



# JUNE 2001

## LOCAL CLIMATOLOGICAL DATA

NOAA, National Climatic Data Center

# RICHMOND, VA

R.E.BYRD INTERNATIONAL AP. (RIC)  
 Lat: 37°30' N Long: 77°19' W Elev (Ground): 164 Feet  
 Time Zone: EASTERN WBAN: 13740 ISSN #:0198-537X

| DATE | TEMPERATURE °F |         |         |                 |                |                  | DEG DAYS BASE 65° |         | WEATHER          | SNOW/ICE ON GND(IN) |          | PRECIPITATION (INCHES) |          | PRESSURE (INCHES OF HG) |                   | WIND SPEED = MPH DIR = TENS OF DEGREES |         |               |         |    |       |    |    | DATE |
|------|----------------|---------|---------|-----------------|----------------|------------------|-------------------|---------|------------------|---------------------|----------|------------------------|----------|-------------------------|-------------------|--|---------|---------------|---------|----|-------|----|----|------|
|      | MAXIMUM        | MINIMUM | AVERAGE | DEP FROM NORMAL | AVERAGE DEW PT | AVERAGE WET BULB | HEATING           | COOLING |                  | 0700 LST            | 1300 LST | 2400 LST               | 2400 LST | AVERAGE STATION         | AVERAGE SEA LEVEL | RESULTANT SPEED                        | RES DIR | AVERAGE SPEED | MAXIMUM |    |       |    |    |      |
|      |                |         |         |                 |                |                  |                   |         |                  |                     |          |                        |          |                         |                   |  |         |               | 5-SEC   |    | 2-MIN |    |    |      |
| 1    | 2              | 3       | 4       | 5               | 6              | 7                | 8                 | 9       | 10               | 11                  | 12       | 13                     | 14       | 15                      | 16                | 17                                     | 18      | 19            | 20      | 21 | 22    | 23 | 24 |      |
| 01   | 76             | 56      | 66      | -5              | 62             | 63               | 0                 | 1       | TSRA RA FG BR    |                     |          | 0.0                    | 2.35     | 29.71                   | 29.89             | 5.9                                    | 15      | 8.9           | 20      | 13 | 17    | 28 | 01 |      |
| 02   | 82             | 61      | 72      | 1               | 63             | 66               | 0                 | 7       | BR               |                     |          | 0.0                    | 0.00     | 29.51                   | 29.70             | 8.2                                    | 22      | 9.1           | 25      | 25 | 17    | 25 | 02 |      |
| 03   | 79             | 56*     | 68      | -3              | 54             | 60               | 0                 | 3       |                  |                     |          | 0.0                    | 0.00     | 29.62                   | 29.80             | 8.4                                    | 27      | 10.7          | 29      | 26 | 22    | 26 | 03 |      |
| 04   | 73             | 57      | 65*     | -6              | 57             | 61               | 0                 | 0       | RA               |                     |          | 0.0                    | 0.01     | 29.83                   | 30.01             | 2.5                                    | 18      | 4.2           | 15      | 16 | 12    | 16 | 04 |      |
| 05   | 82             | 63      | 73      | 1               | 67             | 68               | 0                 | 8       | TS TSRA RA BR    |                     |          | 0.0                    | 0.89     | 29.86                   | 30.04             | 1.7                                    | 04      | 5.4           | 30      | 33 | 24    | 32 | 05 |      |
| 06   | 86             | 66      | 76      | 4               | 69             | 70               | 0                 | 11      | TS TSRA RA BR    |                     |          | 0.0                    | 0.98     | 29.81                   | 30.00             | 2.1                                    | 25      | 4.9           | 39*     | 34 | 31*   | 34 | 06 |      |
| 07   | 77             | 67      | 72      | 0               | 68             | 69               | 0                 | 7       | RA FG+ BR        |                     |          | 0.0                    | 0.02     | 29.73                   | 29.91             | 2.4                                    | 35      | 6.6           | 22      | 36 | 17    | 36 | 07 |      |
| 08   | 80             | 65      | 73      | 1               | 65             | 67               | 0                 | 8       | RA BR HZ         |                     |          | 0.0                    | 0.02     | 29.72                   | 29.91             | 1.4                                    | 04      | 2.7           | 17      | 01 | 13    | 36 | 08 |      |
| 09   | 83             | 63      | 73      | 0               | 58             | 64               | 0                 | 8       | BR               |                     |          | 0.0                    | 0.00     | 29.73                   | 29.92             | 3.3                                    | 01      | 4.6           | 17      | 02 | 12    | 01 | 09 |      |
| 10   | 84             | 63      | 74      | 1               | 58             | 64               | 0                 | 9       | BR HZ            |                     |          | 0.0                    | 0.00     | 29.77                   | 29.95             | 1.1                                    | 08      | 3.5           | 14      | 30 | 10    | 30 | 10 |      |
| 11   | 85             | 60      | 73      | 0               | 65             | 68               | 0                 | 8       | BR HZ            |                     |          | 0.0                    | 0.00     | 29.73                   | 29.91             | 8.1                                    | 21      | 8.4           | 26      | 22 | 21    | 21 | 11 |      |
| 12   | 90             | 66      | 78      | 5               | 69             | 72               | 0                 | 13      | BR HZ            |                     |          | 0.0                    | 0.00     | 29.67                   | 29.86             | 4.6                                    | 21      | 5.6           | 16      | 22 | 12    | 22 | 12 |      |
