



DECEMBER 2003

LOCAL CLIMATOLOGICAL DATA

NOAA, National Climatic Data Center

RICHMOND, VA

RICHMOND INTL AIRPORT (RIC)
 Lat: 37°30' N Long: 77°19' W Elev (Ground): 164 Feet
 Time Zone: EASTERN WBAN: 13740 ISSN #:0198-537X

DECEMBER 2003
RICHMOND, VA

| DATE | TEMPERATURE °F | | | | | | DEG DAYS BASE 65° | | WEATHER | SNOW/ICE ON GND(IN) | | PRECIPITATION (INCHES) | | PRESSURE (INCHES OF HG) | | WIND SPEED = MPH DIR = TENS OF DEGREES | | | | | | DATE | | | | |
|---------------------------|----------------|---------|---------|-----------------|----------------|------------------|-------------------|---------|--|---------------------|----------|------------------------|--------------------------|-------------------------|-----------------------|--|-------------------------------|---------------|-------------------------|----|--------------------------------|----------------------|--|--|--|--|
| | MAXIMUM | MINIMUM | AVERAGE | DEP FROM NORMAL | AVERAGE DEW PT | AVERAGE WET BULB | HEATING | COOLING | | 0700 LST | 1300 LST | 2400 LST | 2400 LST | AVERAGE STATION | AVERAGE SEA LEVEL | RESULTANT SPEED | RES DIR | AVERAGE SPEED | MAXIMUM | | | | | | | |
| | | | | | | | | | | | | | | | | | | | 5-SEC | | 2-MIN | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | | | |
| 01 | 61 | 39 | 50 | 5 | 26 | 40 | 15 | 0 | | | | 0.0 | 0.00 | 29.86 | 30.05 | 7.3 | 29 | 10.3 | 28 | 28 | 24 | 29 | 01 | | | |
| 02 | 48 | 33 | 41 | -3 | 16 | 31 | 24 | 0 | | | | 0.0 | 0.00 | 30.16 | 30.36 | 7.4 | 32 | 10.5 | 26 | 31 | 21 | 32 | 02 | | | |
| 03 | 37 | 24 | 31 | -13 | 18 | 27 | 34 | 0 | | | | 0.0 | 0.00 | 30.38 | 30.58 | 3.8 | 02 | 4.2 | 20 | 01 | 16 | 36 | 03 | | | |
| 04 | 36 | 25 | 31* | -12 | 28 | 30 | 34 | 0 | RA SN PL BR | | | T | 0.40 | 30.23 | 30.43 | 3.5 | 04 | 3.9 | 15 | 05 | 13 | 05 | 04 | | | |
| 05 | 41 | 35 | 38 | -5 | 37 | 37 | 27 | 0 | RA DZ BR | | | 0.0 | 0.72 | 29.77 | 29.96 | 9.7 | 35 | 10.4 | 18 | 33 | 15 | 34 | 05 | | | |
| 06 | 39 | 28 | 34 | -9 | 27 | 31 | 31 | 0 | RA DZ SN BR | | | T | 0.01 | 29.78 | 29.97 | 12.0 | 34 | 12.4 | 32 | 34 | 25 | 33 | 06 | | | |
| 07 | 45 | 26 | 36 | -7 | 24 | 31 | 29 | 0 | | | | 0.0 | 0.00 | 29.86 | 30.06 | 7.8 | 32 | 8.3 | 26 | 33 | 20 | 33 | 07 | | | |
| 08 | 45 | 23 | 34 | -8 | 23 | 30 | 31 | 0 | | | | 0.0 | 0.00 | 30.01 | 30.20 | 1.0 | 01 | 1.7 | 14 | 33 | 12 | 33 | 08 | | | |
| 09 | 54 | 26 | 40 | -2 | 30 | 36 | 25 | 0 | | | | 0.0 | 0.00 | 30.03 | 30.22 | 4.8 | 15 | 5.3 | 14 | 14 | 13 | 14 | 09 | | | |
| 10 | 58 | 33 | 46 | 4 | 45 | 46 | 19 | 0 | RA FG+ BR | | | 0.0 | 1.17 | 29.68 | 29.87 | 6.4 | 12 | 7.6 | 33 | 14 | 28* | 13 | 10 | | | |
| 11 | 58 | 38 | 48 | 7 | 40 | 46 | 17 | 0 | RA BR | | | 0.0 | 0.19 | 29.41 | 29.59 | 12.0 | 27 | 14.0 | 33* | 30 | 26 | 30 | 11 | | | |
| 12 | 47 | 28 | 38 | -3 | 28 | 34 | 27 | 0 | | | | 0.0 | 0.00 | 29.95 | 30.14 | 1.2 | 32 | 4.0 | 15 | 05 | 12 | 05 | 12 | | | |
| 13 | 38 | 28 | 33 | -8 | 20 | 29 | 32 | 0 | RA PL | | | T | T | 30.20 | 30.40 | 7.2 | 04 | 7.6 | 21 | 05 | 17 | 01 | 13 | | | |
| 14 | 42 | 31 | 37 | -4 | 35 | 35 | 28 | 0 | RA DZ FZRA PL BR | | | T | 1.28 | 29.72 | 29.92 | 8.0 | 35 | 10.6 | 23 | 05 | 20 | 03 | 14 | | | |
| 15 | 49 | 32 | 41 | 1 | 32 | 37 | 24 | 0 | BR | | | 0.0 | 0.00 | 29.84 | 30.03 | 8.0 | 26 | 8.7 | 22 | 29 | 18 | 30 | 15 | | | |
| 16 | 56 | 28 | 42 | 2 | 37 | 40 | 23 | 0 | | | | 0.0 | 0.00 | 29.97 | 30.16 | 6.9 | 18 | 7.3 | 24 | 20 | 20 | 21 | 16 | | | |
| 17 | 54 | 32 | 43 | 3 | 41 | 43 | 22 | 0 | RA BR | | | 0.0 | 0.23 | 29.55 | 29.74 | 5.2 | 30 | 8.0 | 29 | 36 | 23 | 36 | 17 | | | |
| 18 | 42 | 32 | 37 | -3 | 27 | 33 | 28 | 0 | RA | | | 0.0 | T | 29.64 | 29.83 | 10.2 | 25 | 10.7 | 23 | 27 | 18 | 27 | 18 | | | |
| 19 | 39 | 28 | 34 | -6 | 27 | 31 | 31 | 0 | RA SN BR | | | T | T | 29.67 | 29.86 | 3.5 | 31 | 7.2 | 20 | 02 | 16 | 02 | 19 | | | |
| 20 | 41 | 23 | 32 | -7 | 20 | 28 | 33 | 0 | | | | 0.0 | 0.00 | 29.91 | 30.11 | 9.1 | 31 | 9.2 | 23 | 27 | 20 | 30 | 20 | | | |
| 21 | 47 | 20* | 34 | -5 | 17 | 28 | 31 | 0 | | | | 0.0 | 0.00 | 30.18 | 30.38 | 7.9 | 21 | 8.2 | 24 | 21 | 20 | 21 | 21 | | | |
| 22 | 59 | 30 | 45 | 6 | 25 | 37 | 20 | 0 | | | | 0.0 | 0.00 | 30.04 | 30.23 | 9.9 | 21 | 10.2 | 21 | 22 | 17 | 23 | 22 | | | |
| 23 | 64* | 38 | 51* | 12 | 39 | 46 | 14 | 0 | RA BR | | | 0.0 | 0.09 | 29.90 | 30.09 | 10.6 | 19 | 11.1 | 30 | 21 | 24 | 20 | 23 | | | |
| 24 | 61 | 39 | 50 | 12 | 51 | 52 | 15 | 0 | RA BR | | | 0.0 | 0.17 | 29.64 | 29.83 | 2.6 | 17 | 10.1 | 23 | 26 | 20 | 22 | 24 | | | |
| 25 | 44 | 34 | 39 | 1 | 23 | 33 | 26 | 0 | | | | 0.0 | 0.00 | 29.89 | 30.08 | 7.4 | 29 | 8.7 | 20 | 27 | 17 | 27 | 25 | | | |
| 26 | 48 | 25 | 37 | -1 | 25 | 32 | 28 | 0 | | | | 0.0 | 0.00 | 30.06 | 30.25 | 6.9 | 28 | 7.5 | 21 | 30 | 18 | 30 | 26 | | | |
| 27 | 57 | 26 | 42 | 4 | 25 | 34 | 23 | 0 | | | | 0.0 | 0.00 | 30.09 | 30.28 | 2.6 | 34 | 3.5 | 14 | 33 | 13 | 31 | 27 | | | |
| 28 | 54 | 28 | 41 | 3 | 30 | 35 | 24 | 0 | | | | 0.0 | 0.00 | 30.17 | 30.36 | 1.3 | 14 | 2.5 | 8 | 15 | 8 | 14 | 28 | | | |
| 29 | 62 | 31 | 47 | 9 | 38 | 42 | 18 | 0 | | | | 0.0 | 0.00 | 29.99 | 30.18 | 8.1 | 20 | 9.1 | 23 | 23 | 17 | 19 | 29 | | | |
| 30 | 57 | 31 | 44 | 7 | 37 | 45 | 21 | 0 | RA | | | 0.0 | 0.02 | 29.89 | 30.09 | 8.4 | 26 | 11.7 | 31 | 29 | 25 | 29 | 30 | | | |
| 31 | 53 | 26 | 40 | 3 | 28 | 35 | 25 | 0 | | | | 0.0 | 0.00 | 30.14 | 30.34 | 5.6 | 21 | 6.3 | 18 | 20 | 16 | 19 | 31 | | | |
| < MONTHLY AVERAGES | | | | | | | | | | TOTALS--> | | | | T | | 4.28 | 29.92 | 30.12 | 2.9 | 28 | 8.1 | <-- MONTHLY AVERAGES | | | | |
| - .2 | | | | | | | | | | -1.4 | | | | - .8 | | <-----DEPARTURE FROM NORMAL-----> | | | | | | 1.16 | SUNSHINE, CLOUD, & VISIBILITY TABLES ON PAGE 3 | | | |
| DEGREE DAYS | | | | | | | | | GREATEST 24-HR PRECIPITATION: 1.36 DATE :10-11 | | | | T | | DATE :19+ | | SEA LEVEL PRESSURE | | DATE | | TIME | | | | | |
| MONTHLY TOTAL DEPARTURE | | | | | | | | | SEASON TO DATE TOTAL DEPARTURE | | | | GREATEST 24-HR SNOWFALL: | | DATE : | | MAXIMUM | | MINIMUM | | PRECIPITATION ≥ 0.01 INCH : 10 | | | | | |
| HEATING: 779 31 1349 -122 | | | | | | | | | NUMBER OF DAYS WITH → | | | | MAXIMUM TEMP ≥ 90: 0 | | MINIMUM TEMP ≤ 32: 23 | | PRECIPITATION ≥ 0.10 INCH : 7 | | SNOWFALL ≥ 1.0 INCH : 0 | | | | | | | |
| COOLING: 0 -1 1342 -93 | | | | | | | | | | | | | MAXIMUM TEMP ≤ 32 : 0 | | MINIMUM TEMP ≤ 0 : 0 | | | | | | | | | | | |

