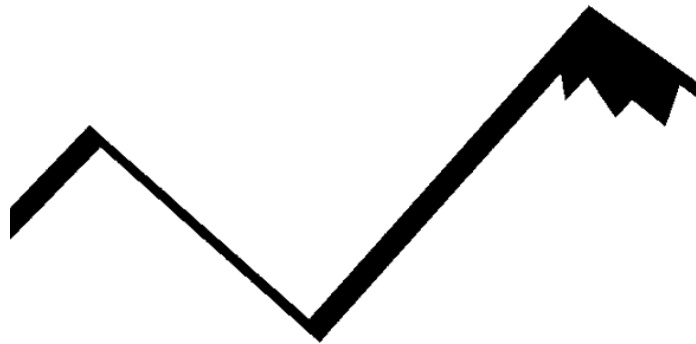
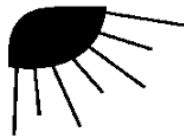


Exceptional Event Documentation

PM10
Fireworks
Bakersfield, CA
July 4, 2007



San Joaquin Valley Unified
Air Pollution Control District

December 6, 2007

Prepared By

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1. SUMMARY

A PM10 exceedance recorded in the San Joaquin Valley on July 4, 2007 meets the criteria for an exceptional event as defined by federal policies. This report demonstrates that without the exceptional event, there would not have been an exceedance of the PM10 National Ambient Air Quality Standard (NAAQS) in Bakersfield, CA on July 4, 2007.

PM2.5 and PM10 concentrations increased significantly during the evening of July 4 due to fireworks emissions. PM2.5 and PM10 concentrations remained very high into the early morning of July 5. Although a combination of several factors contributed to the total PM10 concentrations, the District concludes that the exceedance would not have occurred in the absence of emissions from fireworks. Exceptional event documentation for exceedances of the PM2.5 NAAQS will be provided in a separate report.

2. BACKGROUND

In the March 22, 2007 Federal Register, the Environmental Protection Agency (EPA) presented the final rule addressing the review and handling of air quality monitoring data influenced by exceptional events. Exceptional events are events for which the normal planning and regulatory process established by the Clean Air Act (CAA) is not appropriate. In this rulemaking action, EPA finalized the proposal to:

- Implement section 319(b)(3)(B) and section 107(d)(3) authority to exclude air quality monitoring data from regulatory determinations related to exceedances or violations of the NAAQS; and,
- Avoid designating an area as nonattainment, redesignating an area as nonattainment, or reclassifying an existing nonattainment area to a higher classification if a State adequately demonstrates that an exceptional event has caused an exceedance or violation of a NAAQS.

The EPA requires states to take reasonable measures to mitigate the impacts of an exceptional event. In accordance with the language in section 319, EPA defines the term "exceptional event" to mean an event that:

- (i) Affects air quality;
- (ii) Is not reasonably controllable or preventable;
- (iii) Is an event caused by human activity that is unlikely to recur at a particular location or a natural event; and
- (iv) Is determined by EPA through the process established in the regulations to be an exceptional event.

The EPA treats emissions due to fireworks displays in a manner similar to exceptional events. 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.

Fireworks displays can in some circumstances be potentially significant sources of air pollutant emissions. For this reason, reasonable precautions are taken to minimize exposures to emissions from fireworks displays. 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.

The District concludes that the use of fireworks displays was integral to significant traditional July 4 events, and will flag air quality data associated with July 4 fireworks events. In the official EPA database (AQS), PM10 data will be flagged with the

"OTHER" flag, and a comment will be included to indicate the data was influenced by fireworks emissions.

Data flagging serves multiple purposes. According to the 1986 U. S. Environmental Protection Agency (EPA) guidance document, *Guideline on the Identification and Use of Air Quality Data Affected by Exceptional Events*, knowledge and understanding of what data represent are critical in the overall air quality process. The major thrust of a data flagging system is information exchange, and data flags are meant to prevent the misuse of data. Flagging the July 4, 2007 exceedance will ensure that the data is not misinterpreted.

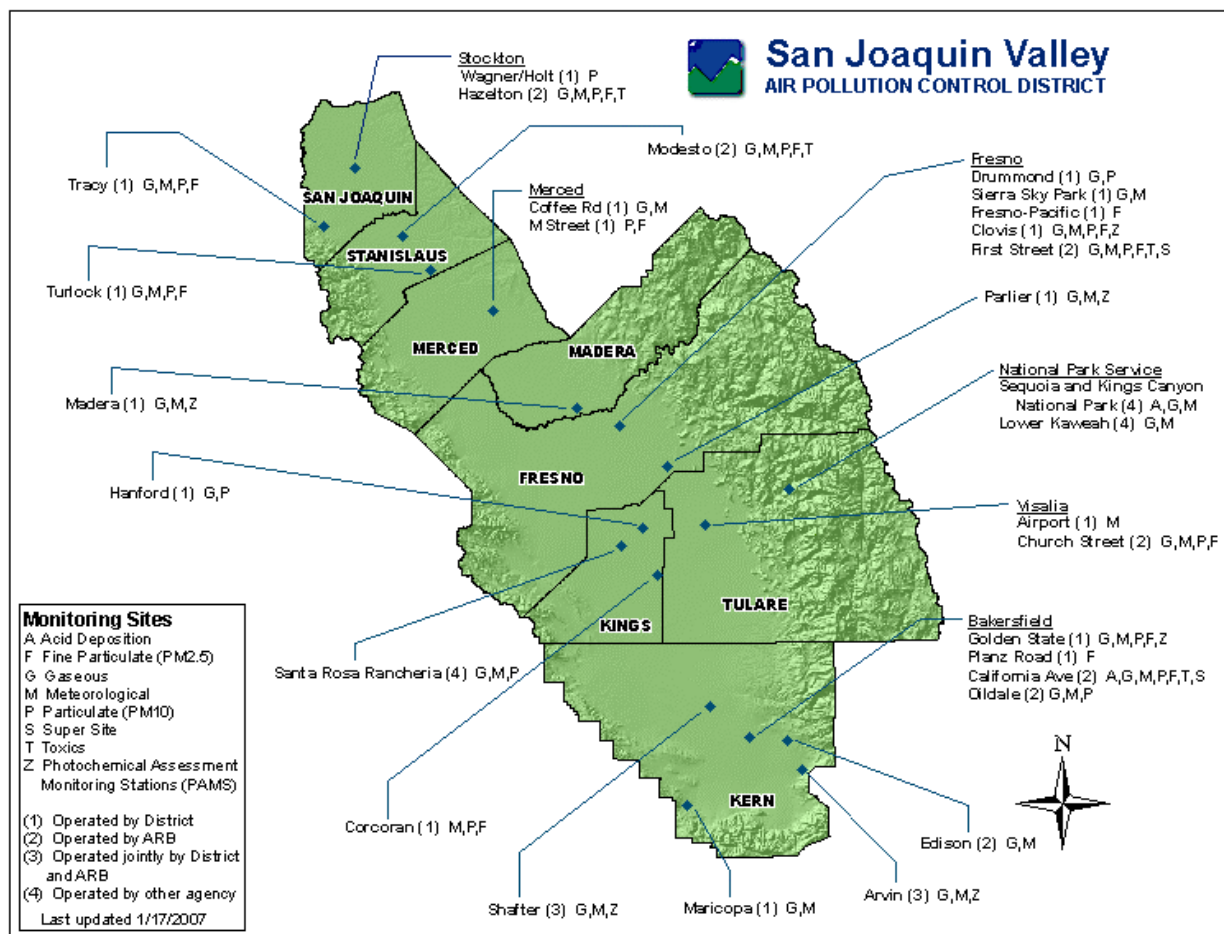
EPA notes that natural events, which are one form of exceptional events according to this definition, may recur, sometimes frequently (e.g., western wildfires). For the purposes of this rule, EPA defines "natural event" as an event in which human activity plays little or no direct causal role to the event in question. The EPA recognizes that over time, certain human activities may have had some impact on the conditions which later give rise to a "natural" air pollution event. However, EPA does not believe that small historical human contributions should preclude an event from being deemed "natural."

3. DESCRIPTION OF EXCEPTIONAL EVENT

3.1 PM10 Data Summary

On July 4, 2007, a Federal Equivalent Method (FEM) sampler recorded concentrations in excess of the 24-hour NAAQS for PM10 in the San Joaquin Valley. On July 4, 2007, the 24-hour averaged PM10 concentration reached 172 $\mu\text{g}/\text{m}^3$ at Bakersfield-Golden State Highway. The PM10 NAAQS is 150 $\mu\text{g}/\text{m}^3$ rounded to the nearest 10 $\mu\text{g}/\text{m}^3$, which equates to 155 $\mu\text{g}/\text{m}^3$. A map of San Joaquin Valley monitoring stations is provided in Figure 1.

Figure 1. San Joaquin Valley PM10 monitors.



The District collects hourly PM10 concentrations recorded by PM10 Tapered Element Oscillating Microbalance (TEOM) type monitors. The District collects hourly PM2.5 concentrations recorded by Beta Attenuation Mass (BAM) type monitors. The California

Air Resources Board (CARB) operates BAM monitors to measure PM10 and PM2.5. PM10 concentrations recorded by continuous analyzers on July 2 to 8, 2007 are presented Table 1. EPA certifies TEOM type monitors to be equivalent to FRM monitors (EQPM-1090-079). TEOM monitors are located at Tracy, Corcoran and Bakersfield-Golden State Highway. CARB operates a BAM PM10 monitor at the Fresno-First Street monitoring station. Table 1 indicates the PM10 increased significantly on July 4 and July 5 in some parts of the San Joaquin Valley due to fireworks emissions.

Station	Type	Jul 2	Jul 3	Jul 4	Jul 5	Jul 6	Jul 7	Jul 8
Tracy	TEOM	23	16	21	41	34	26	26
Corcoran	TEOM	39	46	128	76	67	41	33
Fresno - First Street	BAM	34	33	18*	INV	62	43	36
Bakersfield - Golden State	TEOM	46	53	172	87	66	47	31

TEOM data is identified by the beginning time of the sample. BAM data is identified by the end time of the sample. INV- There is insufficient valid data to be a valid 24-hour average. * Hours 20-23 were invalidated by CARB and are not included in the 24-hour average. Fresno - First Street PM10 data for July 4 hour 20 to July 5 hour 22 was invalidated by CARB.

Table 1. July 2 to 8, 2007 PM10 daily averages in $\mu\text{g}/\text{m}^3$ recorded by continuous samplers.

PM10 concentrations for Federal Reference Method (FRM) sampler measurements on June 29, 2007, July 5, 2007, and July 11, 2007 are shown in Table 2. The Santa Rosa Rancheria Tribal EPA operates the Santa Rosa Rancheria monitor. The filter samples were collected every six days in June and July. If a sample was not collected on the regularly schedule measurement day, a makeup sample was collected on another day. The District will submit particulate data into the CARB database by the required deadline. The NAAQS was not exceeded on July 5, 2005 because the PM10 daily average did not reach $155 \mu\text{g}/\text{m}^3$ at any monitoring station.

3.2 Analysis of PM10 NAAQS Exceedance

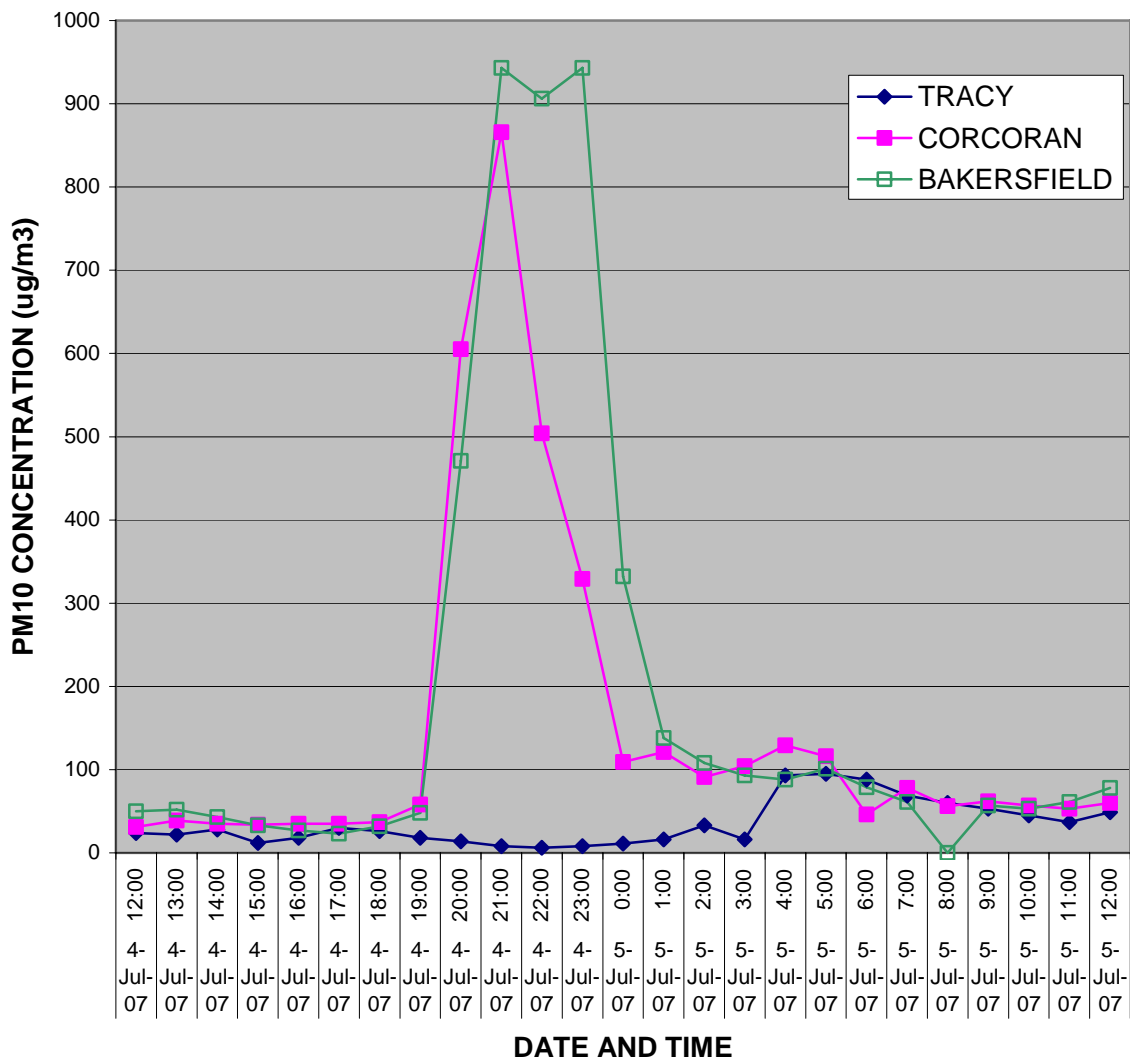
In the southern San Joaquin Valley, PM2.5 and PM10 concentrations increased significantly during the evening of July 4 due to fireworks emissions (see Figure 2 and 3). PM2.5 and PM10 concentrations remained very high into the early morning of July 5. In magnitude, PM10 concentrations were similar to PM2.5 concentrations, indicating that PM10 was composed primarily of smoke from fireworks emissions. On July 4, 2007, PM2.5 and PM10 increased to very high concentrations during the evening when fireworks are typically ignited, as shown in Figure 3. This event coincided with a period of stagnant conditions in the early morning hours of July 5, which resulted in PM2.5 and PM10 concentrations remaining high into the early morning hours of July 5. Meteorological data is provided in Table 3 that shows winds were light at times in some areas on the evening of July 4 and the early morning of July 5.

Station	June 29, 2007	July 5, 2007	July 11, 2007
Stockton - Wagner Holt	15	33	17
Stockton - Hazelton	14	37	17
Modesto	16	48	19
Turlock	20	60	20
Merced	22	Scheduled, but not collected	23
Fresno - Drummond	23	78	35
Fresno - First Street	17	107	27
Clovis	18	116	28
Corcoran	34	71	37
Hanford	31	97	Filter damage
Santa Rosa Rancheria	33	81	41
Visalia	32	58	44
Oildale	37	57	26
Bakersfield - Golden State Hwy.	41	Sample time out of limits	53
Bakersfield - California Ave.	Scheduled, but not collected	66	32

Table 2. PM₁₀ daily averages in $\mu\text{g}/\text{m}^3$ recorded by Federal Reference Method filter samplers.