| 13   | 90             | 69      | 80      | 6               | 71             | 73               | 0                 | 15      | BR HZ            |                     |          | 0.0                    | 0.00     | 29.72                   | 29.91             | 3.8                                    | 13      | 6.0           | 20      | 15 | 17    | 15 | 13 |      |
| 14   | 88             | 72      | 80      | 6               | 72             | 75               | 0                 | 15      | FG BR            |                     |          | 0.0                    | 0.00     | 29.81                   | 29.99             | 8.9                                    | 07      | 9.2           | 22      | 09 | 18    | 09 | 14 |      |
| 15   | 80             | 73      | 77      | 3               | 74             | 74               | 0                 | 12      | TSRA RA DZ BR    |                     |          | 0.0                    | 0.68     | 29.75                   | 29.94             | 8.7                                    | 04      | 9.1           | 20      | 04 | 16    | 02 | 15 |      |
| 16   | 84             | 72      | 78      | 4               | 72             | 73               | 0                 | 13      | RA FG BR         |                     |          | 0.0                    | 1.34     | 29.71                   | 29.89             | 11.5                                   | 34      | 11.9          | 31      | 32 | 25    | 32 | 16 |      |
| 17   | 87             | 68      | 78      | 4               | 63             | 68               | 0                 | 13      |                  |                     |          | 0.0                    | 0.00     | 29.86                   | 30.04             | 8.9                                    | 33      | 10.1          | 24      | 01 | 21    | 01 | 17 |      |
| 18   | 85             | 64      | 75      | 0               | 63             | 67               | 0                 | 10      |                  |                     |          | 0.0                    | 0.00     | 30.04                   | 30.22             | 3.9                                    | 05      | 6.8           | 20      | 01 | 16    | 01 | 18 |      |
| 19   | 86             | 62      | 74      | -1              | 64             | 68               | 0                 | 9       | BCFG             |                     |          | 0.0                    | 0.00     | 30.07                   | 30.26             | 4.0                                    | 17      | 5.2           | 14      | 16 | 13    | 15 | 19 |      |
| 20   | 88             | 65      | 77      | 2               | 67             | 70               | 0                 | 12      | BR HZ            |                     |          | 0.0                    | 0.00     | 29.99                   | 30.17             | 4.8                                    | 20      | 6.1           | 20      | 21 | 15    | 18 | 20 |      |
| 21   | 88             | 66      | 77      | 2               | 69             | 72               | 0                 | 12      | BR HZ            |                     |          | 0.0                    | 0.00     | 29.90                   | 30.08             | 4.7                                    | 13      | 5.6           | 17      | 14 | 14    | 15 | 21 |      |
| 22   | 88             | 70      | 79      | 4               | 70             | 73               | 0                 | 14      | TS TSRA RA BR HZ |                     |          | 0.0                    | 0.19     | 29.77                   | 29.95             | 7.3                                    | 17      | 8.1           | 31      | 20 | 28    | 20 | 22 |      |
| 23   | 80             | 65      | 73      | -3              | 67             | 68               | 0                 | 8       | RA BR            |                     |          | 0.0                    | 0.05     | 29.79                   | 29.97             | 2.8                                    | 22      | 6.8           | 23      | 36 | 21    | 36 | 23 |      |
| 24   | 80             | 63      | 72      | -4              | 63             | 66               | 0                 | 7       |                  |                     |          | 0.0                    | 0.00     | 29.94                   | 30.13             | 5.6                                    | 02      | 6.3           | 15      | 05 | 13    | 01 | 24 |      |
| 25   | 84             | 63      | 74      | -2              | 64             | 67               | 0                 | 9       |                  |                     |          | 0.0                    | 0.00     | 30.04                   | 30.23             | 2.8                                    | 05      | 5.3           | 17      | 05 | 13    | 04 | 25 |      |
| 26   | 86             | 63      | 75      | -1              | 63             | 68               | 0                 | 10      | BR HZ            |                     |          | 0.0                    | 0.00     | 30.15                   | 30.34             | 3.0                                    | 13      | 3.7           | 17      | 10 | 14    | 13 | 26 |      |
| 27   | 90             | 63      | 77      | 1               | 70             | 73               | 0                 | 12      | BR               |                     |          | 0.0                    | 0.00     | 30.13                   | 30.31             | 1.9                                    | 20      | 3.1           | 14      | 21 | 10    | 19 | 27 |      |
| 28   | 93             | 70      | 82      | 6               | 72             | 75               | 0                 | 17      | BR HZ            |                     |          | 0.0                    | 0.00     | 30.00                   | 30.18             | 1.8                                    | 35      | 4.4           | 22      | 23 | 17    | 23 | 28 |      |
| 29   | 94             | 69      | 82      | 6               | 72             | 75               | 0                 | 17      | BR HZ            |                     |          | 0.0                    | 0.00     | 29.93                   | 30.11             | 3.3                                    | 18      | 3.6           | 18      | 18 | 16    | 18 | 29 |      |
| 30   | 95*            | 72      | 84*     | 7               | 72             | 75               | 0                 | 19      | BR               |                     |          | 0.0                    | 0.00     | 29.85                   | 30.04             | 10.0                                   | 22      | 10.4          | 23      | 20 | 18    | 22 | 30 |      |