HOURLY PRECIPITATION

(WATER EQUIVALENT IN INCHES)

RICHMOND, VA

DECEMBER 2003

RIC

WBAN # 13740

| DATE | FOR HOUR (LST) ENDING AT | | | | | | | | | | | | DATE | FOR HOUR (LST) ENDING AT | | | | | | | | | | | | DATE | Sum if Different (See Note) | 2400 LST | |
|------|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|--------------------------|------|------|------|------|----|------|------|------|------|------|------|------|-----------------------------|----------|--------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | | | Water | Equiv. |
| 01 | | | | | | | | | | | | | 01 | | | | | | | | | | | | 01 | | 0.00 | | |
| 02 | | | | | | | | | | | | | 02 | | | | | | | | | | | | 02 | | 0.00 | | |
| 03 | | | | | | | | | | | | | 03 | | | | | | | | | | | | 03 | | 0.00 | | |
| 04 | | | | | | | | | | | | T | 04 | T | T | T | T | 0.02 | T | 0.01 | 0.01 | 0.05 | 0.08 | 0.10 | 0.13 | 04 | | 0.40 | |
| 05 | 0.07 | 0.10 | 0.08 | 0.24 | 0.10 | 0.04 | 0.01 | 0.01 | 0.01 | T | T | 0.03 | 05 | T | T | | 0.03 | T | T | T | T | T | | 05 | | 0.72 | | | |
| 06 | T | 0.01 | T | T | T | T | | | | T | T | T | 06 | | | | | | | | | | | 06 | | 0.01 | | | |
| 07 | | | | | | | | | | | | | 07 | | | | | | | | | | | 07 | | 0.00 | | | |
| 08 | | | | | | | | | | | | | 08 | | | | | | | | | | | 08 | | 0.00 | | | |
| 09 | | | | | | | | | | | | | 09 | | | | | | | | | | | 09 | | 0.00 | | | |
| 10 | | | | | | | | | | | | T | 10 | 0.09 | 0.03 | | | | | 0.06 | 0.13 | 0.23 | 0.20 | 0.14 | 0.29 | 10 | | 1.17 | |
| 11 | 0.17 | 0.02 | T | | | T | T | | | | | | 11 | | | | | | | | | | | 11 | | 0.19 | | | |
| 12 | | | | | | | | | | | | | 12 | | | | | | | | | | | 12 | | 0.00 | | | |
| 13 | | | | | | | | | | | | | 13 | | | | | | | | | | T | T | T | 13 | | T | |
| 14 | 0.03 | 0.07 | 0.12 | .17 | .14 | 0.16 | 0.15 | 0.16 | 0.13 | 0.08 | 0.01 | T | 14 | 0.01 | T | 0.03 | 0.01 | 0.01 | | | | T | T | T | 14 | | 1.28 | | |
| 15 | | | | | | | | | | | | | 15 | | | | | | | | | | | | 15 | | 0.00 | | |
| 16 | | | | | | | | | | | | | 16 | | | | | | | | | | | | 16 | | 0.00 | | |
| 17 | | | T | T | 0.05 | 0.04 | | | | | T | 0.04 | 17 | 0.01 | 0.02 | 0.03 | 0.04 | T | | | | | | 17 | | 0.23 | | | |
| 18 | | | | | | | | | | | | | 18 | | | | | T | | | | | | | 18 | | T | | |
| 19 | | | T | T | T | | | | T | T | | | 19 | | T | T | T | | | | | | | | 19 | | T | | |
| 20 | | | | | | | | | | | | | 20 | | | | | | | | | | | | 20 | | 0.00 | | |
| 21 | | | | | | | | | | | | | 21 | | | | | | | | | | | | 21 | | 0.00 | | |
| 22 | | | | | | | | | | | | | 22 | | | | | | | | | | | | 22 | | 0.00 | | |
| 23 | | | | | | | | | | | | | 23 | | | | | | | | T | 0.07 | 0.02 | | 23 | | 0.09 | | |
| 24 | 0.04 | 0.01 | T | T | 0.03 | 0.02 | T | | 0.06 | T | | | 24 | | 0.01 | | | | | | | | | | 24 | | 0.17 | | |
| 25 | | | | | | | | | | | | | 25 | | | | | | | | | | | | 25 | | 0.00 | | |
| 26 | | | | | | | | | | | | | 26 | | | | | | | | | | | | 26 | | 0.00 | | |
| 27 | | | | | | | | | | | | | 27 | | | | | | | | | | | | 27 | | 0.00 | | |
| 28 | | | | | | | | | | | | | 28 | | | | | | | | | | | | 28 | | 0.00 | | |
| 29 | | | | | | | | | | | | | 29 | | | | | | | | | | | | 29 | | 0.00 | | |
| 30 | | | | | | T | 0.01 | T | | | 0.01 | | 30 | | | | | | | | | | | | 30 | | 0.02 | | |
| 31 | | | | | | | | | | | | | 31 | | | | | | | | | | | | 31 | | 0.00 | | |

MAXIMUM SHORT DURATION PRECIPITATION (See Note)

| Time Period (Minutes) | 5 | 10 | 15 | 20 | 30 | 45 | 60 | 80 | 100 | 120 | 150 | 180 |
|------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Precipitation (Inches) | .06 | .10 | .14 | .18 | .23 | .29 | .35 | .42 | .45 | .47 | .61 | .70 |
| Ending Date | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 |
| Ending Time (Hour/Min) | 0004 | 0009 | 0002 | 0007 | 0013 | 0018 | 0018 | 0018 | 0018 | 0018 | 0015 | 0018 |

Date and time are not entered for TRACE amounts.

