beach, Santa Clarita, Perris, Rubidoux, Norco, Ontario, Fontana and San Bernardino flagged for high wind natural events.



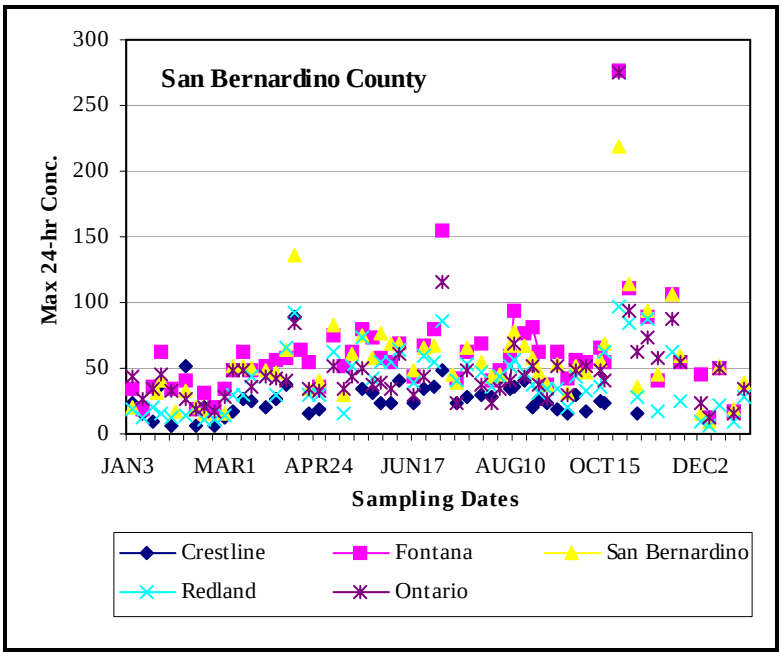


FIGURE 1-5

2007 Time Series of Daily Maximum 24-Hour FRM SSI PM10 (µg/m^3) for Los Angeles and San Bernardino Counties

2 FIREWORKS EXCEPTIONAL EVENT ANALYSIS: July 5, 2007

2.1 Event Summary

July 5, 2007 PM10 Exceptional Events Azusa and Fontana Stations

Following the Independence Day fireworks displays in the evening of July 4, 2007, PM10 concentrations exceeded the National Ambient Air Quality Standard (NAAQS) at the East San Gabriel Valley (Azusa) and Central San Bernardino Valley (Fontana) air quality monitoring stations in the South Coast Air Basin (Basin) on July 5, 2007. This report demonstrates that these PM10 exceedances meet the criteria of the EPA Exceptional Events Rule and that without the firework displays, the PM10 NAAQS would not have been exceeded at Azusa and Fontana, on July 5, 2007.

Particulate matter concentrations increased significantly during the evening of July 4 at locations throughout the Basin due to fireworks emissions and increased to very high peak hourly TEOM and BAM concentrations the morning of July 5. The highest hourly TEOM measurement was 470 $\mu g/m^3$ at the Upland monitoring station. Federal Reference Method (FRM) PM10 concentrations exceeded the NAAQS level on July 5 at locations in inland valley areas of the Basin including Azusa (165 $\mu g/m^3$) in Los Angeles County and Fontana (155 $\mu g/m^3$) in San Bernardino County. Speciated PM10 data indicates that the concentrations of chemical compounds specifically associated with fireworks emissions, sulfate, nitrate and potassium, increased significantly on July 4 and 5 due to the fireworks displays. The meteorological conditions were stagnant and stable, with limited vertical mixing in the evening of July 4 through the morning of July 5. Although a combination of several factors contributed to the PM10 mass concentrations on July 5, AQMD concludes that the NAAQS violation would not have occurred in the absence of emissions from fireworks.

Traditionally fireworks displays are an important part of the Independence Day celebration on July 4. Flagging the July 5, 2007 exceedances will ensure that the data is not misinterpreted and indicates that fireworks emissions influenced the ambient data. Effective ongoing AQMD programs control sources of PM10 throughout the Basin and air quality has continued to improve. AQMD daily air quality forecasts, episode notifications and real-time air quality measurements are available to the public to help minimize exposure to air pollution. While research is being done on cleaner fireworks and launch mechanisms, these are not yet widely available or cost effective beyond fixed facilities that have frequent displays, such as the Disneyland air launch system.

Flagging of Data

AQMD has submitted the PM10 data from these two monitors 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 fireworks (Flag RH, requesting exclusion due to fireworks). 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 rule treats emissions from fireworks displays related to traditional national, ethnic, or other cultural events (e.g., 4th of July Celebrations, Chinese New Year Celebrations, etc.), similar to the way that exceptional events are treated under the rule. Emissions from fireworks displays that are integral to traditional national, ethnic or cultural events such as Independence Day or Chinese New Year celebrations may be treated like an exceptional event. A state wishing to flag air quality monitoring data that has been influenced by emissions from fireworks displays must show that:

- the event affected air quality; and
- that there is a clear causal connection between the emissions from the fireworks event and the measurement at the monitor in question.

EPA encourages states to take precautions to help minimize exposure of the public to emissions from fireworks displays, including the use of lower emitting fireworks and locating displays downwind of highly populated areas. States are also encouraged to institute educational programs that alert the public to health effects associated with exposure to emissions from fireworks displays.

The following sections describe how the criteria are met for the July 5, 2007 fireworks event at Azusa and Fontana.

Affects Air Quality

For an event to qualify 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 July 5, 2007 PM10 NAAQS exceedances provide the required information to establish a causal connection between the fireworks displays throughout the South Coast Air Basin on July 4 and PM10 measured at the Azusa and Fontana monitors. The measured 24-hour PM10 concentration of 165 and 157 $\mu g/m^3$ at Azusa and Fontana, respectively, shows that air quality was affected. PM10 concentrations were relatively low on the days before and after the fireworks event, as is shown in Table 2-1 in Section 2.2, Detailed Event Analysis. The hourly TEOM and BAM PM10 concentrations increased rapidly as the fireworks displays started in the evening around dusk, as is shown in Table 2-2 and Figure 2-1.

These exceedances were due to anthropogenic events in the Basin where strong, approved control measures and effective compliance programs are in place. 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. While elevated PM10 occurs in the Basin with fireworks from any given Fourth of July celebration, NAAQS violations from fireworks do not frequently recur. Only one other PM10 24-hour NAAQS violation occurred on July 4 or 5 since 1990 in the South Coast Air Basin. That was attributed to fireworks and occurred at only one monitoring station, Riverside-Rubidoux, on July 5, 2003.

Section 2.2, Detailed Event Analysis, shows a clear correlation of the timing of the fireworks events in the evening of July 4 and the PM10 increase through the morning of July 5, including meteorological data showing stable, stagnant conditions, with weak onshore wind flows and a strong capping temperature inversion throughout the period. Section 3 contains listings of the fireworks displays on July 4, 2007 throughout the Basin. The measured NAAQS exceedances on July 5, 2007 are 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 July 5, 2007 fireworks displays caused the NAAQS

exceedance. During this event, there were no other unusual significant PM10-producing activities occurring in the Basin, including nearby construction or agricultural activities, strong winds or wildfires. No significant wildfires were reported in the Basin, and smoke from wildfires, agricultural or residential burning did not appear to have added any significant amount of PM10 to the concentrations recorded at Azusa or Fontana. While anthropogenic emissions of PM2.5 and PM10 were elevated due to holiday vehicular traffic, barbeques, etc., the fireworks had the most significant impact to the exceedances. The timing of the BAM and TEOM PM10 increase coincides with the onset of the fireworks shows at dark. On July 5, sulfate, nitrate and potassium analyses were a large portion of the PM10, as was the PM2.5 fraction. This indicates that smoke and chemicals from the fireworks were significant in this case, as opposed to other forms of PM10, such as fugitive dust that would contain more crustal components.

The particulates measured on July 5 were generated within the Basin from the fireworks displays in the evening of July 4 in many cities, as listed in Section 3. While no fireworks displays were listed in the city of Azusa, there were numerous shows from the beaches to the inland valleys in Los Angeles County, including two in nearby Irwindale, as well as Pasadena, Rosemead, Pomona, Walnut and Diamond Bar. In San Bernardino County, there were also numerous cities with fireworks displays, including the city of Fontana, with nearby shows at Pomona, Ontario, Upland, San Bernardino, Redlands and Riverside also having the potential to contribute emissions.

Fire agencies throughout most of the Basin restrict the sale and use of personal fireworks and encourage attending professional fireworks displays for fire prevention and safety. The few cities that allow the use of personal fireworks require the use of approved “Safe and Sane” fireworks, which do not explode, rise into the air or move along the ground. County and city ordinances control the sale, possession, storage and transport of personal fireworks. The dates on which personal fireworks can be sold are also controlled. Local emission from personal fireworks could also have contributed to the exceedances on this July 5, although the scale of professional displays is much larger with greater potential for smoke transport. Independence Day fireworks are a significant cultural event and are not reasonably controllable or preventable beyond that which is already done. While research is being done on cleaner fireworks and launch mechanisms, these are not yet widely available or cost effective beyond fixed facilities that have frequent displays, such as the Disneyland air launch system.

Reasonable and appropriate measures were in place throughout the Basin to control PM10, as has been described in Section 1.6, Regulatory Measures. A survey of the available AQMD complaint records and inspection reports indicated no evidence of

unusual particulate emissions on July 4 or 5, 2007 sufficient to cause the measured concentrations, other than the fireworks displays. The complaints registered throughout the Basin on July 4 and 5 related to PM10 involved small sources and no significant compliance actions were initiated.

Causal Connection

This documentation shows a clear causal connection between the PM10 measured at Azusa and Fontana on July 5 and the fireworks displays that occurred throughout the Basin, including cities near the exceeding monitoring stations on July 4. The timing of the increase in particulate matter, as measured by nearby hourly PM10 BAM and TEOM instruments, coincides with the start of the fireworks shows that mostly begin at dark. Speciated data from the particulate filters strongly indicates the presence of chemicals used in and byproducts from fireworks, including sulfate, nitrate and potassium. The meteorological data presented shows stagnant and stable conditions overnight, with a very shallow temperature inversion intersecting the terrain in the vicinity of the high PM10 concentrations. The barrier of the nearby mountains also contained the fireworks emissions in the Basin. In addition, a moist environment contributes to enhanced particulate growth; fog and high relative humidity were observed overnight and through the morning in the vicinity of the high PM10 measurements.

Concentration was in Excess of Normal Historical Fluctuations

The 165 and 155 $\mu g/m^3$ 24-hour PM10 concentrations measured at Azusa and Fontana, respectively, on July 5, 2007 are higher that the 99.5 percentile value of 139.5 $\mu g/m^3$ for all South Coast Air Basin FRM measurements since 1990, as shown previously in Section 1.7, Figure 1-4. Concentrations above the 97.5 percentile value (101.0 $\mu g/m^3$ and above) are outside the normal range of the data. Therefore any value that exceeds the 24-hour federal PM10 standard of 150 $\mu g/m^3$ 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 July 5, 2007 is the highest PM10 measured at Azusa since January 1, 1990. The second highest PM10 concentration and the only other day to exceed the 24-hour NAAQS at Azusa since January 1990 occurred in November of 1995, apparently due to a Santa Ana high wind event. The PM10 concentration measured at Fontana on July 5 was the sixth highest since January 1990, most of which occurred during the fall and winter months when strong Santa Ana wind events were likely along with the potential for wildfires. This was the second highest PM10 event at Fontana since January 1995, topped only by the high-wind Santa Ana event on October

21, 2007 that fanned widespread wildfires. The Azusa and Fontana stations had no previous exceedances of the 24-hour NAAQS on July 4 or 5 and none that could be attributed to fireworks.

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 areas that could have resulted in the exceedances, besides the firework displays. Activities that generate anthropogenic PM10 were approximately constant in the Basin immediately preceding, during and after the event. Industrial, trucking and construction activities were diminished on July 4 due to the holiday, especially at the time when the hourly PM10 started to increase. 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. No-Burn days were declared on both July 4 and July 5, 2007 for agricultural and wildland fire use in Burn Area 40, the South Coast Air Basin, by CARB and AQMD Meteorologists. There were reasonable and appropriate measures in place to control PM10 in the Basin, including AQMD Rules 403, 444, 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 PM10 on July 5 near Azusa and Fontana, the contribution of coarse particles (PM10-2.5) to PM10 is estimated using collocated FRM PM2.5 data at Ontario and Fontana. The PM-coarse represents only about 37% of the total PM10 mass collected at Ontario and 50% of the mass collected at Fontana. This indicates that the fugitive dust contribution was relatively low and that PM2.5 combustion products were a considerable factor in the high PM10 concentrations measured. Some coarse particles are also expected from explosion residue from fireworks. PM10 sulfates, nitrates and potassium were also high, providing strong evidence of the fireworks emissions. Based on the data provided in this report, AQMD concludes that there would not have been an exceedance of the PM10 NAAQS at either Azusa or Fontana on July 5, 2007 if the fireworks had not been present. The causal connection of the fireworks and PM10 at Azusa and Fontana indicate that but for the fireworks displays, these exceedances would not have occurred.

Reasonable Measures

AQMD issued daily air quality forecasts on July 3 and July 4, 2007, each valid for the following day. These warned the public of the potential for air quality in the Unhealthy category in the Basin and the forecast discussion for the forecast valid on July 5 specifically noted that *"…particulate matter concentrations will be elevated due to fireworks from the night before."* AQMD Meteorologists, in coordination with CARB Meteorology staff, issued No-Burn forecast decisions for agricultural and wildland fires in the South Coast Air Basin for both days, as well as for the portions of the Mojave Desert and Salton Sea Air Basin under AQMD jurisdiction. These forecasts were based on the predicted low wind speeds and stable weather pattern, with a strong shallow inversion and weak onshore pressure gradients. These forecasts warned the public and, as a result of these forecasts the strictest controls were in place on smoke producing activities in the Basin.

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 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).

AQMD encourages efforts to help minimize exposure of the public to emissions from fireworks displays, including the development and use of lower emitting fireworks. The Walt Disney Company has been a major developer of technology to use air pressure systems to launch fireworks, minimizing the combustion emissions of the standard propulsion systems. While such systems are not yet cost effective for fireworks that are not ongoing at a fixed location, they have contributed to significantly reduced emissions and related complaints near Disneyland in Anaheim due to the nightly fireworks displays in the summer. Since the entire South Coast Air Basin west of the mountains is highly populated, it is not currently reasonable or feasible to always locate fireworks displays downwind of highly populated areas. However, the state and local fire agencies that approve public fireworks displays consider prevailing winds and sensitive receptors in their approval process. The fire agencies and many cities, through local ordinances, also restrict the sale and locations allowed for the use of personal fireworks. AQMD supports educational programs that alert the public to health effects associated with exposure to emissions from fireworks displays. Local newspapers have issued articles

about emissions from fireworks, including quotes from AQMD staff, most notably one issued by the Los Angeles Times[2] on the Fourth of July, 2008.

Public Notification

The South Coast Air Quality Management District (AQMD) has prepared this documentation to demonstrate that this exceedance was due to Independence Day fireworks displays, 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	✓
Fireworks 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] Marla Cone, Los Angeles Times. July 4, 2008. Environment Feature. "Along with beauty, fireworks create a beastly mix of pollutants." http://www.latimes.com/news/local/la-me-fireworks4-2008jul04,0,245124,full.story

2.2 Detailed Event Analysis

PM Summary

On July 5, 2007, the federal reference method (FRM) size-selective inlet (SSI) samplers at the Azusa and Fontana air monitoring stations measured 24-hour PM10 mass concentrations of 165 and 155 $\mu g/m^3$, respectively. Table 2-1 shows the FRM SSI data from Azusa and Fontana for the samples taken between June 29 and July 11, 2007, before and after the July 5 exceedances. Table 2-1 also shows daily 24-hour average PM10 concentrations from the continuous, hourly TEOM and BAM instruments at Glendora and Upland, the locations closest to Azusa and Fontana, respectively, since there are no continuous PM10 monitors at Azusa or Fontana. In addition, Table 2-1 shows available PM10 data from Central Los Angeles, Ontario, San Bernardino and Riverside-Rubidoux to provide a broader perspective of measurement throughout the Basin. The FRM SSI PM10 filter samples are collected on a 1-in-6 day schedule, except at Riverside-Rubidoux where 1-in-3 day data is collected. The daily concentrations increased on July 4, but the 24-hour PM10 NAAQS was not exceeded since the fireworks only affected a few hours at the end of the day. The PM10 concentrations on July 5 at each location were between two and six times higher than most concentrations on the six days before and after, with Azusa, Fontana and Upland especially high. This indicates the impact of the July 4 fireworks displays resulting in the higher than typical PM10 concentrations on July 5, 2007.

The 24-hour average PM10 concentration on July 5 from the Glendora TEOM was elevated, at 135 $\mu g/m^3$, but lower than Azusa. The 24-hour PM10 from the TEOM at Upland was 230 $\mu g/m^3$, indicating that this area saw the greatest impact of the fireworks. Further south and a little west of Upland, the FRM SSI sampler at Ontario Fire Station measured a 24-hour concentration of 115 $\mu g/m^3$, lower than Upland due to the trapping of emissions from fireworks by the mountains and the capping temperature inversion at Upland. Further east of Fontana, the FRM SSI sampler at San Bernardino did not run on July 5; the San Bernardino TEOM measured a 24-hour average of 90 $\mu g/m^3$. PM10 in the coastal areas of Los Angeles and Orange Counties remained relatively low as the onshore flow brought clean ocean air and transported the particulate matter from fireworks inland.

TABLE 2-1

24-hour FRM SSI, TEOM and BAM PM10 Measurements from Azusa, Fontana and Surrounding Air Monitoring Stations Between June 29 and July 11, 2007

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

Monitoring Site		24-Hour PM10 (μg/m^3)												
		Date (2007)												
Location	Type	June 29	June 30	July 1	July 2	July 3	July 4	**July 5**	July 6	July 7	July 8	July 9	July 10	July 11
Central Los Angeles	SSI	38						36						N/A
Central Los Angeles	BAM	43	38	38	43	46	57	69	39	36	28	27	26	23
Azusa	SSI	53						**165**						25
Glendora	TEOM	40	40	38	41	46	59	135	44	35	22	27	23	22
Upland	TEOM	79	94	91	105	106	112	**230**	94	80	52	58	56	43
Ontario	SSI	N/A						115						24
Fontana	SSI	80						**155**						42
San Bernardino	SSI	67						N/A			45			39
San Bernardino	TEOM	51	48	45	55	58	65	90	56	42			35	30
Mira Loma	SSI	83						132						48
Riverside-Rubidoux	SSI	87			75			117			44			43
Riverside-Rubidoux	TEOM	64	66	57	71	73	78	104	66	56	42	48	45	36

Table 2-2 shows the hourly PM10 concentrations from the BAM at Central Los Angeles and the TEOMs at Glendora, Upland, San Bernardino, Mira Loma and Riverside-Rubidoux from 1200 PST on July 4 through July 5. Figure 2-1 shows this data graphically for both days. The hourly PM10 concentrations were relatively low through the early afternoon on July 4, although the Upland TEOM had elevated measurements throughout the afternoon. All stations show an increase in hourly PM10 concentrations at 2000 PST. Except for Riverside-Rubidoux, the concentrations at these stations increased further at 2100 PST. Most fireworks shows start just after dark. Sunset in the Basin occurred on July 4, 2007 at 1906 PST and civil twilight ended at 1935 PST, so fireworks emissions were mostly produced during the hours of 2000 and 2100 PST. Because of the altitude at which fireworks explode, emissions can remain aloft for several hours before reaching the monitors at the surface.

The PM10 hourly measurements reached their peak in the morning of July 5, measuring 332 μg/m^3 for the 0700 PST hour at Glendora and 470 μg/m^3 for the 0600 PST hour at Upland. High PM10 concentrations continued through the hour starting at 1100 PST on July 5 at Glendora, which is the closest hourly monitor to Azusa. Concentrations at Upland, located between Azusa and Fontana, remained above 150 μg/m^3 through the hour beginning at 1700 PST. The hourly PM10 concentrations at San Bernardino only exceeded 150 μg/m^3 for one hour at 2100 PST on July 5, and again for two hours starting at 1200 PST on July 5. The PM10 concentrations then gradually dropped to normal levels by the late afternoon. Relatively low concentrations were measured throughout the day on July 6.

TABLE 2-2

Hourly TEOM and BAM PM10 Measurements on July 4 and 5, 2007

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

DATE	HOUR (PST)	Hourly PM10 (μg/m^3)					
		Central Los Angeles	Glendora	Upland	San Bernardino	Mira Loma	Riverside-Rubidoux
7/4/07	0000	23	25	90	46	51	66
	0100	41	27	74	50	42	61
	0200	36	22	67	39	41	56
	0300	33	21	68	50	38	60
	0400	31	26	68	29	44	81
	0500	29	25	106	57	53	74
	0600	34	37	123	49	65	79
	0700	69	41	132	65	89	78
	0800	68	48	130	48	88	63
	0900	82	64	139	9	76	81
	1000	83	34	106	20	77	52
	1100	67	88	127	41	80	91
	1200	51	69	64	30	41	73
	1300	43	60	117	93	67	73
	1400	42	54	133	83	57	70
	1500	25	50	131	61	62	78
	1600	22	39	116	55	56	76
	1700	14	39	113	82	55	74
	1800	37	22	86	73	51	70
	1900	26	50	79	80	70	77
	2000	66	121	92	145	135	131
	2100	**151**	**168**	**158**	**160**	141	118
	2200	140	142	**187**	107	108	98
	2300	146	138	**192**	89	78	81
7/5/07	0000	145	**171**	139	93	66	90
	0100	**178**	**170**	147	93	83	83
	0200	**155**	**171**	146	80	95	77
	0300	109	**203**	**153**	82	105	77
	0400	76	**201**	**271**	86	134	99
	0500	55	**245**	**403**	79	**179**	91
	0600	31	**324**	**470**	141	**179**	117
	0700	51	**332**	**448**	140	**169**	150
	0800	120	**254**	**327**	118	**194**	**155**
	0900	139	**185**	**360**	110	**224**	139
	1000	148	**162**	**458**	73	**215**	**193**
	1100	125	**176**	**347**	84	**166**	**198**
	1200	58	122	**323**	**165**	115	**178**
	1300	47	87	**222**	**154**	112	132
	1400	44	79	**200**	80	96	99
	1500	59	67	**187**	70	70	76
	1600	37	57	**176**	66	55	61
	1700	23	52	**165**	63	88	72
	1800	4	41	142	88	72	108
	1900	2	24	112	85	59	65
	2000	3	31	82	48	77	66
	2100	13	29	77	55	47	57
	2200	22	30	83	58	39	61
	2300	17	28	77	45	43	55

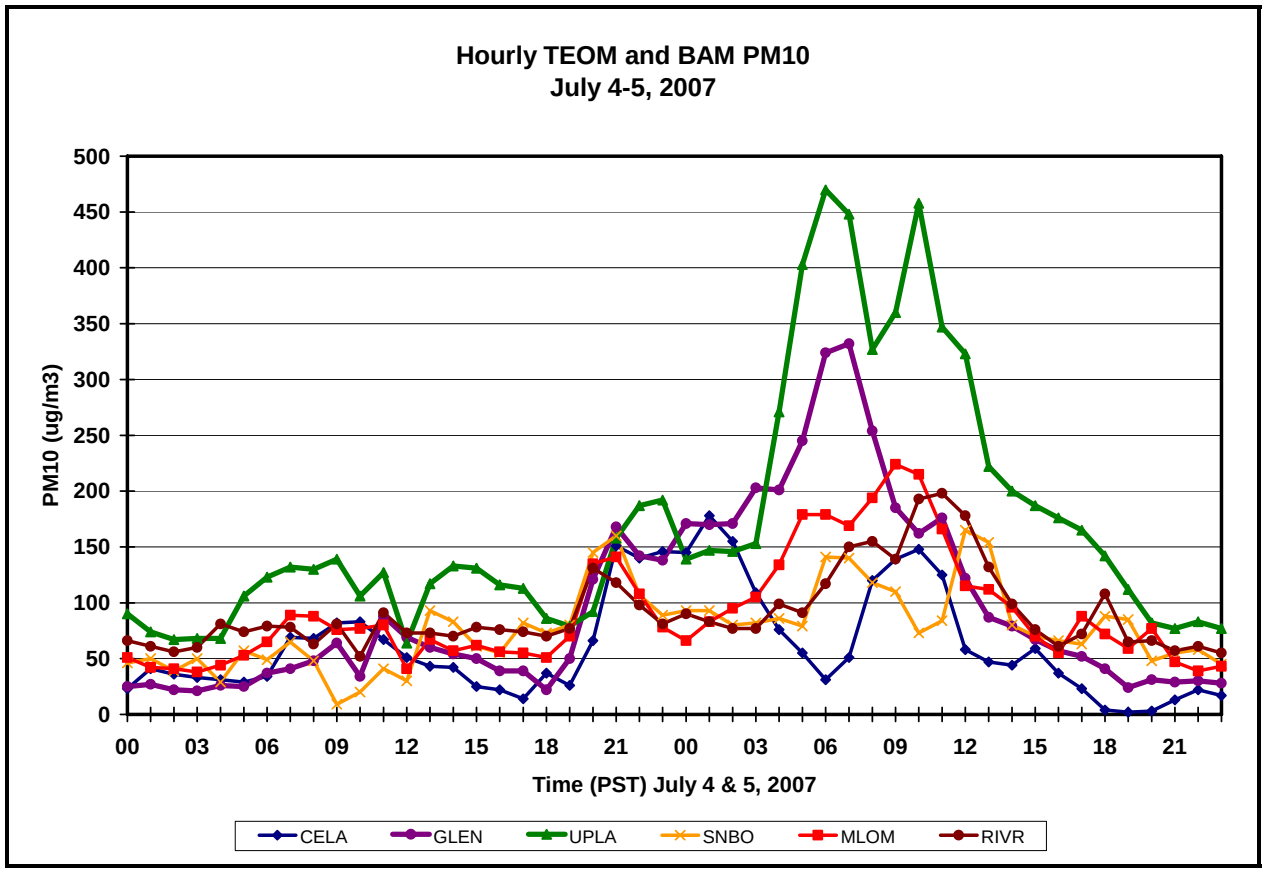


FIGURE 2-1

Time Series of Hourly BAM and TEOM PM10 (µg/m^3) on July 4 and 5, 2007

Table 2-3 shows 24-hour sulfate, nitrate and chloride species from the PM10 FRM SSI filters for the days surrounding July 5. Indicative of fireworks activity, the sulfate concentration increased significantly on July 5. The average sulfate concentration at Azusa for the year 2007, excluding July 5, was 3.4 µg/m^3 and sulfates accounted for an average of 9% of the PM10 mass. The sulfate concentration measured at Azusa on July 5, 34.2 µg/m^3, accounts for 21% of the PM10 mass on that day. Sulfates at Azusa on July 5 were at least than 6 times higher than the samples taken six days before or after and 4 times higher than the second highest value, 8.5 µg/m^3, measured at Azusa that year.

