

# LOCAL CLIMATOLOGICAL DATA

## Monthly Summary

### July 2007

Station: Oakland, NJ  
 Latitude: 41° 02' 26" N Longitude: 74° 13' 58" W Elevation (Ground): 272 feet Time Zone: Eastern

| Date            | Temperature |         |                 |      |           | Humidity       | Deg. Days           |                   | Precip Ty<br>1 fog<br>2 hvy fog<br>3 thunder<br>4 ice plt<br>5 hail<br>6 glaze<br>7 duststm<br>8 smk, hz<br>9 blw snw | Snow Cvr       | Precip            |                  | Pressure<br>Adj. to Sea Level |         |   | Wind |           |           |         |      |     | Sun |        |
|-----------------|-------------|---------|-----------------|------|-----------|----------------|---------------------|-------------------|---|----------------|-------------------|------------------|-------------------------------|---------|---|------|-----------|-----------|---------|------|-----|-----|--------|
|                 | Maximum     | Minimum | Average         | Mean | Dew Point |                | Mean                | Heating Base 65°F |   |                | Cooling Base 65°F | Water Equivalent | Ice Pellets Snow              | Maximum | Minimum   | Mean | Avg Speed | Res Speed | Res Dir | Peak |     |     | Minute |
| 1               | 2           | 3       | 4A              | 4B   | 5         | 6              | 7                   | 8                 |   |                | 11                | 12               | 13                            | 14      | 15  | 16   | 17        | 18        | 19      | 20   | 21  | 22  | 23     |
| 1               | 71.6        | 54.7    | 63.1            | 63.4 | 48        | 59             | 1                   | 0                 | .....   | 0              | 0.01              | 0.0              | 30.11                         | 29.92   | 30.002  | 1.4  | 1.3       | 335       | 19      | NW   | 6   | 287 |        |
| 2               | 73.3        | 50.4    | 61.9            | 61.6 | 47        | 61             | 3                   | 0                 | .....   | 0              | 0.00              | 0.0              | 30.17                         | 30.10   | 30.126  | 1.3  | 1.2       | 330       | 15      | N    | 7   | 321 |        |
| 3               | 78.5        | 48.5*   | 63.5            | 63.9 | 49        | 63             | 1                   | 0                 | .....   | 0              | 0.00              | 0.0              | 30.18                         | 30.09   | 30.145  | 0.6  | 0.4       | 330       | 11      | WNW  | 4   | 41  |        |
| 4               | 69.4        | 52.8    | 61.1*           | 62.4 | 58        | 87             | 4                   | 0                 | .....   | 0              | 0.45              | 0.0              | 30.13                         | 29.91   | 30.059  | 0.3  | 0.3       | 214       | 10      | W    | 4   | 166 |        |
| 5               | 81.4        | 66.3    | 73.9            | 72.5 | 68        | 87             | 0                   | 9                 | .....   | 0              | 0.10              | 0.0              | 29.91                         | 29.78   | 29.844  | 0.7  | 0.7       | 217       | 11      | SW   | 4   | 232 |        |
| 6               | 82.8        | 62.0    | 72.4            | 72.9 | 61        | 69             | 0                   | 8                 | .....   | 0              | 0.00              | 0.0              | 29.87                         | 29.76   | 29.805  | 0.9  | 0.7       | 299       | 15      | SSW  | 5   | 241 |        |
| 7               | 83.8        | 58.6    | 71.2            | 71.0 | 60        | 71             | 0                   | 7                 | .....   | 0              | 0.00              | 0.0              | 29.89                         | 29.79   | 29.840  | 0.7  | 0.7       | 265       | 14      | SW   | 5   | 288 |        |
| 8               | 88.8        | 61.5    | 75.2            | 75.5 | 63        | 69             | 0                   | 11                | .....   | 0              | 0.00              | 0.0              | 29.81                         | 29.71   | 29.763  | 0.8  | 0.8       | 239       | 13      | W    | 5   | 262 |        |
| 9               | 92.5        | 68.6    | 80.5            | 79.6 | 66        | 67             | 0                   | 16                | .....   | 0              | 0.00              | 0.0              | 29.87                         | 29.76   | 29.816  | 0.6  | 0.6       | 227       | 12      | W    | 4   | 199 |        |
| 10              | 95.1*       | 67.6    | 81.3*           | 80.7 | 69        | 70             | 0                   | 17                | .....   | 0              | 0.00              | 0.0              | 29.91                         | 29.79   | 29.854  | 0.5  | 0.5       | 215       | 11      | SE   | 6   | 188 |        |
| 11              | 85.7        | 69.4    | 77.6            | 76.5 | 71        | 84             | 0                   | 13                | .....   | 0              | 1.28              | 0.0              | 29.83                         | 29.61   | 29.719  | 0.4  | 0.3       | 207       | 12      | S    | 4   | 133 |        |
| 12              | 79.6        | 59.2    | 69.4            | 69.0 | 55        | 64             | 0                   | 5                 | .....   | 0              | 0.00              | 0.0              | 29.86                         | 29.70   | 29.794  | 1.1  | 0.6       | 321       | 12      | N    | 5   | 258 |        |
| 13              | 80.3        | 56.6    | 68.5            | 68.6 | 57        | 70             | 0                   | 4                 | .....   | 0              | 0.00              | 0.0              | 29.89                         | 29.81   | 29.862  | 0.5  | 0.5       | 232       | 9       | SSW  | 4   | 208 |        |
| 14              | 83.0        | 56.5    | 69.8            | 70.2 | 56        | 65             | 0                   | 5                 | .....   | 0              | 0.00              | 0.0              | 29.93                         | 29.81   | 29.871  | 0.6  | 0.5       | 226       | 12      | SW   | 4   | 223 |        |
| 15              | 88.0        | 59.6    | 73.8            | 73.1 | 65        | 77             | 0                   | 9                 | .....   | 0              | 0.00              | 0.0              | 29.83                         | 29.71   | 29.772  | 0.7  | 0.6       | 220       | 12      | WSW  | 5   | 209 |        |
| 16              | 82.4        | 64.5    | 73.5            | 71.6 | 61        | 71             | 0                   | 9                 | .....   | 0              | 0.00              | 0.0              | 29.95                         | 29.80   | 29.899  | 0.3  | 0.1       | 13        | 5       | NE   | 2   | 336 |        |
| 17              | 86.3        | 59.8    | 73.1            | 73.2 | 60        | 68             | 0                   | 8                 | .....   | 0              | 0.00              | 0.0              | 30.00                         | 29.93   | 29.965  | 0.4  | 0.0       | 297       | 9       | WSW  | 4   | 177 |        |
