



# JANUARY 2010 LOCAL CLIMATOLOGICAL DATA

NOAA, National Climatic Data Center

**RICHMOND, VA**  
**RICHMOND INTERNATIONAL AIRPORT (KRIC)**  
 Lat:37° 30'N Long: 77° 19'W Elev (Ground) 163 Feet  
 Time Zone : EASTERN WBAN: 13740 ISSN#: 0198-537X



| Date<br>1                  | Temperature °F |              |                                     |                         |                        |                          | Deg Days<br>BASE 65° |              | WEATHER<br>10                                 | SNOW/ICE<br>ON GND(IN) |                        | PRECIPITATION<br>ON GND(IN)                    |                        | PRESSURE<br>(INCHES OF HG) |                               | WIND SPEED = MPH<br>DIR = TENS OF DEGREES |                               |                        |                    |           |             |           |    | Date<br>24 |
|----------------------------|----------------|--------------|-------------------------------------|-------------------------|------------------------|--------------------------|----------------------|--------------|---|------------------------|------------------------|--|------------------------|----------------------------|-------------------------------|---|-------------------------------|------------------------|--------------------|-----------|-------------|-----------|----|------------|
|                            | MAXIMUM<br>2   | MINIMUM<br>3 | AVERAGE<br>4                        | DEP FROM<br>NORMAL<br>5 | AVERAGE<br>DEW PT<br>6 | AVERAGE<br>WET BULB<br>7 | HEATING<br>8         | COOLING<br>9 |   | 0700<br>LST            | 1300<br>LST            | 2400<br>LST                                    | 2400<br>LST            | AVERAGE<br>STATION<br>15   | AVERAGE<br>SEA LEVEL<br>16    | RESULTANT<br>SPEED<br>17                  | RES DIR<br>18                 | AVERAGE<br>SPEED<br>19 | MAXIMUM            |           |             |           |    |            |
|                            |                |              |                                     |                         |                        |                          |                      |              |   |                        |                        |  |                        |                            |                               |   |                               |                        | 3-SEC              |           | 2-MIN       |           |    |            |
|                            |                |              |                                     |                         |                        |                          |                      |              |   |                        |                        |  |                        |                            |                               |   |                               |                        | SPEED<br>20        | DIR<br>21 | SPEED<br>22 | DIR<br>23 |    |            |
| 01                         | 43             | 30           | 37                                  | 0                       | 33                     | 37                       | 28                   | 0            | RA SN GS FG+ FG BR                            | 0                      |                        | T  | T                      | 29.77                      | 29.96                         | 5.1                                       | 35                            | 5.6                    | 29                 | 01        | 22          | 01        | 01 |            |
| 02                         | 32             | 22           | 27                                  | -10                     | 7                      | 22                       | 38                   | 0            |   | 0                      |                        | 0.0  | 0.00                   | 29.78                      | 29.99                         | 15.2                                      | 33                            | 15.6                   | 39                 | 31        | 29          | 33        | 02 |            |
| 03                         | 34             | 20           | 27                                  | -10                     | 3                      | 20                       | 38                   | 0            |   | 0                      |                        | 0.0  | 0.00                   | 29.75                      | 29.94                         | 15.4                                      | 31                            | 15.7                   | 37                 | 31        | 28          | 32        | 03 |            |
| 04                         | 36             | 20           | 28                                  | -9                      | 9                      | 23                       | 37                   | 0            |   | 0                      |                        | 0.0  | 0.00                   | 29.73                      | 29.93                         | 8.0                                       | 31                            | 8.7                    | 22                 | 28        | 17          | 29        | 04 |            |
| 05                         | 37             | 20           | 29                                  | -8                      | 12                     | 24                       | 36                   | 0            |   | 0                      |                        | 0.0  | 0.00                   | 29.72                      | 29.93                         | 8.2                                       | 31                            | 8.5                    | 22                 | 32        | 18          | 34        | 05 |            |
| 06                         | 43             | 24           | 34                                  | -2                      | 14                     | 26                       | 31                   | 0            |   | 0                      |                        | 0.0  | 0.00                   | 29.75                      | 29.96                         | 7.6                                       | 31                            | 8.4                    | 26                 | 33        | 21          | 33        | 06 |            |
| 07                         | 41             | 18           | 30                                  | -6                      | 18                     | 27                       | 35                   | 0            | SN  | 0                      |                        | T  | T                      | 29.84                      | 30.03                         | 1.3                                       | 26                            | 2.5                    | 14                 | 29        | 10          | 26        | 07 |            |
| 08                         | 33             | 24           | 29                                  | -7                      | 16                     | 26                       | 36                   | 0            | SN BR   | T                      |                        | 0.4  | 0.02                   | 29.72                      | 29.95                         | 9.0                                       | 31                            | 10.8                   | 29                 | 32        | 23          | 29        | 08 |            |
| 09                         | 38             | 20           | 29                                  | -7                      | 11                     | 23                       | 36                   | 0            |   | 0                      |                        | 0.0  | 0.00                   | 29.97                      | 30.19                         | 7.7                                       | 35                            | 9.1                    | 24                 | 02        | 20          | 35        | 09 |            |
| 10                         | 35             | 18           | 27                                  | -9                      | 5                      | 20                       | 38                   | 0            |   | 0                      |                        | 0.0  | 0.00                   | 30.12                      | 30.34                         | 8.3                                       | 01                            | 8.4                    | 24                 | 01        | 20          | 01        | 10 |            |
| 11                         | 42             | 13           | 28                                  | -8                      | 8                      | 22                       | 37                   | 0            |   | 0                      |                        | 0.0  | 0.00                   | 30.04                      | 30.23                         | 4.0                                       | 23                            | 4.4                    | 17                 | 25        | 14          | 23        | 11 |            |
| 12                         | 38             | 25           | 32                                  | -4                      | 15                     | 27                       | 33                   | 0            |   | 0                      |                        | 0.0  | 0.00                   | 29.98                      | 30.20                         | 7.9                                       | 01                            | 8.6                    | 25                 | 36        | 20          | 01        | 12 |            |
| 13                         | 48             | 18           | 33                                  | -3                      | 15                     | 27                       | 32                   | 0            |   | 0                      |                        | 0.0  | 0.00                   | 30.10                      | 30.30                         | 3.1                                       | 26                            | 4.2                    | 16                 | 27        | 13          | 28        | 13 |            |
| 14                         | 55             | 22           | 39                                  | 3                       | 19                     | 31                       | 26                   | 0            |   | 0                      |                        | 0.0  | 0.00                   | 30.06                      | 30.27                         | 1.8                                       | 18                            | 2.2                    | 12                 | 14        | 9           | 16        | 14 |            |
| 15                         | 62             | 27           | 45                                  | 9                       | 25                     | 36                       | 20                   | 0            |   | 0                      |                        | 0.0  | 0.00                   | 30.04                      | 30.24                         | 2.4                                       | 25                            | 3.2                    | 13                 | 26        | 10          | 25        | 15 |            |
| 16                         | 57             | 30           | 44                                  | 8                       | 32                     | 39                       | 21                   | 0            |   | 0                      |                        | 0.0  | 0.00                   | 30.06                      | 30.25                         | 2.5                                       | 18                            | 3.1                    | 18                 | 21        | 8           | 20        | 16 |            |
| 17                         | 52             | 43           | 48                                  | 12                      | 43                     | 45                       | 17                   | 0            | RA DZ FG+ FG BR                               | 0                      |                        | 0.0  | 1.23                   | 29.56                      | 29.77                         | 2.4                                       | 04                            | 7.2                    | 28                 | 12        | 16          | 31        | 17 |            |
| 18                         | 59             | 35           | 47                                  | 11                      | 38                     | 42                       | 18                   | 0            | BR  | 0                      |                        | 0.0  | 0.00                   | 29.62                      | 29.86                         | 4.5                                       | 34                            | 5.6                    | 22                 | 01        | 18          | 01        | 18 |            |
| 19                         | 64             | 36           | 50                                  | 14                      | 37                     | 43                       | 15                   | 0            |   | 0                      |                        | 0.0  | 0.00                   | 29.73                      | 29.93                         | 3.6                                       | 26                            | 4.6                    | 20                 | 29        | 15          | 28        | 19 |            |
| 20                         | 47             | 37           | 42                                  | 6                       | 34                     | 38                       | 23                   | 0            | RA BR   | 0                      |                        | 0.0  | 0.13                   | 29.78                      | 29.99                         | 6.0                                       | 06                            | 6.4                    | 18                 | 07        | 14          | 06        | 20 |            |
| 21                         | 41             | 36           | 39                                  | 3                       | 32                     | 35                       | 26                   | 0            | RA BR   | 0                      |                        | 0.0  | 0.22                   | 29.93                      | 30.10                         | 7.6                                       | 06                            | 7.9                    | 20                 | 09        | 14          | 06        | 21 |            |
| 22                         | 39             | 36           | 38                                  | 2                       | 34                     | 36                       | 27                   | 0            | RA SN BR                                      | 0                      |                        | T  | 0.39                   | 29.72                      | 29.92                         | 8.9                                       | 02                            | 9.2                    | 21                 | 05        | 16          | 03        | 22 |            |
| 23                         | 48             | 30           | 39                                  | 3                       | 29                     | 35                       | 26                   | 0            |   | 0                      |                        | 0.0  | 0.00                   | 30.01                      | 30.22                         | 2.9                                       | 08                            | 5.0                    | 16                 | 14        | 12          | 14        | 23 |            |
| 24                         | 63             | 33           | 48                                  | 12                      | 42                     | 46                       | 17                   | 0            | RA  | 0                      |                        | 0.0  | T                      | 29.80                      | 29.97                         | 5.6                                       | 17                            | 6.7                    | 32                 | 18        | 23          | 17        | 24 |            |
| 25                         | 65*            | 48           | 57*                                 | 21                      | 50                     | 55                       | 8                    | 0            | RA BR   | 0                      |                        | 0.0  | 0.87                   | 29.25                      | 29.44                         | 11.4                                      | 22                            | 16.1                   | 43*                | 17        | 30*         | 17        | 25 |            |
| 26                         | 50             | 37           | 44                                  | 7                       | 23                     | 35                       | 21                   | 0            |   | 0                      |                        | 0.0  | 0.00                   | 29.59                      | 29.83                         | 12.7                                      | 28                            | 13.1                   | 32                 | 24        | 24          | 27        | 26 |            |
| 27                         | 45             | 26           | 36                                  | -1                      | 22                     | 33                       | 29                   | 0            |   | 0                      |                        | 0.0  | 0.00                   | 29.96                      | 30.18                         | 6.5                                       | 28                            | 6.9                    | 20                 | 28        | 15          | 27        | 27 |            |
| 28                         | 59             | 32           | 46                                  | 9                       | 22                     | 36                       | 19                   | 0            | SN  | 0                      |                        | T  | T                      | 29.93                      | 30.12                         | 7.8                                       | 28                            | 11.5                   | 35                 | 28        | 25          | 28        | 28 |            |
| 29                         | 34             | 24           | 29                                  | -8                      | 6                      | 23                       | 36                   | 0            |   | 0                      |                        | 0.0  | 0.00                   | 30.15                      | 30.36                         | 8.7                                       | 03                            | 9.4                    | 24                 | 04        | 20          | 03        | 29 |            |
| 30                         | 27             | 18           | 23                                  | -14                     | 14                     | 19                       | 42                   | 0            | SN FG+ FZFG BR                                | 1                      |                        | 9.5  | 0.71                   | 29.96                      | 30.13                         | 11.7                                      | 03                            | 12.2                   | 26                 | 03        | 22          | 03        | 30 |            |
| 31                         | 32             | 12*          | 22*                                 | -15                     | 8                      | 18                       | 43                   | 0            | SN BR   | 9                      |                        | 0.5  | 0.03                   | 29.98                      | 30.20                         | 4.1                                       | 35                            | 6.8                    | 20                 | 01        | 16          | 01        | 31 |            |
| 45.1                       |                | 26.9         | 36.0                                | Σ                       | 21.8                   | 31.3                     | 28.7                 | 0.0          | < MONTHLY AVERAGES   TOTALS >                 |                        |                        | 10.4   | 3.60                   | 29.85                      | 30.05                         | 3.7                                       | 33                            | 8.0                    | < MONTHLY AVERAGES |           |             |           |    |            |
| -0.2                       | -0.7           | -0.4         | <----- DEPARTURE FROM NORMAL -----> |                         |                        |                          |                      |              |   |                        | 0.05                   | SUNSHINE, CLOUD, & VISIBILITY TABLES ON PAGE 3 |                        |                            |                               |   |                               |                        |                    |           |             |           |    |            |
| <b>DEGREE DAYS</b>         |                |              |                                     |                         |                        |                          |                      |              | GREATEST 24-HR PRECIPITATION : 1.23 DATE : 17 |                        |                        |  | SEA LEVEL PRESSURE     |                            |                               |   | DATE                          |                        | TIME               |           |             |           |    |            |
| MONTHLY                    |                |              |                                     |                         |                        |                          |                      |              | GREATEST 24-HR SNOWFALL : 9.5 DATE : 30       |                        |                        |  | MAXIMUM : 30.44        |                            |                               |   | 29                            |                        | 1005               |           |             |           |    |            |
| SEASON TO DATE             |                |              |                                     |                         |                        |                          |                      |              | GREATEST SNOW DEPTH : 9 DATE : 31             |                        |                        |  | MINIMUM : 29.33        |                            |                               |   | 25                            |                        | 0808               |           |             |           |    |            |
| TOTAL DEPARTURE            |                |              |                                     |                         |                        |                          |                      |              | NUMBER OF -> DAYS WITH                        |                        |                        |  | MAXIMUM TEMP >= 90 : 0 |                            | MINIMUM TEMP <= 32 : 22       |   | PRECIPITATION >= 0.01 INCH: 8 |                        |                    |           |             |           |    |            |
| HEATING : 889 16 2236 -108 |                |              |                                     |                         |                        |                          |                      |              | THUNDERSTORMS : 0                             |                        | MAXIMUM TEMP <= 32 : 3 |  | MINIMUM TEMP <= 0 : 0  |                            | PRECIPITATION >= 0.10 INCH: 6 |   |                               |                        |                    |           |             |           |    |            |
| COOLING : 0 0 0 0          |                |              |                                     |                         |                        |                          |                      |              |   |                        |                        |  | HEAVY FOG : 3          |                            | SNOWFALL >= 1.0 INCH : 1      |   |                               |                        |                    |           |             |           |    |            |

