

1998

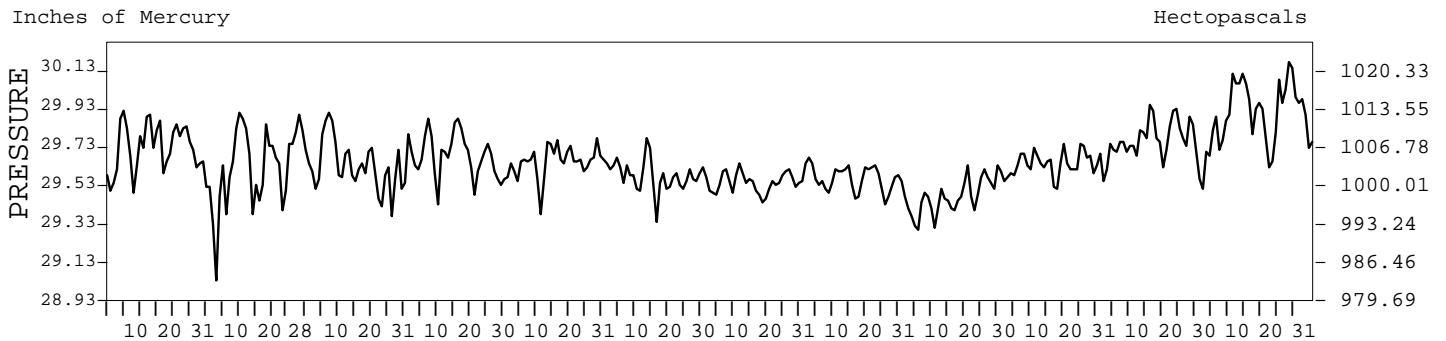
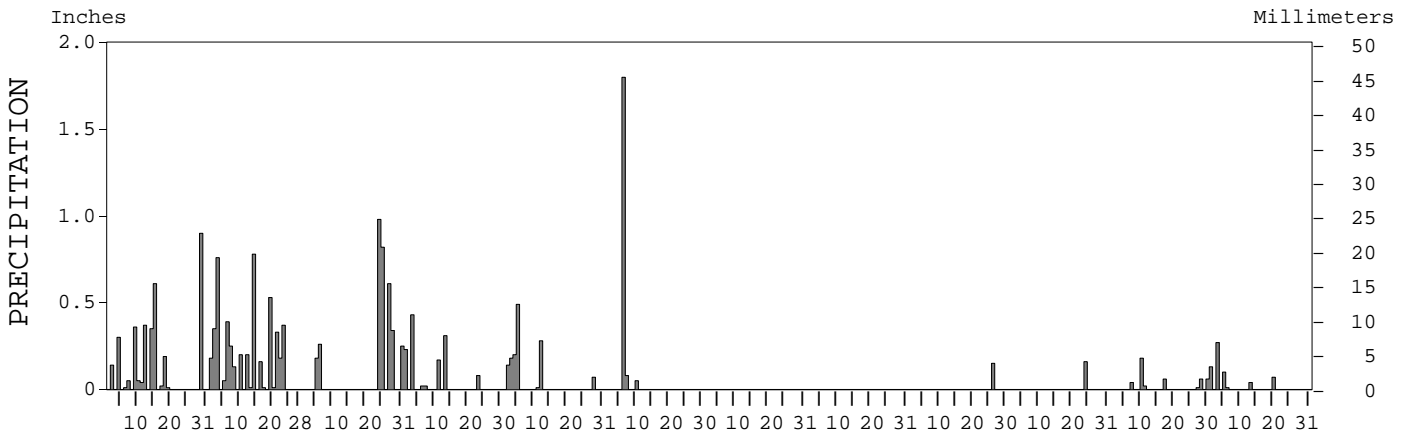
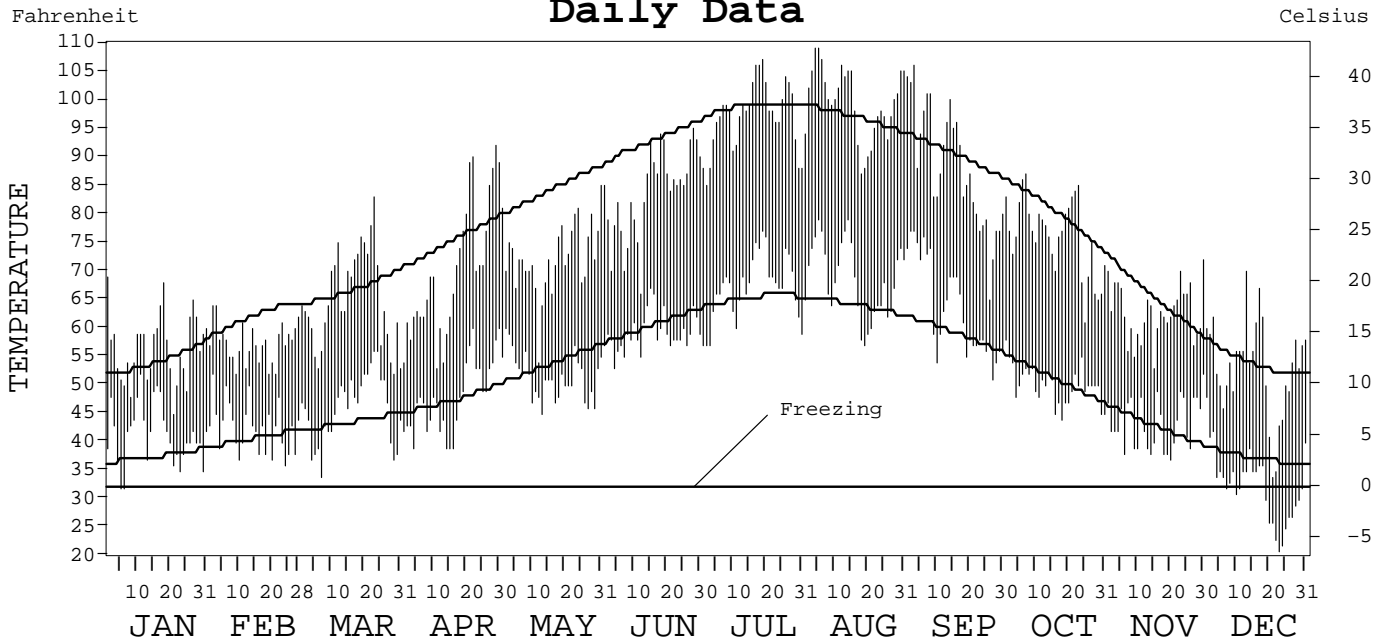
LOCAL CLIMATOLOGICAL DATA
ANNUAL SUMMARY WITH COMPARATIVE DATA