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

REFERENCE NOTES & SUPPLEMENTAL SUMMARIES

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

T = Trace precipitation amount

+ = also occurs on earlier date

FG+ = Heavy fog, visibility .25 miles or less
BLANK entries denote missing or unreported data

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

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

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

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

NORMALS ARE FOR THE YEARS 1971–2000

WEATHER NOTATIONS

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

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

RICHMOND, VA DECEMBER 2003

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

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

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

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

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

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

ADDITIONAL NOTES:

| DATE | SUNSHINE | | CLOUDINESS (OKTAS) | | | | VISIBILITY (MILES) | | RESERVED |
|--|---------------|------------------|--------------------|-----------|------------|-----------|--------------------|---------|----------|
| | TOTAL MINUTES | PERCENT POSSIBLE | SR–SS | | MN–MN | | MINIMUM | MAXIMUM | |
| | | | CEILOMETER | SATELLITE | CEILOMETER | SATELLITE | | | |
| 01 | | | | | | | 10.00 | 10.00 | |
| 02 | | | | | | | 10.00 | 10.00 | |
| 03 | | | | | | | 9.00 | 10.00 | |
| 04 | | | | | | | 3.00 | 10.00 | |
| 05 | | | | | | | 1.00 | 8.00 | |
| 06 | | | | | | | 3.00 | 10.00 | |
| 07 | | | | | | | 10.00 | 10.00 | |
| 08 | | | | | | | 10.00 | 10.00 | |
| 09 | | | | | | | 9.00 | 10.00 | |
| 10 | | | | | | | .13 | 10.00 | |
| 11 | | | | | | | 10.00 | 10.00 | |
| 12 | | | | | | | 10.00 | 10.00 | |
| 13 | | | | | | | 7.00 | 10.00 | |
| 14 | | | | | | | 1.50 | 10.00 | |
| 15 | | | | | | | 6.00 | 10.00 | |
| 16 | | | | | | | 8.00 | 10.00 | |
| 17 | | | | | | | 1.50 | 10.00 | |
| 18 | | | | | | | 10.00 | 10.00 | |
| 19 | | | | | | | 1.00 | 10.00 | |
| 20 | | | | | | | 10.00 | 10.00 | |
| 21 | | | | | | | 10.00 | 10.00 | |
| 22 | | | | | | | 10.00 | 10.00 | |
| 23 | | | | | | | 2.50 | 10.00 | |
| 24 | | | | | | | .50 | 10.00 | |
| 25 | | | | | | | 10.00 | 10.00 | |
| 26 | | | | | | | 10.00 | 10.00 | |
| 27 | | | | | | | 10.00 | 10.00 | |
| 28 | | | | | | | 8.00 | 10.00 | |
| 29 | | | | | | | 10.00 | 10.00 | |
| 30 | | | | | | | 10.00 | 10.00 | |
| 31 | | | | | | | 10.00 | 10.00 | |
| MONTHLY AVGS | | | | | | | 7.47 | 9.94 | |
| SUNSHINE (MINUTES) | | | | | | | | | |
| Total: Possible: Percent Possible: | | | | | | | | | |
| NUMBER OF DAYS WITH: | | | | | | | | | |
| SKY CONDITION | | | | | | | | | |
| CLR PTLY CLDY CLOUDY MISSING 31 | | | | | | | | | |
| MINIMUM VISIBILITY (MILES) | | | | | | | | | |
| <=0.25 <=3.0 >=7.0 1 7 22 | | | | | | | | | |