TABLE 2-3

24-hour Sulfate, Nitrate and Chloride from PM10 FRM SSI Measurements from Azusa, Fontana and Surrounding Air Monitoring Stations Between June 29 and July 11, 2007

Monitoring Site	24-Hour PM10 Sulfate (µg/m^3)

		Date (2007)												
Location	**Type**	June 29	June 30	July 1	July 2	July 3	July 4	**July 5**	July 6	July 7	July 8	July 9	July 10	July 11
Central Los Angeles	SSI	6.2						8.7						N/A
Azusa	SSI	5.6						34.2						3.8
Ontario	SSI	N/A						22.8						3.0
Fontana	SSI	5.2						22.2						3.6
San Bernardino	SSI	4.4						N/A			4.8			3.0
Mira Loma	SSI	5.9						19.6						3.5
Riverside-Rubidoux	SSI	4.7			5.0			13.7			4.7			3.3

Monitoring Site		**24-Hour PM10 Nitrate (μg/m^3)**												
		Date (2007)												
Location	**Type**	June 29	June 30	July 1	July 2	July 3	July 4	**July 5**	July 6	July 7	July 8	July 9	July 10	July 11
Central Los Angeles	SSI	4.1						2.0						N/A
Azusa	SSI	3.8						26.4						0.9
Ontario	SSI	N/A						19.6						1.1
Fontana	SSI	6.4						22.3						1.7
San Bernardino	SSI	7.4						N/A			3.5			1.9
Mira Loma	SSI	8.6						21.7						2.6
Riverside-Rubidoux	SSI	8.1			8.4			15.4			2.0			2.8

Monitoring Site		**24-Hour PM10 Chloride (μg/m^3)**												
		Date (2007)												
Location	**Type**	June 29	June 30	July 1	July 2	July 3	July 4	**July 5**	July 6	July 7	July 8	July 9	July 10	July 11
Central Los Angeles	SSI	0.02						0.31						N/A
Azusa	SSI	0.03						0.10						0.39
Ontario	SSI	N/A						0.05						0.0
Fontana	SSI	0.04						0.04						0.0
San Bernardino	SSI	0.19						N/A			0.0			0.0
Mira Loma	SSI	0.28						0.05						0.02
Riverside-Rubidoux	SSI	0.07			0.03			0.03			0.02			0.01

The average sulfate concentration at Fontana for the year 2007, excluding July 5, was 3.5 μg/m^3 and sulfates accounted for an average of 6.2% of the PM10 mass. The sulfate concentration measured at Fontana on July 5, 22.2 μg/m^3, accounts for 14.3% of the PM10 mass on that day. Sulfates at Fontana on July 5 were at least 4 times higher than the samples taken six days before or after and 2 times higher than the second highest value, 10.1 μg/m^3, measured at Fontana that year.

The average nitrate concentration at Azusa for the year 2007, excluding July 5, was 3.4 μg/m^3 and nitrates accounted for an average of 9% of the PM10 mass. The nitrate concentration measured at Azusa on July 5, 26.4 μg/m^3, accounts for 16% of the PM10 mass on that day. Nitrate at Azusa on July 5 was nearly 7 times higher than the samples taken six days before and after and approximately 1.5 times higher than the second highest value, 17.9 μg/m^3, measured at Azusa that year. Chloride at Azusa remained relatively low on July 5.

The average nitrate concentration at Fontana for the year 2007, excluding July 5, was 5.1 $\mu g/m^3$ and nitrates accounted for an average of 8.7% of the PM10 mass. The nitrate concentration measured at Fontana on July 5, 22.3 $\mu g/m^3$, accounts for 14.4% of the PM10 mass on that day. Nitrate at Fontana on July 5 was at least 3.5 times higher than the samples taken six days before and after and was the second highest nitrate concentration measured at Fontana that year (the highest was 24.6 $\mu g/m^3$). Chloride at Fontana remained relatively low on July 5.

The routine speciation analyses of the PM10 filter samples at both Azusa and Fontana show higher than normal concentrations of both sulfate and nitrate on July 5. Figure 2-2 shows the time series of PM10 sulfate and nitrate and Azusa and Fontana throughout 2007. Nitrate was high, but not exceptionally so, since nitrates can be otherwise high in the Basin. The PM10 sulfate mass loading at both sites was the highest recorded in several years. The sulfate concentration of the Total Suspended Particulates (TSP) mass on July 5, 2007, at Azusa was 37.0 $\mu g/m^3$, the highest recorded in the Basin since 1982. Both sulfate and nitrate are emitted from fireworks.

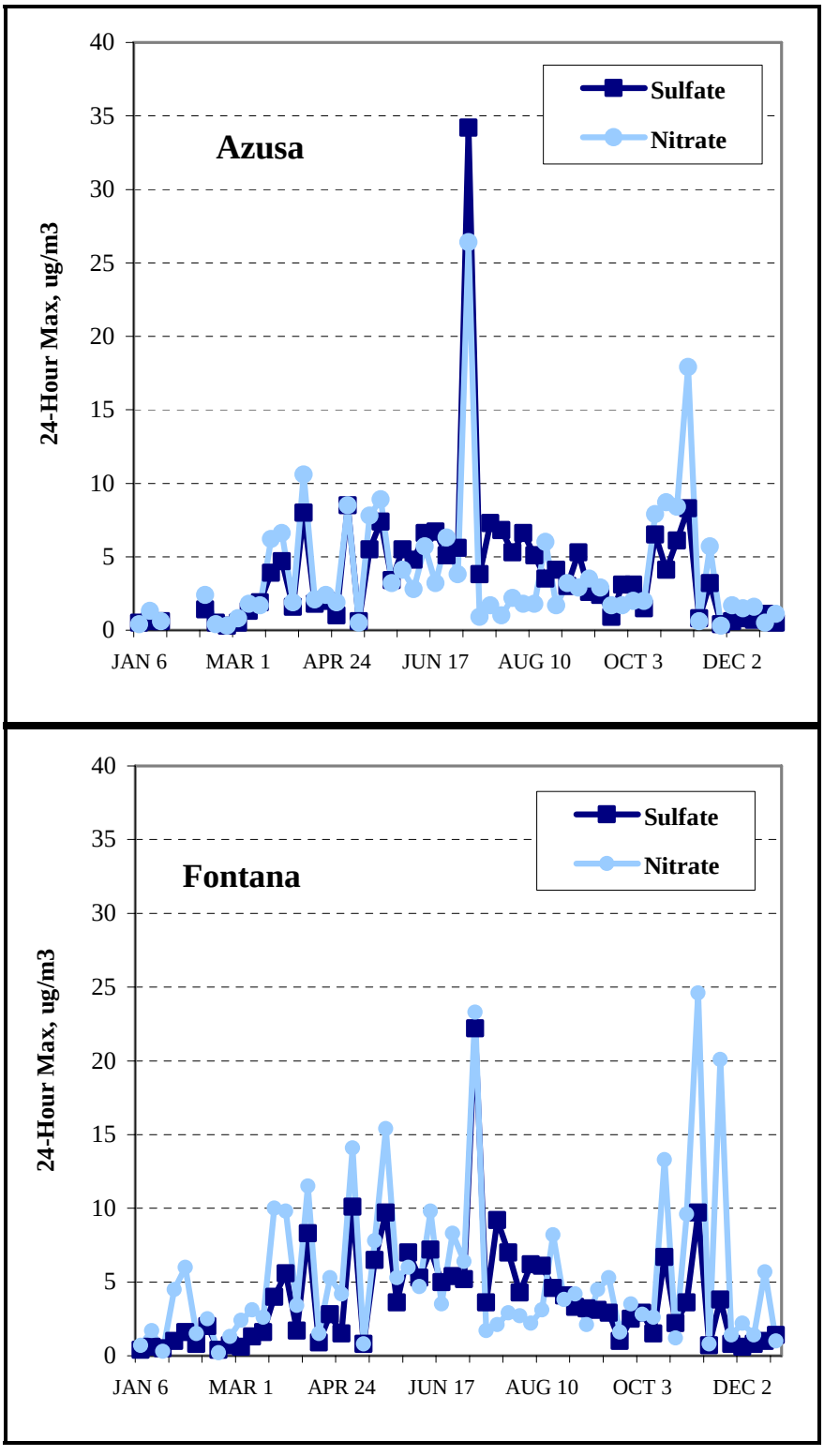


FIGURE 2-2

Time Series of 2007 Daily Maximum 24-Hour Sulfate and Nitrate from FRM SSI PM10 (µg/m^3) for the Azusa and Fontana Air Monitoring Stations

The soluble potassium concentration at Azusa on July 5, 2007, as analyzed from the PM10 filter, was 26.0 μg/m^3 (15.8% of PM10 mass), and Fontana recorded 11.1 μg/m^3. (7.2% of PM10 mass). Soluble potassium is used as a tracer of the combustion of biomass, especially of wood smoke. Potassium is also a significant component of fireworks and is emitted by the burning and explosions of fireworks. There were no reported wildfires or prescribed burns in the Basin on July 4 or 5, indicating that the potassium measured was caused by the fireworks. AQMD does not routinely perform the soluble potassium analysis on the PM10 filters. However, these values can be compared to the PM2.5 total potassium measured during the AQMD Multiple Air Toxics Study (MATES III), sampled every three days between April 3, 2004 and February 19, 2006 throughout the Basin. Potassium is mostly in the PM2.5 size range, so the difference between PM10 and PM2.5 potassium is small. Also, the soluble potassium would not be greater than the total potassium. During the MATES III period, the average potassium was 0.10 μg/m^3 and the 99th percentile value was 0.75 μg/m^3. Only six stations during MATES III measured potassium that exceeded 3.0 μg/m^3, all on July 5, 2005 due to fireworks. The three highest MATES III potassium values, 7.9 μg/m^3 at Pico Rivera, 14.9 μg/m^3 at Rubidoux and 21.5 μg/m^3 at Fontana, were comparable to the soluble potassium measured at Azusa and Fontana on July 5, 2007. This comparison indicates both that the potassium was in excess of the normal range in the Basin on July 5, 2007, and that the potassium is a good indicator of fireworks emissions.

Table 2-4 shows 24-hour PM2.5 concentrations from June 29 through July 11, 2007. PM2.5 is measured with FRM filter samplers at Central Los Angeles, Azusa, Ontario Fire Station, Fontana, San Bernardino and Riverside-Rubidoux. Continuous hourly concentrations are measured by non-FEM PM2.5 BAM instruments at Central Los Angeles, Glendora, Mira Loma and Riverside-Rubidoux. The PM2.5 concentrations were elevated on July 4 and quite high on July 5. At Central Los Angeles, the PM2.5 concentration on July 5 was 44.8 μg/m^3 from the FRM and 72.1 from the BAM. The 24-hour average PM2.5 concentration for the filter sample taken on July 4 at Azusa is 49.3 μg/m^3, which is the 98th percentile concentration for Azusa in 2007. PM2.5 concentrations were not available from Azusa or Glendora on July 5. In San Bernardino County, the FRM 24-hour PM2.5 concentrations measured 72.8, 77.5 and 48.2 μg/m^3 at Ontario, Fontana and San Bernardino, respectively. In Riverside County, the 24-hour BAM PM2.5 reached 89.5 μg/m^3 at Mira Loma and 71.9 μg/m^3 at Rubidoux, while the Rubidoux FRM PM2.5 measured 48.9 μg/m^3, for the day.

By comparison with the PM10 mass from the same station, the percentage of PM10 attributed to PM2.5 is high on July 4 and even higher on July 5, as is shown in Table 2-5. On July 4, the BAM instruments at Central Los Angeles measured 24-hour averages of 48.8 μg/m^3 for PM2.5 and 57 μg/m^3 for PM10, suggesting that PM2.5 was over 85% of PM10 averaged throughout the day. On July 5 the BAM PM2.5 reached 72.1 μg/m3,

exceeding the BAM PM10 concentration of 69 μg/m3. The FRM PM2.5 at Central Los Angeles was also higher than the FRM PM10. While the different instruments are clearly not calibrated together for this purpose, this analysis indicates that the Central Los Angeles PM10 was largely due to the PM2.5 fraction on July 5. The Azusa FRM PM2.5 did not run on July 5, so no fraction of PM10 could be calculated. On July 4, the Glendora collocated instruments indicate that the PM2.5, measured at 16.6 $\mu g/m^3$ was 28% of the 59 $\mu g/m^3$ TEOM PM10 concentration. However, the last three hour of PM2.5 data were missing on this day, which was the time of the fireworks displays. On July 5, the Glendora PM2.5 BAM measurements were missing for the first 13 hours of the day.

In San Bernardino County on July 5, the percentage of PM10 attributed to PM2.5 was 63% at Ontario and 50% at Fontana. In Riverside County, the Mira Loma BAM PM2.5 was nearly 68% of the TEOM PM10 and the Rubidoux FRM PM2.5 about 42% of the FRM PM10, while the Rubidoux BAM PM2.5 accounted for 69% of the TEOM PM10. The PM-Fine fraction was highest at downtown Los Angeles and mostly became lower with distance inland. While there is considerable variation across the Basin and issues with different instruments and the lack of cross calibrations between them, this analysis provides further evidence that the PM10 measured was not crustal material, such as windblown dust, and resulted largely from combustion sources, including fireworks.

Table 2-6 shows the hourly BAM PM2.5 concentrations in the Basin. The hourly PM2.5 increased at all stations around 2000 or 2100 PST on July 4 as the fireworks display emissions reached the monitors. Anaheim reached 218 $\mu g/m^3$ and Central Los Angeles reached 166 $\mu g/m^3$ by the end of the day. In Riverside County, Mira Loma and Riverside-Rubidoux reached 145 and 88 $\mu g/m^3$, respectively, on July 4. PM2.5 stayed relatively high through the morning of July 5 and, at some stations, well into the afternoon. Most stations exhibited secondary peaks superimposed on the fireworks emission due to the morning traffic. The hourly BAM PM2.5 measurements support the timing seen in the hourly PM10 data of the emissions due to fireworks. Furthermore, the high hourly values, along with the 24-hour concentrations of sulfate, nitrate and potassium from fireworks support the conclusion that these NAAQS PM10 violations were caused by the fireworks.

The black powder, or gunpowder, used in fireworks has an extremely high carbon content, creating fine particles when ignited, as was seen in the PM10 and PM2.5 data on July 5. The unusually high sulfate and potassium concentrations measured on July 5, and the high nitrate concentrations all indicate that the PM10 NAAQS exceedances at Azusa and Fontana occurred as a result of the July 4th fireworks display emissions. Potassium chlorate and potassium perchlorate are components of propellants and fireworks, where they act as an oxidizer. Potassium nitrate (saltpeter) is present in the gunpowder of fireworks, where it acts as an oxidizer. Sulfur is a component of the

gunpowder used in fireworks, where it acts as a reducer to burn the oxygen produced by the oxidizers.

TABLE 2-4

24-hour FRM and BAM PM2.5 Measurements Surrounding the Azusa and Fontana Air Monitoring Stations Between June 29 and July 11, 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**	June 29	June 30	July 1	July 2	July 3	July 4	**July 5**	July 6	July 7	July 8	July 9	July 10	July 11
Central Los Angeles	FRM	16.6	17.8	15.1	17.2	17.8	**39.0**	**44.8**	21.9	22.1	14.4	12.6	12.0	5.2
Central Los Angeles	BAM	28.1	28.2	23.9	26.5	27.4	**48.8**	**72.1**	**35.8**	**39.0**	26.2	22.7	20.6	14.9
Azusa	FRM	17.9	16.9	16.9	18.3	18.7	**43.6**	N/A	21.8	21.3	12.9			8.8
Glendora	BAM	9.8	11.7	12.3	12.2	11.1	16.6*	N/A*****	23.5	23.8	14.3	11.8	11.4	6.0
Ontario	FRM	16.8			19.3			**72.8**			12.1			9.5
Fontana	FRM	N/A						**77.5**						10.3
San Bernardino	FRM	15.9			20.3			**48.2**			13.4			10.1
Mira Loma	BAM	**41.2**	**45.4**	**41.3**	**40.8**	**37.6**	**50.8**	**89.5**	**45.3**	**51.8**	**36.9**	**38.3**	31.2	31.5
Riverside-Rubidoux	FRM	16.5	18.7	18.0	18.9	16.5	25.3	**48.9**	22.7	24.6	17.5	19.4	17.2	13.3
Riverside-Rubidoux	BAM	30.3	**36.4**	**35.5**	32.3	28.0	**40.5**	**71.9**	**40.7**	**43.0**	30.8	33.1	27.2	24.7

***** PM2.5 data from Glendora incomplete: 3 hours missing on July 4 and 13 hours missing on July 5

TABLE 2-5

Percentage of 24-Hour PM10 Attributed to PM2.5 from Collocated Measurements between June 29 and July 11, 2007

Monitoring Site		24-Hour PM2.5/PM10 (%)												
		Date (2007)												
Location	**Type**	June 29	June 30	July 1	July 2	July 3	July 4	**July 5**	July 6	July 7	July 8	July 9	July 10	July 11
Central Los Angeles	FRM	43.7						124.4$^+$						N/A
Central Los Angeles	BAM	65.3	74.2	62.9	61.6	59.6	85.6	104.5$^+$	91.8	108.3	93.6	84.1	79.2	64.8
Azusa	FRM	33.8						N/A						35.2
Glendora	TEOM/BAM	24.5	29.3	32.4	29.8	24.1	28.1*	N/A*	53.4	68.0	65.0	43.7	49.6	27.3
Ontario	FRM	N/A						63.3						39.6
Fontana	FRM	N/A						50.0						24.5
San Bernardino	FRM	23.7									29.8			25.9
Mira Loma	BAM/TEOM	49.6						67.8						65.7
Riverside-Rubidoux	FRM	19.0						41.8						30.9
Riverside-Rubidoux	BAM/TEOM	47.3	55.2	62.3	45.5	38.4	51.9	69.1	61.7	76.8	73.3	69.0	60.4	68.6

***** PM2.5 data from Glendora incomplete: 3 hours missing on July 4 and 13 hours missing on July 5

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

TABLE 2-6

Hourly BAM PM2.5 Measurements in the South Coast Air Basin on July 4 and 5, 2007

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

DATE	HOUR (PST)	Hourly PM2.5 (μg/m^3)				
		Burbank	Los Angeles	Anaheim	Rubidoux	Mira Loma
7/4/07	0000	23	26	19	33	27
	0100	22	22	23	**37**	27
	0200	20	17	20	29	**37**
	0300	18	20	21	25	**36**
	0400	22	20	27	27	33
	0500	16	14	17	29	33
	0600	17	20	21	29	**43**
	0700	31	24	23	37	**44**
	0800	26	26	35	**40**	**49**
	0900	30	**36**	35	**36**	**53**
	1000	31	**39**	**37**	**40**	**54**
	1100	32	**55**	35	35	**63**
	1200	**36**	**43**	28	**42**	**50**
	1300	**42**	**45**	26	34	**41**
	1400	**42**	**41**	31	27	**41**
	1500	**36**	**39**	34	26	**38**
	1600	**35**	34	**37**	**38**	**43**
	1700	30	32	**39**	**39**	**47**
	1800	32	33	**44**	**38**	**51**
	1900	32	48	**43**	**43**	**51**
	2000	**38**	**67**	**42**	**49**	**71**
	2100	**50**	**145**	**175**	**88**	**145**
	2200	**87**	**159**	**218**	**80**	**79**
	2300	**112**	**166**	**104**	**70**	**62**
7/5/07	0000	**126**	**169**	**47**	**55**	**68**
	0100	**133**	**141**	**37**	**73**	**63**
	0200	**107**	**168**	**36**	**66**	**62**
	0300	**105**	**129**	**41**	**61**	**69**
	0400	**111**	**88**	**46**	**64**	**84**
	0500	**111**	**74**	**56**	**75**	**88**
	0600	**101**	**43**	**75**	**72**	**149**
	0700	**105**	**54**	**107**	**81**	**163**
	0800	**92**	**74**	**127**	**119**	**154**
	0900	**81**	**106**	**123**	**127**	**151**
	1000	**90**	**121**	**112**	**121**	**169**
	1100	**95**	**107**	**84**	**146**	**171**
	1200	**63**	**60**	**53**	**124**	**119**
	1300	**49**	**44**	35	**92**	**87**
	1400	**51**	**38**	28	**61**	**77**
	1500	**42**	**50**	27	**72**	**90**
	1600	**46**	**43**	28	**47**	**51**
	1700	**40**	32	28	**46**	**42**
	1800	35	31	28	**51**	**68**
	1900	23	27	29	**60**	**57**
	2000	27	32	26	21	**44**
	2100	19	29	27	34	**40**
	2200	25	34	30	24	**41**
	2300	27	**37**	21	34	**42**

A survey of the available AQMD complaint records and inspection reports indicated no evidence of unusual particulate emissions on July 4 or 5, 2007 sufficient to cause the measured concentrations, other than the fireworks displays. Table 2-7 lists the complaints registered throughout the Basin on July 4 and 5 related to PM10. These were relatively small sources and no significant compliance actions were initiated.