**JANUARY 2010  
RICHMOND, VA**

# HOURLY PRECIPITATION

(WATER EQUIVALENT IN INCHES)

RICHMOND, VA (KRIC)  
JANUARY 2010

WBAN # 13740

| Date | FOR HOUR (LST) ENDING AT |      |      |      |      |      |      |      |      |      |      |      | Date | FOR HOUR (LST) ENDING AT |      |      |      |      |      |      |      |      |    |    |      | Date  | Sum of Hourly Data | 2400 LST Water Equiv. |
|------|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|--------------------------|------|------|------|------|------|------|------|------|----|----|------|-------|--------------------|-----------------------|
|      | 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   |                          |      |      |      |      |      |      |      |      |      |      |      | 01   |                          |      |      |      |      |      |      |      |      |    |    | 01   | T     | T                  |                       |
| 02   |                          |      |      |      |      |      |      |      |      |      |      |      | 02   |                          |      |      |      |      |      |      |      |      |    |    | 02   | 0.00  | 0.00               |                       |
| 03   |                          |      |      |      |      |      |      |      |      |      |      |      | 03   |                          |      |      |      |      |      |      |      |      |    |    | 03   | 0.00  | 0.00               |                       |
| 04   |                          |      |      |      |      |      |      |      |      |      |      |      | 04   |                          |      |      |      |      |      |      |      |      |    |    | 04   | 0.00  | 0.00               |                       |
| 05   |                          |      |      |      |      |      |      |      |      |      |      |      | 05   |                          |      |      |      |      |      |      |      |      |    |    | 05   | 0.00  | 0.00               |                       |
| 06   |                          |      |      |      |      |      |      |      |      |      |      |      | 06   |                          |      |      |      |      |      |      |      |      |    |    | 06   | 0.00  | 0.00               |                       |
| 07   |                          |      |      |      |      |      |      |      |      |      |      |      | 07   |                          |      |      |      |      |      |      |      |      |    |    | 07   | T     | T                  |                       |
| 08   | T                        | T    | 0.02 | T    | T    |      |      |      |      |      |      |      | 08   |                          |      |      |      |      |      |      |      |      |    |    | 08   | 0.02  | 0.02               |                       |
| 09   |                          |      |      |      |      |      |      |      |      |      |      |      | 09   |                          |      |      |      |      |      |      |      |      |    |    | 09   | 0.00  | 0.00               |                       |
| 10   |                          |      |      |      |      |      |      |      |      |      |      |      | 10   |                          |      |      |      |      |      |      |      |      |    |    | 10   | 0.00  | 0.00               |                       |
| 11   |                          |      |      |      |      |      |      |      |      |      |      |      | 11   |                          |      |      |      |      |      |      |      |      |    |    | 11   | 0.00  | 0.00               |                       |
| 12   |                          |      |      |      |      |      |      |      |      |      |      |      | 12   |                          |      |      |      |      |      |      |      |      |    |    | 12   | 0.00  | 0.00               |                       |
| 13   |                          |      |      |      |      |      |      |      |      |      |      |      | 13   |                          |      |      |      |      |      |      |      |      |    |    | 13   | 0.00  | 0.00               |                       |
| 14   |                          |      |      |      |      |      |      |      |      |      |      |      | 14   |                          |      |      |      |      |      |      |      |      |    |    | 14   | 0.00  | 0.00               |                       |
| 15   |                          |      |      |      |      |      |      |      |      |      |      |      | 15   |                          |      |      |      |      |      |      |      |      |    |    | 15   | 0.00  | 0.00               |                       |
| 16   |                          |      |      |      |      |      |      |      |      |      |      |      | 16   |                          |      |      |      |      |      |      |      |      |    |    | 16   | 0.00  | 0.00               |                       |
| 17   |                          |      |      | T    | T    | 0.01 | 0.05 | 0.14 | 0.16 | 0.17 | 0.24 | 0.06 | 17   | T                        |      |      |      | T    | 0.08 | 0.21 | 0.11 |      | T  | 17 | 1.23 | 1.23  |                    |                       |
| 18   |                          |      |      |      |      |      |      |      |      |      |      |      | 18   |                          |      |      |      |      |      |      |      |      |    |    | 18   | 0.00  | 0.00               |                       |
| 19   |                          |      |      |      |      |      |      |      |      |      |      |      | 19   |                          |      |      |      |      |      |      |      |      |    |    | 19   | 0.00  | 0.00               |                       |
| 20   |                          |      |      |      |      |      |      |      |      |      |      |      | 20   |                          |      |      |      |      |      |      |      |      |    |    | 20   | 0.13  | 0.13               |                       |
| 21   |                          |      |      |      |      |      |      |      |      |      |      |      | 21   |                          |      |      |      |      |      |      |      |      |    |    | 21   | 0.22  | 0.22               |                       |
| 22   | T                        | T    | 0.10 | 0.04 | 0.04 | 0.01 | 0.10 | 0.01 | 0.01 | 0.03 | 0.01 | 0.03 | 22   | 0.01                     | T    | T    | T    | 0.02 | 0.04 | 0.07 | 0.05 | 0.02 | T  | T  | 0.02 | 22    | 0.39               | 0.39                  |
| 23   |                          |      |      |      |      |      |      |      |      |      |      |      | 23   |                          |      |      |      |      |      |      |      |      |    |    | 23   | 0.00  | 0.00               |                       |
| 24   |                          |      |      |      |      |      |      |      |      |      |      |      | 24   |                          |      |      |      |      |      |      |      |      |    |    | 24   | T     | T                  |                       |
| 25   | 0.01                     | 0.02 | 0.01 | 0.09 | 0.08 | 0.11 | 0.46 | 0.06 | 0.02 | 0.01 |      | T    | 25   |                          |      |      |      |      |      |      |      |      |    |    | 25   | 0.87  | 0.87               |                       |
| 26   |                          |      |      |      |      |      |      |      |      |      |      |      | 26   |                          |      |      |      |      |      |      |      |      |    |    | 26   | 0.00  | 0.00               |                       |
| 27   |                          |      |      |      |      |      |      |      |      |      |      |      | 27   |                          |      |      |      |      |      |      |      |      |    |    | 27   | 0.00  | 0.00               |                       |
| 28   |                          |      |      |      |      |      |      |      |      |      |      |      | 28   |                          |      |      |      |      |      |      |      |      |    |    | 28   | T     | T                  |                       |
| 29   |                          |      |      |      |      |      |      |      |      |      |      |      | 29   |                          |      |      |      |      |      |      |      |      |    |    | 29   | 0.00  | 0.00               |                       |
| 30   |                          |      |      | T    | T    | 0.04 | 0.03 | 0.03 | 0.07 | 0.12 | 0.06 | 0.04 | 30   | 0.07                     | 0.05 | 0.03 | 0.01 | 0.02 | T    | T    | T    | T    | T  | T  | 30   | 0.57* | 0.71               |                       |
| 31   | 0.02                     | 0.01 | T    | T    | T    |      |      |      |      |      |      |      | 31   |                          |      |      |      |      |      |      |      |      |    |    | 31   | 0.03  | 0.03               |                       |

\* Indicates sum of Hourly and Daily disagree.

## MAXIMUM SHORT DURATION PRECIPITATION (See Note)

| Time Period (Minutes)  | 5    | 10   | 15   | 20   | 30   | 45   | 60   | 80   | 100  | 120  | 150  | 180  |
|------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Precipitation (Inches) | 0.22 | 0.30 | 0.35 | 0.39 | 0.43 | 0.46 | 0.47 | 0.52 | 0.57 | 0.59 | 0.62 | 0.69 |
| Ending Date            | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   |
| Ending Time (Hr/Min)   | 0626 | 0630 | 0630 | 0635 | 0641 | 0648 | 0702 | 0641 | 0648 | 0648 | 0702 | 0648 |

Note : The hourly and daily precipitation totals are printed in the last 2 columns and hi-lighted in red when they disagree. 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.

