EXHIBIT ARWA-906

Technical Memorandum 8

Historical 1922-2003 Meteorological Dataset (Folsom Reservoir, Lake Natoma and Lower American River)

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TABLE OF CONTENTS

1.0 Introduction 1
2.0 Meterological (MET) Data Sources 1
3.0 Data Adjustment for Comparison with CE-QUAL-W2 Folsom Reservoir Model Calibration Dataset 1
4.0 Meterological (MET) Data 2
4.1 Solar Radiation 2
4.2 Air and Dew point Temperature, Wind, and Cloud Cover Data Summary 2
4.3 Air and Dew point Temperature, Wind, and Cloud Cover Data Details 3
4.3.1 1922-1929 3
4.3.2 1930-1931 4
4.3.3 1931-1940 4
4.3.4 1940-1970 5
4.3.5 1971-2003 6
5.0 Climate Change Meterological (MET) Data 7
6.0 References 8
7.0 Tables 9
8.0 Figures 14

List of Tables

Table 1. Summary of Meteorological Sites in the Vicinity of Folsom Reservoir Used for Historical Meteorological Dataset. 10
Table 2. Temperature and Wind Speed Relationships to Calibration Period Dataset. 11
Table 3. Summary of Meteorological Data Availability. 12
Table 4. Wind Speed Measurement Heights. 13
Table 5. National Oceanic and Atmospheric Administration (NOAA) Sky Cover Designations. 13

List of Figures

Figure 1. Location of MET Stations. 15
Figure 2. Calculated Solar Radiation (1922-2003). 16
Figure 3. Timeline of Sources of MET Data Used to Construct the 1922-2003 Dataset. 16
Figure 4. Air Temperature, Dew Point Temperature and Wind Speed for Combined Meteorological Dataset (1922-2003). 17
Figure 5. Cloud Cover Histogram for Combined Meteorological Dataset (1922-2003). 18
Figure 6. Wind Rose Summary for Combined Meteorological Dataset (1922-2003). 18
Figure 7. Wind Speed Conversion from Dyke 8/Folsom to Fair Oaks. 19
Figure 8. Downtown Air Temperature - Diurnal Heating and Cooling. 19
Figure 9. Downtown Air Temperature (1922-1929). 20
Figure 10. Downtown Air Temperatures June, 1922. 20
Figure 11. Downtown Calculated Relative Humidity (1922-1929). 21
Figure 12. Downtown Dew Point Temperature (1922-1929). 21
Figure 13. Downtown Wind Rose (1922-1929). 22
Figure 14. Downtown Wind Speed (1922-1929). 22
Figure 15. Downtown Cloud Cover for 1922. 23
Figure 16. Mather Air Temperature - Original and Adjusted to Calibration Dataset (Fair Oaks) (1930-1931). 23
Figure 17. Mather Relative Humidity (1930-1931). 24
Figure 18. Mather Dew Point Temperature (1930-1931). 24
Figure 19. Mather Wind Speed - Original vs. Adjusted to Calibration Dataset (1930-1931). 25
Figure 20. Mather Cloud Cover Data (1930-1931). 25
Figure 21. Sacramento Executive Airport - Raw Air Temperature Data (1931-1940). [Red circle indicates period of erroneous data] 26
Figure 22. Sacramento Executive Airport Air Temperature after Quality Control (1931-1940). 26
Figure 23. Sacramento Executive Airport - Relative Humidity Data (1931-1940). 27
Figure 24. Sacramento Executive Airport Final Relative Humidity (1931-1940). 27
Figure 25. Sacramento Executive Airport Dew Point Temperature (1931-1940). 28
Figure 26. Sacramento Executive Airport Wind Speed (1931-1940). 28
Figure 27. Sacramento Executive Airport Cloud Cover (1931-1940). 29
Figure 28. Mather Air Force Base Air Temperature (1940-1970). 30
Figure 29. McClellan Air Force Base Air Temperature (1940-1970). 31

Figure 30. Sacramento Executive Airport Air Temperature (1940-1970). 32
Figure 31. Air Temperature Comparison (1940-1970). 33
Figure 32. Relative Humidity Comparison (1940-1970). 34
Figure 33. Adjusted Dew Point Temperature Comparison (1940-1970). 35
Figure 34. Wind Speed Comparison (1940-1970). 36
Figure 35. Cloud Cover Comparison (1941-1970). 37
Figure 36. Air Temperature Comparison (1971-2003). 38
Figure 37. Relative Humidity Comparison (1971-2003). 39
Figure 38. Dew Point Temperature Comparison (1971-2003). 40
Figure 39. Wind Speed Comparison (1971-2003). 41
Figure 40. Comparison of Cloud Cover (1971-2003). 42
Figure 41. Difference between CWC 1995 Monthly Air Temperature and the 2030 and 2070 CWC Climate Change Monthly Air Temperature Scenarios. 42

List of Attachments

Technical Memorandum 8 Attachment A. Air Temperature and Wind Speed Regressions

1.0 INTRODUCTION

To facilitate long-term hydrologic and water temperature model simulations for Folsom Reservoir, Lake Natoma, and the Lower American River (LAR), a long-term meteorological (MET) hourly dataset was compiled for air temperature, dew point temperature (calculated from relative humidity and air temperature[1]), wind speed, wind direction, and cloud cover. The dataset covers the period from 1922-2003 (01/01/1922 to 12/31/2003). This document describes the long-term dataset and the data used to generate the dataset, including the sources and quality of the compiled data.

2.0 METEROLOGICAL (MET) DATA SOURCES

Meteorological data from several stations were used to develop the 1922-2003 dataset because data were not available for the full period of record at a single station. The quality of the MET data from each of the stations were reviewed prior to use. Historical meteorological data were available for 1922-2000 from four stations within the vicinity of Folsom Reservoir and the LAR – Downtown Sacramento (Downtown) (STO), Sacramento Executive Airport (KSAC), Mather Air Force Base (Mather or Mather AFB) (KMHR), and McClellan Air Force Base (McClellan or McClellan AFB) (KMCC), shown in Figure 1. These stations provided air temperature, dew point temperature, wind speed and direction, and cloud cover that covered most of the period. Solar data were not consistently available for the period and, therefore, a cloud-cover corrected theoretical calculation for solar data was used. After 2000, data were available from several MET stations in the vicinity of Folsom Reservoir – Fair Oaks California Irrigation Management Information System (CIMIS) 131 for air temperature, dew point temperature and solar data; Mather for cloud cover; and Folsom (FLD) / Dyke 8 (FLSC1), and Mather for wind speed and direction. A summary of the MET stations used in the generation of the 1922-2003 MET data set is provided in Table 1.

3.0 DATA ADJUSTMENT FOR COMPARISON WITH CE-QUAL-W2 FOLSOM RESERVOIR MODEL CALIBRATION DATASET

For the Folsom Reservoir CE-QUAL-W2 Temperature Model calibration (Technical Memorandum 5 Folsom Reservoir CE-QUAL-W2 Temperature Model Report), a separate meteorological dataset was compiled for the 2001-2011 calibration period. In the calibration data set air temperature was based on the Fair Oaks CIMIS 131 gage and wind speed data were based on several gages, but all scaled to the Folsom/Dyke 8 location. To ensure in the 1922-2003 long-term data set (this technical memorandum) that air temperature and wind speed were compatible with the Folsom Reservoir Temperature Model calibration, air temperature data were scaled to the Fair Oaks CIMIS 131 gage and wind speed data were scaled to Folsom/Dyke 8 gage. These correction factors, which vary by location, are provided in Table 2. Graphs showing the comparisons of the data are provided in Attachment A.

4.0 METEROLOGICAL (MET) DATA

4.1 SOLAR RADIATION

Solar radiation was not available in the vicinity of Folsom Reservoir for the majority of the 1922-2003 period. In order to estimate hourly solar radiation, a theoretical model was used to calculate clear sky

[1] Dew Point Temperature is calculated using the relationship outlined in Singh (1992) Elementary Hydrology

$$RH = \left[\frac{112 - 0.1T + T_d}{112 + 0.9T}\right]^8$$

solar based on Meeus (1999) algorithms. This hourly clear-sky solar radiation was then adjusted using measured cloud cover[2].

Solar data from the Folsom Calibration Period dataset (measured radiation) was used between 01/01/2001 and 12/31/2003. A plot of the combined solar radiation data sets for the period of 1922-2003 is shown in Figure 2.

4.2 AIR AND DEW POINT TEMPERATURE, WIND, AND CLOUD COVER DATA SUMMARY

A summary of the data sources and time periods used to form a complete hourly 1922-2003 MET dataset is shown in Table 3 and Figure 3. During certain periods there was only one data source available; at other times, data were available from multiple stations. When this was the case, the data were preferentially used from the MET stations in the following order:

1) Mather AFB,
2) McClellan AFB, and
3) Sacramento Executive Airport.

This order was determined based upon proximity to Folsom Reservoir and availability of comparison data. Both McClellan AFB and Mather AFB are approximately the same distance from Folsom Reservoir. The Mather AFB station had considerably more data available during the model calibration period (2001-2011) than the McClellan AFB station, and could be better correlated to data collected at Fair Oaks CMIS 131 and Dyke 8 (FLSC1).

Figure 4 shows the combined 1922-2003 dataset for air temperature, dew point temperature, and wind speed. Wind speed was corrected for measurement height, which varied over time and by location (Table 4)[3]. Figure 5 shows cloud cover and Figure 6 shows a combined wind rose for the full period. When modeling Lake Natoma and the Lower American River, which are in wind sheltered locations compared to Folsom Reservoir, a scaling factor needs to be applied to the wind speed data to better reproduce measured wind conditions at the Fair Oaks CIMIS 131 station (Figure 7) [4] (See Technical Memorandum 5 Folsom Reservoir CE-QUAL-W2 Temperature Model Report).

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[2] Clear sky solar radiation was adjusted for cloud cover using the following equation:

$\Phi_S = \Phi_{S\ Clear\ Sky}(1\text{-}0.65C^2)$ (Wunderlich, 1972)

Where:
ΦS = Solar Radiation
$\Phi_{S\ Clear\ Sky}$ = Clear Sky Solar Radiation
C = the cloud cover fraction (0 – 1)

[3] Wind speed was corrected to a height of 2 meters using the following equation:

$$\frac{W_z}{W_{z1}} = \frac{ln(\frac{z}{z_0})}{ln(\frac{z_1}{z_0})}$$

w_z = desired wind speed at elevation z
w_{z1} = known wind speed at height z1
z_0=wind roughness height (assume 0.003 ft for wind < 5mph and 0.015 ft. for wind > 5 mph)
Source: CE-QUAL-W2 User Manual Version 3.72 (Cole & Wells, 2015)

[4] Note, this regression relates wind speeds at Folsom Reservoir to Fair Oaks (LAR). In contrast, the correction factor in the Technical Memorandum 5 Folsom Reservoir CE-QUAL-W2 Temperature Model Report corrects Fair Oaks wind speeds to better match wind recorded near Folsom Reservoir.

4.3 AIR AND DEW POINT TEMPERATURE, WIND, AND CLOUD COVER DATA DETAILS

Details on the MET data from the various time intervals used to generate the full 1922-2003 data set are summarized below (note: the time intervals are based on data availability at the various gage locations).

4.3.1 1922-1929

Meteorological data in the vicinity of Folsom Reservoir were only available at the Downtown station (STO – Sacramento, CA) between 01/01/1922 to 12/31/1929. Data at this location were available with a 12-hour frequency (two readings per day) for air temperature minimum and maximum, dew point temperature, wind speed, wind direction, and sky cover. Each parameter was processed separately to develop an hourly meteorological dataset for modeling purposes.

Air Temperature

Hourly air temperature was calculated by using the maximum and minimum daily temperature measurements and applying an estimation technique proposed by Cesaraccio et al. (2001). Sunrise and sunset times were based upon the theoretical solar algorithm used by the CE-QUAL-W2 Model. The model uses latitude, longitude and elevation to calculate sunrise and sunset at a particular location. Although Cesaraccio et al. (2001) suggested estimating the timing of the peak temperature to be four hours before sunset, 2.5 hours before sunset was determined to be more appropriate for this site and better matched local data. The resulting diurnal heating and cooling pattern is shown in Figure 8 for 1922 (a representative year), with both the original and adjusted formulation compared to the same calendar days of 2001 recorded at Fair Oaks (calculated hourly time step from 15-minute data). This estimation captures the heating and cooling pattern well. The hourly air temperature estimates for the period of record 1922-1929 are shown in Figure 9. A close-up of June 1922, a representative month and year, is shown in Figure 10.

Dew Point Temperature

Hourly dew point temperature for 1922-1929 was estimated by replacing the twice daily readings with hourly relative humidity data from the Mather AFB station for 1942-1949. These data were used with the estimated hourly air temperature to calculate hourly dew point temperature. Data from 1942-1949 were used in place of the 12-hour relative humidity readings because these readings could not be linearly extrapolated to an hourly value, and a regular diurnal pattern was not clearly discernable from the data. The full 1922-1929 period for relative humidity and dew point temperature are shown in Figure 11 and Figure 12, respectively.

Wind Speed and Direction

The wind speed and direction data were treated as a step function, because the original data were fairly coarse, as shown in Figure 13. Wind speeds for the 1922-1929 period are shown in Figure 14.

Cloud Cover

Sky cover data were available for the Downtown station based upon the National Oceanic and Atmospheric Administration (NOAA) sky cover designations shown in Table 5. The twice daily data were modeled as a step function. Data for 1922, a representative year, is shown in Figure 15.

4.3.2 1930-1931

Meteorological data in the vicinity of Folsom Reservoir were only available at the Mather AFB station (KMHR – Mather, Sacramento, CA) in 1930 and 1931 (01/01/1930 to 06/03/1931).

Data at this location were available with an hourly frequency (24 readings per day) for air temperature, wind speed, wind direction, and sky cover. No dew point temperature or relative humidity data were available.

Air Temperature

The measured and adjusted (see Table 2) air temperature data at Mather AFB are shown in Figure 16.

Dew Point Temperature

No relative humidity or dew point temperature data were available for this period. Relative humidity data from 1936-1937 recorded at Sacramento Executive Airport were used to approximate the relative humidity. Estimated relative humidity and dew point temperatures are shown in Figure 17 and Figure 18.

Wind Speed and Direction

Adjusted wind speed (see Table 2) and wind direction measured at Mather AFB were used for this period (Figure 19).

Cloud Cover

Cloud cover data were of poor quality at the Mather AFB station in 1930-1931. To augment the spotty cloud cover data, visibility data were used to estimate cloud cover. Visibility was recorded on an opposite scale to cloud cover from 10 (highest visibility) to 0 (lowest visibility). The data were converted to an equivalent cloud cover from 0 to 10, and were used to fill in gaps in the direct cloud cover data. These data were then rounded to the nearest NOAA sky cover designations. Cloud cover for the period is shown in Figure 20.

4.3.3 1931-1940

There is a continuous hourly MET data record from the Sacramento Executive Airport station between 06/03/1931 and 11/01/1940. No data from other stations are available.

Air Temperature

The raw air temperature recorded at Sacramento Executive Airport between 06/01/1931 and 11/01/1940 is plotted in Figure 21. Erroneous temperature readings were recorded throughout 1938 (between 32^{o}C and 37^{o}C). These readings occurred consistently when there were gaps in relative humidity data. These data were flagged and removed. Linear interpolation was used to generate the data for these gaps. The corrected raw data and adjusted data (Table 2) are shown in Figure 22.

Dew Point Temperature

The hourly relative humidity dataset was incomplete for the 1931-1940 time period. From 1931 to 1932 relative humidity data were very sparse. Data from 1935-1936 were used to fill in this time period. Two to five hour data gaps were frequent in the 1933-1934 time period. Linear interpolation was used to generate data to fill in these gaps. The relative humidity data from 1938 also appear to be incorrect (Figure 23). Relative humidity was uncharacteristically high for this time period, as well as compared to the full 1922-2003 period of record (relative humidity for this year never dropped below 30%). Air temperatures were also inaccurate during this same time period. Consequently the 1938 data were replaced with data from 1937. The final estimated hourly relative humidity from 1931-1940 is shown in Figure 24. The dew point temperature, calculated using the corrected relative humidity and air temperature data, is shown in Figure 25.

Wind Speed and Direction

Wind speed and direction were collected at the Sacramento Executive Airport station for the full 1931-1940 period. Adjusted wind speed (Table 2) is shown in Figure 26.

Cloud Cover

Minimal direct sky condition data were available for this period and station. In order to fill in the data gaps, the CLG (CeiLinG – cloud ceiling) data available for the station were used. These data were transformed to provide an approximation of cloud cover based upon the 0-10 scale used by CE-QUAL-W2[5].

With the exception of CLG=722 (which always occurred concurrently with SKC=CLR when data were available) the CLG data ranged from 0 to 90, with an inverse relationship to cloud cover. The relationship was assumed to be linear. These data were then rounded to the nearest NOAA sky cover designations. The resulting cloud cover data are shown in Figure 27.

4.3.4 1940-1970

MET data were available at three stations for the time period between 1940 and 1970: (1) the Mather AFB station between 09/01/1941 and 12/31/1970 (with a brief gap in 1946), (2) McClellan AFB station for the period between 11/01/1940 and 12/31/1970, and (3) the Sacramento Executive Airport station between 01/01/1941 and 12/31/1970. The following stations were used for each time period to generate the dataset between 1940 and 1970:

- 11/01/1940-09/25/1941: McClellan AFB
- 09/26/1941-01/31/1946: Mather AFB
- 02/01/1946-05/27/1946: McClellan AFB
- 05/28/1946-12/31/1970: Mather AFB

Air Temperature

Air temperature data were available for all three stations, with the exception of a 3-month gap in the Mather AFB dataset in 1946. The raw air temperatures for Mather, McClellan, and the Sacramento Executive Airport are shown in Figure 28-30, respectively. The adjusted air temperatures for each station are shown in Figure 31.

Dew Point Temperature

Figure 32 shows Mather, McClellan, and Sacramento Executive Airport relative humidity between 1940 and 1970. Calculated dew point temperatures are shown in Figure 33.

Wind Speed

Figure 34 shows the Mather, McClellan, and Sacramento Executive Airport adjusted wind speeds.

Cloud Cover

Figure 35 shows a histogram of the Mather, McClellan, and Sacramento Executive Airport cloud cover data between 1940 and 1970.

[5] Cloud cover was calculated using the following equation: $Cloud\ Cover \cong if\ CLG > 100, then\ 0, else\ (10 - \left(\frac{CLG}{10}\right))$

4.3.5 1971-2003

Meteorological data were available at three stations for the time period between 1971 and 2003: (1) the Mather AFB between 01/01/1973 and 05/01/1993, (2) the McClellan AFB between 01/01/1973 and 12/04/2000, and (3) the Sacramento Executive Airport station between 01/01/1971 and 12/31/2003. Although data from one of these stations were available between 2001 and 2003, the calibration period dataset was used instead during this period. The following stations were used for each time period to generate the dataset between 1971 and 2003:

- 01/01/1971-12/31/1972: Sacramento Executive Airport
- 01/01/1973-04/30/1993: Mather AFB
- 05/01/1993-11/25/2000: McClellan AFB
- 11/25/2000-12/31/2000: Sacramento Executive Airport
- 01/01/2001-12/31/2003: Folsom Calibration Period Dataset

Air Temperature

Figure 36 shows the Mather, McClellan, and Sacramento Executive Airport adjusted air temperatures between 1971 and 2003.