OBSERVATIONS AT 3-HOURLY INTERVALS

RICHMOND, VA

DECEMBER 2003

RIC

WBAN # 13740

| HOUR (LST) | SKY COVER | | CEILING 100'S OF FT | SATELLITE | | VISIBILITY (MILES) | WEATHER | TEMPERATURE °F | | | RELATIVE HUMIDITY (PCT) | WIND | | PRESSURE (INCHES, HG) | | HOUR (LST) | SKY COVER | | CEILING 100'S OF FT | SATELLITE | | VISIBILITY (MILES) | WEATHER | TEMPERATURE °F | | | RELATIVE HUMIDITY (PCT) | WIND | | PRESSURE (INCHES, HG) | |
|----------------------|-----------|-----------|------------------------|-----------|----------|-----------------------|----------|-------------------|----------|-------------|----------------------------|--------------------------|---------|--------------------------|----------|----------------------|-----------|----------|------------------------|-------------|--------------------------|-----------------------|---------|-------------------|--------------|----|----------------------------|------|----|--------------------------|-------|
| | DRY BULB | DEW POINT | | WET BULB | DRY BULB | | | DEW POINT | WET BULB | SPEED (MPH) | | DIRECTION TENS OF DEG | STATION | SEA LEVEL | DRY BULB | | DEW POINT | WET BULB | | SPEED (MPH) | DIRECTION TENS OF DEG | | | STATION | SEA LEVEL | | | | | | |
| SUNRISE: 0705 DEC 01 | | | | | | | | SUNSET: 1652 | | | | | | | | SUNRISE: 0710 DEC 07 | | | | | | | | SUNSET: 1651 | | | | | | | |
| 01 | FEW | NC | | | | 10.00 | | 43 | 28 | 37 | 56 | 8 | 20 | 29.78 | 29.97 | 01 | CLR | NC | | | | 10.00 | | 28 | 21 | 26 | 75 | 7 | 30 | 29.83 | 30.03 |
| 04 | CLR | NC | | | | 10.00 | | 44 | 26 | 37 | 49 | 3 | 20 | 29.77 | 29.96 | 04 | CLR | NC | | | | 10.00 | | 27 | 23 | 26 | 85 | 7 | 31 | 29.83 | 30.02 |
| 07 | BKN | 250 | | | | 10.00 | | 50 | 25 | 40 | 38 | 10 | 26 | 29.78 | 29.97 | 07 | CLR | NC | | | | 10.00 | | 30 | 23 | 28 | 75 | 3 | 29 | 29.84 | 30.04 |
| 10 | SCT | NC | | | | 10.00 | | 54 | 32 | 44 | 43 | 9 | 25 | 29.81 | 30.00 | 10 | CLR | NC | | | | 10.00 | | 37 | 25 | 33 | 62 | 14 | 32 | 29.85 | 30.05 |
| 13 | BKN | 150 | | | | 10.00 | | 58 | 32 | 46 | 38 | 8 | 32 | 29.79 | 29.98 | 13 | FEW | NC | | | | 10.00 | | 43 | 25 | 36 | 49 | 16 | 34 | 29.82 | 30.02 |
| 16 | BKN | 250 | | | | 10.00 | | 59 | 28 | 45 | 31 | 12 | 29 | 29.82 | 30.01 | 16 | CLR | NC | | | | 10.00 | | 44 | 24 | 36 | 45 | 14 | 32 | 29.82 | 30.02 |
| 19 | SCT | NC | | | | 10.00 | | 49 | 24 | 39 | 38 | 22 | 33 | 29.97 | 30.16 | 19 | CLR | NC | | | | 10.00 | | 36 | 24 | 32 | 62 | 7 | 32 | 29.88 | 30.08 |
| 22 | SCT | NC | | | | 10.00 | | 41 | 18 | 33 | 39 | 5 | 01 | 30.07 | 30.27 | 22 | CLR | NC | | | | 10.00 | | 33 | 24 | 30 | 70 | 6 | 36 | 29.94 | 30.14 |
| SUNRISE: 0706 DEC 02 | | | | | | | | SUNSET: 1651 | | | | | | | | SUNRISE: 0711 DEC 08 | | | | | | | | SUNSET: 1651 | | | | | | | |
| 01 | FEW | NC | | | | 10.00 | | 39 | 15 | 31 | 38 | 10 | 30 | 30.08 | 30.27 | 01 | FEW | NC | | | | 10.00 | | 27 | 23 | 26 | 85 | 0 | 00 | 29.95 | 30.15 |
| 04 | CLR | NC | | | | 10.00 | | 35 | 15 | 29 | 44 | 7 | 27 | 30.09 | 30.29 | 04 | CLR | NC | | | | 10.00 | | 25 | 23 | 24 | 92 | 3 | 35 | 29.97 | 30.16 |
| 07 | CLR | NC | | | | 10.00 | | 34 | 15 | 28 | 46 | 7 | 27 | 30.14 | 30.34 | 07 | FEW | NC | | | | 10.00 | | 25 | 23 | 24 | 92 | 0 | 00 | 30.01 | 30.21 |
| 10 | CLR | NC | | | | 10.00 | | 42 | 16 | 33 | 35 | 13 | 28 | 30.18 | 30.37 | 10 | SCT | NC | | | | 10.00 | | 36 | 26 | 32 | 67 | 5 | 34 | 30.06 | 30.26 |
| 13 | CLR | NC | | | | 10.00 | | 45 | 15 | 34 | 30 | 14 | 29 | 30.12 | 30.32 | 13 | BKN | 250 | | | | 10.00 | | 43 | 20 | 35 | 40 | 5 | 02 | 30.00 | 30.20 |
| 16 | CLR | NC | | | | 10.00 | | 47 | 14 | 35 | 26 | 13 | 31 | 30.12 | 30.32 | 16 | OVC | 250 | | | | 10.00 | | 45 | 21 | 36 | 39 | 0 | 00 | 29.99 | 30.18 |
| 19 | CLR | NC | | | | 10.00 | | 37 | 16 | 30 | 42 | 9 | 03 | 30.20 | 30.40 | 19 | SCT | NC | | | | 10.00 | | 35 | 24 | 31 | 64 | 0 | 00 | 30.02 | 30.22 |
| 22 | CLR | NC | | | | 10.00 | | 34 | 17 | 28 | 50 | 9 | 03 | 30.27 | 30.47 | 22 | SCT | NC | | | | 10.00 | | 33 | 25 | 30 | 72 | 0 | 00 | 30.03 | 30.23 |
| SUNRISE: 0707 DEC 03 | | | | | | | | SUNSET: 1651 | | | | | | | | SUNRISE: 0712 DEC 09 | | | | | | | | SUNSET: 1651 | | | | | | | |
| 01 | CLR | NC | | | | 10.00 | | 31 | 18 | 27 | 59 | 8 | 05 | 30.29 | 30.49 | 01 | SCT | NC | | | | 10.00 | | 29 | 25 | 28 | 85 | 0 | 00 | 30.03 | 30.23 |
| 04 | CLR | NC | | | | 10.00 | | 27 | 19 | 24 | 72 | 0 | 00 | 30.33 | 30.53 | 04 | BKN | 150 | | | | 10.00 | | 28 | 25 | 27 | 88 | 0 | 00 | 30.03 | 30.23 |
| 07 | FEW | NC | | | | 10.00 | | 26 | 18 | 24 | 71 | 6 | 01 | 30.39 | 30.59 | 07 | BKN | 250 | | | | 10.00 | | 30 | 27 | 29 | 88 | 5 | 12 | 30.05 | 30.25 |
| 10 | OVC | 250 | | | | 10.00 | | 36 | 19 | 30 | 50 | 16 | 01 | 30.45 | 30.65 | 10 | OVC | 250 | | | | 10.00 | | 41 | 29 | 36 | 62 | 6 | 18 | 30.08 | 30.28 |