Date and time are not entered for TRACE amounts.

# 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 1971-2000

## WEATHER NOTATIONS

| QUALIFIER          | WEATHER PHENOMENA                 |                    |                                    |
|--------------------|-----------------------------------|--------------------|------------------------------------|
| DESCRIPTOR         | 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            |                                    |
| PR Partial         | RA Rain                           | PY Spray           | SQ Squalls                         |
| SH Shower(s)       | SG Snow Grains                    | SA Sand            | SS Sandstorm                       |
| TS Thunderstorm    | SN Snow                           | VA Volcanic Ash    | GL Glaze                           |
| VC In the Vicinity | UP Unkown Precipitation           |                    |                                    |

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

# RICHMOND, VA JANUARY 2010

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:

Station Augmentation-SANDSTON COOP  
Lat/Lon:37.54417/-77.27583 Elevation:165  
Distance:4 MI Dir:E  
Augmented Elements:Temp, Precip, Snow  
Equipment:MMTS, SRG, Snowboard

| Date                                       | SUNSHINE      |                  | CLOUDINESS (OKTAS) |           |                  |           | VISIBILITY (MILES) |         | RESERVED |
|--|---------------|------------------|--------------------|-----------|------------------|-----------|--------------------|---------|----------|
|  | TOTAL MINUTES | PERCENT POSSIBLE | SR-SS              |           | MN-MN            |           | MINIMUM            | MAXIMUM |          |
|  |               |                  | Sky Cover          | Satellite | Sky Cover        | Satellite |                    |         |          |
| 01   |               |                  |                    |           |                  |           | 0.12               | 10.00   |          |
| 02   |               |                  |                    |           |                  |           | 10.00              | 10.00   |          |
| 03   |               |                  |                    |           |                  |           | 10.00              | 10.00   |          |
| 04   |               |                  |                    |           |                  |           | 10.00              | 10.00   |          |
| 05   |               |                  |                    |           |                  |           | 10.00              | 10.00   |          |
| 06   |               |                  |                    |           |                  |           | 10.00              | 10.00   |          |
| 07   |               |                  |                    |           |                  |           | 9.00               | 10.00   |          |
| 08   |               |                  |                    |           |                  |           | 1.50               | 10.00   |          |
| 09   |               |                  |                    |           |                  |           | 10.00              | 10.00   |          |
| 10   |               |                  |                    |           |                  |           | 10.00              | 10.00   |          |
| 11   |               |                  |                    |           |                  |           | 10.00              | 10.00   |          |
| 12   |               |                  |                    |           |                  |           | 10.00              | 10.00   |          |
| 13   |               |                  |                    |           |                  |           | 8.00               | 10.00   |          |
| 14   |               |                  |                    |           |                  |           | 10.00              | 10.00   |          |
| 15   |               |                  |                    |           |                  |           | 8.00               | 10.00   |          |
| 16   |               |                  |                    |           |                  |           | 7.00               | 10.00   |          |
| 17   |               |                  |                    |           |                  |           | 0.25               | 10.00   |          |
| 18   |               |                  |                    |           |                  |           | 6.00               | 10.00   |          |
| 19   |               |                  |                    |           |                  |           | 10.00              | 10.00   |          |
| 20   |               |                  |                    |           |                  |           | 3.00               | 10.00   |          |
| 21   |               |                  |                    |           |                  |           | 4.00               | 10.00   |          |
| 22   |               |                  |                    |           |                  |           | 2.50               | 10.00   |          |
| 23   |               |                  |                    |           |                  |           | 10.00              | 10.00   |          |
| 24   |               |                  |                    |           |                  |           | 10.00              | 10.00   |          |
| 25   |               |                  |                    |           |                  |           | 3.00               | 10.00   |          |
| 26   |               |                  |                    |           |                  |           | 10.00              | 10.00   |          |
| 27   |               |                  |                    |           |                  |           | 10.00              | 10.00   |          |
| 28   |               |                  |                    |           |                  |           | 10.00              | 10.00   |          |
| 29   |               |                  |                    |           |                  |           | 10.00              | 10.00   |          |
| 30   |               |                  |                    |           |                  |           | 0.12               | 10.00   |          |
| 31   |               |                  |                    |           |                  |           | 1.50               | 10.00   |          |
| MONTHLY AVGS                               |               |                  |                    |           |                  |           | 7.23               | 10.00   |          |
| <b>SUNSHINE (Minutes)</b>                  |               |                  |                    |           |                  |           |                    |         |          |
| Total : 0                                  |               |                  |                    |           | Possible : 18462 |           |                    |         |          |
| Percent Possible : 0                       |               |                  |                    |           |                  |           |                    |         |          |
| <b>NUMBER OF DAYS WITH : SKY CONDITION</b> |               |                  |                    |           |                  |           |                    |         |          |
| Clear                                      |               | Partly CLDY      |                    |           | Cloudy           |           |                    | Missing |          |
| <b>MINIMUM VISIBILITY (MILES)</b>          |               |                  |                    |           |                  |           |                    |         |          |
| <= .25                                     |               |                  | <= 3.0             |           |                  |           | >= 7.0             |         |          |
| 3  |               |                  | 8                  |           |                  |           | 21                 |         |          |