ISSN 0198-0734

FRESNO,
CALIFORNIA (FAT)

Daily Data



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NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
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 ASHEVILLE, NORTH CAROLINA

METEOROLOGICAL DATA FOR 1998

FRESNO, CA (FAT)

LATITUDE: 36° 46' 48" N LONGITUDE: 119° 43' 10" W ELEVATION (FT): GRND: 328 BARO: 330 TIME ZONE: PACIFIC (UTC+ 8) WBAN: 93193

	ELEMENT	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR	
TEMPERATURE °F	MEAN DAILY MAXIMUM	56.6	57.4	65.1	70.1	72.5	83.8	97.1	99.5	88.0	76.1	62.8	53.1	73.5	
	HIGHEST DAILY MAXIMUM	69	64	83	92	85	95	107	109	106	87	72	70	109	
	DATE OF OCCURRENCE	01	03	23	29	31	28	19	05+	03	07	30	13	AUG 05+	
	MEAN DAILY MINIMUM	41.4	42.6	45.9	47.8	51.5	59.2	67.1	68.6	63.5	50.0	43.3	32.5	51.1	
	LOWEST DAILY MINIMUM	32	36	34	39	45	53	57	57	51	44	37	21	21	
	DATE OF OCCURRENCE	06+	24	07	16+	13	04	03+	19	27	18	20	23	DEC 23	
	AVERAGE DRY BULB	49.0	50.0	55.5	59.0	62.0	71.5	82.1	84.1	75.8	63.1	53.1	42.8	62.3	
	MEAN WET BULB	46.8	47.3	50.8	51.9	54.2	61.7	67.8	67.9	63.0	53.6	48.5	39.5	54.4	
	MEAN DEW POINT	44.9	44.5	46.7	45.5	47.6	54.9	59.4	58.5	54.8	45.4	44.6	36.1	48.6	
	NUMBER OF DAYS WITH:														
	MAXIMUM ≥ 90°	0	0	0	2	0	7	26	29	13	0	0	0	0	77
	MAXIMUM ≤ 32°	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	MINIMUM ≤ 32°	2	0	0	0	0	0	0	0	0	0	0	15	17	
MINIMUM ≤ 0°	0	0	0	0	0	0	0	0	0	0	0	0	0		
H/C	HEATING DEGREE DAYS	490	412	293	226	104	7	0	0	7	79	351	682	2651	
	COOLING DEGREE DAYS	0	0	6	50	18	210	536	600	338	25	0	0	1783	
RH	MEAN (PERCENT)	88	82	76	65	63	59	49	46	52	58	77	81	66	
	HOUR 04 LST	95	90	91	85	83	82	71	70	72	78	90	93	83	
	HOUR 10 LST	91	81	74	58	59	56	46	41	49	51	75	83	64	
	HOUR 16 LST	71	69	54	45	44	40	28	24	33	35	56	60	47	
	HOUR 22 LST	91	84	81	70	69	61	50	47	53	63	83	87	70	
S	PERCENT POSSIBLE SUNSHINE														
W/O	NUMBER OF DAYS WITH:														
	HEAVY FOG (VISBY ≤ 1/4 MI)	20	3	4	0	1	0	0	0	1	0	7	8	44	
	THUNDERSTORMS	0	1	3	0	0	1	0	0	1	0	0	0	6	
CLOUDINESS	SUNRISE-SUNSET: (OKTAS)														
	CEILOMETER (≤ 12,000 FT.)														
	SATELLITE (> 12,000 FT.)														
	MIDNIGHT-MIDNIGHT: (OKTAS)														
	CEILOMETER (≤ 12,000 FT.)														
	SATELLITE (> 12,000 FT.)														
NUMBER OF DAYS WITH:															
CLEAR															
PARTLY CLOUDY															
CLOUDY															
PR	MEAN STATION PRESS. (IN.)	29.71	29.61	29.63	29.67	29.64	29.57	29.54	29.54	29.47	29.63	29.75	29.90	29.64	
	MEAN SEA-LEVEL PRESS. (IN.)	30.06	29.96	29.97	30.02	29.98	29.91	29.87	29.88	29.81		30.10	30.26		
WINDS	RESULTANT SPEED (MPH)	2.4	2.6	0.7	0.9	4.3	1.7	2.5	1.5	3.0	2.4	0.3	0.7	0.8	
	RES. DIR. (TENS OF DEGS.)	13	13	34	27	32	30	17	31	31	32	32	32	30	
	MEAN SPEED (MPH)	4.7	7.1	5.4	6.3	8.2	7.7	7.3	6.1	6.3	5.2	5.2	3.8	6.1	
	PREVAIL. DIR. (TENS OF DEGS.)	12	12	13	32	32	31	31	31	31	32	30	31	31	
	MAXIMUM 2-MINUTE WIND:														
	SPEED (MPH)	28	36	25	29	32	28	20	18	22	25	23	23	36	
	DIR. (TENS OF DEGS.)	31	13	32	25	32	30	30	30	31	30	30	30	13	
	DATE OF OCCURRENCE	29	03	28	03	28	16	20+	17+	17+	24	28	20+	FEB 03	
	MAXIMUM 5-SECOND WIND:														
	SPEED (MPH)	41	43	31	36	37	32	23	22	25	35	28	30	43	
DIR. (TENS OF DEGS.)	31	17	33	25	32	30	30	31	30	31	29	31	17		
DATE OF OCCURRENCE	29	06+	28	03	28	16	10	14	17+	24	28	20	FEB 06+		
PRECIPITATION	WATER EQUIVALENT:														
	TOTAL (IN.)	3.40	4.89	3.44	1.26	1.37	1.93	0.00	0.00	0.15	0.16	0.43	0.62	17.65	
	GREATEST 24-HOUR (IN.)	0.90	0.78	1.60	0.43	0.49	1.80	0.00	0.00	0.15	0.16	0.20	0.27	1.80	
	DATE OF OCCURRENCE	29	14	24-25	03	05	06			26-27	24	10-11	03	JUN 06	
	NUMBER OF DAYS WITH:														
	PRECIPITATION ≥ 0.01	14	18	7	7	7	3	0	0	1	1	7	6	71	
PRECIPITATION ≥ 0.10	8	14	7	4	5	1	0	0	1	1	1	3	45		
PRECIPITATION ≥ 1.00	0	0	0	0	0	1	0	0	0	0	0	0	1		
SNOWFALL	SNOW, ICE PELLETS, HAIL:														
	TOTAL (IN.)												0.5		
	GREATEST 24-HOUR (IN.)												0.5		
	DATE OF OCCURRENCE												20		
	MAXIMUM SNOW DEPTH (IN.)												0		
	NUMBER OF DAYS WITH:														
SNOWFALL ≥ 1.0												0			