| 18              | 77.7        | 66.9    | 72.3            | 70.7 | 68        | 92             | 0                   | 8                 | .....   | 0              | 1.35              | 0.0              | 29.97                         | 29.79   | 29.871  | 0.2  | 0.1       | 40        | 16      | NW   | 6   | 322 |        |
| 19              | 82.4        | 64.7    | 73.6            | 71.9 | 69        | 92             | 0                   | 9                 | .....   | 0              | 0.23              | 0.0              | 29.81                         | 29.58   | 29.695  | 0.3  | 0.3       | 234       | 13      | SSW  | 5   | 229 |        |
| 20              | 76.1        | 63.2    | 69.6            | 70.7 | 60        | 71             | 0                   | 5                 | .....   | 0              | 0.05              | 0.0              | 29.91                         | 29.57   | 29.727  | 1.4  | 1.2       | 291       | 17      | NNW  | 8   | 268 |        |
| 21              | 80.1        | 56.6    | 68.4            | 67.9 | 56        | 67             | 0                   | 4                 | .....   | 0              | 0.00              | 0.0              | 30.07                         | 29.91   | 29.975  | 0.8  | 0.5       | 353       | 12      | N    | 5   | 342 |        |
| 22              | 80.9        | 61.0    | 71.0            | 70.2 | 55        | 62             | 0                   | 6                 | .....   | 0              | 0.00              | 0.0              | 30.15                         | 30.06   | 30.115  | 1.0  | 0.9       | 9         | 13      | NNW  | 6   | 348 |        |
| 23              | 68.1        | 59.2    | 63.6            | 63.0 | 61        | 93             | 1                   | 0                 | .....   | 0              | 1.61              | 0.0              | 30.14                         | 29.83   | 29.982  | 1.1  | 0.8       | 2         | 14      | N    | 6   | 351 |        |
| 24              | 80.5        | 56.5    | 68.5            | 67.8 | 60        | 80             | 0                   | 4                 | .....   | 0              | 0.00              | 0.0              | 30.11                         | 29.98   | 30.059  | 0.4  | 0.4       | 247       | 7       | SW   | 4   | 166 |        |
| 25              | 83.0        | 59.3    | 71.1            | 71.5 | 63        | 77             | 0                   | 6                 | .....   | 0              | 0.00              | 0.0              | 30.15                         | 30.09   | 30.121  | 0.4  | 0.3       | 183       | 10      | SW   | 4   | 172 |        |
| 26              | 84.9        | 67.1    | 76.0            | 74.8 | 67        | 78             | 0                   | 11                | .....   | 0              | 0.00              | 0.0              | 30.15                         | 30.00   | 30.082  | 0.3  | 0.3       | 237       | 7       | ESE  | 2   | 160 |        |
| 27              | 84.9        | 66.6    | 75.8            | 75.1 | 68        | 80             | 0                   | 11                | .....   | 0              | 0.91              | 0.0              | 30.01                         | 29.80   | 29.909  | 0.7  | 0.6       | 194       | 14      | S    | 5   | 168 |        |
| 28              | 83.0        | 66.6    | 74.8            | 73.2 | 69        | 88             | 0                   | 10                | .....   | 0              | 0.11              | 0.0              | 29.87                         | 29.78   | 29.813  | 0.2  | 0.2       | 237       | 9       | SE   | 3   | 253 |        |
| 29              | 78.5        | 66.4    | 72.5            | 72.1 | 70        | 95             | 0                   | 8                 | .....   | 0              | 0.10              | 0.0              | 29.93                         | 29.82   | 29.874  | 0.1  | 0.1       | 36        | 5       | E    | 2   | 358 |        |
| 30              | 84.9        | 68.3    | 76.6            | 74.6 | 70        | 86             | 0                   | 12                | .....   | 0              | 0.01              | 0.0              | 29.93                         | 29.84   | 29.893  | 0.2  | 0.1       | 5         | 6       | WNW  | 3   | 331 |        |
| 31              | 84.5        | 64.2    | 74.4            | 73.4 | 65        | 77             | 0                   | 10                | .....   | 0              | 0.00              | 0.0              | 29.92                         | 29.86   | 29.888  | 0.6  | 0.6       | 356       | 12      | N    | 4   | 348 |        |
| Sum             | Sum         | -----   | -----           | ---  | ----      | Ttl            | Ttl                 | Number of Days    |   | For the month: |                   |                  |                               |         |   | ---  |           |           |         |      |     |     |        |
| 2532            | 1903        |         |                 |      |           | 10             | 225                 |                   |   | 6.21           | 0.0               | 30.18            | 29.57                         | 29.908  | 0.6   | 0.3  | 290       | 19        | NW      | 8    | 268 |     |        |
| Avg             | Avg         | Avg     | Mean            | Avg  | Avg       | ----           | ----                | Precip            |   | Season Ttl     |                   | Date             | Date                          | -----   | ----  | ---- | ----      | Date      | Date    | Avg  |     |     |        |
| 81.7            | 61.4        | 71.5    | 71.1            | 62   | 75.5      | ----           | ----                | ≥.01 inch         |   | 12             | 26.89             | 0.0              | 3                             | 20      | -----   | ---- | ----      | 1         | 20      |      |     |     |        |
| Number of Days  |             |         |                 |      |           | Season to Date | Snow, Ice ≥1.0 inch | 0                 | Greatest in 24 Hours and Dates  |                |                   |                  |                               |         | Greatest Depth on Ground of Snow, Ice Pellets or Ice and Date |      |           |           |         |      |     |     |        |
| Max Temperature |             |         | Min Temperature |      |           | 10             | 420                 | Thunder           | 0   | Precipitation  |                   |                  | Snow, Ice Plts                |         |   |      |           |           |         |      |     |     |        |
| ≥ 90°F          | ≤ 32°F      | ≤ 32°F  | ≤ 0°F           | ---- | ----      | Heavy Fog      | 0                   | 1.61              | 23  | 0.0            | -                 | 0                |                               |         |   |      |           | -         |         |      |     |     |        |
| 2               | 0           | 0       | 0               | ---- | ----      | Clear          | 31                  | Partly Cloudy     |   | 0              | Cloudy            |                  | 0                             |         |   |      |           |           |         |      |     |     |        |