TABLE 2-7

Summary of PM-related complaints in the South Coast Air Basin on July 4 and 5, 2007

Complaint Date/Time	Location	Complaint Description	Disposition
7/4 1226 PST	Redondo Beach	Smoke plume near King Harbor	No Action. Source not identified.
7/4 1738 PST	Montebello	Smoke from neighbor's barbeque	No Action. Event was past.
7/5 0706 PST	Winchester	Dust from grading	Operating in compliance. Some fugitive dust observed by inspector from scraper but did not travel far. Water truck operating. Operator agreed to apply extra water.
7/5 0745 PST	Riverside	Dust from construction site on street	No Action.
7/5 0801 PST	Irwindale	Dust from construction site	Site not operating. No activity was observed by inspector and no fugitive dust was observed. Water truck was present. Wind fencing was in place around perimeter. No violations observed.
7/5 0949 PST	Hemet	Dust from construction site	Site not operating. Inspector found no construction activities being conducted and the disturbed soil appeared stabilized.
7/5 1105 PST	San Pedro	Dust due to home renovation	Operating in compliance. No dust observed crossing property line. Contractor agreed to water debris to minimize dust.
7/5 1019 PST	Irwindale	Dust track out from mining operation	Operating in compliance. Inspector did not observe any trackout. Rumble gates in place at end of paved road from facility, not wheel washer required. Water truck in operation.
7/5 1208 PST	Moreno Valley	Dust from concrete batch plant	Operating in Compliance. Inspector did not observe fugitive dust coming from mixing and loading area. Some trackout observed and some dust from crushing equipment that did not travel far. Operator agreed to add an additional water sprayer.
7/5 1415 PST	Moreno Valley	Fugitive dust from construction project	No construction activity observed by inspector. Soil was stabilized and rumble gates and gravel were installed at exit, but excessive trackout observed on roadway. Later follow-up showed site operating in compliance.
7/5 1515 PST	Idyllwild	Dust and diesel exhaust from heavy equipment at house construction site	Inspector did not observe fugitive dust. Operator was watering
7/5 1601 PST	Yorba Linda	Smoke from idling train engine	Facility was operating in compliance upon inspector's arrival. No violation issued.
7/5 1707 PST	Anaheim	Dust from construction site	Construction activities had not started at the time of complaint. Upon inspection, site was operating in compliance.

Meteorological Setting

A ridge of high pressure aloft dominated the weather pattern over the western United States on July 4 and 5, 2007. Figure 2-3 shows the height analysis chart of the 500 millibar (MB) pressure level at 1600 PST, on Wednesday July 4. This shows the upper level ridge of high pressure over the western states, centered over southern Nevada with heights to 5980 meters (m). The winds aloft at 500 MB over southern California at this time were southerly at 17 miles per hour (mph) or less. The heights over southern California were 5960 m. Such ridging aloft was conducive to a shallow marine layer under a strong, elevated temperature inversion, with warm temperatures inland, stagnation of air flows and the formation of ozone and trapping of particulates in the South Coast Air Basin. One-hour ozone concentrations at the peak station in the Basin, Crestline, reached 171 parts-per-billion (ppb) on July 4 and 138 ppb in July 5.

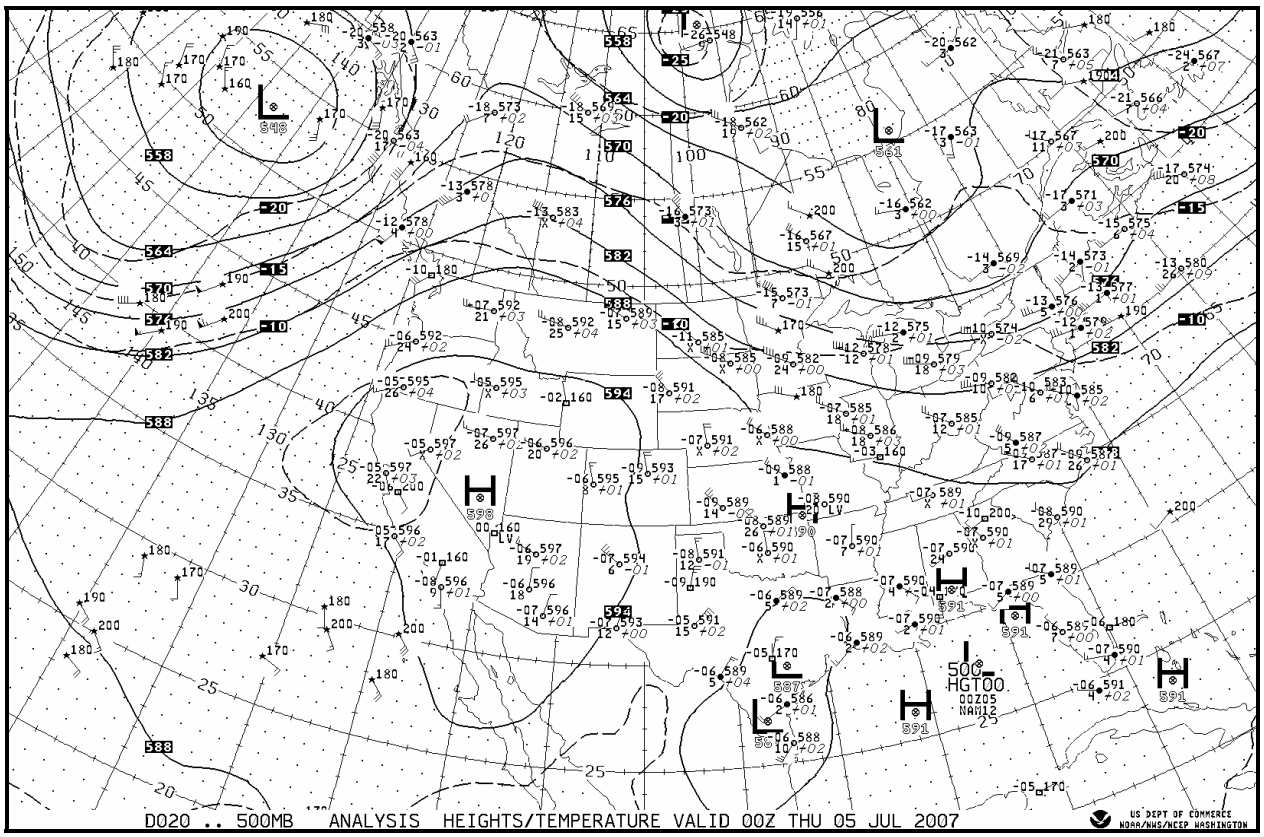


FIGURE 2-3

National Weather Service Height Analysis (solid contours in tens of meters) of the 500 Millibar Pressure Surface for 1600 PST Wednesday, July 4, 2007

Figure 2-4 shows the NWS surface analysis at 1600 PST July 4. A thermal trough of low pressure extends the length of California, over the inland deserts and through the Central Valley. Caused by inland heating, especially in the deserts, the low pressure causes onshore wind flows. Off the coast of southern California and over the Basin, the winds are northwesterly at 12 mph or less. The afternoon temperatures range from 68 degrees F at the southern California coast to over 100 degrees in the inland valleys, to 115 in the lower deserts. The visible satellite image (Figure 2-5) from near this time shows mostly clear skies over the Basin, except for low clouds that lingered near the Santa Monica Bay and into the coastal valleys. Coastal low clouds were also present north of Point Conception and south of the Mexican border.

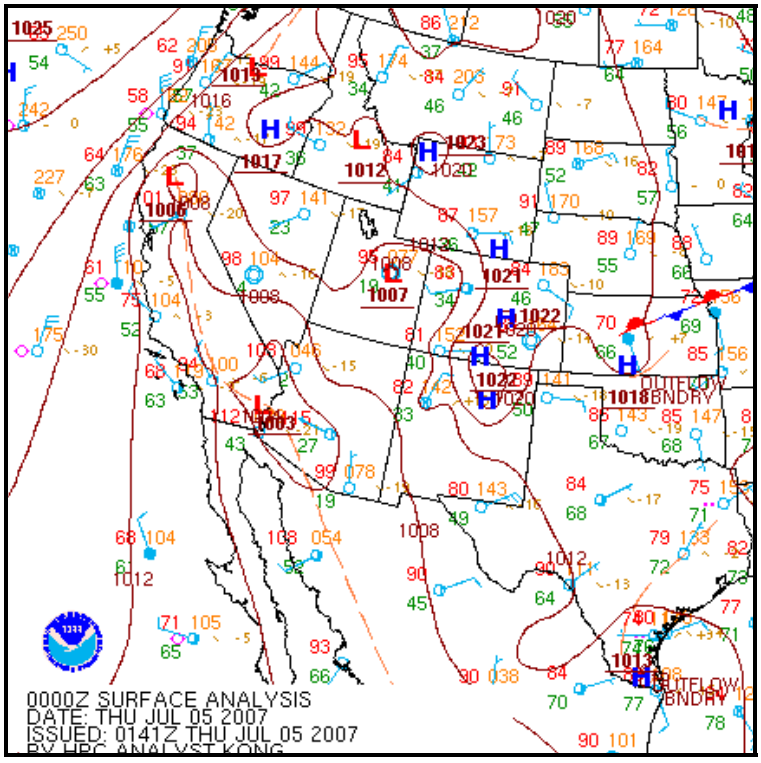


FIGURE 2-4

National Weather Service Sea-Level Pressure Analysis (contours every 4 millibars) for 1600 PST Wednesday, July 4, 2007

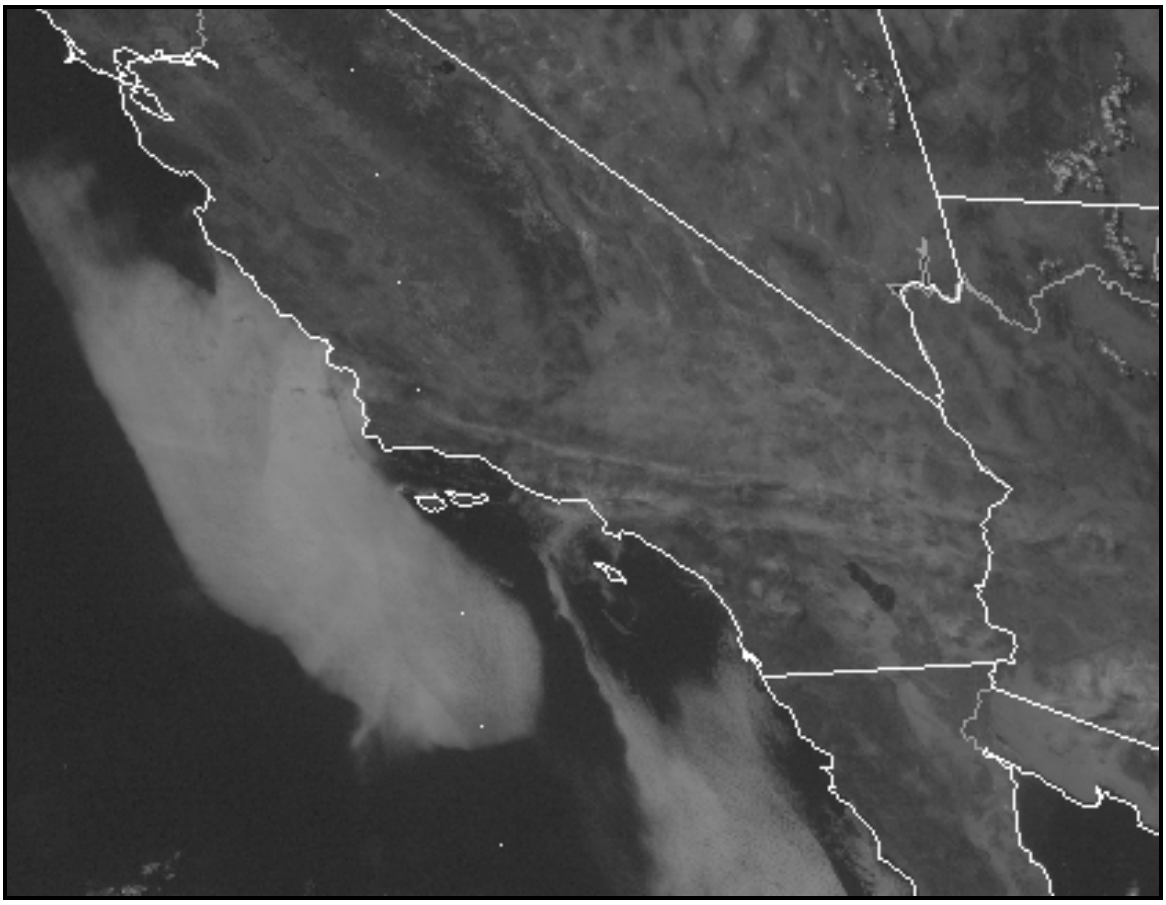


FIGURE 2-5

Visible Satellite Image at 1531 PST Wednesday, July 4, 2007

In their forecast discussion issued at 1305 PST on Wednesday, July 4, the National Weather Service (NWS) Los Angeles/Oxnard Forecast Office noted that the coastal stratus was not burning off at the immediate coast with a weak coastal eddy offshore. There were reports of dense fog at the immediate coast and offshore with a shallow marine layer less than 800 feet deep above mean sea level (MSL) at the coast. Temperatures were hot inland in response to the ridging aloft while the coastal zones remained relatively cool with low clouds and fog. Record heat was recorded on July 4 in northern Los Angeles County at Lancaster (111 degrees F), Palmdale (110 degrees F) and Sandberg (102 degrees F) and several other areas exceeded 100 degrees F. The NWS also predicted near-record heat in the mountains and deserts for July 5, with temperatures increasing slightly from July 4. Heat warnings were in effect for the warmer inland valleys and southern deserts through the afternoon of July 5.

Areas of local dense fog overnight were predicted, especially where the low clouds intersect the higher coastal terrain and western valleys under the lowering temperature

inversion. The fog and low clouds penetrated into the coastal plain of the Basin in the evening July 4 with onshore pressure gradients. According to the NWS Los Angeles forecast discussion at 2030 PST, aircraft soundings measured the marine layer depth at around 1200 feet MSL at this time, with several hundred feet of additional deepening predicted overnight to bring low clouds and fog into the inland valleys. In their 2030 PST forecast discussion, NWS San Diego noted that the dewpoint temperatures were increasing in the Inland Empire (Riverside and San Bernardino metropolitan areas) and predicted that those areas could have patchy fog towards morning.

At 0248 PST on July 5 the NWS Los Angeles forecast discussion reported the marine layer to be between 800 and 1000 feet MSL deep from pilot reports over coastal Los Angeles, with clearing predicted to be slow in the coastal areas on that day. The 0400 PST NWS radiosonde at San Diego, the closest balloon sounding to the Basin, measured the inversion base at 1040 feet MSL. This was a very strong inversion with a temperature difference from base to top of over 15 degrees C.

At 0400 PST on July 5, the high pressure aloft had weakened very slightly, with 500 MB heights of 5970 m over southern Nevada and 5950 m over the Basin (Figure 2-6). The southerly flow continued aloft over southern California. The surface pattern at this time (Figure 2-7) changed very little, except that the flow in the Basin had become stagnant, with most stations reporting calm winds. The coastal stations were overcast at this time as the coastal stratus had filled in offshore and moved into the valleys overnight. This was evident in the satellite image after sunrise on July 5 at (Figure 2-8).

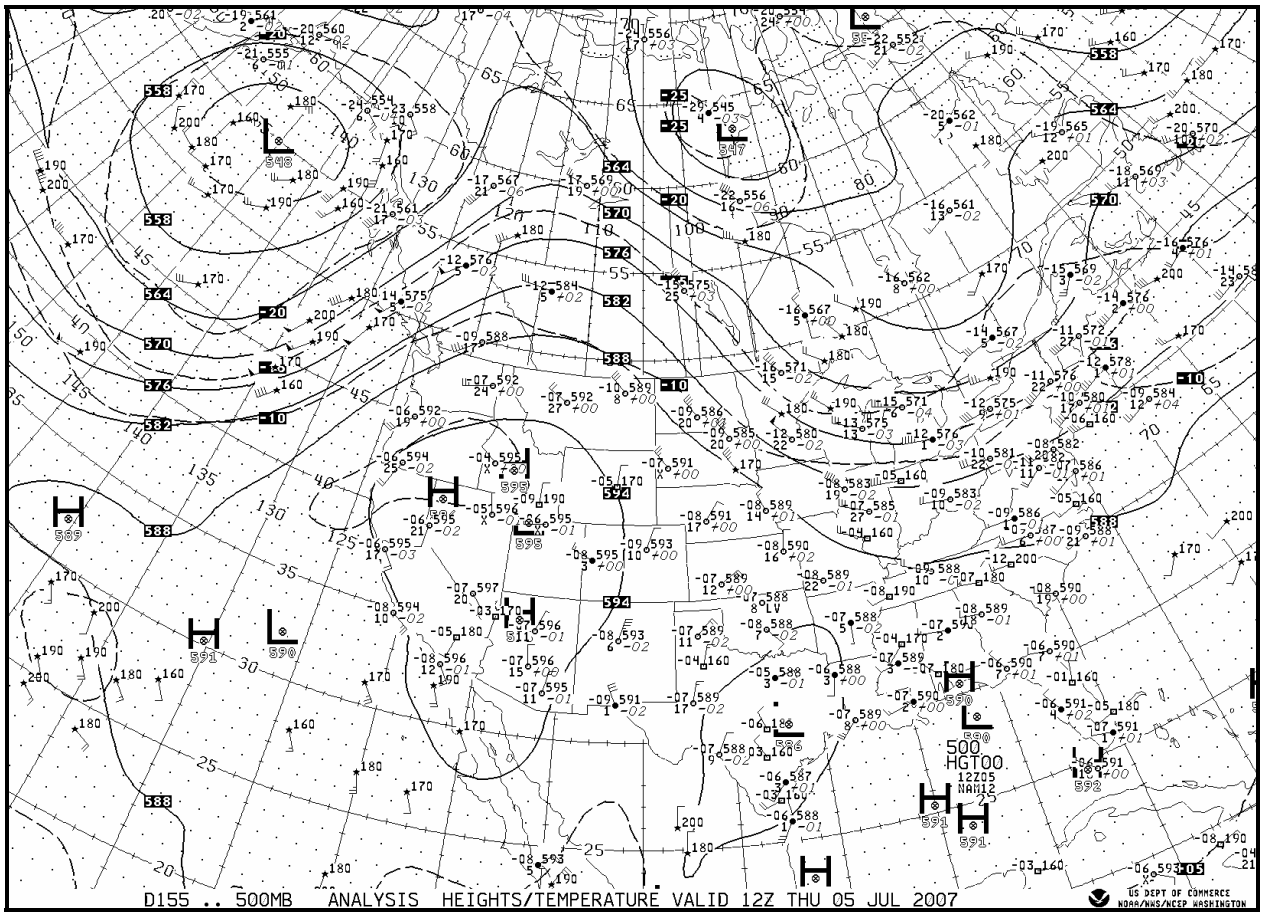


FIGURE 2-6

National Weather Service Height Analysis (solid contours in tens of meters) of the 500 Millibar Pressure Surface for 0400 PST Thursday, July 5, 2007

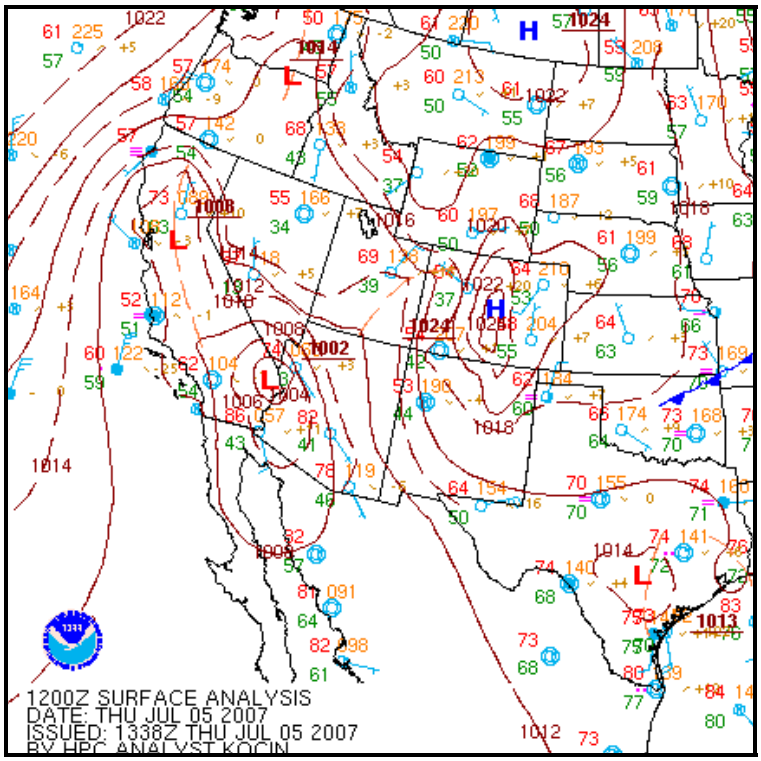


FIGURE 2-7

National Weather Service Sea-Level Pressure Analysis (contours every 4 millibars) for 0400 PST Thursday, July 5, 2007

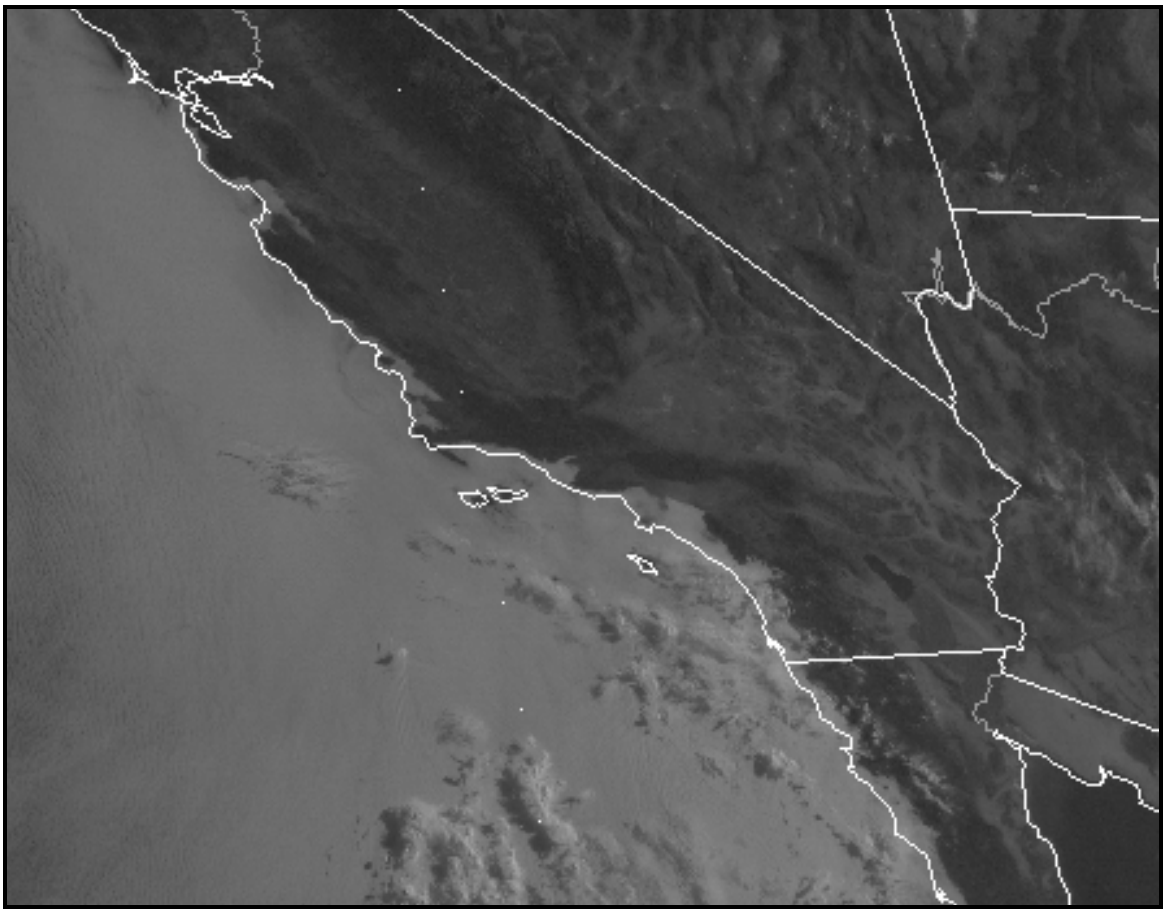


FIGURE 2-8

Visible Satellite Image at 0700 PST Thursday, July 5, 2007

The NWS Los Angeles forecast discussion issued at 0918 PST on July 5 noted that some Los Angeles county temperatures remained in the 80s overnight and that Antelope Valley temperatures were predicted to reach 117 degrees that afternoon. A very strong temperature inversion was in place at this time over coastal Los Angeles County, based at approximately 1000 feet MSL with slow clearing predicted in the afternoon. The NWS San Diego forecast discussion issued at 0915 PST noted some convection starting over the mountains as the southeasterly flow aloft brought in moisture at higher altitudes. The marine layer depth was approximately 1400 feet MSL in San Diego at this time with thick stratus clouds offshore. The stratus cloud bases were reported between 700 and 1000 feet MSL with the tops at 1400 feet.