NORMALS, MEANS, AND EXTREMES

FRESNO, CA (FAT)

LATITUDE: 36° 46' 48" N LONGITUDE: 119° 43' 10" W ELEVATION (FT): GRND: 328 BARO: 330 TIME ZONE: PACIFIC (UTC+ 8) WBAN: 93193

ELEMENT		POR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
TEMPERATURE °F	NORMAL DAILY MAXIMUM	30	54.1	61.7	66.6	75.1	84.2	92.7	98.6	96.7	90.1	79.7	64.7	53.7	76.5
	MEAN DAILY MAXIMUM	49	54.3	61.6	66.8	74.7	83.2	91.3	98.1	96.3	90.4	79.9	65.3	54.4	76.4
	HIGHEST DAILY MAXIMUM	49	78	80	90	100	107	110	112	112	111	102	89	76	112
	YEAR OF OCCURRENCE		1986	1991	1972	1981	1984	1964	1991	1996	1955	1980	1949	1958	AUG 1996
	MEAN OF EXTREME MAXS.	49	67.4	73.3	80.0	89.7	98.2	104.5	106.7	105.5	101.9	93.8	79.7	67.2	89.0
	NORMAL DAILY MINIMUM	30	37.4	40.5	43.4	47.3	53.7	60.4	65.1	63.8	58.8	50.7	42.5	37.1	50.1
	MEAN DAILY MINIMUM	49	37.5	40.4	43.4	47.6	53.8	59.9	65.1	63.6	59.0	50.6	42.0	36.9	50.0
	LOWEST DAILY MINIMUM	49	19	24	26	32	36	44	50	49	37	27	26	18	18
	YEAR OF OCCURRENCE		1963	1990	1966	1982	1975	1955	1955	1966	1950	1972	1975	1990	DEC 1990
	MEAN OF EXTREME MINS.	49	27.4	30.9	33.7	38.6	43.9	50.8	56.4	55.8	50.2	40.5	32.1	27.4	40.6
	NORMAL DRY BULB	30	45.7	51.2	55.1	61.2	69.0	76.6	81.9	80.3	74.5	65.2	53.6	45.4	63.3
	MEAN DRY BULB	49	46.0	51.1	55.0	61.2	68.4	75.5	81.6	79.9	74.7	65.3	53.7	45.6	63.2
	MEAN WET BULB	14	43.9	47.4	51.2	53.7	56.9	61.6	66.0	60.2	61.8	55.9	48.4	42.3	54.1
	MEAN DEW POINT	14	41.1	43.1	45.8	45.0	43.2	46.7	54.9	50.0	52.2	48.0	43.3	39.3	46.0
	NORMAL NO. DAYS WITH:														
MAXIMUM ≥ 90°	30	0.0	0.0	*	2.1	9.4	19.5	28.5	26.3	16.9	4.2	0.0	0.0	106.9	
MAXIMUM ≤ 32°	30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	
MINIMUM ≤ 32°	30	8.5	3.1	0.7	0.1	0.0	0.0	0.0	0.0	0.0	0.1	2.0	8.9	23.4	
MINIMUM ≤ 0°	30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
H/C	NORMAL HEATING DEG. DAYS	30	598	386	314	182	34	0	0	0	8	84	342	608	2556
	NORMAL COOLING DEG. DAYS	30	0	0	7	68	158	352	524	474	293	91	0	0	1967
RH	NORMAL (PERCENT)	30	83	77	69	57	47	42	39	45	50	58	74	84	60
	HOUR 04 LST	30	91	90	86	80	72	64	60	67	72	78	87	92	78
	HOUR 10 LST	30	84	77	65	51	43	39	37	42	45	52	71	85	58
	HOUR 16 LST	30	67	56	46	34	26	23	21	25	28	34	54	69	40
	HOUR 22 LST	30	88	83	74	62	50	43	40	46	52	64	81	89	64
S	PERCENT POSSIBLE SUNSHINE	46	47	65	77	85	90	95	97	96	94	88	66	46	79
W/O	MEAN NO. DAYS WITH:														
	HEAVY FOG (VISBY ≤ 1/4 MI)	49	11.9	6.0	1.7	0.3	0.1	0.0	0.0	0.0	0.1	0.9	5.5	11.8	38.3
	THUNDERSTORMS	49	0.3	0.4	0.9	0.5	0.6	0.4	0.3	0.2	0.7	0.5	0.2	0.3	5.3
CLOUDINESS	MEAN:														
	SUNRISE-SUNSET (OKTAS)														
	MIDNIGHT-MIDNIGHT (OKTAS)														
	MEAN NO. DAYS WITH:														
CLEAR	1		3.0	5.0		6.0	4.0								
PARTLY CLOUDY	1		1.0			1.0									
CLOUDY	1	2.0	3.0	1.0		1.0									
PR	MEAN STATION PRESSURE (IN)	25	29.80	29.70	29.70	29.70	29.60	29.50	29.50	29.50	29.60	29.60	29.79	29.80	29.65
	MEAN SEA-LEVEL PRES. (IN)	14	30.15	30.08	30.04	30.00	29.93	29.87	29.88	27.74	29.89	29.98	30.10	30.16	29.82
WINDS	MEAN SPEED (MPH)	37	5.2	5.7	6.7	7.4	8.2	8.3	7.4	6.8	6.1	5.2	4.7	4.8	6.4
	PREVAIL. DIR (TENS OF DEGS)	23	12	12	32	31	31	30	30	30	30	30	30	12	31
	MAXIMUM 2-MINUTE:														
	SPEED (MPH)	3	28	36	29	29	32	28	22	20	26	25	25	24	36
	DIR. (TENS OF DEGS)		31	13	30	25	32	30	31	31	30	30	13	15	13
	YEAR OF OCCURRENCE		1998	1998	1997	1998	1998	1998	1997	1996	1996	1996	1997	1996	FEB 1998
	MAXIMUM 5-SECOND:														
SPEED (MPH)	3	41	43	37	38	37	32	25	24	31	35	31	30	43	
DIR. (TENS OF DEGS)		31	17	29	32	32	30	30	32	30	31	13	31	17	
YEAR OF OCCURRENCE		1998	1998	1997	1997	1998	1998	1997	1997	1996	1998	1997	1998	FEB 1998	
PRECIPITATION	NORMAL (IN)	30	1.96	1.80	1.89	0.97	0.30	0.08	0.01	0.03	0.24	0.53	1.37	1.42	10.60
	MAXIMUM MONTHLY (IN)	49	8.56	5.97	7.24	4.41	1.65	1.93	0.22	0.25	1.19	2.19	3.50	6.73	8.56
	YEAR OF OCCURRENCE		1969	1962	1991	1967	1990	1998	1992	1964	1976	1992	1972	1955	JAN 1969
	MINIMUM MONTHLY (IN)	49	0.04	T	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	YEAR OF OCCURRENCE		1976	1964	1972	1997	1982	1983	1983	1981	1981	1978	1959	1989	DEC 1989
	MAXIMUM IN 24 HOURS (IN)	49	2.59	1.99	2.43	1.39	1.42	1.80	0.22	0.25	0.97	1.76	1.35	1.76	2.59
	YEAR OF OCCURRENCE		1969	1969	1995	1983	1990	1998	1992	1964	1978	1992	1953	1955	JAN 1969
NORMAL NO. DAYS WITH:															
PRECIPITATION ≥ 0.01	30	6.8	7.0	7.3	4.2	1.6	0.7	0.2	0.4	1.1	2.3	6.2	6.7	44.5	
PRECIPITATION ≥ 1.00	30	0.2	0.3	0.1	0.1	*	0.0	0.0	0.0	0.0	*	0.0	0.1	0.8	
SNOWFALL	NORMAL (IN)	30	0.1	T	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.*	0.1
	MAXIMUM MONTHLY (IN)	47	2.2	T	T	0.0	0.0	T	0.0	0.0	T	0.0	1.2	2.2	
	YEAR OF OCCURRENCE		1962	1994	1991			1995			1974		1968	JAN 1962	
	MAXIMUM IN 24 HOURS (IN)	47	1.5	T	T	0.0	0.0	T	0.0	0.0	T	0.0	1.2	1.5	
	YEAR OF OCCURRENCE		1962	1994	1991			1995			1974		1968	JAN 1962	
	MAXIMUM SNOW DEPTH (IN)	46	0	0	0	0	0	0	0	0	0	0	1	1	
	YEAR OF OCCURRENCE												1968	DEC 1968	
NORMAL NO. DAYS WITH:															
SNOWFALL ≥ 1.0	30	0.*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.*	0.0	