**NOTES:**

Units are: Temperature=°F, Wind=mph, Pressure=Inches Hg, Precipitation=inches.  
 Data in column 4A are (MAX+MIN) ÷ 2, whereas columns 4B, 5, 6, 15, 16, 23 are means via continuous observations for 24 hours.  
 Column 5: Dew point is calculated from temperature and humidity and is continuously averaged for 24 hours.  
 Data in columns 9, 10, 12 are entered manually by the station observer.  
 Columns 17-18: Resultant wind is calculated by the vector sum of continuous wind observations.  
 Column 23: Sunshine index is measured in Watts/m<sup>2</sup> and is continuously averaged for 24 hours.  
 Data in columns 4B, 5, 6, 15, 16, 23 are updated continuously, there by achieving a "true" mean.

## OBSERVATIONS AT 3-HOUR INTERVALS

## July 2007: Oakland, NJ

| Hour   | Sunshine | Pressure | Rainfall rate | Temperature | Dew Point | Wind     |           |       | Sunshine | Pressure | Rainfall rate | Temperature | Dew Point | Wind     |           |       | Sunshine | Pressure | Rainfall rate | Temperature | Dew Point | Wind     |           |       |   |
|--------|----------|----------|---------------|-------------|-----------|----------|-----------|-------|----------|----------|---------------|-------------|-----------|----------|-----------|-------|----------|----------|---------------|-------------|-----------|----------|-----------|-------|---|
|        |          |          |               |             |           | Humidity | Direction | Speed |          |          |               |             |           | Humidity | Direction | Speed |          |          |               |             |           | Humidity | Direction | Speed |   |
| JUL 01 |          |          |               |             |           |          |           |       |          |          |               |             |           |          |           |       |          |          |               |             |           |          |           |       |   |
| 01     |          | 29.95    | 0.00          | 63          | 52        | 67       | 00        | 1     | 6        | 30.11    | 0.00          | 51          | 46        | 83       | 30        | 0     | 0        | 30.17    | 0.00          | 51          | 48        | 88       | 32        | 0     | 0 |
| 04     |          | 29.93    | 0.00          | 56          | 51        | 84       | 05        | 0     | 0        | 30.12    | 0.00          | 55          | 45        | 68       | 35        | 1     | 7        | 30.17    | 0.00          | 49          | 48        | 94       | 32        | 0     | 0 |
| 07     |          | 29.97    | 0.00          | 58          | 49        | 72       | 33        | 3     | 11       | 30.14    | 0.00          | 56          | 47        | 73       | 32        | 3     | 13       | 30.18    | 0.00          | 56          | 50        | 80       | 32        | 0     | 3 |
| 10     |          | 30.02    | 0.00          | 64          | 49        | 59       | 07        | 2     | 6        | 30.14    | 0.00          | 63          | 48        | 58       | 35        | 3     | 10       | 30.18    | 0.00          | 68          | 49        | 51       | 32        | 1     | 4 |
| 13     |          | 30.02    | 0.00          | 68          | 46        | 45       | 24        | 2     | 6        | 30.13    | 0.00          | 69          | 46        | 43       | 35        | 3     | 7        | 30.14    | 0.00          | 75          | 47        | 37       | 02        | 1     | 3 |
| 16     |          | 30.01    | 0.00          | 71          | 51        | 49       | 34        | 3     | 10       | 30.11    | 0.00          | 72          | 49        | 44       | 35        | 2     | 5        | 30.11    | 0.00          | 78          | 47        | 34       | 16        | 1     | 2 |
| 19     |          | 30.02    | 0.00          | 69          | 46        | 45       | 02        | 0     | 5        | 30.11    | 0.00          | 71          | 45        | 40       | 25        | 0     | 3        | 30.09    | 0.00          | 74          | 52        | 45       | 31        | 0     | 2 |
| 22     |          | 30.08    | 0.00          | 61          | 46        | 58       | 34        | 0     | 1        | 30.15    | 0.00          | 57          | 49        | 76       | 32        | 0     | 0        | 30.13    | 0.00          | 61          | 52        | 71       | 31        | 0     | 0 |
| JUL 02 |          |          |               |             |           |          |           |       |          |          |               |             |           |          |           |       |          |          |               |             |           |          |           |       |   |
| JUL 03 |          |          |               |             |           |          |           |       |          |          |               |             |           |          |           |       |          |          |               |             |           |          |           |       |   |
| JUL 04 |          |          |               |             |           |          |           |       |          |          |               |             |           |          |           |       |          |          |               |             |           |          |           |       |   |
| JUL 05 |          |          |               |             |           |          |           |       |          |          |               |             |           |          |           |       |          |          |               |             |           |          |           |       |   |
| JUL 06 |          |          |               |             |           |          |           |       |          |          |               |             |           |          |           |       |          |          |               |             |           |          |           |       |   |
| JUL 07 |          |          |               |             |           |          |           |       |          |          |               |             |           |          |           |       |          |          |               |             |           |          |           |       |   |
| JUL 08 |          |          |               |             |           |          |           |       |          |          |               |             |           |          |           |       |          |          |               |             |           |          |           |       |   |
| JUL 09 |          |          |               |             |           |          |           |       |          |          |               |             |           |          |           |       |          |          |               |             |           |          |           |       |   |
| JUL 10 |          |          |               |             |           |          |           |       |          |          |               |             |           |          |           |       |          |          |               |             |           |          |           |       |   |
| JUL 11 |          |          |               |             |           |          |           |       |          |          |               |             |           |          |           |       |          |          |               |             |           |          |           |       |   |
| JUL 12 |          |          |               |             |           |          |           |       |          |          |               |             |           |          |           |       |          |          |               |             |           |          |           |       |   |
| JUL 13 |          |          |               |             |           |          |           |       |          |          |               |             |           |          |           |       |          |          |               |             |           |          |           |       |   |
| JUL 14 |          |          |               |             |           |          |           |       |          |          |               |             |           |          |           |       |          |          |               |             |           |          |           |       |   |
| JUL 15 |          |          |               |             |           |          |           |       |          |          |               |             |           |          |           |       |          |          |               |             |           |          |           |       |   |
| JUL 16 |          |          |               |             |           |          |           |       |          |          |               |             |           |          |           |       |          |          |               |             |           |          |           |       |   |
| JUL 17 |          |          |               |             |           |          |           |       |          |          |               |             |           |          |           |       |          |          |               |             |           |          |           |       |   |
| JUL 18 |          |          |               |             |           |          |           |       |          |          |               |             |           |          |           |       |          |          |               |             |           |          |           |       |   |