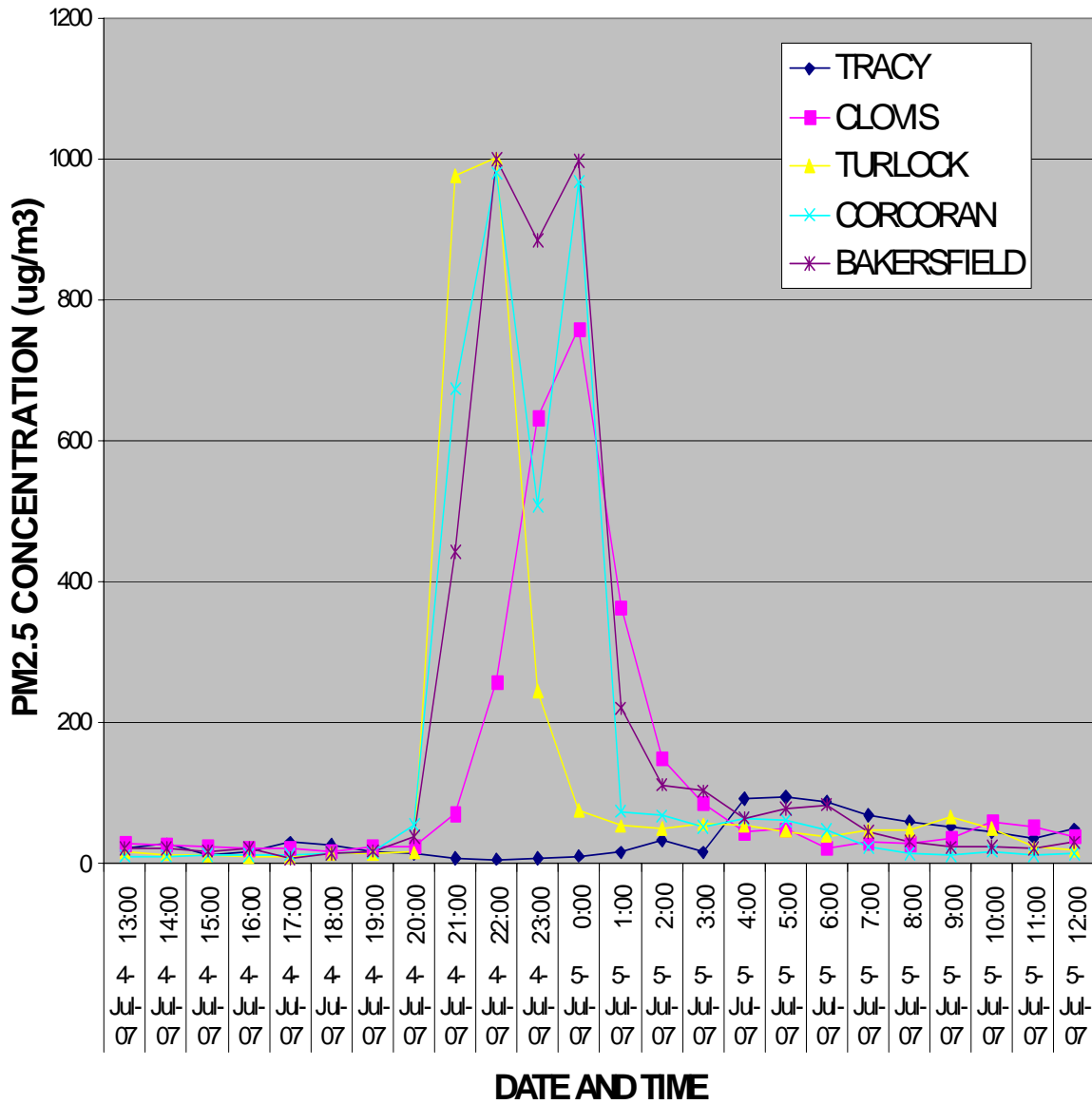
In some northern parts of the District, PM concentrations were significantly lower. Some locations, such as Tracy, have fireworks bans (see Tracy Municipal Code 3.04.010 - 3.04.170). Lower PM concentrations are likely due partly to the fireworks ban and partly due to slightly higher winds during the evening of July 4 in these areas (see Stockton meteorological data in Table 3). At Tracy, the PM₁₀ concentration was low on the evening of July 4 and increased in the early morning of July 5, which indicates possible transport of fireworks smoke to Tracy from surrounding areas.

Profiler and surface meteorological data provided in the appendix indicates winds were weakest in the southern San Joaquin Valley and higher in the northern San Joaquin Valley and Sacramento Valley. The stagnant conditions in the southern San Joaquin Valley increased the potential for fireworks emissions to remain in city centers of the major metropolitan areas, such as Bakersfield and Fresno.



TEOM data is identified by the beginning time of the sample. Data is subject to revision.

Figure 2. TEOM PM10 on 4 and 5 July 2007.



BAM data is identified by the ending time of the sample. Data is subject to revision.

Figure 3. BAM PM2.5 on 4 and 5 July 2007.

Table 3. July 4 and 5, 2007 PM10, wind direction and wind speed (mph).

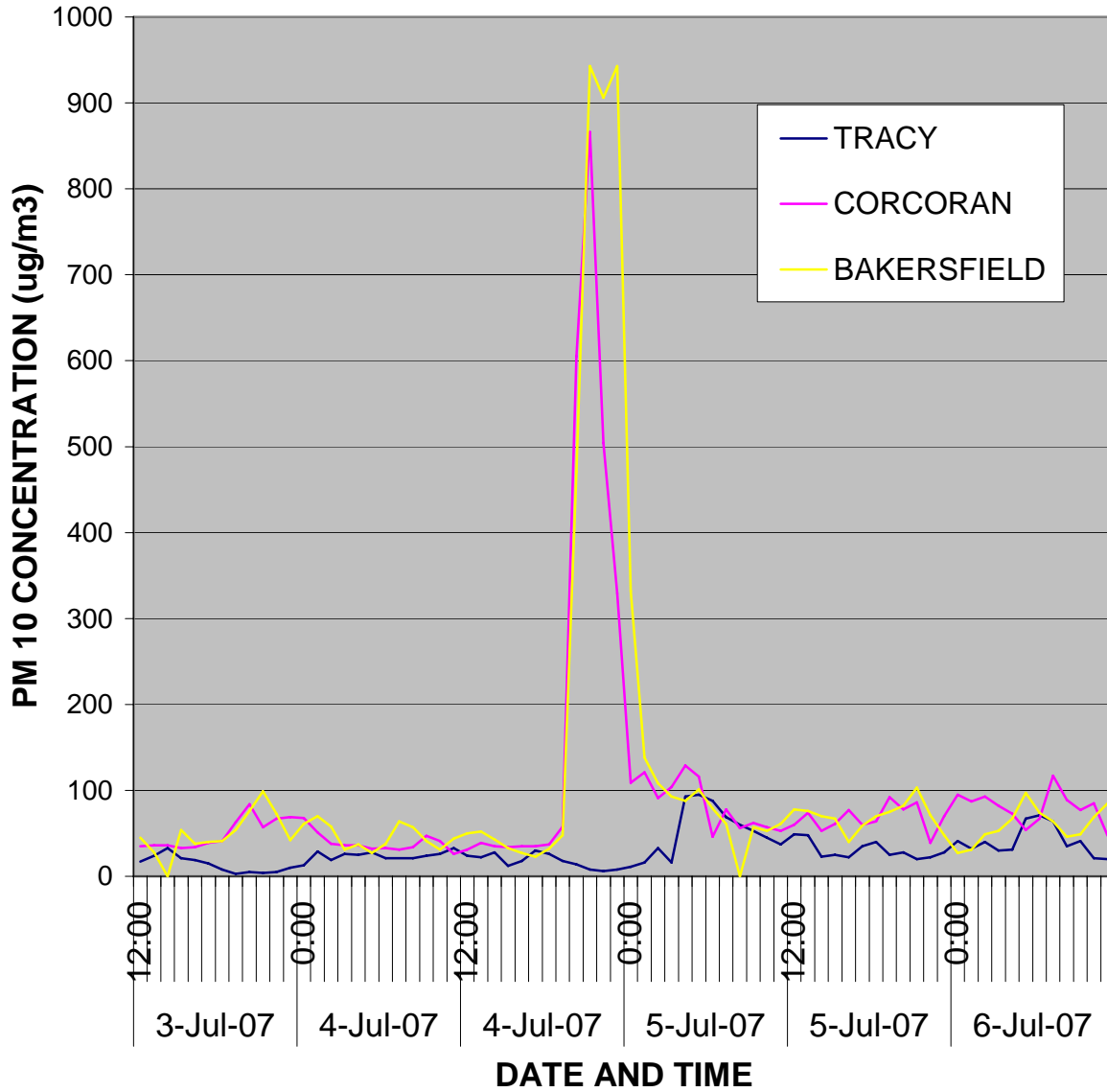
Day and Hour	Bakersfield PM10 $\mu\text{g}/\text{m}^3$	Bakersfield Meadows WD/WS	Corcoran PM10 $\mu\text{g}/\text{m}^3$	Hanford WD/WS	Tracy PM10 $\mu\text{g}/\text{m}^3$	Stockton WD/WS
July 4, 6 PM	32	WNW 9	37	NNW 9	26	NNW 13
July 4, 7 PM	48	NW 5	58	WNW 7	18	NNW 10
July 4, 8 PM	471	WNW 3	605	WNW 3	14	NW 13
July 4, 9 PM	943	NNW 3	866	CALM	8	WNW 12
July 4, 10 PM	906	NNE 6	504	CALM	6	WNW 8
July 4, 11 PM	943	CALM	329	CALM	8	W 6
MIDNIGHT	332	ESE 3	109	CALM	11	WNW 3
July 5, 1 AM	138	E 3	121	CALM	16	ENE 7
July 5, 2 AM	108	E 5	91	CALM	33	ENE 6
July 5, 3 AM	93	CALM	104	CALM	16	CALM
July 5, 4 AM	88	CALM	129	CALM	93	CALM
July 5, 5 AM	101	CALM	116	CALM	95	CALM
July 5, 6 AM	79	CALM	46	CALM	88	CALM

MIDNIGHT is Midnight to 12:59:59 AM, Pacific Standard Time. WS = Wind speed (mph). WD = Wind direction. Data is preliminary and subject to revision. Sustained wind speed listed in this table is a 10 minute average recorded by the National Weather Service. Weather data was obtained from the National Weather Service website (weather.gov). TEOM samplers at District monitoring stations recorded PM10 data listed in this table. TEOM data is identified by the beginning time of the sample. BAM data is identified by the end time of the sample. See Figure 1 for a map of station locations.

Figures 4 and 5 present plots of PM10 and PM2.5 from noon on July 3, 2007 to noon on July 6, 2007 to show that particulate concentrations for days before and after the fireworks event were significantly lower than during the fireworks event. It is apparent from these plots that fireworks had a significant effect on particulate concentration on the evening of July 4 and the morning of July 5. A similar trend is evident in the filter based particulate data presented in Table 2. PM10 was much lower on the monitoring days before and after July 5.

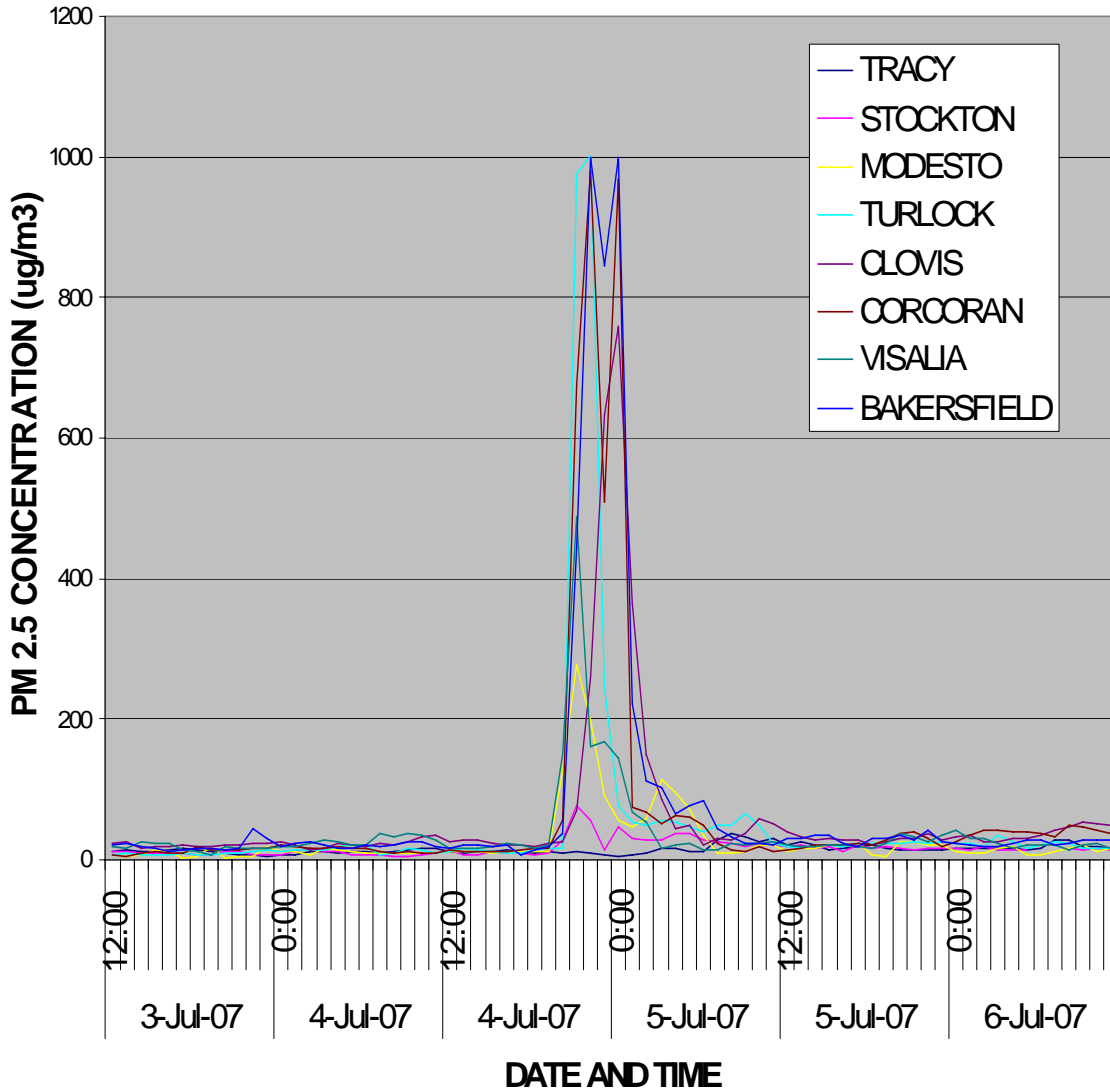
Figure 6 is a plot of filter based 24-hour PM2.5 concentrations in Fresno and Bakersfield measured on June 20 to July 12, 2007. A significant spike in the particulate concentration occurs on July 4 and 5, indicating fireworks smoke significantly influenced particulate concentrations.

Figure 7 is a plot of maximum 24-hour averaged PM2.5 concentrations in the District for years 1999 to 2005. The plot examines the period from June 20 to July 12. Once again, a significant spike in the particulate concentration occurs on July 4 and 5 in the 1999 to 2005 particulate data, indicating fireworks smoke influenced particulate concentrations on July 4 and 5 in past years.



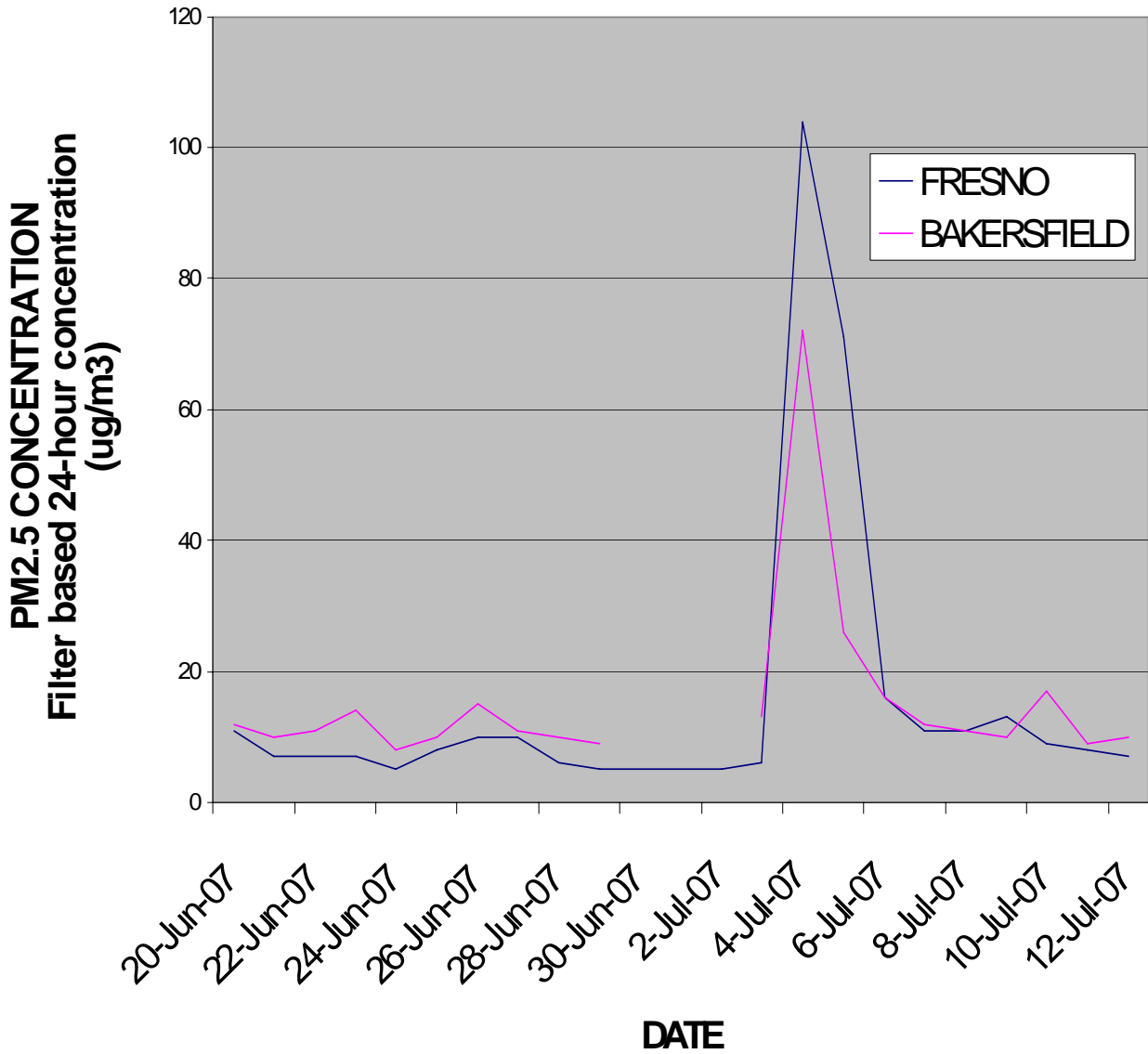
Data is subject to revision.

Figure 4. PM10 on 3, 4, 5 and 6 July 2007.