Figure 2-9 shows the time series of the height of the temperature inversion base above ground level (AGL) between 1200 PST July 4 through 1200 PST July 5 from the radio acoustic sounding system (RASS) temperature profiler at the AQMD Ontario International Airport upper air meteorological station. The inversion base on July 4 had

risen to over 1600 feet AGL with the heating of the day in mid-afternoon. By 2000 PST, near the time of the fireworks displays, the inversion base had dropped to 1040 feet AGL. Since most fireworks explode at altitudes below 1000 feet, the emissions would have remained primarily in the mixed layer below the inversion. The inversion base in the vicinity of the Azusa and Fontana air monitoring stations was becoming shallower at the time of the fireworks displays and remained below 630 feet AGL through the night, with several hours at 425 feet AGL or less. The lowest range gate of the RASS instrument is approximately 425 feet AGL, so the inversion base may have been lower. The Ontario inversion base started lifting at 0900 PST, as the daytime heating started. The relatively shallow, strong temperature inversion that was present through the period of high PM10 from fireworks indicates that stability and restricted vertical mixing played an important role in the this particulate event.

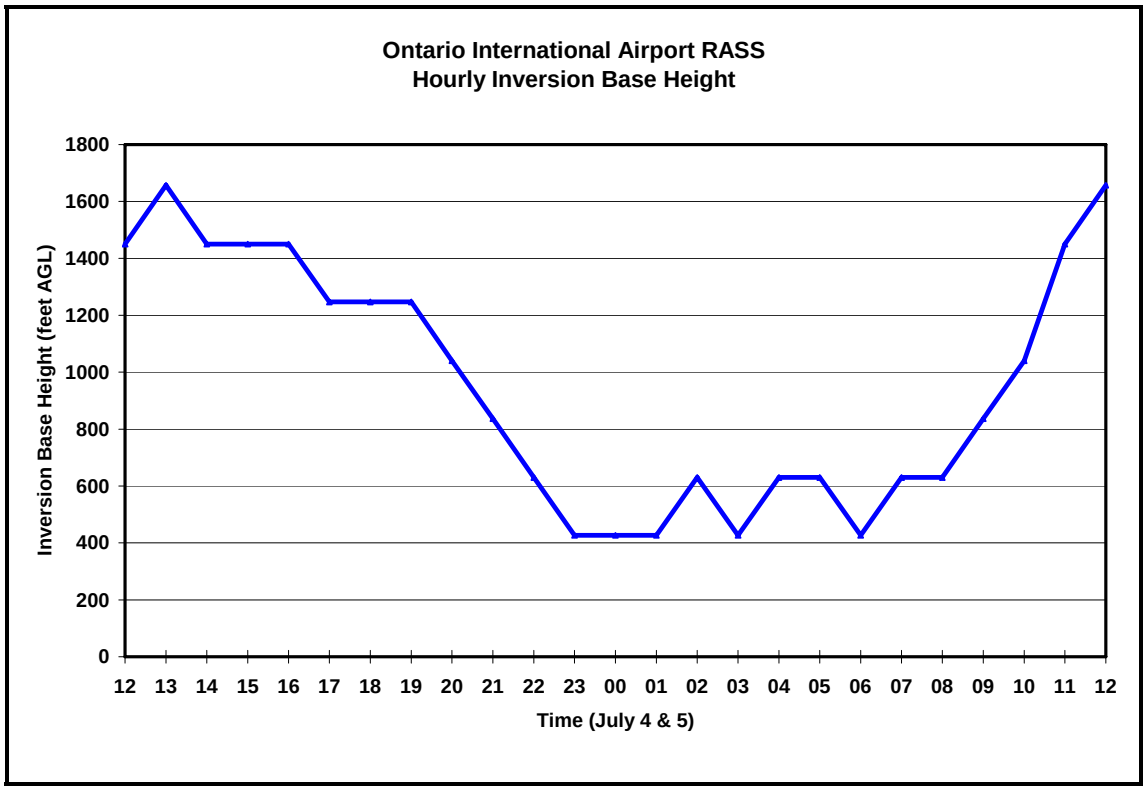


FIGURE 2-9

Time Series of the Inversion Base Height (feet AGL; Station Elevation 919 feet MSL) from the AQMD Ontario Radio Acoustic Sounding System from 1200 PST July 4 through 1200 PST July 5, 2007

Table 2-8 shows wind directions and speeds at AQMD Los Angeles County air monitoring stations at Central Los Angeles, Azusa and Glendora from 1200 PST on July 4 through July 5. Table 2-9 shows the winds at the AQMD Upland, Fontana and San Bernardino stations in San Bernardino County. The wind directions were predominantly from the west or southwest at these stations through the afternoon and evening of July 4, consistent with the onshore pressure gradients. The wind speeds peaked in the afternoon with the sea breeze and diminished into the night. The winds at Central Los Angeles and Azusa remained weakly onshore (westerly and northwesterly) through the early morning, bringing cleaner ocean air to the coastal stations and downtown Los Angeles and transporting the fireworks emissions from those areas into the inland valleys.

The wind directions were more variable early in the morning on July 5 as weak downslope drainage flows interacted with the weak onshore pressure gradient. This is especially evident in the weak northerly winds that developed in the early morning hours at Upland. The early morning winds at San Bernardino were calm. The winds at Glendora and Upland became southerly for a brief period around 0800 PST in the morning of July 5, indicating some recirculation of the flow in the area. The stagnant morning flow, along with some weak recirculation explains the high PM10 measured in these areas in the morning. The wind speeds remained weak until after sunrise when the onshore sea breeze flows started to increase again. The afternoon hourly wind speeds at Azusa, Upland and Fontana did not exceed 10 mph in the afternoon of July 5. The TEOM PM10 concentrations at Glendora dropped quickly as the sea breeze reached its peak, an hourly average of 8 mph, at this location at 1200 PST. The Upland TEOM PM10 took a few additional hours to drop below 150 $\mu g/m^3$ after the sea breeze peaked at 8 mph after 1200 PST.

TABLE 2-8

Hourly Averaged Wind Directions (degrees) and Wind Speeds (mph) and Maximum 1-Minute Average Speed for each Hour (mph) for AQMD Air Quality Monitoring Stations at Downtown Los Angeles, Azusa and Glendora on July 4 and 5, 2007

		Central Los Angeles Monitoring Station (CELA)			Azusa Monitoring Station (AZUS)			Glendora Monitoring Station (GLEN)		
DATE	**HOUR (PST)**	**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)**
7/4/07	1200	251	7	11	244	7	11	216	7	10
	1300	234	7	11	251	9	13	234	7	11
	1400	266	8	10	252	7	11	214	7	11
	1500	268	8	11	234	7	12	218	7	9
	1600	266	7	10	241	7	11	229	7	11
	1700	268	6	8	239	7	10	231	6	8
	1800	251	6	8	264	6	7	212	3	6
	1900	263	6	7	236	5	7	225	2	4
	2000	252	5	7	252	4	6	311	2	3
	2100	272	2	4	250	4	6	347	1	2
	2200	234	3	4	246	3	4	344	1	2
	2300	277	2	4	236	5	6	353	1	2
4/5/07	0000	312	1	2	235	2	4	66	1	2
	0100	254	2	2	257	3	4	336	1	2
	0200	259	1	2	281	2	3	2	1	2
	0300	319	2	3	266	2	3	25	1	2
	0400	303	2	4	259	2	4	33	1	2
	0500	277	4	5	255	2	3	311	1	2
	0600	271	3	5	246	2	4	249	2	4
	0700	206	4	6	254	2	5	233	2	4
	0800	192	5	8	210	3	5	181	3	5
	0900	212	4	7	271	4	6	239	4	7
	1000	207	5	9	267	6	10	226	5	8
	1100	238	7	13	262	7	12	214	6	12
	1200	219	6	9	239	9	14	221	8	14
	1300	252	6	10	236	6	10	279	5	8
	1400	249	6	10	231	7	11	233	7	10
	1500	260	7	10	261	5	10	223	5	9
	1600	265	8	11	210	5	9	249	5	8
	1700	260	8	11	218	6	9	242	5	8
	1800	263	8	11	266	7	11	219	4	8
	1900	256	6	10	240	6	9	220	3	7
	2000	281	2	3	234	3	5	229	2	5
	2100	191	4	7	270	3	6	251	1	3
	2200	262	3	5	239	5	7	260	2	4
	2300	244	3	6	257	4	8	330	2	4
4/6/07	0000	164	3	5	260	5	7	267	2	5

TABLE 2-9

Hourly Averaged Wind Directions (degrees) and Wind Speeds (mph) and Maximum 1-Minute Average Speed for each Hour (mph) for AQMD Air Quality Monitoring Stations at Upland, Fontana and San Bernardino on July 4 and 5, 2007

		Upland Monitoring Station (UPLA)			Fontana Monitoring Station (FONT)			San Bernardino Monitoring Station (SNBO)		
DATE	**HOUR (PST)**	**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)**
7/4/07	1200	270	7	10	247	8	11	216	5	8
	1300	259	7	10	264	8	11	212	6	10
	1400	249	7	11	239	9	12	229	8	11
	1500	269	7	10	244	9	12	230	9	12
	1600	242	7	10	258	8	11	232	7	10
	1700	272	6	9	221	7	10	220	7	10
	1800	244	4	8	231	6	9	221	6	10
	1900	274	3	5	225	5	7	200	5	7
	2000	275	3	4	222	3	5	201	4	6
	2100	280	2	4	237	3	5	197	3	5
	2200	290	2	4	239	3	5	204	2	5
	2300	4	2	3	232	3	4	198	2	3
4/5/07	0000	63	1	3	115	3	4	174	0	1
	0100	355	2	4	270	3	5			
	0200	353	2	3	29	3	5	166	0	1
	0300	7	2	3	295	2	3	173	0	0
	0400	358	2	3	344	2	4	316	0	2
	0500	2	1	2	113	2	4	58	0	2
	0600	307	2	4	304	2	4	25	1	3
	0700	165	2	3	228	3	5	145	1	4
	0800	212	3	6	251	3	5	254	2	6
	0900	172	4	7	212	5	6	223	3	6
	1000	245	6	8	214	6	9	215	3	6
	1100	259	7	10	239	9	12	251	6	10
	1200	255	8	12	252	10	14	238	9	12
	1300	248	8	12	244	10	14	213	11	15
	1400	266	7	9	236	8	12	231	8	12
	1500	242	7	10	235	8	12	216	7	11
	1600	282	5	8	242	6	9	199	6	11
	1700	256	5	7	231	7	9	219	6	8
	1800	277	4	7	246	7	9	196	6	9
	1900	256	5	7	244	7	9	225	6	10
	2000	265	4	7	246	7	10	196	5	8
	2100	261	2	3	218	2	4	195	4	7
	2200	12	2	4	148	2	4	214	1	5
	2300	302	2	4	235	3	6	206	2	5
4/6/07	0000	179	2	3	112	3	6	197	2	5

Table 2-10 shows the surface weather observations from the NWS/FAA station at Ontario International Airport. This station is located in between the Azusa and Fontana air monitoring stations, and a little further south of the mountains. Surface winds at Ontario were relatively calm in the late evening of July 4 and the early morning of July 5, after the onshore flow diminished. Reduced visibilities, below 5 miles, were reported throughout this period, with haze observed, starting with the observation at 2053 PST on July 4 just after the fireworks displays started. The winds became southerly for three observations between 0553 and 0753 PST, then became variable before the sea breeze flow started at 0953 PST. The visibility dropped to 2 miles for three hourly observations between 0653 and 0853 PST, with both haze (HZ) and smoke (FU) reported at 0653 PST with the southerly flow. The onshore flow peaked at 1153 PST at 16 mph with a gust of 21 mph reported. Towering cumulus convection was reported over the mountains to the north at 1253 PST, indicating the increased humidity and heating over the mountains.

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 National Weather Service Thermal Airport Station on July 4 and 5, 2007

(HZ = Haze, FU = Smoke, C=TCU = Towering Cumulus Clouds to the North)

Ontario International Airport (ONT)							
DATE	**HOUR (PST)**	**WD (deg)**	**WS (mph)**	**Gust (mph)**	**VIS (miles)**	**Weather**	**Remarks**
4/4/07	1147	260	14		10		
	1247	250	14		10		
	1347		0				
	1447	250	13		10		
	1547	250	10	20	10		
	1653	250	12		9		
	1753		0				
	1853		0				
	1953	250	7		9		
	2053	260	5		**5**	**HZ**	
	2153	260	5		**5**	**HZ**	
	2253	0	0		**5**	**HZ**	
	2353	VRB	5		**4**	**HZ**	
4/5/07	53	0	0		**5**	**HZ**	
	153	0	0		**5**	**HZ**	
	253	VRB	3		**5**	**HZ**	
	353	0	0		**6**	**HZ**	
	453	0	0		**4**	**HZ**	
	553	220	3		**3**	**HZ**	
	653	190	3		**2**	**HZ FU**	
	753	170	5		**2**	**HZ**	
	853	VRB	3		**2**	**HZ**	
	953	230	8		**2.5**	**HZ**	
	1053	250	10		**3**	**HZ**	
	1153	240	16	21	**3**	**HZ**	
	1253	260	14		**4**	**HZ**	TCU N
	1353	280	14		**4**	**HZ**	
	1453	260	12		**5**	**HZ**	
	1553	250	10		**5**	**HZ**	
	1653	250	7		**5**	**HZ**	
	1753		0				
	1853	250	10		9		
	1953	260	10		10		
	2053	270	7		10		
	2153	0	0		10		
	2253	240	6		7		
	2353	220	3		10		

Table 2-11 shows hourly temperature and relative humidity measurements from Central Los Angeles, Azusa, Upland and Fontana. Inland Los Angeles County temperatures at Central Los Angeles and Azusa reached 87 and 88 degrees Fahrenheit (F), respectively on July 4, cooling overnight to 66 and 64 degrees, respectively, in the early morning of July 5. In San Bernardino County, Upland and Fontana reached 95 and 98 degrees F in the afternoon of July 4 and cooled to minimum temperatures of 67 and 69 degrees, respectively, in the early morning of July 5 before increasing to highs of 91 and 93 degrees that afternoon. The cooler afternoon temperatures on July 5 were due to increased low clouds and fog in this area and convective clouds over the mountains from that of the previous day. Relative humidities increased overnight as the air cooled and the wind flows stagnated, reaching 84, 100, 82 and 74 percent, respectively, at Central Los Angeles, Azusa, Upland and Fontana. The higher humidity at Azusa is consistent with the stratus layer penetrating inland and intersecting the terrain in this area as fog at ground level. The moist environment may also have enhanced the particulate formation overnight at the time when the particles from the fireworks displays lingered in the air from the previous night.

TABLE 2-11

Hourly Averaged Temperature (degrees F) and Relative Humidity (%) for AQMD Air Quality Monitoring Stations at Central Los Angeles, Azusa, Upland and Fontana on July 4 and 5, 2007

		Central Los Angeles Monitoring Station (CELA)		Azusa Monitoring Station (AZUS)		Upland Monitoring Station (UPLA)		Fontana Monitoring Station (FONT)	
DATE	**HOUR (PST)**	**Temperature (deg F)**	**Relative Humidity (%)**	**Temperature (deg F)**	**Relative Humidity (%)**	**Temperature (deg F)**	**Relative Humidity (%)**	**Temperature (deg F)**	**Relative Humidity (%)**
7/4/07	1200	87	53	88	57	94	35	97	30
	1300	87	52	87	58	95	38	98	28
	1400	84	52	88	57	93	43	97	34
	1500	81	55	87	56	92	46	95	37
	1600	79	59	86	56	90	48	93	40
	1700	80	56	82	57	88	51	90	46
	1800	75	68	80	57	83	57	85	52
	1900	70	76	77	64	79	59	81	59
	2000	68	81	75	73	77	57	79	59
	2100	68	82	71	86	75	60	78	52
	2200	69	81	70	90	73	66	76	55
	2300	68	81	69	96	71	72	74	60
4/5/07	0000	67	82	67	100	70	76	73	69
	0100	67	82	66	100	69	78	71	74
	0200	67	83	66	100	69	77	71	73
	0300	66	84	65	100	67	81	70	73
	0400	66	84	64	100	67	82	69	71
	0500	66	84	65	100	69	81	71	66
	0600	69	81	67	100	76	69	76	61
	0700	73	75	72	90	80	62	78	64
	0800	75	71	76	79	83	59	83	56
	0900	80	61	80	69	88	52	88	48
	1000	84	54	83	65	89	49	92	39
	1100	84	55	84	62	89	49	93	38
	1200	83	57	81	68	87	54	91	44
	1300	83	56	84	63	86	54	89	46
	1400	83	55	86	59	90	49	92	41
	1500	84	53	88	56	90	48	93	40
	1600	83	53	88	55	91	47	93	40
	1700	77	60	86	55	89	48	91	43
	1800	72	70	81	62	86	52	88	47
	1900	68	78	74	72	80	61	83	53
	2000	68	78	72	81	75	65	78	61
	2100	69	76	70	85	73	68	76	65
	2200	67	78	69	90	73	71	75	65
	2300	68	78	67	94	71	74	73	69
4/6/07	0000	67	78	66	99	71	76	72	71

A time series of winds aloft through the first 1600 meters (m, 5250 feet) of the atmosphere for July 4 and 5 are shown in Figures 2-10 and 2-11, respectively, from the AQMD upper air station at Ontario International Airport. This shows consistently westerly onshore flow at all levels through the afternoon and evening of July 4. In the early morning of July 5, the winds were weak and somewhat variable, but a layer of easterly winds is evident at lower levels, followed by weak southerly flows before the onshore flows increased after 0900 PST. The onshore flow in the afternoon of July 5 was not quite as strong or consistent, with more light and variable winds, as it had been on July 4, indicating the stagnant conditions that contributed to the high PM10 measurements.

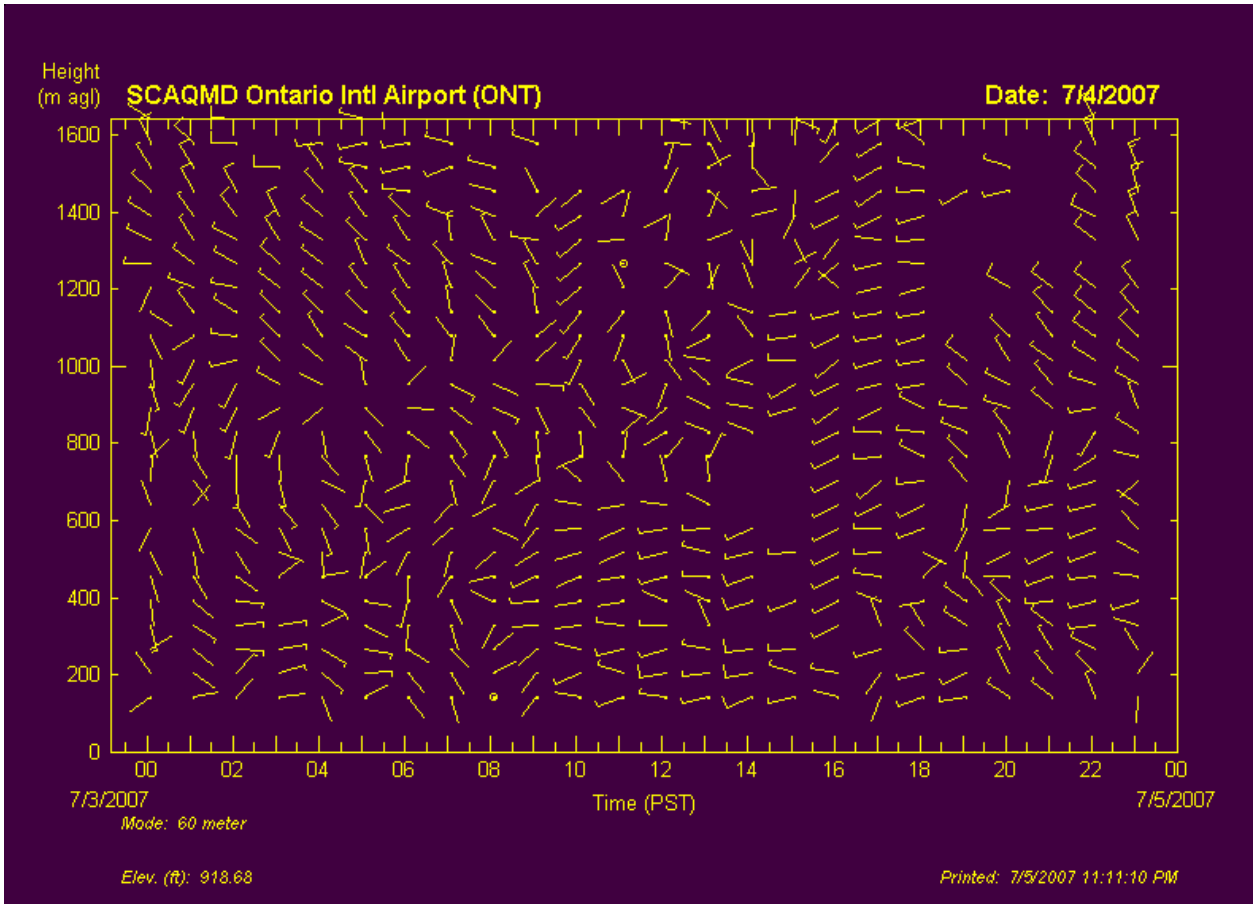


FIGURE 2-10

Time Series of Hourly Wind Barbs with Height for the AQMD Ontario International Airport Upper Air Station on July 4, 2007

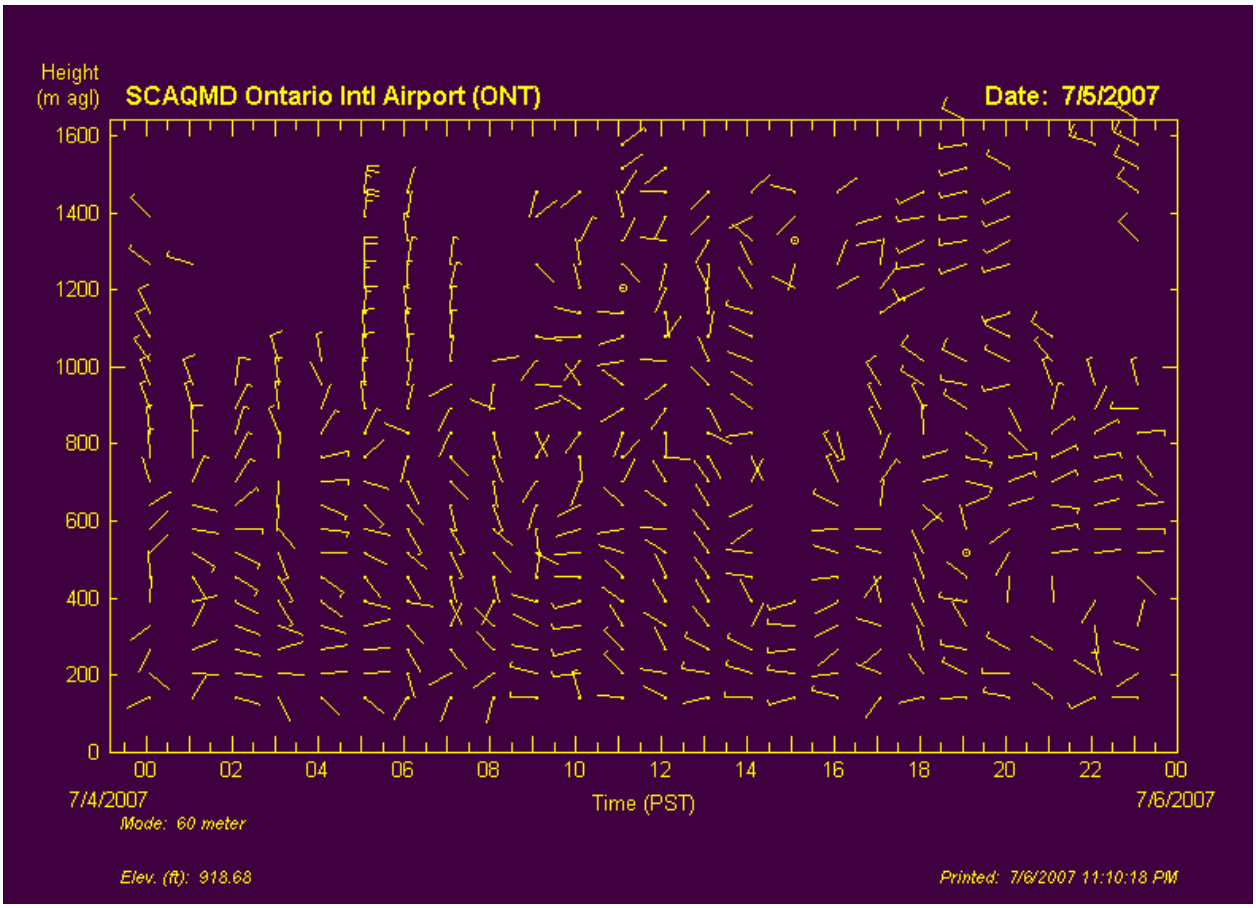


FIGURE 2-11

Time Series of Hourly Wind Barbs with Height for the AQMD Ontario International Airport Upper Air Station on July 5, 2007

The weak onshore wind observations support the transport of fireworks emissions from evening of July 4 from throughout the Basin, especially from Los Angeles and western San Bernardino counties to the Azusa and Fontana monitoring stations. The highest concentrations occurred in the morning of July 5 as stagnation of the flow occurred at those stations. Furthermore, the relatively light winds throughout these days support the conclusion that windblown dust was not a significant factor in the NAAQS violations on July 5.