# OBSERVATIONS AT 3-HOURLY INTERVALS

## RICHMOND, VA

### JANUARY 2010

### KRIC

### WBAN # 13740

| HOUR (LST)           | SKY COVER | CEILING<br>100's of FT. | SATELLITE                 |                      | VISIBILITY<br>(MILES) | WEATHER | TEMPERATURE<br>°F |           |          | WIND<br>SPEED (MPH)<br>DIRECTION<br>Tens of Deg | PRESSURE<br>(INCHES, HG)   |         | HOUR (LST) | SKY COVER           | CEILING<br>100's of FT. | SATELLITE    |                           | VISIBILITY<br>(MILES) | WEATHER | TEMPERATURE<br>°F    |          |           | WIND<br>SPEED (MPH)<br>DIRECTION<br>Tens of Deg | PRESSURE<br>(INCHES, HG) |                            |         |              |                           |                      |          |
|----------------------|-----------|-------------------------|---------------------------|----------------------|-----------------------|---------|-------------------|-----------|----------|---|----------------------------|---------|------------|---------------------|-------------------------|--------------|---------------------------|-----------------------|---------|----------------------|----------|-----------|---|--------------------------|----------------------------|---------|--------------|---------------------------|----------------------|----------|
|                      |           |                         | Observation<br>Time (LST) | Eff Cld Amt<br>Oktas |                       |         | DRY BULB          | DEW POINT | WET BULB |   | RELATIVE<br>HUMIDITY (PCT) | STATION |            |                     |                         | SEA<br>LEVEL | Observation<br>Time (LST) |                       |         | Eff Cld Amt<br>Oktas | DRY BULB | DEW POINT |   | WET BULB                 | RELATIVE<br>HUMIDITY (PCT) | STATION | SEA<br>LEVEL |                           |                      |          |
|                      |           |                         |                           |                      |                       |         |                   |           |          |   |                            |         |            |                     |                         |              |                           |                       |         |                      |          |           |   |                          |                            |         |              | Observation<br>Time (LST) | Eff Cld Amt<br>Oktas | DRY BULB |
| <b>SUNRISE: 0724</b> |           |                         |                           |                      |                       |         | <b>JAN 01</b>     |           |          |   |                            |         |            | <b>SUNSET: 1702</b> |                         |              |                           |                       |         |                      |          |           |   |                          |                            |         |              |                           |                      |          |
| 01                   | VV        | 001                     |                           |                      | 0.25                  | FG      | 40                | 38        | 39       | 93  | 0                          | 00      | 29.80      | 29.99               | 01                      | CLR          | NC                        |                       |         | 10.00                |          |           | 26  | 16                       | 23                         | 66      | 0            | 00                        | 29.85                | 30.05    |
| 04                   | OVC       | 004                     |                           |                      | 0.25                  | FG      | 39                | 38        | 39       | 96  | 0                          | 00      | 29.77      | 29.97               | 04                      | CLR          | NC                        |                       |         | 10.00                |          |           | 20  | 14                       | 18                         | 77      | 0            | 00                        | 29.86                | 30.06    |
| 07                   | OVC       | 002                     |                           |                      | 0.50                  | FG      | 38                | 36        | 37       | 93  | 6                          | 35      | 29.79      | 29.99               | 07                      | CLR          | NC                        |                       |         | 10.00                |          |           | 22  | 15                       | 20                         | 74      | 0            | 00                        | 29.88                | 30.08    |
| 10                   | OVC       | 060                     |                           |                      | 7.00                  |         | 39                | 36        | 38       | 89  | 0                          | 00      | 29.82      | 30.01               | 10                      | FEW          | 250                       |                       |         | 10.00                |          |           | 32  | 18                       | 27                         | 56      | 0            | 00                        | 29.92                | 30.12    |
| 13                   | OVC       | 050                     |                           |                      | 10.00                 |         | 41                | 34        | 38       | 76  | 5                          | 02      | 29.76      | 29.95               | 13                      | SCT          | 250                       |                       |         | 10.00                |          |           | 39  | 18                       | 32                         | 43      | 8            | 28                        | 29.84                | 30.04    |
| 16                   | BKN       | 250                     |                           |                      | 10.00                 |         | 43                | 33        | 39       | 68  | 5                          | 33      | 29.73      | 29.93               | 16                      | SCT          | 250                       |                       |         | 10.00                |          |           | 40  | 17                       | 32                         | 39      | 3            | 28                        | 29.80                | 30.00    |
| 19                   | BKN       | 080                     |                           |                      | 10.00                 |         | 39                | 34        | 37       | 82  | 5                          | 28      | 29.73      | 29.92               | 19                      | OVC          | 120                       |                       |         | 10.00                |          |           | 32  | 19                       | 28                         | 59      | 3            | 16                        | 29.78                | 29.98    |
| 22                   | BKN       | 045                     |                           |                      | 10.00                 |         | 34                | 22        | 30       | 62  | 18                         | 02      | 29.74      | 29.93               | 22                      | OVC          | 045                       |                       |         | 10.00                |          |           | 36  | 19                       | 30                         | 50      | 0            | 00                        | 29.77                | 29.96    |
| <b>SUNRISE: 0724</b> |           |                         |                           |                      |                       |         | <b>JAN 02</b>     |           |          |   |                            |         |            | <b>SUNSET: 1703</b> |                         |              |                           |                       |         |                      |          |           |   |                          |                            |         |              |                           |                      |          |
| 01                   | FEW       | 100                     |                           |                      | 10.00                 |         | 29                | 15        | 25       | 56  | 10                         | 35      | 29.76      | 29.96               | 01                      | OVC          | 015                       |                       |         | 3.00                 | -SN BR   | 33        | 29  | 31                       | 85                         | 7       | 18           | 29.68                     | 29.88                |          |
| 04                   | BKN       | 150                     |                           |                      | 10.00                 |         | 27                | 15        | 23       | 61  | 7                          | 33      | 29.77      | 29.97               | 04                      | OVC          | 060                       |                       |         | 3.00                 | -SN BR   | 32        | 30  | 31                       | 92                         | 5       | 20           | 29.64                     | 29.84                |          |
| 07                   | SCT       | 110                     |                           |                      | 10.00                 |         | 26                | 12        | 22       | 55  | 10                         | 32      | 29.77      | 29.96               | 07                      | SCT          | 250                       |                       |         | 7.00                 |          | 32        | 29  | 31                       | 89                         | 8       | 26           | 29.64                     | 29.84                |          |
| 10                   | SCT       | 055                     |                           |                      | 10.00                 |         | 30                | 8         | 24       | 39  | 23                         | 34      | 29.80      | 30.00               | 10                      | BKN          | 050                       |                       |         | 10.00                |          |           | 32  | 21                       | 28                         | 64      | 18           | 33                        | 29.71                | 29.91    |
| 13                   | SCT       | 060                     |                           |                      | 10.00                 |         | 31                | 5         | 24       | 33  | 25                         | 32      | 29.76      | 29.96               | 13                      | SCT          | 250                       |                       |         | 10.00                |          |           | 32  | 8                        | 25                         | 36      | 21           | 31                        | 29.73                | 29.93    |
| 16                   | FEW       | 070                     |                           |                      | 10.00                 |         | 30                | 3         | 23       | 31  | 17                         | 31      | 29.77      | 29.97               | 16                      | FEW          | 250                       |                       |         | 10.00                |          |           | 31  | 5                        | 24                         | 33      | 15           | 33                        | 29.77                | 29.97    |
| 19                   | CLR       | NC                      |                           |                      | 10.00                 |         | 27                | 3         | 21       | 35  | 18                         | 33      | 29.82      | 30.02               | 19                      | FEW          | 250                       |                       |         | 10.00                |          |           | 29  | 6                        | 23                         | 37      | 8            | 31                        | 29.83                | 30.03    |
| 22                   | CLR       | NC                      |                           |                      | 10.00                 |         | 24                | 3         | 19       | 40  | 11                         | 32      | 29.84      | 30.04               | 22                      | CLR          | NC                        |                       |         | 10.00                |          |           | 26  | 7                        | 21                         | 44      | 8            | 33                        | 29.89                | 30.09    |
| <b>SUNRISE: 0724</b> |           |                         |                           |                      |                       |         | <b>JAN 03</b>     |           |          |   |                            |         |            | <b>SUNSET: 1704</b> |                         |              |                           |                       |         |                      |          |           |   |                          |                            |         |              |                           |                      |          |
| 01                   | CLR       | NC                      |                           |                      | 10.00                 |         | 22                | -0        | 17       | 38  | 16                         | 31      | 29.81      | 30.01               | 01                      | CLR          | NC                        |                       |         | 10.00                |          |           | 23  | 8                        | 19                         | 52      | 7            | 33                        | 29.92                | 30.11    |
| 04                   | CLR       | NC                      |                           |                      | 10.00                 |         | 21                | -0        | 16       | 40  | 13                         | 30      | 29.79      | 29.98               | 04                      | CLR          | NC                        |                       |         | 10.00                |          |           | 22  | 8                        | 18                         | 55      | 6            | 29                        | 29.93                | 30.13    |
| 07                   | CLR       | NC                      |                           |                      | 10.00                 |         | 20                | -0        | 15       | 41  | 16                         | 31      | 29.79      | 29.99               | 07                      | FEW          | 070                       |                       |         | 10.00                |          |           | 21  | 9                        | 18                         | 60      | 5            | 28                        | 29.97                | 30.17    |
| 10                   | CLR       | NC                      |                           |                      | 10.00                 |         | 24                | -0        | 18       | 35  | 20                         | 31      | 29.77      | 29.97               | 10                      | SCT          | 130                       |                       |         | 10.00                |          |           | 27  | 11                       | 22                         | 51      | 5            | 26                        | 30.02                | 30.22    |
| 13                   | CLR       | NC                      |                           |                      | 10.00                 |         | 31                | 1         | 23       | 27  | 21                         | 31      | 29.67      | 29.87               | 13                      | FEW          | 150                       |                       |         | 10.00                |          |           | 36  | 13                       | 29                         | 39      | 16           | 01                        | 29.97                | 30.17    |
| 16                   | CLR       | NC                      |                           |                      | 10.00                 |         | 34                | 4         | 26       | 28  | 18                         | 31      | 29.67      | 29.87               | 16                      | CLR          | NC                        |                       |         | 10.00                |          |           | 37  | 12                       | 29                         | 36      | 15           | 02                        | 29.96                | 30.16    |