|      |      |      |     |      |      |     |      |                              |  |     |      |       |       |     |    |     |                      |  |  |  |  |  |
|------|------|------|-----|------|------|-----|------|------------------------------|--|-----|------|-------|-------|-----|----|-----|----------------------|--|--|--|--|--|
| 84.8 | 65.1 | 75.0 | ■ ■ | 66.1 | 69.1 | 0.0 | 10.2 | < MONTHLY AVERAGES TOTALS--> |  | 0.0 | 6.53 | 29.84 | 30.02 | 1.0 | 28 | 6.6 | <-- MONTHLY AVERAGES |  |  |  |  |  |
|------|------|------|-----|------|------|-----|------|------------------------------|--|-----|------|-------|-------|-----|----|-----|----------------------|--|--|--|--|--|

|      |     |     |     |                                   |  |  |  |  |  |  |  |  |  |      |  |  |  |  |  |  |  |  |  |  |
|------|-----|-----|-----|-----------------------------------|--|--|--|--|--|--|--|--|--|------|--|--|--|--|--|--|--|--|--|--|
| - .3 | 2.4 | 1.1 | ■ ■ | ←-----DEPARTURE FROM NORMAL-----> |  |  |  |  |  |  |  |  |  | 2.91 | SUNSHINE, CLOUD, & VISIBILITY TABLES ON PAGE 3 |  |  |  |  |  |  |  |  |  |
|------|-----|-----|-----|-----------------------------------|--|--|--|--|--|--|--|--|--|------|--|--|--|--|--|--|--|--|--|--|

|                         |  |  |  |                                |  |  |  |   |  |                      |  |                                |  |                                |  |
|-------------------------|--|--|--|--------------------------------|--|--|--|---|--|----------------------|--|--------------------------------|--|--------------------------------|--|
| <b>DEGREE DAYS</b>      |  |  |  |                                |  |  |  | GREATEST 24-HR PRECIPITATION: 2.35 DATE :01 |  |                      |  | SEA LEVEL PRESSURE DATE TIME   |  |                                |  |
| MONTHLY TOTAL DEPARTURE |  |  |  | SEASON TO DATE TOTAL DEPARTURE |  |  |  | GREATEST 24-HR SNOWFALL: 0.0 DATE :         |  |                      |  | MAXIMUM : 30.39 DATE : 27 0754 |  |                                |  |
| HEATING: 0 0            |  |  |  | 4200 237                       |  |  |  | GREATEST SNOW DEPTH:                        |  |                      |  | MINIMUM : 29.66 DATE : 02 1654 |  |                                |  |
| COOLING: 307 37         |  |  |  | 431 59                         |  |  |  | NUMBER OF DAYS WITH →                       |  | MAXIMUM TEMP ≥ 90: 6 |  | MINIMUM TEMP ≤ 32: 0           |  | PRECIPITATION ≥ 0.01 INCH : 10 |  |
|                         |  |  |  |                                |  |  |  | MAXIMUM TEMP ≤ 32 : 0                       |  | MINIMUM TEMP ≤ 0 : 0 |  | PRECIPITATION ≥ 0.10 INCH : 6  |  |                                |  |
|                         |  |  |  |                                |  |  |  | THUNDERSTORMS : 5                           |  | HEAVY FOG : 1        |  | SNOWFALL ≥ 1.0 INCH : 0        |  |                                |  |

JUNE 2001 RICHMOND, VA

# HOURLY PRECIPITATION

(WATER EQUIVALENT IN INCHES)

## RICHMOND, VA

JUNE 2001

RIC

WBAN # 13740

| DATE | FOR HOUR (LST) ENDING AT |   |      |      |      |   |      |      |      |      |      |      | DATE | FOR HOUR (LST) ENDING AT |      |      |      |      |      |      |      |      |      |      |    | DATE | Sum if Different (See Note) | 2400 LST     |
|------|--------------------------|---|------|------|------|---|------|------|------|------|------|------|------|--------------------------|------|------|------|------|------|------|------|------|------|------|----|------|-----------------------------|--------------|
|      | 1                        | 2 | 3    | 4    | 5    | 6 | 7    | 8    | 9    | 10   | 11   | 12   |      | 13                       | 14   | 15   | 16   | 17   | 18   | 19   | 20   | 21   | 22   | 23   | 24 |      |                             | Water Equiv. |
| 01   |                          |   |      |      |      |   |      |      | 0.13 | 0.15 | T    |      | 01   |                          |      |      | 0.16 | 1.02 | 0.73 | 0.14 | T    | 0.01 | T    | 0.01 | T  | 01   |                             | 2.35         |
| 02   |                          |   |      |      |      |   |      |      |      |      |      |      | 02   |                          |      |      |      |      |      |      |      |      |      |      |    | 02   |                             | 0.00         |
| 03   |                          |   |      |      |      |   |      |      |      |      |      |      | 03   |                          |      |      |      |      |      |      |      |      |      |      |    | 03   |                             | 0.00         |
| 04   |                          |   |      |      |      |   |      |      |      |      |      |      | 04   | T                        | 0.01 |      |      |      |      |      |      |      |      |      |    | 04   |                             | 0.01         |
| 05   | 0.07                     | T |      | T    | T    |   |      |      |      |      |      |      | 05   |                          |      |      |      |      |      | T    | 0.58 | 0.20 | 0.04 | T    | 05 |      | 0.89                        |              |
| 06   |                          |   |      |      |      |   |      |      |      |      |      |      | 06   |                          |      |      | 0.20 | 0.76 | 0.02 |      |      |      |      |      | 06 |      | 0.98                        |              |
| 07   |                          |   | 0.01 | T    | 0.01 | T |      |      |      |      |      |      | 07   |                          |      |      |      |      |      |      |      |      |      |      | 07 |      | 0.02                        |              |
| 08   |                          |   |      |      |      |   |      |      |      |      |      |      | 08   | 0.02                     |      |      |      |      |      |      |      |      |      |      | 08 |      | 0.02                        |              |
| 09   |                          |   |      |      |      |   |      |      |      |      |      |      | 09   |                          |      |      |      |      |      |      |      |      |      |      | 09 |      | 0.00                        |              |
| 10   |                          |   |      |      |      |   |      |      |      |      |      |      | 10   |                          |      |      |      |      |      |      |      |      |      |      | 10 |      | 0.00                        |              |
| 11   |                          |   |      |      |      |   |      |      |      |      |      |      | 11   |                          |      |      |      |      |      |      |      |      |      |      | 11 |      | 0.00                        |              |
| 12   |                          |   |      |      |      |   |      |      |      |      |      |      | 12   |                          |      |      |      |      |      |      |      |      |      |      | 12 |      | 0.00                        |              |
| 13   |                          |   |      |      |      |   |      |      |      |      |      |      | 13   |                          |      |      |      |      |      |      |      |      |      |      | 13 |      | 0.00                        |              |
| 14   |                          |   |      |      |      |   |      |      |      |      |      |      | 14   |                          |      |      |      |      |      |      |      |      |      |      | 14 |      | 0.00                        |              |
| 15   |                          | T |      | 0.01 | 0.01 |   |      |      | 0.05 | 0.01 | 0.03 | 0.27 | 15   | 0.05                     | T    | 0.05 | T    | 0.11 | 0.09 | T    |      | T    | T    | T    | 15 |      | 0.68                        |              |
| 16   | 0.01                     |   |      |      |      |   | 0.06 | 0.18 | 0.14 | 0.13 | 0.05 | 0.01 | 16   | 0.10                     | T    |      |      |      |      | 0.57 | 0.09 |      |      |      | 16 |      | 1.34                        |              |
| 17   |                          |   |      |      |      |   |      |      |      |      |      |      | 17   |                          |      |      |      |      |      |      |      |      |      |      | 17 |      | 0.00                        |              |
| 18   |                          |   |      |      |      |   |      |      |      |      |      |      | 18   |                          |      |      |      |      |      |      |      |      |      |      | 18 |      | 0.00                        |              |
| 19   |                          |   |      |      |      |   |      |      |      |      |      |      | 19   |                          |      |      |      |      |      |      |      |      |      |      | 19 |      | 0.00                        |              |
| 20   |                          |   |      |      |      |   |      |      |      |      |      |      | 20   |                          |      |      |      |      |      |      |      |      |      |      | 20 |      | 0.00                        |              |
| 21   |                          |   |      |      |      |   |      |      |      |      |      |      | 21   |                          |      |      |      |      |      |      |      |      |      |      | 21 |      | 0.00                        |              |
| 22   |                          |   |      |      |      |   |      |      |      |      |      |      | 22   |                          |      |      |      |      |      |      |      | 0.18 | 0.01 | T    | 22 |      | 0.19                        |              |
| 23   |                          |   |      |      |      |   |      |      |      |      |      |      | 23   |                          | T    |      | T    | 0.05 |      |      |      |      |      | 23   |    | 0.05 |                             |              |
| 24   |                          |   |      |      |      |   |      |      |      |      |      |      | 24   |                          |      |      |      |      |      |      |      |      |      |      | 24 |      | 0.00                        |              |
| 25   |                          |   |      |      |      |   |      |      |      |      |      |      | 25   |                          |      |      |      |      |      |      |      |      |      |      | 25 |      | 0.00                        |              |
| 26   |                          |   |      |      |      |   |      |      |      |      |      |      | 26   |                          |      |      |      |      |      |      |      |      |      |      | 26 |      | 0.00                        |              |
| 27   |                          |   |      |      |      |   |      |      |      |      |      |      | 27   |                          |      |      |      |      |      |      |      |      |      |      | 27 |      | 0.00                        |              |
| 28   |                          |   |      |      |      |   |      |      |      |      |      |      | 28   |                          |      |      |      |      |      |      |      |      |      |      | 28 |      | 0.00                        |              |
| 29   |                          |   |      |      |      |   |      |      |      |      |      |      | 29   |                          |      |      |      |      |      |      |      |      |      |      | 29 |      | 0.00                        |              |
| 30   |                          |   |      |      |      |   |      |      |      |      |      |      | 30   |                          |      |      |      |      |      |      |      |      |      |      | 30 |      | 0.00                        |              |