Conclusion

There is a strong causal connection between the high PM10 measured and Azusa and Fontana during this episode on July 5 and the fireworks displays on July 4, supported by particulate speciation and meteorological conditions. The fireworks displays began near 2000 PST on July 4, providing emissions from nearby fireworks displays and emissions from the western Basin, transported by weak onshore flows. Hourly PM10 in the vicinity increased in the early morning of July 5, as the flows became stagnant and the capping inversion lowered to intersecting the terrain just above the inland valleys of Los Angeles and San Bernardino counties. The increased humidity in the shallow marine layer also may have enhanced particle growth and helped to particles to settle into the mixed layer from aloft.

The combination of high PM2.5, sulfate, nitrate and potassium measured, compared to PM10 mass, is consistent with fireworks emissions. These PM10 components, and the PM10 mass, were in excess of the normal fluctuations found at these stations and in the Basin as a whole. If not for the fireworks, the PM10 NAAQS violations measured at Azusa and Fontana on July 5th would not have occurred. Therefore, AQMD staff recommends the flagging of the PM10 NAAQS violations at the Azusa and Fontana air monitoring stations on July 5, 2007 as exceptional events due to the influence of fireworks in the U.S. EPA Air Quality System database.

3 SUPPORTING MATERIALS

3.1 2007 Fireworks Events

Los Angeles County Fireworks

Source: Web site for The Los Angeles Fire Dept., The Los Angeles County Fire Dept., and The Children's Burn Foundation

2007 Fireworks Shows in Los Angeles County

Going to a professional fireworks show is truly the safest way to celebrate the 4th of July. The following is a list of show locations and schedules for **2007 fireworks shows in Los Angeles County**. If any information is incorrect or if we missed any locations, please notify us by e-mail.

NOTE: Shows are listed by date. This site is provided as a public service. The LAFD does not sponsor any of the shows listed. We will continue to update this list with new shows and any changes we become aware of. Please check back to verify if any changes have been made to shows you wish to attend. Thank you.

July 4

Alhambra
Almansor Park
800 South Almansor Street
Admission is free
The fireworks display begins around 9:00 p.m. and continues for 20 minutes

Artesia
Artesia Community Park
12000 block of South Street / Elaine
Admission is free
9:00 p.m.

Bell Gardens
Suva Elementary School
6740 Suva Street
9:00 p.m.

Burbank
Starlight Bowl
1249 Lockheed View Dr.
Due to extreme fire conditions, there will be no show at the Starlight Bowl this year.

Calabasas
Calabasas High School
22855 W. Mulholland Hwy.
9:00 p.m.

Castaic
Castaic Lake Recreation Area
32132 Castaic Lake Dr. Fireworks at Lower Lake Lagoon

Picnic and swim all morning and then enjoy children's rides, games, face painting, jumpers, rock climbers, etc. in the afternoon. Adults will be able to enjoy music, food, craft booths and family games such as: water-balloon toss, potato sack races etc.
The Fireworks are the big finale for the day and begin at 9:00 p.m.
$25.00 per carload
$5.00 per person walk-in
5 years old and under are free
No open truck bed passengers will be allowed
Camping and Boat Launches require extra fee
http://www.castaiclake.com/

Cerritos
Cerritos High School
12500 E. 183rd Street
9:00 p.m.

Commerce
Rosewood Park
2535 Commerce Way
9:00 p.m.

Culver City
Culver City High School
Annual fireworks display put on by the City of Culver City and the Culver City Exchange Club. Suggested donation is $2 and $1 for children. Funds go toward children's programs. There will be live music, hot dogs, sodas and kettle corn available.
Gates open at 5 p.m., entertainment begins at 6:30 p.m., and the fireworks start at 9 p.m.
Parking $5 per car.
Enter lots off of Braddock Dr. at Huron Ave., two blocks east of Sepulveda Blvd.

Diamond Bar
Diamond Bar High School - Football Field
21400 E. Pathfinder Rd.
9:00 p.m.

Gardena
Rowley Park
13220 S. Van Ness Ave.
Fireworks at 9:00 p.m.
310-217-9562

Hansen Dam
11770 Foothill Blvd. Lake View Terrace, CA. 91342
9:00 p.m.
Parking $3
818-768-1128
http://www.hansen4th.com/

Huntington Park
Huntington Park High School - Football Field
6220 Miles
9:00 p.m.

Irwindale
Open Lot at Water Reservoir
Calle Del Paseo / Allen Drive

9:00 p.m.

Irwindale
Irwindale Speedway
13300 Live Oak Ave.
9:00 p.m.

La Crescenta
Crescenta Valley High School
2900 Community Avenue
9:00 p.m.

La Habra
La Habra High School
801 Highlander
9:00 p.m.

Lancaster
Antelope Valley Fairgrounds
2551 W. Avenue H
The annual July 4th Celebration is free to the public and gates will open at 6:30 p.m. Musical entertainment begins at 7:30 p.m. Grandstand seating will be available on a first-come, first-served basis.
The fireworks show will begin at 9 p.m.
(661)723-6077

Lancaster
Lancaster Jets Hawks Ball Field
45116 Valley Central Way
6:30 p.m.

Long Beach
Downtown festival with a view of the fireworks over the Queen Mary.
10 a.m. – 10 p.m., Fireworks at 9:00 p.m.
Pine Avenue from Shoreline Drive to Ocean Blvd., Kiddie Carnival at Marina Green Park east of Shoreline Village, Adult entertainment festival at the Rainbor Lagoon (near the Hyatt. Bands all afternoon, culminating in a patriotic performance by the Long Beach Municipal Band.
Parking: Outdoor pay lots are at Shoreline Village and the Shoreline Marina (get ticket from parking machine). There's a metered all-day lot at Alamitos Beach. Pay parking structures are available at the Aquarium, the Pike and the Convention Center.

Los Angeles
Dodgers Stadium
1000 Elysian Park Ave.
9:00 p.m.

Los Angeles
Hollywood Bowl - July 2, 3, 4
Fireworks Spectacular with Riders in the Sky
2301 N. Highland Avenue
7:30 p.m.

Los Angeles
Los Angeles Memorial Coliseum
3939 South Figueroa Street
The event is FREE and parking is $6.00.

9:00 p.m.

Lynwood
Lynwood City Park
Baseball Field
11301 Bullis Rd.
9:00 p.m.

Malibu.
Barge off the Coast
80 Malibu Colony Road
9:00 p.m.

Malibu.
Barge off the Coast
30100 Pacific Coast Highway
9:00 p.m.

Marina Del Rey
The traditional fireworks extravaganza over the main channel in Marina del Rey will be presented on Wednesday, July 4th, starting promptly at 9pm. This event is sponsored by the Los Angeles County Department of Beaches and Harbors. The fireworks are choreographed to patriotic music, which will be broadcast in sync with the pyrotechnic display over FM radio KXLU, 88.9 on the dial. The music will be relayed over loudspeakers in Chace Park for those watching there.

Maywood
Maywood City Park
Baseball Diamond
Heliotrope & 58th Street
9:00 p.m.

Pacific Palisades
Fireworks Spectacular at Palisades High School Gates Open at 6:00 p.m.
Entertainment at 7:00 p.m.
Fireworks at 8:45 p.m.
15777 Bowdoin St.
Bowdoin and Temescal Canyon Rd. 310-459-7963

Pasadena
Rose Bowl
AmericaFest 2007
Admission: $12 per person
Children 7 and under: Free
Active Military with ID admitted Free (up to 4 per family)
Available only at the Rose Bowl Box Office.
Tickets go on sale via Ticketmaster Tuesday, May 30. Call (213) 480-3232 for tickets, or www.ticketmaster.com
Tickets may also be purchased at Rose Bowl Box Office
Hours: June 25 through July 3 - 10 am-5pm. July 4 - 10 am-9 pm.
$20 per car payable as you enter the parking lots includes $5 off coupon for food & drinks inside the stadium.

Pico Rivera
Meller Elementary - West grass area
6016 Rosemead Blvd. at Mines Ave.
9:00 p.m.

Placentia.
Bradford Stadium
500 North Bradford Avenue
Placentia, CA
Event starts at 6:30 p.m., fireworks off go at 9 p.m.
Admission: Adults $6.00, Seniors and Youths (13-17 yrs.) $5, Children (3-12 yrs.) $2.00. Children 2 and under are free.

Pomona
Pomona Fairplex
Show begins at 8 p.m. with a Monstor Truck and Big Motox Extreme Show followed by a Fireworks Spectacular ay 9:15 p.m.
1101 W. McKinley Ave.
Gates open at 5 p.m., grandstand opens at 6:30 p.m., and the celebration starts at 8 p.m.
Admission: $11, Parking is $7.
909 623-3111

Porter Ranch
4th of July Spectacular
Shepherd of the Hills Church
19700 Rinaldi St.
9:00 p.m.
818-831-9333

Redondo Beach.
Redondo Beach Pier
Fireworks at 9 p.m.

Rosemead
Rosemead Park
9200 Mission Ave. at Encinitas
9:00 p.m.

San Fernando Valley
Hansen Dam
11770 Foothill Blvd. Lake View Terrace, CA. 91342
9:00 p.m.
Parking $3
818-768-1128
http://www.hansen4th.com/

San Fernando Valley
Woodland Hills
Warner Center Park
21820 Califa Street (Topanga Canyon Blvd. and Califa St.)
9:00 p.m.

San Fernando Valley
El Caballero Country Club
18300 Tarzana Drive
9:00 p.m.

San Fernando
4th of July Celebration
Recreation Park
205 Park Ave.

Fireworks at 9:00 p.m.
818-898-1201

San Pedro
Cabrillo Beach Fireworks
3720 Stephen M. White Drive, San Pedro
Beginning at noon, there will be local San Pedro Bands and the Golden State Pops Orchestra will play a variety of Americana music. There will also be Tours of a Naval Vessel, Armed Forces and U.S. Coast Guard demonstrations, displays by the Los Angeles City Fire Department's firefighting boat, and the Washington Artillery group along the coastline firing canons.
The 20-minute pyrotechnic fireworks presentation will begin at 9:00 p.m.
Free shuttle service from 22nd and Miner Street Parking at the Beach limited
310-548-7554

Santa Clarita
Valencia Town Center
Off top of parking structure
24315 Town Center Drive
9:00 p.m.

Santa Fe Springs
Los Nietos Park
All Day Festival. Music, food and fun for all.
11155 Charlesworth Rd.
Sante Fe Springs.
Fireworks at 9:00

South Gate
South Gate Park
Corner of Pinehurst and Tweedy
9:00 p.m.

Studio City
4024 Radford Avenue
Summer of Love - 1 Night of Peace, Love, Music & Fireworks. Live music, food and fun with the grand finale fireworks display.
Tickets can be purchased at the Studio City Farmers Market or Studio City Hand Car Wash.
Tickets Prices
Adults $15.00 in advance or $20 at entrance.
Children (12 & under) $8.00
Children (5 and under) free
VIP Tickets $100.00
5 p.m. - 9 p.m.

Torrance
Wilson Park
2200 Crenshaw Blvd.
Arts, crafts, games and food booths from 11:00 a.m. until 8:45 p.m. Free train rides from 12:00 p.m. until 4:00 p.m. Music from 12:00 p.m. until 9:00 p.m. Free shuttle transportation from the Del Amo Fashion Center (adjacent to JCPenney's) and the Civic Center. $5 parking at the park.
Fireworks at 9:00 p.m.

Torrance
Barge off Coast of Torrance Beach
Palos Verdes and Via Rivera.
9:00 p.m.

Valencia
Six Flags Magic Mountain
Viper Gulch Hill
26101 Magic Mountain Parkway

Walnut
Walnut High School
South end of Baseball Field
9:00 p.m.

Whittier
Friendly Hills Country Club
8500 Villa Verde Drive / Mar Vista
9:00 p.m.

Woodland Hills
Warner Center Park
21820 Califa Street (Topanga Canyon Blvd. and Califa St.)
9:00 p.m.

July 13, 14

Los Angeles
Echo Park
Park Avenue between Glendale Avenue and Echo Park Boulevard
30th Anniversary of the Lotus Festival sponsored by the City of Los Angeles Department of Recreation and Parks.
Friday, July 13, 2007 - 5:00 p.m. to 9:00 p.m. (Fireworks at 9:00 p.m.)
Saturday, July 14, 2007 - 12:00 noon to 9:00 p.m. (Fireworks at 9:00 p.m.)

San Bernardino County Fireworks

Source: San Bernardino County Fire Department

2007 FIREWORKS DISPLAYS

All fireworks displays to begin at approximately 9:00 PM (Dusk)

Date	City	Location
6/30/07	Adelanto	Maverick's Stadium (12000 Stadium Way)
6/30/07	Baker	Baker Community Park
6/30/07	Chino	Ayala Park (14225 Central Ave.)
6/30/07	Lake Gregory	On the lake
6/30/07	Silver Lakes	On the lake
6/30/07	Spring Valley Lake	On the lake
7/3/07	Landers	Homestead Valley Park (1501 Belfield Rd)
7/3/07	San Bernardino	66ers Stadium (280 S. 'E' St.)
7/4/07	Adelanto	Maverick's Stadium (12000 Stadium Way)
7/4/07	Apple Valley	Brewster Park (21024 Otoe Rd.)
7/4/07	Big Bear Lake	Marina River Resort (Lakeview Dr.)
7/4/07	Fontana	Fontana High School (9453 Citrus Ave.)
7/4/07	Lake Arrowhead	Lake Arrowhead Village
7/4/07	Ontario	Westwind Park (2425 Riverside Dr.)
7/4/07	Pomona	Fairplex
7/4/07	Rancho Cucamonga	Epicenter (8408 Rochester)
7/4/07	Redlands	University of Redlands
7/4/07	Riverside	Riverside Community College
7/4/07	Upland	Upland High School (565 W. 11th St.)
7/4/07	Yucaipa	Yucaipa High School (33000 Yucaipa Blvd.)
7/4/07	Yucca Valley	Yucca Valley High School (7600 Sage Ave.)

FIREWORKS USE

Fireworks are **NOT** allowed in **ANY** part of Unincorporated San Bernardino County. This includes "Safe & Sane" fireworks. The use of **ANY** fireworks in Unincorporated San Bernardino County will result in confiscation of the fireworks and the issuance of a citation.

ONLY the following communities allow "Safe & Sane" fireworks:

Adelanto
Chino
Fontana
Colton (EXCEPT in Reche Canyon)
Grand Terrace
Rialto
San Bernardino (EXCEPT north of Hwy. 30)

The use of ANY fireworks that shoot into the sky, explode or shoot along the ground is PROHIBITED. Such fireworks are considered "Dangerous Fireworks" and their use will result in confiscation of the fireworks and the issuance of a citation.

FIREWORKS SALES

"Safe & Sane" fireworks may only be sold from Noon, June 28 – Noon, July 6.
EXCEPTION: "Safe & Sane" fireworks cannot be sold after midnight, July 4 in Fontana.

Orange County Fireworks

Source: Orange County Fire

MEDIA ADVISORY

Orange County Fire Authority
Captain Stephen Miller/PIO

1 Fire Authority Rd.
Irvine, CA 92602
(714) 573-6201
(714) 368-8828 fax

June 26, 2007

Public Fireworks Displays and Illegal Fireworks

Contact CAPTAIN STEPHEN J. MILLER, (714) 573-6201

(Irvine) In an effort to promote public safety and the fact we are experiencing one of the driest fire seasons on record, the Orange County Fire Authority highly encourages residents throughout Orange County to celebrate the July 4th holiday by attending one of the many spectacular public fireworks displays staged by professionals in lieu of using California State Fire Marshall approved consumer fireworks.

It should be noted that there are only 5 cities in Orange County that allow the sale, purchase and use of approved fireworks (all other fireworks are illegal) Selling, purchasing, using and even possessing any fireworks outside those cities (including the unincorporated areas) is illegal and can result in confiscation of the fireworks and/or fines. The 5 cities are Buena Park, Costa Mesa, Garden Grove, Santa Ana and Stanton.

As a public service the OCFA compiles a list of Public Displays for all of Orange County and makes it available on our website www.ocfa.org (list below). The list is also available recorded in Spanish and Vietnamese along with English on the "Public Fireworks Display" line at 714-573-6225. Any observance of illegal firework activity should be reported to local law enforcement or your local fire department. Check with local cities for any changes that may occur.

(more)

FIREWORKS DISPLAYS 2007

Fireworks Displays in North Orange County

ANAHEIM: Disneyland will have a special patriotic finale in addition to their nightly firework show at 9:25 p.m. For information call (714) 781-4000.

ANAHEIM: Peralta Canyon Park will be the site for the Canyon Hills community's 4th of July celebration. Fireworks begin at 9:00 p.m. For additional information, go to www.chccanaheim.com.

BUENA PARK: Knott's Berry Farm will have a 4th of July fireworks celebration. For information call (714) 827-1776

CYPRESS, LOS ALAMITOS, ROSSMOOR, SEAL BEACH: The cities are sponsoring a 4th of July event at the Joint Forces Training Base Los Alamitos. Gates open at 4:00 p.m. Fireworks start at 9:00 p.m. For information call (714) 229-6780 or (562) 430-1073.

FULLERTON: Fullerton High School Stadium will be the site of the city's firework show and festival. Gates open at 5:00 p.m with fireworks at 9:00 p.m. Call the Fullerton Museum Center at (714) 738-6545 for additional information.

HUNTINGTON BEACH: Huntington Beach Pier will be the location for fireworks from the end of the pier at 9:00 p.m. For more information on all of the 4th of July activities, go to www.hb4thofjuly.org or call (714) 374-1535.

LA HABRA: La Habra High School will be the location of the city's 4th of July entertainment which starts at 5:00 p.m. Fireworks start at 9:15 p.m. Call (562) 905-9708 for information.

PLACENTIA: Bradford Stadium will be the site for Placentia's 4th of July celebration. For more information, call the event hotline at (714) 993-8204 or the city at (714) 993-8232.

WESTMINSTER: Westminster High School Stadium will be the location for the city's 4th of July celebration. For more information, call the City of Westminster at (714) 895-2860.

YORBA LINDA: Veterans' Park/Yorba Linda Middle School will be the site for Yorba Linda's 4th of July activities with fireworks at 9:00 p.m.

(more)

Fireworks Displays in Central Orange County

COSTA MESA: Mesa Verde Country Club will host a private show.

EMERALD BAY: A private show will be shot off of a barge.

IRVINE: Irvine High School will be the site of Irvine Police Association's 4th of July event and fireworks display. For additional information, call (949) 724-0488.

IRVINE: Verizon Wireless Amphitheater will host a Pacific Symphony concert and fireworks display. Call the Pacific Symphony at (714) 755-5799 for information.

IRVINE: Woodbridge Village Association will have a private show.

LAGUNA BEACH: A fireworks display will be shot from Monument Point at Heisler Park on Cliff Drive with the best viewing from Main Beach.

LAGUNA BEACH: Three Arch Bay will have a private show shot from a barge.

LAGUNA BEACH: Irvine Cove will host a private show.

NEWPORT BEACH: Big Canyon Country Club will host a private show.

NEWPORT BEACH: Newport Dunes Waterfront Resort will host the city's annual 4th of July event and fireworks display. For more information call (949) 729-3863.

CITY OF ORANGE: Fred Kelly Stadium at El Modena High School will be the site of Orange's **July 3** celebration and fireworks show. For information call (714) 744-7278.

SANTA ANA HEIGHTS: Santa Ana Country Club will host a private show.

TUSTIN: Tustin High School's Northrup Field will be the site of the city's 4th of July celebration and fireworks show. For information call (714) 573-3326.

(more)

Fireworks Displays in South Orange County

ALISO VIEJO: Grand Park at Town Center will be the location of the 4th of July Celebration and fireworks show. For information call (949) 448-5922.

DANA POINT: Fireworks will be shot off a barge outside of the harbor. No cars will be allowed into the harbor area after 7:30 p.m. For more information, please call (949) 248-3530.

LADERA RANCH: Founder's Park will be the site for the firework display for the residents of Ladera Ranch.

LAGUNA HILLS: The Community Center and Sports Complex will be the site of the community's 4th of July celebration and fireworks show. Call (949) 707-2680 for additional information.

LAGUNA NIGUEL: Laguna Niguel Regional Park will be the site for the City of Laguna Niguel's firework show. For additional information, call (949) 425-5100.

LAKE FOREST: The Sun and Sail Club will host a private low-level show shot off of a barge on the lake.

MISSION VIEJO: Mission Viejo Country Club will host a private show.

MISSION VIEJO: Mission Viejo Youth Athletic Park will be the location of the Mission Viejo 4th of July Street Faire and Fireworks Spectacular. For more information, call (949) 830-7066.

RANCHO SANTA MARGARITA: Lago Santa Margarita will be the site for a low-level fireworks display.

SAN CLEMENTE: Fireworks begin at dusk from the end of the San Clemente Pier.

SAN JUAN CAPISTRANO: San Juan Capistrano Sports Park will be the site of the city's 4th of July celebration. Fireworks begin at 9:00 p.m. Call (949) 493-5911 for additional information.

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The Orange County Fire Authority is a joint powers authority that serves more than 1.3 million residents in 22 cities and the unincorporated areas of the county.

Southern California Fireworks

Source: Press-Enterprise News

Fourth of July events

Fireworks. Picnics. Parades. Classic cars. Classical music. The Inland area has it all for the Fourth of July. And if you're traveling around Southern California, here's a holiday resource for Orange, Los Angeles and San Diego counties.