Dew Point Temperature/Relative Humidity

Figure 37 shows Mather, McClellan, and Sacramento Executive Airport relative humidity between 1971 and 2003. Calculated dew point temperatures are shown in Figure 38.

Wind Speed and Direction

Figure 39 shows the Mather, McClellan, and Sacramento Executive Airport adjusted wind speeds between 1971 and 2003.

Cloud Cover

Figure 40 shows a histogram of the Mather, McClellan, and Sacramento Executive Airport cloud cover data between 1971 and 2003.

5.0 REFERENCES

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6.0 TABLES

Table 1. Summary of Meteorological Sites in the Vicinity of Folsom Reservoir Used for Historical Meteorological Dataset.

Site Name	Station ID	WBAN No.	Lat., Long	Elevation	Distance from Folsom	Frequency	Periods of Record	Source Location
McClellan Air Force Base	KMCC	23208	38.667, 121.40	75.5 ft. 23.0 m	13.8 mi. 22.2 km	Hourly	11/1/1940 - 12/31/1970 1/1/1973 - 12/4/2003	http://gis.ncdc.noaa.gov/map/viewer/#app=cdo
Mather Air Force Base	KMHR	23206	38.567, 121.30	96 ft. 29.29 m	14 mi 22.6 km	Hourly	1/1/1930 -6/3/1931 9/1/1941 - 12/31/1970 1/1/1973 - 5/1/1993	http://gis.ncdc.noaa.gov/map/viewer/#app=cdo
Downtown Sacramento	STO	23271	38.556, 121.417	24.9 ft. 7.59 m	18.6 mi 30 km	Twice Daily	1/1/1922 - 12/31/1929	http://gis.ncdc.noaa.gov/map/viewer/#app=cdo
Sacramento Executive Airport	KSAC	23232	38.507, 121.495	24.9 ft. 7.59 m	23.6 mi 37.9 km	Hourly	6/3/1931 -11/1/1940 1/1/1941 - 12/31/1970 1/1/1971 - 12/31/2003	http://gis.ncdc.noaa.gov/map/viewer/#app=cdo
Fair Oaks	CI131		38.650, 121.218	80.8 m 265 ft	8 mi 12.7 km	15-minute	4/1/1997-Present	http://mesowest.utah.edu/
Folsom / Dyke 8	FSLC1		38.692, 121.130	167.9 m 551 ft	< 0.5 mi < 1 km	15-minute	1/1/2001 - Present	http://mesowest.utah.edu/
	FLD		38.7, 121.167	106.7 m 350 ft	0.75 mi 1.24 km	15-minute	10/01/1995 -Present	http://cdec.water.ca.gov/cgi-progs/staMeta?station_id=FLD

Table 2. Temperature and Wind Speed Relationships to Calibration Period Dataset.

MET Station of Comparison	**Relationship to Calibration Period (Fair Oaks) Air Temperature, °C** (y=Fair Oaks, x=Met Station of comparison)	**Relationship to Calibration Period (Dyke8/Folsom) Wind Speed, m/s** (y=Dyke8/Folsom, x=Met Station of comparison)
McClellan AFB	y = 0.9164x + 1.2765	y = 0.6556x
Mather AFB	y = 0.9277x + 1.9764	y = 0.7911x
Sacramento Executive Airport	y = 1.0018x + 0.4891	y = 0.8315x

Table 3. Summary of Meteorological Data Availability.

Start Date	End Date	Source	Air Temp	Relative Humidity	Wind Speed	Wind Direction	Cloud Cover	Comments
1/1/1922	12/31/1929	Downtown	x	x	x	x	x	Data were available on a twice daily basis. Although relative humidity data were available, they were not provided at a high enough frequency and data from 1942-1949 was used instead. Hourly air temperature/dew point were estimated using technique proposed by Cesaraccio et al. (2001). See report.
1/1/1930	6/3/1931	Mather	x	---	x	x	x	Relative humidity was not available for this station during this time period. RH data from Sac Exec Airport for the period of 1936-1937 were used as an estimate for the dew point temperature calculation.
6/4/1931	10/31/1940	Sac Exec Airport	x	x	x	x	x	Note errors in air temperature/relative humidity in 1932, 1938. See report for explanation of corrections.
11/1/1940	9/25/1941	McClellan	x	x	x	x	x	
9/26/1941	1/31/1946	Mather	x	x	x	x	x	
2/1/1946	5/27/1946	McClellan	x	x	x	x	x	
5/28/1946	12/31/1970	Mather	x	x	x	x	x	
1/1/1971	12/30/1972	Sacramento Exec Airport	x	x	x	x	x	Data were available on a 4-hr basis – required interpolation
12/31/1972	4/30/1993	Mather	x	x	x	x	x	
5/1/1993	11/24/2000	McClellan	x	x	x	x	x	
11/25/2000	12/31/2000	Sacramento Exec Airport	x	x	x	x	x	
1/1/2001	9/30/2003	Fair Oaks	x	x	x	x	x	Wind speed and direction for this period were also collected at Dyke 8/Folsom, and Mather. These air speeds were considered more accurate and used whenever available. A correction factor (see Table 2) was applied to Fair Oaks wind speeds when data from other stations were not available.

Note: Highlighting indicates data are discussed in comment column

Table 4. Wind Speed Measurement Heights.

Sacramento Executive Airport	Height, ft.	Height, m
6/03/30 - 12/01/37	44.0	13.4
12/01/37 - 5/17/56	77.0	23.5
5/17/1956 - 5/01/60	69.0	21.0
5/1/1960 - Present	20.0	6.1
Mather AFB		
01/01/49 - 04/01/53	72.2	22
04/01/55 - 07/14/60	95.1	29
07/15/60 - 11/30/68	13.1	4
Present	13.1	4
McClellan AFB		
01/01/49 - 06/07/53	120.1	36.6
06/07/53 - 03/02/58	120.1	36.6
03/03/58 - 04/06/61	15.1	4.6
04/07/61 - 11/30/68	13.1	4
Present	13.1	4

Sources: http://www.webmet.com/Data/STATIONINFO/23232_info.pdf, http://rredc.nrel.gov/wind/pubs/atlas/tables/tablec1/ca2.html

Table 5. National Oceanic and Atmospheric Administration (NOAA) Sky Cover Designations.

Reportable Contractions	Meaning	Summation Amount of Sky Cover	Equivalent Cloud Cover for CE-QUAL-W2
VV	Vertical Visibility	8/8	10
SKC	Sky Clear	0	0
FEW	Few	Less than 1/8 to 2/8	3.1
SCT	Scattered	3/8 to 4/8	
BKN	Broken	5/8 to less than 8/8	7.5
OVC	Overcast	8/8	10

Source: http://www.srh.noaa.gov/srh/dad/sfc/metar/CHAPTER%205.pdf

7.0 FIGURES

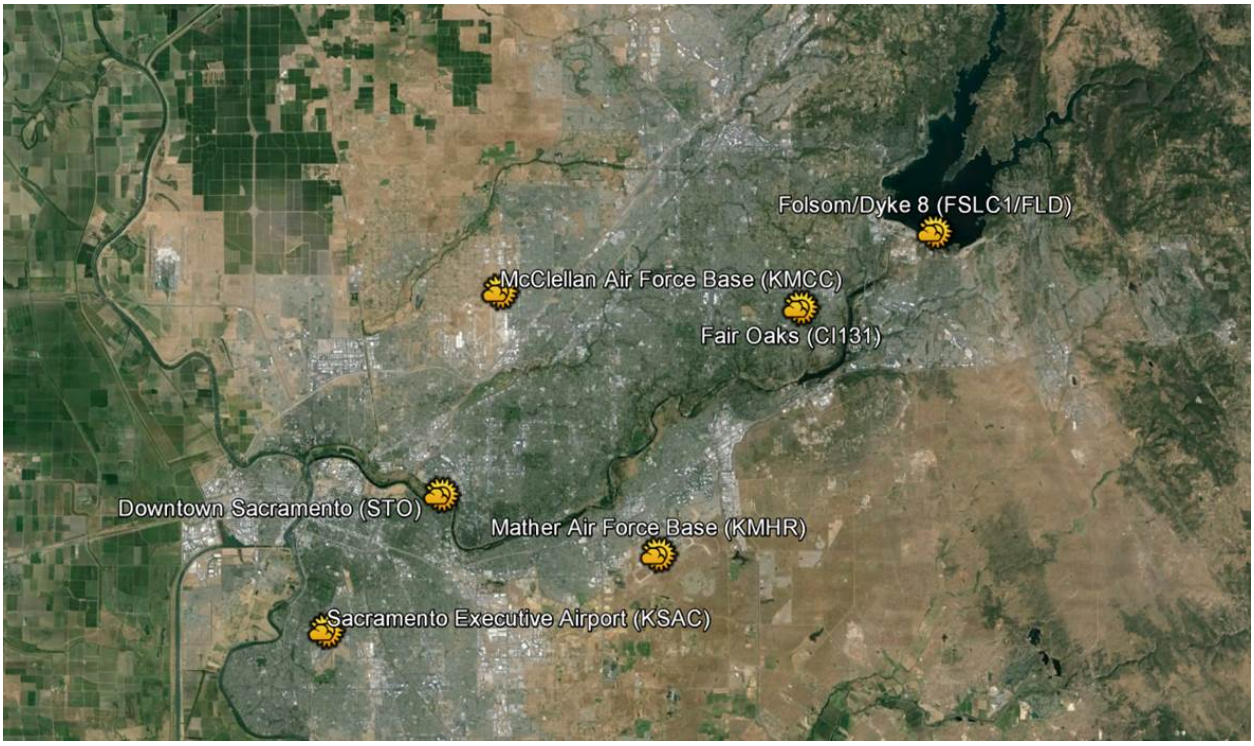

Figure 1. Location of MET Stations.

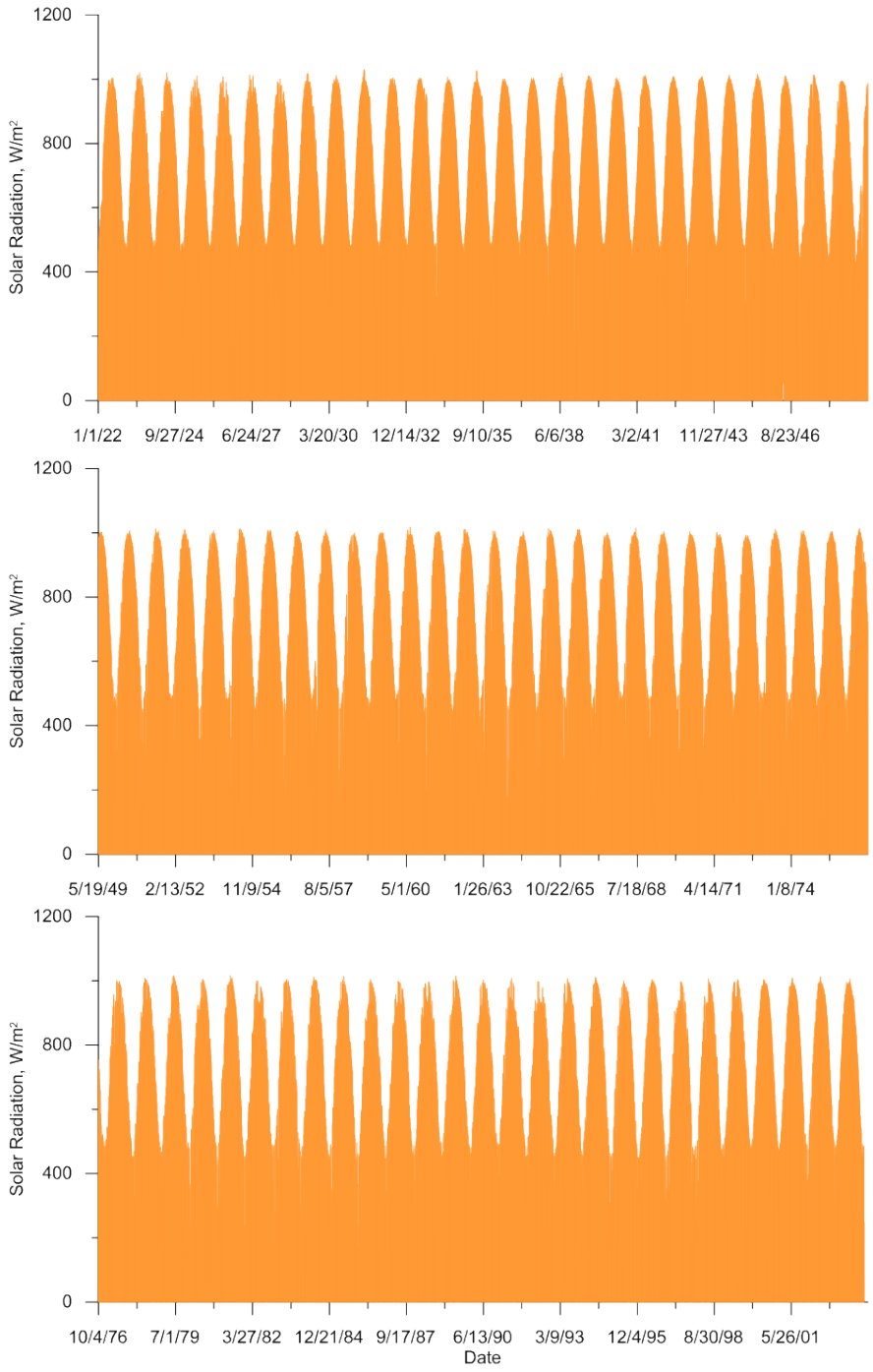

Figure 2. Calculated Solar Radiation (1922-2003).

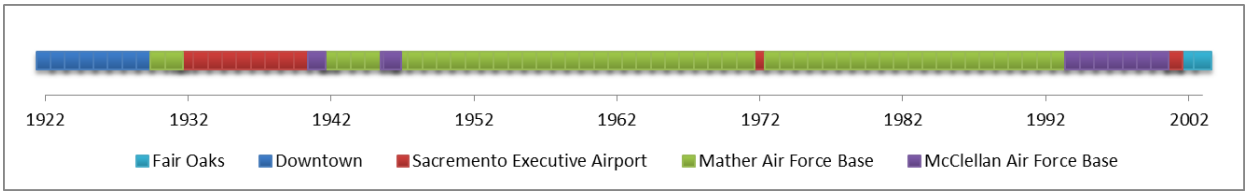

Figure 3. Timeline of Sources of MET Data Used to Construct the 1922-2003 Dataset.

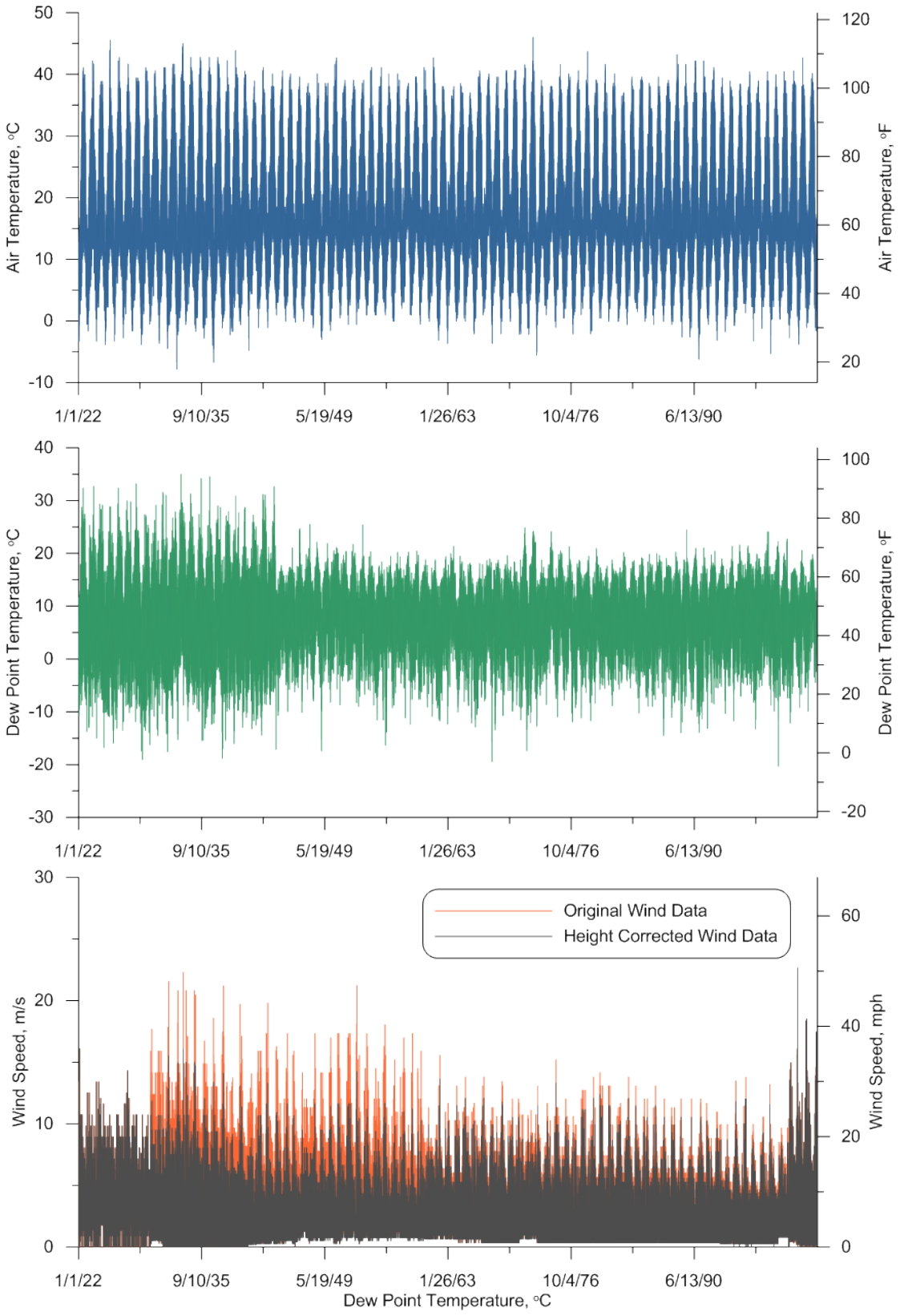

Figure 4. Air Temperature, Dew Point Temperature and Wind Speed for Combined Meteorological Dataset (1922-2003).