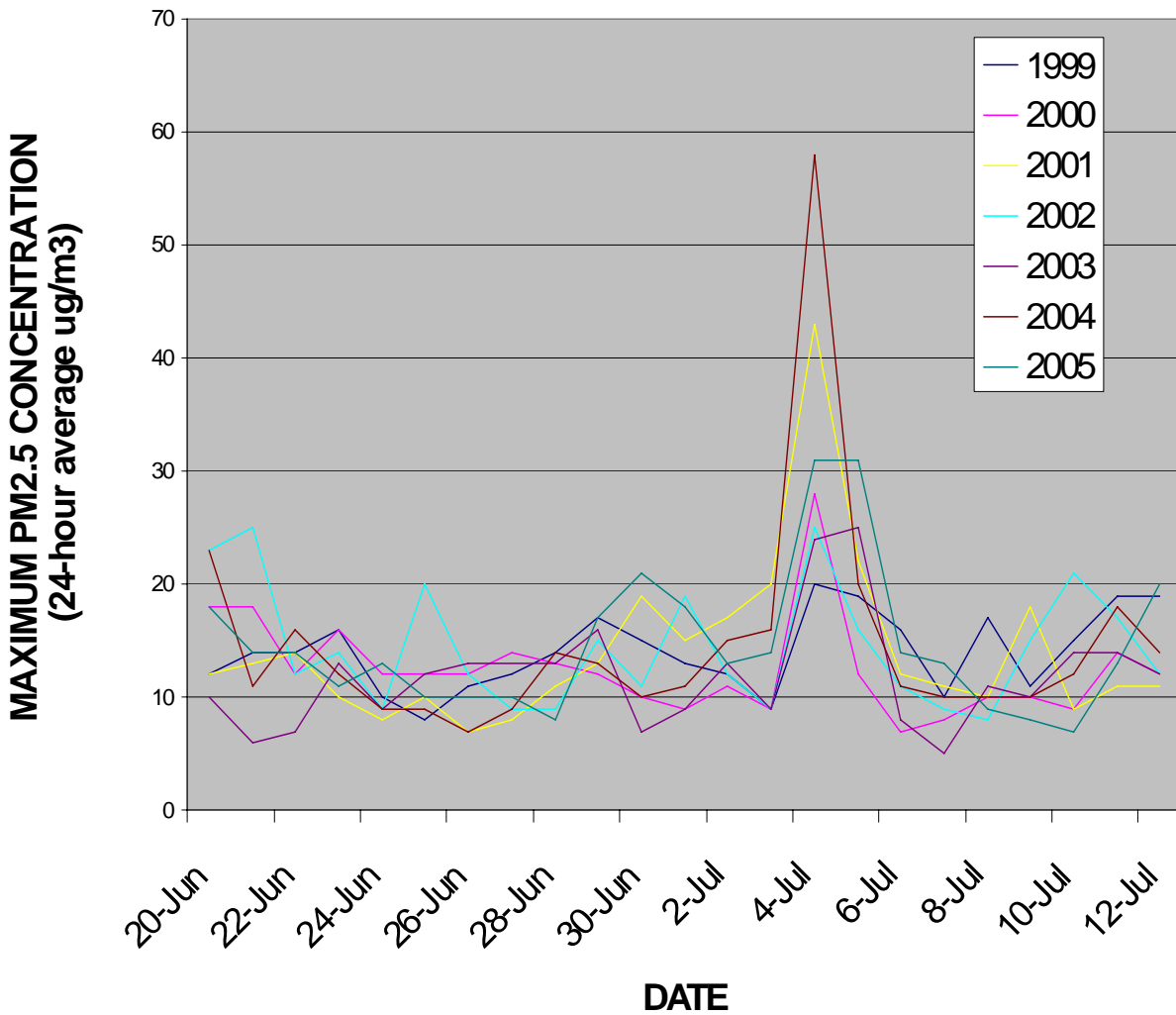
Data is subject to revision.

Figure 5. PM2.5 on 3, 4, 5 and 6 July 2007.



Data is subject to revision.

Figure 6. Filter based 24-hour PM2.5 concentrations in the San Joaquin Valley Air Basin for June 20 to July 12, 2007.



Unofficial data - Data is subject to revision.

Figure 7. Maximum 24-hour averaged PM2.5 in the San Joaquin Valley Air Basin for years 1999 to 2005.

4. PUBLIC NOTIFICATION AND EDUCATION

As stated in the EPA rule, States must assure that reasonable measures were taken to protect the public from the emissions created by the fireworks display. Under this rule, state and local air districts are also strongly encouraged to institute educational programs that alert the public to the health effects associated with exposure to emissions from fireworks displays.

The District issued a press release on July 3 to educate the public on the health concerns generated by fireworks emissions. A similar message was posted on the District website. A copy of these products are provided in the appendix (section 6).

5. EXCEPTIONAL EVENT CRITERIA SUMMARY

The District demonstrated that the exceedance of the PM10 NAAQS in Bakersfield on July 4, 2007 satisfied the following exceptional event criteria:

1) The event affected air quality.

Figures 2 through 6 display the impact of fireworks emissions on air quality on July 4 and 5, 2007. PM10 and PM2.5 concentrations in Bakersfield were low until 8 pm on July 4, when the PM10 and PM2.5 rapidly increased to very high concentrations during the part of the evening when fireworks are typically ignited.

2) There is a clear causal connection between the exceedances and the claimed exceptional event.

The causal connection was demonstrated by showing the dramatic increase in hourly PM concentrations that coincide with the fireworks event.

3) The event is associated with measured concentration in excess of normal historical fluctuations including background.

Figure 7 demonstrates fireworks emissions have impacted air quality in past years (1999-2005), in a manner similar to the July 4, 2007 event. PM concentrations are typically higher than normal on July 4 and 5 due to fireworks emissions.

4) There would have been no exceedance “but for” the event.

There are several indications that there would have been not been an exceedance of the PM10 NAAQS in Bakersfield on July 4, 2007 in the absence of fireworks emissions. Data presented in this report presents the impact of fireworks emissions on air quality on July 4 and 5. PM10 and PM2.5 concentrations in Bakersfield were low until 8 pm on July 4, 2007, when the PM10 and PM2.5 rapidly increased to very high concentrations during the part of the evening when fireworks are typically ignited.

The Tracy PM10 monitor reported very low PM10 concentrations (6 to 8 ug/m³) during the same time frame (July 4, from 9 to 11 PM, see Table 3) that the Bakersfield PM10 monitor reported extremely high PM10 concentrations (906 to 943 ug/m³). The City of Tracy has a fireworks ban in place. Lower PM concentrations in Tracy are likely due partly to the fireworks ban and partly due to slightly higher winds during the evening of July 4 in these areas.

Based on the data provided in this report, the District concludes that there would not have been an exceedance of the PM10 NAAQS in Bakersfield on July 4, 2007 if fireworks emissions were not present.

6. REFERENCES

California Air Resources Board (ARB): AQMIS data base.

City of Tracy Municipal Code: Sections 3.04.010 - 3.04.170.

Environmental Protection Agency (EPA): AQS data base.

Environmental Protection Agency (EPA): Guideline on the Identification and Use of Air Quality Data Affected by Exceptional Events. July 1986.

Environmental Protection Agency (EPA): Memorandum: Areas Affected by PM10 Natural Events. May 1996.

Federal Register: March 22, 2007 (Volume 72, Number 55), [Rules and Regulations],[Page 13559-13581] From the Federal Register Online via GPO Access [wais.access.gpo.gov], [DOCID:fr22mr07-14], Environmental Protection Agency, 40 CFR Parts 50 and 51, [EPA-HQ-OAR-2005-0159; FRL-8289-5], RIN 2060-AN40, Treatment of Data Influenced by Exceptional Events.

Lewis, R. (2007): Telephone Conversation, California Air Resources Board.

Mesowest: Historical meteorological data, <http://www.met.utah.edu/mesowest/>

National Oceanic and Atmospheric Administration (NOAA): ESRL/Physical Sciences Division, Profiler Data.

National Oceanic and Atmospheric Administration (NOAA): Surface weather maps.

National Oceanic and Atmospheric Administration (NOAA): Weather data, <http://www.weather.gov>.

Naval Postgraduate School, Department of Meteorology: Profiler Data, <http://www.weather.nps.navy.mil/profiler/coastprof.html>.

7. APPENDIX - SUPPORTING DOCUMENTS

Press release issued July 3, 2007

-----Original Message-----

From: Janelle Schneider
Sent: Tuesday, July 03, 2007 8:54 AM
Subject: July 4 cautionary statement

The following news release was issued today to media Valley-wide.



San Joaquin Valley
Air Pollution
Control District

News Release

07-03-07

For Immediate Release

TO:

Local News, Health and Weather sections

Fireworks prompt caution

Celebrations may elevate air-pollution levels

Officials at the San Joaquin Valley Air Pollution Control District are reminding Valley residents that July 4 fireworks can temporarily increase air pollution and to take appropriate cautionary measures, as individual health conditions dictate.

“During prime time for fireworks displays [9-10 p.m.], we usually see increases in levels of particulate pollution,” specifically, particles 10 microns and smaller (PM10) and even tinier particles (PM 2.5), said Shawn Ferreria, air-quality analyst for the Air District.

Although these levels typically dissipate by midnight, elevated pollution levels can last until morning, depending on meteorological conditions.

Particle pollution of 10 microns and smaller may be harmful to people with heart or lung disease, and children and elderly people are also more susceptible to consequences of high particulate levels. Residents of the eight-county air basin should keep their own health

conditions in mind when viewing neighborhood fireworks displays or attending large fireworks shows

July 4 air-quality forecasts for each county will be available at 4:30 p.m. Tuesday at www.valleyair.org <<http://www.valleyair.org>> and by calling 1-800-SMOG INFO (766-4463).

The Valley Air District covers eight counties including San Joaquin, Stanislaus, Merced, Madera, Fresno, Kings, Tulare and the valley portion of Kern. For more information, visit <<http://www.valleyair.org>> or call the nearest District office: Modesto (209) 557-6400, Fresno (559) 230-6000 and Bakersfield (661) 326-6900.

Janelle Schneider

Public Information Representative

San Joaquin Valley Air Pollution Control District

1990 E. Gettysburg

Fresno, CA 93726-0244

559-230-5853 / fax 559-230-6111

On July 3, 2007, the following statement was posted on the home page of valleyair.org, the District website:

Fireworks and Air Quality

Celebrations may elevate air-pollution levels

Officials at the San Joaquin Valley Air Pollution Control District are reminding Valley residents that July 4 fireworks can temporarily increase air pollution and to take appropriate cautionary measures, as individual health conditions dictate.

“During prime time for fireworks displays (9-10 p.m. the July 4th evening), we usually see increases in levels of particulate pollution,” specifically, particles 10 microns and smaller (PM10) and even tinier particles (PM 2.5), said Shawn Ferreria, air-quality analyst for the Air District.

Although these levels typically dissipate by midnight, elevated pollution levels can last until morning, depending on meteorological conditions.

Particle pollution of 10 microns and smaller may be harmful to people with heart or lung disease, and children and elderly people are also more susceptible to consequences of high particulate levels. Residents of the eight-county air basin should keep their own health conditions in mind when viewing neighborhood fireworks displays or attending large fireworks shows. Residents should contact their local government agency (either city or county) to determine the legality of fireworks in their area.

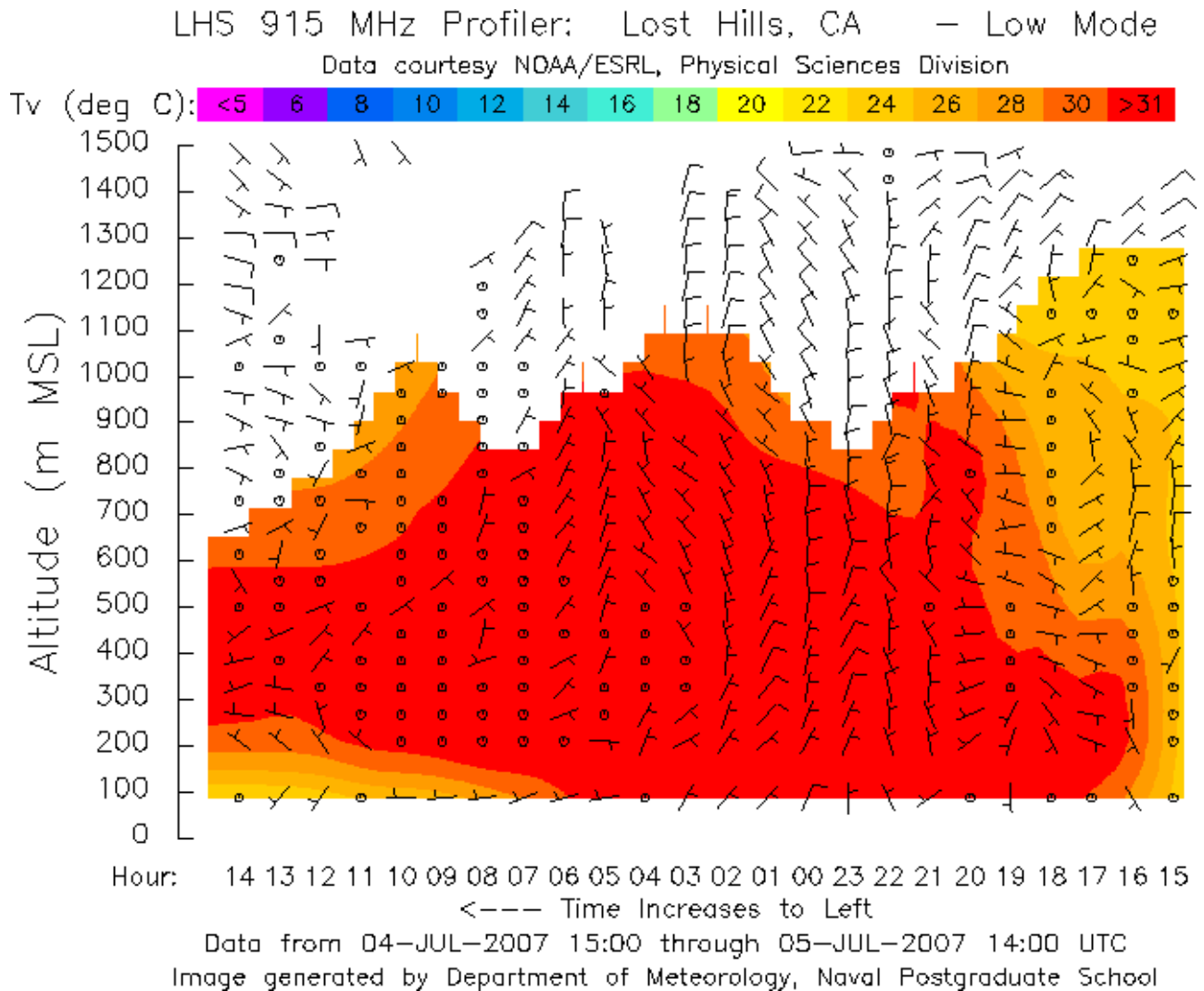
Children, elderly people and people with existing health conditions are especially susceptible to harmful health consequences of exposure to high levels of particulates. People with heart or lung diseases should follow their doctors’ advice for dealing with episodes of unhealthy air quality.

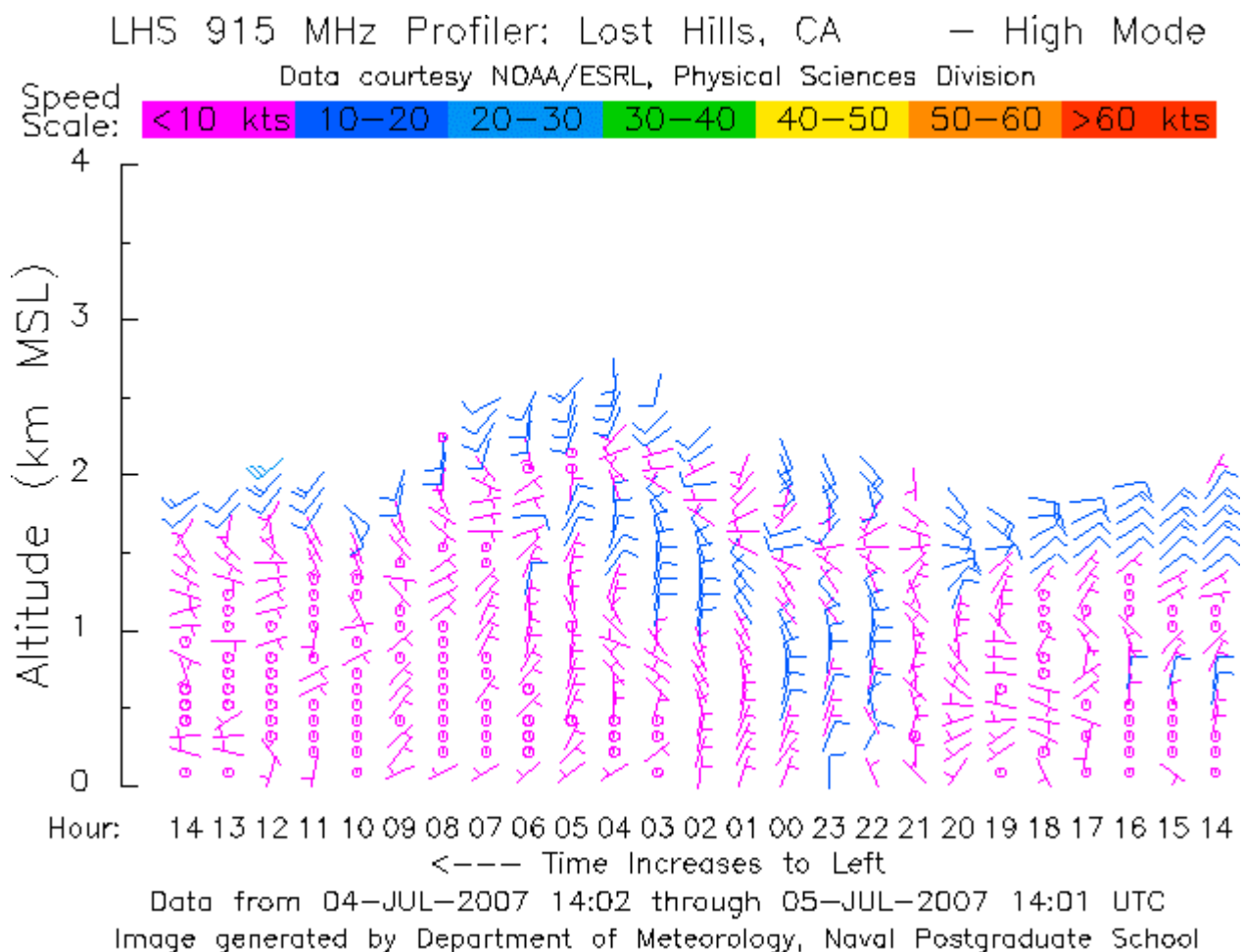
The Valley Air District covers eight counties including San Joaquin, Stanislaus, Merced, Madera, Fresno, Kings, Tulare and the valley portion of Kern. For more information call the nearest District office: Modesto (209) 557-6400, Fresno (559) 230-6000 and Bakersfield (661) 326-6900.