| 19                   | FEW       | 150                     |                           |                      | 10.00                 |         | 30                | 6         | 23       | 36  | 16                         | 32      | 29.70      | 29.89               | 19                      | CLR          | NC                        |                       |         | 10.00                |          |           | 29  | 13                       | 24                         | 51      | 7            | 01                        | 30.02                | 30.22    |
| 22                   | CLR       | NC                      |                           |                      | 10.00                 |         | 26                | 7         | 21       | 44  | 15                         | 33      | 29.73      | 29.93               | 22                      | CLR          | NC                        |                       |         | 10.00                |          |           | 27  | 13                       | 23                         | 55      | 8            | 01                        | 30.06                | 30.26    |
| <b>SUNRISE: 0724</b> |           |                         |                           |                      |                       |         | <b>JAN 04</b>     |           |          |   |                            |         |            | <b>SUNSET: 1704</b> |                         |              |                           |                       |         |                      |          |           |   |                          |                            |         |              |                           |                      |          |
| 01                   | CLR       | NC                      |                           |                      | 10.00                 |         | 24                | 7         | 19       | 48  | 8                          | 30      | 29.75      | 29.95               | 01                      | CLR          | NC                        |                       |         | 10.00                |          |           | 25  | 12                       | 21                         | 58      | 11           | 01                        | 30.07                | 30.27    |
| 04                   | CLR       | NC                      |                           |                      | 10.00                 |         | 23                | 7         | 19       | 50  | 6                          | 31      | 29.74      | 29.94               | 04                      | CLR          | NC                        |                       |         | 10.00                |          |           | 23  | 10                       | 19                         | 57      | 13           | 01                        | 30.10                | 30.30    |
| 07                   | FEW       | 050                     |                           |                      | 10.00                 |         | 20                | 8         | 17       | 60  | 8                          | 25      | 29.74      | 29.94               | 07                      | CLR          | NC                        |                       |         | 10.00                |          |           | 20  | 8                        | 17                         | 60      | 10           | 01                        | 30.14                | 30.34    |
| 10                   | FEW       | 090                     |                           |                      | 10.00                 |         | 29                | 9         | 23       | 43  | 9                          | 30      | 29.75      | 29.95               | 10                      | CLR          | NC                        |                       |         | 10.00                |          |           | 27  | 3                        | 21                         | 35      | 14           | 01                        | 30.20                | 30.40    |
| 13                   | BKN       | 080                     |                           |                      | 10.00                 |         | 34                | 10        | 27       | 37  | 11                         | 26      | 29.71      | 29.90               | 13                      | CLR          | NC                        |                       |         | 10.00                |          |           | 33  | -0                       | 24                         | 24      | 14           | 36                        | 30.15                | 30.35    |
| 16                   | SCT       | 080                     |                           |                      | 10.00                 |         | 35                | 11        | 28       | 37  | 14                         | 33      | 29.69      | 29.89               | 16                      | CLR          | NC                        |                       |         | 10.00                |          |           | 34  | -2                       | 25                         | 21      | 9            | 04                        | 30.12                | 30.32    |
| 19                   | SCT       | 070                     |                           |                      | 10.00                 |         | 31                | 11        | 25       | 43  | 10                         | 33      | 29.73      | 29.93               | 19                      | CLR          | NC                        |                       |         | 10.00                |          |           | 29  | 1                        | 22                         | 30      | 3            | 01                        | 30.15                | 30.35    |
| 22                   | SCT       | 070                     |                           |                      | 10.00                 |         | 27                | 11        | 22       | 51  | 7                          | 32      | 29.75      | 29.95               | 22                      | CLR          | NC                        |                       |         | 10.00                |          |           | 20  | 5                        | 16                         | 52      | 0            | 00                        | 30.15                | 30.35    |
| <b>SUNRISE: 0724</b> |           |                         |                           |                      |                       |         | <b>JAN 05</b>     |           |          |   |                            |         |            | <b>SUNSET: 1705</b> |                         |              |                           |                       |         |                      |          |           |   |                          |                            |         |              |                           |                      |          |
| 01                   | CLR       | NC                      |                           |                      | 10.00                 |         | 25                | 10        | 21       | 53  | 5                          | 32      | 29.73      | 29.93               | 01                      | CLR          | NC                        |                       |         | 10.00                |          |           | 19  | 8                        | 16                         | 62      | 0            | 00                        | 30.13                | 30.33    |
| 04                   | OVC       | 110                     |                           |                      | 10.00                 |         | 24                | 12        | 21       | 60  | 5                          | 30      | 29.74      | 29.93               | 04                      | CLR          | NC                        |                       |         | 10.00                |          |           | 15  | 7                        | 13                         | 70      | 0            | 00                        | 30.12                | 30.32    |
| 07                   | OVC       | 120                     |                           |                      | 10.00                 |         | 26                | 11        | 22       | 53  | 6                          | 29      | 29.75      | 29.94               | 07                      | CLR          | NC                        |                       |         | 10.00                |          |           | 14  | 7                        | 12                         | 74      | 0            | 00                        | 30.11                | 30.32    |
| 10                   | OVC       | 250                     |                           |                      | 10.00                 |         | 30                | 13        | 25       | 49  | 10                         | 33      | 29.77      | 29.97               | 10                      | BKN          | 250                       |                       |         | 10.00                |          |           | 27  | 12                       | 23                         | 53      | 5            | 16                        | 30.10                | 30.30    |
| 13                   | OVC       | 250                     |                           |                      | 10.00                 |         | 35                | 11        | 28       | 37  | 9                          | 32      | 29.71      | 29.91               | 13                      | BKN          | 250                       |                       |         | 10.00                |          |           | 38  | 4                        | 28                         | 24      | 11           | 23                        | 30.00                | 30.20    |
| 16                   | BKN       | 250                     |                           |                      | 10.00                 |         | 36                | 11        | 28       | 35  | 13                         | 32      | 29.69      | 29.89               | 16                      | OVC          | 250                       |                       |         | 10.00                |          |           | 41  | 7                        | 30                         | 24      | 3            | 23                        | 29.93                | 30.13    |
| 19                   | SCT       | 250                     |                           |                      | 10.00                 |         | 32                | 12        | 26       | 43  | 5                          | 32      | 29.71      | 29.91               | 19                      | OVC          | 110                       |                       |         | 10.00                |          |           | 31  | 10                       | 25                         | 41      | 7            | 22                        | 29.94                | 30.14    |
| 22                   | SCT       | 250                     |                           |                      | 10.00                 |         | 30                | 12        | 25       | 47  | 11                         | 31      | 29.74      | 29.94               | 22                      | OVC          | 070                       |                       |         | 10.00                |          |           | 37  | 10                       | 29                         | 33      | 6            | 23                        | 29.93                | 30.13    |
| <b>SUNRISE: 0724</b> |           |                         |                           |                      |                       |         | <b>JAN 06</b>     |           |          |   |                            |         |            | <b>SUNSET: 1706</b> |                         |              |                           |                       |         |                      |          |           |   |                          |                            |         |              |                           |                      |          |
| 01                   | BKN       | 250                     |                           |                      | 10.00                 |         | 29                | 11        | 24       | 47  | 8                          | 30      | 29.74      | 29.93               | 01                      | OVC          | 090                       |                       |         | 10.00                |          |           | 34  | 13                       | 27                         | 42      | 0            | 00                        | 29.92                | 30.12    |
| 04                   | CLR       | NC                      |                           |                      | 10.00                 |         | 25                | 12        | 21       | 58  | 8                          | 27      | 29.74      | 29.93               | 04                      | OVC          | 060                       |                       |         | 10.00                |          |           | 32  | 19                       | 28                         | 59      | 10           | 04                        | 29.95                | 30.14    |
| 07                   | SCT       | 150                     |                           |                      | 10.00                 |         | 25                | 12        | 21       | 58  | 5                          | 27      | 29.75      | 29.95               | 07                      | OVC          | 080                       |                       |         | 10.00                |          |           | 31  | 18                       | 27                         | 59      | 9            | 03                        | 29.99                | 30.19    |
| 10                   | BKN       | 150                     |                           |                      | 10.00                 |         | 32                | 14        | 26       | 47  | 8                          | 28      | 29.78      | 29.98               | 10                      | BKN          | 075                       |                       |         | 10.00                |          |           | 33  | 15                       | 27                         | 48      | 11           | 03                        | 30.04                | 30.24    |
| 13                   | BKN       | 250                     |                           |                      | 10.00                 |         | 41                | 15        | 32       | 35  | 15                         | 34      | 29.73      | 29.93               | 13                      | BKN          | 050                       |                       |         | 10.00                |          |           | 35  | 14                       | 28                         | 42      | 16           | 35                        | 30.00                | 30.20    |
| 16                   | FEW       | 250                     |                           |                      | 10.00                 |         | 41                | 16        | 32       | 36  | 15                         | 31      | 29.74      | 29.93               | 16                      | CLR          | NC                        |                       |         | 10.00                |          |           | 36  | 12                       | 28                         | 37      | 13           | 34                        | 29.97                | 30.17    |
| 19                   | CLR       | NC                      |                           |                      | 10.00                 |         | 35                | 17        | 29       | 48  | 6                          | 31      | 29.79      | 29.98               | 19                      | CLR          | NC                        |                       |         | 10.00                |          |           | 32  | 13                       | 26                         | 45      | 5            | 33                        | 30.03                | 30.23    |
| 22                   | CLR       | NC                      |                           |                      | 10.00                 |         | 31                | 17        | 26       | 56  | 6                          | 35      | 29.83      | 30.03               | 22                      | CLR          | NC                        |                       |         | 10.00                |          |           | 28  | 14                       | 24                         | 56      | 3            | 34                        | 30.07                | 30.27    |