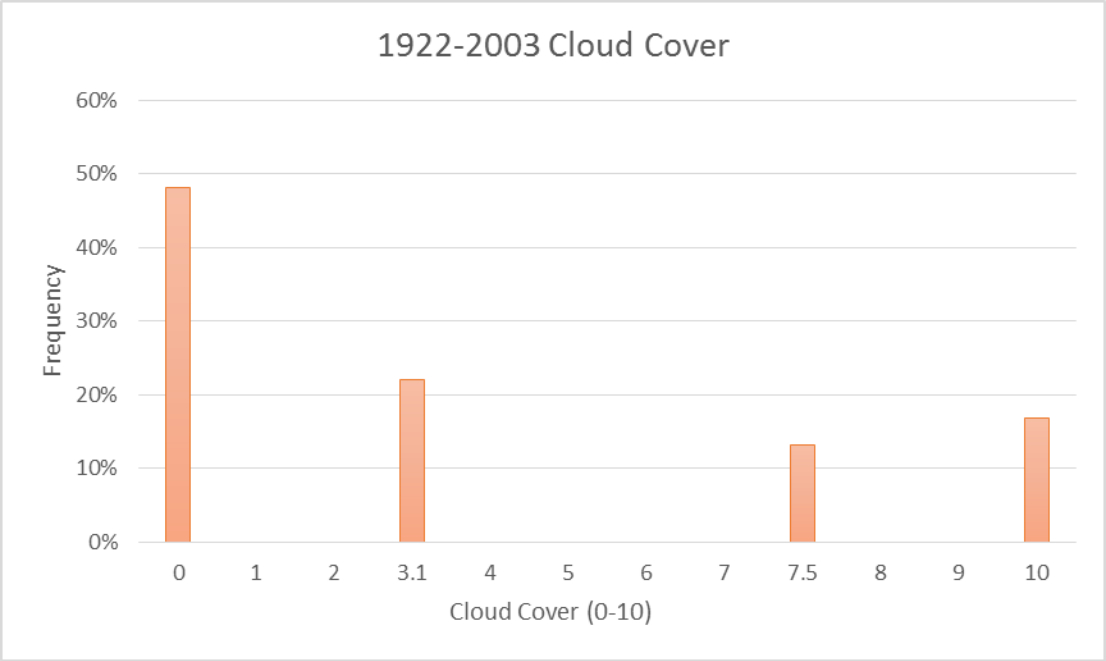

Figure 5. Cloud Cover Histogram for Combined Meteorological Dataset (1922-2003).

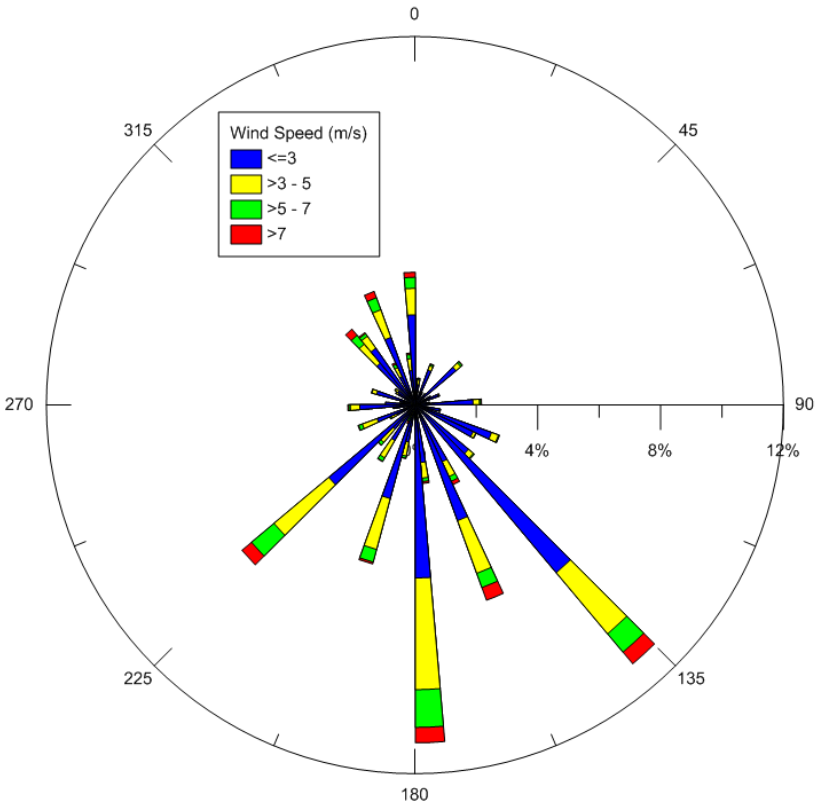

Figure 6. Wind Rose Summary for Combined Meteorological Dataset (1922-2003).

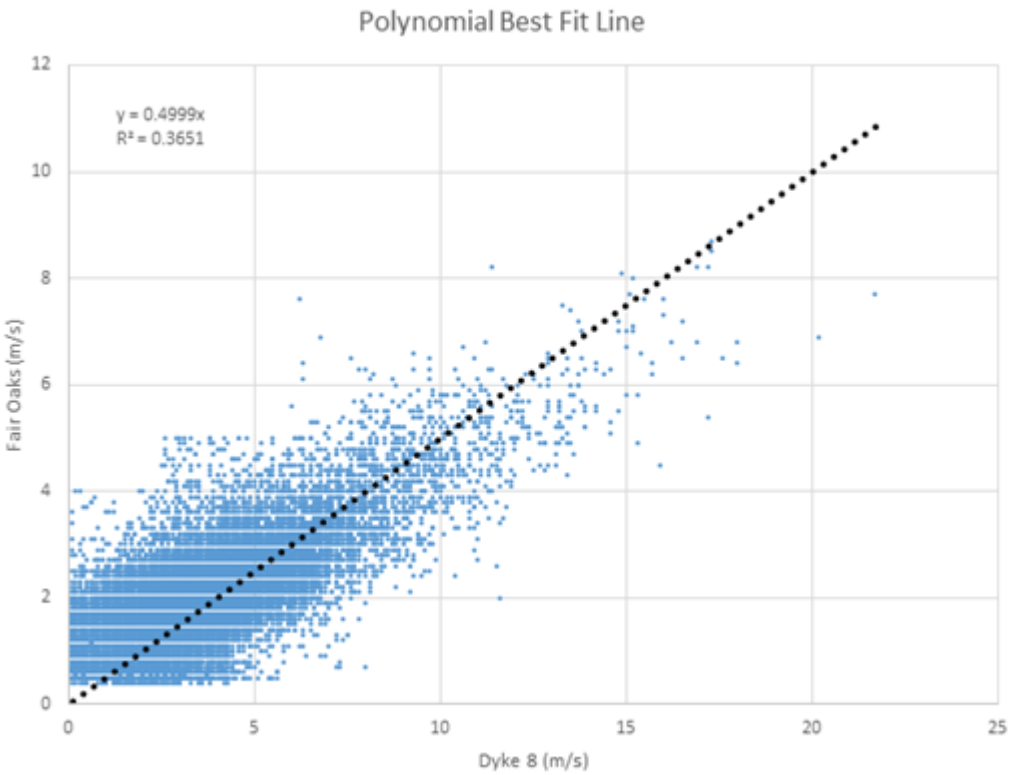

Figure 7. Wind Speed Conversion from Dyke 8/Folsom to Fair Oaks.

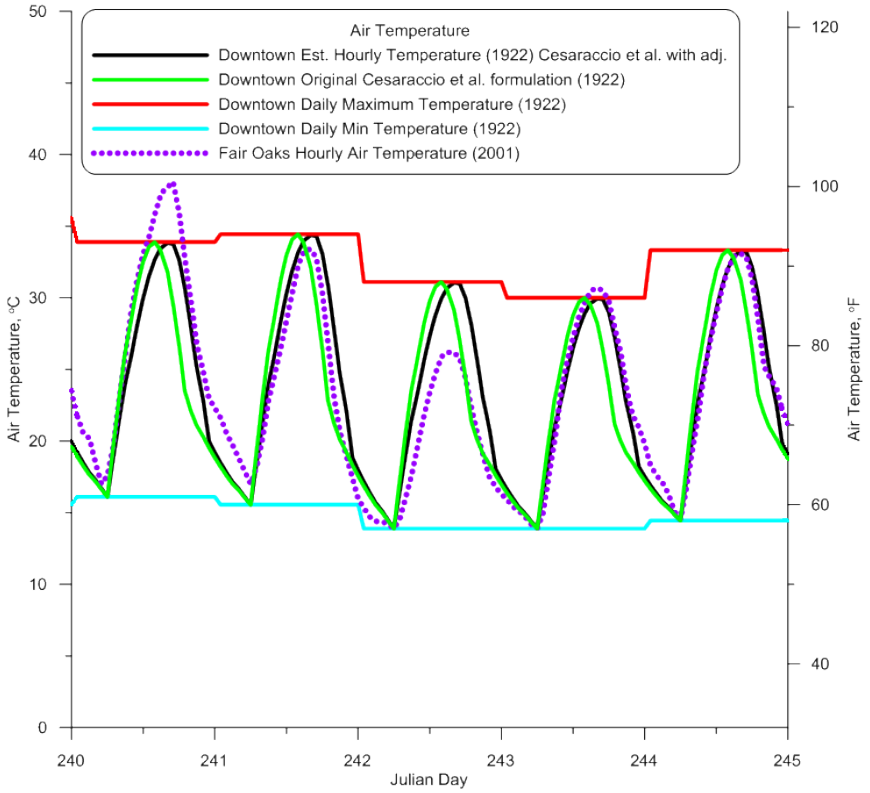

Figure 8. Downtown Air Temperature - Diurnal Heating and Cooling.

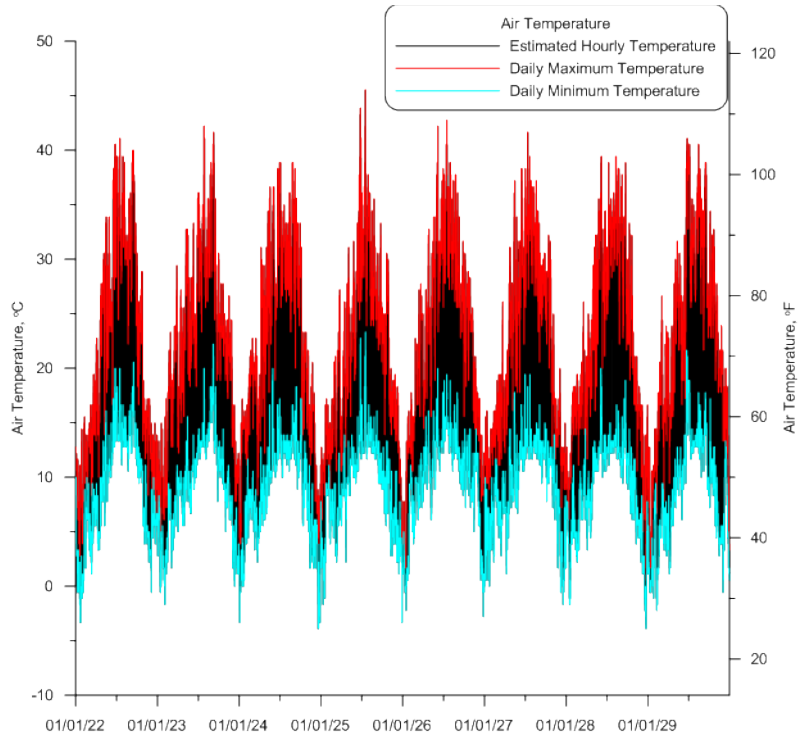

Figure 9. Downtown Air Temperature (1922-1929).

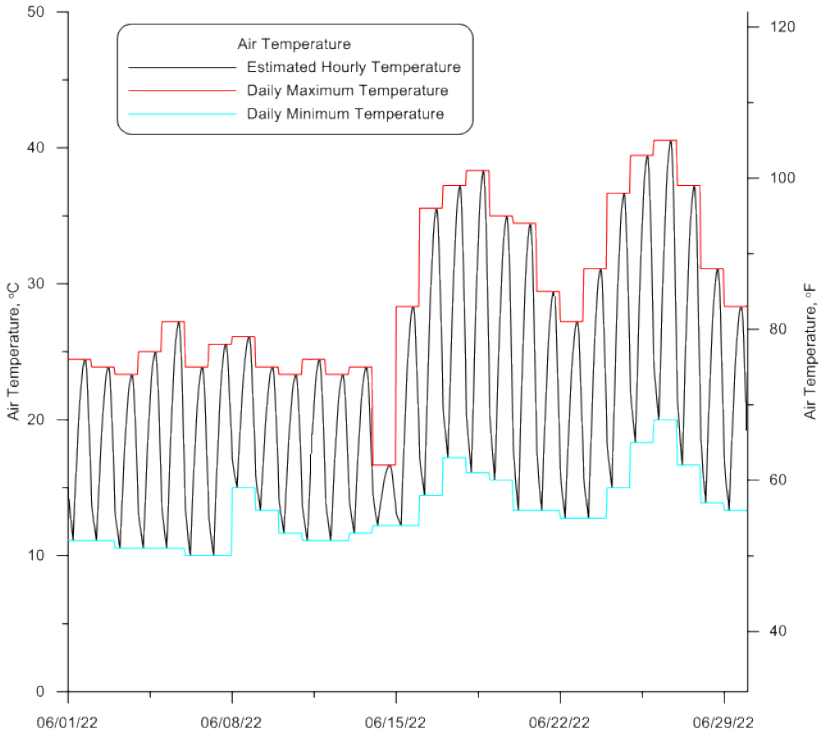

Figure 10. Downtown Air Temperatures June, 1922.

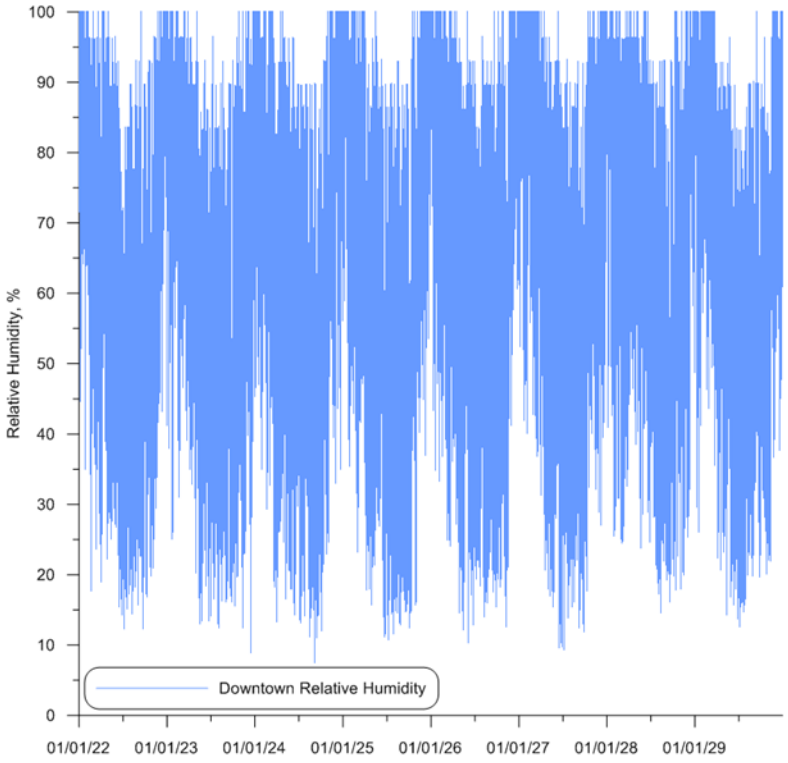

Figure 11. Downtown Calculated Relative Humidity (1922-1929).

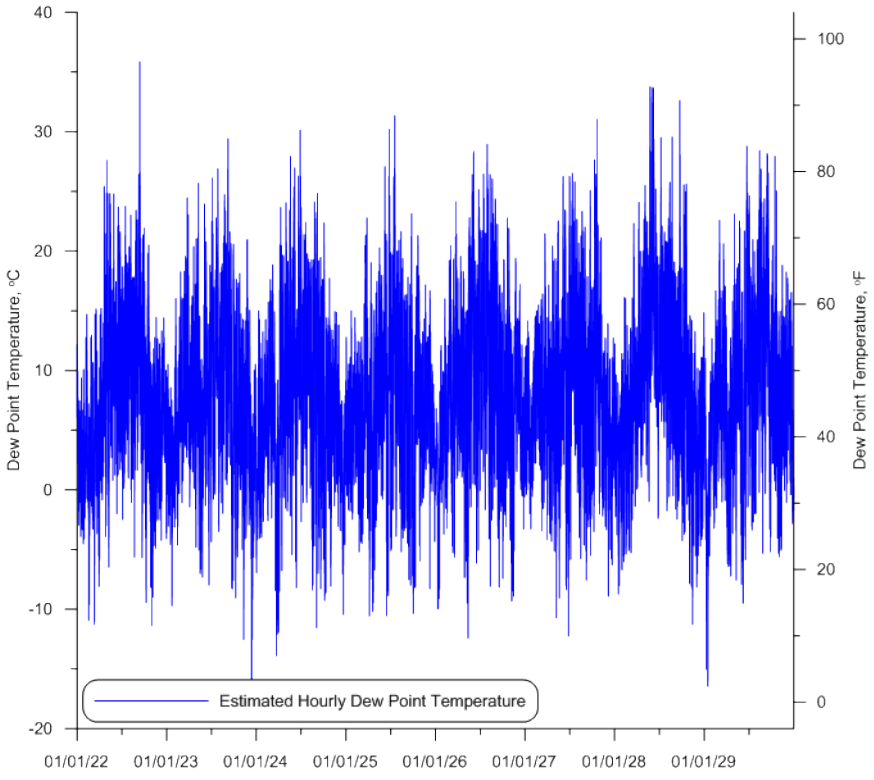

Figure 12. Downtown Dew Point Temperature (1922-1929).

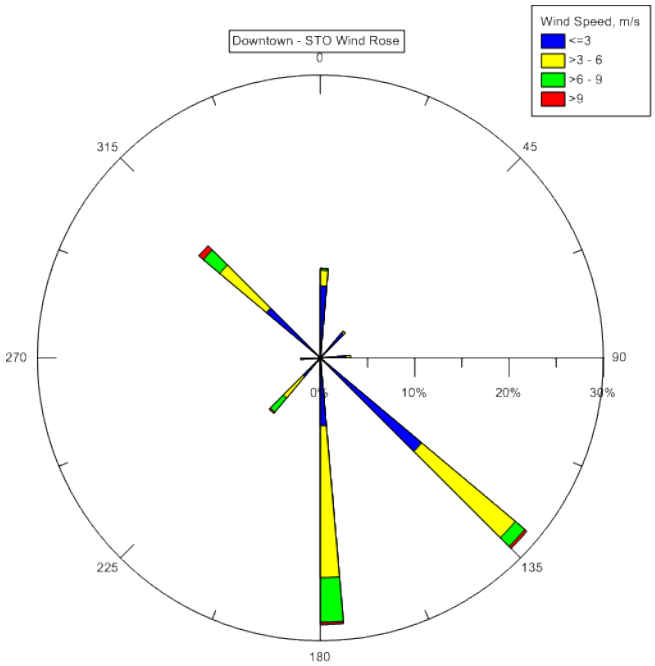

Figure 13. Downtown Wind Rose (1922-1929).