Profiler Data

Time is in UTC (Coordinated Universal Time, also abbreviated with "Z" or "GMT") is also called Greenwich Mean Time (Mean Solar Time at the Royal Observatory in Greenwich, England). Greenwich Mean Time is eight hours ahead of Pacific Standard Time (PST) and seven hours ahead of Pacific Daylight Time (PDT). For example, 12 UTC or 12 Z is 4 AM PST or 5 AM PDT.

Wind barbs point in the direction "from" which the wind is blowing. A circle represents calm conditions. Flags (straight lines) attached at the end of the wind barbs indicate wind speed. Each short flag represents 5 knots, and each long flag represents 10 knots. A long flag and a short flag represent 15 knots, simply by adding the value of each flag together (10 knots + 5 knots = 15 knots). The color-coded speed scale is also provided on top of the plot. A triangular flag at the end of a wind barb represents a 50-knot wind.

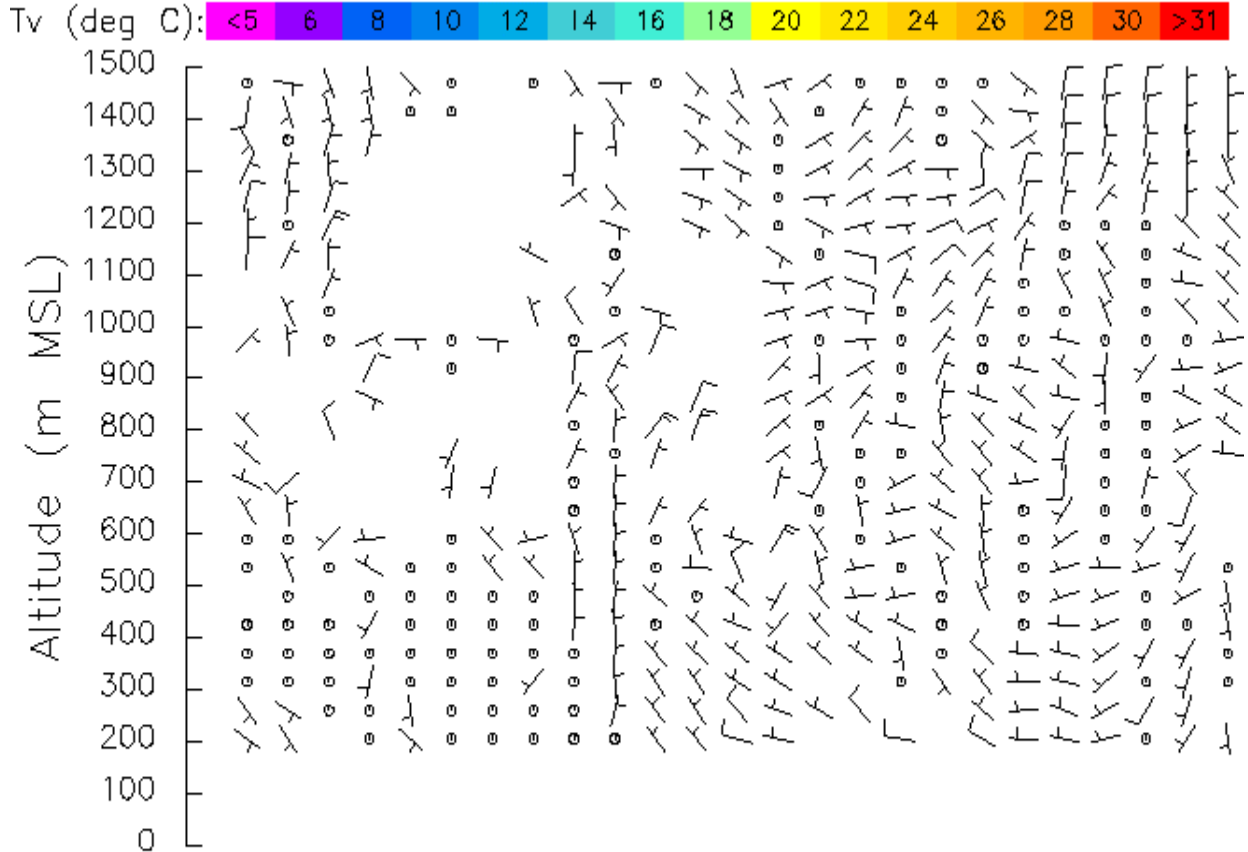




This profile recorded at Lost Hills in Western Kern County indicates winds were light and variable (0 to 5 knots) in the first 500 meters above ground level from 03 UTC (Z) (8 PM PDT, July 4, 2007) through 14 UTC (Z) (7 AM PDT, July 5, 2007). 07 UTC (Z) corresponds to midnight.

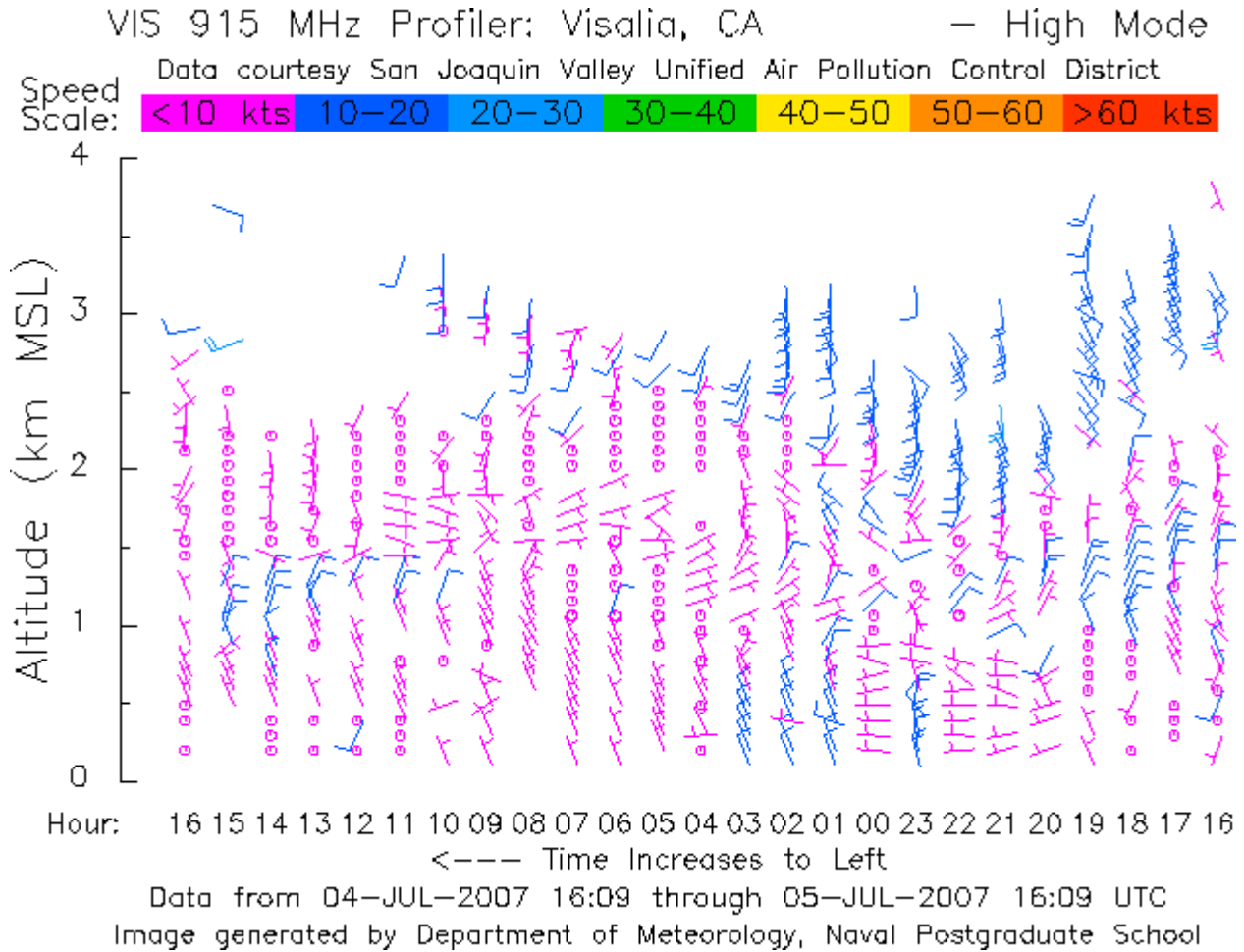
VIS 915 MHz Profiler: Visalia, CA – Low Mode

Data courtesy San Joaquin Valley Unified Air Pollution Control District



Hour: 16 15 14 13 12 11 10 09 08 07 06 05 04 03 02 01 00 23 22 21 20 19 18 17 16
 <--- Time Increases to Left

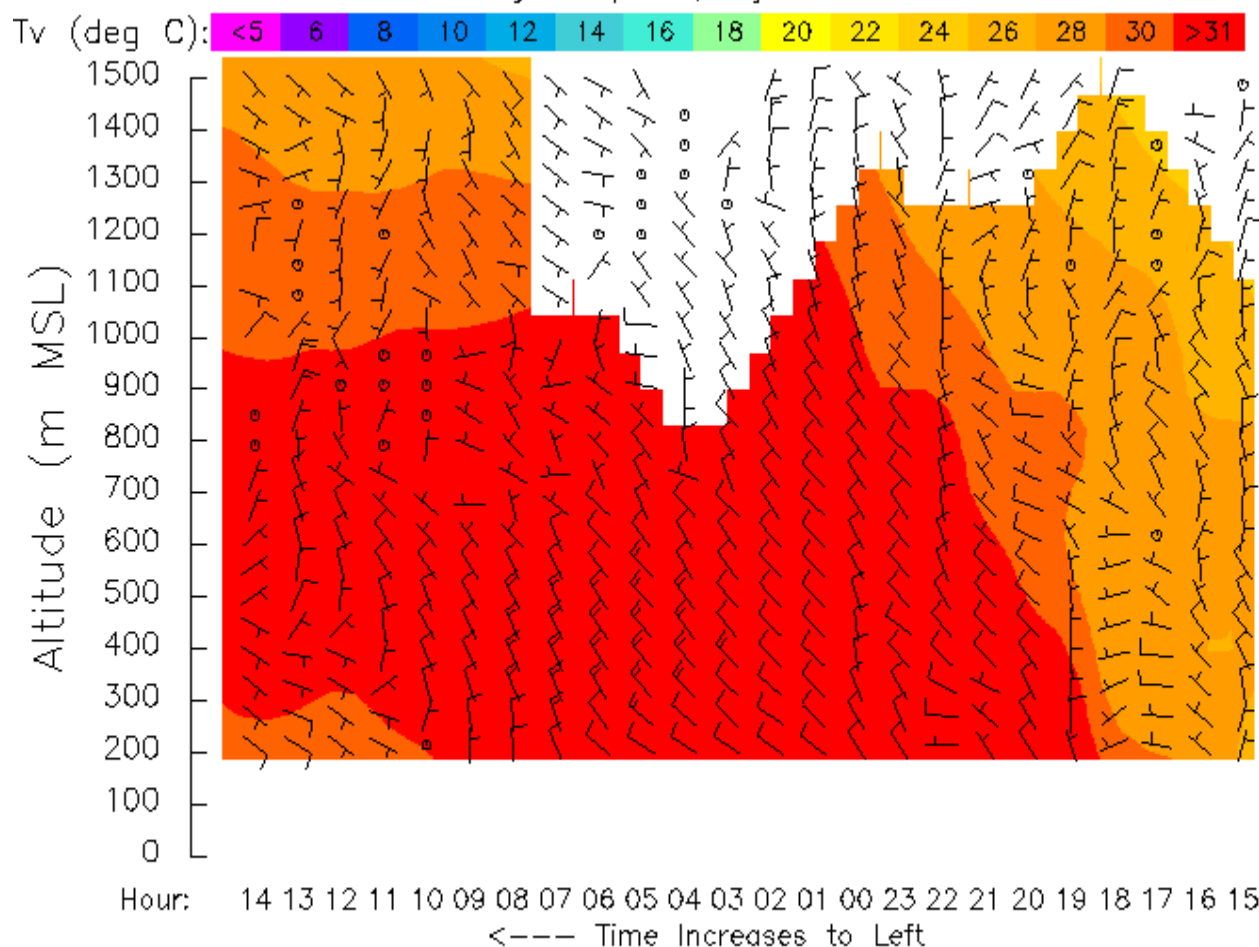
Data from 04-JUL-2007 16:05 through 05-JUL-2007 16:05 UTC
 Image generated by Department of Meteorology, Naval Postgraduate School



This profile recorded at Visalia in Tulare County indicates winds were mostly light (0 to 5 knots) in the first 500 meters above ground level from 04 UTC (Z) (9 PM PDT, July 4, 2007) through 16 UTC (Z) (9 AM PDT, July 5, 2007). 07 UTC (Z) corresponds to midnight.

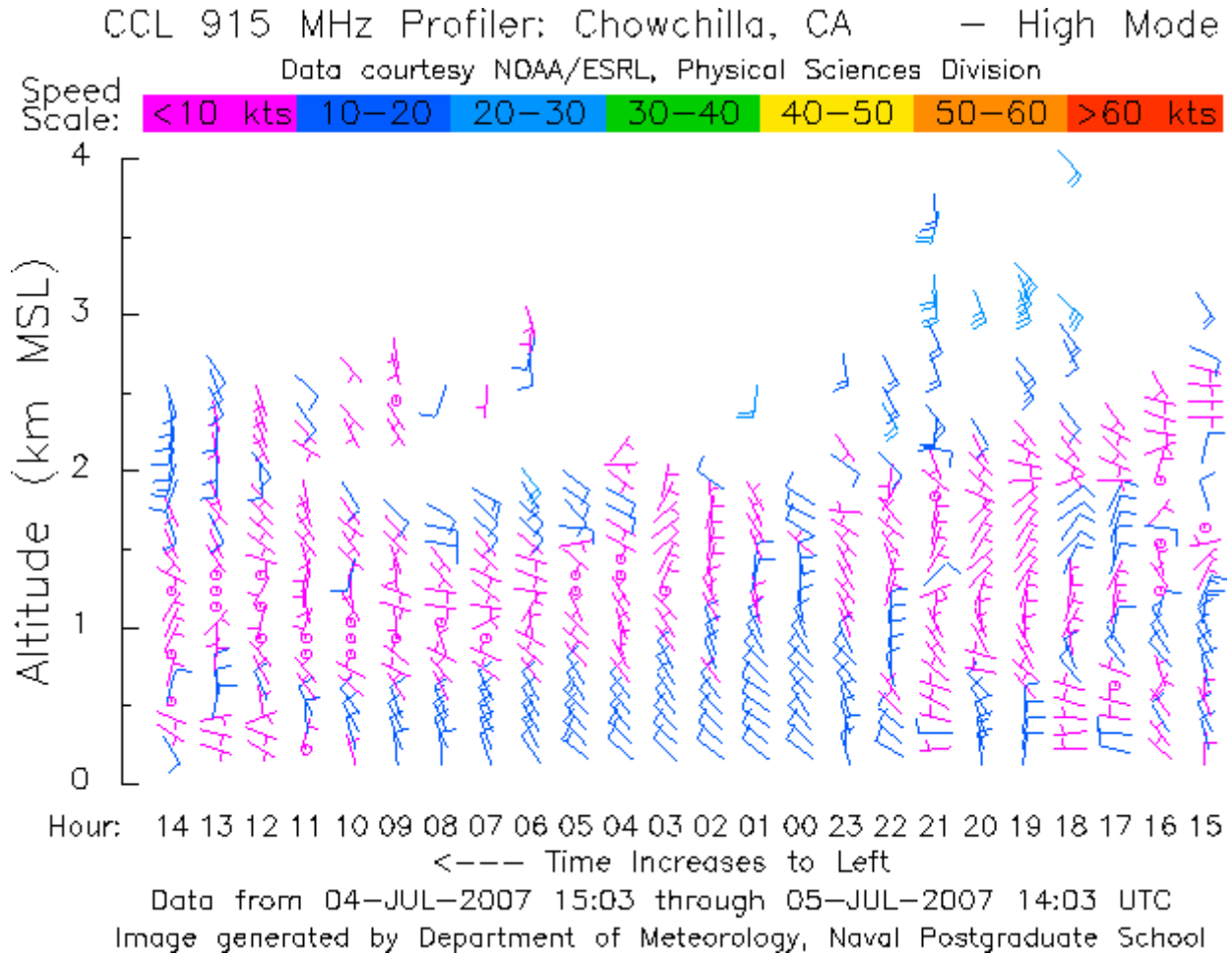
CCL 915 MHz Profiler: Chowchilla, CA – Low Mode