RIVERSIDE COUNTY

CORONA FOURTH OF JULY CELEBRATION features 4th of July Parade, Wednesday, beginning at 10 a.m. on Main Street at Ontario Avenue, proceeding north to Olive Street, the Corona Fourth of July Festival, gates open at 4 p.m. with games, food and entertainment, Southland Band performs at 7 p.m. and fireworks at 9 p.m., Corona High School football stadium, 1150 W. 10th St., $3, children 12 and younger $2, 951-736-2241.

IDYLLWILD INDEPENDENCE DAY PARADE, 10 a.m. Wednesday, North Circle Drive, Idyllwild, 951-659-3259.

INDIO PATRIOTIC FOURTH OF JULY CELEBRATION features food, fun and fireworks, begins 5:30 p.m. with fireworks at 9 p.m. Wednesday, Riverside County National Date Festival Fairgrounds, 46-350 Arabia St., 760-342-6532.

PATRIOTIC BOAT PARADE OF LIGHTS, 8 p.m. Wednesday, Lake Elsinore, 951-674-3124.

FAMILY FUNFEST IN MORENO VALLEY features Independence Day Parade, 9:30 a.m.-noon Wednesday, north on Frederick Street beginning at Alessandro Boulevard, west on TownGate Boulevard; Family FunFest begins at noon, with the national anthem at 4:30 p.m., live music by Blood, Sweat & Tears and Chuck Negron, 7:30-9 p.m., concluding with a Fireworks Extravaganza at 9 p.m., Morrison Park/Mountain View Middle School, Dracaea Avenue and Morrison Street, Moreno Valley, 951-413-3281.

PALM DESERT FOURTH OF JULY CELEBRATION featuring Steve Madaio , 7:30 p.m. Wednesday, fireworks at 9 p.m., Palm Desert Civic Center Park Amphitheater, Fred Waring Drive and San Pablo Avenue, free, 760-346-0611.

PALM SPRINGS POWER FOURTH OF JULY CELEBRATION features the Power baseball team vs. the USAF Mustangs, gates open 5 p.m., game 6:05 with fireworks to follow, Wednesday, Palm Springs Stadium, Sunrise Way and Baristo Road, $6, seniors and students $5, 760-864-6278.

FOURTH AT FAIRMOUNT features live bands, food & craft vendors, fun zone, fireworks and more, 10 a.m.-9 p.m. Wednesday, Fairmount Park, 2601 Fairmount Blvd., Riverside, 951-826-2000.

INDEPENDENCE CELEBRATION features games, food and fireworks display, 5-9:30 p.m. Tuesday, Agate Park, 8623 Jurupa Road, Riverside, free, 951-361-2090.

RIVERSIDE AERIAL FIREWORKS SHOWS, 9 p.m. Wednesday at Mt. Rubidoux and La Sierra Park, 5215 La Sierra, 951-826-2000.

RIVERSIDE JULY FOURTH SPECTACULAR, live music, gates open 6 p.m., fireworks show 9 p.m. Wednesday, Riverside Sports Complex, 1000 Blaine St., $4, children 4 and younger free, 951-826-2000.

TACO STATION FOURTH OF JULY FIREWORKS & CAR & BIKE NIGHT CRUISE features awards, raffle, games, 10 percent off meals and music by Ron's Rock-N-Roll Revue Oldies. 5-9 p.m. Wednesday, 4088 Mission Inn Ave, Riverside, 951-782-8226, 909-350-2827.

CITY OF SAN JACINTO FOURTH OF JULY PARADE & CELEBRATION, Estudillo Mansion activities 3-9 p.m. Wednesday, parade 6 p.m. at Druding Park, with fireworks show, 951-925-6987.

FOURTH OF JULY CELEBRATION features booths, vendors, music and fireworks, 10 a.m.-10 p.m. Wednesday, Valley-Wide Recreation & Park District, 901 Esplanade, San Jacinto, 951-654-1505.

SOBOBA CASINO FOURTH OF JULY CELEBRATION features concert by Earth, Wind and Fire, 8 p.m. Tuesday, 23333 Soboba Road, San Jacinto, free, 951-655-1000.

TEMECULA FOURTH OF JULY EXTRAVAGANZA, features Star Spangled 4th of July Parade on Old Town Front Street between Moreno and Second Street 10 a.m. Wednesday, followed by food, fun and entertainment 2 p.m. with fireworks show 9 p.m., Ronald Reagan Sports Park, 30875 Rancho Vista Road, 951-694-6480.

SAN BERNARDINO COUNTY

BARSTOW FOURTH OF JULY FIREWORKS SPECTACULAR featuresvendors, activities, games, fireworks and more, gates open 2 p.m. Wednesday, Robert A Sessions Memorial Sportspark, 2800 Mayor Katy Parkway, 760-256-3531.

BIG BEAR'S FOURTH OF JULY OVER-THE-LAKE FIREWORKS SPECTACULAR, 8:30-10 p.m. Wednesday, fireworks can be seen from most of the lake's shoreline, Big Bear Lake, 909-866-4607.

BIG BEAR LAKE INDEPENDENCE DAY FESTIVAL features carnival, music, arts, crafts and more, July 6-8, Big Bear Lake Convention Center, $3, children younger than 12 free, 909-585-3000.

CHINO HILLS OLD-FASHIONED FOURTH OF JULY PICNIC features Family Wagon Parade, 10:30 a.m., live entertainment, carnival games and more, 10:30 a.m.- 4 p.m. Wednesday, Big League Dreams, 16333 Fairfield Ranch Road, 909-364-2700.

OLD FASHIONED COMMUNITY PICNIC features games, food, booths and contests, 11 a.m.-5 p.m. Wednesday, San Moritz Ballfield & Lodge, Crestline/Lake Gregory, 909-336-6666, 909-338-0225.

FONTANA FOURTH OF JULY SPECTACULAR: AMERICAN JOURNEY features interactive game zone, food & craft boots, live entertainment, wagon & stroller parade and fireworks, 5-9:30 p.m. Wednesday, Fontana High School Stadium, 9453 Citrus Ave., $2 or $5 for family of four, 909-428-8360.

FIREWORKS ON THE LAKE at the Lake Arrowhead Village begins at dusk Wednesday, 909-337-2533.

FOURTH OF JULY CELEBRATION CONCERTS AT THE LAKE ARROWHEAD VILLAGE features the Answer, 5:30-8:30 Tuesday, Tijuana Dogs, 5:30-8:30 p.m. Wednesday, free festival seating, beer garden and more, Center Stage of the Lake, 909-337-2533.

CCRC FOURTH ANNUAL FOURTH OF JULY CAR SHOW & CHILI FEST, 10 a.m.-4 p.m. Wednesday, 10700 Town Center, Rancho Cucamonga, 909-945-5532.

RANCHO CUCAMONGA FOURTH OF JULY FIREWORKS SPECTACULAR, parking lot opens 5 p.m., gates open 5:30 p.m., live music by the Surf City All Stars, fireworks and more, Wednesday, Rancho Cucamonga Epicenter, 8408 Rochester Ave., presale $7, $10 at gate, 909-477-2752.

PACKINGHOUSE REDLANDS FOURTH OF JULY PICNIC features Hot Rod & Custom Bike Show, live music, fire department display and more, 10:30 a.m. Wednesday, 27165 San Bernardino Ave., Redlands, 909-793-8744.

REDLANDS FOURTH OF JULY 2007 CELEBRATION begins with music, games and food, 10 a.m.-5 p.m. Wednesday, Sylvan Park, Colton Avenue and N. University Street, at 4 p.m. Fourth of July Parade around the park, followed by flag ceremony and fly over, skydivers, concert by the Redlands Fourth of July Band and the Tornados, at the University of Redlands stadium, gates open 6 p.m., ceremonies begin 7 p.m. with fireworks show at 9 p.m., $7 advance, $10 at gate, children younger than 3 free, 909-748-0637.

SIXTY SIXERS INDEPENDENCE DAY FIREWORKS SHOW immediately following game against the High Desert Mavericks, game begins 7:05 p.m. Tuesday, Arrowhead Credit Union Park, 280 S. E St., San Bernardino, $5-$10, parking $5, 909-888-9922.

UPLAND 21ST FOURTH OF JULY FIREWORKS SPECTACULAR CENTENNIAL CELEBRATION features music by Thief at 6 p.m. with Fireworks Sky Concert at 9 p.m. Wednesday, Upland High School Football Stadium, Foothill Boulevard and San Antonio Avenue, $6, children 2 and younger free, 909-931-4281.

YUCAIPA FREEDOMFEST 2007 features live musical performances, children's play area and more, gates open 3:30 p.m., festivities begin 4 p.m. with fireworks show at 9 p.m. Wednesday, Yucaipa High School Thunderbird stadium, 33000 Yucaipa Blvd., 909-790-1841.

YUCCA VALLEY FOURTH OF JULY SWIM PARTY features swimming, games, prizes and fireworks, 7-10 p.m. Wednesday, Yucca Valley High School Pool, 7600 Sage Ave., $5, 760-367-1743.

ROTARY CLUB FIREWORKS SHOW, program and entertainment begins 6 p.m., fireworks 9 p.m. Wednesday, Yucca Valley High School Athletic Field, 7600 Sage, Yucca Valley, 760-367-1743.

ORANGE COUNTY

ANAHEIM JULY 4TH FESTIVAL features parade beginning at Canyon High School, 220 S. Imperial Highway 3 p.m., food, games, entertainment and fireworks, 6-9 p.m. Wednesday, Peralta Park, 115 N. Pinney, 714-765-5274.

BREA'S 28TH ANNUAL COUNTRY FAIR features food, games, contests, live entertainment, teen fun area and more, 8 a.m.-4:30 p.m. Wednesday, City Hall Park, 401 S. Brea Blvd., 714-990-7771.

FULLERTON FOURTH OF JULY FESTIVAL & FIREWORKS SHOW features live musical entertainment, games, food booths and firework show, 5-9:30 p.m. Wednesday, Fullerton High School Stadium, 201 E. Chapman, 714-738-6545.

HUNTINGTON BEACH FOURTH OF JULY CELEBRATION on Wednesday features Pancake Breakfast in Lake Park, 11th and Main, 6-10 a.m.; Independence Day Parade, 10 a.m., Historic Main Street Parade Route; Pier Plaza Fun Expo, 10 a.m.-9 p.m. and Pier Plaza entertainment, 1-8 p.m. Main and Pacific Coast Highway; Fireworks Extravaganza, 9 p.m. Huntington Beach Pier, 714-374-1535.

GOOD VIBRATIONS - JULY 4TH EXTRAVAGANZA featuring the Pacific Symphony Orchestra conducted by Richard Kaufman with Papa Doo Run Run and fireworks display, 8 p.m. Wednesday, Verizon Wireless Amphitheatre, 8800 Irvine Center Drive, Irvine, $21-$101, 714-755-5799, (TM).

SUMMER CONCERT SERIES presents Stone Soul, 6:30-8:30 p.m. Wednesday, Crown Valley Community Park Amphitheater, 29751 Crown Valley Parkway, Laguna Niguel, followed by a community walk to Laguna Niguel Regional Park to watch the fireworks display, 949-362-4300.

LA HABRA FOURTH OF JULY SPECTACULAR features games, food, activities and fireworks, doors open 4 p.m. Wednesday, 801 Highlander Ave., $6, children 3 and older $3, 562-905-9708.

NEWPORT BEACH FOURTH OF JULY DINNER CRUISE, boarding 6:30 p.m., cruise 7-10 p.m. Wednesday, Hornblower, 2431 W. Coast Highway, Newport Beach, $90, reservations required, 888-467-6256.

49TH ANNUAL NEWPORT DUNES RESORT FOURTH OF JULY CELEBRATION features games, food, crafts, face painting and more beginning 11 a.m., music accompanying a spectacular fireworks display at 9 p.m. Wednesday, 1131 Back Bay Drive, Newport Beach, $30 per car, 949-729-3863.

OLD GLORY BOAT PARADE, decorated boats parade through Newport Harbor, 1 p.m. Wednesday, 215 E. 15th St., Newport Beach, free, 949-673-5070.

ORANGE SALUTES THE RED, WHITE AND BLUE featuring petting zoo, interactive games, the Orange County Master Chorale of Santiago Canyon College, fireworks and more, 4-9 p.m. Tuesday, Fred Kelly Stadium, El Modena High School, 3920 Springs St., 714-744-7264.

CITY OF PLACENTIA FOURTH OF JULY CELEBRATION features food, games, musical entertainment by Ray and the Corsairs and fireworks, 6:30 p.m. Wednesday, Bradford Stadium, 500 N. Bradford, $6, seniors and children 13-17, $5, children 3-12 $2, U.S. Military and children younger than 3 free, 714-993-8232.

FOURTH OF JULY FIREWORKS SHOW begins at dusk Wednesday, San Clemente Pier, free.

FOURTH OF JULY SPECTACULAR features food, music and games beginning 4 p.m. with fireworks at 9 p.m. Wednesday, Veterans Park, 4756 Valley View St. Yorba Linda, 714-961-7181.

LOS ANGELES COUNTY

FOURTH OF JULY ON CATALINA ISLAND features a golf cart parade down Crescent Avenue beginning at 1 p.m. Wednesday, followed by barbecue buffet dinner and music by the USC Marching Band at the Casino Ballroom ending with fireworks display over Avalon Bay, $29.95, children 3-12 $15, children 2 and younger free, band & fireworks only $10, 310-510-1520.

CLAREMONT'S FIREWORKS SPECTACULAR features concert by the Ravelers and fireworks show, gates open 6:30 p.m. Wednesday, Pomona College, Strehle Track, N. Mills Avenue and E. Sixth, $6 presale, $8 at gate, 909-399-5490.

CLAREMONT INDEPENDENCE DAY PARADE, 4-5:30 p.m. Wednesday, begins at the corner of Indian Hill Boulevard and Tenth Street, to Larkin Park, 909-399-5490.

INDEPENDENCE DAY FESTIVAL features Kiwanis Club pancake breakfast, 7-10 a.m., $3; entertainment, family and children's games and more, 10 a.m.-4 p.m. Wednesday, Memorial Park, 840 N. Indian Hill Blvd., Claremont, 909-399-5490.

DIAMOND BAR FOURTH OF JULY BLAST features live music by the Ho-Dads, face painting, a balloonist, Uncle Sam and more, 5 p.m. Wednesday with fireworks at 9 p.m., Diamond Bar High School, 21400 Pathfinder Road, 909-839-7070.

JULY FOURTH FIREWORKS SPECTACULAR featuring the Los Angeles Philharmonic conducted by Edwin Outwater with guests Riders in the Sky, 7:30 p.m. Monday-Wednesday, Hollywood Bowl, 2301 N. Highland Ave. Hollywood, $1-$290, 323-850-2000, (TM).

FOURTH OF JULY AT THE QUEEN MARY, 10 a.m.-10 p.m. Wednesday, features children's activities all day, entertainment by local bands noon-2 p.m, Latin Vibe, 2:30-6:30 p.m., Beatles Tribute Band 7-9 p.m. and fireworks at 9:15 p.m., Queen Mary, 1126 Queens Highway, Long Beach, $26, seniors and military $23, children 5-11 $15, parking $15, 562-435-3511.

INDEPENDENCE DAY AT THE AQUARIUM, open 9 a.m.-6 p.m. with picnic on the front lawn from 6-8 p.m. with fireworks Wednesday, Aquarium of the Pacific, 100 Aquarium Way, Long Beach, $26, children 3-11 $19, prices include picnic, 562-590-3100.

HORNBLOWER'S FOURTH OF JULY OBSERVATION CRUISE, boarding 7:30 p.m., cruise 8-10 p.m. Wednesday, 13755 Fiji Way, Marina del Rey, $55, reservations required 800-668-4322.

AMERICAFEST 2007 AT THE ROSE BOWL features the California Philharmonic Orchestra, "Family Fun Festival," food court, fireworks and more, noon-9:30 p.m. Wednesday, the Rose Bowl, 1001 Rose Bowl Drive, Pasadena, $12, active military with ID (up to four per family) and children 7 and younger free, parking $20, 626-577-3101, (TM).

KABOOM! features monster trucks, big air freestyle motocross riders and patriotic fireworks themed "American Journey," 7-10 p.m. Wednesday, Fairplex, 1101 W. McKinley Ave., Pomona, $12.50-$19.50, children 2 and younger free, parking $6-10, 909-623-3111.

SUMMER OF LOVE FOURTH OF JULY FIREWORKS FESTIVAL features business expo, kids fun zone, magicians, live music by Paperback Writer, Old School and more, 5-9:30 p.m. Wednesday, CBS Studio Center, 4024 Radford Ave., Studio City, $15,children $8 advance, at door $20, children $10, 818-655-5916.

DENNIS P. ZINE ANNUAL JULY FOURTH FIREWORKS EXTRAVAGANZA featuring Don Sweeney and the SRO Big Band, the Swing Dolls and fireworks show, 6-8 p.m. Wednesday, Warner Park, 5800 Topanga Canyon Blvd., Woodland Hills, free, 818-704-1358.

Compiled by Danette Allen, The Press-Enterprise

Cal Fire Press Release

Source: Press-Enterprise News

NEWS RELEASE

CAL FIRE / RIVERSIDE COUNTY FIRE DEPARTMENT

John R. Hawkins, Fire Chief
(951) 940-6900
www.rvcfire.org

Contact: Julie Hutchinson
Fire Captain
951-377-8380

Release Date: 06/22/2007 3:45 PM

The Safety Of The Public And Illegal Fireworks Enforcement Go Hand in Hand

Contact: Julie Hutchinson

Fire Captain

951-377-8380

Release Date: June 22, 2007

Media Advisory

CAL FIRE/Riverside County Fire Department in cooperation with the Riverside County Sheriffs Department, and the Riverside County Board of Supervisors will be holding a Dangers of Fireworks and Fireworks Enforcement Press Conference for the media on Wednesday, June 27, 2007 at 10:00 AM. The press conference will be held at the Ben Clark Training Center located at 3423 Davis Avenue, Riverside, CA (TB page 746-G4) Media can begin set up at 9:30 AM. The following news release will be discussed and live demonstrations will be shown to highlight the extreme dangers of fireworks posed to children, adults, and the communities we live in.

The Safety of the Public and Illegal Fireworks Enforcement

MORE

Flex your POWER

Go Hand In Hand

Officials from the County of Riverside want to insure that all residents know and understand that fireworks are illegal in Riverside County. It is important that everyone consider the extreme danger that all fireworks pose to the safety of the public and our communities. You may not sell, buy, transport, store, or use fireworks in the county. Most of the cities in Riverside County also prohibit fireworks.

The cities of Coachella, Cathedral City, Indio, and Blythe are the only cities that allow the sale and use of State Fire Marshal Approved Safe and Sane fireworks. However, these fireworks must not be transported, used, or possessed outside of the cities where they were purchased.

All fireworks, including sparklers are illegal in Riverside County. All fireworks are illegal because they cause serious injuries and they often cause fires. The vegetation in Riverside County is extremely dry and it is very easy to start brush fires with fireworks. Southern California continues to experience a record drought and the fire danger is a major reason to not use fireworks. Individuals who cause a wildland fire by using illegal fireworks will be held

responsible for the suppression costs. The cost of a small (couple of acres) fire can be in the thousands of dollars. The suppression cost for larger fires can cost millions. It just isn't worth the risk when there are great professional fireworks shows throughout the County.

Wildfires caused by fireworks are not the only danger; fireworks could easily land on an innocent bystander or child and cause serious burn injuries. Fireworks set off in the "safety" of the neighborhood sidewalk can easily land on a house or a car, which can start a fire. Is it worth the excitement of watching something explode when it might cost someone his or her life, car or home?

In an effort to protect the public and to address the serious safety concerns regarding illegal fireworks in Riverside County, the Board of Supervisors adopted Riverside County Ordinance No. 858 on June 6, 2006. The ordinance was enacted to combat the growing problem of the sale, purchase, use, storage, and disposal of fireworks in the unincorporated areas of Riverside County. The personal use and sale of illegal fireworks has become a serious threat to the safety, peace, and health of the public. The ordinance provides for an increase in penalties for the use, sale, transportation, and manufacturing of illegal fireworks in the unincorporated areas of the County. The minimum fines under Ordinance No. 858, for the possession of fireworks is now $500.00 to $1000.00 dollars and up to one year in jail.

The Riverside County Sheriff's Department and CAL FIRE/Riverside County Fire Department

Law Enforcement Officers will be aggressively enforcing Riverside County Ordinance 858, as well as other laws pertaining to the sale, use, transportation, storage, and manufacturing of illegal fireworks. The safety of the public and our communities requires zero tolerance regarding citizens in possession of illegal fireworks. Those caught with fireworks are subject to citation, fines and/or arrest, as well as confiscation of all illegal fireworks. It is in the best interest of everyone to leave the fireworks to the professionals.

Riverside County Fire Chief John R. Hawkins wants all residents to have a safe and enjoyable 4th of July Holiday. ¿It is important to consider the dangers of illegal fireworks. We encourage residents to attend organized professional shows with their families. Don¿t let an arrest or tragedy ruin a day of celebration. The message should be loud and clear, Fireworks are dangerous and they are illegal in Riverside County,¿ said Chief Hawkins.

For more information on professional fireworks shows in Riverside County, please visit the Riverside County Fire Departments website at www.rvcfire.org or contact the Information Line at 951-940-6985.

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END

3.2 National Weather Service Weather Forecast Discussions

NWS Los Angeles/Oxnard Forecast Office

FXUS66 KLOX 042105
AFDLOX
SOUTHWEST CALIFORNIA AREA FORECAST DISCUSSION
NATIONAL WEATHER SERVICE LOS ANGELES/OXNARD CA
205 PM PDT WED JUL 4 2007

.SHORT TERM...(TONIGHT-SATURDAY)
VERY STUBBORN LOW INVERSION HAS MADE THE STRATUS TOUGH TO BURN OFF ALONG THE IMMEDIATE COAST OF LA/VTU COUNTIES THIS AFTERNOON. THERE HAVE BEEN A FEW REPORTS OF DENSE FOG ALONG THE IMMEDIATE COAST AND COASTAL WATERS AS WELL DUE TO SHALLOW MARINE LAYER LESS THAN 800 FT. HIGH TEMPS WILL BE A FEW DEGREES COOLER ACROSS MOST OF THE COASTAL ZONES S OF POINT CONCEPTION DUE TO EDDY THAT SPUN UP OVERNIGHT INTO TODAY. THE MARINE LAYER WAS NEAR 1000 FT DEEP THIS MORNING WHICH WAS DEEP ENOUGH TO FILTER IN SOME MARINE INFLUENCE THOUGH THE CAHUENGA PASS AND PORTIONS OF THE SAN GABRIEL VALLEY. THIS SHOULD HELP HIGH TEMPERATURES STAY SIMILAR TO YESTERDAY IN PLACES LIKE BURBANK...AND SAN GABRIEL. YET MOST AREAS IN THE COASTAL AND INLAND VALLEYS HAVE CLIMBED A FEW DEGREES WARMER AS THICKNESS LVLS RISEN SLIGHTLY AND HIGH PRESSURE ALOFT CONTINUES TO DOMINATE THE WEATHER PATTERN. THE ANTELOPE VALLEY AND MOUNTAINS WERE ALSO A FEW DEGREES WARMER. EXPECTING TEMPERATURES IN THE ANTELOPE VALLEY TO REACH NEAR 112 DEGREES TODAY. SEVERAL LOWER ELEVATED MOUNTAIN SITES WILL ALSO REACH TO THE LOWER 100S TO NEAR 110 IN ACTON THIS AFTERNOON. ALTHOUGH TEMPS ARE QUITE HOT ACROSS THE INLAND AREAS...RELATIVE HUMIDITY LEVELS CONTINUE TO BE QUITE LOW...THEREFORE AN EXCESSIVE HEAT WARNING WILL NOT BE WARRANTED. ONE NOTE OF INTEREST IS THAT THE WATER VAPOR IMAGERY INDICATES DECENT SOUTHEASTERLY FLOW AT MID TO UPPER LVLS OF THE ATMOSPHERE. NOT CONCERNED WITH ANY CONVECTION THROUGH SATURDAY AS ATMOSPHERE REMAINS VERY DRY BELOW 500 MB. WRF SHOWS A SHALLOW AREA OF MOISTURE BETWEEN 400 AND 500 MB MOVING ACROSS THE FORECAST AREA TODAY. ONLY A FEW HIGH CLOUDS ARE EXPECTED. 700 MB WIND FLOW IS OUT OF THE SW WHICH WILL KEEP ANY CHANCE OF CONVECTION WELL EAST AND SOUTH OF THE AREA. NORTHERLY GRADIENTS ARE MUCH WEAKER TODAY SO NORTHERLY WINDS SHOULD NOT BE A FACTOR ACROSS THE I-5 CORRIDOR TONIGHT. SUNDOWNER CONDITIONS LOOK LIKELY FOR SANTA BARBARA COUNTY MOUNTAINS AND SOUTH COAST ON THU EVENING.