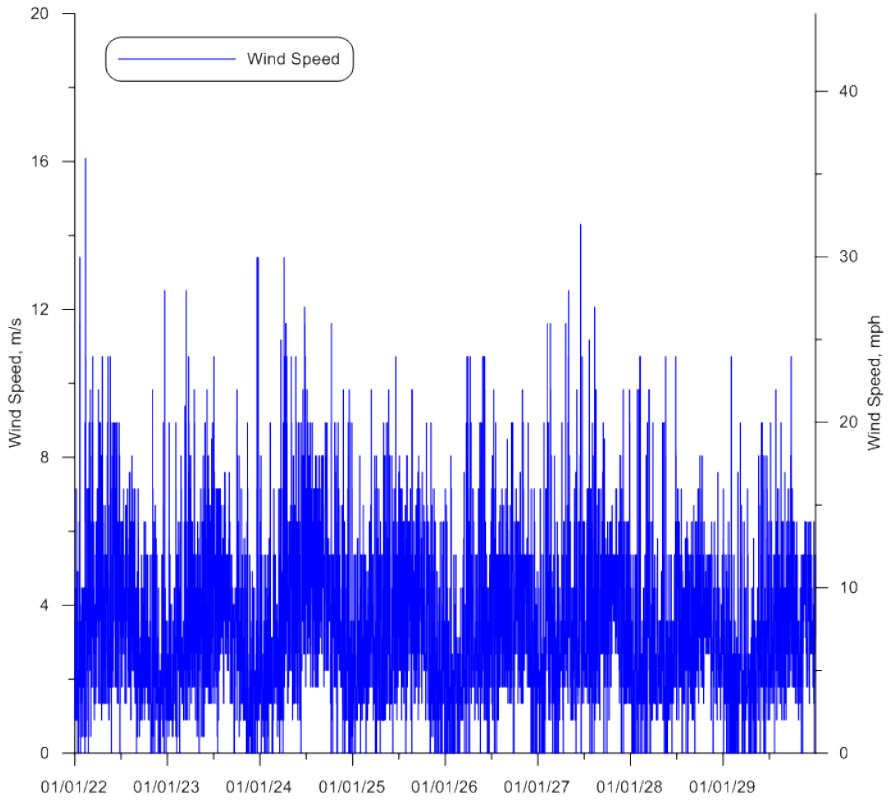

Figure 14. Downtown Wind Speed (1922-1929).

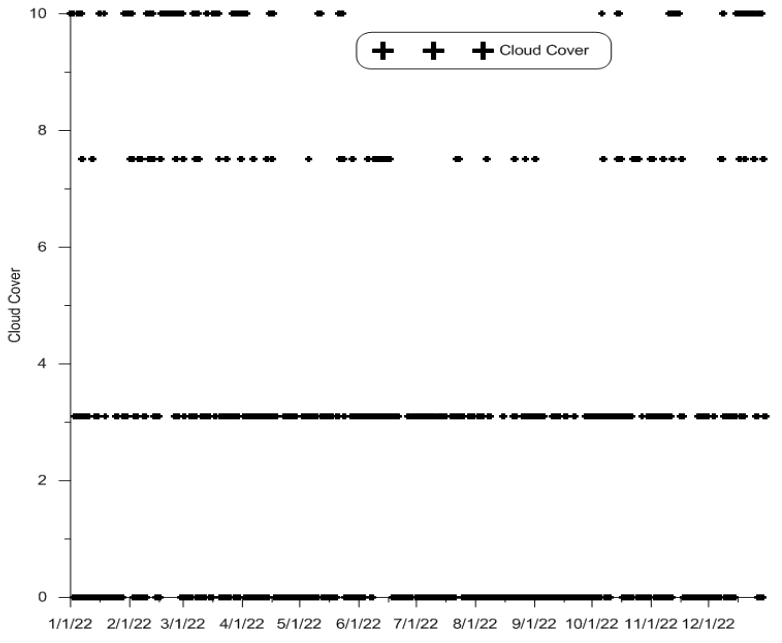

Figure 15. Downtown Cloud Cover for 1922.

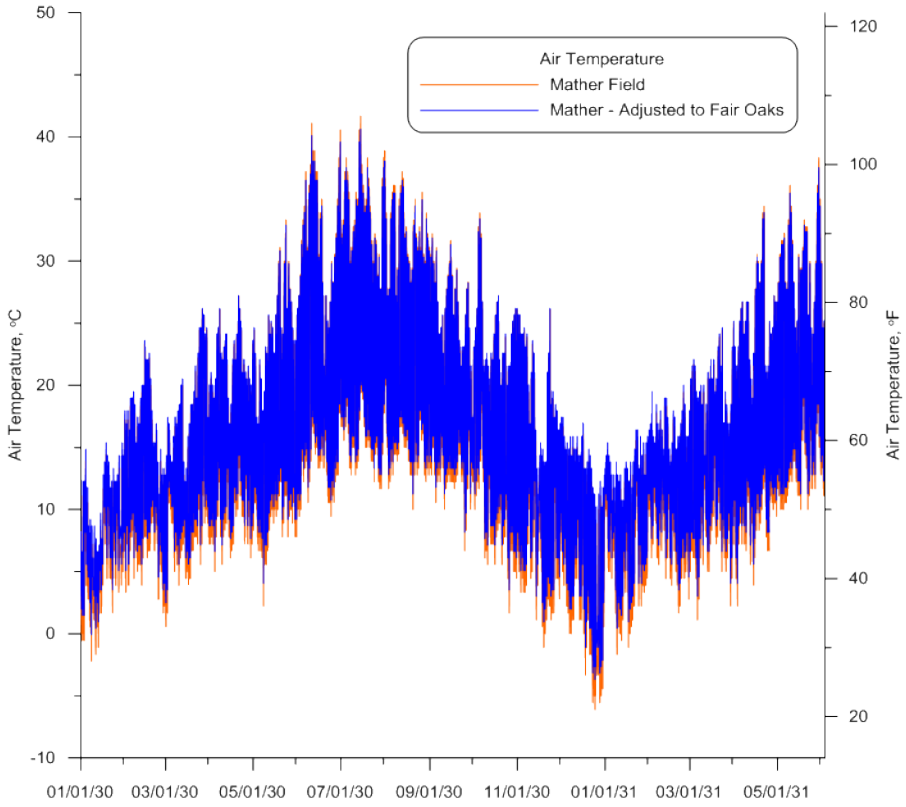

Figure 16. Mather Air Temperature - Original and Adjusted to Calibration Dataset (Fair Oaks) (1930-1931).

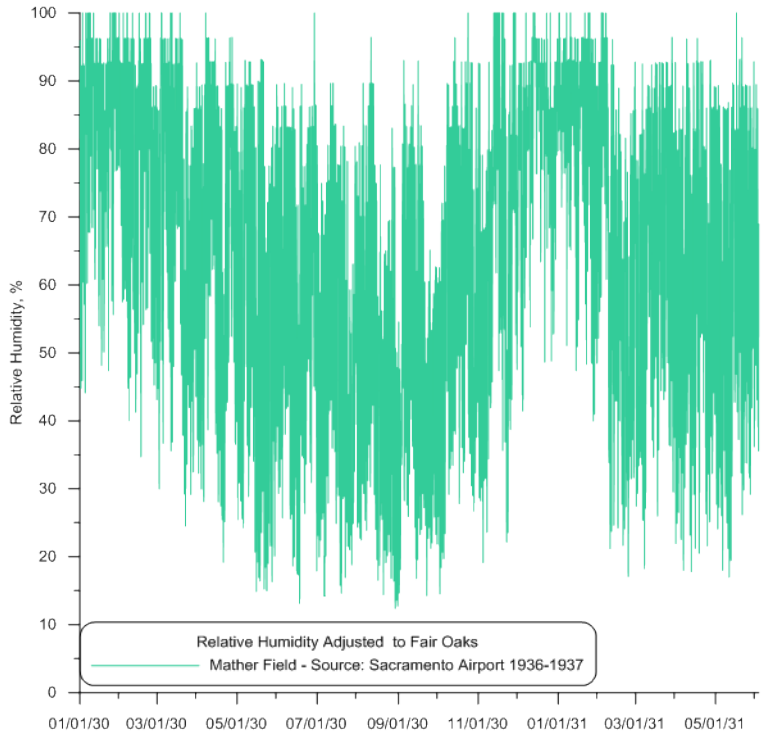

Figure 17. Mather Relative Humidity (1930-1931).

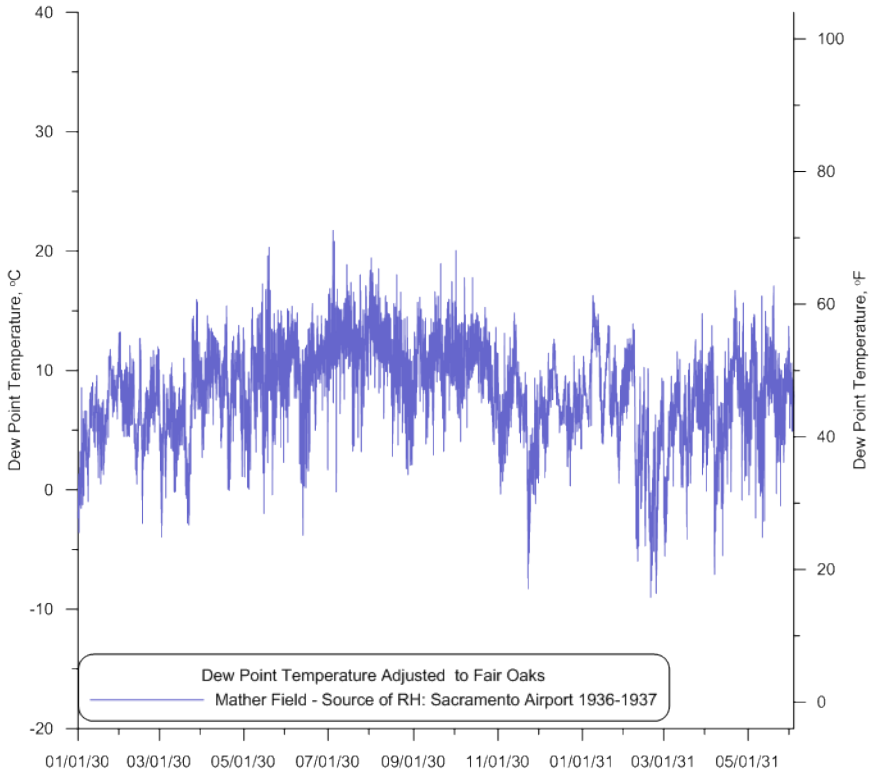

Figure 18. Mather Dew Point Temperature (1930-1931).

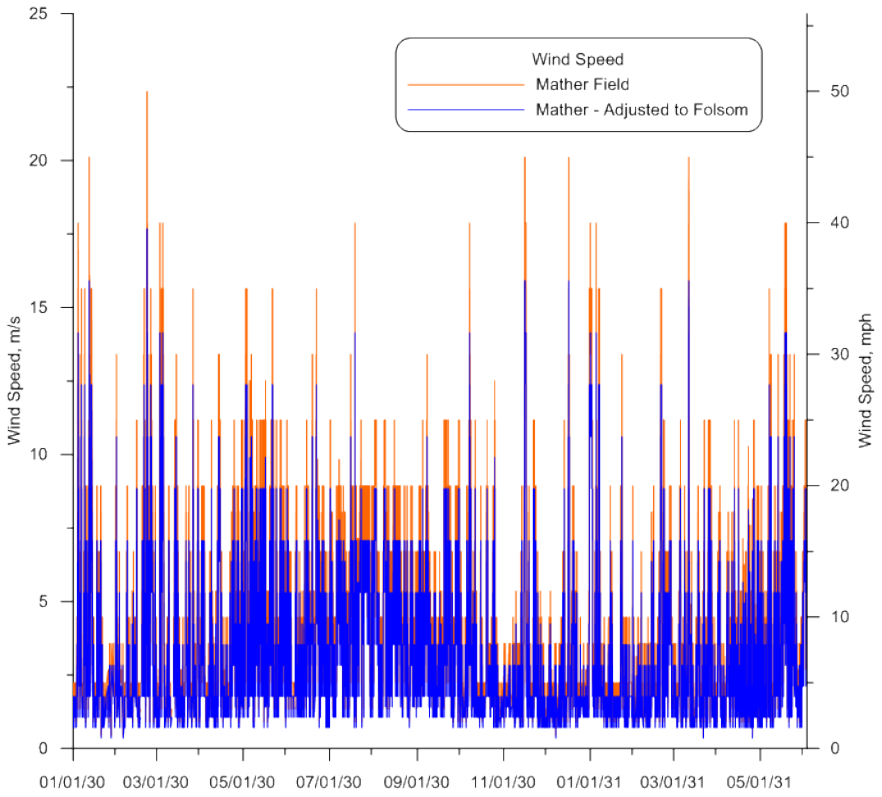

Figure 19. Mather Wind Speed - Original vs. Adjusted to Calibration Dataset (1930-1931).

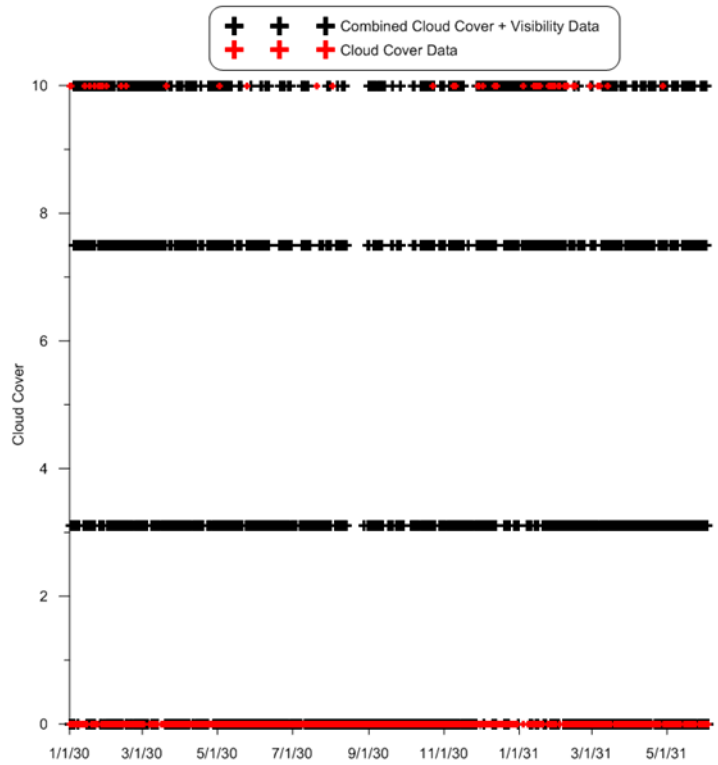

Figure 20. Mather Cloud Cover Data (1930-1931).

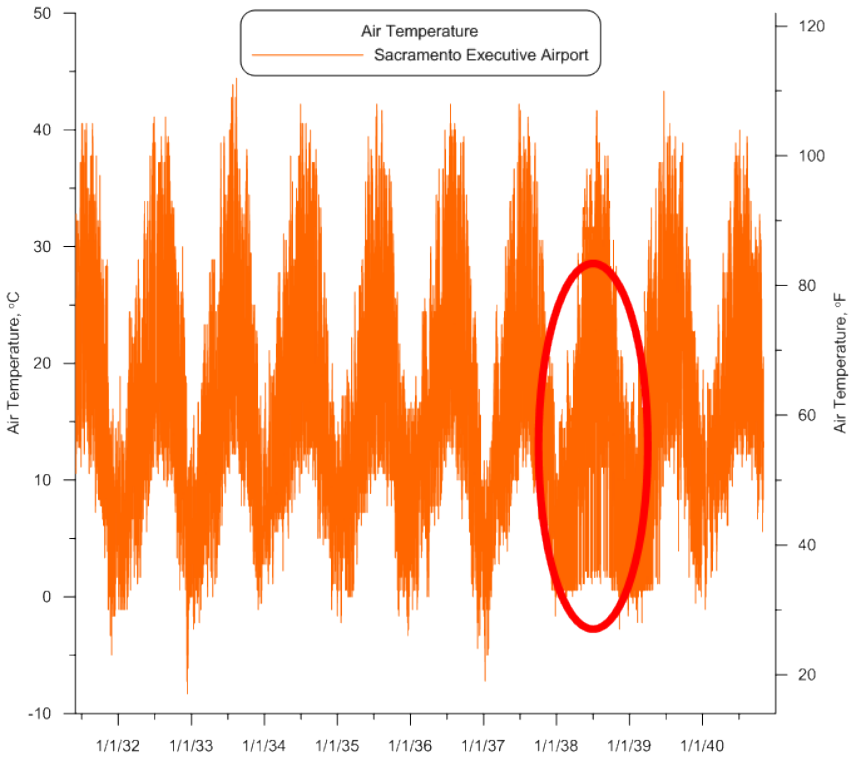

Figure 21. Sacramento Executive Airport - Raw Air Temperature Data (1931-1940). [Red circle indicates period of erroneous data]

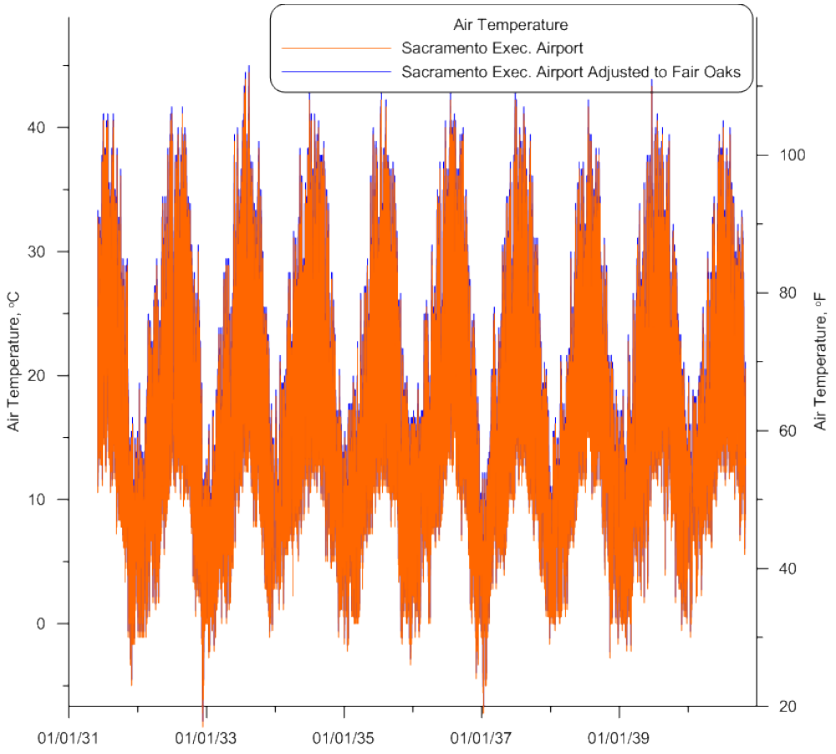

Figure 22. Sacramento Executive Airport Air Temperature after Quality Control (1931-1940).