Data courtesy NOAA/ESRL, Physical Sciences Division

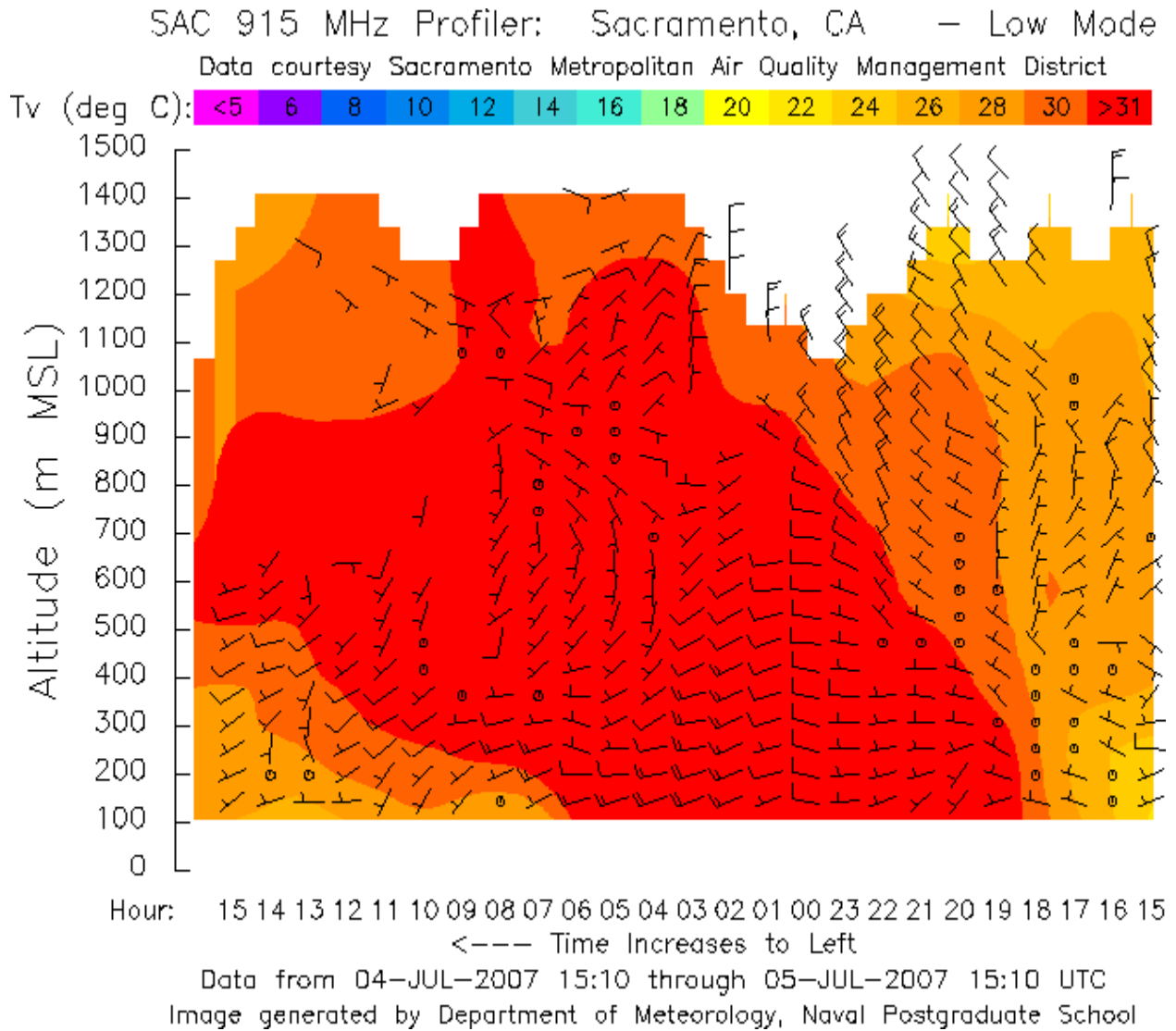


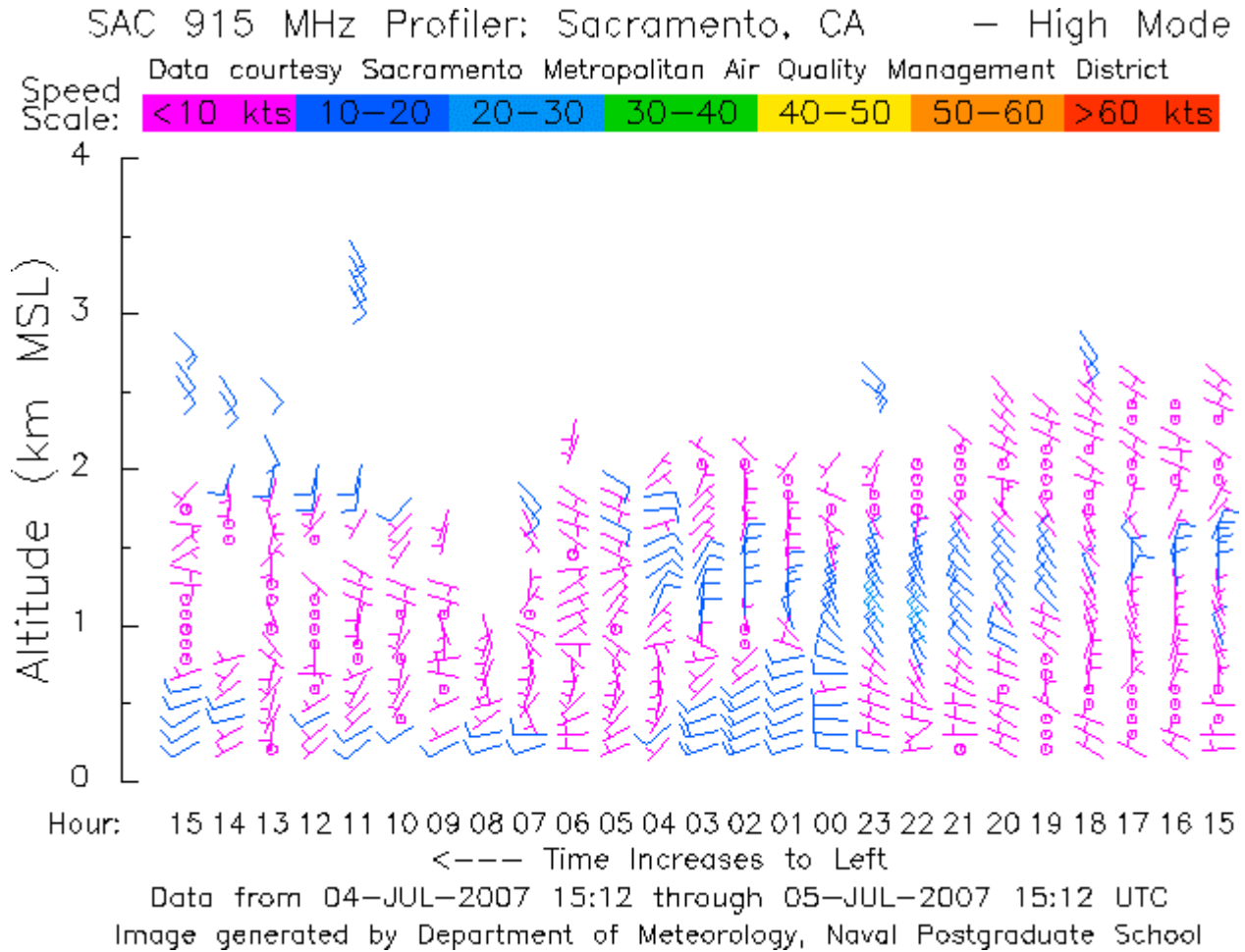
Data from 04-JUL-2007 15:00 through 05-JUL-2007 14:00 UTC

Image generated by Department of Meteorology, Naval Postgraduate School



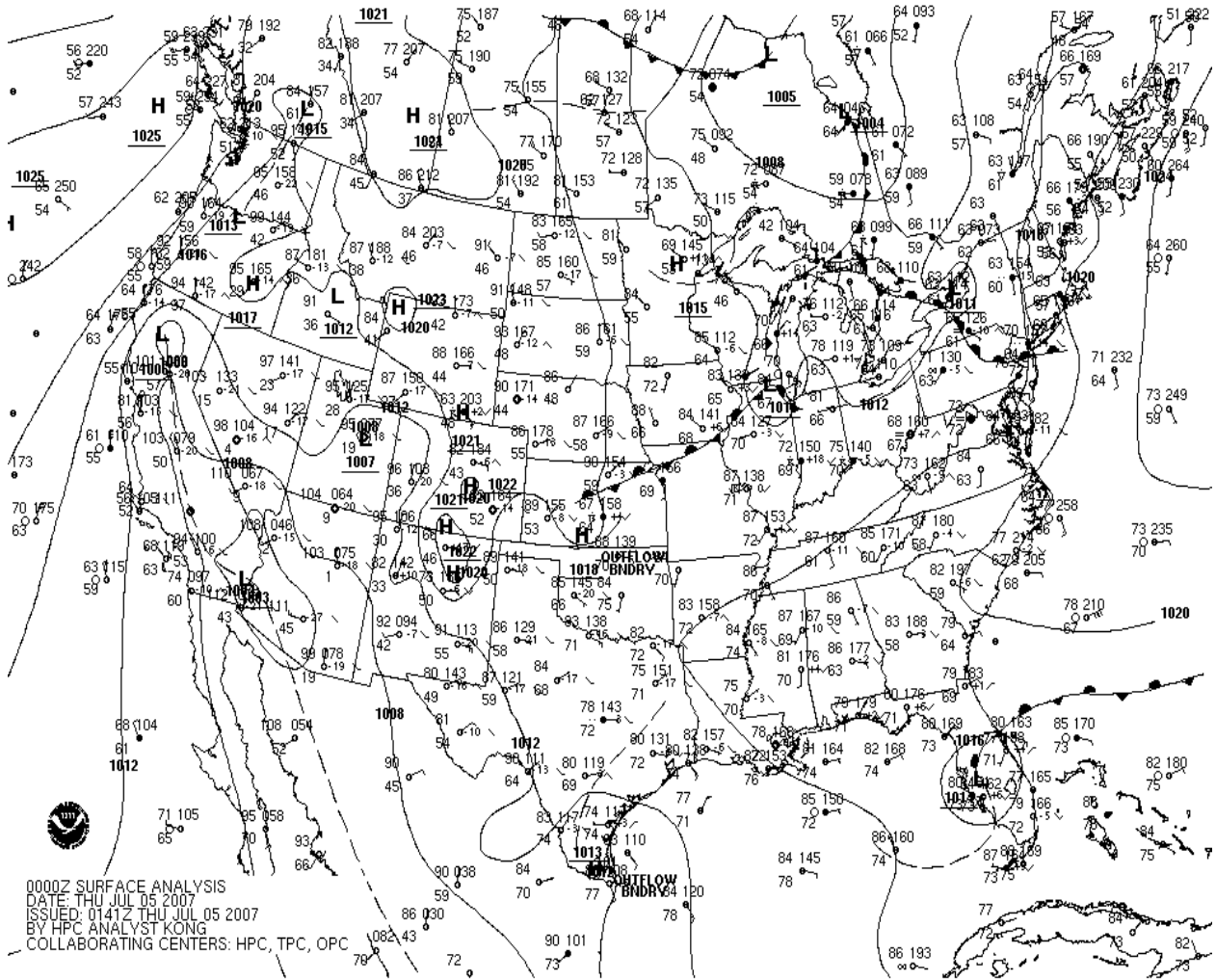
This profile recorded at Chowchilla in Madera County indicates winds were from the N to NW at 10 knots in the first 500 meters above ground level from 02 UTC (Z) (7 PM PDT, July 4, 2007) through 09 UTC (Z) (2 AM PDT, July 5, 2007). 07 UTC (Z) corresponds to midnight.



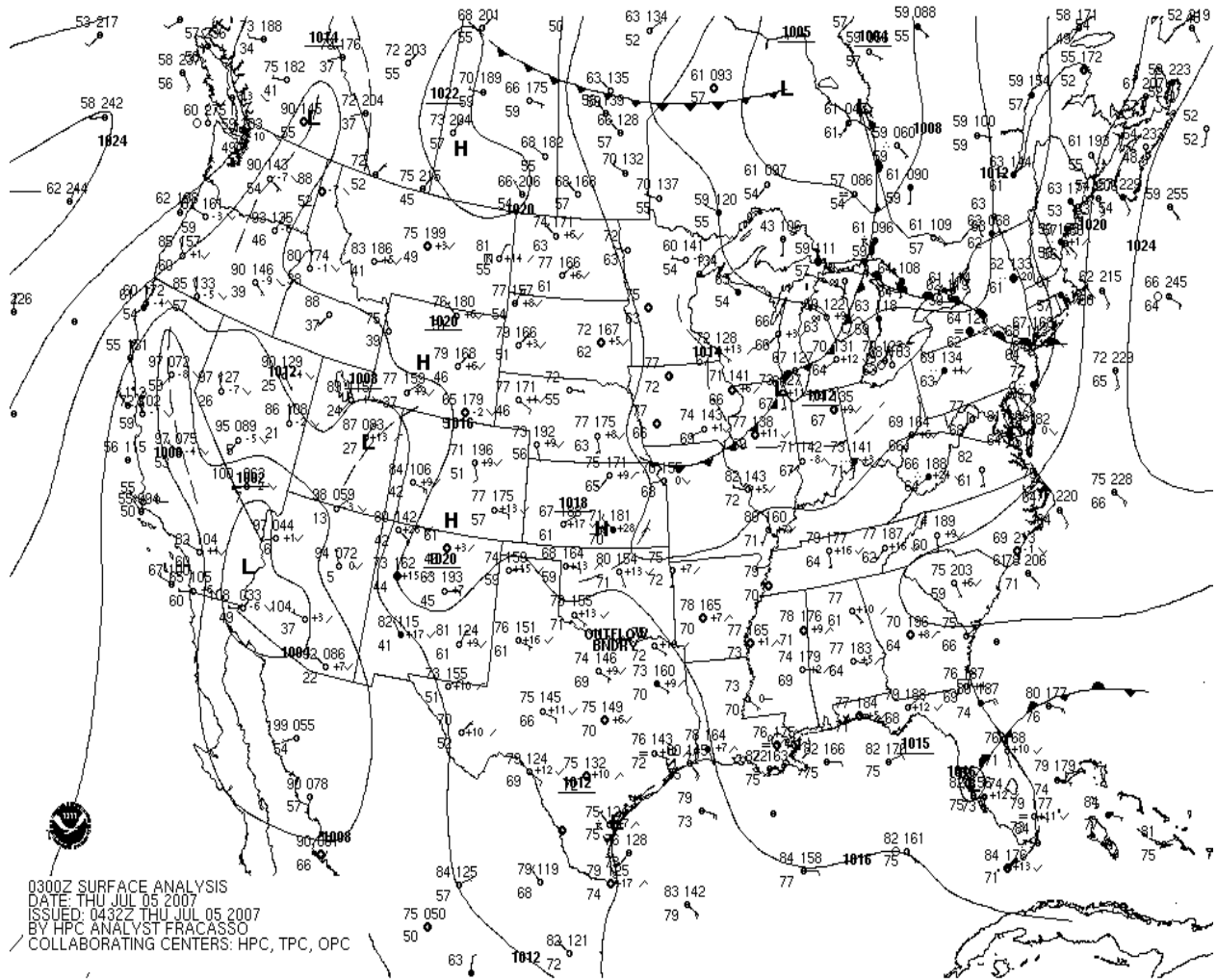


This profile recorded at Sacramento indicates winds were mostly from the WSW at 5 to 15 knots in the first 500 meters above ground level from 02 UTC (Z) (7 PM PDT, July 4, 2007) through 08 UTC (Z) (1 AM PDT, July 5, 2007). 07 UTC (Z) corresponds to midnight. A delta breeze was evident from 00 UTC (Z) (5 PM PDT, July 4, 2007) through 03 UTC (Z) (8 PM PDT, July 4, 2007).