| 13 | OVC | 200 | | | | 10.00 | | 36 | 15 | 29 | 42 | 5 | 34 | 30.40 | 30.60 | 13 | BKN | 250 | | | | 10.00 | | 51 | 33 | 43 | 50 | 8 | 19 | 30.02 | 30.21 |
| 16 | OVC | 180 | | | | 10.00 | | 36 | 15 | 29 | 42 | 3 | 33 | 30.37 | 30.57 | 16 | OVC | 250 | | | | 10.00 | | 52 | 34 | 44 | 50 | 7 | 15 | 29.99 | 30.19 |
| 19 | OVC | 200 | | | | 10.00 | | 31 | 17 | 26 | 56 | 0 | 00 | 30.37 | 30.57 | 19 | OVC | 250 | | | | 10.00 | | 43 | 34 | 39 | 71 | 8 | 14 | 30.01 | 30.20 |
| 22 | OVC | 250 | | | | 10.00 | | 26 | 20 | 24 | 78 | 0 | 00 | 30.38 | 30.58 | 22 | OVC | 250 | | | | 10.00 | | 40 | 34 | 37 | 79 | 7 | 12 | 30.01 | 30.20 |
| SUNRISE: 0708 DEC 04 | | | | | | | | SUNSET: 1651 | | | | | | | | SUNRISE: 0713 DEC 10 | | | | | | | | SUNSET: 1651 | | | | | | | |
| 01 | OVC | 110 | | | | 10.00 | | 28 | 21 | 26 | 75 | 0 | 00 | 30.37 | 30.57 | 01 | OVC | 250 | | | | 10.00 | | 38 | 31 | 35 | 76 | 3 | 15 | 29.98 | 30.18 |
| 04 | FEW | NC | | | | 10.00 | | 27 | 22 | 25 | 81 | 0 | 00 | 30.33 | 30.53 | 04 | OVC | 200 | | | | 10.00 | | 36 | 32 | 34 | 86 | 0 | 00 | 29.94 | 30.14 |
| 07 | BKN | 200 | | | | 10.00 | | 26 | 22 | 25 | 84 | 0 | 00 | 30.31 | 30.51 | 07 | OVC | 200 | | | | 10.00 | | 33 | 33 | 33 | 100 | 3 | 05 | 29.89 | 30.09 |
| 10 | OVC | 045 | | | | 10.00 | | 34 | 21 | 29 | 59 | 0 | 00 | 30.32 | 30.52 | 10 | OVC | 050 | | | | 10.00 | | 43 | 42 | 43 | 97 | 0 | 00 | 29.85 | 30.04 |
| 13 | OVC | 075 | | | | 10.00 | -PL | 34 | 29 | 32 | 82 | 6 | 11 | 30.25 | 30.45 | 13 | OVC | 011 | | | | 1.50 | -RA BR | 46 | 46 | 46 | 100 | 8 | 07 | 29.68 | 29.88 |
| 16 | OVC | 045 | | | | 10.00 | -PL | 34 | 33 | 34 | 97 | 6 | 04 | 30.20 | 30.40 | 16 | OVC | 001 | | | | 0.25 | FG | 51 | 51 | 51 | 100 | 7 | 10 | 29.57 | 29.77 |
| 19 | OVC | 048 | | | | 10.00 | -RA | 33 | 33 | 33 | 100 | 8 | 02 | 30.14 | 30.34 | 19 | OVC | 070 | | | | 8.00 | -RA | 57 | 57 | 57 | 100 | 10 | 12 | 29.47 | 29.65 |
| 22 | OVC | 029 | | | | 7.00 | -RA | 33 | 33 | 33 | 100 | 10 | 04 | 30.05 | 30.25 | 22 | OVC | 008 | | | | 3.00 | +RA BR | 58 | 58 | 58 | 100 | 21 | 13 | 29.31 | 29.49 |
| SUNRISE: 0709 DEC 05 | | | | | | | | SUNSET: 1651 | | | | | | | | SUNRISE: 0714 DEC 11 | | | | | | | | SUNSET: 1651 | | | | | | | |
| 01 | OVC | 005 | | | | 4.00 | RA BR | 36 | 36 | 36 | 100 | 10 | 04 | 29.93 | 30.13 | 01 | OVC | 018 | | | | 10.00 | | 58 | 58 | 58 | 100 | 17 | 12 | 29.14 | 29.32 |
| 04 | OVC | 004 | | | | 2.50 | RA BR | 36 | 36 | 36 | 100 | 8 | 02 | 29.87 | 30.06 | 04 | BKN | 032 | | | | 10.00 | | 53 | 52 | 52 | 96 | 13 | 25 | 29.16 | 29.34 |
| 07 | OVC | 004 | | | | 7.00 | | 37 | 37 | 37 | 100 | 13 | 36 | 29.81 | 30.01 | 07 | OVC | 033 | | | | 10.00 | | 50 | 44 | 47 | 80 | 14 | 28 | 29.23 | 29.41 |
| 10 | OVC | 007 | | | | 3.00 | -RA BR | 40 | 40 | 40 | 100 | 13 | 02 | 29.77 | 29.96 | 10 | OVC | 080 | | | | 10.00 | | 49 | 37 | 43 | 64 | 14 | 28 | 29.34 | 29.52 |
| 13 | OVC | 008 | | | | 2.50 | -DZ BR | 41 | 41 | 41 | 100 | 9 | 35 | 29.72 | 29.91 | 13 | FEW | NC | | | | 10.00 | | 56 | 37 | 47 | 49 | 17 | 29 | 29.38 | 29.56 |
| 16 | OVC | 006 | | | | 1.00 | -RA BR | 37 | 37 | 37 | 100 | 9 | 33 | 29.70 | 29.89 | 16 | CLR | NC | | | | 10.00 | | 55 | 35 | 46 | 47 | 14 | 29 | 29.48 | 29.66 |
| 19 | OVC | 004 | | | | 6.00 | -DZ BR | 36 | 36 | 36 | 100 | 10 | 33 | 29.71 | 29.91 | 19 | CLR | NC | | | | 10.00 | | 47 | 34 | 41 | 61 | 16 | 26 | 29.62 | 29.81 |
| 22 | OVC | 004 | | | | 8.00 | | 36 | 36 | 36 | 100 | 10 | 34 | 29.71 | 29.91 | 22 | CLR | NC | | | | 10.00 | | 42 | 30 | 37 | 62 | 8 | 27 | 29.69 | 29.88 |
| SUNRISE: 0709 DEC 06 | | | | | | | | SUNSET: 1651 | | | | | | | | SUNRISE: 0714 DEC 12 | | | | | | | | SUNSET: 1652 | | | | | | | |
| 01 | OVC | 004 | | | | 3.00 | -DZ BR | 36 | 36 | 36 | 100 | 12 | 34 | 29.70 | 29.89 | 01 | CLR | NC | | | | 10.00 | | 38 | 29 | 34 | 70 | 7 | 26 | 29.75 | 29.95 |
| 04 | OVC | 006 | | | | 4.00 | -RASN BR | 33 | 33 | 33 | 100 | 13 | 35 | 29.71 | 29.91 | 04 | CLR | NC | | | | 10.00 | | 35 | 28 | 32 | 76 | 5 | 25 | 29.82 | 30.01 |
| 07 | OVC | 012 | | | | 10.00 | | 30 | 29 | 30 | 96 | 12 | 35 | 29.73 | 29.93 | 07 | FEW | NC | | | | 10.00 | | 29 | 27 | 28 | 92 | 3 | 01 | 29.90 | 30.09 |
| 10 | OVC | 020 | | | | 10.00 | -SN | 32 | 29 | 31 | 88 | 16 | 34 | 29.79 | 29.98 | 10 | CLR | NC | | | | 10.00 | | 41 | 29 | 36 | 62 | 8 | 03 | 29.96 | 30.16 |
| 13 | BKN | 028 | | | | 10.00 | | 38 | 30 | 35 | 73 | 12 | 35 | 29.76 | 29.96 | 13 | CLR | NC | | | | 10.00 | | 44 | 27 | 37 | 51 | 5 | VR | 29.93 | 30.13 |
| 16 | BKN | 040 | | | | 10.00 | | 38 | 28 | 34 | 68 | 15 | 33 | 29.77 | 29.97 | 16 | FEW | NC | | | | 10.00 | | 47 | 27 | 39 | 46 | 7 | 30 | 29.95 | 30.15 |
| 19 | CLR | NC | | | | 10.00 | | 33 | 21 | 29 | 61 | 12 | 34 | 29.83 | 30.03 | 19 | SCT | NC | | | | 10.00 | | 36 | 30 | 34 | 79 | 0 | 00 | 30.00 | 30.20 |
| 22 | CLR | NC | | | | 10.00 | | 30 | 21 | 27 | 69 | 9 | 31 | 29.85 | 30.05 | 22 | SCT | NC | | | | 10.00 | | 35 | 29 | 33 | 78 | 10 | 05 | 30.07 | 30.27 |