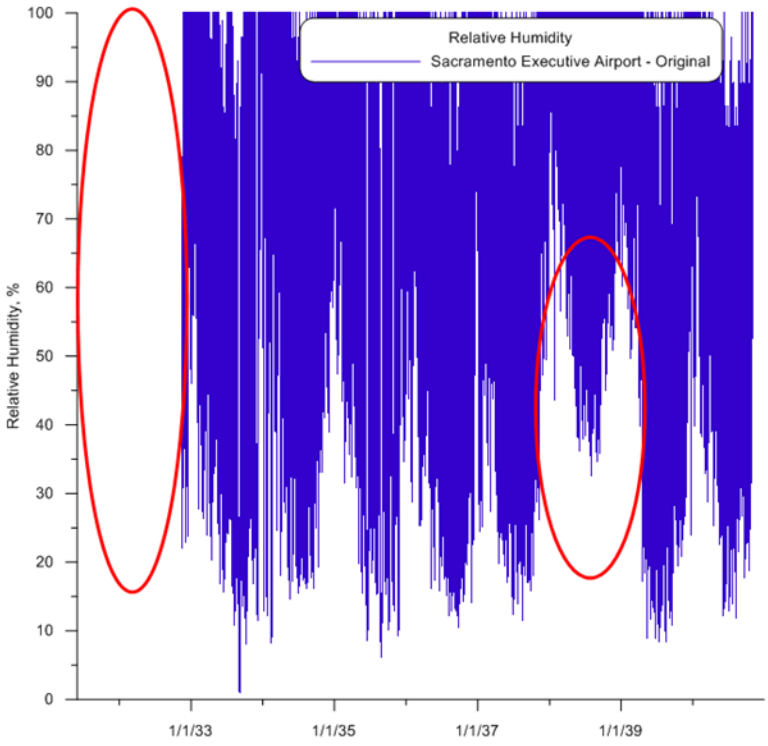

Figure 23. Sacramento Executive Airport - Relative Humidity Data (1931-1940).

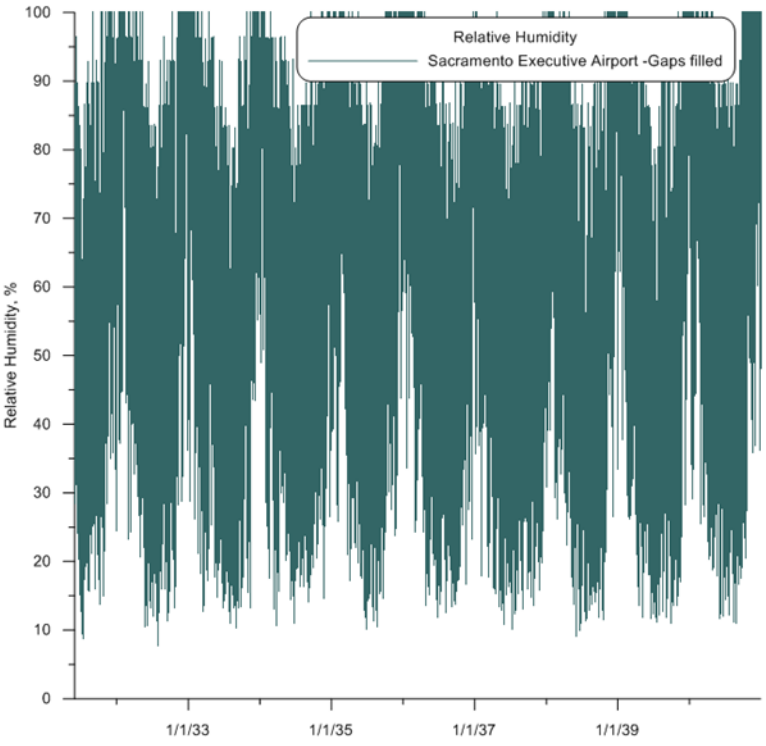

Figure 24. Sacramento Executive Airport Final Relative Humidity (1931-1940).

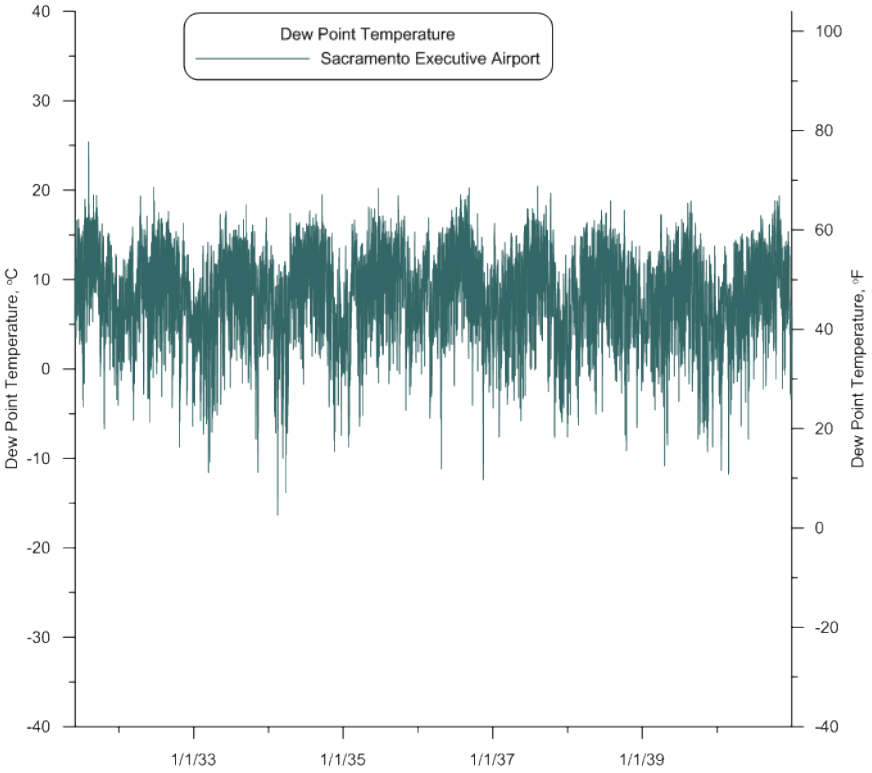

Figure 25. Sacramento Executive Airport Dew Point Temperature (1931-1940).

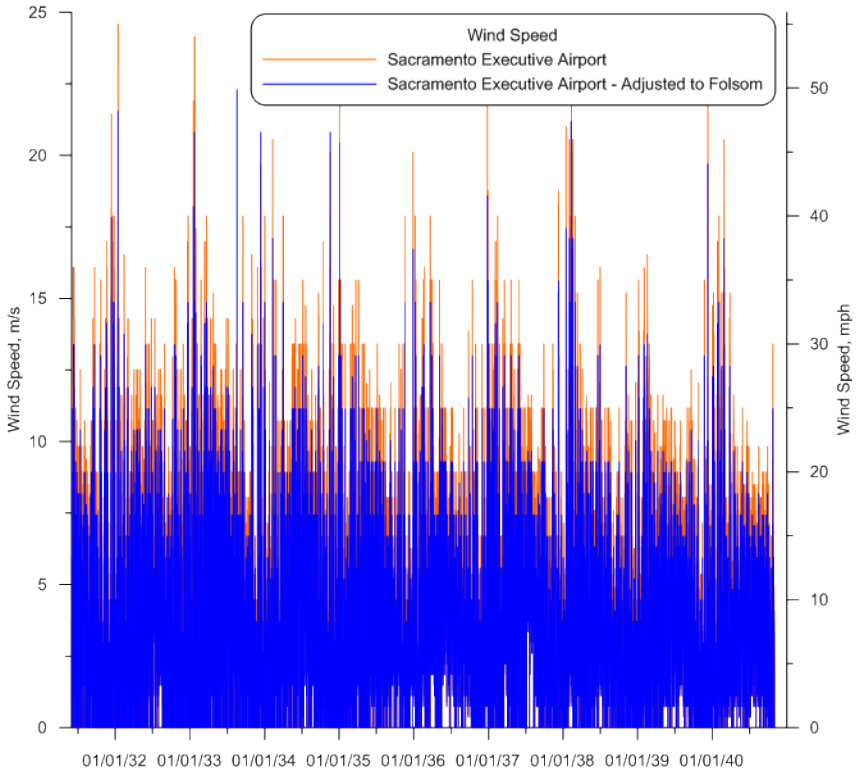

Figure 26. Sacramento Executive Airport Wind Speed (1931-1940).

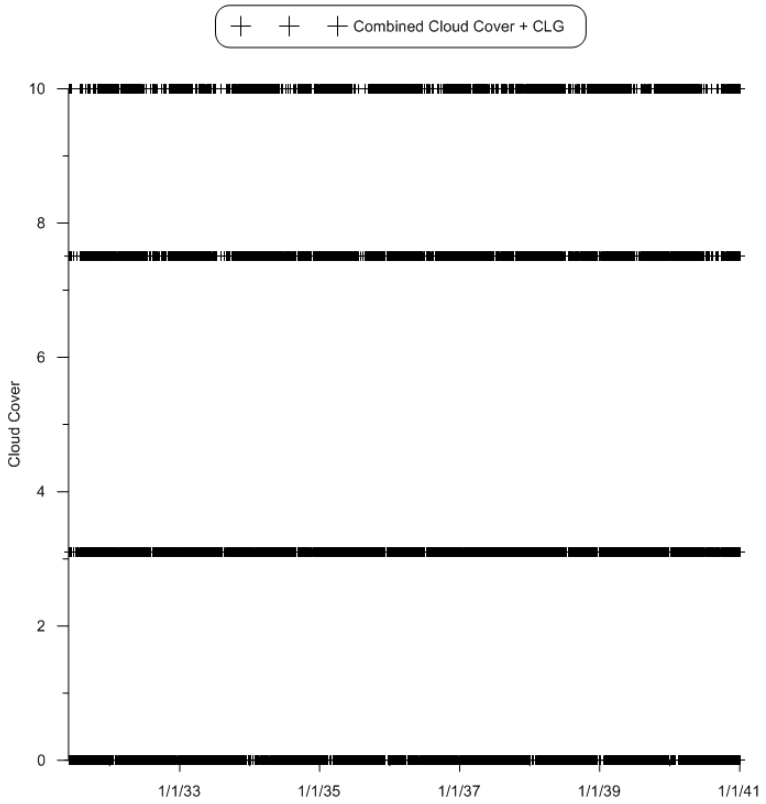

Figure 27. Sacramento Executive Airport Cloud Cover (1931-1940).

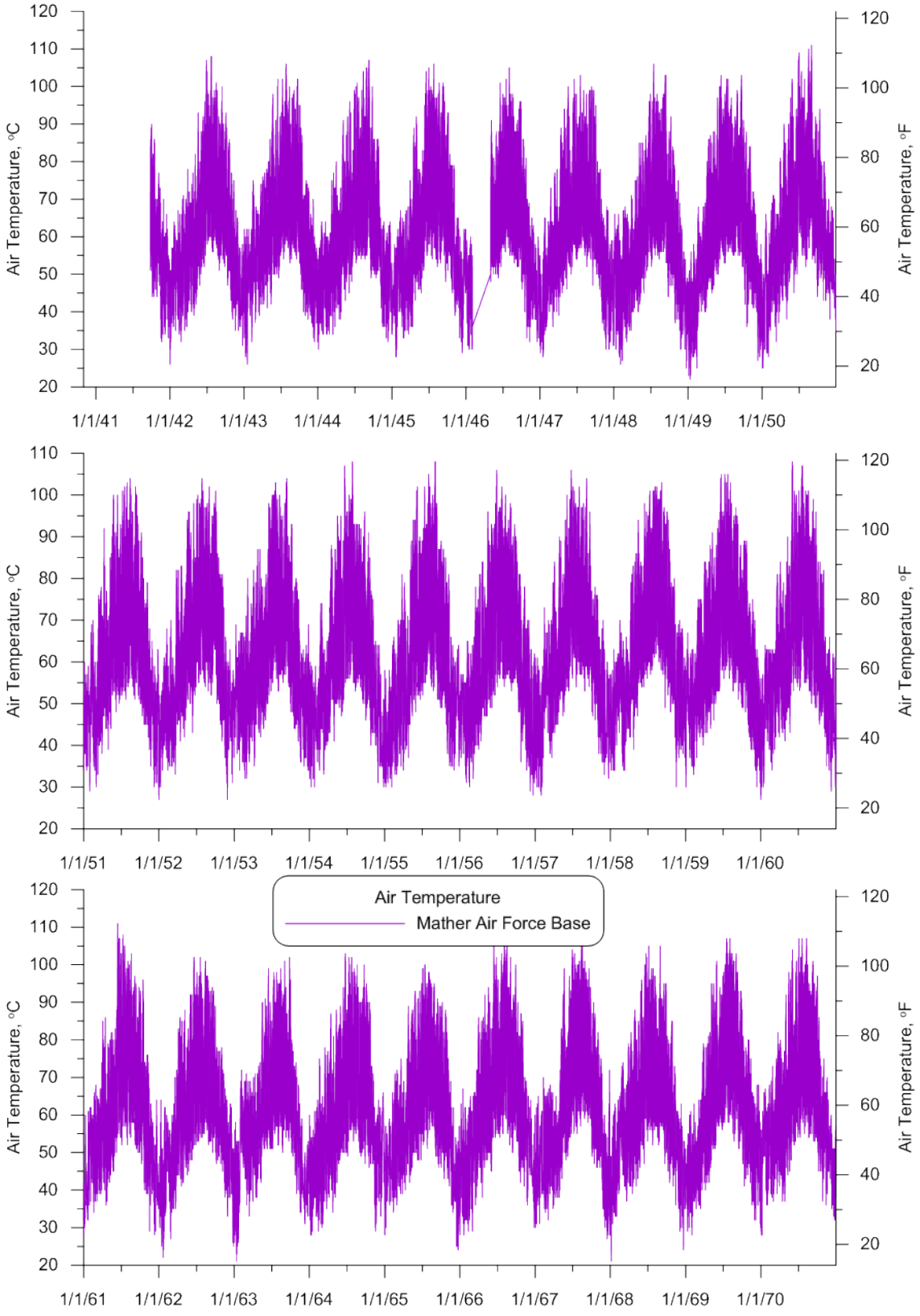

Figure 28. Mather Air Force Base Air Temperature (1940-1970).

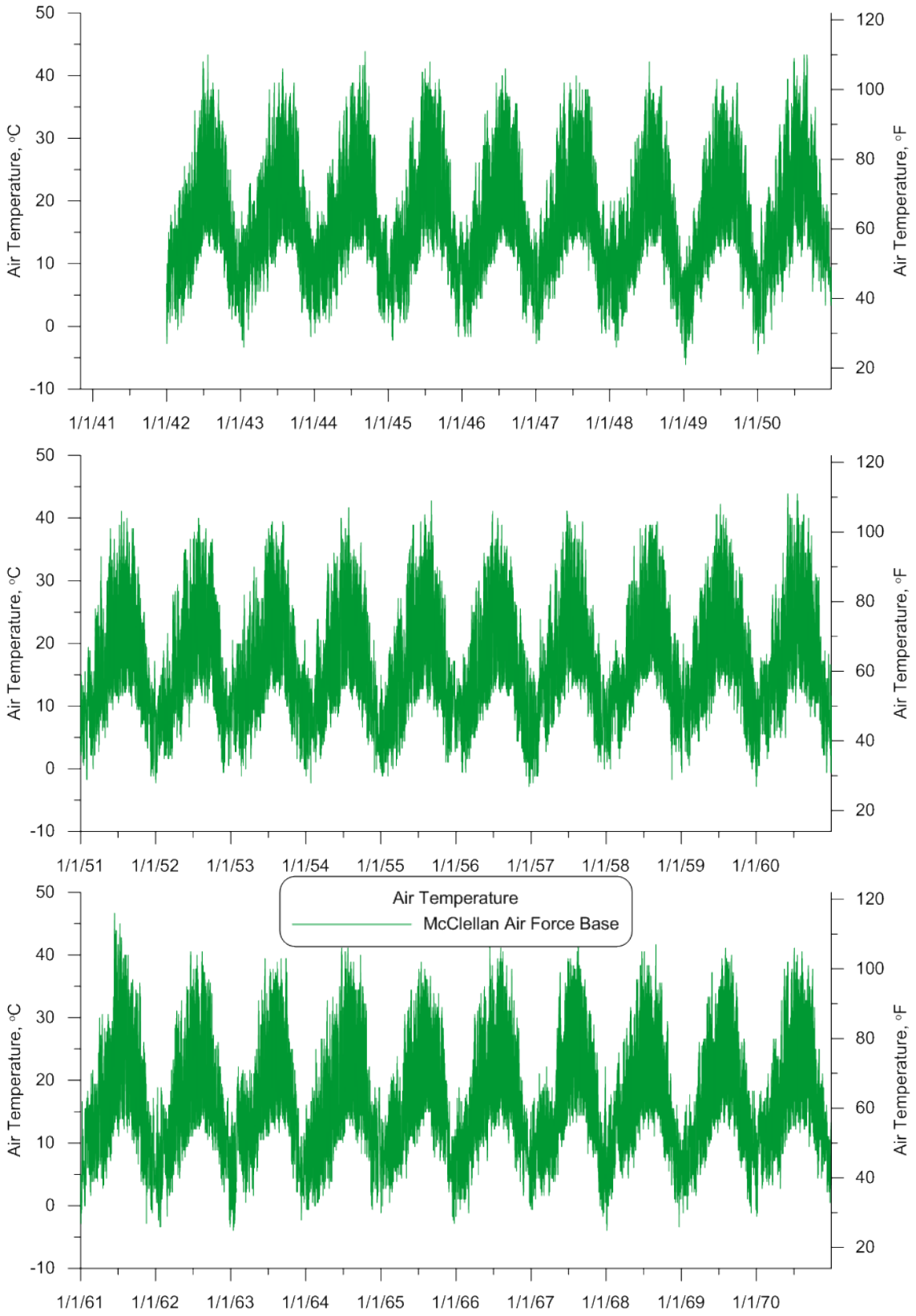

Figure 29. McClellan Air Force Base Air Temperature (1940-1970).

