

JUL 1988
 RICHMOND, VA
 NAT'L WEATHER SERVICE
 BOX A-63, RICHMOND INT'L AIRPORT

ISSN 0198-537X

LOCAL CLIMATOLOGICAL DATA Monthly Summary



R.E. BYRD INTERNATIONAL AP.

LATITUDE 37° 30' N LONGITUDE 77° 20' W ELEVATION (GROUND) 164 FEET TIME ZONE EASTERN 13740

JUL 1988
 RICHMOND, VA

DATE	TEMPERATURE °F					DEGREE DAYS BASE 65°F		WEATHER TYPES 1 FOG 2 HEAVY FOG 3 THUNDERSTORM 4 ICE PELLETS 5 HAIL 6 GLAZE 7 DUSTSTORM 8 SMOKE, HAZE 9 BLOWING SNOW	SNOW ICE PELLETS OR ICE ON GROUND AT 0700 INCHES	PRECIPITATION		AVERAGE STATION PRESSURE IN INCHES ELEV. 177 FEET ABOVE M.S.L.	WIND (M.P.H.)					SUNSHINE		SKY COVER (TENTHS)			
	MAXIMUM	MINIMUM	AVERAGE	DEPARTURE FROM NORMAL	AVERAGE DEW POINT	HEATING (SEASON BEGINS WITH JUL)	COOLING (SEASON BEGINS WITH JAN)			WATER EQUIVALENT (INCHES)	SNOW, ICE PELLETS (INCHES)		RESULTANT DIR.	RESULTANT SPEED	AVERAGE SPEED	PEAK GUST	DIRECTION	FATEST 1-MIN	MINUTES	PERCENT OF TOTAL POSSIBLE	SUNRISE TO SUNSET	MIDNIGHT TO MIDNIGHT	
1	2	3	4	5	6	7A	7B	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
01	78	53	66*	-11	43	0	1		0	0.00	0.0	29.685	35	10.2	10.7	26	N	16	32	821	93	1	2
02	82	52*	67	-10	49	0	2		0	0.00	0.0	29.780	31	3.9	7.1	21	N	14	36	843	96	2	2
03	90	58	74	-3	56	0	9		0	0.00	0.0	29.830	17	7.2	8.3	18	S	14	15	823	93	2	3
04	89	63	76	-1	61	0	11		0	0.00	0.0	30.000	16	6.5	8.0	18	SE	14	12	788	89	6	4
05	87	58	73	-4	57	0	8	8	0	0.00	0.0	30.110	14	4.7	5.9	20	E	14	09	824	94	2	2
06	94	59	77	0	60	0	12	8	0	0.00	0.0	30.020	20	3.4	6.6	13	NW	12	11	771	88	4	4
07	99	68	84	7	63	0	19	8	0	0.00	0.0	29.895	11	3.0	8.2	20	NE	14	11	745	85	6	7
08	93	71	82	4	66	0	17	8	0	0.00	0.0	29.860	17	7.7	8.4	20	S	14	14	747	85	6	6
09	95	69	82	4	70	0	17	1 3	8	1.52	0.0	29.760	20	6.3	11.3	54	S	31	38	602	69	9	9
10	97	71	84	6	71	0	19	1	8	0.00	0.0	29.740	21	6.8	7.9	15	S	12	18	741	85	5	6
11	97	73	85	7	71	0	20	1	8	0.00	0.0	29.750	20	9.8	10.2	21	SW	14	21	721	82	10	9
12	83	75	79	1	73	0	14	1	8	0.17	0.0	29.755	22	9.8	10.3	23	SE	17	23	350	40	10	9
13	89	73	81	3	69	0	16	1	8	0.00	0.0	29.820	25	3.4	7.3	16	N	13	02	561	64	9	9
14	94	71	83	5	71	0	18	1	8	0.00	0.0	29.740	22	7.1	8.0	15	SW	12	21	822	94	3	3
15	97	74	86	8	72	0	21	1	8	0.00	0.0	29.775	31	2.4	6.4	15	NW	15	32	838	96	4	3