## MAXIMUM SHORT DURATION PRECIPITATION

| Time Period (minutes) | 5    | 10   | 15   | 20   | 30   | 45   | 60   | 80   | 100  | 120  | 150  | 180  |
|-----------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Precipitation         | 1.61 | 1.61 | 1.61 | 1.61 | 1.61 | 1.61 | 1.61 | 1.61 | 1.61 | 1.61 | 1.61 | 1.61 |
| Ended: Date           | 23   | 23   | 23   | 23   | 23   | 23   | 23   | 23   | 23   | 23   | 23   | 23   |
| Ended: Time           | 2359 | 2359 | 2359 | 2359 | 2359 | 2359 | 2359 | 2359 | 2359 | 2359 | 2359 | 2359 |

The precipitation amounts may occur at any time during the month. The time indicated is the ending time of the interval. Date and time are not entered for trace amounts.

OBSERVATIONS AT 3-HOUR INTERVALS

July 2007: Oakland, NJ

| Hour   | JUL 19   |          |               |             |           |          |           |       |        | JUL 20   |          |               |             |           |          |           |       |        | JUL 21   |          |               |             |           |          |           |       |      |
|--------|----------|----------|---------------|-------------|-----------|----------|-----------|-------|--------|----------|----------|---------------|-------------|-----------|----------|-----------|-------|--------|----------|----------|---------------|-------------|-----------|----------|-----------|-------|------|
|        | Sunshine | Pressure | Rainfall rate | Temperature | Dew Point | Humidity | Direction | Speed | Gust   | Sunshine | Pressure | Rainfall rate | Temperature | Dew Point | Humidity | Direction | Speed | Gust   | Sunshine | Pressure | Rainfall rate | Temperature | Dew Point | Humidity | Direction | Speed | Gust |
| 01     |          | 29.80    | 0.00          | 66          | 66        | 100      | 32        | 0     | 0      |          | 29.58    | 0.00          | 71          | 71        | 98       | 30        | 0     | 0      |          | 29.92    | 0.00          | 63          | 52        | 67       | 34        | 0     | 5    |
| 04     |          | 29.78    | 0.00          | 65          | 65        | 100      | 32        | 0     | 0      |          | 29.58    | 0.00          | 70          | 70        | 100      | 21        | 0     | 0      |          | 29.92    | 0.00          | 58          | 54        | 85       | 08        | 0     | 1    |
| 07     |          | 29.79    | 0.00          | 65          | 65        | 100      | 32        | 0     | 0      |          | 29.64    | 0.00          | 69          | 69        | 100      | 21        | 0     | 2      |          | 29.96    | 0.00          | 60          | 54        | 81       | 14        | 0     | 2    |
| 10     |          | 29.74    | 0.00          | 72          | 72        | 100      | 32        | 0     | 1      |          | 29.70    | 0.00          | 72          | 60        | 66       | 00        | 1     | 9      |          | 29.99    | 0.00          | 69          | 55        | 62       | 35        | 1     | 4    |
| 13     |          | 29.68    | 0.00          | 78          | 71        | 80       | 27        | 1     | 3      |          | 29.76    | 0.00          | 75          | 56        | 52       | 31        | 2     | 9      |          | 29.98    | 0.00          | 78          | 53        | 43       | 35        | 5     | 9    |
| 16     |          | 29.63    | 0.00          | 80          | 69        | 69       | 23        | 2     | 7      |          | 29.78    | 0.00          | 76          | 55        | 48       | 31        | 2     | 11     |          | 29.98    | 0.00          | 78          | 60        | 55       | 32        | 1     | 4    |
| 19     |          | 29.59    | 0.00          | 77          | 72        | 84       | 33        | 0     | 2      |          | 29.83    | 0.00          | 72          | 55        | 55       | 19        | 2     | 10     |          | 29.99    | 0.00          | 75          | 60        | 61       | 33        | 0     | 1    |
| 22     |          | 29.60    | 0.00          | 72          | 70        | 96       | 30        | 0     | 0      |          | 29.88    | 0.00          | 66          | 51        | 58       | 19        | 0     | 9      |          | 30.03    | 0.00          | 63          | 58        | 85       | 33        | 0     | 0    |
| JUL 22 |          |          |               |             |           |          |           |       | JUL 23 |          |          |               |             |           |          |           |       | JUL 24 |          |          |               |             |           |          |           |       |      |
| 01     |          | 30.06    | 0.00          | 65          | 56        | 73       | 01        | 1     | 6      |          | 30.12    | 0.00          | 63          | 58        | 84       | 01        | 0     | 0      |          | 30.00    | 0.00          | 61          | 61        | 100      | 24        | 0     | 0    |
| 04     |          | 30.08    | 0.00          | 62          | 54        | 73       | 10        | 0     | 2      |          | 30.11    | 0.00          | 60          | 58        | 91       | 01        | 0     | 0      |          | 30.04    | 0.00          | 58          | 58        | 100      | 23        | 0     | 1    |
| 07     |          | 30.12    | 0.00          | 64          | 54        | 70       | 09        | 1     | 3      |          | 30.06    | 0.00          | 62          | 56        | 79       | 33        | 1     | 2      |          | 30.08    | 0.00          | 58          | 58        | 100      | 23        | 0     | 1    |
| 10     |          | 30.14    | 0.00          | 71          | 57        | 63       | 32        | 3     | 8      |          | 30.02    | 0.49          | 60          | 58        | 95       | 00        | 3     | 10     |          | 30.10    | 0.00          | 66          | 59        | 79       | 01        | 0     | 4    |
| 13     |          | 30.14    | 0.00          | 78          | 51        | 40       | 34        | 2     | 6      |          | 29.94    | 0.15          | 62          | 62        | 98       | 35        | 3     | 11     |          | 30.07    | 0.00          | 76          | 58        | 53       | 34        | 0     | 6    |
| 16     |          | 30.12    | 0.00          | 79          | 54        | 42       | 33        | 1     | 4      |          | 29.85    | 0.00          | 66          | 66        | 100      | 05        | 2     | 9      |          | 30.04    | 0.00          | 79          | 64        | 61       | 27        | 1     | 4    |
| 19     |          | 30.12    | 0.00          | 76          | 58        | 54       | 01        | 0     | 3      |          | 29.84    | 0.10          | 68          | 68        | 100      | 24        | 0     | 2      |          | 30.04    | 0.00          | 76          | 65        | 67       | 24        | 0     | 3    |
| 22     |          | 30.13    | 0.00          | 66          | 59        | 78       | 01        | 0     | 0      |          | 29.94    | 0.00          | 63          | 63        | 99       | 19        | 0     | 2      |          | 30.08    | 0.00          | 67          | 65        | 92       | 14        | 0     | 0    |
| JUL 25 |          |          |               |             |           |          |           |       | JUL 26 |          |          |               |             |           |          |           |       | JUL 27 |          |          |               |             |           |          |           |       |      |
| 01     |          | 30.11    | 0.00          | 66          | 65        | 96       | 14        | 0     | 0      |          | 30.14    | 0.00          | 70          | 67        | 90       | 13        | 0     | 0      |          | 30.00    | 0.00          | 71          | 67        | 88       | 16        | 0     | 0    |