### MAXIMUM SHORT DURATION PRECIPITATION (See Note)

| Time Period (Minutes)  | 5    | 10   | 15   | 20   | 30   | 45   | 60   | 80   | 100  | 120  | 150  | 180  |
|------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Precipitation (Inches) | .28  | .43  | .51  | .65  | .89  | 1.20 | 1.38 | 1.67 | 1.73 | 1.80 | 1.89 | 1.99 |
| Ending Date            | 01   | 05   | 01   | 01   | 01   | 01   | 01   | 01   | 01   | 01   | 01   | 01   |
| Ending Time (Hour/Min) | 1655 | 2049 | 1654 | 1709 | 1709 | 1721 | 1709 | 1729 | 1744 | 1729 | 1744 | 1816 |

Date and time are not entered for TRACE amounts.

Note : The sum of the hourly totals is given when it differs from the daily total. NWS does not edit ASOS hourly values but may edit daily and monthly totals. Hourly, daily, and monthly totals are printed as reported by the ASOS site.

## REFERENCE NOTES & SUPPLEMENTAL SUMMARIES

\* = Extreme for the month (last occurrence if more than one)

T = Trace precipitation amount

+ = also occurs on earlier date

FG+ = Heavy fog, visibility .25 miles or less

BLANK entries denote missing or unreported data

Resultant wind is the vector sum of the wind speeds and directions divided by the number of observations.

Wind direction is recorded in tens of degrees (2 digits) clockwise from true north. '00' = calm, 'VR' = variable.

Precipitation is for the 24-hour period ending at the time indicated in the column heading.

Water Equivalent of snow on the ground is reported only when the depth is 2 or more inches.

NORMALS ARE FOR THE YEARS 1961–1990

### WEATHER NOTATIONS

| QUALIFIER          | WEATHER PHENOMENA                 |                    |                                    |
|--------------------|-----------------------------------|--------------------|------------------------------------|
|                    | PRECIPITATION                     | OBSCURATION        | OTHER                              |
| BC Patches         | DZ Drizzle                        | BR Mist            | DS Duststorm                       |
| BL Blowing         | GR Hail                           | DU Widespread Dust | FC Funnel Cloud                    |
| DR Low Drifting    | GS Small Hail and/or Snow Pellets | FG Fog             | +FC Tornado Waterspout             |
| FZ Freezing        | IC Ice Crystals                   | FU Smoke           | PO Well-Developed Dust/Sand Whirls |
| MI Shallow         | PL Ice Pellets                    | HZ Haze            | SQ Squalls                         |
| PR Partial         | RA Rain                           | PY Spray           | SS Sandstorm                       |
| SH Shower(s)       | SG Snow Grains                    | SA Sand            | GL Glaze                           |
| TS Thunderstorm    | SN Snow                           | VA Volcanic Ash    |                                    |
| VC In the Vicinity | UP Unknown Precipitation          |                    |                                    |

Intensity (as indicated on pages 4 to 6):  
'+' = Heavy    ' ' = Moderate    '-' = Light

## RICHMOND, VA JUNE 2001

Ceilometer (30-second) data are used to derive cloudiness at or below 12,000 feet. This cloudiness is the mean cloud cover detected during sunrise to sunset (SR–SS), or midnight to midnight (MN–MN).