PRECIPITATION (inches) 1998 FRESNO, CA (FAT)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1969	8.56	5.60	1.16	1.64	0.06	0.04	0.04	0.00	0.04	0.06	0.80	1.14	19.14
1970	3.83	1.27	1.65	0.21	0.00	0.08	T	0.00	0.00	0.01	2.30	2.51	11.86
1971	0.40	0.29	0.58	1.04	1.40	0.00	T	T	0.04	0.03	0.65	2.56	6.99
1972	0.37	0.67	0.00	0.27	0.15	0.60	T	0.00	0.29	0.22	3.50	1.40	7.47
1973	1.91	3.69	2.84	0.09	T	T	0.00	T	0.00	1.02	1.39	1.74	12.68
1974	2.82	0.25	2.56	0.64	0.00	0.00	T	T	0.00	1.44	0.34	1.26	9.31
1975	0.69	0.97	2.44	0.55	T	0.00	T	0.05	0.22	1.07	0.20	0.14	6.33
1976	0.04	4.72	0.44	0.93	T	0.37	0.01	0.21	1.19	1.55	0.87	0.71	11.04
1977	0.68	0.09	1.04	0.04	1.16	0.06	T	T	T	0.01	0.46	3.02	6.56
1978	3.16	4.41	4.25	2.85	0.00	0.00	T	T	1.05	0.00	1.34	0.62	17.68
1979	2.71	2.53	2.27	0.07	0.06	0.00	0.08	0.00	T	0.48	1.01	0.74	9.95
1980	3.83	3.30	2.05	0.25	0.18	T	0.01	0.00	0.00	0.03	0.14	0.49	10.28
1981	2.67	1.29	2.59	1.01	T	0.00	0.00	0.00	0.00	0.58	1.22	0.65	10.01
1982	2.11	0.58	4.76	0.89	0.00	0.31	0.00	T	1.10	1.58	3.16	1.59	16.08
1983	5.14	3.70	4.53	2.76	0.01	0.00	0.00	0.09	1.03	0.09	2.51	1.75	21.61
1984	0.15	1.05	0.48	0.25	0.02	0.20	T	T	0.00	0.70	1.94	1.98	6.77
1985	0.43	0.71	1.73	0.12	0.00	0.33	0.04	0.02	0.43	0.85	3.02	0.72	8.40
1986	2.12	3.66	3.42	0.36	0.16	0.00	T	0.00	0.38	0.00	0.01	2.30	12.41
1987	1.93	1.36	2.39	0.07	0.87	0.01	0.00	0.00	T	0.85	0.52	1.19	9.19
1988	1.52	0.83	0.27	2.41	0.45	0.03	0.00	0.00	0.00	0.00	1.42	2.46	9.39
1989	0.48	1.18	2.25	0.05	0.89	0.00	0.00	0.03	1.11	0.42	0.50	0.00	6.91
1990	2.82	1.33	0.67	0.92	1.65	0.00	T	0.00	0.15	0.05	0.46	0.68	8.73
1991	0.13	1.01	7.24	0.02	0.03	T	0.00	T	T	0.80	0.04	1.22	10.49
1992	1.94	4.73	2.14	0.18	T	T	0.22	T	T	2.19	T	2.68	14.08
1993	5.18	2.44	1.76	0.20	0.25	1.61	0.00	0.00	0.00	0.12	1.16	1.03	13.75
1994	1.15	1.92	0.52	1.36	1.30	0.00	T	0.00	0.20	0.77	1.57	1.33	10.12
1995	5.42	0.93	5.88	1.08	1.19	0.66	0.01	T	0.00	0.00	T	2.12	17.29
1996	2.07	3.57	1.52	1.17	0.38	0.08	T	0.00	0.00	1.97	1.94	4.27	16.97
1997	3.53	0.17	0.10	T	T	0.01	T	0.00	0.15	0.07	2.66	0.99	7.68
1998	3.40	4.89	3.44	1.26	1.37	1.93	0.00	0.00	0.15	0.16	0.43	0.62	17.65
POR= 121 YRS	1.87	1.69	1.76	0.94	0.38	0.13	0.00	0.00	0.10	0.51	1.02	1.51	9.91

