



# METEOROLOGICAL DATA FOR 2009

## Oakland, NJ

Latitude: 41° 02' 28" N    Longitude: 74° 13' 52" W    Elevation (Ground): 280 feet    Time Zone: Eastern

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
<b>TEMPERATURE</b>													
Average													
-Daily Maximum	31.3	42.1	49.2	62.5	70.5	74.1	79.6	81.3	71.5	59.8	55.6	39.1	59.7
-Daily Minimum	15.6	22.3	28.8	40.6	48.6	57.5	58.7	63.3	51.9	41.9	38.3	24.7	41.0
-Monthly	23.5	32.2	39.0	51.5	59.6	65.8	69.1	72.3	61.7	50.9	46.9	31.9	50.4
-Monthly Dew Point	13.5	19.2	26.3	36.8	49.8	59.8	62.0	66.0	55.7	44.7	38.9	22.7	41.3
<b>Extremes</b>													
-Highest	45.3	63.2	67.8	93.1	86.4	84.3	86.8	91.3	80.7	76.2	69.2	65.8	93.1
-Date	23	27	7	26	22	30	28	21	23	22	8	3	APR 26
-Lowest	-3.3	7.9	9.2	26.7	32.2	39.9	49.5	52.9	40.1	28.2	24.8	12.2	-3.3
-Date	17	4	3	9	19	1	13	31	20	19	7	18	JAN 17
<b>DEGREE DAYS</b>													
Heating Base 65°F	1278	911	797	427	175	46	5	7	116	428	530	1015	5735
Cooling Base 65°F	0	0	0	30	18	80	145	243	28	0	0	0	544
<b>SOLAR RADIATION (W/m2)</b>													
<b>NUMBER OF DAYS</b>													
<b>Sunrise to Sunset</b>													
-Clear	31	28	31	30	31	30	31	31	30	31	30	31	365
-Partly Cloudy	0	0	0	0	0	0	0	0	0	0	0	0	0
-Cloudy	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Precipitation</b>													
.01 inches or more	17	11	10	9	16	22	16	13	11	15	11	18	169
<b>Snow, Ice pellets</b>													
1.0 inches or more	4	1	2	0	0	0	0	0	0	0	0	5	12
<b>Thunderstorms</b>													
	0	0	1	0	0	0	0	0	0	0	0	0	1
<b>Heavy Fog, visibility</b>													
¼ mile or less	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>TEMPERATURE:</b>													
<b>-Maximum</b>													
90°F and above	0	0	0	3	0	0	0	3	0	0	0	0	6
32°F and below	17	5	2	0	0	0	0	0	0	0	0	7	31
<b>-Minimum</b>													
32°F and below	31	27	20	7	1	0	0	0	0	4	7	26	123
0°F and below	2	0	0	0	0	0	0	0	0	0	0	0	2
<b>PRESSURE</b>													
<b>Average</b>													
-Monthly	30.016	30.040	30.152	29.951	30.019	29.836	29.911	29.979	30.069	30.016	30.085	30.046	30.010
<b>Extremes</b>													
-Highest	30.58	30.49	30.60	30.47	30.46	30.26	30.31	30.25	30.39	30.41	30.48	30.53	30.60
-Date	17	25	13	29	19	16	10	8	10	12	18	12	MAR 13
-Lowest	29.10	29.27	29.28	29.12	29.48	29.43	29.65	29.69	29.41	29.44	29.38	29.18	29.10
-Date	7	12	29	3	9	29	1	29	28	7	27	9	JAN 7
<b>RELATIVE HUMIDITY (%)</b>													
<b>Average</b>													
-Monthly	66.8	62.5	64.2	61.7	74.4	85.2	82.2	84.7	83.5	82.4	76.0	70.7	74.5
<b>-Local Time</b>													
Hour 01	72	69	73	74	88	92	95	94	93	90	84	76	83
Hour 07	74	74	76	73	86	94	95	94	92	84	75	84	84
Hour 13	56	49	52	47	59	74	66	68	65	67	61	60	60
Hour 19	69	62	59	55	65	82	77	85	86	84	79	72	73
<b>PRECIPITATION</b>													
<b>Water Equivalent</b>													
-Total	1.58	0.90	1.68	2.69	3.31	9.07	6.91	4.62	2.27	5.59	1.47	6.77	46.86
-Greatest (24 hrs)	0.87	0.42	0.51	0.73	1.08	1.66	1.22	1.36	0.98	2.02	0.96	2.24	2.24
-Date	28	18-19	29	3	6-7	15	31	2	11-12	23-24	19-20	26-27	DEC 26-27
<b>Snow, Ice pellets</b>													
-Total	10.3	2.2	6.7	T	0.0	0.0	0.0	0.0	0.0	T	0.0	14.7	33.9
-Greatest (day)	3.3	2.2	4.7	T	0.0	0.0	0.0	0.0	0.0	T	0.0	7.0	7.0
-Date	28	3	2	8	1	1	1	1	1	15	1	19	DEC 19
<b>WIND</b>													
<b>Resultant</b>													
-Direction	290	298	327	294	250	327	254	265	343	306	350	303	301
-Speed	1.2	1.8	0.9	0.9	0.4	0.1	0.4	0.3	0.2	0.4	1.0	1.7	0.7
Average Speed	1.9	2.7	2.2	2.7	1.3	0.8	0.8	0.7	0.9	1.2	1.8	2.7	1.6
<b>Maximum One-minute</b>													
<b>Average</b>													
-Direction	SW	W	W	W	N	N	SSW	S	SW	W	WNW	NNW	W
-Speed	18	22	19	18	15	12	12	14	13	16	18	19	22
-Date	8	12	30	4	17	26	31	21	29	7	28	29	FEB 12
<b>Peak Gust</b>													
-Direction	NNW	WSW	W	W	W	N	W	NW	NE	SW	NW	N	WSW
-Speed	33	40	35	34	27	23	25	24	24	37	39	37	40
-Date	28	12	30	3	10	26	17	10	11	7	28	29	FEB 12