THE UPPER HIGH BECOMES POSITIVELY TILTED KEEPING EXTREME SRN CALIFORNIA UNDER THE HIGH AND A WEAK UPPER LVL TROUGH MOVES INTO THE CENTRAL COASTAL WATERS. TEMPERATURES SHOULD BEGIN TO LOWER GRADUALLY ACROSS THE FORECAST AREA...WITH MOST INLAND AREAS LOWERING AT LEAST 5 DEGREES ACROSS THE SOUTHERN INLAND AREAS AND UP TO 10 DEGREES OF COOLING ACROSS THE SLO COUNTY INTERIOR VALLEYS AND MOUNTAINS. EXPECT SIMILAR TEMPS FOR SATURDAY AS WELL. MOST INLAND AREAS WILL CONTINUE TO BE ABOVE NORMAL THROUGH THE PERIOD...WHILE THE COASTAL REGIONS SHOULD BE NEAR NORMAL TOWARDS THE END OF THE WEEK.
&&

.AVIATION...04/1740Z
AN EDDY IS ESTABLISHED OFF THE LA/ORANGE COUNTY COAST AND WILL BE RESPONSIBLE FOR LOW CLOUDS AND PATCHY DENSE FOG LINGERING ALONG THE COAST THROUGH THE AFTERNOON. COASTAL TAF SITES FROM OXNARD SOUTH WILL PROBABLY GET LOW CLOUDS AND FOG AGAIN TONIGHT...ONLY A MODERATE CONFIDENCE FORECAST. IN ADDITION...KLAX ALSO HAS A THREAT OF A BRIEF ENCOUNTER WITH LOW CLOUDS AND FOG DURING THE AFTERNOON HOURS.

KLAX...A LOW CONFIDENCE FORECAST DUE TO THE POSSIBLE SEA BREEZE FOG THREAT THIS AFTERNOON AND AN EARLIER TIME FOR THE RETURN OF LOW CLOUDS AND FOG.

KBUR...A HIGH CONFIDENCE FORECAST IN CLEAR SKIES THROUGH THURSDAY.
$$

.LOX WATCHES/WARNINGS/ADVISORIES...
RED FLAG WARNING (SEE LAXRFWLOX).
SMALL CRAFT ADVISORY (SEE LAXCWFLOX).
HIGH RIP CURRENT RISK (SEE LAXSRFLOX).
SPECIAL WEATHER STATEMENT (SEE LAXSPSLOX).
&&
$$
PUBLIC...KAPLAN
AVIATION...SWEET
WWW.WEATHER.GOV/LOSANGELES

FXUS66 KLOX 050439
AFDLOX

SOUTHWEST CALIFORNIA AREA FORECAST DISCUSSION
NATIONAL WEATHER SERVICE LOS ANGELES/OXNARD CA
930 PM PDT WED JUL 4 2007

...MORE RECORD HEAT EXPECTED ACROSS THE MOUNTAINS AND DESERTS ON THURSDAY...

.SHORT TERM...(TONIGHT-SATURDAY)
A STRONG UPPER LEVEL RIDGE OF HIGH PRESSURE WILL CONTINUE TO BRING RECORD HEAT TO THE MOUNTAINS AND DESERTS OF SOUTHERN CALIFORNIA ON THURSDAY. THERE WERE ALREADY 3 RECORDS BROKEN TODAY (LANCASTER AT 111 DEGREES... PALMDALE AT 110 DEGREES...AND SANDBERG AT 102 DEGREES). SEVERAL OTHER INTERIOR LOCATIONS TOPPED THE CENTURY MARK TODAY. WITH 850 MB/950 MB TEMPERATURES PEAKING ON THURSDAY...LOOK FOR MOST MOUNTAIN AND DESERT TEMPERATURES TO EDGE UP ANOTHER DEGREE OR TWO ON THURSDAY.

MEANWHILE...SATELLITE IMAGERY INDICATING SIGNIFICANTLY MORE LOW CLOUD AND FOG COVERAGE THIS EVENING ALONG COASTAL AREAS AS COMPARED TO LAST EVENING... ALREADY PUSHING WELL INTO THE LA COASTAL PLAIN AND CENTRAL COAST.
WITH PRESSURE GRADIENTS TRENDING ONSHORE TO THE EAST AND NORTH...IT APPEARS THAT THERE WILL BE MUCH MORE EXTENSIVE LOW CLOUD AND FOG COVERAGE ALONG COASTAL AREAS OVERNIGHT...EVEN EXPANDING INTO SBA SOUTH COAST. LATEST ACARS DATA SHOWING MARINE LAYER DEPTH AROUND 1200 FEET ACROSS THE LA BASIN...

AND THERE COULD BE A FEW HUNDRED MORE FEET OF DEEPENING LATER TONIGHT. WITH THIS IN MIND...THERE WILL LIKELY BE SOME PATCHY LOW CLOUDS AND FOG INTO THE LA COUNTY VALLEYS OVERNIGHT. WITH THE STRONGER ONSHORE GRADIENTS AND GREATER MARINE INFLUENCE...IT DOES APPEAR THAT MOST COASTAL AND COASTAL VALLEY AREAS WILL COOL A FEW DEGREES ON THURSDAY. MORE SIGNIFICANT COOLING IS EXPECTED IN MOST LOCATIONS ON FRIDAY AS UPPER LEVEL HIGH BREAKS DOWN AS WEAK UPPER LOW MOVES INTO THE CENTRAL COAST. TEMPERATURES ARE EXPECTED TO RETURN TO NEAR NORMAL BY THE WEEKEND.

ONE NOTE OF INTEREST IS THAT THE WATER VAPOR IMAGERY INDICATES DECENT SOUTHEASTERLY FLOW AT MID TO UPPER LVLS OF THE ATMOSPHERE. NOT CONCERNED WITH ANY CONVECTION THROUGH SATURDAY AS ATMOSPHERE REMAINS VERY DRY BELOW 500 MB. WRF SHOWS A SHALLOW AREA OF MOISTURE BETWEEN 400 AND 500 MB MOVING ACROSS THE FORECAST AREA TODAY. ONLY A FEW HIGH CLOUDS ARE EXPECTED. 700 MB WIND FLOW IS OUT OF THE SW WHICH WILL KEEP ANY CHANCE OF CONVECTION WELL EAST AND SOUTH OF THE AREA. NORTHERLY GRADIENTS ARE MUCH WEAKER TODAY SO NORTHERLY WINDS SHOULD NOT BE A FACTOR ACROSS THE I-5 CORRIDOR TONIGHT. SUNDOWNER CONDITIONS LOOK LIKELY FOR SANTA BARBARA COUNTY MOUNTAINS AND SOUTH COAST ON THU EVENING.

A RED FLAG WARNING REMAINS IN EFECT FOR THE MOUNTAINS AND ANTELOPE VALLEY THROUGH THURSDAY EVENING DUE TO A PROLONGED PERIOD OF LOW HUMIDITIES AND RECORD BREAKING HEAT. AS WE TRANSITION TO A STRONGER ONSHORE FLOW PATTERN... DO HAVE SOME CONCERN THAT GUSTY ONSHORE WINDS IN THE MOUNTAINS AND DESERTS WILL ALSO INCREASE FIRE WEATHER THREAT.
&&

.AVIATION...05/0430Z
LOW CLOUDS AND FOG ADVANCING QUICKLY ACROSS THE LOS ANGELES BASIN THIS EVENING...WITH LEADING EDGE ALREADY APPROACHING THE SEPULVEDA PASS AS OF 0430Z. WITH LOW CLOUDS FILLING INTO THE SBA CHANNEL THIS EVENING AND GRADIENTS TRENDING ONSHORE...THERE IS INCREASING CONFIENCE OF CEILINGS AT KSBA AND KOXR OVERNIGHT.

KLAX...LOW CLOUDS AND FOG EXPECTED TO REMAIN AT KLAX THROUGH THE NIGHT AND MID MORNING HOURS. WITH MARINE LAYER DEPTH AROUND 1200 FEET...CEILINGS SHOULD GENERALLY REMAIN BETWEEN 600 AND 900 FEET TONIGHT...WITH VSBYS GENERALLY AROUND 3NM. LOOK FOR CLEARING SOMETIME AROUND 17Z...WITH HAZE RESTRICTIONS AND SCT CLOUDS LINGERING THROUGH THE DAY.

KBUR...THERE IS MODERATE CONFIDENCE THAT A CELING WILL REACH INTO KBUR LATE TONIGHT. IF CEILINGS DO DEVELOP...THERE IS GOOD CHANCE OF CEILINGS AT 500 FEET OR LESS WITH VSBYS AROUND 1NM.
$$

.LOX WATCHES/WARNINGS/ADVISORIES...
RED FLAG WARNING (SEE LAXRFWLOX).
SMALL CRAFT ADVISORY (SEE LAXCWFLOX).
HIGH RIP CURRENT RISK (SEE LAXSRFLOX).
SPECIAL WEATHER STATEMENT (SEE LAXSPSLOX).
&&
$$
PUBLIC...GOMBERG/KAPLAN
AVIATION...GOMBERG
WWW.WEATHER.GOV/LOSANGELES

FXUS66 KLOX 051120
AFDLOX

SOUTHWEST CALIFORNIA AREA FORECAST DISCUSSION
NATIONAL WEATHER SERVICE LOS ANGELES/OXNARD CA
348 AM PDT THU JUL 5 2007

.SHORT TERM....THIS MORNING...LOW CLOUDS WERE QUITE A BIT MORE WDSPRD THAN THEY WERE ON WED MORNING...WITH CLOUDS IN JUST ABOUT ALL CSTL ZONES. MARINE LAYER GENERALLY RUNNING BETWEEN 800 AND 1000 FEET DP THIS MORNING...AND WITH A BIT MORE DEEPENING XPCTD...SOME CLOUDS SHOULD SPILL INTO THE CSTL VLYS FOR A COUPLE OF HOURS THIS MORNING. PROFILER DATA SHOWS SOME COOLING THIS MORNING BELOW 1000 FEET...WITH SOME WARMING ABOVE 2500 FEET. WITH SUCH A STRONG INVERSION AND GOOD ONSHORE TRENDS OF PRES GRADS...BLV CLOUDS MAY HOLD STUBBORNLY AT SOME BEACHES INTO THIS AFTERNOON. IT WILL STILL BE VERY HOT IN THE ANTELOPE VALLEY AND IN THE MTNS...ESPECIALLY AT LOWER ELEVATIONS...AND TEMPS ABOVE 2000 FEET ACTUALLY SUPPORT A COUPLE OF DEGREES OF WARMING THERE. THAT WOULD PUT TEMPS IN THE WARMEST LOCATIONS IN THE ANTELOPE VLY BETWEEN 112 AND 115...AT OR ABOVE RECORD VALUES. TEMPS IN THE HOTTEST LOCATIONS IN THE MTNS AND IN THE INTERIOR VLYS OF SLO AND SBA COUNTY COULD REACH 104 TO 110. ACROSS THE REMAINDER OF THE VLYS...THERE SHOULD BE SLIGHT COOLING TODAY...ALTHOUGH IT WILL STILL BE QUITE HOT...WITH TEMPS ABOVE 100 DEGREES IN THE WARMEST LOCATIONS. THE MARINE INFLUENCE WILL KEEP THE CSTL PLAIN QUITE A BIT COOLER...MAINLY IN THE UPPER 60S AND 70S AT THE BEACHES AND MOSTLY IN THE 80S INLAND.

THE STRONG UPPER HIGH WHICH HAS BEEN DOMINATING THE WEATHER ACROSS SRN CA THIS WEEK WILL BEGIN TO WKN AND SHIFT SLIGHTLY NEWD TONIGHT AND FRI. EXPECT NIGHT THRU MORNING LOW CLDS IN CSTL SXNS AND LOCALLY IN THE VLYS...AND THE WRF SHOWS ANOTHER EDDY CRCLN TONIGHT/FRI MORNING. ONCE AGAIN ON FRI...CLOUDS MAY BE STUBBORN NEAR THE BEACHES. THERE SHOULD BE A FEW DEGREES OF COOLING IN MOST AREAS ON FRI. TEMPS SHOULD STILL RISE TO BETWEEN 105 AND 110 DEGREES IN THE HOTTEST PARTS OF THE ANTELOPE VLY...AND TO BETWEEN 100 AND 105 DEGREES IN THE WARMEST MTN LOCATIONS. A FEW OF THE WARMER VLY LOCATIONS STILL WILL LIKELY HAVE TEMPS NEAR 100 DEGREES ON FRI...ALTHOUGH THOSE READINGS WILL BE LIMITED TO THE HOTTEST VLY LOCATIONS.

SIGNIFICANT FIRE WEATHER CONCERNS WILL CONTINUE THROUGH AT LEAST THIS EVENING...DUE TO RECORD LEVEL HEAT AND SINGLE DIGIT HUMIDITIES ACROSS INTERIOR SECTIONS OF THE FORECAST AREA. AS A RESULT...RED FLAG WARNINGS ARE STILL IN EFFECT FOR THE MOUNTAINS AND ANTELOPE VALLEY THROUGH THIS EVENING. AND...IT DOES NOT APPEAR AS THOUGH CONDS WILL IMPROVE ALL THAT MUCH ON FRI. PLEASE SEE RED FLAG WARNING PRODUCT (LAXRFWLOX) FOR MORE INFORMATION.

A WEAK UPPER TROUGH WILL SWING INTO CENTRAL CA FRI NIGHT AND SAT...CAUSING HEIGHTS TO FALL ACRS THE AREA. NIGHT/MORNING LOW CLOUDS WILL BE WDSPRD ACRS THE CSTL PLAIN...AND WILL LIKELY SPREAD INTO SOME VLY LOCATIONS. XPCT SEVERAL MORE DEGREES OF COOLING ACRS THE AREA ON SAT. WHILE TEMPS WILL STILL RISE ABOVE 100 DEGREES IN

THE ANTELOPE VLY AND THE WARMEST MTN LOCATIONS...HIGHS SHOULD REMAIN
IN THE 90S IN EVEN THE HOTTEST VLY LOCATIONS.
&&

.AVIATION...
05/1100Z
A WEAK EDDY AND AN 800 FOOT MARINE LAYER HAS BROUGHT STRATUS CLOUDS
TO MOST OF THE COAST...EXCEPT TO THE L.A. COAST (WHICH IS SOMEWHAT
OF A CHALLENGE TO EXPLAIN...MOSTLY LIKELY EDDY CENTER IS A LITTLE
MORE WESTWARD THAN USUAL AND IS PULLING THE CLOUDS AWAY) GOOD
ONSHORE TRENDS WILL RETARD BURN OFF. CONFIDENCE IN EXACT TRANSITIONS
FROM CLOUDY TO SUNNY IS NOT HIGH TODAY...ESPECIALLY L.A. COUNTY
WHERE THINGS ARE ODD ALREADY.

KLAX...LOW CONFIDENCE IN MOST ASPECTS OF TODAYS FORECAST. CLEARING
COULD BE MORE DIFFICULT THIS AFTERNOON THAN EXPECTED AND ONSET OF
CLOUDS HAS BEEN TRICKY EACH NIGHT AND COULD WELL DO IT AGAIN TONIGHT.

KBUR...A HIGH CONFIDENCE FORECAST IN CLEAR SKIES TODAY. LOW
CONFIDENCE IN CLOUDS MAKING IT IN TONIGHT. AT BEST THINK THEY WILL
ARRIVE AFTER 12Z FRIDAY...BUT ANYTHING COULD HAPPEN AFTER MIDNIGHT.
$$

.LOX WATCHES/WARNINGS/ADVISORIES...
RED FLAG WARNING (SEE LAXRFWLOX).
SMALL CRAFT ADVISORY (SEE LAXCWFLOX).
HIGH RIP CURRENT RISK (SEE LAXSRFLOX).
SPECIAL WEATHER STATEMENT (SEE LAXSPSLOX).
&&
$$
PUBLIC...BRUNO
AVIATION...RORKE
WWW.WEATHER.GOV/LOSANGELES

FXUS66 KLOX 051717
AFDLOX

SOUTHWEST CALIFORNIA AREA FORECAST DISCUSSION
NATIONAL WEATHER SERVICE LOS ANGELES/OXNARD CA
1018 AM PDT THU JUL 5 2007

.SHORT TERM....FORECAST SEEMS TO BE ON TRACK TODAY. THE ONLY CHANGE
BEING MADE WILL BE TO BUMP UP TEMPS A FEW DEGREES ACROSS THE
ANTELOPE VALLEY AND LOWER ELEVATION MOUNTAIN LOCATIONS FOR THIS
AFTERNOON. WITH A FEW OVERNIGHT TEMPS NOT GETTING BELOW 80 DEGREES
LAST NIGHT...MANY TEMPS ACROSS THE ANTELOPE VALLEY ARE ALREADY AS
HIGH AS 15 DEGREES WARMER COMPARED TO THE SAME TIME YESTERDAY. WITH
THE ONSHORE FLOW PICKING UP LATER THIS AFTERNOON...HIGHEST TEMPS IN
THE ANTELOPE VALLEY COULD REACH UP TO 117 DEGREES TODAY IN CERTAIN
LOCATIONS...WITH SOME MOUNTAIN LOCATIONS REACHING NEAR 112
DEGREES...SUCH AS ACTON.

WITH VERY STRONG INVERSION IN PLACE NEAR 1000 FT DEEP...EXPECT LOW

CLOUDS TO BE STUBBORN TO BURN OFF NEAR THE IMMEDIATE COASTS OF LA/VTU COUNTIES.

...FROM PREVIOUS DISCUSSION...

SHORT TERM CONTINUED...PROFILER DATA SHOWS SOME COOLING THIS MORNING BELOW 1000 FEET...WITH SOME WARMING ABOVE 2500 FEET. WITH SUCH A STRONG INVERSION AND GOOD ONSHORE TRENDS OF PRES GRADS...BLV CLOUDS MAY HOLD STUBBORNLY AT SOME BEACHES INTO THIS AFTERNOON. IT WILL STILL BE VERY HOT IN THE ANTELOPE VALLEY AND IN THE MTNS...ESPECIALLY AT LOWER ELEVATIONS...AND TEMPS ABOVE 2000 FEET ACTUALLY SUPPORT A COUPLE OF DEGREES OF WARMING THERE. THAT WOULD PUT TEMPS IN THE WARMEST LOCATIONS IN THE ANTELOPE VLY BETWEEN 112 AND 115...AT OR ABOVE RECORD VALUES. TEMPS IN THE HOTTEST LOCATIONS IN THE MTNS AND IN THE INTERIOR VLYS OF SLO AND SBA COUNTY COULD REACH 104 TO 110. ACROSS THE REMAINDER OF THE VLYS...THERE SHOULD BE SLIGHT COOLING TODAY...ALTHOUGH IT WILL STILL BE QUITE HOT...WITH TEMPS ABOVE 100 DEGREES IN THE WARMEST LOCATIONS. THE MARINE INFLUENCE WILL KEEP THE CSTL PLAIN QUITE A BIT COOLER...MAINLY IN THE UPPER 60S AND 70S AT THE BEACHES AND MOSTLY IN THE 80S INLAND.

THE STRONG UPPER HIGH WHICH HAS BEEN DOMINATING THE WEATHER ACROSS SRN CA THIS WEEK WILL BEGIN TO WKN AND SHIFT SLIGHTLY NEWD TONIGHT AND FRI. EXPECT NIGHT THRU MORNING LOW CLDS IN CSTL SXNS AND LOCALLY IN THE VLYS...AND THE WRF SHOWS ANOTHER EDDY CRCLN TONIGHT/FRI MORNING. ONCE AGAIN ON FRI...CLOUDS MAY BE STUBBORN NEAR THE BEACHES. THERE SHOULD BE A FEW DEGREES OF COOLING IN MOST AREAS ON FRI. TEMPS SHOULD STILL RISE TO BETWEEN 105 AND 110 DEGREES IN THE HOTTEST PARTS OF THE ANTELOPE VLY...AND TO BETWEEN 100 AND 105 DEGREES IN THE WARMEST MTN LOCATIONS. A FEW OF THE WARMER VLY LOCATIONS STILL WILL LIKELY HAVE TEMPS NEAR 100 DEGREES ON FRI...ALTHOUGH THOSE READINGS WILL BE LIMITED TO THE HOTTEST VLY LOCATIONS.

SIGNIFICANT FIRE WEATHER CONCERNS WILL CONTINUE THROUGH AT LEAST THIS EVENING...DUE TO RECORD LEVEL HEAT AND SINGLE DIGIT HUMIDITIES ACROSS INTERIOR SECTIONS OF THE FORECAST AREA. AS A RESULT...RED FLAG WARNINGS ARE STILL IN EFFECT FOR THE MOUNTAINS AND ANTELOPE VALLEY THROUGH THIS EVENING. AND...IT DOES NOT APPEAR AS THOUGH CONDS WILL IMPROVE ALL THAT MUCH ON FRI. PLEASE SEE RED FLAG WARNING PRODUCT (LAXRFWLOX) FOR MORE INFORMATION.
&&

.AVIATION...
05/1100Z

A WEAK EDDY AND AN 800 FOOT MARINE LAYER HAS BROUGHT STRATUS CLOUDS TO MOST OF THE COAST...EXCEPT TO THE L.A. COAST (WHICH IS SOMEWHAT OF A CHALLENGE TO EXPLAIN...MOSTLY LIKELY EDDY CENTER IS A LITTLE MORE WESTWARD THAN USUAL AND IS PULLING THE CLOUDS AWAY) GOOD ONSHORE TRENDS WILL RETARD BURN OFF. CONFIDENCE IN EXACT TRANSITIONS FROM CLOUDY TO SUNNY IS NOT HIGH TODAY...ESPECIALLY L.A. COUNTY WHERE THINGS ARE ODD ALREADY.

KLAX...LOW CONFIDENCE IN MOST ASPECTS OF TODAYS FORECAST. CLEARING COULD BE MORE DIFFICULT THIS AFTERNOON THAN EXPECTED AND ONSET OF

CLOUDS HAS BEEN TRICKY EACH NIGHT AND COULD WELL DO IT AGAIN TONIGHT.

KBUR...A HIGH CONFIDENCE FORECAST IN CLEAR SKIES TODAY. LOW
CONFIDENCE IN CLOUDS MAKING IT IN TONIGHT. AT BEST THINK THEY WILL
ARRIVE AFTER 12Z FRIDAY...BUT ANYTHING COULD HAPPEN AFTER MIDNIGHT.
$$
.LOX WATCHES/WARNINGS/ADVISORIES...
RED FLAG WARNING (SEE LAXRFWLOX).
SMALL CRAFT ADVISORY (SEE LAXCWFLOX).
HIGH RIP CURRENT RISK (SEE LAXSRFLOX).
SPECIAL WEATHER STATEMENT (SEE LAXSPSLOX).
&&
$$
PUBLIC...BRUNO
AVIATION...RORKE
WWW.WEATHER.GOV/LOSANGELES

NWS San Diego Forecast Office

FXUS66 KSGX 042033
AFDSGX

AREA FORECAST DISCUSSION
NATIONAL WEATHER SERVICE SAN DIEGO CA
230 PM PDT WED JUL 4 2007

.SYNOPSIS...
STRONG HIGH PRESSURE ALOFT WILL BRING HOT DAYS INLAND WITH NEAR RECORD HIGH TEMPERATURES THURSDAY. A SHALLOW MARINE LAYER WILL CONTINUE COASTAL LOW CLOUDS AND FOG DURING THE LATE NIGHTS AND MORNINGS. HIGH PRESSURE WILL BEGIN TO WEAKEN FRIDAY WITH A GRADUAL COOLING TREND INTO THE NEXT WEEK.
&&

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

.SHORT TERM (TONIGHT-SAT)...
LOW CLOUDS AND LOCAL DENSE FOG WERE INTO THE COASTAL AREAS AND FAR WRN SAN DIEGO INLAND VALLEYS THIS MORNING. STRATUS WAS SLOW TO CLEAR FROM THE BEACHES. OTHERWISE...CLEAR EXCEPT FOR A FEW HIGH CLOUDS. EARLY AFTERNOON ACARS SOUNDINGS SHOW AN INVERSION BASED NEAR OR A LITTLE ABOVE 1000 FT. ONSHORE GRADIENTS WITH ABOUT 5 MB SAN-IPL.