| 04     |          | 30.11    | 0.00          | 62          | 61        | 98       | 14        | 0     | 0      |          | 30.12    | 0.00          | 68          | 66        | 96       | 13        | 0     | 0      |          | 29.97    | 0.00          | 70          | 68        | 93       | 16        | 0     | 0    |
| 07     |          | 30.13    | 0.00          | 60          | 60        | 100      | 14        | 0     | 0      |          | 30.14    | 0.00          | 68          | 67        | 96       | 13        | 0     | 0      |          | 29.96    | 0.00          | 71          | 69        | 94       | 30        | 0     | 1    |
| 10     |          | 30.15    | 0.00          | 72          | 64        | 75       | 23        | 0     | 3      |          | 30.14    | 0.00          | 73          | 67        | 81       | 07        | 0     | 2      |          | 29.94    | 0.00          | 76          | 69        | 81       | 25        | 1     | 4    |
| 13     |          | 30.14    | 0.00          | 81          | 59        | 47       | 19        | 2     | 6      |          | 30.10    | 0.00          | 81          | 69        | 65       | 30        | 1     | 3      |          | 29.90    | 0.00          | 82          | 68        | 63       | 15        | 1     | 3    |
| 16     |          | 30.11    | 0.00          | 82          | 64        | 54       | 05        | 2     | 4      |          | 30.02    | 0.00          | 84          | 70        | 62       | 18        | 0     | 2      |          | 29.84    | 0.00          | 84          | 70        | 64       | 20        | 3     | 7    |
| 19     |          | 30.09    | 0.00          | 79          | 64        | 62       | 24        | 1     | 4      |          | 30.01    | 0.00          | 79          | 66        | 65       | 22        | 2     | 5      |          | 29.81    | 0.00          | 78          | 69        | 73       | 22        | 0     | 5    |
| 22     |          | 30.14    | 0.00          | 70          | 65        | 85       | 16        | 0     | 0      |          | 30.01    | 0.00          | 73          | 66        | 77       | 16        | 0     | 0      |          | 29.87    | 0.00          | 74          | 64        | 71       | 15        | 1     | 7    |
| JUL 28 |          |          |               |             |           |          |           |       | JUL 29 |          |          |               |             |           |          |           |       | JUL 30 |          |          |               |             |           |          |           |       |      |
| 01     |          | 29.84    | 0.00          | 67          | 66        | 98       | 09        | 0     | 0      |          | 29.83    | 0.00          | 69          | 68        | 97       | 32        | 0     | 0      |          | 29.92    | 0.00          | 70          | 70        | 100      | 04        | 0     | 0    |
| 04     |          | 29.80    | 0.00          | 67          | 67        | 100      | 09        | 0     | 0      |          | 29.82    | 0.00          | 67          | 67        | 98       | 32        | 0     | 0      |          | 29.89    | 0.00          | 69          | 69        | 100      | 04        | 0     | 0    |
| 07     |          | 29.82    | 0.00          | 68          | 68        | 100      | 09        | 0     | 0      |          | 29.87    | 0.00          | 68          | 68        | 100      | 35        | 0     | 0      |          | 29.91    | 0.00          | 69          | 69        | 100      | 04        | 0     | 1    |
| 10     |          | 29.82    | 0.00          | 72          | 70        | 93       | 24        | 0     | 2      |          | 29.89    | 0.00          | 74          | 70        | 88       | 06        | 0     | 3      |          | 29.92    | 0.00          | 74          | 70        | 89       | 07        | 0     | 3    |
| 13     |          | 29.81    | 0.00          | 80          | 71        | 74       | 26        | 1     | 6      |          | 29.88    | 0.00          | 77          | 71        | 81       | 35        | 0     | 3      |          | 29.90    | 0.00          | 80          | 68        | 66       | 32        | 0     | 3    |
| 16     |          | 29.78    | 0.00          | 80          | 72        | 76       | 23        | 0     | 2      |          | 29.88    | 0.00          | 75          | 74        | 96       | 35        | 0     | 0      |          | 29.86    | 0.00          | 83          | 68        | 61       | 01        | 1     | 4    |
| 19     |          | 29.78    | 0.00          | 79          | 72        | 79       | 32        | 0     | 0      |          | 29.89    | 0.00          | 74          | 73        | 96       | 34        | 0     | 2      |          | 29.86    | 0.00          | 78          | 72        | 80       | 29        | 0     | 0    |
| 22     |          | 29.84    | 0.00          | 71          | 70        | 95       | 32        | 0     | 0      |          | 29.90    | 0.00          | 72          | 71        | 98       | 04        | 0     | 0      |          | 29.89    | 0.00          | 73          | 71        | 93       | 29        | 0     | 0    |
| JUL 31 |          |          |               |             |           |          |           |       |        |          |          |               |             |           |          |           |       |        |          |          |               |             |           |          |           |       |      |
| 01     |          | 29.89    | 0.00          | 69          | 69        | 97       | 29        | 0     | 0      |          |          |               |             |           |          |           |       |        |          |          |               |             |           |          |           |       |      |
| 04     |          | 29.89    | 0.00          | 67          | 66        | 98       | 29        | 0     | 1      |          |          |               |             |           |          |           |       |        |          |          |               |             |           |          |           |       |      |
| 07     |          | 29.91    | 0.00          | 65          | 64        | 99       | 29        | 0     | 0      |          |          |               |             |           |          |           |       |        |          |          |               |             |           |          |           |       |      |
| 10     |          | 29.90    | 0.00          | 74          | 63        | 69       | 04        | 1     | 4      |          |          |               |             |           |          |           |       |        |          |          |               |             |           |          |           |       |      |
| 13     |          | 29.89    | 0.00          | 82          | 64        | 54       | 32        | 3     | 6      |          |          |               |             |           |          |           |       |        |          |          |               |             |           |          |           |       |      |
| 16     |          | 29.87    | 0.00          | 84          | 63        | 49       | 34        | 0     | 5      |          |          |               |             |           |          |           |       |        |          |          |               |             |           |          |           |       |      |
| 19     |          | 29.86    | 0.00          | 79          | 65        | 63       | 32        | 0     | 0      |          |          |               |             |           |          |           |       |        |          |          |               |             |           |          |           |       |      |
| 22     |          | 29.89    | 0.00          | 69          | 65        | 89       | 32        | 0     | 0      |          |          |               |             |           |          |           |       |        |          |          |               |             |           |          |           |       |      |