MEANS AND EXTREMES\*

Oakland, NJ

Latitude: 41° 02' 28" N Longitude: 74° 13' 52" W Elevation (Ground): 280 feet Time Zone: Eastern

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Year
<b>TEMPERATURE</b>													
Average													
-Daily Maximum	37.3	38.2	49.3	62.0	71.4	78.2	82.5	80.6	73.3	63.0	52.3	41.5	60.8
-Daily Minimum	21.4	20.1	28.5	39.3	47.4	58.5	62.0	60.9	53.0	42.8	35.6	26.2	41.3
-Monthly	29.3	29.2	38.9	50.6	59.4	68.4	72.3	70.8	63.2	52.9	43.9	33.9	51.1
-Monthly Dew Point	18.3	15.9	23.7	35.0	46.8	59.7	63.6	62.3	56.1	44.9	35.5	25.0	40.6
<b>Extremes</b>													
-Record Highest	70.1	65.2	75.4	93.1	89.9	95.1	95.1	95.4	90.3	87.4	69.2	70.1	95.4
-Year	2007	2008	2007	2009	2006	2008	2007	2006	2008	2007	2009	2006	AUG 2006
-Record Lowest	-3.3	5.6	8.1	22.2	28.7	39.9	48.5	47.6	37.8	25.6	20.1	9.3	-3.3
-Year	2009	2007	2007	2008	2008	2009	2007	2008	2006	2008	2008	2008	JAN 2009
<b>MEAN DEGREE DAYS</b>													
Heating Base 65°F	1096	959	800	431	194	31	4	11	99	378	622	956	5581
Cooling Base 65°F	0	0	0	9	31	142	239	198	53	12	0	0	683
<b>MEAN SOLAR RADIATION</b>													
<b>MEAN NUMBER OF DAYS</b>													
<b>Sunrise to Sunset</b>													
-Clear	31.0	26.5	30.5	29.3	30.8	30.0	31.0	31.0	30.0	31.0	30.0	31.0	362.0
-Partly Cloudy	0.0	0.0	0.3	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8
-Cloudy	0.0	0.5	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0
Precipitation ≥ .01"	13.3	10.8	12.3	11.0	11.8	17.0	13.3	12.0	10.0	12.0	11.0	15.5	149.8
Snow, Ice plts. ≥ 1.0"	2.7	2.8	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	3.0	9.7
Thunderstorms	0.0	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8
Heavy Fog, vis. ≤ ¼ mi	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.5
<b>TEMPERATURE:</b>													
-Maximum													
90°F and above	0.0	0.0	0.0	0.8	0.3	1.8	2.5	2.3	0.3	0.0	0.0	0.0	7.8
32°F and below	10.7	8.0	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	5.5	26.2
-Minimum													
32°F and below	26.7	25.5	21.5	7.3	0.5	0.0	0.0	0.0	0.0	4.8	11.8	25.5	123.4
0°F and below	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7
<b>PRESSURE</b>													
Average													
-Monthly	30.027	29.970	30.050	29.933	29.927	29.879	29.914	29.943	30.041	30.008	30.048	30.086	29.986
<b>Extremes</b>													
-Record Highest	30.72	30.53	30.74	30.51	30.46	30.26	30.31	30.31	30.46	30.60	30.57	30.66	30.74