# OBSERVATIONS AT 3-HOURLY INTERVALS

# RICHMOND, VA

JANUARY 2010

KRIC

WBAN # 13740

| HOUR (LST)    | SKY COVER | CEILING<br>100's of FT. | SATELLITE                 |                      | VISIBILITY<br>(MILES) | WEATHER | TEMPERATURE<br>°F |           |          | WIND<br>SPEED (MPH)<br>DIRECTION<br>Tens of Deg | PRESSURE<br>(INCHES, HG)   |         |              |       |
|---------------|-----------|-------------------------|---------------------------|----------------------|-----------------------|---------|-------------------|-----------|----------|---|----------------------------|---------|--------------|-------|
|               |           |                         | Observation<br>Time (LST) | Eff Cld Amt<br>Oktas |                       |         | DRY BULB          | DEW POINT | WET BULB |   | RELATIVE<br>HUMIDITY (PCT) | STATION | SEA<br>LEVEL |       |
|               |           |                         |                           |                      |                       |         |                   |           |          |   |                            |         |              |       |
| SUNRISE: 0723 |           |                         |                           |                      |                       |         | JAN 13            |           |          | SUNSET: 1713                                    |                            |         |              |       |
| 01            | CLR       | NC                      |                           |                      | 10.00                 |         | 25                | 14        | 22       | 63  | 5                          | 35      | 30.10        | 30.30 |
| 04            | CLR       | NC                      |                           |                      | 10.00                 |         | 25                | 14        | 22       | 63  | 5                          | 33      | 30.11        | 30.31 |
| 07            | FEW       | 200                     |                           |                      | 10.00                 |         | 21                | 13        | 19       | 71  | 0                          | 00      | 30.15        | 30.35 |
| 10            | FEW       | 250                     |                           |                      | 10.00                 |         | 32                | 16        | 27       | 52  | 3                          | 30      | 30.19        | 30.38 |
| 13            | FEW       | 250                     |                           |                      | 10.00                 |         | 43                | 15        | 33       | 32  | 7                          | 21      | 30.10        | 30.30 |
| 16            | CLR       | NC                      |                           |                      | 10.00                 |         | 47                | 14        | 35       | 26  | 8                          | 25      | 30.05        | 30.25 |
| 19            | CLR       | NC                      |                           |                      | 10.00                 |         | 37                | 14        | 29       | 39  | 0                          | 00      | 30.05        | 30.24 |
| 22            | CLR       | NC                      |                           |                      | 10.00                 |         | 33                | 16        | 27       | 50  | 3                          | 23      | 30.06        | 30.26 |
| SUNRISE: 0723 |           |                         |                           |                      |                       |         | JAN 14            |           |          | SUNSET: 1714                                    |                            |         |              |       |
| 01            | CLR       | NC                      |                           |                      | 10.00                 |         | 26                | 16        | 23       | 66  | 5                          | 20      | 30.07        | 30.27 |
| 04            | CLR       | NC                      |                           |                      | 10.00                 |         | 28                | 16        | 24       | 61  | 0                          | 00      | 30.07        | 30.26 |
| 07            | CLR       | NC                      |                           |                      | 10.00                 |         | 27                | 16        | 24       | 63  | 0                          | 00      | 30.07        | 30.27 |
| 10            | FEW       | 250                     |                           |                      | 10.00                 |         | 36                | 21        | 31       | 55  | 0                          | 00      | 30.11        | 30.31 |
| 13            | BKN       | 250                     |                           |                      | 10.00                 |         | 50                | 18        | 38       | 28  | 0                          | 00      | 30.07        | 30.26 |
| 16            | BKN       | 250                     |                           |                      | 10.00                 |         | 54                | 17        | 40       | 23  | 6                          | 19      | 30.05        | 30.24 |
| 19            | BKN       | 200                     |                           |                      | 10.00                 |         | 40                | 20        | 33       | 45  | 5                          | 15      | 30.06        | 30.26 |
| 22            | OVC       | 200                     |                           |                      | 10.00                 |         | 39                | 21        | 33       | 48  | 3                          | 18      | 30.07        | 30.27 |
| SUNRISE: 0723 |           |                         |                           |                      |                       |         | JAN 15            |           |          | SUNSET: 1715                                    |                            |         |              |       |
| 01            | SCT       | 200                     |                           |                      | 10.00                 |         | 34                | 22        | 30       | 62  | 7                          | 21      | 30.04        | 30.24 |
| 04            | FEW       | 200                     |                           |                      | 10.00                 |         | 30                | 21        | 27       | 69  | 0                          | 00      | 30.02        | 30.22 |
| 07            | BKN       | 200                     |                           |                      | 10.00                 |         | 29                | 21        | 26       | 72  | 5                          | 24      | 30.05        | 30.25 |
| 10            | SCT       | 150                     |                           |                      | 10.00                 |         | 43                | 24        | 36       | 47  | 5                          | 30      | 30.07        | 30.27 |
| 13            | SCT       | 250                     |                           |                      | 10.00                 |         | 57                | 26        | 44       | 30  | 3                          | 25      | 30.03        | 30.22 |
| 16            | SCT       | 250                     |                           |                      | 10.00                 |         | 61                | 27        | 46       | 27  | 7                          | 28      | 30.01        | 30.20 |
| 19            | SCT       | 250                     |                           |                      | 10.00                 |         | 47                | 28        | 39       | 48  | 0                          | 00      | 30.05        | 30.24 |
| 22            | FEW       | 065                     |                           |                      | 10.00                 |         | 39                | 27        | 34       | 62  | 6                          | 07      | 30.06        | 30.25 |
| SUNRISE: 0722 |           |                         |                           |                      |                       |         | JAN 16            |           |          | SUNSET: 1716                                    |                            |         |              |       |
| 01            | CLR       | NC                      |                           |                      | 10.00                 |         | 35                | 28        | 32       | 76  | 0                          | 00      | 30.07        | 30.27 |
| 04            | CLR       | NC                      |                           |                      | 10.00                 |         | 34                | 27        | 31       | 76  | 0                          | 00      | 30.09        | 30.29 |
| 07            | SCT       | 200                     |                           |                      | 10.00                 |         | 30                | 25        | 28       | 82  | 0                          | 00      | 30.09        | 30.29 |
| 10            | OVC       | 200                     |                           |                      | 10.00                 |         | 43                | 33        | 39       | 68  | 0                          | 00      | 30.14        | 30.34 |
| 13            | OVC       | 250                     |                           |                      | 10.00                 |         | 55                | 35        | 46       | 47  | 5                          | 19      | 30.05        | 30.24 |
| 16            | OVC       | 250                     |                           |                      | 10.00                 |         | 57                | 37        | 48       | 47  | 3                          | 21      | 30.01        | 30.21 |
| 19            | OVC       | 250                     |                           |                      | 10.00                 |         | 46                | 35        | 41       | 66  | 6                          | 19      | 30.01        | 30.20 |
| 22            | OVC       | 150                     |                           |                      | 10.00                 |         | 46                | 36        | 42       | 68  | 3                          | 13      | 29.99        | 30.19 |
| SUNRISE: 0722 |           |                         |                           |                      |                       |         | JAN 17            |           |          | SUNSET: 1717                                    |                            |         |              |       |
| 01            | OVC       | 140                     |                           |                      | 10.00                 |         | 45                | 37        | 41       | 74  | 3                          | 16      | 29.93        | 30.12 |
| 04            | OVC       | 090                     |                           |                      | 10.00                 | -RA     | 45                | 37        | 41       | 74  | 5                          | 14      | 29.85        | 30.04 |
| 07            | OVC       | 050                     |                           |                      | 5.00                  | -RA BR  | 43                | 39        | 41       | 86  | 9                          | 09      | 29.73        | 29.92 |
| 10            | OVC       | 005                     |                           |                      | 2.00                  | +RA BR  | 47                | 45        | 46       | 93  | 13                         | 11      | 29.61        | 29.80 |
| 13            | OVC       | 004                     |                           |                      | 2.50                  | BR      | 51                | 49        | 50       | 93  | 6                          | 11      | 29.47        | 29.66 |
| 16            | OVC       | 002                     |                           |                      | 0.50                  | FG      | 50                | 48        | 49       | 93  | 6                          | 03      | 29.39        | 29.58 |
| 19            | OVC       | 010                     |                           |                      | 0.50                  | RA FG   | 46                | 44        | 45       | 93  | 11                         | 35      | 29.39        | 29.57 |
| 22            | OVC       | 006                     |                           |                      | 10.00                 |         | 44                | 41        | 43       | 89  | 9                          | 30      | 29.42        | 29.61 |
| SUNRISE: 0722 |           |                         |                           |                      |                       |         | JAN 18            |           |          | SUNSET: 1718                                    |                            |         |              |       |
| 01            | BKN       | 090                     |                           |                      | 10.00                 |         | 42                | 39        | 41       | 89  | 8                          | 32      | 29.44        | 29.62 |
| 04            | BKN       | 050                     |                           |                      | 7.00                  |         | 42                | 39        | 41       | 89  | 8                          | 32      | 29.52        | 29.72 |
| 07            | FEW       | 040                     |                           |                      | 10.00                 |         | 37                | 34        | 36       | 89  | 0                          | 00      | 29.59        | 29.79 |
| 10            | FEW       | 033                     |                           |                      | 10.00                 |         | 48                | 38        | 43       | 68  | 11                         | 36      | 29.70        | 29.89 |
| 13            | FEW       | 034                     |                           |                      | 10.00                 |         | 56                | 41        | 49       | 57  | 9                          | 34      | 29.69        | 29.88 |
| 16            | FEW       | 250                     |                           |                      | 10.00                 |         | 58                | 38        | 48       | 48  | 6                          | 33      | 29.71        | 29.90 |
| 19            | CLR       | NC                      |                           |                      | 10.00                 |         | 46                | 38        | 42       | 74  | 0                          | 00      | 29.77        | 29.97 |
| 22            | CLR       | NC                      |                           |                      | 10.00                 |         | 42                | 37        | 40       | 83  | 0                          | 00      | 29.79        | 29.98 |
| SUNRISE: 0721 |           |                         |                           |                      |                       |         | JAN 19            |           |          | SUNSET: 1719                                    |                            |         |              |       |
| 01            | CLR       | NC                      |                           |                      | 10.00                 |         | 39                | 36        | 38       | 89  | 3                          | 20      | 29.77        | 29.96 |
| 04            | CLR       | NC                      |                           |                      | 10.00                 |         | 39                | 36        | 38       | 89  | 0                          | 00      | 29.76        | 29.95 |
| 07            | BKN       | 250                     |                           |                      | 10.00                 |         | 38                | 35        | 37       | 89  | 5                          | 22      | 29.76        | 29.95 |
| 10            | FEW       | 250                     |                           |                      | 10.00                 |         | 49                | 38        | 44       | 66  | 6                          | 27      | 29.78        | 29.98 |
| 13            | FEW       | 250                     |                           |                      | 10.00                 |         | 62                | 37        | 50       | 40  | 14                         | 31      | 29.71        | 29.90 |
| 16            | BKN       | 150                     |                           |                      | 10.00                 |         | 62                | 38        | 50       | 41  | 9                          | 27      | 29.70        | 29.89 |
| 19            | BKN       | 250                     |                           |                      | 10.00                 |         | 50                | 38        | 44       | 64  | 3                          | 24      | 29.70        | 29.90 |
| 22            | SCT       | 250                     |                           |                      | 10.00                 |         | 44                | 37        | 41       | 77  | 0                          | 00      | 29.72        | 29.92 |
| SUNRISE: 0721 |           |                         |                           |                      |                       |         | JAN 20            |           |          | SUNSET: 1720                                    |                            |         |              |       |
| 01            | BKN       | 085                     |                           |                      | 10.00                 |         | 40                | 36        | 38       | 86  | 5                          | 16      | 29.70        | 29.89 |
| 04            | OVC       | 090                     |                           |                      | 10.00                 |         | 44                | 37        | 41       | 77  | 5                          | 06      | 29.71        | 29.90 |
| 07            | OVC       | 095                     |                           |                      | 9.00                  |         | 42                | 35        | 39       | 76  | 9                          | 07      | 29.76        | 29.96 |
| 10            | OVC       | 250                     |                           |                      | 10.00                 |         | 41                | 31        | 37       | 68  | 11                         | 05      | 29.83        | 30.02 |
| 13            | BKN       | 250                     |                           |                      | 10.00                 |         | 45                | 30        | 39       | 56  | 5                          | 06      | 29.78        | 29.98 |
| 16            | OVC       | 065                     |                           |                      | 10.00                 |         | 44                | 30        | 38       | 58  | 6                          | 07      | 29.79        | 29.98 |
| 19            | OVC       | 060                     |                           |                      | 3.00                  | -RA BR  | 38                | 34        | 36       | 86  | 5                          | 05      | 29.85        | 30.04 |
| 22            | OVC       | 055                     |                           |                      | 6.00                  | BR      | 37                | 34        | 36       | 89  | 7                          | 04      | 29.90        | 30.09 |
| SUNRISE: 0720 |           |                         |                           |                      |                       |         | JAN 21            |           |          | SUNSET: 1721                                    |                            |         |              |       |
| 01            | OVC       | 035                     |                           |                      | 6.00                  | BR      | 37                | 33        | 35       | 86  | 7                          | 04      | 29.91        | 30.10 |
| 04            | OVC       | 039                     |                           |                      | 10.00                 |         | 37                | 31        | 35       | 79  | 6                          | 06      | 29.93        | 30.13 |
| 07            | OVC       | 040                     |                           |                      | 10.00                 |         | 36                | 30        | 34       | 79  | 5                          | 06      | 29.99        | 30.19 |
| 10            | OVC       | 060                     |                           |                      | 10.00                 |         | 38                | 28        | 34       | 67  | 8                          | 07      | 30.01        | 30.21 |
| 13            | OVC       | 039                     |                           |                      | 10.00                 |         | 41                | 28        | 36       | 60  | 8                          | 06      | 29.93        | 30.13 |
| 16            | OVC       | 039                     |                           |                      | 10.00                 |         | 40                | 32        | 37       | 73  | 7                          | 09      | 29.90        | 30.09 |
| 19            | OVC       | 038                     |                           |                      | 4.00                  | RA BR   | 38                | 35        | 37       | 89  | 7                          | 08      | 29.87        | 30.07 |
| 22            | OVC       | 009                     |                           |                      | 10.00                 |         | 37                | 35        | 36       | 93  | 11                         | 06      | 29.79        | 29.98 |
| SUNRISE: 0720 |           |                         |                           |                      |                       |         | JAN 22            |           |          | SUNSET: 1722                                    |                            |         |              |       |
| 01            | OVC       | 005                     |                           |                      | 6.00                  | BR      | 38                | 35        | 37       | 89  | 11                         | 03      | 29.69        | 29.88 |
| 04            | OVC       | 005                     |                           |                      | 4.00                  | -RA BR  | 38                | 36        | 37       | 93  | 11                         | 04      | 29.62        | 29.81 |
| 07            | OVC       | 009                     |                           |                      | 3.00                  | -RA BR  | 38                | 36        | 37       | 93  | 8                          | 02      | 29.63        | 29.83 |
| 10            | OVC       | 007                     |                           |                      | 2.50                  | -RA BR  | 37                | 35        | 36       | 93  | 11                         | 03      | 29.68        | 29.88 |
| 13            | OVC       | 011                     |                           |                      | 10.00                 | -RA     | 37                | 34        | 36       | 89  | 14                         | 03      | 29.68        | 29.88 |
| 16            | BKN       | 029                     |                           |                      | 9.00                  |         | 38                | 34        | 36       | 86  | 5                          | 36      | 29.74        | 29.93 |
| 19            | OVC       | 075                     |                           |                      | 7.00                  |         | 37                | 34        | 36       | 89  | 6                          | 03      | 29.80        | 29.99 |
| 22            | OVC       | 070                     |                           |                      | 10.00                 |         | 37                | 32        | 35       | 82  | 8                          | 35      | 29.89        | 30.09 |
| SUNRISE: 0719 |           |                         |                           |                      |                       |         | JAN 23            |           |          | SUNSET: 1723                                    |                            |         |              |       |
| 01            | OVC       | 060                     |                           |                      | 10.00                 |         | 38                | 32        | 36       | 79  | 5                          | 36      | 29.93        | 30.12 |
| 04            | SCT       | 070                     |                           |                      | 10.00                 |         | 36                | 29        | 33       | 76  | 6                          | 05      | 29.93        | 30.13 |
| 07            | CLR       | NC                      |                           |                      | 10.00                 |         | 33                | 27        | 31       | 79  | 5                          | 33      | 30.01        | 30.21 |
| 10            | FEW       | 150                     |                           |                      | 10.00                 |         | 40                | 28        | 35       | 62  | 5                          | 06      | 30.09        | 30.29 |
| 13            | FEW       | 200                     |                           |                      | 10.00                 |         | 46                | 29        | 39       | 52  | 3                          | VR      | 30.04        | 30.23 |
| 16            | BKN       | 200                     |                           |                      | 10.00                 |         | 45                | 27        | 38       | 49  | 5                          | 11      | 30.04        | 30.23 |
| 19            | OVC       | 200                     |                           |                      | 10.00                 |         | 39                | 31        | 36       | 73  | 5                          | 10      | 30.06        | 30.26 |
| 22            | OVC       | 180                     |                           |                      | 10.00                 |         | 37                | 30        | 34       | 76  | 5                          | 12      | 30.05        | 30.24 |
| SUNRISE: 0719 |           |                         |                           |                      |                       |         | JAN 24            |           |          | SUNSET: 1724                                    |                            |         |              |       |
| 01            | OVC       | 150                     |                           |                      | 10.00                 |         | 37                | 30        | 34       | 76  | 0                          | 00      | 30.02        | 30.21 |
| 04            | OVC       | 044                     |                           |                      | 10.00                 |         | 36                | 31        | 34       | 82  | 0                          | 00      | 29.99        | 30.18 |
| 07            | OVC       | 070                     |                           |                      | 10.00                 |         | 38                | 32        | 36       | 79  | 3                          | 08      | 29.91        | 30.11 |
| 10            | OVC       | 070                     |                           |                      | 10.00                 |         | 43                | 36        | 40       | 76  | 0                          | 00      | 29.88        | 30.08 |
| 13            | OVC       | 065                     |                           |                      | 10.00                 |         | 53                | 43        | 48       | 69  | 0                          | 00      | 29.77        | 29.96 |
| 16            | OVC       | 080                     |                           |                      | 10.00                 |         | 57                | 49        | 53       | 75  | 6                          | 13      | 29.66        | 29.85 |
| 19            | OVC       | 110                     |                           |                      | 10.00                 |         | 62                | 53        | 57       | 73  | 18                         | 17      | 29.62        | 29.81 |
| 22            | BKN       | 110                     |                           |                      | 10.00                 |         | 62                | 54        | 57       | 75  | 16                         | 18      | 29.53        | 29.72 |