WEATHER NOTES

NOTES:  
 Units are: Temperature=°F, Wind=mph, Pressure=Inches Hg, Precipitation=inches.  
 Wind Direction: Directions are those from which the wind is blowing, indicated in tens of degrees from true north: i.e., 09 for East, 18 for South, 27 for West, and 00 or 36 for North.  
 Wind Speed: The observed one-minute average speed in miles-per-hour.  
 Wind Gust: The maximum instantaneous wind speed for the 10-minute period preceding the observation.  
 Rainfall Rate: The instantaneous rainfall rate at the time of observation, calculated by timing consecutive 0.01" pulses from the electronic rain gauge and interpolating this rate for one hour.

SUMMARY BY HOUR

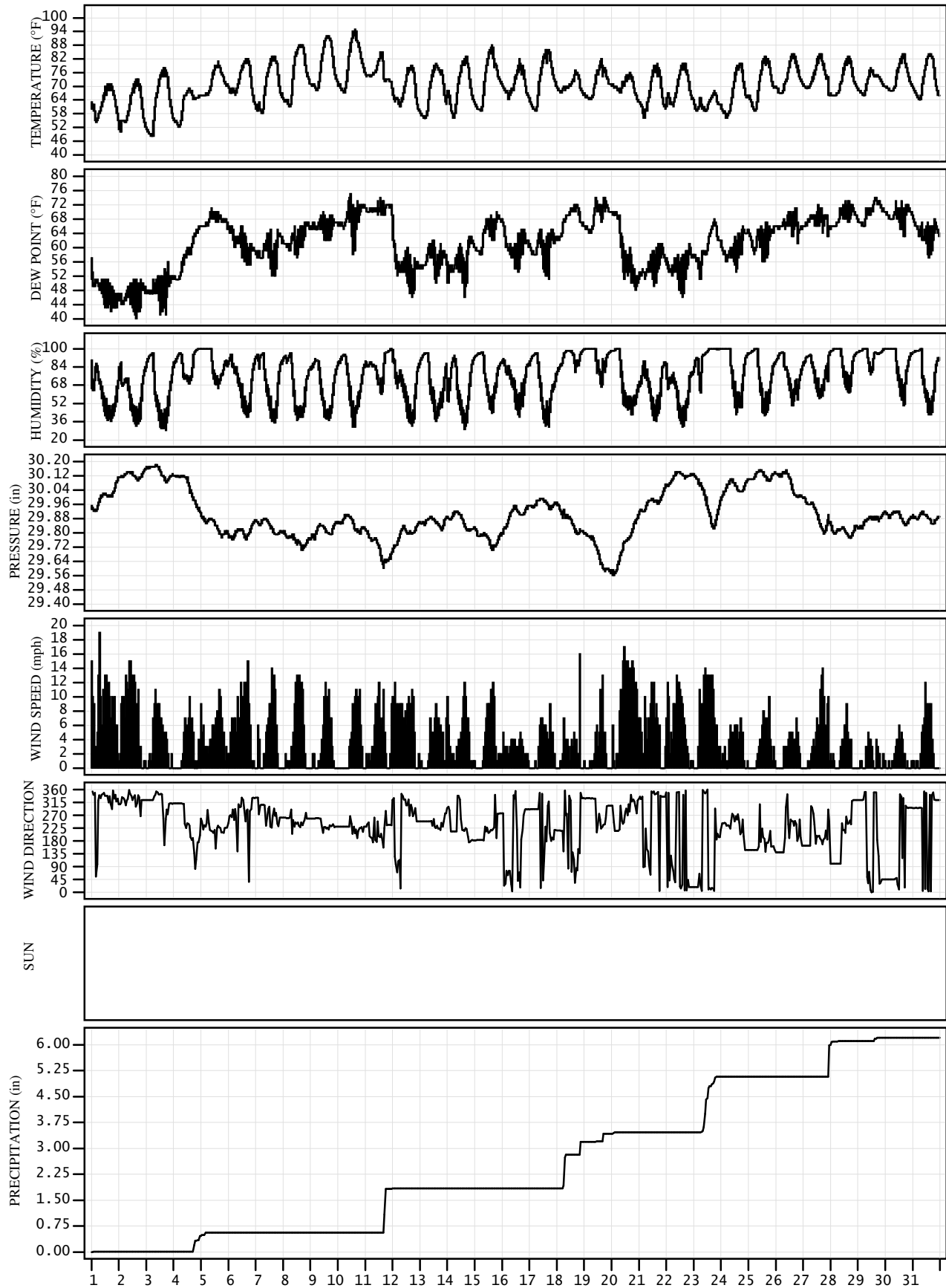
| Hour | Averages |          |             |           |          |            | Resultant Wind |       |
|------|----------|----------|-------------|-----------|----------|------------|----------------|-------|
|      | Sunshine | Pressure | Temperature | Dew Point | Humidity | Wind Speed | Direction      | Speed |
| 01   |          | 29.914   | 65          | 62        | 88       | 0.2        | 32             | 0.1   |
| 04   |          | 29.905   | 64          | 61        | 91       | 0.2        | 1              | 0.1   |
| 07   |          | 29.929   | 64          | 61        | 91       | 0.3        | 33             | 0.2   |
| 10   |          | 29.935   | 72          | 62        | 73       | 0.9        | 33             | 0.2   |
| 13   |          | 29.914   | 78          | 61        | 57       | 1.4        | 28             | 0.6   |
| 16   |          | 29.880   | 80          | 62        | 56       | 1.3        | 27             | 0.6   |
| 19   |          | 29.874   | 77          | 63        | 65       | 0.4        | 23             | 0.2   |
| 22   |          | 29.907   | 69          | 63        | 83       | 0.1        | 19             | 0.0   |