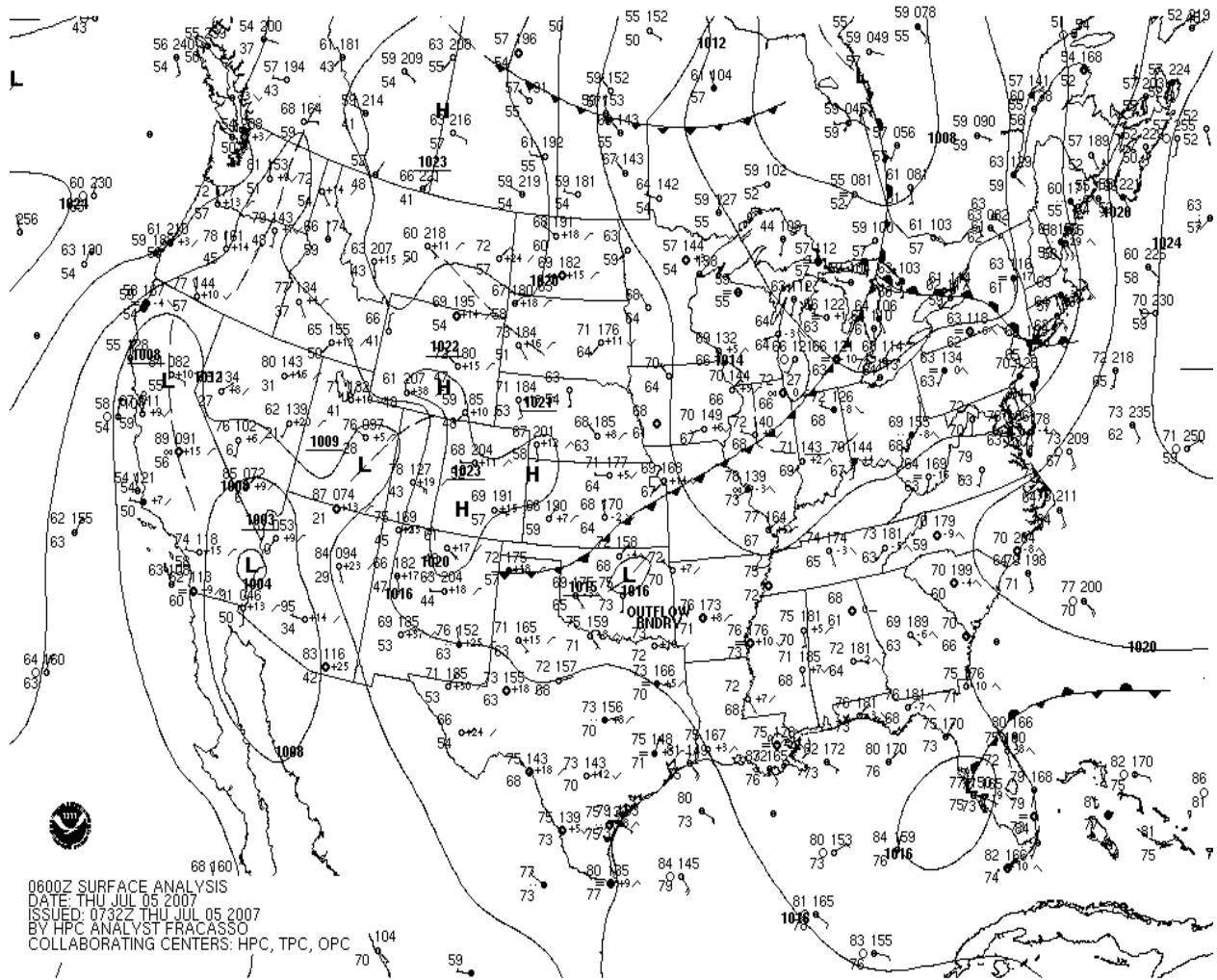
Surface Weather Maps



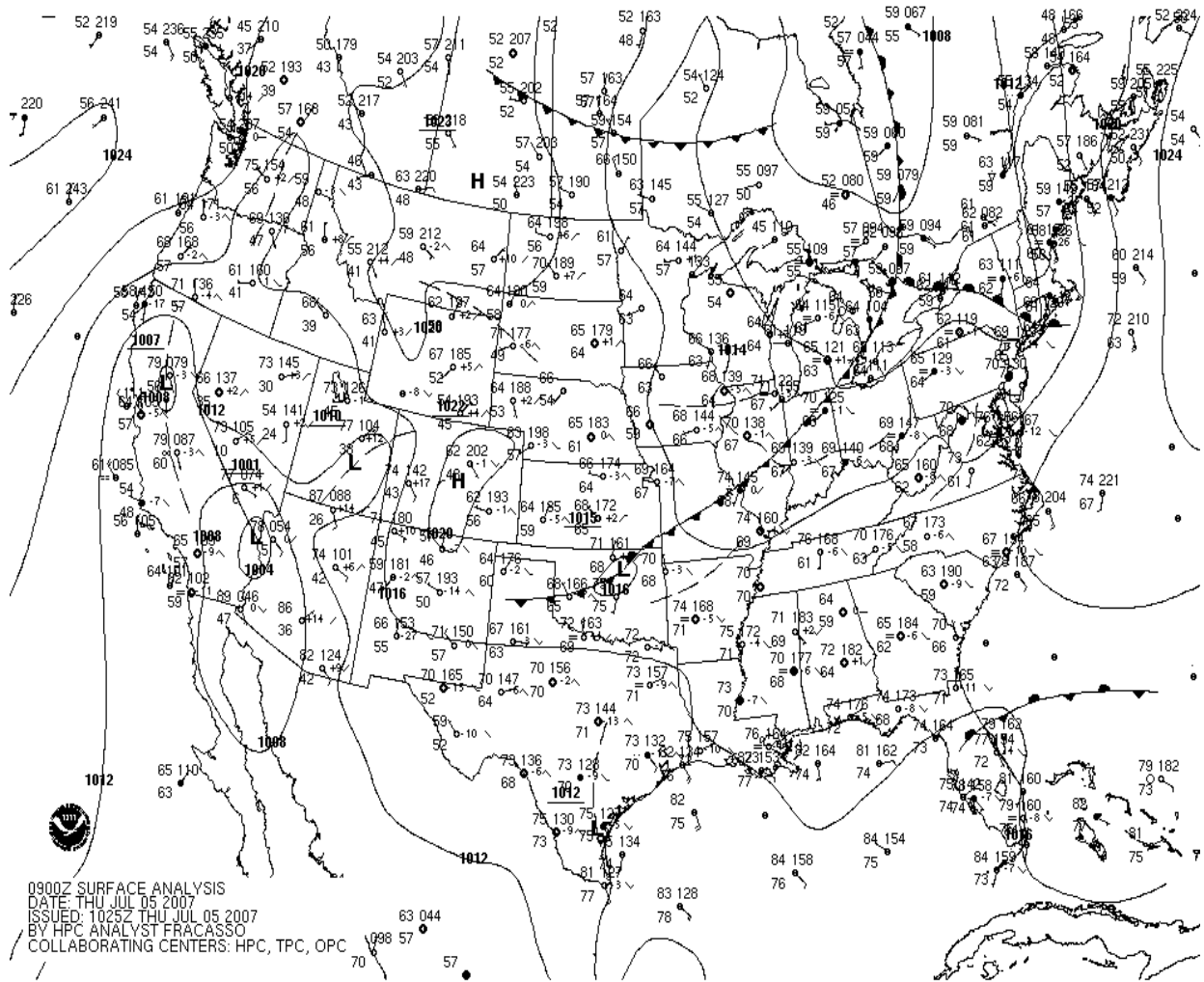
Surface weather map for 5 PM PDT on July 4, 2007. A thermal trough of low pressure is centered over the Central Valley of California. Stagnant conditions are evident in the San Joaquin Valley.



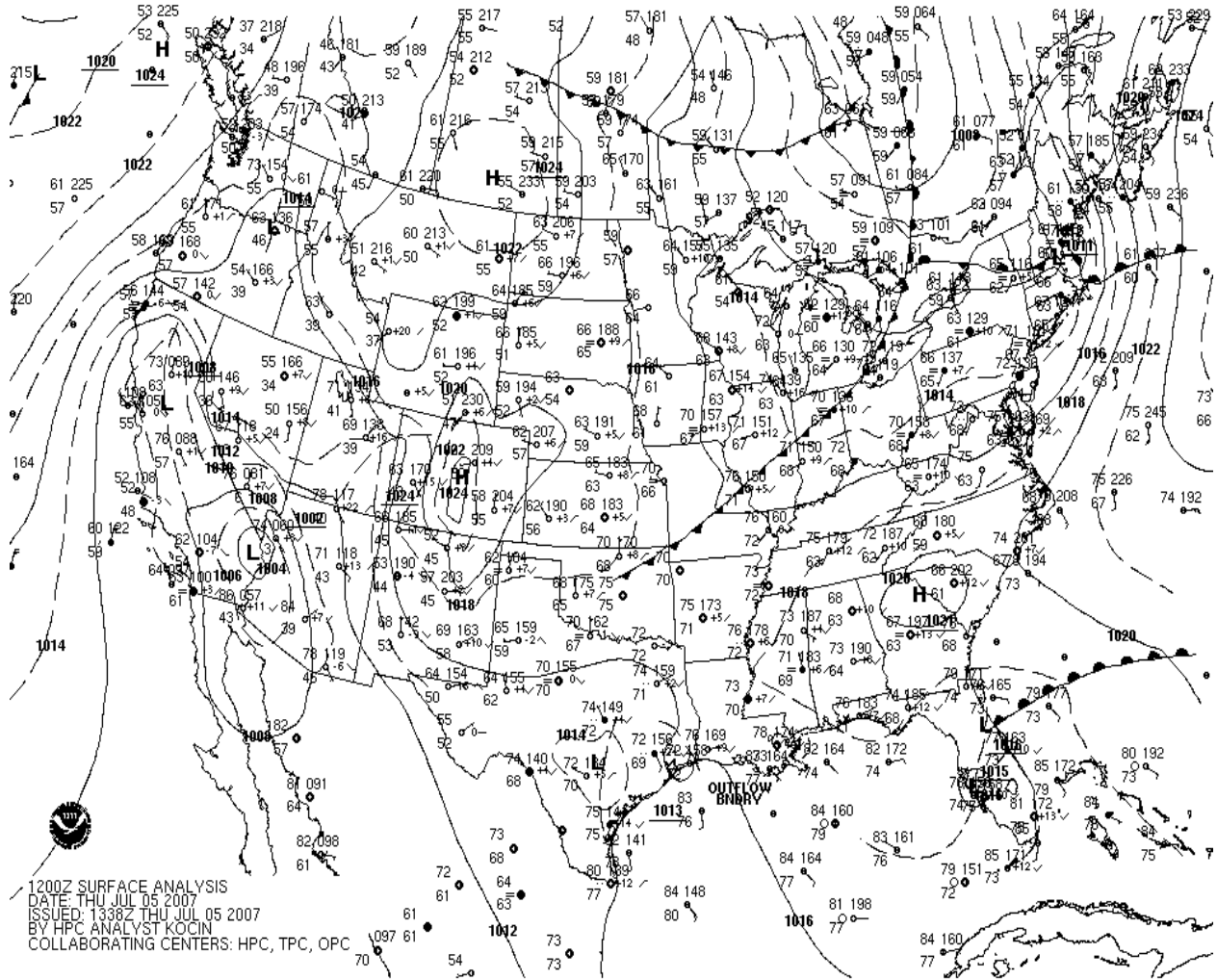
Surface weather map for 8 PM PDT on July 4, 2007.



Surface weather map for 11 PM PDT on July 4, 2007.



Surface weather map for 2 AM PDT on July 5, 2007.



Surface weather map for 5 AM PDT on July 5, 2007.

Surface Weather Observations

Station locations are provided in Figure 1.

Data source: National Weather Service website, weather.gov

Key:

T = Temperature (F)

DP = Dew Point (F)

RH = Relative Humidity (%)

WD = Wind Direction

WS = Wind Speed (mph)

VIS = Visibility (miles)

Wx = Weather

CLOUDS = Cloud cover (see cloud cover key below)

Pressure = Surface Pressure in mb and inches of Hg and Altimeter setting

Min Max Temp = Periodic Minimum Maximum Temperature (F)

Flag = Data Quality Control Flag

Precip = Precipitation, in inches, T = Trace (< 0.01 inch)

G = Wind Gust (mph)

15G25 = 15 mph sustained wind with gust to 25 mph

HZ = Haze

BLDU = Blowing Dust

BR = Light Fog

RA = Moderate Rain (- denotes light, + denotes heavy, no sign denotes moderate)

N = North

E = East

S = South

W = West

Cloud cover and height of cloud base

CLR = Clear

FEW = Few, 1-2 octas (1/8 to 2/8 of sky covered)

SCT = Scattered, 3-4 octas

BKN = Broken, 5-7 octas

OVC = Overcast, 8 octas

Example:

OVC010CB = Specifies cloud amount, height of cloud base and cloud type. This example is decoded as sky is OVERCAST, 010 denotes a cloud base of 1000 feet, cloud type CB is cumulonimbus.

Fresno, CA

Date/Time	T	DP	RH	WD	WS	VIS	Wx	CLOUDS	Pressure	Min	Max	Temp	Flag	
06 Jul 12:56 am	86	62	45	WNW	7	10.00	FEW	180	1007.6	29.77	29.424	111 75	OK	
05 Jul 11:56 pm	89	60	38	WNW	5	10.00	FEW	180	1007.6	29.77	29.424		OK	
05 Jul 10:56 pm	93	61	35	NW	3	10.00	SCT	180	1007.4	29.77	29.424	111 93	OK	
05 Jul 9:56 pm	95	57	28	WNW	5	10.00	SCT	180	1007.1	29.76	29.414		OK	
05 Jul 8:56 pm	98	56	25	WNW	3	10.00	SCT	180	1006.6	29.74	29.394		OK	
05 Jul 7:56 pm	105	48	15	W	8	10.00	SCT	180	1005.9	29.72	29.375		OK	
05 Jul 6:56 pm	110	43	11	NNW	3	10.00	FEW060	SCT180	1005.5	29.71	29.365		OK	
05 Jul 5:56 pm	109	44	12	NW	3	10.00	FEW060	SCT200	1005.7	29.72	29.375		OK	
05 Jul 4:56 pm	109	47	13	VRBL	3	10.00	FEW060	SCT200	1006.1	29.73	29.384	110 95	OK	
05 Jul 3:56 pm	109	49	14	NNW	6	10.00	FEW060	SCT200	1006.5	29.74	29.394		OK	
05 Jul 2:56 pm	108	53	17	WSW	7	10.00	FEW060	SCT200	1007.3	29.76	29.414		OK	
05 Jul 1:56 pm	106	52	17	VRBL	3	10.00	FEW060	SCT200	1007.8	29.78	29.434		OK	
05 Jul 12:56 pm	102	53	20	CALM		10.00	FEW060	SCT200	1008.4	29.80	29.454		OK	
05 Jul 11:56 am	99	55	23	SSW	5	10.00	FEW	200	1009.1	29.82	29.474		OK	
05 Jul 10:56 am	96	57	27	S	5	6.00	HZ	FEW200	1009.4	29.83	29.483	96 75	OK	
05 Jul 9:56 am	92	58	32	SSE	6	7.00		FEW200	1009.5	29.83	29.483		OK	
05 Jul 8:56 am	88	55	33	ESE	6	10.00		FEW200		29.83	29.483		OK	
05 Jul 7:56 am	84	51	32	SSE	3	10.00		FEW200	1009.5	29.82	29.474		OK	
05 Jul 6:56 am	79	55	44	CALM		10.00		CLR	1009.5	29.82	29.474		OK	
05 Jul 5:56 am	76	57	52	CALM		9.00		CLR	1009.2	29.82	29.474		OK	
05 Jul 4:56 am	76	57	52	SE	3	10.00		CLR	1008.8	29.81	29.464	89 76	OK	
05 Jul 3:56 am	79	58	49	E	3	10.00		CLR	1008.6	29.80	29.454		OK	
05 Jul 2:56 am	79	60	52	ESE	3	6.00	HZ	CLR	1008.8	29.81	29.464		OK	
05 Jul 1:56 am	79	60	52	SE	3	4.00	HZ	CLR	1008.7	29.80	29.454		OK	
05 Jul 12:56 am	82	59	46	CALM		7.00		CLR	1008.8	29.81	29.464	104 70	OK	
04 Jul 11:56 pm	84	58	41	SE	5	5.00	HZ	CLR	1009.1	29.81	29.464		OK	
04 Jul 10:56 pm	89	56	33	CALM		4.00	HZ	CLR	1009.1	29.81	29.464	104 89	OK	
04 Jul 9:56 pm	91	55	30	CALM		4.00	HZ	CLR	1008.8	29.81	29.464		OK	
04 Jul 8:56 pm	93	54	27	W	5	10.00		FEW200	1007.9	29.78	29.434		OK	
04 Jul 7:56 pm	97	53	23	W	7	10.00		FEW200	1007.5	29.77	29.424		OK	
04 Jul 6:56 pm	101	50	18	WNW	7	10.00		FEW200	1007.3	29.76	29.414		OK	
04 Jul 5:56 pm	103	48	16	WNW	8	10.00		FEW120	SCT200	1007.4	29.76	29.414		OK
04 Jul 4:56 pm	103	50	17	NW	9	10.00		FEW120	SCT200	1007.9	29.78	29.434	103 90	OK
04 Jul 3:56 pm	101	50	18	WNW	8	10.00		FEW120	SCT200	1008.4	29.79	29.444		OK
04 Jul 2:56 pm	101	52	20	NW	9	10.00		CLR	1009.2	29.82	29.474		OK	
04 Jul 1:56 pm	99	52	21	VRBL	6	10.00		CLR	1009.9	29.84	29.493		OK	
04 Jul 12:56 pm	97	51	21	S	7	10.00		CLR	1010.5	29.85	29.503		OK	
04 Jul 11:56 am	93	53	26	ESE	6	10.00		CLR	1011.1	29.87	29.523		OK	
04 Jul 10:56 am	90	55	31	S	5	10.00		CLR	1011.4	29.88	29.533	90 70	OK	
04 Jul 9:56 am	86	55	35	SSE	8	8.00		CLR	1011.7	29.89	29.543		OK	
04 Jul 8:56 am	82	54	38	ESE	6	10.00		CLR	1012.1	29.90	29.553		OK	
04 Jul 7:56 am	77	56	48	CALM		10.00		CLR	1012.4	29.91	29.563		OK	
04 Jul 6:56 am	72	57	59	CALM		10.00		CLR	1012.2	29.91	29.563		OK	
04 Jul 5:56 am	71	56	59	CALM		10.00		CLR	1012.0	29.90	29.553		OK	
04 Jul 4:56 am	72	55	55	CALM		10.00		CLR	1011.6	29.89	29.543	83 72	OK	
04 Jul 3:56 am	73	55	53	CALM		10.00		CLR	1011.7	29.89	29.543		OK	