-Year	2007	2008	2008	2008	2009	2009	2009	2008	2008	2007	2008	2008	MAR 2007
-Record Lowest	29.10	29.18	29.09	28.60	29.27	29.35	29.52	29.58	29.41	29.03	29.33	29.02	28.60
-Year	2009	2007	2008	2007	2008	2007	2008	2008	2009	2006	2008	2007	APR 2007
<b>RELATIVE HUMIDITY (%)</b>													
Average													
-Monthly	65.5	61.2	59.8	61.0	68.9	78.8	78.5	79.6	82.1	78.9	74.8	71.8	71.7
<b>-Local Time</b>													
Hour 01	72	69	70	73	83	90	92	91	93	88	82	77	82
Hour 07	75	72	73	77	84	91	92	93	95	90	84	80	84
Hour 13	53	48	46	46	51	64	60	62	62	61	60	60	56
Hour 19	64	60	55	52	59	73	72	75	83	80	76	72	68
<b>PRECIPITATION</b>													
<b>Water Equivalent</b>													
-Mean	2.21	2.13	2.56	4.24	3.04	5.98	4.74	4.08	4.31	4.93	3.42	5.22	46.86
-Maximum Monthly	3.03	5.88	4.83	8.15	3.92	9.07	6.91	4.62	8.18	6.16	4.95	6.77	9.07
-Year	2007	2008	2008	2007	2008	2009	2009	2009	2008	2006	2006	2009	JUN 2009
-Minimum Monthly	1.58	0.45	0.62	2.54	1.49	3.32	2.71	3.64	1.51	2.25	1.47	2.75	0.45
-Year	2009	2006	2006	2008	2007	2008	2006	2007	2008	2008	2009	2006	FEB 2006
-Greatest (24 hrs)	1.25	1.79	1.92	4.22	2.47	2.28	1.61	2.14	4.19	2.44	2.60	3.24	4.22
-Year	2007	2008	2007	2007	2006	2006	2007	2006	2008	2007	2006	2008	APR 2007
<b>Snow, Ice pellets</b>													
-Mean	5.6	10.1	4.7	T	0.0	0.0	0.0	0.0	0.0	T	0.0	9.7	30.1
-Maximum Monthly	10.3	16.0	9.3	T	0.0	0.0	0.0	0.0	0.0	T	1.0	15.8	16.0
-Year	2009	2006	2007	2006	2006	2006	2006	2006	2006	2008	2007	2008	FEB 2006
-Minimum Monthly	3.0	2.2	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0
-Year	2007	2009	2008	2008	2006	2006	2006	2006	2006	2006	2009	2006	MAY 2007
-Greatest (day)	3.3	13.6	9.0	T	0.0	0.0	0.0	0.0	0.0	T	1.0	8.3	13.6
-Year	2009	2006	2007	2006	2006	2006	2006	2006	2006	2008	2007	2008	FEB 2006
<b>WIND</b>													
<b>Resultant</b>													
-Direction	282	288	307	307	281	291	254	281	326	292	328	293	294
-Speed	1.2	1.6	1.0	0.9	0.4	0.2	0.3	0.3	0.2	0.4	0.8	1.4	0.7
Average Speed	1.9	2.5	2.4	2.3	1.2	0.8	0.6	0.6	0.6	1.0	1.5	2.1	1.5
<b>Maximum One-minute</b>													
<b>Average</b>													
-Direction	SW	W	SW	W	N	N	SSW	S	SW	W	WNW	NNW	W
-Speed	18	22	20	18	15	12	12	14	13	16	18	19	22
-Year	2009	2009	2008	2009	2009	2009	2009	2009	2009	2009	2009	2009	FEB 2009
<b>Peak Gust</b>													
-Direction	NNW	WSW	W	NNW	W	WNW	W	NNW	N	SW	NW	N	WSW
-Speed	33	40	35	34	35	25	25	24	26	37	39	37	40
-Year	2008	2009	2009	2007	2007	2008	2009	2007	2008	2009	2009	2009	FEB 2009