STRONG HIGH PRESSURE ALOFT WILL SLOWLY WEAKEN FRI AND SAT. THIS WILL BRING ANOTHER HOT DAY INLAND THU. IT WILL BE A LITTLE COOLER FRI AND SAT...ALTHOUGH STILL HOT INLAND. HEAT WARNINGS REMAIN IN EFFECT FOR THE WARMER INLAND VALLEY LOCATIONS AND FOR THE LOWER DESERTS THIS AFTERNOON AND THU AFTERNOON. HOWEVER...LACK OF HIGH HUMIDITIES WILL MODERATE THE HEAT INDEX VALUES.

A VERY SLIGHT DEEPENING OF THE MARINE LAYER SHOULD RESULT AS THE HIGH ALOFT WEAKENS WITH AN INTERMITTENT WEAK COASTAL EDDY. THE INVERSION WILL STILL BE FAIRLY LOW AND STRONG WITH STRATUS INTO MOST COASTAL AREAS AND THE FAR WRN SAN DIEGO INLAND VALLEYS DURING THE NIGHTS AND MORNINGS. THERE WILL PROBABLY BE LOCAL DENSE FOG WERE THE LOW CLOUDS INTERSECT THE HIGHER COASTAL TERRAIN AND WRN VALLEYS. STRATUS MAY BE SLOW TO CLEAR FROM ALL BEACHES.

ONSHORE FLOW TO THERMALLY INDUCED LOW PRESSURE IN THE DESERTS WILL CAUSE NORMAL SEA BREEZES. THIS WILL RESULT IN LOCAL GUSTY WINDS AROUND 25 MPH IN THE MOUNTAINS AND DESERTS DURING THE AFTERNOONS AND EVENINGS. WHILE THERE SHOULD BE A SLIGHT UPWARD TREND IN THE DEW POINTS...IT WILL STILL BE QUITE DRY IN THE DESERTS AND HIGHER MOUNTAINS WHICH WILL MAINTAIN AN ELEVATED FIRE WEATHER THREAT.
&&

.AVIATION...
042011Z...STRONG AND LOW MARINE INVERSION AND A WEAK COASTAL EDDY WILL KEEP THE AREAS OF STRATUS/FOG CLOSE TO THE COAST FOR THE NEXT

FEW DAYS. CLEARING COULD BE DIFFICULT ALONG THE IMMEDIATE COAST AND OVER THE COASTAL WATERS. THE STRATUS IS MORE EXTENSIVE AT 20Z THAN THE PAST FEW DAYS AND ONSHORE GRADIENTS ARE A BIT STRONGER...SO IT MAY SURGE INLAND SOONER THIS EVENING THAN THE PAST FEW DAYS. ACARS SOUNDINGS SUGGEST THE MARINE LAYER HAS DEEPENED SLIGHTLY AS WELL. WITH THE MARINE LAYER DEPTH NEAR 1200 FT...BASES BETWEEN 800 AND 1000 FT MSL ARE EXPECTED ALONG THE COAST AFTER 03Z...SPREADING INLAND AFTER 05Z AND LOWERING BY 12Z TO BETWEEN 300 AND 500 FT MSL. WIDESPREAD VISIBILITY 3-5SM IN FOG AND HAZE AND LOCALLY BELOW 1 MILE ARE EXPECTED WITHIN 10 MILES OF THE COAST BETWEEN 08Z AND 15Z THU MORNING....POSSIBLY IMPACTING COASTAL AIRPORT OPERATIONS AGAIN THU MORNING. RAPID IMPROVEMENT IS EXPECTED BETWEEN 15Z AND 16Z THU. OTHERWISE...VFR ABOVE THE MARINE LAYER AND INLAND WITH SCATTERED HIGH CLOUDS ABOVE FL200.
&&

.MARINE...
SOUTH SWELL OF AROUND 4 FT HAS ARRIVED AND IS FORECAST TO BE CONTINUE FOR THE REMAINDER OF THE WEEK. THE LONG PERIOD SWELL SUGGESTS SOME BREAKERS COULD REACH 7 OR 8 FT LOCALLY ON SOUTH AND SOUTH WEST FACING BEACHES. RIP CURRENTS AND ALONG SHORE CURRENTS EXPECTED TO BE STRONGER THAN NORMAL DUE TO THE OBLIQUE ANGLE OF SWELL ARRIVAL AT MOST BEACHES AND SIZE OF SURF.
&&

.SGX WATCHES/WARNINGS/ADVISORIES...
EXCESSIVE HEAT WARNING UNTIL 6 PM TODAY AND FROM NOON TO 6 PM PDT THURSDAY IN THE WARMER INLAND VALLEY AREAS. SEE LAXNPWSGX.

EXCESSIVE HEAT WARNING UNTIL 8 PM TODAY AND FROM NOON TO 8 PM PDT THURSDAY IN THE LOWER DESERTS. SEE LAXNPWSGX.

HIGH RIP CURRENT RISK AT THE BEACHES. SEE LAXSRFSGX.
&&
$$
PUBLIC...DVA
AVIATION/MARINE...JAD

FXUS66 KSGX 050428
AFDSGX

AREA FORECAST DISCUSSION
NATIONAL WEATHER SERVICE SAN DIEGO CA
930 PM PDT WED JUL 4 2007

.SYNOPSIS...
STRONG HIGH PRESSURE ALOFT WILL BRING HOT DAYS INLAND WITH A FEW NEAR RECORD HIGH TEMPERATURES THURSDAY. A SHALLOW MARINE LAYER WILL CONTINUE COASTAL LOW CLOUDS AND FOG DURING THE LATE NIGHTS AND MORNINGS. A GRADUAL COOLING TREND WILL OCCUR MAINLY FRIDAY THROUGH MONDAY AS HIGH PRESSURE WILL WEAKENS.
&&

.DISCUSSION...FOR EXTREME SOUTHWESTERN CALIFORNIA INCLUDING ORANGE...
SAN DIEGO...WESTERN RIVERSIDE AND SOUTHWESTERN SAN BERNARDINO
COUNTIES...
LOW CLOUDS WERE SPREADING INLAND INTO SAN DIEGO COUNTY THIS EVENING
AS THE MARINE LAYER WAS 1400 FEET AND ONSHORE PRESSURE GRADIENTS
WERE ABOUT 8 MB FROM SAN TO THE DESERTS. OTHERWISE...SKIES WERE
MOSTLY CLEAR EXCEPT FOR A FEW VERY HIGH CLOUDS FROM THE EAST. THE
LOW CLOUDS SHOULD BE A LITTLE MORE EXTENSIVE OVERNIGHT DUE TO THE
DEEPER MARINE LAYER AND THE MORE ABUNDANT STRATUS EARLIER TODAY OVER
THE COASTAL WATERS. EVEN W AND S PARTS OF THE INLAND EMPIRE ARE
RECEIVING AN INCREASE IN THE DEW POINTS...ABOVE 60 IN SOME
AREAS...SO THESE AREAS COULD RECEIVE PATCHY FOG TOWARDS
MORNING...BUT MOST OF THE FOG SHOULD STAY TO THE S AND W.

ANOTHER HOT DAY IS EXPECTED IN THE FOOTHILLS/MTNS/DESERTS...THOUGH
MILD WEATHER WILL PREVAIL NEAR THE COAST DUE TO THE MARINE LAYER.
THE HEAT ADVISORY WILL BE ALLOWED TO CONTINUE ONE MORE AFTERNOON IN
THE LOWER DESERTS AND HOTTER PARTS OF THE INLAND EMPIRE DUE TO THE
PROLONGED NATURE OF THE HEAT EVEN THOUGH HEAT INDEX VALUES WILL FALL
SEVERAL DEGREES SHORT OF THE CRITERIA OF 120 AND 110 RESPECTIVELY
DUE TO LOW HUMIDITIES. IN THE SAN DIEGO COUNTY VALLEYS...COOLER
WEATHER WILL CONTINUE THU DUE TO MORE OF A MARINE INFLUENCE...THOUGH
A THIN SLICE OF TERRITORY RIGHT UP AGAINST THE MTNS...EAST OF
RAMONA...ALPINE AND POTRERO...COULD STILL TOP 100. STRATUS COULD
LINGER AGAIN IN THE AFTERNOON AT SOME BEACHES DUE TO THE VERY STRONG
INVERSION...GREATER THAN 10 DEG C.

THE HIGH WILL GRADUALLY BREAK DOWN AND BRING GRADUAL COOLING OVER
THE WEEKEND. THE MARINE LAYER WILL CONTINUE AT THE COAST...REACHING
INTO THE VALLEYS AT TIMES. AS THE HIGH REBUILDS A BIT TOWARDS THE
MIDDLE OF NEXT WEEK...SOME E-SE FLOW ALOFT DEVELOPS. SOME MODEL
RUNS...BOTH THE GFS AND ECM...SHOW ENOUGH MOISTURE FOR AN ISOLATED
MTN TSTORM BY ABOUT WED...AND IF THE MODELS ARE CONSISTENT WITH THIS
THE NEXT FEW RUNS...THEN A SLIGHT CHANCE MIGHT NEED TO BE ADDED TO
THE FORECAST. WE ARE ENTERING THAT SEASON.
&&

.AVIATION...
050400Z...A STRONG LOW LEVEL MARINE INVERSION CONTINUES WITH THE
MARINE LAYER DEPTH AROUND 1400 FT MSL. COASTAL EDDY CIRCULATION
HELPING TO KEEP THE MARINE LAYER HIGHER DESPITE THE STRONG HIGH
PRESSURE ALOFT. LATEST SATPIX SHOW STRATUS/FOG STARTING TO DEVELOP
NEAR PORTIONS OF THE SAN DIEGO COUNTY COAST. TIMING OF LOW CLOUDS
PROBABLY FORMING AND SPREADING EARLIER THAN PREVIOUS NIGHTS. EXPECT
BASES AROUND 700-1000 FT MSL TONIGHT BUT COULD DROP DOWN CLOSER TO
500 FT MSL BY EARLY THU MORN. STRATUS/FOG SHOULD SPREAD ABOUT
10-15SM INLAND BY 12Z WITH GENERAL COASTAL VISIBILITIES APPROX 3-5SM
IN FOG BUT SOME DENSE FOG WILL ALSO OCCUR MAINLY ON THE MESAS WITH
LOCAL VSBYS BELOW 1SM TIL 15Z.

CLOUDS WERE TOUGHER TO CLEAR NEAR THE IMMEDIATE COAST TODAY...AND
WITH THE WEAK EDDY AND STRONG INVERSION EXPECT THIS TO CONTINUE ON
THU. EXPECT IMPROVING VSBY AND RISING CIGS FROM 15-17Z THU BUT SOME
STUBBORN LOW CLOUDS SHOULD LINGER NEAR THE BEACHES TIL 19Z OR
LONGER.

OTHERWISE...UNRESTRICTED CONDITIONS ABOVE THE MARINE LAYER AND
INLAND WITH SCATTERED HIGH CLOUDS.
&&

.MARINE...
SOUTH SWELL CURRENTLY AROUND 4 FT WILL DROP SLIGHTLY ON THURSDAY
WITH A PERIOD NEAR 14 SECONDS. ANOTHER SOUTH SWELL IS SLATED TO
ARRIVE ON FRI AND WILL BRING SWELL HEIGHTS SIMILAR TO TODAY WITH A
14 SEC INTERVAL. SURF HEIGHTS SHOULD DROP A LITTLE THU AND PICK UP
A BIT ON FRI WITH BREAKERS UP TO AROUND 7 FT AT TIMES IN PORTIONS OF
ORANGE COUNTY. RIP CURRENTS AND LONG SHORE CURRENTS WILL BE STRONG
FOR THE NEXT SEVERAL DAYS.
&&

.SGX WATCHES/WARNINGS/ADVISORIES...
EXCESSIVE HEAT WARNING FROM NOON TO 6 PM PDT THURSDAY IN THE WARMEST
PARTS OF THE INLAND EMPIRE AND FROM NOON TO 8 PM PDT THURSDAY IN THE
LOWER DESERTS. SEE LAXNPWSGX.

HIGH RIP CURRENT RISK AT THE BEACHES. SEE LAXSRFSGX.
&&
$$
PUBLIC...MAXWELL
AVIATION/MARINE...LAVIS

FXUS66 KSGX 051058
AFDSGX

AREA FORECAST DISCUSSION
NATIONAL WEATHER SERVICE SAN DIEGO CA
345 AM PDT THU JUL 5 2007

.SYNOPSIS...
STRONG HIGH PRESSURE ALOFT WILL BRING ANOTHER HOT DAY INLAND WITH A
FEW NEAR RECORD HIGH TEMPERATURES TODAY. A SHALLOW MARINE LAYER WILL
CONTINUE COASTAL LOW CLOUDS AND FOG DURING THE LATE NIGHTS AND
MORNINGS. A GRADUAL COOLING TREND WILL OCCUR MAINLY FRIDAY THROUGH
MONDAY AS HIGH PRESSURE WEAKENS.
&&

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

.SHORT TERM (TODAY THROUGH SATURDAY)...
INLAND AREAS WILL SEE ONE MORE DAY WITH NEAR RECORD HIGH
TEMPERATURES. THEN SLOW WEAKENING OF HIGH PRESSURE OVER THE
SOUTHWEST STATES WILL BRING A SLOW COOLING TREND FRIDAY THROUGH
EARLY NEXT WEEK. LITTLE CHANGE IN THE MARINE LAYER DEPTH FROM 24
HOURS AGO WITH THE MARINE LAYER DEEP ENOUGH FOR STRATUS TO COVER
MUCH OF THE ORANGE COUNTY COASTAL PLAIN THIS MORNING AND IN SAN
DIEGO COUNTY EXTEND INLAND INTO THE FAR WESTERN VALLEYS. TREND
SHOULD BE FOR SLOW DEEPENING BY SATURDAY MORNING...PRESSING A

LITTLE FARTHER INLAND INTO THE LOWER COASTAL VALLEYS BUT NOT INTO
THE INLAND VALLEYS. HIGHEST TEMPERATURES ALONG AND WEST OF THE
MOUNTAINS ON INDEPENDENCE DAY WERE IN THE COASTAL FOOTHILLS WITH
HIGHS AROUND 110 WITH WIDESPREAD HIGHS ABOVE 110 IN THE DESERTS. NOT
MUCH CHANGE IS EXPECTED TODAY FOR INLAND AREAS...BUT LOWER COASTAL
VALLEYS WEST SHOULD SEE LITTLE CHANGE OR POSSIBLY A DEGREE OR TWO OF
COOLING.
&&

.AVIATION...
051030Z...MARINE LAYER ABOUT 1200 FEET WITH STRONG INVERSION. EDDY
FORECAST TO DIE OUT FOR TODAY AND THEN START UP AGAIN TONIGHT
THROUGH FRI MORNING. MARINE LAYER SHOULD LOWER THIS MORNING TO ABOUT
1000 FT OR LESS. BASES EXPECTED TO LOWER TO ABOUT 600 FT THIS
MORNING WITH VSBY MOSTLY LESS THAN 3SM AND AREAS BELOW 1SM WITH
DENSE FOG MAINLY ON THE MESAS. STRATUS AND FOG SHOULD CLEAR OUT
ABOUT 16-17Z WITH SOME FOG AND STRATUS REMAINING AT THE COAST INTO
EARLY AFTERNOON WITH THE STRONG INVERSION. BASES EXPECTED TO BE A
BIT HIGHER LATE TONIGHT AND VSBY SLIGHTLY HIGHER.
&&

.MARINE...
SOUTH SWELL DROPPING SLIGHTLY TODAY AND THEN BACK UP A BIT FOR
FRIDAY BUT STILL THE PERIOD IS NOT MUCH AT 14 TO 15 SECONDS. SURF
EXPECTED TO BE ABOUT A FOOT LOWER TODAY AND THEN A FOOT PLUS HIGHER
FRIDAY. RIP CURRENTS AND LONG SHORE CURRENTS WILL BE STRONG FOR THE
NEXT SEVERAL DAYS.
&&

.SGX WATCHES/WARNINGS/ADVISORIES...
CA...EXCESSIVE HEAT WARNING FROM NOON TODAY TO 6 PM PDT THIS
AFTERNOON FOR SAN BERNARDINO AND RIVERSIDE COUNTY VALLEYS-
THE INLAND EMPIRE.

EXCESSIVE HEAT WARNING FROM NOON TODAY TO 8 PM PDT THIS EVENING
FOR COACHELLA VALLEY-SAN DIEGO COUNTY DESERTS.

PZ...NONE.
&&
$$
PUBLIC...MARTIN
AVIATION/MARINE...WHITLOW
NWS ON THE WEB AT WEATHER.GOV/SANDIEGO

FXUS66 KSGX 051615
AFDSGX

AREA FORECAST DISCUSSION
NATIONAL WEATHER SERVICE SAN DIEGO CA
900 AM PDT THU JUL 5 2007

.SYNOPSIS...
STRONG HIGH PRESSURE ALOFT WILL BRING ANOTHER HOT DAY INLAND WITH A

FEW NEAR RECORD HIGH TEMPERATURES TODAY. A SHALLOW MARINE LAYER WILL CONTINUE COASTAL LOW CLOUDS AND FOG DURING THE LATE NIGHTS AND MORNINGS. A GRADUAL COOLING TREND WILL OCCUR MAINLY FRIDAY THROUGH MONDAY AS HIGH PRESSURE WEAKENS.
&&

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

.SHORT TERM (TODAY THROUGH SATURDAY)...
MAIN WEATHER CHANGE TODAY IS INSTABILITY OVER MOUNTAINS. SOUTHEAST FLOW PRESENT ABOVE 10000 FEET WITH SLIGHT INCREASE IN MOISTURE ABOVE 15000 FEET. OF THE FEW VISUAL OBSERVATIONS AVAILABLE THIS MORNING ALTOCUMULUS WAS INDICATED OVER SAN DIEGO COUNTY MOUNTAINS. CAPE FORECAST FROM NAM12 MODEL SHOWS +1500 JOULES/KG OVER DESERTS AND K VALUES IN THE MID 20S. MODEL POINT SOUNDINGS HAVE CONVECTIVE TEMPERATURES OF 100 OVER MOUNTAINS AND 120 OVER DESERTS...THIS IS CLOSE TO WHAT MAX TEMPERATURES WERE YESTERDAY...AND TEMPERATURES TODAY EXPECTED TO BE SAME OR SLIGHTLY WARMER...RISK OF THUNDERSTORMS IS STILL VERY LOW BUT HAS INCREASED OVER YESTERDAY. WILL HOLD ON UPDATING FORCED THE RADARS INTO CONVECTIVE SURVEILLANCE MODE TO MORE CLOSELY MONITOR ANY CONVECTION TODAY.

FROM PREVIOUS DISCUSSION....INLAND AREAS WILL SEE ONE MORE DAY WITH NEAR RECORD HIGH TEMPERATURES. THEN SLOW WEAKENING OF HIGH PRESSURE OVER THE SOUTHWEST STATES WILL BRING A SLOW COOLING TREND FRIDAY THROUGH EARLY NEXT WEEK. LITTLE CHANGE IN THE MARINE LAYER DEPTH FROM 24 HOURS AGO WITH THE MARINE LAYER DEEP ENOUGH FOR STRATUS TO COVER MUCH OF THE ORANGE COUNTY COASTAL PLAIN THIS MORNING AND IN SAN DIEGO COUNTY EXTEND INLAND INTO THE FAR WESTERN VALLEYS. TREND SHOULD BE FOR SLOW DEEPENING BY SATURDAY MORNING...PRESSING A LITTLE FARTHER INLAND INTO THE LOWER COASTAL VALLEYS BUT NOT INTO THE INLAND VALLEYS. HIGHEST TEMPERATURES ALONG AND WEST OF THE MOUNTAINS ON INDEPENDENCE DAY WERE IN THE COASTAL FOOTHILLS WITH HIGHS AROUND 110 WITH WIDESPREAD HIGHS ABOVE 110 IN THE DESERTS. NOT MUCH CHANGE IS EXPECTED TODAY FOR INLAND AREAS...BUT LOWER COASTAL VALLEYS WEST SHOULD SEE LITTLE CHANGE OR POSSIBLY A DEGREE OR TWO OF COOLING.
&&

.AVIATION...
051515Z...MARINE LAYER ABOUT 1400 FEET DEEP THIS MORNING. THE STRATUS LAYER IS AROUND 500-700 FT THICK. WITH NO COASTAL EDDY PRESENT...WOULD EXPECT A BETTER BURN-OFF BETWEEN 16Z AND 17Z MOST AREAS. A VERY STRONG INVERSION BASED NEAR 1K FT MSL WILL LIKELY KEEP SOME CLOUDINESS AND HAZE OVER THE COASTAL WATERS AND ALONG THE IMMEDIATE COAST MUCH OF THE DAY HOWEVER.
LITTLE CHANGE IN THE MARINE LAYER DEPTH IS EXPECTED OVERNIGHT. IT DOES APPEAR AN EDDY COULD SPIN UP AT SOME POINT WHICH COULD HELP HOLD THE STRATUS IN A BIT BETTER AT THE COAST FRI MORNING. OTHERWISE LOOK FOR THE STRATUS TO MOVE INLAND BETWEEN 05Z AND 07Z...WITH BASES BETWEEN 700 AND 1000 FT MSL AND TOPS NEAR FL014. CEILINGS EXPECTED TO LOWER A FEW HUNDRED FEET BY MORNING TO BETWEEN 400 AND 700 FT MSL. AREAS OF FOG AND HAZE WILL DEVELOP OVERNIGHT AGAIN...WITH VISIBILITY BETWEEN 3 AND 5 SM...BUT LOCALLY BELOW 3SM IN FOG THROUGH 16Z FRI. LOWEST VSBY EXPECTED ON THE MESAS AND HIGHER COASTAL

TERRAIN.

ABOVE THE MARINE LAYER AND INLAND...VFR WITH SCATTERED CLOUDS ABOVE FL150.
&&

.MARINE...
SOUTH SWELL DROPPING SLIGHTLY TODAY AND THEN BACK UP A BIT FOR FRIDAY BUT STILL THE PERIOD IS NOT MUCH AT 14 TO 15 SECONDS. SURF EXPECTED TO BE ABOUT A FOOT LOWER TODAY AND THEN A FOOT PLUS HIGHER FRIDAY. RIP CURRENTS AND LONG SHORE CURRENTS WILL BE STRONG FOR THE NEXT SEVERAL DAYS.
&&

.SGX WATCHES/WARNINGS/ADVISORIES...
EXCESSIVE HEAT WARNING THIS AFTERNOON AND EVENING - SAN BERNARDINO AND RIVERSIDE COUNTY VALLEYS-COACHELLA VALLEY-SAN DIEGO COUNTY DESERTS...SEE LAXNPWSGX.

HIGH RIP CURRENT RISK THROUGH SUNDAY FOR ORANGE AND SAN DIEGO COUNTY BEACHES...SEE LAXSRFSGX.
&&
$$
PUBLIC/FIRE WEATHER...BALFOUR
AVIATION/MARINE...JAD
NWS ON THE WEB AT WEATHER.GOV/SANDIEGO