Bakersfield, CA

Date/Time	T	DP	RH	WD	WS	VIS	Wx	CLOUD	Pressure	Min	Max	Temp	Flag
06 Jul 12:54 am	90	45	21	NNW	8	10.00		CLR	1008.4	29.80	29.264	108 78	OK
05 Jul 11:54 pm	92	48	22	N	6	10.00		CLR	1007.8	29.79	29.254		OK
05 Jul 10:54 pm	93	55	28	NW	6	10.00		CLR	1007.7	29.79	29.254	108 93	OK
05 Jul 9:54 pm	94	58	30	NW	3	10.00		CLR	1007.1	29.77	29.235		OK
05 Jul 8:54 pm	98	55	24	NW	3	10.00		CLR	1006.4	29.75	29.215		OK
05 Jul 7:54 pm	102	61	26	NNW	5	10.00		CLR	1005.9	29.73	29.195		OK
05 Jul 6:54 pm	105	61	24	WNW	7	10.00		CLR	1005.7	29.73	29.195		OK
05 Jul 5:54 pm	106	57	20	NW	8	10.00		CLR	1005.5	29.72	29.185		OK
05 Jul 4:54 pm	108	50	15	WNW	12	10.00		CLR	1006.0	29.73	29.195	108 97	OK
05 Jul 3:54 pm	107	57	20	NW	12	10.00		CLR	1006.2	29.74	29.205		OK
05 Jul 2:54 pm	106	57	20	WNW	7	10.00		CLR	1006.9	29.76	29.225		OK
05 Jul 1:54 pm	102	56	21	W	7	10.00		CLR	29.78	29.245			OK
05 Jul 12:54 pm	101	54	21	CALM		10.00		CLR	1008.1	29.80	29.264		OK
05 Jul 11:54 am	100	53	21	WSW	7	10.00		CLR	1008.6	29.81	29.274		OK
05 Jul 10:54 am	98	53	22	VRBL	6	10.00		CLR	1009.0	29.82	29.284	98 78	OK
05 Jul 9:54 am	94	52	24	VRBL	3	10.00		CLR	1009.2	29.83	29.294		OK
05 Jul 8:54 am	90	52	28	CALM		10.00		CLR	29.84	29.304			OK
05 Jul 7:54 am	88	51	28	SSE	5	10.00		CLR	1009.3	29.83	29.294		OK
05 Jul 6:54 am	83	51	33	CALM		10.00		CLR	1009.1	29.83	29.294		OK
05 Jul 5:54 am	80	51	37	CALM		9.00		CLR	1008.7	29.81	29.274		OK
05 Jul 4:54 am	80	55	42	CALM		10.00		CLR	1008.4	29.81	29.274	90 80	OK
05 Jul 3:54 am	81	52	37	CALM		10.00		CLR	1008.4	29.80	29.264		OK
05 Jul 2:54 am	81	51	35	CALM		10.00		CLR	1008.4	29.80	29.264		OK
05 Jul 1:54 am	87	51	29	E	5	10.00		CLR	1008.6	29.81	29.274		OK
05 Jul 12:54 am	85	51	31	E	3	10.00		CLR	1008.8	29.82	29.284	100 71	OK
04 Jul 11:54 pm	89	52	28	ESE	3	10.00		CLR	1009.1	29.82	29.284		OK
04 Jul 10:54 pm	91	54	29	CALM		5.00	HZ	CLR	1009.1	29.83	29.294	99 89	OK
04 Jul 9:54 pm	91	52	27	NNE	3	10.00		CLR	1008.9	29.82	29.284		OK
04 Jul 8:54 pm	94	53	25	NNW	3	10.00		CLR	1008.4	29.80	29.264		OK
04 Jul 7:54 pm	97	51	21	WNW	3	10.00		CLR	1008.1	29.79	29.254		OK
04 Jul 6:54 pm	98	51	21	NW	5	10.00		CLR	1007.7	29.78	29.245		OK
04 Jul 5:54 pm	99	52	21	WNW	9	10.00		CLR	1007.6	29.78	29.245		OK
04 Jul 4:54 pm	99	51	20	WNW	9	10.00		CLR	1007.9	29.79	29.254	100 88	OK
04 Jul 3:54 pm	98	51	21	WNW	10	10.00		CLR	1008.3	29.80	29.264		OK
04 Jul 2:54 pm	98	52	21	WNW	9	10.00		CLR	1008.8	29.82	29.284		OK
04 Jul 1:54 pm	96	50	21	W	8	10.00		CLR	1009.6	29.84	29.304		OK
04 Jul 12:54 pm	94	50	23	CALM		10.00		CLR	1010.3	29.86	29.323		OK
04 Jul 11:54 am	91	49	24	VRBL	6	10.00		CLR	1010.8	29.87	29.333		OK
04 Jul 10:54 am	88	49	26	CALM		10.00		CLR	1011.4	29.89	29.353	88 72	OK
04 Jul 9:54 am	85	49	29	SE	7	10.00		CLR	1011.9	29.90	29.363		OK
04 Jul 8:54 am	81	49	33	SSE	8	10.00		CLR	1012.3	29.92	29.382		OK
04 Jul 7:54 am	78	48	35	SE	8	10.00		CLR	1012.3	29.92	29.382		OK
04 Jul 6:54 am	76	50	40	CALM		10.00		CLR	1012.2	29.91	29.373		OK
04 Jul 5:54 am	74	50	43	CALM		10.00		CLR	1012.0	29.91	29.373		OK
04 Jul 4:54 am	73	49	43	CALM		10.00		CLR	1011.8	29.90	29.363	83 71	OK
04 Jul 3:54 am	74	45	36	ENE	3	10.00		CLR	1011.6	29.90	29.363		OK

Hanford, CA

Date/Time	T	DP	RH	WD	WS	VIS	Wx	CLOUDS	Pressure	Min	Max	Temp	Flag	
06 Jul 12:53 am	79	67	67	CALM		8.00	CLR	1007.8	29.77	29.518		107 66	OK	
05 Jul 11:53 pm	80	70	71	CALM		8.00	CLR	1008.2	29.78	29.528			OK	
05 Jul 10:53 pm	82	69	65	CALM		10.00	CLR	1007.3	29.75	29.498	107	82	OK	
05 Jul 9:53 pm	85	66	53	CALM		10.00	CLR		29.75	29.498			OK	
05 Jul 8:53 pm	91	64	41	CALM		10.00	CLR		29.73	29.478			OK	
05 Jul 7:53 pm	100	62	29	W	5	10.00	CLR	1006.1	29.72	29.468			OK	
05 Jul 6:53 pm	105	55	19	CALM		10.00	CLR	1005.9	29.71	29.458			OK	
05 Jul 5:53 pm	106	59	22	NNE	5	10.00	CLR	1005.9	29.71	29.458			OK	
05 Jul 4:53 pm	106	57	20	N	7	10.00	CLR	1006.2	29.72	29.468	106	94	OK	
05 Jul 3:53 pm	105	59	22	NNE	5	8.00	CLR	1006.8	29.74	29.488			OK	
05 Jul 2:53 pm	103	59	24	CALM		10.00	CLR	1007.5	29.76	29.508			OK	
05 Jul 12:53 pm	101	62	28	CALM		8.00	CLR	1008.7	29.79	29.538			OK	
05 Jul 11:53 am	98	61	30	SSE	6	7.00	CLR	1009.5	29.81	29.558			OK	
05 Jul 10:53 am	94	60	33	SSE	5	8.00	CLR	1009.8	29.82	29.568			OK	
05 Jul 9:53 am									29.83	29.578			OK	
05 Jul 7:53 am	79	65	62	CALM		4.00	HZ	CLR	1009.7	29.82	29.568			OK
05 Jul 7:18 am	75	64	69	CALM		3.00	HZ	CLR		29.82	29.568			OK
05 Jul 6:53 am	72	64	76	CALM		2.50	HZ	CLR	1009.7	29.82	29.568			OK
05 Jul 5:53 am	67	63	87	CALM		2.50	BR	CLR	1009.4	29.81	29.558			OK
05 Jul 4:53 am	67	61	81	CALM		6.00	HZ	CLR	1009.1	29.80	29.548	78	67	OK
05 Jul 3:53 am	69	61	75	CALM		7.00	CLR	1008.7	29.79	29.538			OK	
05 Jul 2:53 am	71	61	71	CALM		8.00	CLR	1009.0	29.80	29.548			OK	
05 Jul 1:53 am	71	62	73	CALM		7.00	CLR	1009.0	29.80	29.548			OK	
05 Jul 12:53 am	73	63	71	CALM		8.00	CLR	1009.2	29.80	29.548		102 62	OK	
04 Jul 11:53 pm	74	64	71	CALM		9.00	CLR	1009.5	29.81	29.558			OK	
04 Jul 10:53 pm	78	64	62	CALM		8.00	CLR	1009.3	29.81	29.558	102	77	OK	
04 Jul 9:53 pm	81	63	54	CALM		10.00	CLR	1009.1	29.80	29.548			OK	
04 Jul 8:53 pm	85	60	43	CALM		10.00	CLR	1008.5	29.78	29.528			OK	
04 Jul 7:53 pm	97	53	23	WNW	3	10.00	CLR	1008.0	29.77	29.518			OK	
04 Jul 6:53 pm	100	51	20	WNW	7	10.00	CLR	1007.7	29.76	29.508			OK	
04 Jul 5:53 pm	101	51	19	NNW	9	10.00	CLR	1007.8	29.76	29.508			OK	
04 Jul 4:53 pm	101	47	16	WNW	7	10.00	CLR	1008.4	29.78	29.528	102	87	OK	
04 Jul 3:53 pm	101	53	20	NNW	8	10.00	CLR	1008.7	29.79	29.538			OK	
04 Jul 2:53 pm	99	51	20	NNW	8	10.00	CLR	1009.4	29.81	29.558			OK	
04 Jul 1:53 pm	97	54	24	NW	8	10.00	CLR	1010.2	29.83	29.578			OK	
04 Jul 12:53 pm	94	51	24	NW	8	10.00	CLR	1011.1	29.86	29.607			OK	
04 Jul 11:53 am	91	53	28	CALM		10.00	CLR	1011.6	29.88	29.627			OK	
04 Jul 10:53 am	87	54	32	WNW	7	10.00	CLR	1011.9	29.88	29.627	87	63	OK	
04 Jul 9:53 am	82	54	38	NNW	5	10.00	CLR	1012.2	29.89	29.637			OK	
04 Jul 8:53 am	78	53	42	VRBL	6	10.00	CLR	1012.5	29.90	29.647			OK	
04 Jul 7:53 am	74	54	50	WNW	7	10.00	CLR	1012.7	29.91	29.657			OK	
04 Jul 6:53 am	69	53	57	W	5	10.00	CLR	1012.6	29.90	29.647			OK	
04 Jul 5:53 am	66	55	68	W	3	10.00	CLR	1012.3	29.90	29.647			OK	
04 Jul 4:53 am	63	57	81	CALM		10.00	CLR	1011.9	29.88	29.627	81	62	OK	
04 Jul 3:53 am	65	57	76	CALM		10.00	CLR	1011.9	29.88	29.627			OK	

Stockton, CA

Date/Time	T	DP	RH	WD	WS	VIS	Wx	CLOUDS	Pressure	Precip	Min	Max	Temp	Flag
06 Jul 12:55 am	77	59	54	NE	7	10.00	CLR	1007.4	29.75 29.727		110	68	OK	
05 Jul 11:55 pm	82	57	43	NE	7	10.00	CLR	1007.3	29.75 29.727				OK	
05 Jul 10:55 pm	87	54	32	W	9	10.00	CLR	1007.1	29.74 29.717		110	86	OK	
05 Jul 9:55 pm	89	57	34	WNW	10	10.00	CLR	1006.6	29.73 29.707				OK	
05 Jul 8:55 pm	92	58	32	WNW	14	10.00	CLR	1006.7	29.73 29.707				OK	
05 Jul 7:55 pm	101	48	17	NW	13	10.00	CLR	1006.1	29.71 29.687				OK	
05 Jul 6:55 pm	107	51	16	NW	10	10.00	CLR	1005.9	29.71 29.687				OK	
05 Jul 5:55 pm	108	46	13	WNW	9	10.00	CLR	1005.6	29.70 29.677				OK	
05 Jul 4:55 pm	108	46	13	W	6	10.00	CLR	1006.0	29.71 29.687		109	96	OK	
05 Jul 3:55 pm	107	52	16	VRBL	5	10.00	CLR	1006.7	29.73 29.707				OK	
05 Jul 2:55 pm	106	53	18	NW	10	10.00	CLR	1007.1	29.74 29.717				OK	
05 Jul 1:55 pm	104	56	20	WNW	8	10.00	CLR	1007.8	29.76 29.737				OK	
05 Jul 12:55 pm	102	53	20	VRBL	6	10.00	CLR	1008.4	29.78 29.757				OK	
05 Jul 11:55 am	100	54	22	VRBL	7	10.00	CLR	1008.8	29.79 29.767				OK	
05 Jul 10:55 am	96	55	25	VRBL	3	10.00	CLR	1009.2	29.80 29.777	0.01 0.01	96	68	OK	
05 Jul 9:55 am	91	57	32	NE	5	10.00	CLR	1009.4	29.81 29.787				OK	
05 Jul 8:55 am	86	55	35	VRBL	3	10.00	CLR		29.82 29.797				OK	
05 Jul 7:55 am	80	57	45	CALM		10.00	CLR	1009.3	29.81 29.787				OK	
05 Jul 6:55 am	73	57	57	CALM		10.00	CLR	1009.0	29.80 29.777				OK	
05 Jul 5:55 am	69	57	65	CALM		10.00	CLR	1008.7	29.79 29.767				OK	
05 Jul 4:55 am	70	56	61	CALM		10.00	CLR	1008.3	29.78 29.757		86	69	OK	
05 Jul 3:55 am	70	56	61	CALM		10.00	CLR	1008.0	29.77 29.747				OK	
05 Jul 2:55 am	72	54	53	CALM		10.00	CLR	1007.9	29.77 29.747				OK	
05 Jul 1:55 am	74	56	53	ENE	6	10.00	CLR	1007.9	29.77 29.747				OK	
05 Jul 12:55 am	76	56	50	ENE	7	10.00	CLR	1007.8	29.76 29.737		106	62	OK	
04 Jul 11:55 pm	83	54	37	WNW	3	10.00	CLR	1007.8	29.76 29.737				OK	
04 Jul 10:55 pm	86	54	33	W	6	10.00	CLR	1008.1	29.77 29.747		106	85	OK	
04 Jul 9:55 pm	87	56	35	WNW	8	10.00	CLR	1007.9	29.76 29.737				OK	
04 Jul 8:55 pm	94	53	25	WNW	12	10.00	CLR	1007.5	29.75 29.727				OK	
04 Jul 7:55 pm	99	49	19	NW	13	10.00	CLR	1007.3	29.75 29.727				OK	
04 Jul 6:55 pm	104	54	19	NNW	10	10.00	CLR	1007.2	29.74 29.717				OK	
04 Jul 5:55 pm	105	54	19	NNW	13	10.00	CLR	1007.2	29.74 29.717				OK	
04 Jul 4:55 pm	106	52	17	NW	12G16	10.00	CLR	1007.7	29.76 29.737		106	89	OK	
04 Jul 3:55 pm	106	49	15	W	9	10.00	CLR	1008.4	29.78 29.757				OK	
04 Jul 2:55 pm	103	55	21	NW	10	10.00	CLR	1009.1	29.80 29.777				OK	
04 Jul 1:55 pm	100	57	24	WNW	8	10.00	CLR	1009.7	29.82 29.797				OK	
04 Jul 12:55 pm	96	56	26	W	7	10.00	CLR	1010.5	29.84 29.816				OK	
04 Jul 11:55 am	92	55	29	CALM		10.00	CLR	1011.0	29.86 29.836				OK	
04 Jul 10:55 am	89	52	28	VRBL	7	10.00	CLR	1011.2	29.86 29.836	T	89	62	OK	
04 Jul 9:55 am	86	52	31	WNW	7	10.00	CLR	1011.6	29.88 29.856				OK	
04 Jul 8:55 am	81	51	35	W	6	10.00	CLR	1012.0	29.89 29.866	T			OK	
04 Jul 7:55 am	76	53	45	NNE	5	10.00	CLR	1012.2	29.89 29.866				OK	
04 Jul 6:55 am	67	51	57	CALM		10.00	CLR	1012.2	29.89 29.866				OK	
04 Jul 5:55 am	62	50	65	CALM		10.00	CLR	1012.0	29.89 29.866				OK	
04 Jul 4:55 am	65	52	63	CALM		10.00	CLR	1011.4	29.87 29.846		79	64	OK	
04 Jul 3:55 am	66	53	63	NE	5	10.00	CLR	1011.4	29.87 29.846				OK	

Modesto, CA

Date/Time	T	DP	RH	WD	WS	VIS	Wx	CLOUDS	Pressure	Min	Max	Temp	Flag
06 Jul 12:53 am	86	56	36	NNE	6	10.00	CLR		1007.5 29.75 29.657			110 71	OK
05 Jul 11:53 pm	86	58	39	CALM		10.00	CLR		1007.2 29.75 29.657				OK
05 Jul 10:53 pm	91	57	32	NNE	3	10.00	CLR		1007.2 29.75 29.657	109	91		OK
05 Jul 9:53 pm	93	56	29	WNW	6	10.00	CLR		1006.8 29.73 29.637				OK
05 Jul 8:53 pm	101	55	22	WNW	8	10.00	CLR		1006.2 29.72 29.627				OK
05 Jul 7:53 pm	103	47	15	WNW	8	10.00	CLR		1006.1 29.71 29.617				OK
05 Jul 6:53 pm	107	49	15	NNW	7	10.00	CLR		1005.9 29.71 29.617				OK
05 Jul 5:53 pm	108	51	15	NW	10	10.00	CLR		1005.7 29.70 29.607				OK
05 Jul 4:53 pm	109	53	16	VRBL	5	10.00	FEW095		1006.0 29.71 29.617	110	97		OK
05 Jul 3:53 pm	108	51	15	W	6	10.00	FEW100		1006.7 29.73 29.637				OK
05 Jul 2:53 pm	108	54	17	NNW	8	10.00	CLR		1007.2 29.75 29.657				OK
05 Jul 12:53 pm	103	56	21	N	5	10.00	CLR		1008.4 29.78 29.687				OK
05 Jul 11:53 am	99	59	27	VRBL	3	10.00	CLR		1008.9 29.80 29.707				OK
05 Jul 10:53 am	97	57	27	N	5	10.00	CLR		1009.1 29.80 29.707	97	71		OK
05 Jul 9:53 am	93	56	29	VRBL	3	10.00	CLR		1009.2 29.81 29.717				OK
05 Jul 7:53 am	84	56	38	CALM		10.00	CLR		1009.3 29.81 29.717				OK
05 Jul 6:53 am	73	63	71	CALM		5.00	HZ	CLR	1009.0 29.80 29.707				OK
05 Jul 5:53 am	72	61	68	CALM		4.00	HZ	CLR	1008.7 29.79 29.697				OK
05 Jul 4:53 am	72	61	68	CALM		6.00	HZ	CLR	1008.4 29.78 29.687	88	72		Caution
05 Jul 3:53 am	74	61	64	CALM		8.00	CLR		1008.1 29.77 29.677				OK
05 Jul 2:53 am	75	61	62	CALM		8.00	CLR		1008.0 29.77 29.677				OK
05 Jul 1:53 am	76	60	58	CALM		8.00	CLR		1008.1 29.77 29.677				OK
05 Jul 12:53 am	83	57	41	CALM		10.00	CLR		1008.0 29.77 29.677			106 65	OK
04 Jul 11:53 pm	84	57	40	CALM		7.00	CLR		1008.1 29.77 29.677				OK
04 Jul 10:53 pm	88	57	35	NW	3	5.00	HZ	CLR	1008.1 29.77 29.677	106	88		OK
04 Jul 9:53 pm	92	56	30	NNW	7	9.00	CLR		1008.0 29.77 29.677				OK
04 Jul 8:53 pm	93	60	34	NW	7	10.00	CLR		1007.5 29.75 29.657				OK
04 Jul 7:53 pm	100	56	23	NNW	8	10.00	CLR		1007.3 29.75 29.657				OK
04 Jul 6:53 pm	104	54	19	NW	9	10.00	CLR		1007.2 29.75 29.657				OK
04 Jul 5:53 pm	105	47	14	NNW	10	10.00	CLR		1007.4 29.75 29.657				OK
04 Jul 4:53 pm	105	50	16	NW	14	10.00	CLR		1007.8 29.76 29.667	105	89		OK
04 Jul 3:53 pm	104	50	17	N	8	10.00	CLR		1008.6 29.79 29.697				OK
04 Jul 2:53 pm	103	51	18	NNW	9	10.00	CLR		1009.2 29.80 29.707				OK
04 Jul 1:53 pm	100	55	23	W	6	10.00	CLR		1009.9 29.83 29.737				OK
04 Jul 12:53 pm	96	56	26	NNW	6	10.00	CLR		1010.5 29.84 29.746				OK
04 Jul 11:53 am	94	54	26	VRBL	6	10.00	CLR		1010.9 29.86 29.766				OK
04 Jul 10:53 am	89	52	28	VRBL	3	10.00	CLR		1011.2 29.86 29.766	90	65		OK
04 Jul 9:53 am	85	51	31	CALM		10.00	CLR		1011.7 29.88 29.786				OK
04 Jul 8:53 am	81	53	38	NW	3	10.00	CLR		1012.0 29.89 29.796				OK
04 Jul 7:53 am	78	52	40	N	6	10.00	CLR		1012.1 29.89 29.796				OK
04 Jul 6:53 am	72	54	53	CALM		10.00	CLR		1012.2 29.89 29.796				OK
04 Jul 5:53 am	66	56	70	CALM		10.00	CLR		1012.0 29.89 29.796				OK
04 Jul 4:53 am	68	56	65	CALM		10.00	CLR		1011.6 29.87 29.776	80	67		OK
04 Jul 3:53 am	69	55	61	CALM		10.00	CLR		1011.4 29.87 29.776				OK