Satellite data are used to derive cloudiness above 12,000 feet. Effective Cloud Amount is based on the cloud cover and the transparency of the clouds within the satellite field of view (approx. 31x31 miles).

Sky Condition is based on the sum (not to exceed 8) of the sunrise to sunset cloud cover below and above 12,000 feet. Both ceilometer and satellite data must be present to compute Sky Condition. Clear = 0–2 oktas, Partly Cloudy = 3–6 oktas, Cloudy = 7–8 oktas.

A Heating (Cooling) Degree Day is the difference between the average daily temperature and 65 degrees F. The HDD season begins July 1, the CDD season begins January 1.

Dew Point is the temperature to which the air must be cooled to achieve 100% relative humidity. Wet Bulb is the temperature the air would have if cooled to saturation at constant pressure by evaporation of water into it.

Snow Depth, Snowfall, and Sunshine data may come from nearby sites that the National Weather Service deems Climatologically representative of this site.

### ADDITIONAL NOTES:

| DATE   | SUNSHINE      |                  | CLOUDINESS (OKTAS) |           |            |           | VISIBILITY (MILES) |         | RESERVED |
|--|---------------|------------------|--------------------|-----------|------------|-----------|--------------------|---------|----------|
|  | TOTAL MINUTES | PERCENT POSSIBLE | SR–SS              |           | MN–MN      |           | MINIMUM            | MAXIMUM |          |
|  |               |                  | CEILOMETER         | SATELLITE | CEILOMETER | SATELLITE |                    |         |          |
| 01   |               |                  |                    |           |            |           | .50                | 10.00   |          |
| 02   |               |                  |                    |           |            |           | 5.00               | 10.00   |          |
| 03   |               |                  |                    |           |            |           | 10.00              | 10.00   |          |
| 04   |               |                  |                    |           |            |           | 5.00               | 10.00   |          |
| 05   |               |                  |                    |           |            |           | 1.50               | 10.00   |          |
| 06   |               |                  |                    |           |            |           | .75                | 10.00   |          |
| 07   |               |                  |                    |           |            |           | .25                | 10.00   |          |
| 08   |               |                  |                    |           |            |           | 2.00               | 8.00    |          |
| 09   |               |                  |                    |           |            |           | 3.00               | 10.00   |          |
| 10   |               |                  |                    |           |            |           | 6.00               | 10.00   |          |
| 11   |               |                  |                    |           |            |           | 2.00               | 8.00    |          |
| 12   |               |                  |                    |           |            |           | 1.25               | 9.00    |          |
| 13   |               |                  |                    |           |            |           | 1.50               | 10.00   |          |
| 14   |               |                  |                    |           |            |           | .50                | 10.00   |          |
| 15   |               |                  |                    |           |            |           | .50                | 10.00   |          |
| 16   |               |                  |                    |           |            |           | .50                | 10.00   |          |
| 17   |               |                  |                    |           |            |           | 10.00              | 10.00   |          |
| 18   |               |                  |                    |           |            |           | 10.00              | 10.00   |          |
| 19   |               |                  |                    |           |            |           | 7.00               | 10.00   |          |
| 20   |               |                  |                    |           |            |           | 5.00               | 9.00    |          |
| 21   |               |                  |                    |           |            |           | 4.00               | 9.00    |          |
| 22   |               |                  |                    |           |            |           | 1.50               | 10.00   |          |
| 23   |               |                  |                    |           |            |           | 6.00               | 10.00   |          |
| 24   |               |                  |                    |           |            |           | 10.00              | 10.00   |          |
| 25   |               |                  |                    |           |            |           | 7.00               | 10.00   |          |
| 26   |               |                  |                    |           |            |           | 5.00               | 10.00   |          |
| 27   |               |                  |                    |           |            |           | 5.00               | 10.00   |          |
| 28   |               |                  |                    |           |            |           | 4.00               | 10.00   |          |
| 29   |               |                  |                    |           |            |           | 3.00               | 8.00    |          |
| 30   |               |                  |                    |           |            |           | 4.00               | 10.00   |          |
| <b>MONTHLY AVGS</b>  |               |                  |                    |           |            |           | 4.24               | 9.70    |          |
| <b>SUNSHINE (MINUTES)</b>  |               |                  |                    |           |            |           |                    |         |          |
| Total:                      Possible:                      Percent Possible:     |               |                  |                    |           |            |           |                    |         |          |
| <b>NUMBER OF DAYS WITH:</b>  |               |                  |                    |           |            |           |                    |         |          |
| <b>SKY CONDITION</b>   |               |                  |                    |           |            |           |                    |         |          |
| CLR   PTLY CLDY   CLOUDY   MISSING   |               |                  |                    |           |            |           |                    |         |          |
| 30   |               |                  |                    |           |            |           |                    |         |          |
| <b>MINIMUM VISIBILITY (MILES)</b>  |               |                  |                    |           |            |           |                    |         |          |
| <=0.25                      <=3.0                      >=7.0                     |               |                  |                    |           |            |           |                    |         |          |
| 0                                      13                                      6 |               |                  |                    |           |            |           |                    |         |          |



OBSERVATIONS AT 3-HOURLY INTERVALS

RICHMOND, VA

JUNE 2001

RIC

WBAN # 13740

Table with columns for Hour (LST), Sky Cover, Ceiling, Observation Time, Eff Cl'd Amt, Visibility, Weather, Temperature (Dry Bulb, Dew Point, Wet Bulb, Relative Humidity), Wind (Speed, Direction), Pressure (Station, Sea Level), and other parameters for each hour from June 13 to June 24.