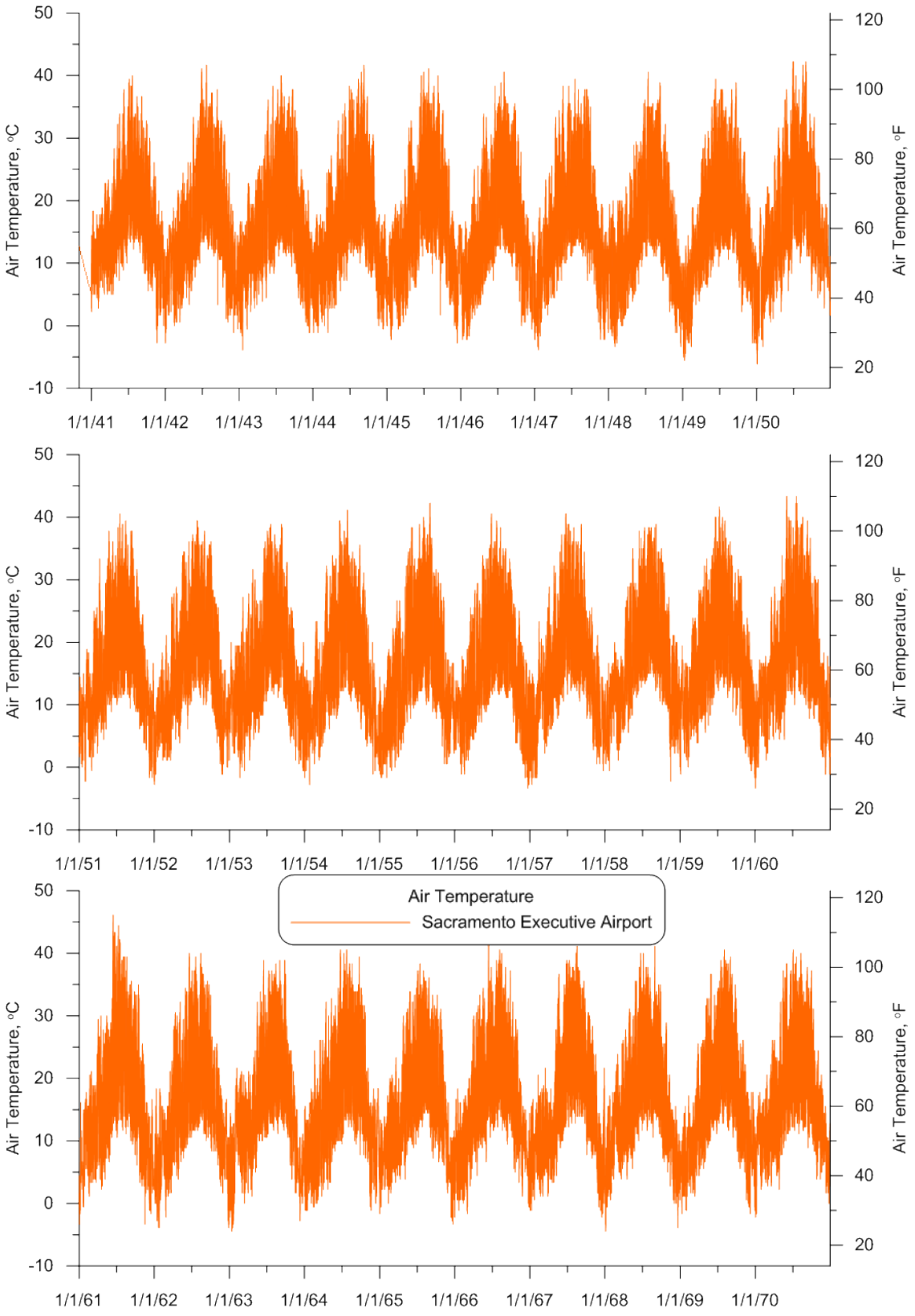

Figure 30. Sacramento Executive Airport Air Temperature (1940-1970).

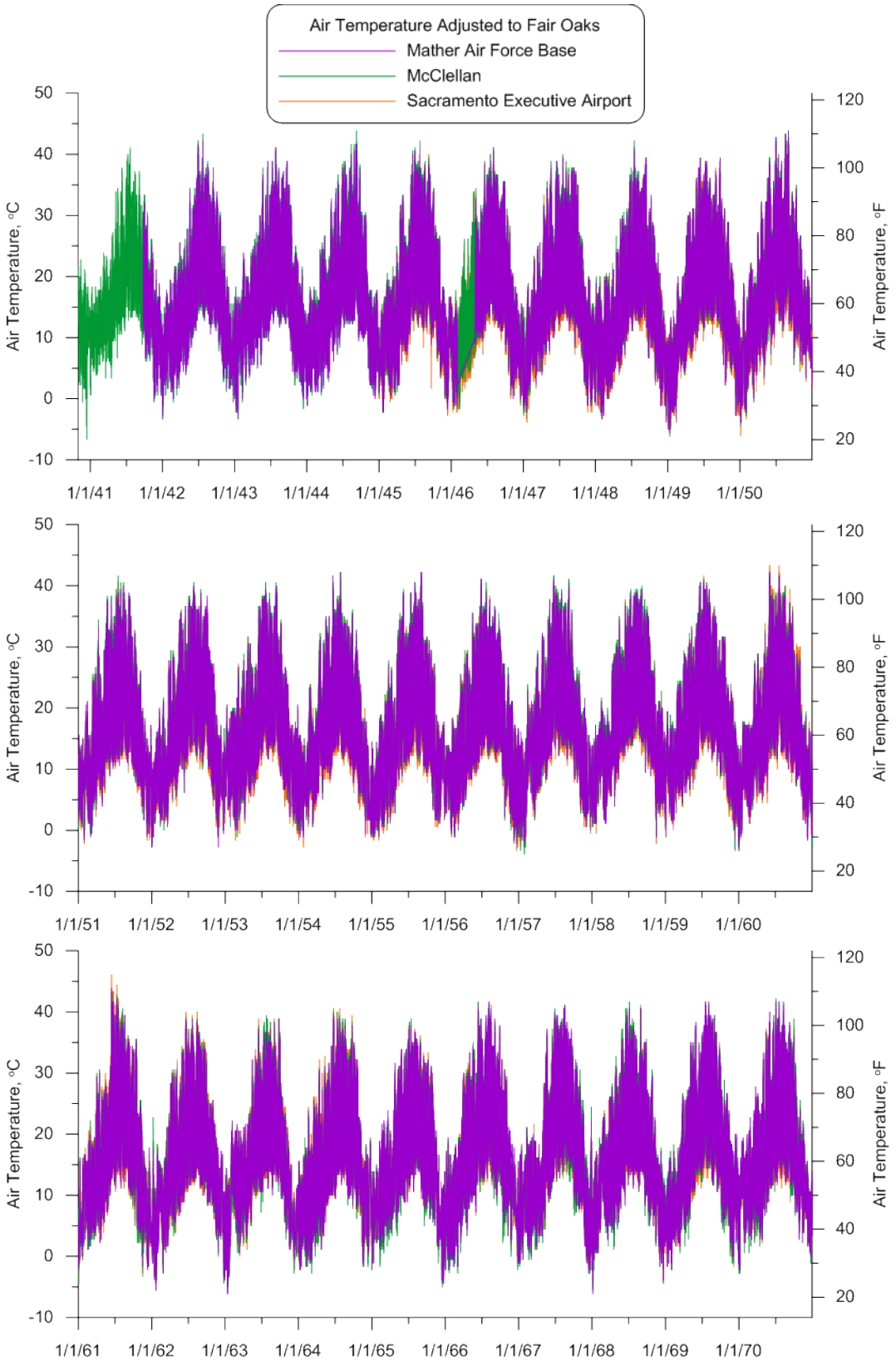

Figure 31. Air Temperature Comparison (1940-1970).

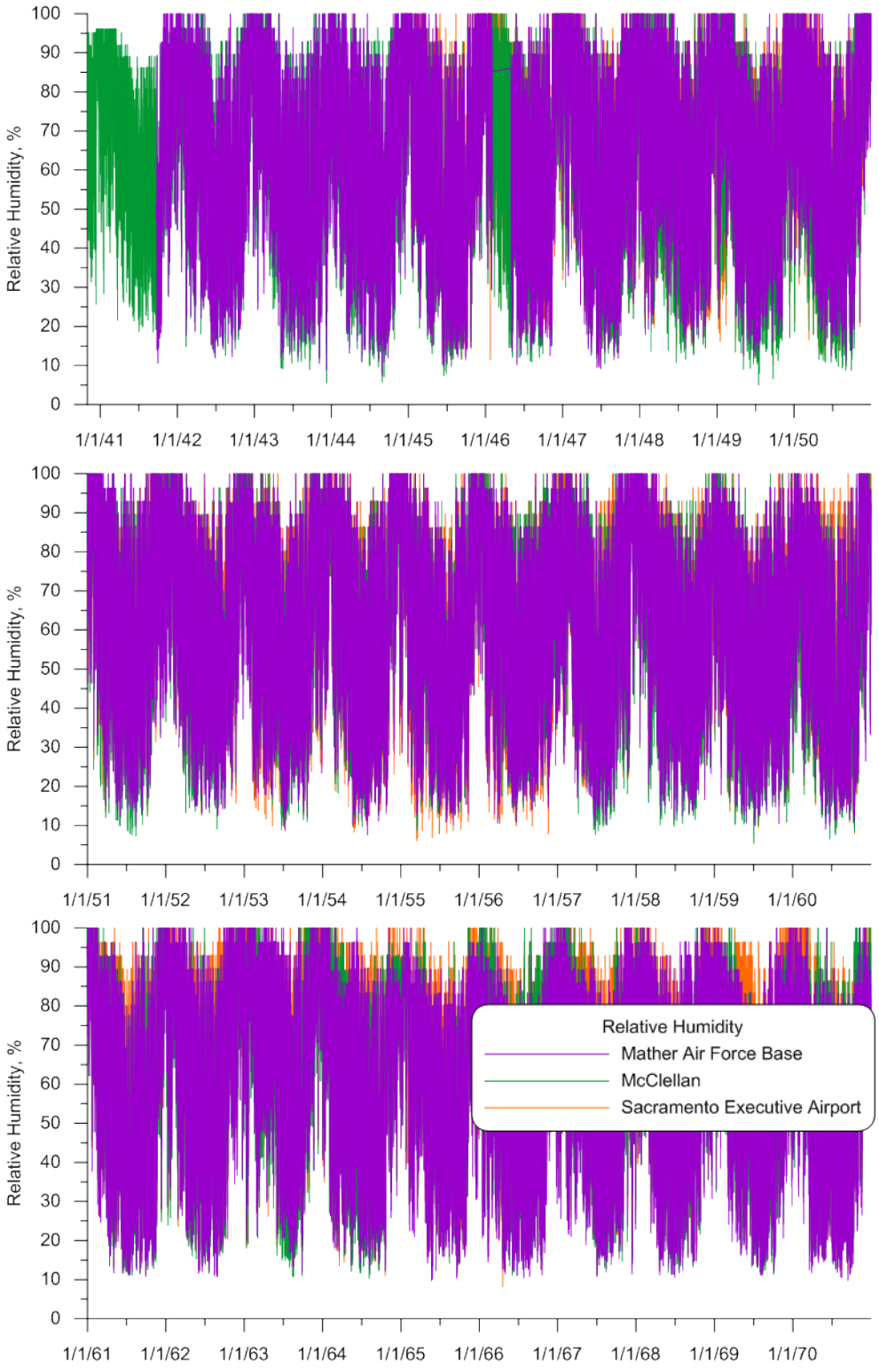

Figure 32. Relative Humidity Comparison (1940-1970).

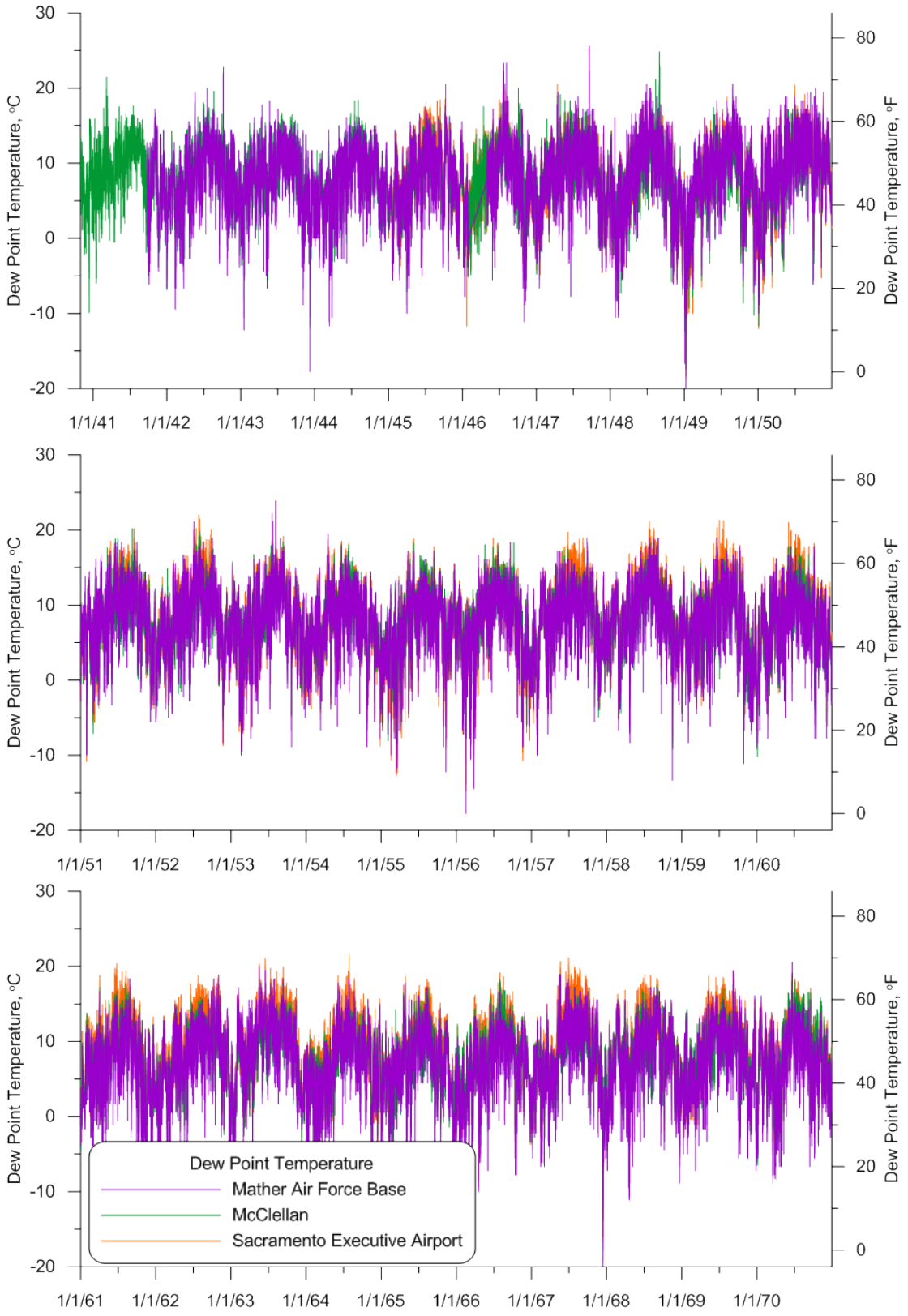

Figure 33. Adjusted Dew Point Temperature Comparison (1940-1970).

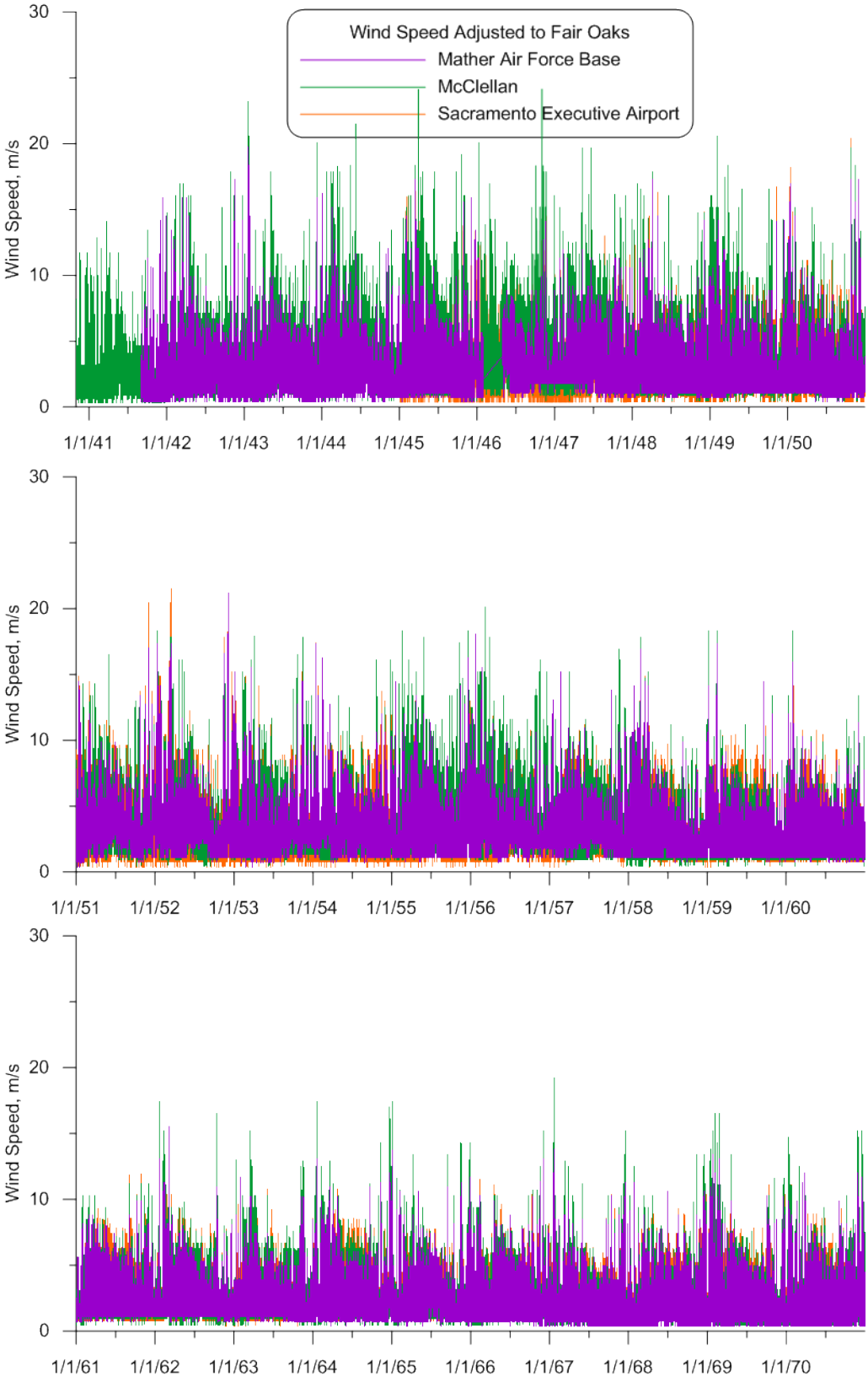

Figure 34. Wind Speed Comparison (1940-1970).