WBAN : 93193

AVERAGE TEMPERATURE (°F) 1998 FRESNO, CA (FAT)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1969	44.8	47.5	53.1	59.7	70.4	72.9	80.9	79.7	75.7	59.7	53.1	46.2	62.0
1970	49.1	52.7	55.3	57.0	70.8	76.5	83.3	79.9	73.0	63.4	55.4	46.3	63.6
1971	45.7	47.6	54.4	59.1	64.2	74.4	81.9	81.1	73.4	60.9	50.7	42.9	61.4
1972	40.6	52.5	60.7	61.1	69.9	77.5	81.5	79.7	71.8	62.6	50.2	40.9	62.4
1973	45.1	51.9	50.4	61.2	72.9	78.6	80.4	78.5	72.0	63.3	52.9	47.2	62.9
1974	47.9	49.1	56.3	60.0	69.5	77.7	81.3	79.3	77.5	66.0	53.1	44.5	63.5
1975	43.4	49.9	51.5	53.9	68.4	74.7	78.1	75.9	75.8	61.4	49.5	43.9	60.5
1976	44.3	49.6	52.4	57.2	69.7	72.9	79.4	72.7	72.2	65.1	53.4	46.5	61.3
1977	44.3	53.5	52.4	65.5	63.6	79.8	81.5	80.6	74.0	66.8	54.6	51.3	64.0
1978	51.4	52.6	60.3	58.9	69.9	76.3	82.4	81.4	73.0	70.0	52.1	42.8	64.3
1979	47.0	51.4	57.4	62.7	71.1	77.9	82.2	79.9	79.5	67.8	54.0	46.9	64.8
1980	49.4	53.8	53.7	61.8	67.2	73.7	84.0	80.7	75.6	68.4	54.2	46.8	64.1
1981	47.9	52.0	54.5	63.2	70.9	82.8	84.9	82.9	76.5	61.4	55.5	47.7	65.0
1982	41.7	50.5	51.4	58.0	69.3	72.9	81.0	80.4	72.3	65.0	51.1	45.4	61.6
1983	45.2	53.1	55.9	57.9	69.7	76.3	79.0	82.1	78.8	68.5	54.6	51.1	64.3
1984	47.8	50.7	58.4	60.8	74.8	77.5	87.0	83.5	81.0	62.4	53.6	46.5	65.3
1985	43.3	51.3	53.1	67.2	69.4	81.8	86.0	80.5	72.3	65.0	52.5	43.8	63.9
1986	53.6	55.7	60.3	62.7	71.2	79.4	81.9	84.2	71.3	66.9	56.7	47.5	66.0
1987	45.3	52.8	55.6	66.7	71.8	78.4	77.0	80.2	75.5	70.1	52.3	44.2	64.2
1988	46.0	52.2	56.8	61.6	67.0	75.6	85.5	81.2	76.4	68.7	54.3	44.5	64.2
1989	42.9	48.8	57.9	67.3	69.6	77.0	82.5	79.3	74.3	65.3	54.3	43.8	63.6
1990	45.5	48.0	57.3	65.7	68.1	76.8	84.0	80.6	75.8	67.7	52.9	41.5	63.7
1991	47.0	55.8	51.5	59.5	66.1	74.7	83.8	78.6	79.9	70.5	55.8	47.0	64.2
1992	42.7	55.5	58.8	66.8	76.0	77.0	81.3	83.2	77.0	68.6	54.3	45.3	65.5
1993	47.1	51.9	60.3	61.7	69.9	75.7	80.2	79.7	75.7	67.8	53.9	45.6	64.1
1994	46.9	49.9	59.3	63.2	68.5	77.7	83.3	82.3	75.4	64.8	48.1	45.3	63.7
1995	51.9	54.1	56.2	60.7	66.2	73.3	80.7	82.6	76.3	66.8	58.7	50.5	64.8
1996	48.3	54.2	57.2	63.6	69.9	77.8	85.4	83.4	74.8	64.1	53.9	49.1	65.1
1997	48.7	50.3	60.0	63.5	75.3	75.8	81.3	80.6	77.3	63.8	56.9	44.7	64.9
1998	49.0	50.0	55.5	59.0	62.0	71.5	82.1	84.1	75.8	63.1	53.1	42.8	62.3
POR= 111 YRS	45.9	51.2	55.2	61.1	68.1	75.5	81.8	80.0	74.2	65.0	54.2	46.2	63.2