\* Length of record: February 2006 to December 2009

## Oakland, NJ

### PRECIPITATION (inches)

Year	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Annual
2006		0.45	0.62	3.58	3.45	7.94	2.71	4.18	5.29	6.16	4.95	2.75	42.08
2007	3.03	1.29	3.12	8.15	1.49	3.60	6.21	3.64	1.51	5.71	3.19	5.70	46.64
2008	2.01	5.88	4.83	2.54	3.92	3.32	3.13	3.86	8.18	2.25	4.07	5.65	49.64
2009	1.58	0.90	1.68	2.69	3.31	9.07	6.91	4.62	2.27	5.59	1.47	6.77	46.86

### SNOWFALL (inches)

Year	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	Total
2005-06								16.0	2.5	T	0.0	0.0	18.5
2006-07	0.0	0.0	0.0	0.0	T	T	3.0	8.1	9.3	T	0.0	0.0	20.4
2007-08	0.0	0.0	0.0	0.0	1.0	9.4	3.5	14.1	0.3	0.0	0.0	0.0	28.3
2008-09	0.0	0.0	0.0	T	T	15.8	10.3	2.2	6.7	T	0.0	0.0	35.0
2009-10	0.0	0.0	0.0	T	0.0	14.7							

## Oakland, NJ

### TEMPERATURE °F

Year	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Annual
2006		29.0	39.7	51.9	59.6	68.4	74.5	71.4	61.3	51.1	47.5	38.5	53.9
2007	33.0	24.7	37.7	47.0	61.6	68.4	71.5	70.5	64.9	59.3	39.8	32.4	50.9
2008	31.6	30.8	39.0	52.1	56.7	70.9	73.9	68.9	64.7	50.3	41.4	32.7	51.1
2009	23.5	32.2	39.0	51.5	59.6	65.8	69.1	72.3	61.7	50.9	46.9	31.9	50.4

### HEATING DEGREE DAYS: Base 65°F

Year	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	Total
2005-06								824	771	390	195	41	2221
2006-07	0	5	117	422	517	814	982	1120	840	529	151	29	5526
2007-08	10	24	74	215	746	1004	1029	982	792	378	256	9	5519
2008-09	0	7	89	445	696	990	1278	911	797	427	175	46	5861
2009-10	5	7	116	428	530	1015							

# Oakland, NJ

## COOLING DEGREE DAYS: Base 65°F

Year	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Total
2006		0	0	5	41	152	302	215	20	0	0	0	735
2007	0	0	0	0	55	140	225	199	76	46	0	0	741
2008	0	0	0	0	9	196	283	134	88	0	0	0	710
2009	0	0	0	30	18	80	145	243	28	0	0	0	544

## STATION LOCATION AND INSTRUMENTATION Oakland, NJ

Location	Occupied from	Occupied to	Latitude North	Longitude West	Elevation Above (ft)						
					Sea Level	Ground					
						Wind	Sun	Temp	Humidity	Rain	Barometer
6 Apache Drive 651 Ramapo Valley Road Oakland, NJ 07436	2/6/06		41° 02' 28"	74° 13' 52"	280	39	0	7	7	7	16

### INSTRUMENTATION DETAIL

Units are: Temperature=°F, Wind=mph, Pressure=Inches Hg, Precipitation=inches.

Davis Vantage Pro, Vantage Pro Plus, Vantage Pro2, Vantage Pro2 Plus

**Wind:**

Electronic sensors:

Large cups: Instantaneous speed to 120 mph and direction to nearest 7°, greater of 2 mph or ±5%.

Small cups: Instantaneous speed to 175 mph and direction to nearest 7°, greater of 3 mph or ±5%.

**Temperature:**

Electronic sensor: -40° to 140°F, ±1°F.

**Humidity:**

Electronic sensor: 0 to 100% RH, ±3%.

**Barometer:**

Electronic sensor: 26.00 to 32.00 inches Hg, ±0.05".

**Rainfall:**

6.5-inch diameter electronic tipping bucket rain gauge. Resolution 0.01", ±4%.

**Sunshine:**

Electronic sensor: 0 to 1600 W/m<sup>2</sup>, 5%.

**UV:**

Electronic sensor: 0 to 16 Index, 8%.

Snow, ice pellets, glaze and other meteorological phenomenon not recorded by the Weather Computer are manually observed and recorded in the station record.

### OBSERVER NOTES