Merced, CA

Date/Time	T	DP	RH	WD	WS	VIS	Wx	CLOUDS	Pressure	Min	Max	Temp	Flag
06 Jul 12:53 am	78	58	50	WSW	5	10.00	CLR		1007.6 29.76 29.603			106 67	OK
05 Jul 11:53 pm	81	58	46	CALM		10.00	CLR		1007.2 29.75 29.593				OK
05 Jul 10:53 pm	82	55	40	W	9	10.00	CLR		1007.2 29.75 29.593	106	82		OK
05 Jul 9:53 pm	84	61	46	WSW	7	10.00	CLR		1006.9 29.74 29.583				OK
05 Jul 8:53 pm	92	64	40	WNW	3	10.00	CLR		1006.3 29.72 29.564				OK
05 Jul 7:53 pm	96	64	35	NW	7	10.00	CLR		1005.9 29.71 29.554				OK
05 Jul 6:53 pm	104	54	19	NW	6	10.00	CLR		1005.7 29.71 29.554				OK
05 Jul 5:53 pm	105	55	19	W	5	10.00	CLR		1005.5 29.70 29.544				OK
05 Jul 4:53 pm	105	52	17	SW	6	10.00	CLR		1005.8 29.71 29.554	106	94		OK
05 Jul 3:53 pm	105	51	17	W	6	10.00	CLR		1006.4 29.73 29.574				OK
05 Jul 2:53 pm	104	55	20	W	7	10.00	CLR		1007.0 29.74 29.583				OK
05 Jul 12:53 pm	100	53	21	W	7	10.00	FEW090		1008.2 29.78 29.623				OK
05 Jul 11:53 am	97	58	28	VRBL	3	10.00	CLR		1008.6 29.79 29.633				OK
05 Jul 10:53 am	95	51	23	CALM		10.00	CLR		1009.0 29.80 29.643	95	67		OK
05 Jul 9:53 am	87	61	42	VRBL	5	8.00	CLR		1009.3 29.81 29.653				OK
05 Jul 7:53 am	78	59	52	S	3	7.00	CLR		1009.1 29.81 29.653				OK
05 Jul 6:53 am	72	59	64	CALM		8.00	CLR		1008.9 29.80 29.643				OK
05 Jul 5:53 am	70	60	71	CALM		7.00	CLR		1008.7 29.79 29.633				OK
05 Jul 4:53 am	72	61	68	CALM		10.00	CLR		1008.2 29.78 29.623	79	68		OK
05 Jul 3:53 am	69	59	70	CALM		10.00	CLR		1008.1 29.78 29.623				OK
05 Jul 2:53 am	72	62	71	CALM		10.00	CLR		1007.9 29.77 29.613				OK
05 Jul 1:53 am	73	60	64	CALM		10.00	CLR		1008.1 29.78 29.623				OK
05 Jul 12:53 am	74	62	67	CALM		10.00	CLR		1008.2 29.78 29.623			103 62	OK
04 Jul 11:53 pm	77	64	64	CALM		10.00	CLR		1008.3 29.78 29.623				OK
04 Jul 10:53 pm	80	65	60	CALM		10.00	CLR		1008.3 29.78 29.623	103	80		OK
04 Jul 9:53 pm	85	61	45	CALM		10.00	CLR		1008.1 29.78 29.623				OK
04 Jul 8:53 pm	91	59	34	W	5	10.00	CLR		1007.3 29.75 29.593				OK
04 Jul 7:53 pm	93	60	34	WNW	6	10.00	CLR		1007.1 29.75 29.593				OK
04 Jul 6:53 pm	97	57	27	NW	8	10.00	CLR		1007.0 29.74 29.583				OK
04 Jul 5:53 pm	101	44	15	NW	12	10.00	CLR		1007.4 29.76 29.603				OK
04 Jul 4:53 pm	102	47	16	NNW	12	10.00	CLR		1007.7 29.76 29.603	102	86		OK
04 Jul 3:53 pm	100	51	20	NW	8	10.00	CLR		1008.3 29.78 29.623				OK
04 Jul 2:53 pm	100	49	18			10.00	CLR		1009.1 29.81 29.653				OK
04 Jul 1:53 pm	97	53	23	VRBL	3	10.00	CLR		1009.7 29.82 29.663				OK
04 Jul 12:53 pm	94	53	25	WSW	8	10.00	CLR		1010.3 29.84 29.683				OK
04 Jul 11:53 am	90	56	32	VRBL	5	10.00	CLR		1010.8 29.86 29.703				OK
04 Jul 10:53 am	87	51	29	W	6	10.00	CLR		1011.2 29.87 29.713	88	62		OK
04 Jul 9:53 am	84	50	31	WNW	6	10.00	CLR		1011.4 29.87 29.713				OK
04 Jul 8:53 am	80	52	38	N	7	10.00	CLR		1011.9 29.89 29.733				OK
04 Jul 7:53 am	73	54	51	N	3	10.00	CLR		1012.0 29.89 29.733				OK
04 Jul 6:53 am	67	55	66	CALM		10.00	CLR		1012.1 29.89 29.733				OK
04 Jul 5:53 am	63	54	72	CALM		10.00	CLR		1011.9 29.89 29.733				OK
04 Jul 4:53 am	63	54	72	W	3	10.00	CLR		1011.6 29.88 29.723	76	63		OK
04 Jul 3:53 am	64	55	73	CALM		10.00	CLR		1011.3 29.87 29.713				OK

Madera, CA

Date/Time	T	DP	RH	WD	WS	VIS	Wx	CLOUDS	Pressure	Min	Max	Temp	Flag
06 Jul 12:53 am	81	58	46	NNW	5	10.00		CLR	1007.7 29.77 29.507			109 70	OK
05 Jul 11:53 pm	81	58	46	WNW	6	10.00		CLR	1007.4 29.76 29.497				OK
05 Jul 10:53 pm	83	62	49	NW	7	10.00		CLR	1007.4 29.76 29.497	108	83		OK
05 Jul 9:53 pm	87	67	51	WNW	8	10.00		CLR	1007.2 29.75 29.488				OK
05 Jul 8:53 pm	92	64	40	NNW	6	10.00		CLR	1006.6 29.74 29.478				OK
05 Jul 7:53 pm	99	64	32	W	7	10.00		CLR	1006.0 29.72 29.458				OK
05 Jul 6:53 pm	105	61	24	WNW	6	10.00		CLR	1005.8 29.71 29.448				OK
05 Jul 5:53 pm	107	58	20	WNW	6	10.00		CLR	1005.9 29.71 29.448				OK
05 Jul 4:53 pm	108	56	18	W	7	10.00		CLR	1006.0 29.72 29.458	109	93		OK
05 Jul 3:53 pm	107	55	18	W	7	10.00		CLR	1006.7 29.74 29.478				OK
05 Jul 2:53 pm	106	55	19	VRBL	3	10.00		CLR	1007.4 29.76 29.497				OK
05 Jul 12:53 pm	101	58	24	VRBL	5	10.00		CLR	1008.5 29.79 29.527				OK
05 Jul 11:53 am	98	61	30	WNW	6	10.00		CLR	1009.0 29.81 29.547				OK
05 Jul 10:53 am	93	64	39	SW	6	8.00		CLR	1009.3 29.82 29.557	94	71		OK
05 Jul 9:53 am	90	63	41	SSW	3	4.00	HZ	CLR	1009.5 29.82 29.557				OK
05 Jul 7:53 am	82	59	46	SE	6	6.00	HZ	CLR	1009.4 29.82 29.557				OK
05 Jul 6:53 am	75	58	55	CALM		6.00	HZ	CLR	1009.4 29.82 29.557				OK
05 Jul 5:53 am	72	57	59	E	5	8.00		CLR	1009.0 29.81 29.547				OK
05 Jul 4:53 am	72	57	59	CALM		9.00		CLR	1008.6 29.80 29.537	81	70		OK
05 Jul 3:53 am	73	59	61	CALM		7.00		CLR	1008.4 29.79 29.527				OK
05 Jul 2:53 am	74	60	62	CALM		6.00	HZ	CLR	1008.4 29.79 29.527				OK
05 Jul 1:53 am	77	59	54	E	3	6.00	HZ	CLR	1008.4 29.79 29.527				OK
05 Jul 12:53 am	75	60	60	CALM		10.00		CLR	1008.6 29.80 29.537			103 61	OK
04 Jul 11:53 pm	78	62	58	CALM		10.00		CLR	1008.7 29.80 29.537				OK
04 Jul 10:53 pm	81	62	53	CALM		10.00		CLR	1008.6 29.80 29.537	103	81		OK
04 Jul 9:53 pm	82	63	53	W	5	10.00		CLR	1008.4 29.79 29.527				OK
04 Jul 8:53 pm	84	62	48	W	5	10.00		CLR	1007.8 29.77 29.507				OK
04 Jul 7:53 pm	94	60	33	W	7	10.00		CLR	1007.5 29.76 29.497				OK
04 Jul 6:53 pm	100	57	24	WNW	7	10.00		CLR	1007.2 29.75 29.488				OK
04 Jul 5:53 pm	102	56	22	VRBL	6	10.00		CLR	1007.5 29.76 29.497				OK
04 Jul 4:53 pm	103	52	19	WNW	9	10.00		CLR	1008.0 29.78 29.517	103	89		OK
04 Jul 3:53 pm	102	51	18	WNW	10	10.00		CLR	1008.5 29.79 29.527				OK
04 Jul 2:53 pm	100	54	22	WNW	8	10.00		CLR	1009.4 29.82 29.557				OK
04 Jul 1:53 pm	97	55	25	NW	9	10.00		CLR	1010.1 29.84 29.577				OK
04 Jul 12:53 pm	95	55	26	W	8	10.00		CLR	1010.6 29.85 29.587				OK
04 Jul 11:53 am	92	54	28	VRBL	5	10.00		CLR	1011.1 29.87 29.607				OK
04 Jul 10:53 am	89	55	32	W	6	10.00		CLR	1011.4 29.88 29.617	89	61		OK
04 Jul 9:53 am	84	58	41	VRBL	3	10.00		CLR	1011.7 29.89 29.626				OK
04 Jul 8:53 am	80	55	42	CALM		10.00		CLR	1012.1 29.90 29.636				OK
04 Jul 7:53 am	74	56	53	CALM		10.00		CLR	1012.3 29.90 29.636				OK
04 Jul 6:53 am	68	56	65			10.00		CLR	1012.4 29.91 29.646				OK
04 Jul 5:53 am	62	55	78	CALM		10.00		CLR	1012.0 29.89 29.626				OK
04 Jul 4:53 am	65	56	73	CALM		10.00		CLR	1011.8 29.89 29.626	73	63		OK
04 Jul 3:53 am	64	55	73	CALM		10.00		CLR	1011.7 29.89 29.626				OK

Visalia, CA

Date/Time	T	DP	RH	WD	WS	VIS	Wx	CLOUDS	Pressure	Min	Max	Temp	Flag
05 Jul 7:15 am	75	64	69	CALM		8.00	CLR	29.82	29.512				OK
05 Jul 6:55 am	75	63	65	CALM		10.00	CLR	29.82	29.512				OK
05 Jul 6:35 am	72	63	73	CALM		8.00	CLR	29.82	29.512				OK
05 Jul 6:15 am	72	63	73	CALM		8.00	CLR	29.81	29.502				OK
05 Jul 5:55 am	72	63	73	CALM		8.00	CLR	29.81	29.502				OK
05 Jul 5:35 am	72	63	73	CALM		10.00	CLR	29.81	29.502				OK
05 Jul 5:15 am	72	63	73	CALM		10.00	CLR	29.81	29.502				OK
05 Jul 4:55 am	73	63	69	SE	5	10.00	CLR	29.80	29.492	81	72		OK
05 Jul 4:35 am	72	63	73	CALM		8.00	CLR	29.80	29.492				OK
05 Jul 4:15 am	73	64	74	CALM		8.00	CLR	29.80	29.492				OK
05 Jul 3:55 am	72	64	78	CALM		7.00	CLR	29.80	29.492				OK
05 Jul 3:35 am	73	64	74	CALM		9.00	CLR	29.79	29.482				OK
05 Jul 3:15 am	73	64	74	CALM		8.00	CLR	29.80	29.492				OK
05 Jul 2:55 am	73	64	74	CALM		8.00	CLR	29.80	29.492				OK
05 Jul 2:35 am	75	64	69	CALM		8.00	CLR	29.80	29.492				OK
05 Jul 2:15 am	75	64	69	CALM		8.00	CLR	29.80	29.492				OK
05 Jul 1:55 am	75	64	69	CALM		8.00	CLR	29.80	29.492				OK
05 Jul 1:35 am	75	64	69	ESE	3	8.00	CLR	29.80	29.492				OK
05 Jul 1:15 am	77	64	65	CALM		10.00	CLR	29.80	29.492				OK
05 Jul 12:55 am	75	64	69	CALM		10.00	CLR	29.81	29.502				OK
05 Jul 12:35 am	79	64	61	CALM		10.00	CLR	29.81	29.502				OK
05 Jul 12:15 am	79	64	61	CALM		10.00	CLR	29.81	29.502				OK
04 Jul 11:55 pm	79	64	61	CALM		7.00	CLR	29.81	29.502				OK
04 Jul 11:35 pm	79	64	61	CALM		5.00	CLR	29.81	29.502				OK
04 Jul 11:15 pm	81	64	58	E	3	6.00	CLR	29.81	29.502				OK
04 Jul 10:55 pm	79	66	65	ESE	3	10.00	CLR	29.81	29.502	100	79		OK
04 Jul 10:35 pm	81	66	62	CALM		10.00	CLR	29.81	29.502				OK
04 Jul 10:15 pm	82	66	58	CALM		10.00	CLR	29.81	29.502				OK
04 Jul 9:55 pm	82	66	58	CALM		10.00	CLR	29.81	29.502				OK
04 Jul 9:35 pm	84	66	55	CALM		10.00	CLR	29.80	29.492				OK
04 Jul 9:15 pm	86	64	49	CALM		10.00	CLR	29.79	29.482				OK
04 Jul 8:55 pm	88	63	43	WSW	3	10.00	CLR	29.78	29.472				OK
04 Jul 8:35 pm	90	63	41	WSW	3	10.00	CLR	29.78	29.472				OK
04 Jul 8:15 pm	90	63	41	W	5	10.00	CLR	29.77	29.462				OK
04 Jul 7:55 pm	93	63	36	W	6	10.00	CLR	29.76	29.453				OK
04 Jul 7:35 pm	95	63	35	W	5	10.00	CLR	29.76	29.453				OK
04 Jul 7:15 pm	97	63	33	W	6	10.00	CLR	29.76	29.453				OK
04 Jul 6:55 pm	97	65	35	W	7	10.00	CLR	29.76	29.453				OK
04 Jul 6:35 pm	99	65	33	W	7	10.00	CLR	29.75	29.443				OK
04 Jul 6:15 pm	100	61	28	WNW	8	10.00	CLR	29.75	29.443				OK
04 Jul 5:55 pm	100	61	28	WNW	8	10.00	CLR	29.75	29.443				OK
04 Jul 5:35 pm	100	61	28	W	9	10.00	CLR	29.76	29.453				OK
04 Jul 5:15 pm	100	63	29	WNW	7	10.00	CLR	29.76	29.453				OK
04 Jul 4:55 pm	100	61	28	NNW	8	10.00	CLR	29.77	29.462	100	84	100	63 O