# OBSERVATIONS AT 3-HOURLY INTERVALS

# RICHMOND, VA

JUNE 2001

RIC

WBAN # 13740

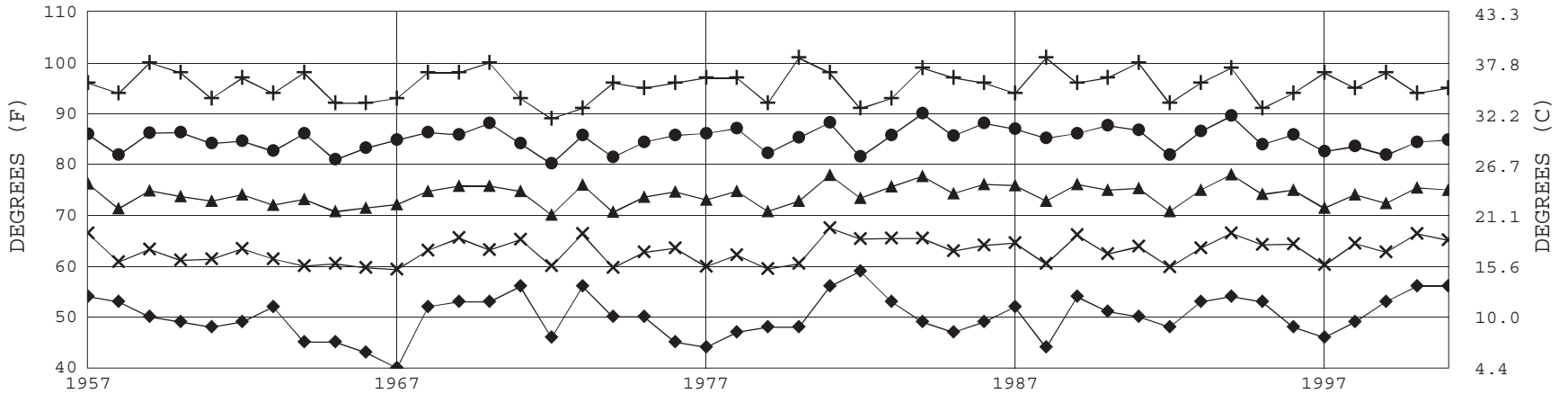
| HOUR (LST) | SKY COVER<br>CEILING<br>100'S OF FT |    | SATELLITE                 |                      | WEATHER | TEMPERATURE<br>°F     |          |           |          | WIND                       |             | PRESSURE<br>(INCHES, HG) |         | HOUR (LST) | SKY COVER<br>CEILING<br>100'S OF FT |  | SATELLITE    |                           | WEATHER | TEMPERATURE<br>°F    |                       |          |           | WIND     |                            | PRESSURE<br>(INCHES, HG) |                          |         |              |          |         |          |         |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|------------|-------------------------------------|----|---------------------------|----------------------|---------|-----------------------|----------|-----------|----------|----------------------------|-------------|--------------------------|---------|------------|-------------------------------------|--|--------------|---------------------------|---------|----------------------|-----------------------|----------|-----------|----------|----------------------------|--------------------------|--------------------------|---------|--------------|----------|---------|----------|---------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
|            |                                     |    | OBSERVATION<br>TIME (LST) | EFF CLD AMT<br>Ok/as |         | VISIBILITY<br>(MILES) | DRY BULB | DEW POINT | WET BULB | RELATIVE<br>HUMIDITY (PCT) | SPEED (MPH) | DIRECTION<br>TENS OF DEG | STATION |            |                                     |  | SEA<br>LEVEL | OBSERVATION<br>TIME (LST) |         | EFF CLD AMT<br>Ok/as | VISIBILITY<br>(MILES) | DRY BULB | DEW POINT | WET BULB | RELATIVE<br>HUMIDITY (PCT) | SPEED (MPH)              | DIRECTION<br>TENS OF DEG | STATION | SEA<br>LEVEL |          |         |          |         |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|            |                                     |    |                           |                      |         |                       |          |           |          |                            |             |                          |         |            |                                     |  |              |                           |         |                      |                       |          |           |          |                            |                          |                          |         |              | SUNRISE: | SUNSET: | SUNRISE: | SUNSET: |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|            |                                     |    |                           |                      |         |                       |          |           |          |                            |             |                          |         |            |                                     |  |              |                           |         |                      |                       |          |           |          |                            |                          |                          |         |              |          |         |          |         |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 01         | SCT                                 | NC |                           |                      |         |                       |          | 66        | 64       | 65                         | 93          | 0                        | 00      | 30.00      | 30.19                               |  |              |                           |         |                      |                       |          |           |          |                            |                          |                          |         |              |          |         |          |         |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 04         | CLR                                 | NC |                           |                      |         |                       |          | 63        | 62       | 62                         | 97          | 5                        | 03      | 29.98      | 30.17                               |  |              |                           |         |                      |                       |          |           |          |                            |                          |                          |         |              |          |         |          |         |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 07         | CLR                                 | NC |                           |                      |         |                       |          | 70        | 65       | 67                         | 84          | 5                        | 01      | 30.03      | 30.22                               |  |              |                           |         |                      |                       |          |           |          |                            |                          |                          |         |              |          |         |          |         |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 10         | SCT                                 | NC |                           |                      |         |                       |          | 79        | 64       | 69                         | 60          | 7                        | VR      | 30.05      | 30.24                               |  |              |                           |         |                      |                       |          |           |          |                            |                          |                          |         |              |          |         |          |         |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 13         | SCT                                 | NC |                           |                      |         |                       |          | 83        | 64       | 71                         | 53          | 8                        | 07      | 30.05      | 30.24                               |  |              |                           |         |                      |                       |          |           |          |                            |                          |                          |         |              |          |         |          |         |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 16         | SCT                                 | NC |                           |                      |         |                       |          | 83        | 63       | 70                         | 51          | 6                        | VR      | 30.03      | 30.22                               |  |              |                           |         |                      |                       |          |           |          |                            |                          |                          |         |              |          |         |          |         |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 19         | FEW                                 | NC |                           |                      |         |                       |          | 77        | 64       | 69                         | 64          | 6                        | 10      | 30.04      | 30.23                               |  |              |                           |         |                      |                       |          |           |          |                            |                          |                          |         |              |          |         |          |         |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 22         | CLR                                 | NC |                           |                      |         |                       |          | 69        | 66       | 67                         | 90          | 6                        | 14      | 30.09      | 30.27                               |  |              |                           |         |                      |                       |          |           |          |                            |                          |                          |         |              |          |         |          |         |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