16	100*	74	87	9	75	0	22	1	8	0.00	0.0	29.850	17	6.1	7.5	16	SE	13	15	797	92	2	2
17	99	76	88*	10	74	0	23	1	8	0.00	0.0	29.770	21	9.7	10.3	28	SW	17	24	834	96	4	3
18	97	74	86	8	74	0	21	1 3	8	0.31	0.0	29.810	17	4.4	8.6	44	S	26	19	604	70	5	5
19	93	73	83	5	74	0	18	1 3	8	0.1	0.0	29.850	21	10.2	11.5	31	S	21	19	562	65	9	8
20	87	73	80	2	74	0	15	1	8	0.00	0.0	29.900	20	13.3	13.5	30	SW	20	18	601	70	9	9
21	92	72	82	4	72	0	17	3	8	0.15	0.0	29.830	21	14.0	15.0	29	W	21	19	702	81	7	7
22	78	72	75	-3	72	0	10	1 3	8	1.03	0.0	29.830	21	3.7	6.4	17	N	12	20	38	4	10	10
23	85	71	78	0	72	0	13	1 3	8	3.70	0.0	29.830	19	5.0	6.0	40	S	21	19	301	35	10	9
24	87	70	79	1	70	0	14	1	8	0.00	0.0	29.840	26	4.3	7.0	14	SW	10	20	693	81	5	5
25	91	67	79	1	69	0	14	1	8	0.00	0.0	29.870	14	3.3	5.9	14	S	12	17	750	88	1	1
26	89	71	80	1	71	0	15	1 3	8	0.35	0.0	29.850	18	7.6	8.7	32	SW	14	21	656	77	6	7
27	88	70	79	1	71	0	14	1 3	8	0.26	0.0	29.915	18	5.7	7.8	28	S	23	18	654	77	8	8
28	87	69	78	0	71	0	13	1	8	0.01	0.0	29.980	21	4.3	6.1	13	SW	10	24	426	50	7	6
29	93	71	82	4	72	0	17	1	8	0.00	0.0	29.990	23	5.5	6.7	15	SW	12	29	760	89	3	2
30	95	71	83	5	72	0	18	1 3	8	0.00	0.0	29.900	21	6.1	6.7	18	SW	12	22	839	99	0	1
31	94	72	83	5	72	0	18	1 3	8	0.0	0.0	29.800	23	3.7	6.6	20	W	12	25	637	75	6	5
SUM	SUM	SUM	SUM	SUM	SUM	TOTAL	TOTAL	NUMBER OF DAYS		TOTAL	TOTAL	FOR THE MONTH:								TOTAL	%	SUM	SUM
2819	2134					0	466			7.50	0.0	29.850	20	4.9	8.4	54	31	38	31	20851	FOR	171	166
AVG.	AVG.	AVG.	DEP.	AVG.	DEP.	DEP.	DEP.	PRECIPITATION		DATE:	DATE:	DATE:	DATE:	DATE:	DATE:	DATE:	DATE:	DATE:	DATE:	DATE:	DATE:	DATE:	DATE:
90.9	68.8	79.9	2.1	67.9		0	69	9	2.36	9	9	9	9	9	9	9	9	9	9	9	9	9	9
NUMBER OF DAYS						SEASON TO DATE		SNOW, ICE PELLETS		GREATEST IN 24 HOURS AND DATES					GREATEST DEPTH ON GROUND OF								
						TOTAL	TOTAL	≥ 1.0 INCH						SNOW, ICE PELLETS OR ICE AND DATE									
MAXIMUM TEMP.		MINIMUM TEMP.				0		86.2	THUNDERSTORMS		PRECIPITATION		SNOW, ICE PELLETS										
≥ 90°		≤ 32°		≤ 32°		≤ 0°		DEP.	HEAVY FOG		3.84		22-23		0.0								
18		0		0		0		0	95		CLEAR		9		PARTLY CLOUDY		13		CLOUDY		9		

* EXTREME FOR THE MONTH - LAST OCCURRENCE IF MORE THAN ONE.
 † TRACE AMOUNT.
 + ALSO ON EARLIER DATE(S).
 HEAVY FOG: VISIBILITY 1/4 MILE OR LESS.
 BLANK ENTRIES DENOTE MISSING OR UNREPORTED DATA.