HEATING DEGREE DAYS (base 65°F) 1998 FRESNO, CA (FAT)

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
1969-70	0	0	0	166	349	574	485	340	291	232	25	0	2462
1970-71	0	0	0	108	282	573	593	480	322	181	81	8	2628
1971-72	0	0	20	209	423	678	750	357	142	128	37	0	2744
1972-73	0	0	2	108	437	740	610	358	444	140	12	2	2853
1973-74	0	0	0	94	360	544	522	438	260	160	33	0	2411
1974-75	0	0	0	59	350	628	661	419	409	325	53	3	2907
1975-76	0	0	0	154	455	648	636	440	385	242	10	9	2979
1976-77	0	1	5	63	342	566	636	313	386	42	98	0	2452
1977-78	0	0	0	46	302	417	415	343	143	182	19	0	1867
1978-79	0	0	6	30	382	682	549	372	234	96	34	0	2385
1979-80	0	0	0	56	323	555	473	318	343	129	46	0	2243
1980-81	0	0	0	69	318	553	521	359	316	114	9	0	2259
1981-82	0	0	0	118	278	530	711	398	412	217	21	4	2689
1982-83	0	0	13	62	411	602	607	327	276	206	55	0	2559
1983-84	0	0	1	3	304	421	530	408	198	149	6	0	2020
1984-85	0	0	0	128	335	566	664	378	361	39	8	3	2482
1985-86	0	0	0	63	369	651	345	258	156	98	30	0	1970
1986-87	0	0	13	22	242	537	602	337	282	56	26	0	2117
1987-88	0	0	0	7	374	636	583	366	251	124	69	12	2422
1988-89	0	0	0	20	316	629	679	450	213	52	14	0	2373
1989-90	0	0	7	73	310	649	598	470	236	35	19	1	2398
1990-91	0	0	0	17	356	722	549	253	412	163	65	0	2537
1991-92	0	0	0	81	276	551	683	267	183	25	0	1	2067
1992-93	0	0	0	18	316	602	549	359	145	113	9	12	2123
1993-94	0	0	0	12	326	595	553	414	168	97	37	0	2202
1994-95	0	0	0	58	500	602	398	298	269	146	60	16	2347
1995-96	0	0	0	30	184	444	513	304	238	99	8	0	1820
1996-97	0	0	0	148	329	486	500	405	169	97	2	0	2136
1997-98	0	0	0	92	246	621	490	412	293	226	104	7	2491
1998-	0	0	7	79	351	682							

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COOLING DEGREE DAYS (base 65°F) 1998 FRESNO, CA (FAT)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1969	0	0	4	15	206	241	500	462	331	10	0	0	1769
1970	0	0	0	0	212	353	573	466	245	67	3	0	1919
1971	0	0	0	8	64	296	529	505	279	89	0	0	1770
1972	0	0	17	18	195	383	518	464	213	42	0	0	1850
1973	0	0	0	32	264	419	484	423	218	47	4	0	1891
1974	0	0	0	20	179	384	512	448	381	96	0	0	2020
1975	0	0	0	0	164	303	413	344	329	49	0	0	1602
1976	0	0	2	16	162	254	456	246	228	73	0	0	1437
1977	0	0	0	62	60	451	518	494	275	108	0	0	1968
1978	0	0	3	6	179	342	546	516	250	187	0	0	2029
1979	0	0	2	37	229	396	541	471	442	149	0	0	2267
1980	0	0	0	39	120	265	594	493	326	181	0	0	2018
1981	0	0	0	67	200	545	622	562	352	14	0	0	2362
1982	0	0	0	12	162	251	501	483	240	70	0	0	1719
1983	0	0	0	0	207	343	440	537	422	119	0	0	2068
1984	0	0	1	30	318	382	688	581	487	55	0	0	2542
1985	0	0	0	111	153	516	657	487	227	69	2	0	2222
1986	0	1	18	34	231	440	530	603	206	87	0	0	2150
1987	0	0	0	114	243	409	379	480	323	172	0	0	2120
1988	0	0	3	28	139	338	642	511	349	143	3	0	2156
1989	0	0	4	129	166	366	546	449	291	90	0	0	2041
1990	0	0	2	61	122	360	595	490	333	108	0	0	2071
1991	0	0	0	6	107	298	588	428	454	259	5	0	2145
1992	0	0	0	88	350	366	511	572	365	135	0	0	2387
1993	0	0	3	20	168	342	476	462	331	105	0	0	1907
1994	0	0	1	52	151	389	576	547	318	59	0	0	2093
1995	0	0	0	25	104	273	494	551	347	91	0	0	1885
1996	0	0	4	66	162	389	640	579	300	125	0	0	2265
1997	0	0	18	61	330	334	514	492	373	61	11	0	2194
1998	0	0	6	50	18	210	536	600	338	25	0	0	1783

SNOWFALL (inches) 1998 FRESNO, CA (FAT)