| 3-HOURLY OBSERVATION NOTES  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| Sky Cover is the amount of the sky obscured. CLR or SKC = 0, FEW = 1/8-2/8, SCT = 3/8-4/8, BKN = 5/8-7/8, OVC = 8/8, VV = Vertical Visibility = 8/8. Ceiling is reported in hundreds of feet above ground level for clouds at or below 12,000 feet. NC= No ceiling detected. & = Original observation contained additional weather elements. See page 3 for additional notes. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

| SUMMARY BY HOUR |            |             |          |           |          |                   |                       |           |                    |                  |       |           |                       |           |                      |                  |       |           |  |  |  |  |  |  |  |  |  |  |  |
|-----------------|------------|-------------|----------|-----------|----------|-------------------|-----------------------|-----------|--------------------|------------------|-------|-----------|-----------------------|-----------|----------------------|------------------|-------|-----------|--|--|--|--|--|--|--|--|--|--|--|
| HOUR (LST)      | AVERAGES   |             |          |           |          |                   |                       |           |                    |                  |       |           |                       |           | RESULTANT WIND (MPH) |                  |       |           |  |  |  |  |  |  |  |  |  |  |  |
|                 | CEILOMETER | EFF CLD AMT | DRY BULB | DEW POINT | WET BULB | RELATIVE HUMIDITY | PRESSURE (INCHES, HG) |           | VISIBILITY (MILES) | WIND SPEED (MPH) | SPEED | DIRECTION | PRESSURE (INCHES, HG) |           | VISIBILITY (MILES)   | WIND SPEED (MPH) | SPEED | DIRECTION |  |  |  |  |  |  |  |  |  |  |  |
|                 |            |             |          |           |          |                   | STATION               | SEA LEVEL |                    |                  |       |           | STATION               | SEA LEVEL |                      |                  |       |           |  |  |  |  |  |  |  |  |  |  |  |
| 01              |            |             | 69       | 66        | 67       | 91                | 29.83                 | 30.02     | 7.18               | 4                | 1     | 18        |                       |           |                      |                  |       |           |  |  |  |  |  |  |  |  |  |  |  |
| 02              |            |             | 68       | 65        | 66       | 91                | 29.83                 | 30.01     | 6.62               | 4                | 0     | 0         |                       |           |                      |                  |       |           |  |  |  |  |  |  |  |  |  |  |  |
| 03              |            |             | 67       | 65        | 66       | 92                | 29.82                 | 30.01     | 6.73               | 4                | 0     | 0         |                       |           |                      |                  |       |           |  |  |  |  |  |  |  |  |  |  |  |
| 04              |            |             | 67       | 65        | 65       | 93                | 29.82                 | 30.01     | 6.72               | 4                | 1     | 31        |                       |           |                      |                  |       |           |  |  |  |  |  |  |  |  |  |  |  |
| 05              |            |             | 67       | 64        | 65       | 93                | 29.83                 | 30.02     | 5.89               | 4                | 1     | 32        |                       |           |                      |                  |       |           |  |  |  |  |  |  |  |  |  |  |  |
| 06              |            |             | 68       | 65        | 66       | 92                | 29.84                 | 30.03     | 5.79               | 5                | 1     | 34        |                       |           |                      |                  |       |           |  |  |  |  |  |  |  |  |  |  |  |
| 07              |            |             | 71       | 66        | 68       | 84                | 29.85                 | 30.04     | 6.73               | 6                | 1     | 30        |                       |           |                      |                  |       |           |  |  |  |  |  |  |  |  |  |  |  |
| 08              |            |             | 74       | 66        | 69       | 77                | 29.86                 | 30.05     | 8.04               | 7                | 1     | 29        |                       |           |                      |                  |       |           |  |  |  |  |  |  |  |  |  |  |  |
| 09              |            |             | 76       | 66        | 70       | 72                | 29.86                 | 30.05     | 8.02               | 7                | 1     | 33        |                       |           |                      |                  |       |           |  |  |  |  |  |  |  |  |  |  |  |
| 10              |            |             | 78       | 66        | 70       | 67                | 29.86                 | 30.05     | 8.33               | 7                | 2     | 30        |                       |           |                      |                  |       |           |  |  |  |  |  |  |  |  |  |  |  |
| 11              |            |             | 80       | 66        | 71       | 64                | 29.86                 | 30.04     | 8.53               | 8                | 0     | 0         |                       |           |                      |                  |       |           |  |  |  |  |  |  |  |  |  |  |  |
| 12              |            |             | 81       | 66        | 71       | 61                | 29.85                 | 30.04     | 8.67               | 7                | 2     | 23        |                       |           |                      |                  |       |           |  |  |  |  |  |  |  |  |  |  |  |
| 13              |            |             | 82       | 66        | 72       | 60                | 29.84                 | 30.03     | 8.67               | 8                | 1     | 20        |                       |           |                      |                  |       |           |  |  |  |  |  |  |  |  |  |  |  |
| 14              |            |             | 83       | 66        | 72       | 58                | 29.83                 | 30.01     | 8.87               | 8                | 1     | 21        |                       |           |                      |                  |       |           |  |  |  |  |  |  |  |  |  |  |  |
| 15              |            |             | 83       | 66        | 72       | 58                | 29.81                 | 30.00     | 9.07               | 9                | 2     | 20        |                       |           |                      |                  |       |           |  |  |  |  |  |  |  |  |  |  |  |
| 16              |            |             | 83       | 66        | 72       | 58                | 29.80                 | 29.99     | 9.13               | 9                | 1     | 13        |                       |           |                      |                  |       |           |  |  |  |  |  |  |  |  |  |  |  |
| 17              |            |             | 82       | 67        | 72       | 62                | 29.80                 | 29.99     | 8.36               | 10               | 0     | 0         |                       |           |                      |                  |       |           |  |  |  |  |  |  |  |  |  |  |  |
| 18              |            |             | 80       | 67        | 71       | 66                | 29.81                 | 29.99     | 8.37               | 9                | 3     | 16        |                       |           |                      |                  |       |           |  |  |  |  |  |  |  |  |  |  |  |
| 19              |            |             | 77       | 67        | 71       | 72                | 29.81                 | 30.00     | 8.38               | 7                | 2     | 14        |                       |           |                      |                  |       |           |  |  |  |  |  |  |  |  |  |  |  |
| 20              |            |             | 75       | 67        | 70       | 77                | 29.82                 | 30.01     | 9.10               | 6                | 2     | 15        |                       |           |                      |                  |       |           |  |  |  |  |  |  |  |  |  |  |  |
| 21              |            |             | 73       | 67        | 69       | 82                | 29.83                 | 30.02     | 8.48               | 5                | 2     | 14        |                       |           |                      |                  |       |           |  |  |  |  |  |  |  |  |  |  |  |
| 22              |            |             | 71       | 67        | 68       | 86                | 29.84                 | 30.03     | 8.37               | 5                | 2     | 16        |                       |           |                      |                  |       |           |  |  |  |  |  |  |  |  |  |  |  |
| 23              |            |             | 70       | 66        | 68       | 88                | 29.84                 | 30.02     | 7.80               | 4                | 1     | 18        |                       |           |                      |                  |       |           |  |  |  |  |  |  |  |  |  |  |  |
| 24              |            |             | 70       | 66        | 68       | 89                | 29.84                 | 30.03     | 7.47               | 5                | 1     | 19        |                       |           |                      |                  |       |           |  |  |  |  |  |  |  |  |  |  |  |