DATA IN COLS 6 AND 12-15 ARE BASED ON 21 OR MORE OBSERVATIONS AT HOURLY INTERVALS. RESULTANT WIND IS THE VECTOR SUM OF WIND SPEEDS AND DIRECTIONS DIVIDED BY THE NUMBER OF OBSERVATIONS. COLS 16 & 17: PEAK GUST - HIGHEST INSTANTANEOUS WIND SPEED. ONE OF TWO WIND SPEEDS IS GIVEN UNDER COLS 18 & 19: FASTEST MILE - HIGHEST RECORDED SPEED FOR WHICH A MILE OF WIND PASSES STATION (DIRECTION IN COMPASS POINTS). FASTEST OBSERVED ONE MINUTE WIND - HIGHEST ONE MINUTE SPEED (DIRECTION IN TENS OF DEGREES). ERRORS WILL BE CORRECTED IN SUBSEQUENT PUBLICATIONS.

I CERTIFY THAT THIS IS AN OFFICIAL PUBLICATION OF THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION, AND IS COMPILED FROM RECORDS ON FILE AT THE NATIONAL CLIMATIC DATA CENTER

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NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

NATIONAL ENVIRONMENTAL SATELLITE, DATA AND INFORMATION SERVICE

NATIONAL CLIMATIC DATA CENTER ASHEVILLE NORTH CAROLINA

Kenneth D. Wadsworth
 DIRECTOR
 NATIONAL CLIMATIC DATA CENTER

OBSERVATIONS AT 3-HOUR INTERVALS

JUL 1988
RICHMOND, VA

13740

HOUR L.S.T.	VISI-BILITY			TEMPERATURE				WIND			SKY COVER (TENTHS)	VISI-BILITY			TEMPERATURE				WIND																																																																																																																	
	SKY COVER (TENTHS)	CEILING IN HUNDREDS OF FEET	WHOLE MILES	16THS MILE	WEATHER	AIR OF	WET BULB OF	DEW POINT OF	REL HUMIDITY %	DIRECTION		SPEED (KNOTS)	SKY COVER (TENTHS)	CEILING IN HUNDREDS OF FEET	WHOLE MILES	16THS MILE	WEATHER	AIR OF	WET BULB OF	DEW POINT OF	REL HUMIDITY %	DIRECTION	SPEED (KNOTS)	SKY COVER (TENTHS)	CEILING IN HUNDREDS OF FEET	WHOLE MILES	16THS MILE	WEATHER	AIR OF	WET BULB OF	DEW POINT OF	REL HUMIDITY %	DIRECTION	SPEED (KNOTS)																																																																																																		
																																			CEILING IN HUNDREDS OF FEET	WHOLE MILES	16THS MILE	WEATHER	AIR OF	WET BULB OF	DEW POINT OF	REL HUMIDITY %	DIRECTION	SPEED (KNOTS)	CEILING IN HUNDREDS OF FEET	WHOLE MILES	16THS MILE	WEATHER	AIR OF	WET BULB OF	DEW POINT OF	REL HUMIDITY %	DIRECTION	SPEED (KNOTS)																																																																														
JUL 1st																																	JUL 2nd																																	JUL 3rd																																																																		
01	7	80	10			63	53	44	50	36	12	0	UNL	10			57	53	50	78	00	0	7	120	10			62	58	55	78	15	3	JUL 4th																																	JUL 5th																																	JUL 6th																																
04	0	UNL	15			56	49	41	57	35	7	2	UNL	10			55	51	48	77	00	0	3	UNL	10			60	57	54	81	17	4	JUL 7th																																	JUL 8th																																	JUL 9th																																
07	0	UNL	15			60	51	41	50	35	10	0	UNL	15			64	56	49	58	32	7	1	UNL	10			67	61	57	70	17	7	JUL 10th																																	JUL 11th																																	JUL 12th																																
10	0	UNL	15			69	55	41	36	02	11	1	UNL	15			74	59	47	38	33	9	2	UNL	10			82	67	58	44	23	8	JUL 13th																																	JUL 14th																																	JUL 15th																																
13	0	UNL	15			73	56	41	32	35	13	2	UNL	15			80	61	46	30	33	10	1	UNL	15			89	67	53	29	23	12	JUL 16th																																	JUL 17th																																	JUL 18th																																
16	3	UNL	15			77	58	42	29	36	13	3	UNL	15			81	61	46	29	23	4	4	UNL	15			87	67	54	32	15	12	JUL 19th																																	JUL 20th																																	JUL 21st																																
19	4	UNL	15			74	58	45	36	36	8	3	UNL	10			78	61	47	34	27	6	1	UNL	15			80	67	59	49	16	8	JUL 22nd																																	JUL 23rd																																	JUL 24th																																
22	4	UNL	10			64	56	50	61	01	5	2	UNL	10			64	59	55	73	15	4	3	UNL	12			70	65	61	73	12	5	JUL 25th																																	JUL 26th																																	JUL 27th																																