## HOURLY PRECIPITATION (Water Equivalent) July 2007: Oakland, NJ

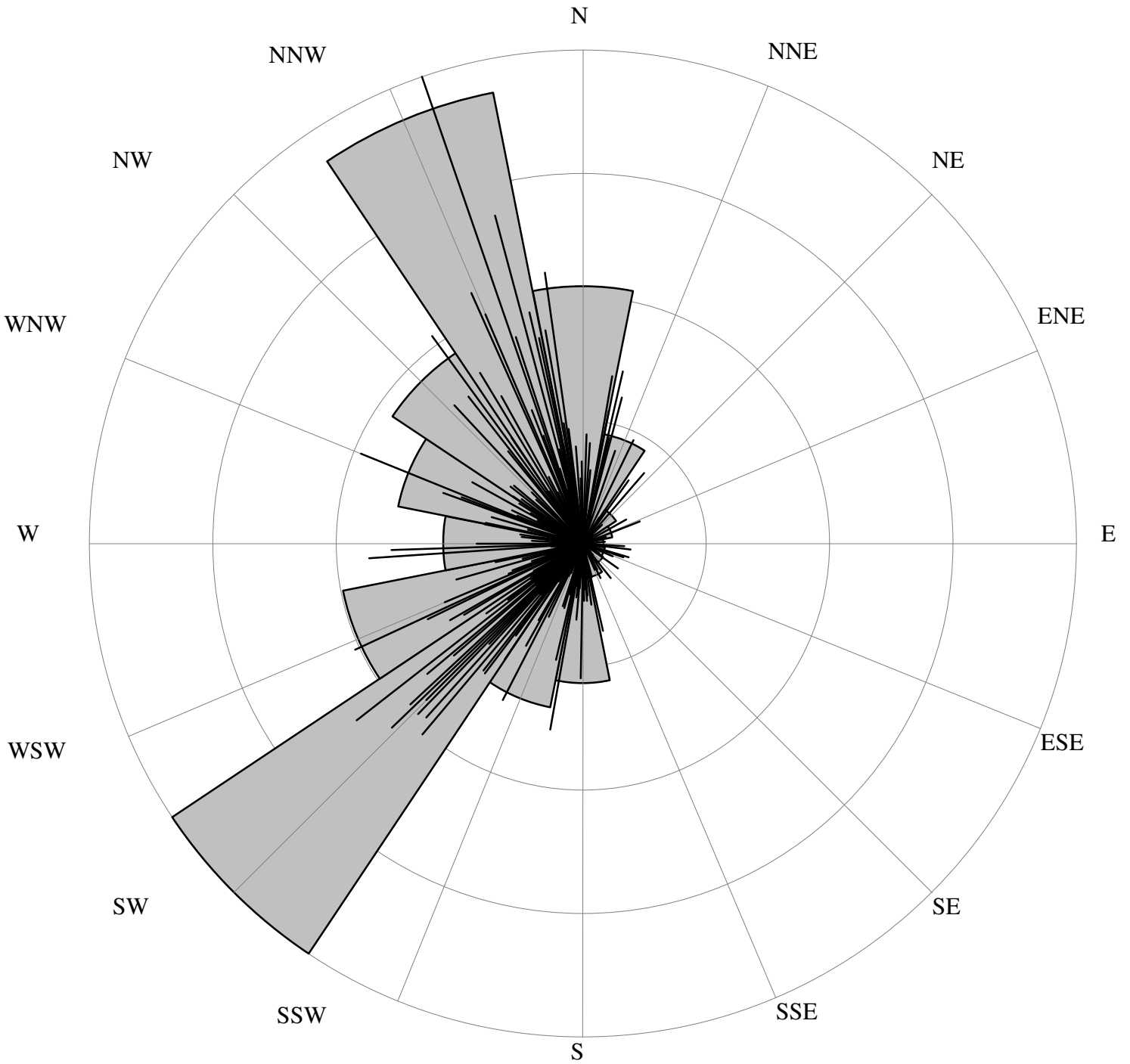
| Date | A.M. Hour Ending at |      |      |      |      |      |      |      |      |      |      |      | P.M. Hour Ending at |      |      |      |      |      |      |      |      |      |      |      | Date |
|------|---------------------|------|------|------|------|------|------|------|------|------|------|------|---------------------|------|------|------|------|------|------|------|------|------|------|------|------|
|      | 01                  | 02   | 03   | 04   | 05   | 06   | 07   | 08   | 09   | 10   | 11   | 12   | 01                  | 02   | 03   | 04   | 05   | 06   | 07   | 08   | 09   | 10   | 11   | 12   |      |
| 01   |                     | 0.01 |      |      |      |      |      |      |      |      |      |      |                     |      |      |      |      |      |      |      |      |      |      | 01   |      |
| 02   |                     |      |      |      |      |      |      |      |      |      |      |      |                     |      |      |      |      |      |      |      |      |      |      |      | 02   |
| 03   |                     |      |      |      |      |      |      |      |      |      |      |      |                     |      |      |      |      |      |      |      |      |      |      |      | 03   |
| 04   |                     |      |      |      |      |      |      |      |      |      |      |      |                     |      |      |      |      |      |      |      |      |      |      |      | 04   |
| 05   | 0.03                |      |      | 0.07 |      |      |      |      |      |      |      |      |                     |      |      |      | 0.20 | 0.12 |      | 0.01 | 0.01 | 0.11 |      |      | 05   |
| 06   |                     |      |      |      |      |      |      |      |      |      |      |      |                     |      |      |      |      |      |      |      |      |      |      |      | 06   |
| 07   |                     |      |      |      |      |      |      |      |      |      |      |      |                     |      |      |      |      |      |      |      |      |      |      |      | 07   |
| 08   |                     |      |      |      |      |      |      |      |      |      |      |      |                     |      |      |      |      |      |      |      |      |      |      |      | 08   |
| 09   |                     |      |      |      |      |      |      |      |      |      |      |      |                     |      |      |      |      |      |      |      |      |      |      |      | 09   |
| 10   |                     |      |      |      |      |      |      |      |      |      |      |      |                     |      |      |      |      |      |      |      |      |      |      |      | 10   |
| 11   |                     |      |      |      |      |      |      |      |      |      |      |      |                     |      |      |      | 0.53 | 0.74 |      |      |      |      |      | 0.01 | 11   |
| 12   |                     |      |      |      |      |      |      |      |      |      |      |      |                     |      |      |      |      |      |      |      |      |      |      |      | 12   |
| 13   |                     |      |      |      |      |      |      |      |      |      |      |      |                     |      |      |      |      |      |      |      |      |      |      |      | 13   |
| 14   |                     |      |      |      |      |      |      |      |      |      |      |      |                     |      |      |      |      |      |      |      |      |      |      |      | 14   |
| 15   |                     |      |      |      |      |      |      |      |      |      |      |      |                     |      |      |      |      |      |      |      |      |      |      |      | 15   |