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
1970-71	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0	0.0	0.0	0.0	T
1971-72	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0	0.0	0.0	0.0	T
1972-73	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0	T	0.0	0.0	0.0	T
1973-74	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974-75	0.0	0.0	0.0	T	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T
1975-76	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0	0.0	0.0	T
1976-77	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1977-78	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1978-79	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	T	0.0	0.0	0.0	T
1979-80	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1980-81	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1981-82	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1982-83	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983-84	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984-85	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1985-86	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986-87	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987-88	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1988-89	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0	0.0	0.0	T
1989-90	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0	0.0	0.0	T
1990-91	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0	T	0.0	0.0	0.0	T
1991-92	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0	0.0	0.0	T
1992-93	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1993-94	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0	0.0	0.0	T
1994-95	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0	0.0	0.0	T	T
1995-96	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1996-97													
1997-98													
1998-						0.5							
POR= 46 YRS	0.0	0.0	0.0	T	0.0	T	0.0	T	T	0.0	0.0	T	T

WBAN : 93193

REFERENCE NOTES:

<p>PAGE 1: THE TEMPERATURE GRAPH SHOWS NORMAL MAXIMUM AND NORMAL MINIMUM DAILY TEMPERATURES (SOLID CURVES) AND THE ACTUAL DAILY HIGH AND LOW TEMPERATURES (VERTICAL BARS).</p> <p>PAGE 2 AND 3: H/C INDICATES HEATING AND COOLING DEGREE DAYS. RH INDICATES RELATIVE HUMIDITY W/O INDICATES WEATHER AND OBSTRUCTIONS S INDICATES SUNSHINE. PR INDICATES PRESSURE. CLOUDINESS ON PAGE 3 IS THE SUM OF THE CEILOMETER AND SATELLITE DATA NOT TO EXCEED EIGHT EIGHTHS(OKTAS).</p> <p>GENERAL: T INDICATES TRACE PRECIPITATION, AN AMOUNT GREATER THAN ZERO BUT LESS THAN THE LOWEST REPORTABLE VALUE. + INDICATES THE VALUE ALSO OCCURS ON EARLIER DATES. BLANK ENTRIES DENOTE MISSING OR UNREPORTED DATA. NORMALS ARE 30-YEAR AVERAGES (1961 - 1990). ASOS INDICATES AUTOMATED SURFACE OBSERVING SYSTEM. PM INDICATES THE LAST DAY OF THE PREVIOUS MONTH. POR (PERIOD OF RECORD) BEGINS WITH THE JANUARY DATA MONTH AND IS THE NUMBER OF YEARS USED TO COMPUTE THE MEAN. INDIVIDUAL MONTHS WITHIN THE POR MAY BE MISSING. WHEN THE POR FOR A NORMAL IS LESS THAN 30 YEARS, THE NORMAL IS PROVISIONAL AND IS BASED ON THE NUMBER OF YEARS INDICATED. 0.* OR * INDICATES THE VALUE OR MEAN-DAYS-WITH IS BETWEEN 0.00 AND 0.05. CLOUDINESS FOR ASOS STATIONS DIFFERS FROM THE NON-ASOS OBSERVATION TAKEN BY A HUMAN OBSERVER. ASOS STATION CLOUDINESS IS BASED ON TIME-AVERAGED CEILOMETER DATA FOR CLOUDS AT OR BELOW 12,000 FEET AND ON SATELLITE DATA FOR CLOUDS ABOVE 12,000 FEET. THE NUMBER OF DAYS WITH CLEAR, PARTLY CLOUDY, AND CLOUDY CONDITIONS FOR ASOS STATIONS IS THE SUM OF THE CEILOMETER AND SATELLITE DATA FOR THE SUNRISE TO SUNSET PERIOD.</p>	<p>GENERAL CONTINUED: CLEAR INDICATES 0 - 2 OKTAS, PARTLY CLOUDY INDICATES 3 - 6 OKTAS, AND CLOUDY INDICATES 7 OR 8 OKTAS. WHEN AT LEAST ONE OF THE ELEMENTS (CEILOMETER OR SATELLITE) IS MISSING, THE DAILY CLOUDINESS IS NOT COMPUTED. WIND DIRECTION IS RECORDED IN TENS OF DEGREES (2 DIGITS) CLOCKWISE FROM TRUE NORTH. "00" INDICATES CALM. "36" INDICATES TRUE NORTH. RESULTANT WIND IS THE VECTOR AVERAGE OF THE SPEED AND DIRECTION. AVERAGE TEMPERATURE IS THE SUM OF THE MEAN DAILY MAXIMUM AND MINIMUM TEMPERATURE DIVIDED BY 2. SNOWFALL DATA COMPRISE ALL FORMS OF FROZEN PRECIPITATION, INCLUDING HAIL. A HEATING (COOLING) DEGREE DAY IS THE DIFFERENCE BETWEEN THE AVERAGE DAILY TEMPERATURE AND 65° F. DRY BULB IS THE TEMPERATURE OF THE AMBIENT AIR. DEW POINT IS THE TEMPERATURE TO WHICH THE AIR MUST BE COOLED TO ACHIEVE 100 PERCENT RELATIVE HUMIDITY. WET BULB IS THE TEMPERATURE THE AIR WOULD HAVE IF THE MOISTURE CONTENT WAS INCREASED TO 100 PERCENT RELATIVE HUMIDITY.</p> <p>ON JULY 1, 1996, THE NATIONAL WEATHER SERVICE BEGAN USING THE "METAR" OBSERVATION CODE THAT WAS ALREADY EMPLOYED BY MOST OTHER NATIONS OF THE WORLD. THE MOST NOTICEABLE DIFFERENCE IN THIS ANNUAL PUBLICATION WILL BE THE CHANGE IN UNITS FROM TENTHS TO EIGHTHS(OKTAS) FOR REPORTING THE AMOUNT OF SKY COVER.</p>
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1998
FRESNO,
CALIFORNIA (FAT)

Fresno is located about midway and toward the eastern edge of the San Joaquin Valley, which is oriented northwest to southeast and has a length of about 225 miles and an average width of 50 miles. The San Joaquin Valley is generally flat. About 15 miles east of Fresno the terrain slopes upward with the foothills of the Sierra Nevada. The Sierra Nevada attain an elevation of more than 14,000 feet 50 miles east of Fresno. West of the city 45 miles lie the foothills of the Coastal Range.