# OBSERVATIONS AT 3-HOURLY INTERVALS

| HOUR (LST)           | SKY COVER | CEILING<br>100's of FT. | SATELLITE                 |                       | WEATHER | TEMPERATURE<br>°F     |          |           | WIND     |                            | PRESSURE<br>(INCHES, HG) |                          |         |              |  |  |  |
|----------------------|-----------|-------------------------|---------------------------|-----------------------|---------|-----------------------|----------|-----------|----------|----------------------------|--------------------------|--------------------------|---------|--------------|--|--|--|
|                      |           |                         | Observation<br>Time (LST) | Eff Cl'd Amt<br>Oktas |         | VISIBILITY<br>(MILES) | DRY BULB | DEW POINT | WET BULB | RELATIVE<br>HUMIDITY (PCT) | SPEED (MPH)              | DIRECTION<br>Tens of Deg | STATION | SEA<br>LEVEL |  |  |  |
|                      |           |                         |                           |                       |         |                       |          |           |          |                            |                          |                          |         |              |  |  |  |
| <b>SUNRISE: 0718</b> |           |                         |                           |                       |         | <b>JAN 25</b>         |          |           |          |                            |                          | <b>SUNSET: 1725</b>      |         |              |  |  |  |
| 01                   | OVC       | 019                     |                           |                       | 10.00   | -RA                   | 63       | 57        | 60       | 81                         | 20                       | 17                       | 29.41   | 29.59        |  |  |  |
| 04                   | OVC       | 024                     |                           |                       | 4.00    | RA BR                 | 63       | 59        | 61       | 87                         | 20                       | 17                       | 29.26   | 29.44        |  |  |  |
| 07                   | OVC       | 040                     |                           |                       | 4.00    | -RA BR                | 63       | 62        | 62       | 97                         | 11                       | 17                       | 29.20   | 29.38        |  |  |  |
| 10                   | OVC       | 090                     |                           |                       | 7.00    | -RA                   | 62       | 59        | 60       | 90                         | 16                       | 19                       | 29.17   | 29.35        |  |  |  |
| 13                   | SCT       | 038                     |                           |                       | 10.00   |                       | 62       | 48        | 54       | 60                         | 22                       | 25                       | 29.17   | 29.35        |  |  |  |
| 16                   | SCT       | 050                     |                           |                       | 10.00   |                       | 61       | 45        | 53       | 56                         | 9                        | 27                       | 29.20   | 29.38        |  |  |  |
| 19                   | BKN       | 100                     |                           |                       | 10.00   |                       | 56       | 42        | 49       | 60                         | 9                        | 21                       | 29.25   | 29.43        |  |  |  |
| 22                   | BKN       | 070                     |                           |                       | 10.00   |                       | 48       | 36        | 43       | 63                         | 16                       | 28                       | 29.39   | 29.58        |  |  |  |
| <b>SUNRISE: 0717</b> |           |                         |                           |                       |         | <b>JAN 26</b>         |          |           |          |                            |                          | <b>SUNSET: 1726</b>      |         |              |  |  |  |
| 01                   | OVC       | 110                     |                           |                       | 10.00   |                       | 47       | 30        | 40       | 52                         | 11                       | 28                       | 29.44   | 29.62        |  |  |  |
| 04                   | CLR       | NC                      |                           |                       | 10.00   |                       | 40       | 23        | 34       | 51                         | 14                       | 28                       | 29.53   | 29.72        |  |  |  |
| 07                   | FEW       | 200                     |                           |                       | 10.00   |                       | 38       | 22        | 32       | 53                         | 13                       | 26                       | 29.57   | 29.77        |  |  |  |
| 10                   | SCT       | 150                     |                           |                       | 10.00   |                       | 44       | 24        | 36       | 45                         | 11                       | 26                       | 29.65   | 29.85        |  |  |  |
| 13                   | BKN       | 250                     |                           |                       | 10.00   |                       | 48       | 22        | 38       | 36                         | 13                       | 27                       | 29.60   | 29.79        |  |  |  |
| 16                   | BKN       | 085                     |                           |                       | 10.00   |                       | 47       | 21        | 37       | 36                         | 18                       | 28                       | 29.64   | 29.83        |  |  |  |
| 19                   | SCT       | 080                     |                           |                       | 10.00   |                       | 43       | 22        | 35       | 43                         | 9                        | 29                       | 29.73   | 29.92        |  |  |  |
| 22                   | SCT       | 150                     |                           |                       | 10.00   |                       | 40       | 21        | 33       | 47                         | 10                       | 30                       | 29.79   | 29.98        |  |  |  |
| <b>SUNRISE: 0717</b> |           |                         |                           |                       |         | <b>JAN 27</b>         |          |           |          |                            |                          | <b>SUNSET: 1728</b>      |         |              |  |  |  |
| 01                   | FEW       | 200                     |                           |                       | 10.00   |                       | 37       | 19        | 31       | 48                         | 6                        | 31                       | 29.83   | 30.03        |  |  |  |
| 04                   | CLR       | NC                      |                           |                       | 10.00   |                       | 33       | 20        | 29       | 59                         | 6                        | 30                       | 29.89   | 30.09        |  |  |  |
| 07                   | CLR       | NC                      |                           |                       | 10.00   |                       | 29       | 20        | 26       | 69                         | 0                        | 00                       | 29.93   | 30.13        |  |  |  |
| 10                   | FEW       | 250                     |                           |                       | 10.00   |                       | 40       | 21        | 33       | 47                         | 7                        | 30                       | 30.04   | 30.24        |  |  |  |
| 13                   | OVC       | 250                     |                           |                       | 10.00   |                       | 44       | 23        | 36       | 44                         | 6                        | 27                       | 30.01   | 30.20        |  |  |  |
| 16                   | BKN       | 200                     |                           |                       | 10.00   |                       | 45       | 23        | 37       | 42                         | 10                       | 31                       | 30.02   | 30.21        |  |  |  |
| 19                   | BKN       | 150                     |                           |                       | 10.00   |                       | 43       | 22        | 35       | 43                         | 6                        | 26                       | 30.05   | 30.25        |  |  |  |
| 22                   | FEW       | 200                     |                           |                       | 10.00   |                       | 37       | 23        | 32       | 57                         | 5                        | 25                       | 30.03   | 30.23        |  |  |  |
| <b>SUNRISE: 0716</b> |           |                         |                           |                       |         | <b>JAN 28</b>         |          |           |          |                            |                          | <b>SUNSET: 1729</b>      |         |              |  |  |  |
| 01                   | FEW       | 080                     |                           |                       | 10.00   |                       | 37       | 22        | 32       | 55                         | 6                        | 26                       | 30.04   | 30.23        |  |  |  |
| 04                   | OVC       | 110                     |                           |                       | 10.00   |                       | 35       | 25        | 31       | 67                         | 6                        | 21                       | 30.00   | 30.20        |  |  |  |
| 07                   | BKN       | 130                     |                           |                       | 10.00   |                       | 36       | 24        | 32       | 62                         | 8                        | 21                       | 29.96   | 30.15        |  |  |  |
| 10                   | SCT       | 250                     |                           |                       | 10.00   |                       | 47       | 24        | 38       | 41                         | 10                       | 24                       | 29.96   | 30.15        |  |  |  |
| 13                   | SCT       | 250                     |                           |                       | 10.00   |                       | 57       | 28        | 44       | 33                         | 17                       | 27                       | 29.83   | 30.02        |  |  |  |
| 16                   | SCT       | 250                     |                           |                       | 10.00   |                       | 59       | 23        | 44       | 25                         | 18                       | 27                       | 29.80   | 30.00        |  |  |  |
| 19                   | FEW       | 250                     |                           |                       | 10.00   |                       | 52       | 19        | 39       | 27                         | 11                       | 31                       | 29.88   | 30.08        |  |  |  |
| 22                   | FEW       | 250                     |                           |                       | 10.00   |                       | 44       | 17        | 34       | 34                         | 9                        | 33                       | 29.95   | 30.15        |  |  |  |
| <b>SUNRISE: 0715</b> |           |                         |                           |                       |         | <b>JAN 29</b>         |          |           |          |                            |                          | <b>SUNSET: 1730</b>      |         |              |  |  |  |
| 01                   | BKN       | 250                     |                           |                       | 10.00   |                       | 31       | 11        | 25       | 43                         | 20                       | 03                       | 30.07   | 30.26        |  |  |  |
| 04                   | OVC       | 200                     |                           |                       | 10.00   |                       | 27       | 7         | 22       | 43                         | 17                       | 03                       | 30.14   | 30.34        |  |  |  |
| 07                   | BKN       | 250                     |                           |                       | 10.00   |                       | 24       | 7         | 20       | 48                         | 8                        | 03                       | 30.19   | 30.39        |  |  |  |
| 10                   | BKN       | 250                     |                           |                       | 10.00   |                       | 27       | 6         | 21       | 41                         | 11                       | 05                       | 30.24   | 30.44        |  |  |  |
| 13                   | OVC       | 250                     |                           |                       | 10.00   |                       | 31       | 7         | 24       | 36                         | 3                        | 02                       | 30.18   | 30.38        |  |  |  |
| 16                   | OVC       | 250                     |                           |                       | 10.00   |                       | 31       | 5         | 24       | 33                         | 8                        | 01                       | 30.16   | 30.36        |  |  |  |
| 19                   | OVC       | 120                     |                           |                       | 10.00   |                       | 29       | 6         | 23       | 37                         | 8                        | 05                       | 30.17   | 30.36        |  |  |  |
| 22                   | OVC       | 130                     |                           |                       | 10.00   |                       | 28       | 6         | 22       | 39                         | 7                        | 07                       | 30.16   | 30.36        |  |  |  |
| <b>SUNRISE: 0714</b> |           |                         |                           |                       |         | <b>JAN 30</b>         |          |           |          |                            |                          | <b>SUNSET: 1731</b>      |         |              |  |  |  |
| 01                   | OVC       | 060                     |                           |                       | 10.00   |                       | 27       | 6         | 21       | 41                         | 8                        | 06                       | 30.13   | 30.33        |  |  |  |
| 04                   | OVC       | 031                     |                           |                       | 2.50    | -SN                   | 24       | 11        | 20       | 58                         | 10                       | 07                       | 30.07   | 30.27        |  |  |  |
| 07                   | BKN       | 031                     |                           |                       | 1.25    | -SN BR                | 21       | 17        | 20       | 84                         | 6                        | 05                       | 30.04   | 30.24        |  |  |  |
| 10                   | VV        | 001                     |                           |                       | 0.25    | +SN FZFG              | 21       | 17        | 20       | 84                         | 7                        | 05                       | 30.01   | 30.21        |  |  |  |
| 13                   | VV        | 001                     |                           |                       | 0.25    | +SN FZFG              | 20       | 16        | 19       | 84                         | 16                       | 03                       | 29.88   | 30.08        |  |  |  |
| 16                   | OVC       | 006                     |                           |                       | 0.75    | -SN                   | 20       | 15        | 19       | 81                         | 16                       | 04                       | 29.82   | 30.02        |  |  |  |
| 19                   | OVC       | 030                     |                           |                       | 2.50    | -SN BR                | 19       | 13        | 17       | 77                         | 15                       | 03                       | 29.80   | 30.00        |  |  |  |
| 22                   | OVC       | 030                     |                           |                       | 3.00    | -SN BR                | 18       | 13        | 17       | 81                         | 13                       | 01                       | 29.81   | 30.01        |  |  |  |