OBSERVATIONS AT 3-HOURLY INTERVALS

RICHMOND, VA

DECEMBER 2003

RIC

WBAN # 13740

| HOUR (LST) | SATELLITE | | VISIBILITY (MILES) | WEATHER | TEMPERATURE °F | | | | WIND | | PRESSURE (INCHES, HG) | | HOUR (LST) | SATELLITE | | VISIBILITY (MILES) | WEATHER | TEMPERATURE °F | | | | WIND | | PRESSURE (INCHES, HG) | | | | | |
|----------------------|-----------|---------------------|--------------------|------------|------------------------|-------------------|----------|-----------|----------|-------------------------|-----------------------|-----------------------|------------|-----------|--------------|--------------------|---------|----------------|---------------------|------------------------|-------------------|----------|-----------|-----------------------|-------------------------|-------------|-----------------------|---------|-----------|
| | SKY COVER | CEILING 100'S OF FT | | | OBSERVATION TIME (LST) | EFF CLD AMT Oktas | DRY BULB | DEW POINT | WET BULB | RELATIVE HUMIDITY (PCT) | SPEED (MPH) | DIRECTION TENS OF DEG | | STATION | SEA LEVEL | | | SKY COVER | CEILING 100'S OF FT | OBSERVATION TIME (LST) | EFF CLD AMT Oktas | DRY BULB | DEW POINT | WET BULB | RELATIVE HUMIDITY (PCT) | SPEED (MPH) | DIRECTION TENS OF DEG | STATION | SEA LEVEL |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SUNRISE: 0715 DEC 13 | | | | | SUNSET: 1652 | | | | | SUNRISE: 0719 DEC 19 | | | | | SUNSET: 1654 | | | | | | | | | | | | | | |
| 01 | SCT | NC | 10.00 | | 32 | 23 | 29 | 69 | 8 | 04 | 30.10 | 30.30 | 01 | OVC | 045 | 10.00 | | 38 | 33 | 36 | 83 | 7 | 22 | 29.60 | 29.80 | | | | |
| 04 | CLR | NC | 10.00 | | 30 | 22 | 27 | 72 | 7 | 05 | 30.15 | 30.35 | 04 | OVC | 010 | 10.00 | -RASN | 33 | 33 | 33 | 100 | 13 | 03 | 29.60 | 29.79 | | | | |
| 07 | SCT | NC | 10.00 | | 28 | 22 | 26 | 78 | 5 | 01 | 30.24 | 30.44 | 07 | OVC | 025 | 10.00 | | 32 | 26 | 30 | 79 | 9 | 01 | 29.64 | 29.83 | | | | |
| 10 | SCT | NC | 10.00 | | 33 | 18 | 28 | 54 | 10 | 02 | 30.30 | 30.50 | 10 | OVC | 050 | 9.00 | | 32 | 28 | 31 | 85 | 0 | 00 | 29.70 | 29.90 | | | | |
| 13 | OVC | 250 | 10.00 | | 37 | 16 | 30 | 42 | 7 | 36 | 30.23 | 30.43 | 13 | OVC | 050 | 10.00 | | 36 | 23 | 31 | 59 | 6 | 32 | 29.63 | 29.83 | | | | |
| 16 | OVC | 150 | 10.00 | | 36 | 17 | 30 | 46 | 7 | 07 | 30.23 | 30.43 | 16 | OVC | 250 | 10.00 | | 37 | 23 | 32 | 57 | 8 | 28 | 29.65 | 29.85 | | | | |
| 19 | OVC | 200 | 10.00 | | 34 | 18 | 29 | 52 | 13 | 06 | 30.20 | 30.40 | 19 | BKN | 250 | 10.00 | | 32 | 28 | 31 | 85 | 6 | 22 | 29.70 | 29.90 | | | | |
| 22 | OVC | 070 | 10.00 | -PL | 33 | 22 | 29 | 64 | 7 | 04 | 30.17 | 30.37 | 22 | BKN | 090 | 10.00 | | 31 | 26 | 29 | 82 | 6 | 25 | 29.72 | 29.92 | | | | |
| SUNRISE: 0716 DEC 14 | | | | | SUNSET: 1652 | | | | | SUNRISE: 0719 DEC 20 | | | | | SUNSET: 1654 | | | | | | | | | | | | | | |
| 01 | OVC | 040 | 4.00 | -FZRAPL BR | 31 | 30 | 31 | 96 | 10 | 03 | 30.07 | 30.27 | 01 | FEW | NC | 10.00 | | 29 | 22 | 27 | 75 | 3 | 34 | 29.72 | 29.92 | | | | |
| 04 | OVC | 005 | 3.00 | -FZRA BR | 32 | 32 | 32 | 100 | 12 | 05 | 29.93 | 30.13 | 04 | FEW | NC | 10.00 | | 27 | 21 | 25 | 78 | 6 | 30 | 29.74 | 29.94 | | | | |
| 07 | OVC | 005 | 3.00 | RA BR | 34 | 34 | 34 | 100 | 12 | 34 | 29.89 | 30.08 | 07 | BKN | 050 | 10.00 | | 28 | 23 | 26 | 81 | 6 | 30 | 29.80 | 30.00 | | | | |
| 10 | OVC | 010 | 3.00 | -RA BR | 37 | 37 | 37 | 100 | 14 | 02 | 29.77 | 29.96 | 10 | BKN | 250 | 10.00 | | 36 | 23 | 31 | 59 | 13 | 30 | 29.88 | 30.08 | | | | |
| 13 | OVC | 003 | 1.75 | -DZ BR | 38 | 38 | 38 | 100 | 10 | 35 | 29.60 | 29.80 | 13 | BKN | 090 | 10.00 | | 39 | 20 | 32 | 46 | 15 | 32 | 29.88 | 30.08 | | | | |
| 16 | OVC | 005 | 2.50 | -RA BR | 36 | 36 | 36 | 100 | 12 | 30 | 29.55 | 29.75 | 16 | BKN | 060 | 10.00 | | 39 | 17 | 31 | 41 | 16 | 30 | 29.94 | 30.14 | | | | |
| 19 | OVC | 006 | 10.00 | | 35 | 35 | 35 | 100 | 12 | 30 | 29.56 | 29.76 | 19 | SCT | NC | 10.00 | | 35 | 18 | 29 | 50 | 10 | 32 | 30.04 | 30.23 | | | | |
| 22 | OVC | 007 | 10.00 | | 35 | 35 | 35 | 100 | 9 | 29 | 29.57 | 29.77 | 22 | CLR | NC | 10.00 | | 30 | 16 | 26 | 56 | 7 | 32 | 30.12 | 30.32 | | | | |
| SUNRISE: 0716 DEC 15 | | | | | SUNSET: 1652 | | | | | SUNRISE: 0720 DEC 21 | | | | | SUNSET: 1655 | | | | | | | | | | | | | | |
| 01 | OVC | 085 | 6.00 | BR | 33 | 33 | 33 | 100 | 5 | 25 | 29.55 | 29.75 | 01 | CLR | NC | 10.00 | | 27 | 15 | 23 | 61 | 6 | 29 | 30.16 | 30.36 | | | | |
| 04 | SCT | NC | 10.00 | | 37 | 33 | 35 | 86 | 12 | 28 | 29.62 | 29.82 | 04 | CLR | NC | 10.00 | | 22 | 18 | 21 | 85 | 3 | 22 | 30.20 | 30.40 | | | | |
| 07 | CLR | NC | 10.00 | | 35 | 32 | 34 | 89 | 10 | 27 | 29.73 | 29.92 | 07 | CLR | NC | 10.00 | | 21 | 17 | 20 | 85 | 5 | 18 | 30.25 | 30.45 | | | | |
| 10 | SCT | NC | 10.00 | | 43 | 33 | 39 | 68 | 13 | 27 | 29.85 | 30.04 | 10 | CLR | NC | 10.00 | | 31 | 20 | 27 | 64 | 5 | 22 | 30.29 | 30.49 | | | | |
| 13 | CLR | NC | 10.00 | | 47 | 30 | 40 | 52 | 12 | 28 | 29.88 | 30.08 | 13 | SCT | NC | 10.00 | | 45 | 16 | 35 | 31 | 16 | 21 | 30.18 | 30.38 | | | | |
| 16 | CLR | NC | 10.00 | | 48 | 31 | 41 | 52 | 14 | 26 | 29.93 | 30.12 | 16 | FEW | NC | 10.00 | | 46 | 14 | 35 | 27 | 14 | 22 | 30.14 | 30.34 | | | | |
| 19 | CLR | NC | 10.00 | | 39 | 32 | 36 | 76 | 5 | 20 | 29.97 | 30.16 | 19 | FEW | NC | 10.00 | | 41 | 16 | 32 | 36 | 14 | 21 | 30.12 | 30.32 | | | | |
| 22 | CLR | NC | 10.00 | | 35 | 32 | 34 | 89 | 3 | 17 | 30.01 | 30.21 | 22 | CLR | NC | 10.00 | | 34 | 18 | 29 | 52 | 7 | 19 | 30.12 | 30.32 | | | | |
| SUNRISE: 0717 DEC 16 | | | | | SUNSET: 1653 | | | | | SUNRISE: 0720 DEC 22 | | | | | SUNSET: 1655 | | | | | | | | | | | | | | |
| 01 | CLR | NC | 10.00 | | 32 | 31 | 32 | 96 | 0 | 00 | 30.02 | 30.21 | 01 | CLR | NC | 10.00 | | 33 | 19 | 28 | 56 | 10 | 21 | 30.09 | 30.29 | | | | |
| 04 | CLR | NC | 8.00 | | 29 | 29 | 29 | 100 | 3 | 17 | 30.03 | 30.22 | 04 | CLR | NC | 10.00 | | 34 | 19 | 29 | 54 | 10 | 20 | 30.08 | 30.27 | | | | |
| 07 | SCT | NC | 10.00 | | 31 | 31 | 31 | 100 | 5 | 16 | 30.05 | 30.25 | 07 | CLR | NC | 10.00 | | 31 | 21 | 28 | 67 | 9 | 20 | 30.07 | 30.27 | | | | |
| 10 | OVC | 200 | 10.00 | | 38 | 36 | 37 | 93 | 5 | 18 | 30.07 | 30.27 | 10 | SCT | NC | 10.00 | | 45 | 22 | 36 | 40 | 12 | 22 | 30.09 | 30.28 | | | | |
| 13 | OVC | 250 | 10.00 | | 51 | 39 | 45 | 64 | 13 | 20 | 29.97 | 30.16 | 13 | SCT | NC | 10.00 | | 57 | 25 | 44 | 29 | 14 | 22 | 29.99 | 30.19 | | | | |
| 16 | OVC | 200 | 10.00 | | 54 | 45 | 49 | 72 | 12 | 22 | 29.93 | 30.12 | 16 | BKN | 250 | 10.00 | | 57 | 31 | 45 | 37 | 12 | 22 | 29.99 | 30.18 | | | | |
| 19 | OVC | 200 | 10.00 | | 48 | 41 | 45 | 77 | 9 | 17 | 29.90 | 30.10 | 19 | BKN | 250 | 10.00 | | 48 | 31 | 41 | 52 | 12 | 21 | 30.01 | 30.21 | | | | |
| 22 | OVC | 033 | 10.00 | | 48 | 43 | 46 | 83 | 8 | 18 | 29.84 | 30.03 | 22 | OVC | 250 | 10.00 | | 44 | 29 | 38 | 55 | 7 | 19 | 30.01 | 30.21 | | | | |
| SUNRISE: 0718 DEC 17 | | | | | SUNSET: 1653 | | | | | SUNRISE: 0721 DEC 23 | | | | | SUNSET: 1656 | | | | | | | | | | | | | | |
| 01 | BKN | 085 | 10.00 | | 47 | 45 | 46 | 93 | 7 | 18 | 29.72 | 29.91 | 01 | SCT | NC | 10.00 | | 43 | 28 | 37 | 56 | 8 | 20 | 29.99 | 30.18 | | | | |
| 04 | OVC | 030 | 5.00 | -RA BR | 49 | 48 | 48 | 97 | 6 | 29 | 29.61 | 29.80 | 04 | FEW | NC | 10.00 | | 39 | 27 | 34 | 62 | 5 | 19 | 29.97 | 30.16 | | | | |
| 07 | OVC | 022 | 6.00 | BR | 50 | 50 | 50 | 100 | 5 | 22 | 29.55 | 29.74 | 07 | SCT | NC | 10.00 | | 39 | 26 | 34 | 60 | 9 | 20 | 29.96 | 30.16 | | | | |
| 10 | OVC | 016 | 1.50 | BR | 53 | 53 | 53 | 100 | 6 | 20 | 29.48 | 29.67 | 10 | SCT | NC | 10.00 | | 49 | 29 | 41 | 46 | 14 | 20 | 29.99 | 30.18 | | | | |
| 13 | OVC | 010 | 8.00 | -RA | 49 | 49 | 49 | 100 | 8 | 32 | 29.42 | 29.60 | 13 | FEW | NC | 10.00 | | 61 | 41 | 51 | 48 | 13 | 20 | 29.89 | 30.08 | | | | |
| 16 | BKN | 008 | 10.00 | -RA | 40 | 40 | 40 | 100 | 9 | 34 | 29.47 | 29.65 | 16 | OVC | 250 | 10.00 | | 63 | 47 | 54 | 56 | 12 | 18 | 29.86 | 30.05 | | | | |
| 19 | CLR | NC | 10.00 | | 37 | 28 | 34 | 70 | 14 | 30 | 29.57 | 29.76 | 19 | OVC | 065 | 10.00 | | 60 | 51 | 55 | 72 | 7 | 16 | 29.84 | 30.03 | | | | |
| 22 | CLR | NC | 10.00 | | 34 | 25 | 31 | 70 | 8 | 26 | 29.63 | 29.83 | 22 | OVC | 025 | 10.00 | -RA BR | 59 | 56 | 57 | 90 | 18 | 18 | 29.80 | 30.00 | | | | |
| SUNRISE: 0718 DEC 18 | | | | | SUNSET: 1653 | | | | | SUNRISE: 0721 DEC 24 | | | | | SUNSET: 1656 | | | | | | | | | | | | | | |
| 01 | CLR | NC | 10.00 | | 32 | 23 | 29 | 69 | 13 | 26 | 29.64 | 29.83 | 01 | OVC | 005 | 3.00 | -RA BR | 57 | 57 | 57 | 100 | 10 | 17 | 29.72 | 29.91 | | | | |
| 04 | OVC | 150 | 10.00 | | 33 | 25 | 30 | 72 | 12 | 24 | 29.65 | 29.84 | 04 | OVC | 005 | 4.00 | -RA BR | 57 | 57 | 57 | 100 | 13 | 17 | 29.65 | 29.84 | | | | |
| 07 | OVC | 250 | 10.00 | | 34 | 24 | 30 | 67 | 9 | 25 | 29.68 | 29.87 | 07 | OVC | 005 | 5.00 | BR | 58 | 58 | 58 | 100 | 9 | 17 | 29.58 | 29.78 | | | | |
| 10 | OVC | 110 | 10.00 | | 38 | 24 | 33 | 57 | 13 | 25 | 29.69 | 29.89 | 10 | OVC | 007 | 10.00 | | 59 | 59 | 59 | 100 | 10 | 19 | 29.56 | 29.75 | | | | |
| 13 | OVC | 090 | 10.00 | | 41 | 24 | 35 | 51 | 15 | 25 | 29.60 | 29.80 | 13 | OVC | 040 | 10.00 | | 61 | 57 | 59 | 87 | 14 | 22 | 29.51 | 29.69 | | | | |
| 16 | OVC | 065 | 10.00 | | 41 | 29 | 36 | 62 | 12 | 28 | 29.59 | 29.79 | 16 | OVC | 080 | 10.00 | | 51 | 50 | 51 | 96 | 12 | 02 | 29.61 | 29.80 | | | | |
| 19 | OVC | 090 | 10.00 | | 41 | 29 | 36 | 62 | 8 | 24 | 29.63 | 29.82 | 19 | OVC | 042 | 10.00 | | 46 | 44 | 45 | 93 | 6 | 01 | 29.69 | 29.88 | | | | |
| 22 | OVC | 050 | 10.00 | | 40 | 31 | 36 | 70 | 15 | 24 | 29.62 | 29.82 | 22 | OVC | 029 | 10.00 | | 44 | 39 | 42 | 83 | 10 | 02 | 29.73 | 29.92 | | | | |