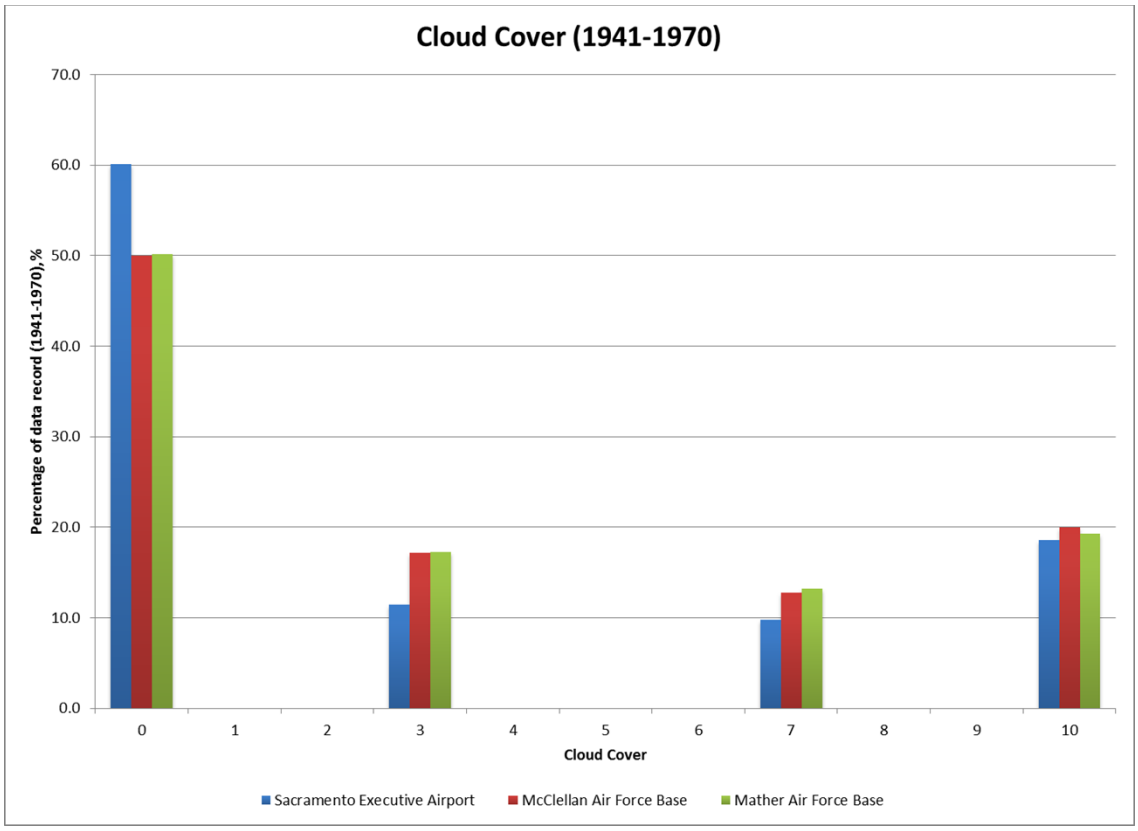

Figure 35. Cloud Cover Comparison (1941-1970).

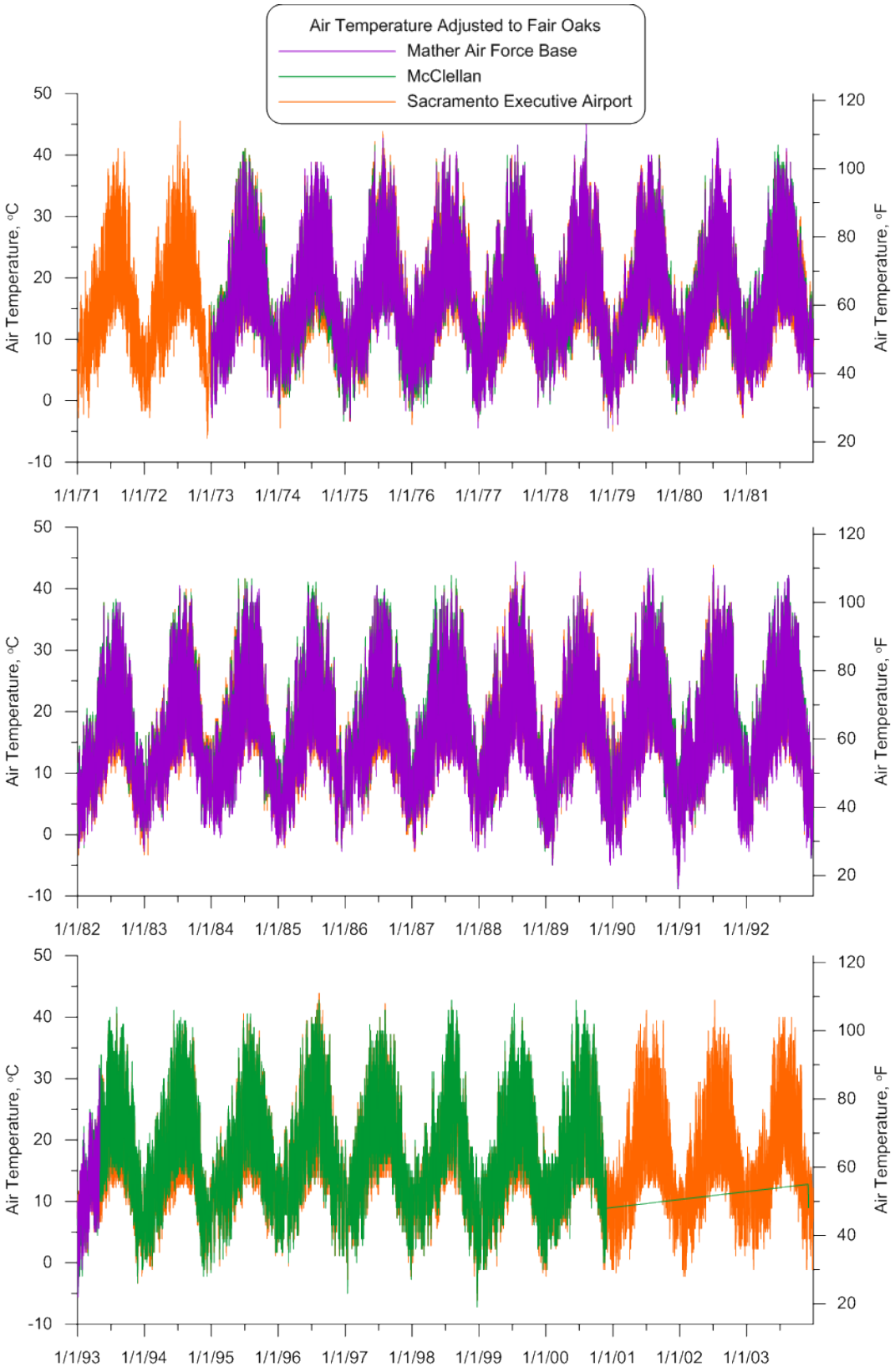

Figure 36. Air Temperature Comparison (1971-2003).

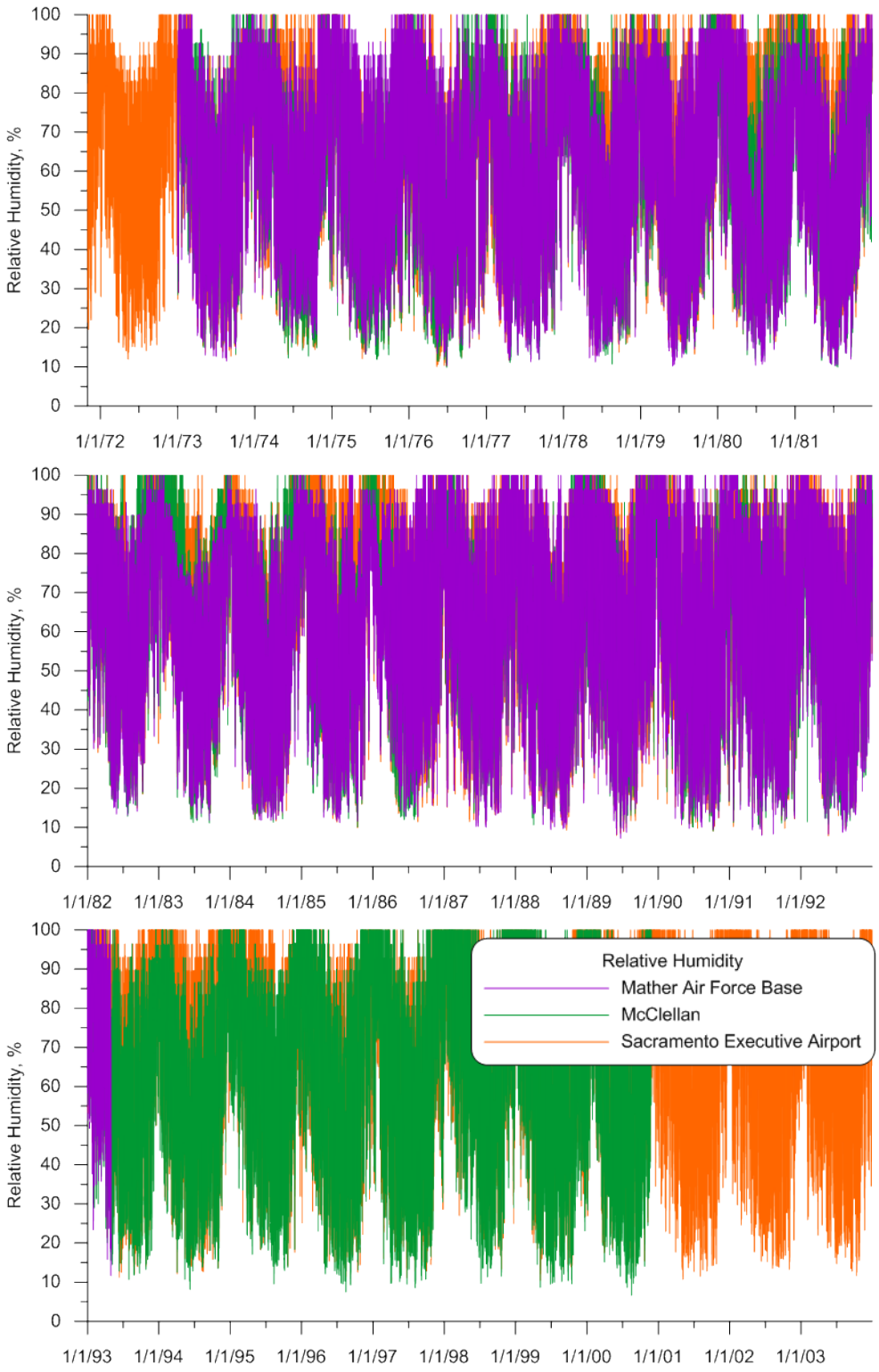

Figure 37. Relative Humidity Comparison (1971-2003).

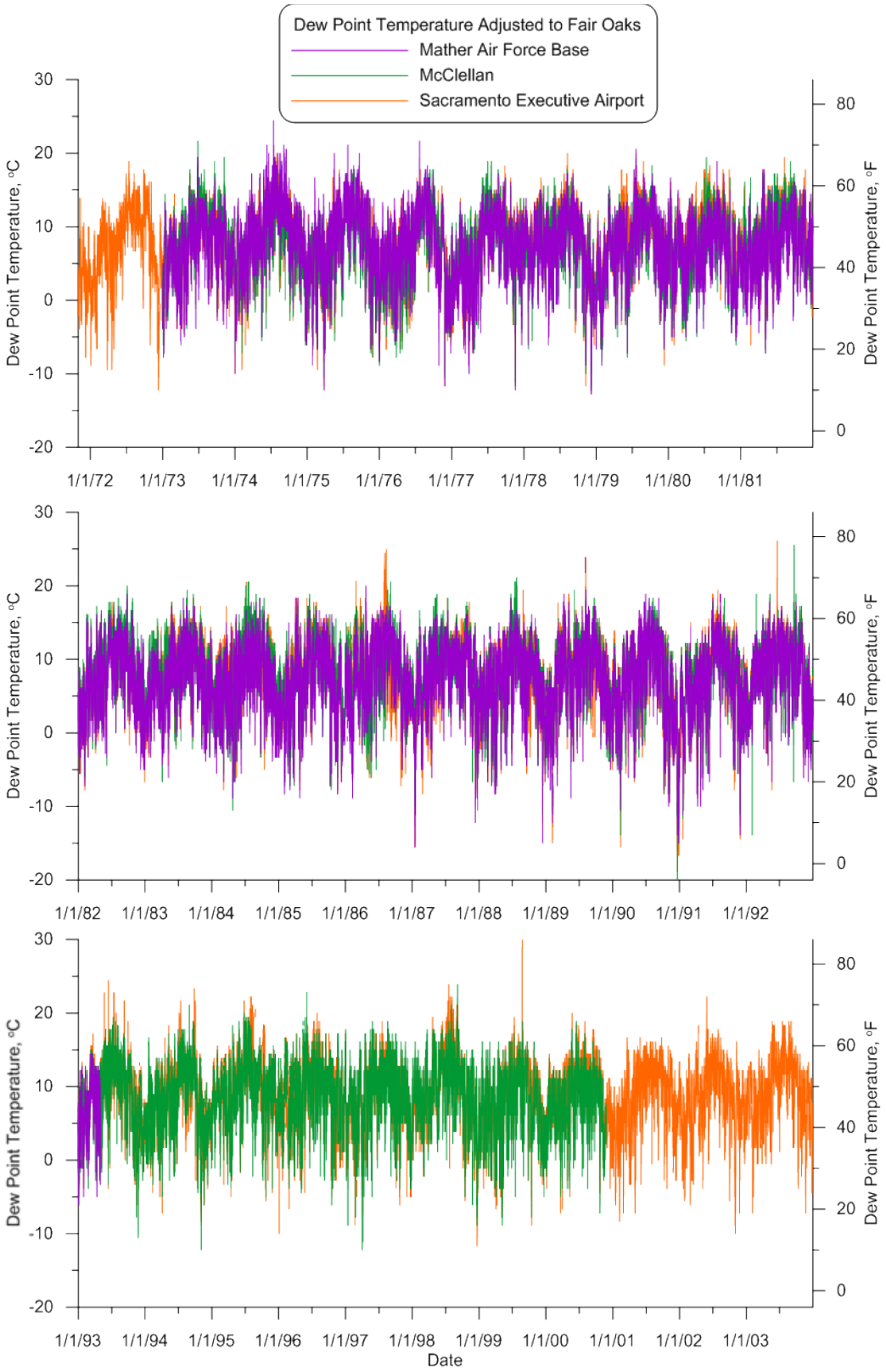

Figure 38. Dew Point Temperature Comparison (1971-2003).

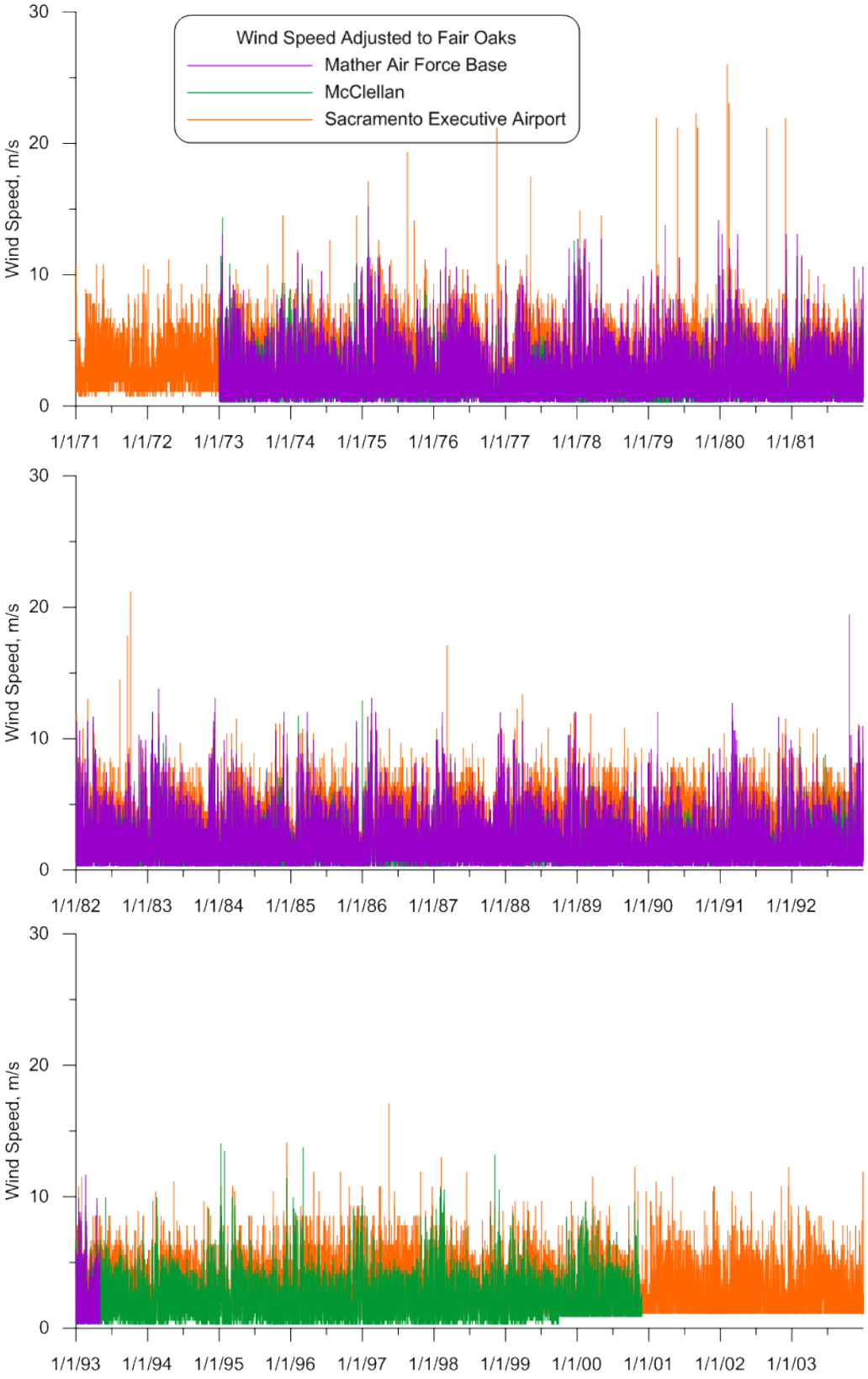

Figure 39. Wind Speed Comparison (1971-2003).