The climate of Fresno is dry and mild in winter and hot in summer. Nearly nine-tenths of the annual precipitation falls in the six months from November to April.

Due to clear skies during the summer and the protection of the San Joaquin Valley from marine effects, the normal daily maximum temperature reaches the high 90s during the latter part of July. The daily maximum temperature during the warmest month has ranged from 76 to 115 degrees. Low relative humidities and some wind movement substantially lower the sensible temperature during periods of high readings. Humidity readings of 15 percent are common on summer afternoons, and readings as low as 8 percent have been recorded. In contrast to this, humidity readings average 90 percent during the morning hours of December and January.

Winds flow with the major axis of the San Joaquin Valley, generally from the northwest. This feature is especially beneficial since, during the warmest months, the northwest winds increase during the evenings. These refreshing breezes and the normally large temperature variation of about 35 degrees between the highest and lowest readings of the day, generally result in comfortable evening and night temperatures.

Winter temperatures are usually mild with infrequent cold spells dropping the readings below freezing. Heavy frost occurs almost every year, and the first frost usually occurs during the last week of November. The last frost in spring is usually in early March, however, one year in five will have the last frost after the first of April. The growing season is 291 days.

Although the heaviest rains recorded at Fresno for short periods have occurred in June, usually any rainfall during the summer is very light. Snow is a rare occurrence in Fresno.

Fresno enjoys a very high percentage of sunshine, receiving more than 80 percent of the possible amounts during all but the four months of November, December, January, and February. Reduction of sunshine during these months is caused by fog and short periods of stormy weather.

During foggy periods, at times lasting nearly two weeks, sunshine is reduced to a minimum. This fog frequently lifts to a few hundred feet above the surface of the valley and presents the appearance of a heavy, solid cloud layer.

Spring and autumn are very enjoyable seasons in Fresno, with clear skies, light rainfall and winds and mild temperatures.

STATION LOCATION

FRESNO, CALIFORNIA

LOCATION	OCCUPIED FROM	OCCUPIED TO	AIRLINE DISTANCES AND DIRECTIONS FROM PREVIOUS LOCATION	LATITUDE NORTH	LONGITUDE WEST	ELEVATION ABOVE												AUTOMATED	* Type	REMARKS
						SEA LEVEL	GROUND													
							WIND	WIND	WIND	WIND	WIND	WIND	WIND	WIND	WIND	WIND	WIND			
<u>COOPERATIVE</u>																				
#	1/1878	8/16/87	NA	36°44'	119°47'	287	NA	NA	NA	NA	NA	NA	Unk	NA	NA	#	- Precipitation record only by Southern Pacific RR Company.			
<u>CITY</u>																				
Taylor Blk., 1042 J St. (Later Fulton Street)	8/16/87	1/30/89	NA	36°44'	119°47'	287	46	36 a47	36 a46	NA	NA	NA	36 a35	NA	NA	a	- New instruments 10/15/87.			
Hughes Bldg., 1011 I Street (Later Broadway)	1/31/89	9/30/90	420 ft. SW	36°44'	119°47'	287	64	68	67	NA	NA	NA	55	NA	NA		Exposure of wind instruments poor due to taller buildings nearby 8/16/87 to 9/30/90.			
Fresno Loan & Savings Bank Building, 1052 J Street (Later Fulton)	10/1/90	1/25/95	435 ft. NE	36°44'	119°47'	287	77	79	78	NA	NA	NA	65	NA	NA					
Farmer's National Bank Building, 1056 I St. (Later Broadway)	1/26/95	4/30/13	380 ft. SW	36°44'	119°47'	287	70 c65	68 c63	67 c62	NA	NA b54	NA	54	NA	NA	b	- Installed 8/28/97. c - Minor adjustment 4/27/07.			
Rowell Building SE corner Tulare & Van Ness Avenue	5/1/13	8/31/33	700 ft. ENE	36°44'	119°47'	287	98	89	89	NA	82	NA	82	NA	NA		High buildings NW and SW reduced wind movement beginning in 1924.			
Brix Building 1221 Fulton Street	9/1/33	7/1/39	700 ft. WNW	36°44'	119°48'	287	105	97	97	NA	89	NA	89	NA	NA		Moved to airport 7/1/39.			
<u>AIRPORT</u>																				
Maddux Field, Highway 99 and Barstow Avenue	7/1/29	3/14/30	NA	36°49'	119°53'	302	37	Unk	3	NA	NA	NA	Unk	NA	NA					
WBO Bldg., Chandler Field, Kearney Blvd. and Fruit Avenue	3/14/30	3/31/35	7 mi. SE	36°44'	119°49'	277	33	Unk	18	NA	NA	NA	Unk	NA	NA		Airport Station closed 3/31/35.			
Administration Annex Chandler Field, Kearney Blvd. & Fruit Avenue	3/1/39	8/20/49	1.5 mi. WSW	36°44'	119°49'	277	35 d34	6	5	NA	NA e5	NA	3	NA	NA		Airport Station reopened. Offices consolidated at airport 7/1/39. d - Wind instruments changed 7/1/39. e - Installed 7/1/39. f - Effective 10/16/61. g - Minor adjustment 9/14/62. h - Commissioned 4800' ESE of thermometer site 11/13/63. i - Effective 4/24/64. j - Moved 750' WNW 5/24/64. k - Type change 9/3/82. m - Minor adjustment & type change 2/18/87.			
Fresno Air Terminal SW corner Shields and Clovis Avenue	8/20/49	9/1/61	7 mi. ENE	36°47'	119°42'	331	42	6	6	Unk	3	NA	3	NA	NA					
Fresno Air Terminal	9/1/61	Present	0.9 mi. W	36°46'	119°43'	326 i328	20 j20	5	5	Unk f11	5 g5	NA	3 g5	NA h4 j4 K4	NA		ASOS Commissioned 09/01/95			

SUBSCRIPTION: Price and ordering information available through: National Climatic Data Center, Federal Building, Asheville, North Carolina 28801. INQUIRIES/COMMENTS CALL: (828) 271-4800

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