OBSERVATIONS AT 3-HOURLY INTERVALS

RICHMOND, VA

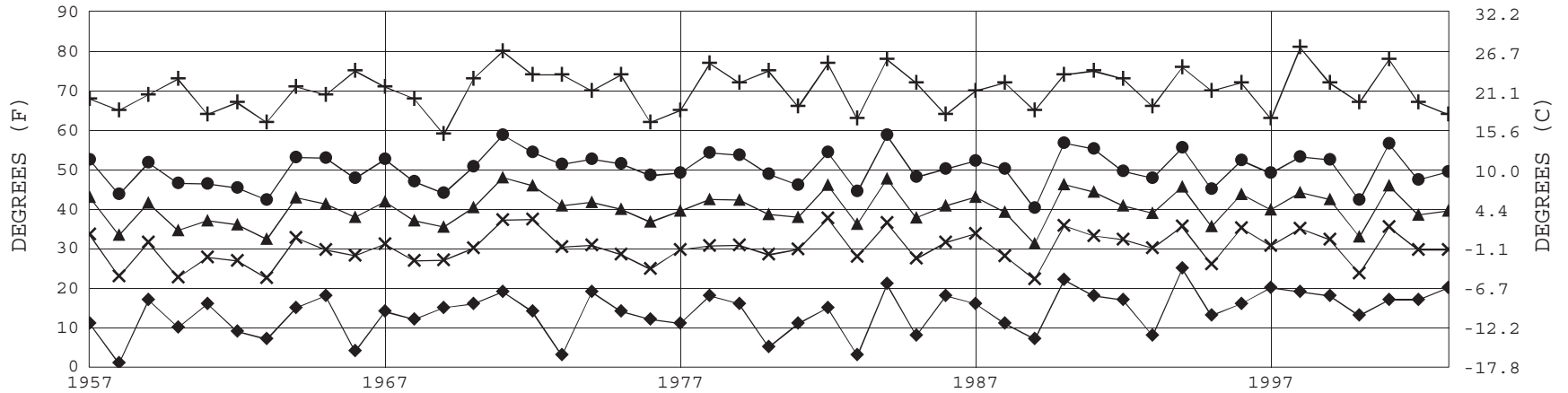
DECEMBER 2003

RIC

WBAN # 13740

| HOUR (LST) | SKY COVER | | CEILING 100'S OF FT | SATELLITE | | OBSERVATION TIME (LST) | EFF CLD AMT Okta | VISIBILITY (MILES) | WEATHER | TEMPERATURE °F | | | | WIND | | PRESSURE (INCHES, HG) | | HOUR (LST) | SKY COVER | | CEILING 100'S OF FT | SATELLITE | | OBSERVATION TIME (LST) | EFF CLD AMT Okta | VISIBILITY (MILES) | WEATHER | TEMPERATURE °F | | | | WIND | | PRESSURE (INCHES, HG) | |
|---------------|-----------|-----------|------------------------|-----------|----------------------------|---------------------------|---------------------|-----------------------|---------|-------------------|--------------------------|---------|--------------|--------------|-----------|--------------------------|----------------------------|--|-------------|--------------------------|------------------------|-----------|--------------|---------------------------|---------------------|-----------------------|---------|-------------------|-------|----|----|--------------|-------|--------------------------|-------|
| | DRY BULB | DEW POINT | | WET BULB | RELATIVE HUMIDITY (PCT) | | | | | SPEED (MPH) | DIRECTION TENS OF DEG | STATION | SEA LEVEL | DRY BULB | DEW POINT | WET BULB | RELATIVE HUMIDITY (PCT) | | SPEED (MPH) | DIRECTION TENS OF DEG | | STATION | SEA LEVEL | | | | | | | | | | | | |
| SUNRISE: 0722 | | | | | | | | | | DEC 25 | | | | SUNSET: 1657 | | | | SUNRISE: 0724 | | | | | | | | | | DEC 31 | | | | SUNSET: 1701 | | | |
| 01 | BKN | 041 | | | | | | 10.00 | | 38 | 32 | 36 | 79 | 7 | 36 | 29.75 | 29.94 | 01 | CLR | NC | | | | | | 10.00 | | 31 | 26 | 29 | 82 | 0 | 00 | 30.15 | 30.35 |
| 04 | OVC | 041 | | | | | | 10.00 | | 37 | 27 | 33 | 67 | 7 | 35 | 29.78 | 29.98 | 04 | CLR | NC | | | | | 10.00 | | 30 | 27 | 29 | 88 | 0 | 00 | 30.19 | 30.38 | |
| 07 | BKN | 049 | | | | | | 10.00 | | 36 | 23 | 31 | 59 | 6 | 30 | 29.85 | 30.04 | 07 | CLR | NC | | | | | 10.00 | | 28 | 26 | 27 | 92 | 3 | 01 | 30.20 | 30.40 | |
| 10 | CLR | NC | | | | | | 10.00 | | 38 | 23 | 32 | 55 | 10 | 26 | 29.91 | 30.11 | 10 | FEW | NC | | | | | 10.00 | | 42 | 32 | 38 | 68 | 6 | 18 | 30.25 | 30.45 | |
| 13 | SCT | NC | | | | | | 10.00 | | 43 | 22 | 35 | 43 | 12 | 27 | 29.88 | 30.07 | 13 | CLR | NC | | | | | 10.00 | | 50 | 30 | 42 | 46 | 12 | 21 | 30.14 | 30.34 | |
| 16 | FEW | NC | | | | | | 10.00 | | 43 | 20 | 35 | 40 | 10 | 28 | 29.91 | 30.10 | 16 | CLR | NC | | | | | 10.00 | | 53 | 31 | 43 | 43 | 12 | 19 | 30.07 | 30.26 | |
| 19 | CLR | NC | | | | | | 10.00 | | 38 | 20 | 32 | 48 | 7 | 26 | 29.94 | 30.14 | 19 | CLR | NC | | | | | 10.00 | | 44 | 30 | 38 | 58 | 10 | 20 | 30.07 | 30.27 | |
| 22 | CLR | NC | | | | | | 10.00 | | 35 | 21 | 30 | 57 | 9 | 27 | 29.99 | 30.18 | 22 | CLR | NC | | | | | 10.00 | | 8 | 22 | 30.08 | | | | | | |
| SUNRISE: 0722 | | | | | | | | | | DEC 26 | | | | SUNSET: 1657 | | | | 3-HOURLY OBSERVATION NOTES Sky Cover is the amount of the sky obscured. CLR or SKC = 0, FEW = 1/8-2/8, SCT = 3/8-4/8, BKN = 5/8-7/8, OVC = 8/8, VV = Vertical Visibility = 8/8. Ceiling is reported in hundreds of feet above ground level for clouds at or below 12,000 feet. NC= No ceiling detected. & = Original observation contained additional weather elements. See page 3 for additional notes. | | | | | | | | | | | | | | | | | |
| 01 | CLR | NC | | | | | | 10.00 | | 35 | 19 | 30 | 52 | 13 | 29 | 30.00 | 30.19 | | | | | | | | | | | | | | | | | | |
| 04 | CLR | NC | | | | | | 10.00 | | 31 | 21 | 28 | 67 | 8 | 29 | 30.06 | 30.26 | | | | | | | | | | | | | | | | | | |
| 07 | CLR | NC | | | | | | 10.00 | | 29 | 21 | 26 | 72 | 8 | 24 | 30.08 | 30.28 | | | | | | | | | | | | | | | | | | |
| 10 | CLR | NC | | | | | | 10.00 | | 37 | 22 | 32 | 54 | 10 | 27 | 30.12 | 30.32 | | | | | | | | | | | | | | | | | | |
| 13 | CLR | NC | | | | | | 10.00 | | 45 | 26 | 37 | 48 | 12 | 32 | 30.03 | 30.23 | | | | | | | | | | | | | | | | | | |
| 16 | CLR | NC | | | | | | 10.00 | | 48 | 28 | 40 | 46 | 12 | 28 | 30.02 | 30.22 | | | | | | | | | | | | | | | | | | |
| 19 | CLR | NC | | | | | | 10.00 | | 42 | 28 | 36 | 58 | 5 | 27 | 30.03 | 30.23 | | | | | | | | | | | | | | | | | | |
| 22 | CLR | NC | | | | | | 10.00 | | 33 | 28 | 31 | 82 | 0 | 00 | 30.05 | 30.24 | | | | | | | | | | | | | | | | | | |
| SUNRISE: 0723 | | | | | | | | | | DEC 27 | | | | SUNSET: 1658 | | | | | | | | | | | | | | | | | | | | | |
| 01 | CLR | NC | | | | | | 10.00 | | 31 | 25 | 29 | 79 | 6 | 26 | 30.04 | 30.23 | | | | | | | | | | | | | | | | | | |
| 04 | CLR | NC | | | | | | 10.00 | | 29 | 24 | 27 | 82 | 0 | 00 | 30.05 | 30.24 | | | | | | | | | | | | | | | | | | |
| 07 | CLR | NC | | | | | | 10.00 | | 27 | 24 | 26 | 89 | 0 | 00 | 30.08 | 30.28 | | | | | | | | | | | | | | | | | | |
| 10 | CLR | NC | | | | | | 10.00 | | 43 | 26 | 36 | 51 | 0 | 00 | 30.14 | 30.33 | | | | | | | | | | | | | | | | | | |
| 13 | FEW | NC | | | | | | 10.00 | | 53 | 22 | 41 | 30 | 12 | 31 | 30.06 | 30.26 | | | | | | | | | | | | | | | | | | |
| 16 | CLR | NC | | | | | | 10.00 | | 56 | 25 | 43 | 30 | 7 | 36 | 30.07 | 30.27 | | | | | | | | | | | | | | | | | | |
| 19 | CLR | NC | | | | | | 10.00 | | 41 | 27 | 36 | 57 | 6 | 01 | 30.10 | 30.30 | | | | | | | | | | | | | | | | | | |
| 22 | CLR | NC | | | | | | 10.00 | | 37 | 27 | 33 | 67 | 0 | 00 | 30.13 | 30.33 | | | | | | | | | | | | | | | | | | |
| SUNRISE: 0723 | | | | | | | | | | DEC 28 | | | | SUNSET: 1659 | | | | | | | | | | | | | | | | | | | | | |
| 01 | CLR | NC | | | | | | 8.00 | | 33 | 28 | 31 | 82 | 0 | 00 | 30.13 | 30.33 | | | | | | | | | | | | | | | | | | |
| 04 | CLR | NC | | | | | | 10.00 | | 29 | 26 | 28 | 89 | 0 | 00 | 30.15 | 30.35 | | | | | | | | | | | | | | | | | | |
| 07 | CLR | NC | | | | | | 10.00 | | 29 | 25 | 28 | 85 | 3 | 34 | 30.20 | 30.40 | | | | | | | | | | | | | | | | | | |
| 10 | CLR | NC | | | | | | 10.00 | | 41 | 31 | 37 | 67 | 5 | 03 | 30.24 | 30.44 | | | | | | | | | | | | | | | | | | |
| 13 | CLR | NC | | | | | | 10.00 | | 50 | 32 | 42 | 50 | 0 | 00 | 30.16 | 30.36 | | | | | | | | | | | | | | | | | | |
| 16 | CLR | NC | | | | | | 10.00 | | 52 | 35 | 44 | 53 | 7 | 18 | 30.14 | 30.34 | | | | | | | | | | | | | | | | | | |
| 19 | CLR | NC | | | | | | 10.00 | | 40 | 32 | 37 | 73 | 3 | 13 | 30.16 | 30.36 | | | | | | | | | | | | | | | | | | |
| 22 | CLR | NC | | | | | | 10.00 | | 37 | 32 | 35 | 82 | 5 | 15 | 30.14 | 30.33 | | | | | | | | | | | | | | | | | | |
| SUNRISE: 0723 | | | | | | | | | | DEC 29 | | | | SUNSET: 1659 | | | | | | | | | | | | | | | | | | | | | |
| 01 | CLR | NC | | | | | | 10.00 | | 34 | 32 | 33 | 92 | 6 | 15 | 30.10 | 30.29 | | | | | | | | | | | | | | | | | | |
| 04 | CLR | NC | | | | | | 10.00 | | 35 | 33 | 34 | 93 | 6 | 17 | 30.09 | 30.28 | | | | | | | | | | | | | | | | | | |
| 07 | BKN | 250 | | | | | | 10.00 | | 33 | 33 | 33 | 100 | 5 | 17 | 30.06 | 30.25 | | | | | | | | | | | | | | | | | | |
| 10 | FEW | NC | | | | | | 10.00 | | 46 | 40 | 43 | 79 | 12 | 22 | 30.07 | 30.27 | | | | | | | | | | | | | | | | | | |
| 13 | FEW | NC | | | | | | 10.00 | | 60 | 35 | 48 | 39 | 13 | 22 | 29.96 | 30.15 | | | | | | | | | | | | | | | | | | |
| 16 | FEW | NC | | | | | | 10.00 | | 61 | 42 | 51 | 50 | 13 | 22 | 29.91 | 30.10 | | | | | | | | | | | | | | | | | | |
| 19 | FEW | NC | | | | | | 10.00 | | 49 | 43 | 46 | 80 | 7 | 19 | 29.91 | 30.11 | | | | | | | | | | | | | | | | | | |
| 22 | SCT | NC | | | | | | 10.00 | | 52 | 46 | 49 | 80 | 16 | 19 | 29.88 | 30.07 | | | | | | | | | | | | | | | | | | |
| SUNRISE: 0723 | | | | | | | | | | DEC 30 | | | | SUNSET: 1700 | | | | | | | | | | | | | | | | | | | | | |
| 01 | OVC | 060 | | | | | | 10.00 | | 52 | 49 | 50 | 89 | 13 | 19 | 29.80 | 30.00 | | | | | | | | | | | | | | | | | | |
| 04 | OVC | 150 | | | | | | 10.00 | | 53 | 51 | 52 | 93 | 13 | 19 | 29.70 | 29.90 | | | | | | | | | | | | | | | | | | |
| 07 | OVC | 047 | | | | | | 10.00 | | 57 | 57 | 57 | 100 | 15 | 22 | 29.71 | 29.91 | | | | | | | | | | | | | | | | | | |
| 10 | SCT | NC | | | | | | 10.00 | | | | | | 17 | 26 | 29.84 | 30.03 | | | | | | | | | | | | | | | | | | |
| 13 | CLR | NC | | | | | | 10.00 | | 56 | 27 | 44 | 33 | 18 | 27 | 29.85 | 30.04 | | | | | | | | | | | | | | | | | | |
| 16 | CLR | NC | | | | | | 10.00 | | 55 | 27 | 43 | 34 | 14 | 28 | 29.94 | 30.13 | | | | | | | | | | | | | | | | | | |
| 19 | CLR | NC | | | | | | 10.00 | | 47 | 25 | 38 | 42 | 6 | 29 | 30.03 | 30.22 | | | | | | | | | | | | | | | | | | |
| 22 | CLR | NC | | | | | | 10.00 | | 38 | 27 | 34 | 65 | 3 | 30 | 30.13 | 30.32 | | | | | | | | | | | | | | | | | | |