| 16   |                     |      |      |      |      |      |      |      |      |      |      |      |                     |      |      |      |      |      |      |      |      |      |      |      | 16   |
| 17   |                     |      |      |      |      |      |      |      |      |      |      |      |                     |      |      |      |      |      |      |      |      |      |      |      | 17   |
| 18   |                     |      |      |      |      | 0.09 | 0.80 | 0.09 |      |      |      |      |                     |      |      |      |      |      |      | 0.37 |      |      |      |      | 18   |
| 19   |                     |      |      |      |      |      |      |      |      |      |      |      |                     |      |      |      |      |      |      |      |      |      |      |      | 19   |
| 20   |                     | 0.03 | 0.01 |      |      |      | 0.01 |      |      |      | 0.01 |      |                     |      |      | 0.22 |      |      |      |      |      |      |      |      | 20   |
| 21   |                     |      |      |      |      |      |      |      |      |      |      |      |                     |      |      |      |      |      |      |      |      |      |      |      | 21   |
| 22   |                     |      |      |      |      |      |      |      |      |      |      |      |                     |      |      |      |      |      |      |      |      |      |      |      | 22   |
| 23   |                     |      |      |      |      |      | 0.01 | 0.02 | 0.12 | 0.38 | 0.41 | 0.05 | 0.29                | 0.05 |      | 0.05 | 0.04 | 0.05 | 0.10 | 0.04 |      |      |      | 23   |      |
| 24   |                     |      |      |      |      |      |      |      |      |      |      |      |                     |      |      |      |      |      |      |      |      |      |      |      | 24   |
| 25   |                     |      |      |      |      |      |      |      |      |      |      |      |                     |      |      |      |      |      |      |      |      |      |      |      | 25   |
| 26   |                     |      |      |      |      |      |      |      |      |      |      |      |                     |      |      |      |      |      |      |      |      |      |      |      | 26   |
| 27   |                     |      |      |      |      |      |      |      |      |      |      |      |                     |      |      |      |      |      |      |      |      |      |      |      | 27   |
| 28   | 0.09                | 0.01 |      |      |      |      | 0.01 |      |      |      |      |      |                     |      |      |      |      |      |      |      |      |      | 0.90 | 0.01 | 28   |
| 29   |                     |      |      |      |      |      |      |      |      |      |      |      |                     | 0.01 | 0.07 |      | 0.02 |      |      |      |      |      |      |      | 29   |
| 30   |                     |      |      |      |      |      |      |      |      |      | 0.01 |      |                     |      |      |      |      |      |      |      |      |      |      |      | 30   |
| 31   |                     |      |      |      |      |      |      |      |      |      |      |      |                     |      |      |      |      |      |      |      |      |      |      |      | 31   |
| Sum  | 0.12                | 0.05 | 0.01 | 0.07 | 0.00 | 0.09 | 0.83 | 0.11 | 0.12 | 0.38 | 0.43 | 0.05 | 0.29                | 0.06 | 0.07 | 0.05 | 0.81 | 0.99 | 0.22 | 0.04 | 0.38 | 0.01 | 1.01 | 0.02 | Sum  |

During a frozen precipitation event, hourly precipitation totals may not be recorded. In this case, daily amounts are typically entered in the last column (hour ending at 12 A.M.)

HOUR-BY-HOUR DATA  
July 2007: Oakland, NJ



Wind Rose: July 2007  
Oakland, NJ



Maximum direction of wind: 13.0 miles from 341°  
Maximum sector of wind: 90.1 miles from SW  
474.8 total miles of wind