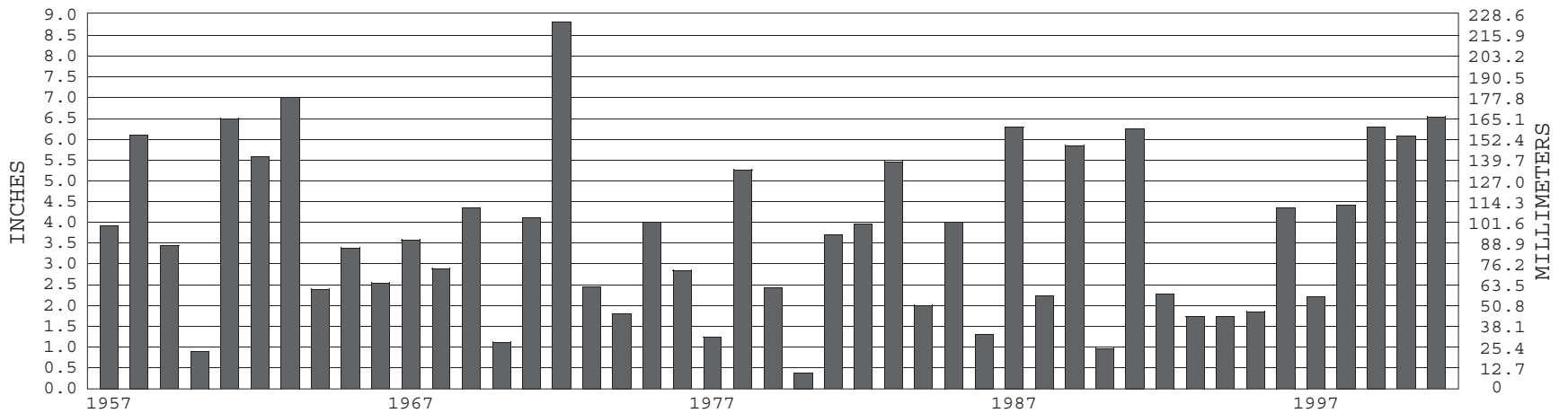
### RICHMOND, VA JUNE TEMPERATURES



+ Extreme Max.      ● Mean Max.      ▲ Mean      × Mean Min.      ◆ Extreme Min.

Long-Term (1957-2001) Mean: 74.0      1961-1990 Normal: 73.9

### RICHMOND, VA JUNE PRECIPITATION



Long-Term (1957-2001) Mean Monthly Total: 3.70

1961-1990 Normal: 3.62



JUNE 2001  
RICHMOND, VA

## LOCAL CLIMATOLOGICAL DATA

NOAA, National Climatic Data Center

*I certify that this is an official publication of the National Oceanic and Atmospheric Administration (NOAA). It is compiled using information from weather observing sites operated by NOAA – National Weather Service / Department Of Transportation – Federal Aviation Administration and received at the National Climatic Data Center (NCDC), Asheville, North Carolina 28801.*

DIRECTOR

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