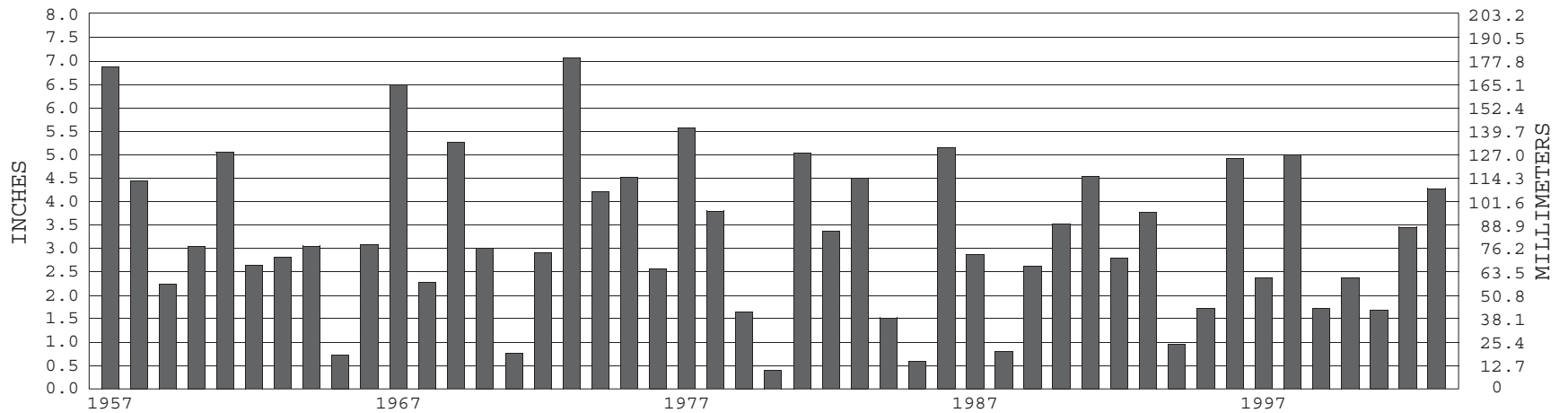
RICHMOND, VA DECEMBER TEMPERATURES



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

Long-Term (1957-2003) Mean: 40.2 1961-1990 Normal: 40.4

RICHMOND, VA DECEMBER PRECIPITATION



Long-Term (1957-2003) Mean Monthly Total: 3.27

1961-1990 Normal: 3.12



DECEMBER 2003

RICHMOND, VA

LOCAL CLIMATOLOGICAL DATA

NOAA, National Climatic Data Center

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