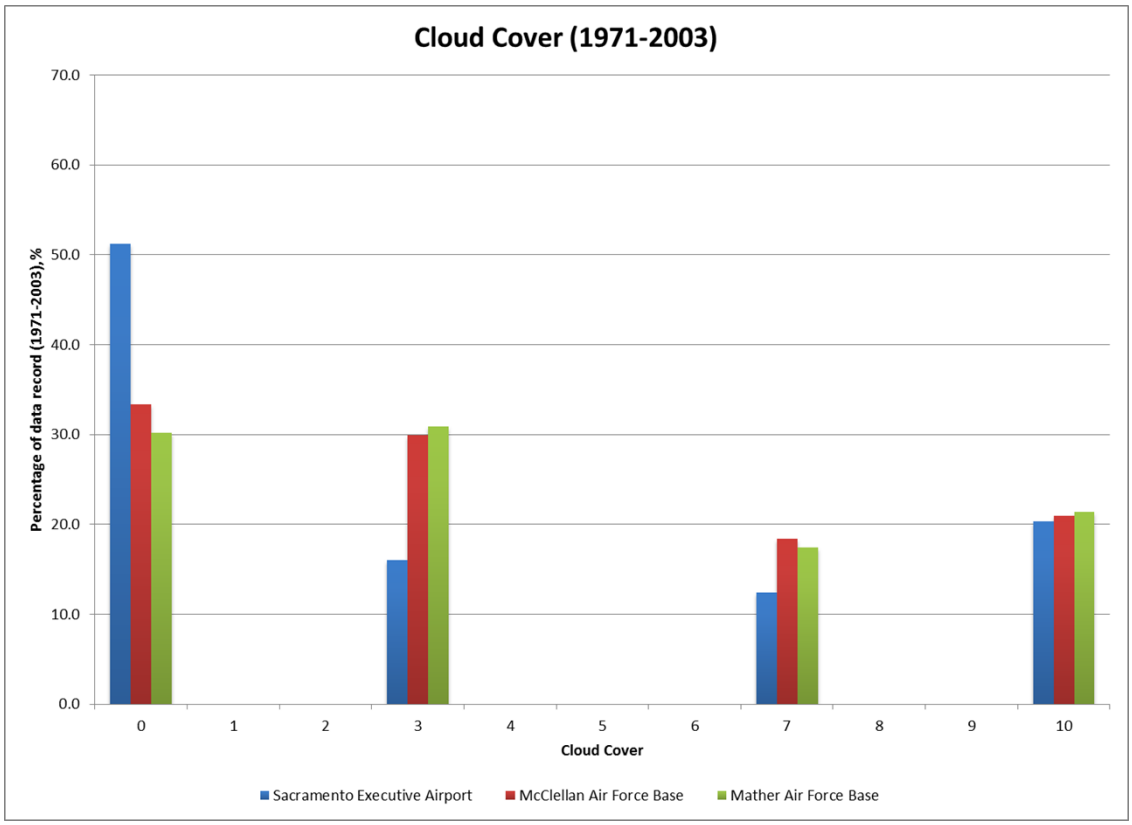

Figure 40. Comparison of Cloud Cover (1971-2003).

TECHNICAL MEMORANDUM 8 ATTACHMENT A

AIR TEMPERATURE AND WIND SPEED REGRESSIONS

Figure 1. Air Temperature Regression – McClellan vs. Calibration Dataset (Fair Oaks).
Figure 2. Air Temperature Regression – Mather vs. Calibration Dataset (Fair Oaks).
Figure 3. Air Temperature Regression – Sacramento Executive Airport vs. Calibration Dataset (Fair Oaks).
Figure 4. Wind Speed Regression, McClellan vs. Calibration Dataset (combined).
Figure 5. Wind Speed Regression, Mather vs. Calibration Dataset (combined).
Figure 6. Wind Speed Regression, Sacramento Executive Airport vs. Calibration Dataset (combined).

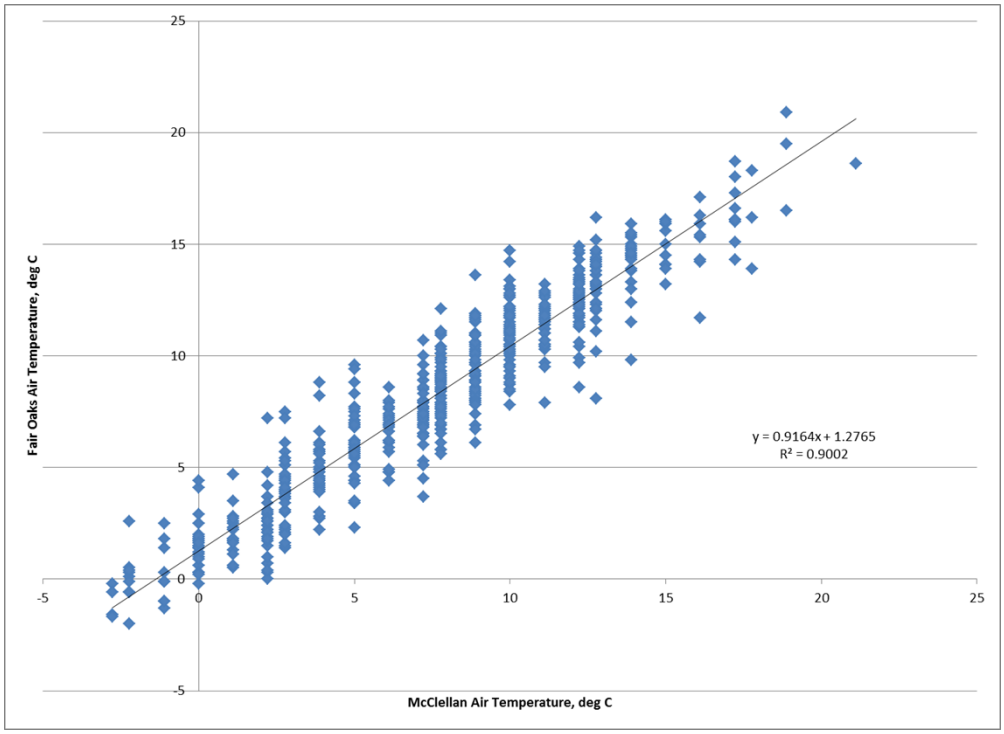

Figure 1. Air Temperature Regression – McClellan vs. Calibration Dataset (Fair Oaks).

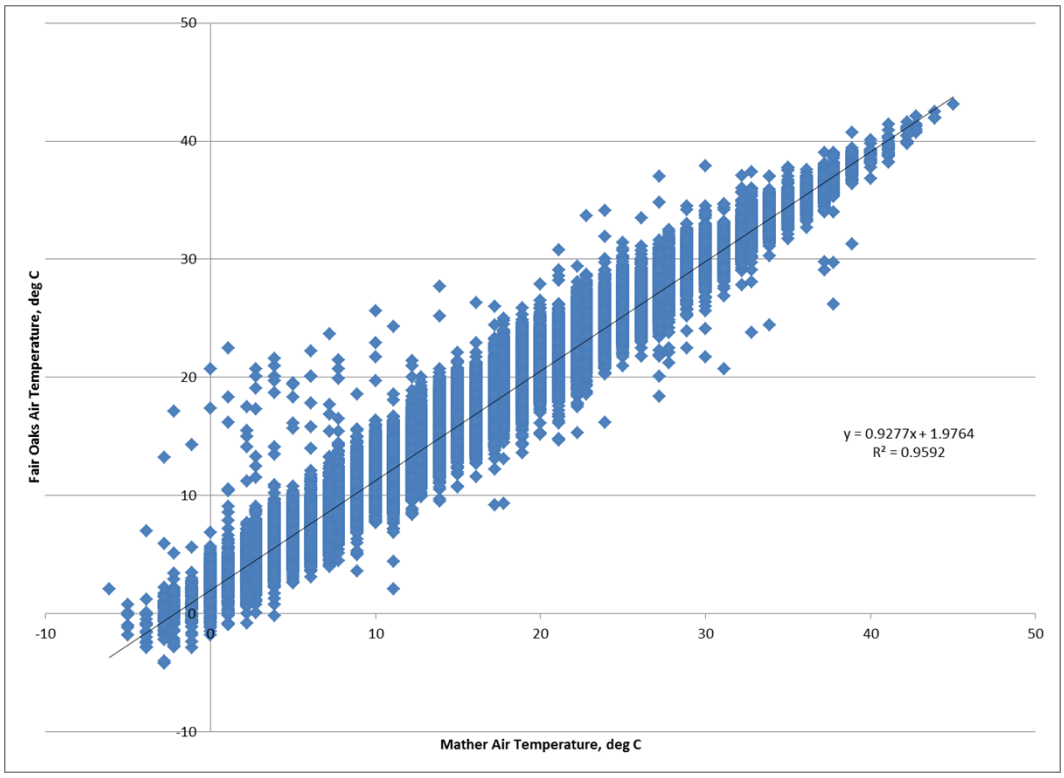

Figure 2. Air Temperature Regression – Mather vs. Calibration Dataset (Fair Oaks).

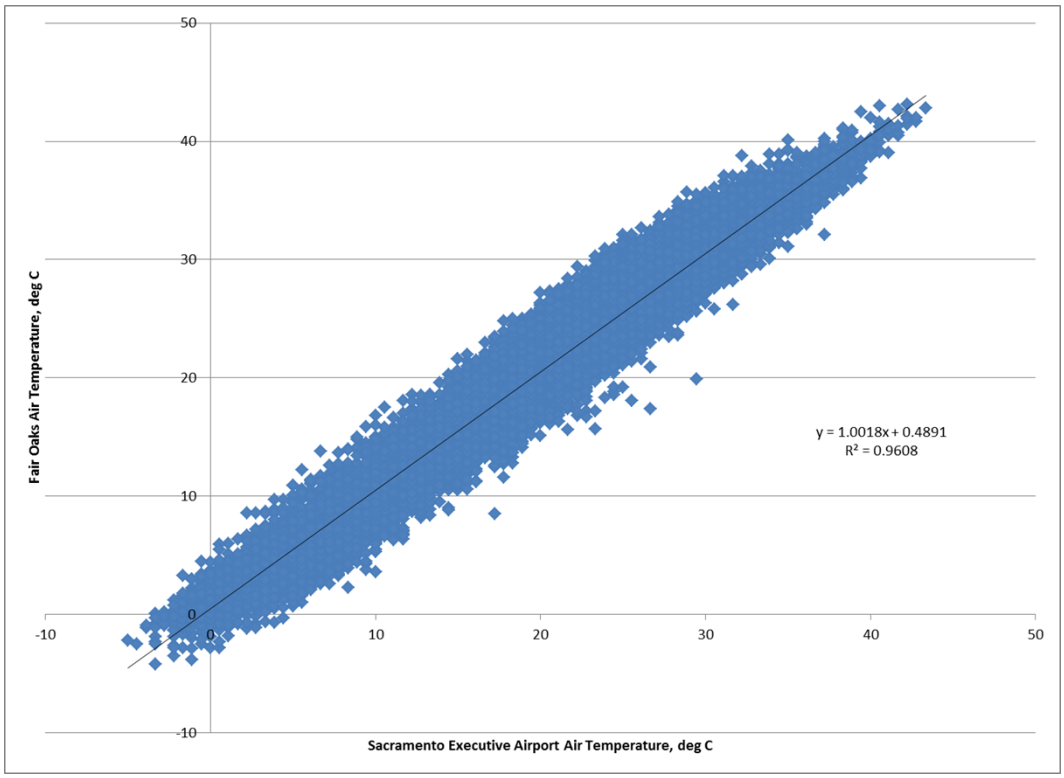

Figure 3. Air Temperature Regression – Sacramento Executive Airport vs. Calibration Dataset (Fair Oaks).

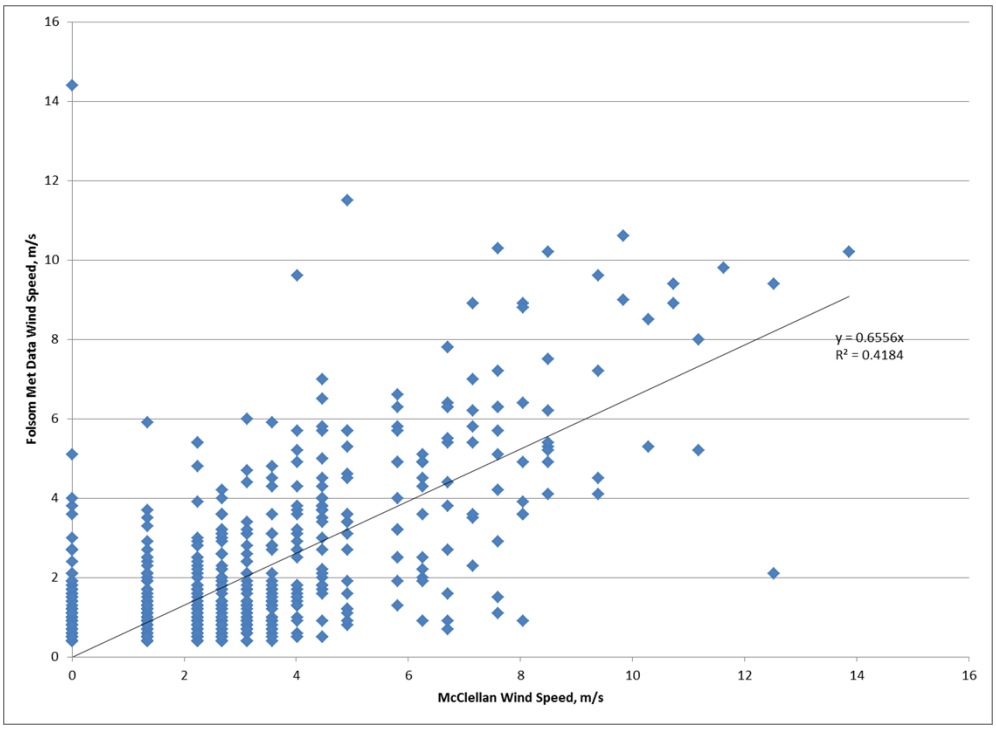

Figure 4. Wind Speed Regression, McClellan vs. Calibration Dataset (combined).

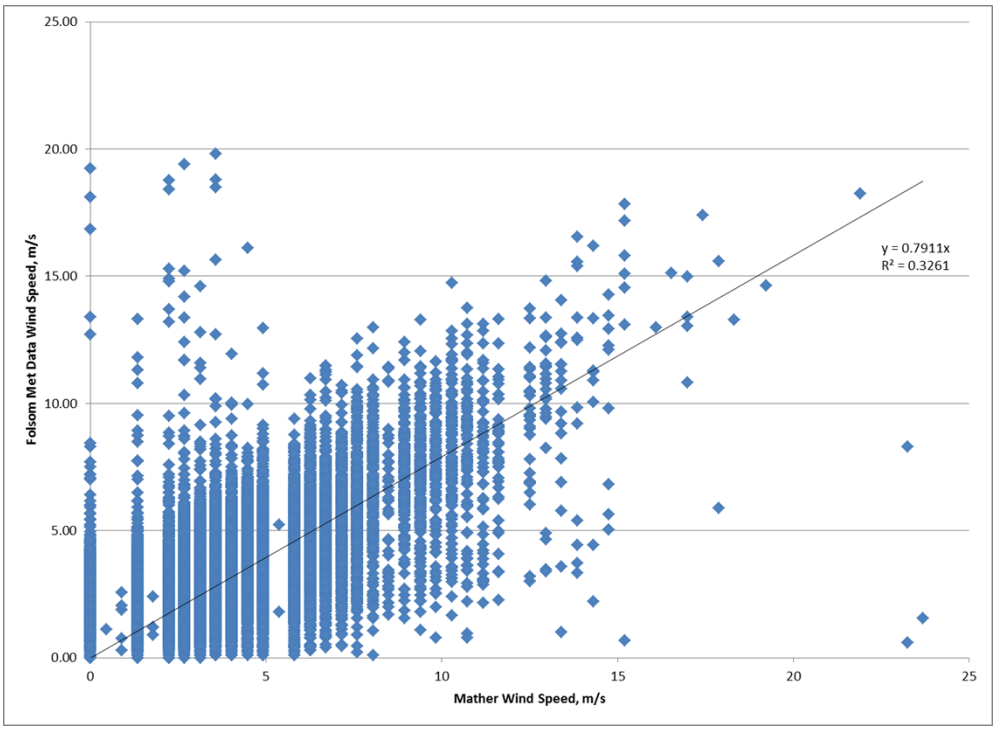

Figure 5. Wind Speed Regression, Mather vs. Calibration Dataset (combined).

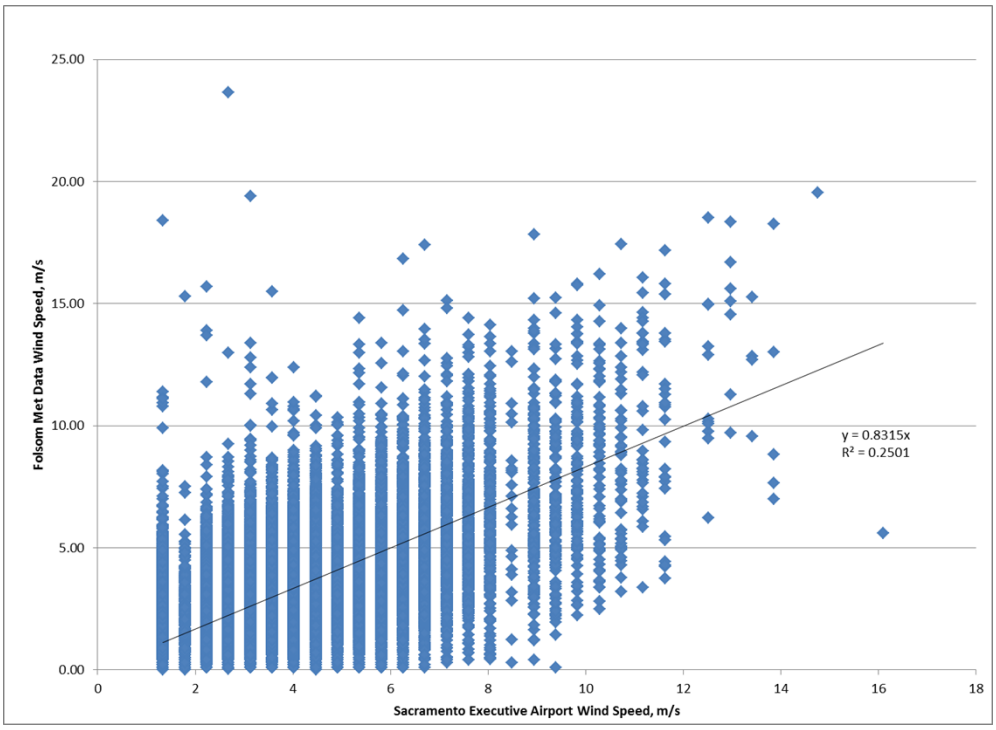

Figure 6. Wind Speed Regression, Sacramento Executive Airport vs. Calibration Dataset (combined).