| HOUR (LST)           | SKY COVER | CEILING<br>100's of FT. | SATELLITE                 |                       | WEATHER | TEMPERATURE<br>°F     |          |           | WIND     |                            | PRESSURE<br>(INCHES, HG) |                          |         |              |  |  |  |
|----------------------|-----------|-------------------------|---------------------------|-----------------------|---------|-----------------------|----------|-----------|----------|----------------------------|--------------------------|--------------------------|---------|--------------|--|--|--|
|                      |           |                         | Observation<br>Time (LST) | Eff Cl'd Amt<br>Oktas |         | VISIBILITY<br>(MILES) | DRY BULB | DEW POINT | WET BULB | RELATIVE<br>HUMIDITY (PCT) | SPEED (MPH)              | DIRECTION<br>Tens of Deg | STATION | SEA<br>LEVEL |  |  |  |
|                      |           |                         |                           |                       |         |                       |          |           |          |                            |                          |                          |         |              |  |  |  |
| <b>SUNRISE: 0714</b> |           |                         |                           |                       |         | <b>JAN 31</b>         |          |           |          |                            |                          | <b>SUNSET: 1732</b>      |         |              |  |  |  |
| 01                   | OVC       | 016                     |                           |                       | 1.75    | -SN BR                | 18       | 13        | 17       | 81                         | 13                       | 36                       | 29.84   | 30.05        |  |  |  |
| 04                   | BKN       | 049                     |                           |                       | 7.00    | -SN                   | 17       | 12        | 16       | 81                         | 10                       | 35                       | 29.90   | 30.10        |  |  |  |
| 07                   | CLR       | NC                      |                           |                       | 10.00   |                       | 13       | 7         | 12       | 77                         | 6                        | 35                       | 29.97   | 30.18        |  |  |  |
| 10                   | CLR       | NC                      |                           |                       | 10.00   |                       | 21       | 1         | 16       | 41                         | 11                       | 02                       | 30.05   | 30.25        |  |  |  |
| 13                   | CLR       | NC                      |                           |                       | 10.00   |                       | 29       | 4         | 22       | 34                         | 7                        | 01                       | 30.04   | 30.24        |  |  |  |
| 16                   | CLR       | NC                      |                           |                       | 10.00   |                       | 30       | 8         | 24       | 39                         | 5                        | 22                       | 30.03   | 30.23        |  |  |  |
| 19                   | CLR       | NC                      |                           |                       | 10.00   |                       | 23       | 9         | 19       | 55                         | 3                        | 20                       | 30.04   | 30.24        |  |  |  |
| 22                   | CLR       | NC                      |                           |                       | 10.00   |                       | 24       | 8         | 20       | 50                         | 7                        | 22                       | 30.04   | 30.24        |  |  |  |

### 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, W = 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.

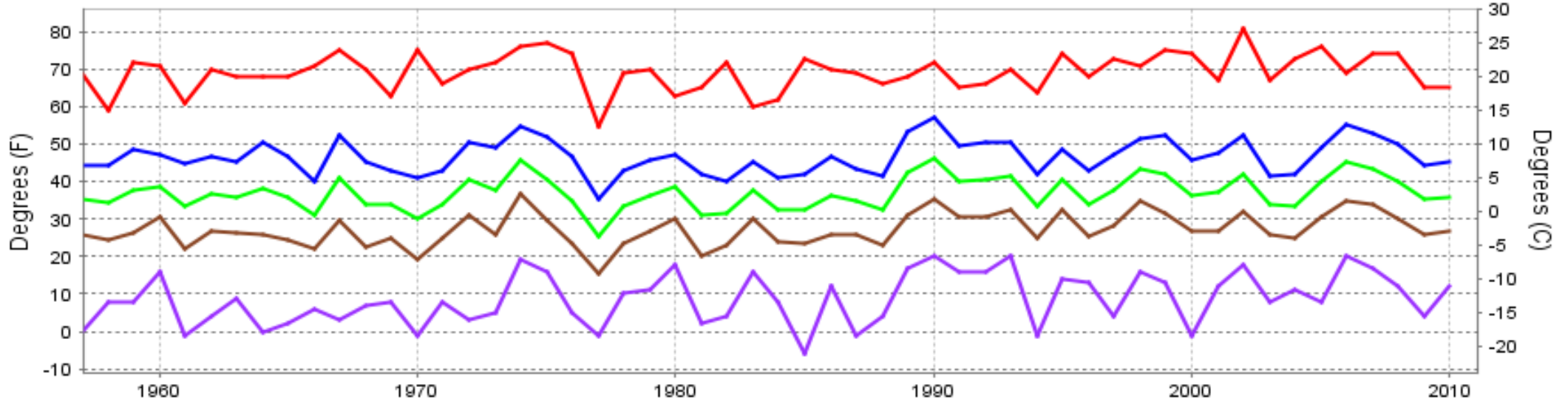
& = Original observation contained additional weather elements.

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 |
|            |            |             |          |           |          |                   | STATION               | SEA LEVEL |                      |                  |       |           |
| 01         |            |             | 33       | 22        | 30       | 66                | 29.86                 | 30.05     | 8.94                 | 7                | 4     | 34        |
| 02         |            |             | 32       | 22        | 29       | 67                | 29.86                 | 30.05     | 9.08                 | 7                | 3     | 35        |
| 03         |            |             | 32       | 22        | 29       | 69                | 29.86                 | 30.06     | 8.67                 | 6                | 4     | 34        |
| 04         |            |             | 31       | 22        | 28       | 69                | 29.86                 | 30.05     | 8.64                 | 7                | 4     | 35        |
| 05         |            |             | 31       | 22        | 28       | 70                | 29.86                 | 30.05     | 8.89                 | 7                | 3     | 34        |
| 06         |            |             | 31       | 22        | 28       | 72                | 29.86                 | 30.06     | 8.90                 | 6                | 4     | 34        |
| 07         |            |             | 30       | 22        | 27       | 72                | 29.87                 | 30.07     | 8.70                 | 6                | 4     | 34        |
| 08         |            |             | 30       | 22        | 27       | 72                | 29.88                 | 30.08     | 8.34                 | 7                | 4     | 33        |
| 09         |            |             | 33       | 22        | 30       | 66                | 29.89                 | 30.09     | 8.60                 | 8                | 4     | 34        |
| 10         |            |             | 36       | 22        | 31       | 58                | 29.90                 | 30.10     | 8.99                 | 9                | 3     | 34        |
| 11         |            |             | 39       | 22        | 33       | 53                | 29.89                 | 30.09     | 9.17                 | 10               | 5     | 31        |
| 12         |            |             | 41       | 22        | 34       | 49                | 29.87                 | 30.06     | 9.17                 | 10               | 5     | 31        |
| 13         |            |             | 42       | 21        | 35       | 46                | 29.84                 | 30.04     | 9.44                 | 11               | 5     | 30        |
| 14         |            |             | 43       | 21        | 35       | 45                | 29.82                 | 30.02     | 9.28                 | 10               | 5     | 30        |
| 15         |            |             | 44       | 21        | 36       | 44                | 29.82                 | 30.02     | 9.32                 | 11               | 6     | 30        |
| 16         |            |             | 43       | 21        | 35       | 45                | 29.82                 | 30.02     | 9.36                 | 10               | 4     | 31        |
| 17         |            |             | 42       | 22        | 35       | 47                | 29.83                 | 30.03     | 8.97                 | 9                | 4     | 31        |
| 18         |            |             | 39       | 22        | 33       | 53                | 29.84                 | 30.04     | 9.03                 | 8                | 3     | 33        |
| 19         |            |             | 38       | 22        | 32       | 56                | 29.85                 | 30.05     | 8.94                 | 7                | 3     | 33        |
| 20         |            |             | 37       | 22        | 32       | 58                | 29.86                 | 30.05     | 9.15                 | 7                | 4     | 32        |
| 21         |            |             | 36       | 22        | 31       | 59                | 29.87                 | 30.06     | 9.52                 | 8                | 4     | 32        |
| 22         |            |             | 35       | 21        | 30       | 60                | 29.87                 | 30.07     | 9.65                 | 7                | 3     | 33        |
| 23         |            |             | 34       | 21        | 30       | 62                | 29.87                 | 30.07     | 9.39                 | 8                | 3     | 34        |
| 24         |            |             | 33       | 21        | 29       | 62                | 29.87                 | 30.07     | 9.61                 | 7                | 4     | 33        |

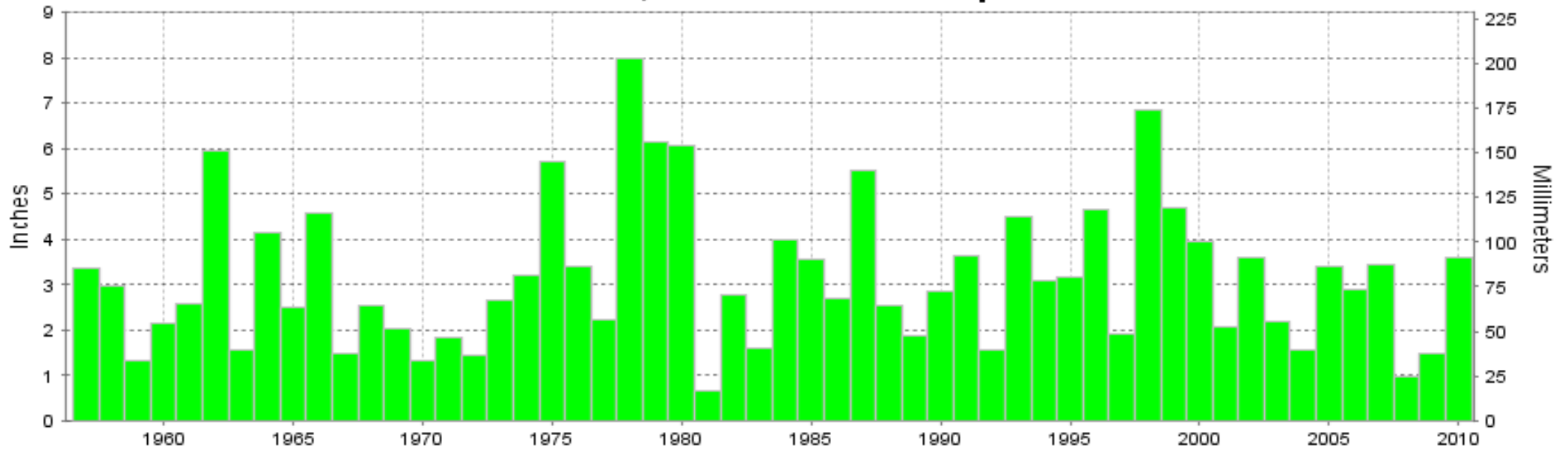
## RICHMOND, VA JANUARY Temperatures



— Extreme Max   
 — Mean Max   
 — Mean   
 — Mean Min   
 — Extreme Min

**Long-Term (1957-2010) Mean: 37.0**  
**1971-2000 Normal: 36.4**

## RICHMOND, VA JANUARY Precipitation



Long-Term (1957-2010) Mean Monthly Total: 3.15

1971-2000 Normal: 3.55



JANUARY 2010  
RICHMOND, VA

## LOCAL CLIMATOLOGICAL DATA NOAA, National Climatic Data Center

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