WEATHER CODES

- | | | | |
|---|--|---|---|
| <ul style="list-style-type: none"> * TORNADO T THUNDERSTORM Q SQUALL R RAIN RW RAIN SHOWERS ZR FREEZING RAIN L DRIZZLE | <ul style="list-style-type: none"> ZL FREEZING DRIZZLE S SNOW SW SNOW SHOWERS SG SNOW GRAINS SP SNOW PELLETS IC ICE CRYSTALS IP ICE PELLETS | <ul style="list-style-type: none"> IPW ICE PELLET SHOWERS A HAIL SW SNOW SHOWERS IF ICE FOG GF GROUND FOG BD BLOWING DUST | <ul style="list-style-type: none"> BN BLOWING SAND BS BLOWING SNOW BY BLOWING SPRAY K SMOKE H HAZE D DUST |
|---|--|---|---|

CEILING: UNL INDICATES UNLIMITED
 WIND DIRECTION: DIRECTIONS ARE THOSE FROM WHICH THE WIND BLOWS, INDICATED IN TENS OF DEGREES FROM TRUE NORTH: I.E., 09 FOR EAST, 18 FOR SOUTH, 27 FOR WEST. AN ENTRY OF 00 INDICATES CALM
 SPEED: THE OBSERVED AVERAGE ONE-MINUTE VALUE, EXPRESSED IN KNOTS (MPH=KNOTS X 1.15).

OBSERVATIONS AT 3-HOUR INTERVALS

JUL 1988
RICHMOND, VA 13740

HOUR L.S.T.	VISIBILITY			WEATHER	TEMPERATURE				WIND		HOUR L.S.T.	VISIBILITY			WEATHER	TEMPERATURE				WIND									
	SKY COVER (TENTHS)	CEILING IN HUNDREDS OF FEET	WHOLE MILES		AIR OF	WET BULB OF	DEW POINT OF	REL HUMIDITY %	DIRECTION	SPEED (KNOTS)		SKY COVER (TENTHS)	CEILING IN HUNDREDS OF FEET	WHOLE MILES		AIR OF	WET BULB OF	DEW POINT OF	REL HUMIDITY %	DIRECTION	SPEED (KNOTS)								
JUL 19th																													
01	10	90	4	F	74	73	73	97	21	6	10	100	7	73	72	71	94	21	11	10	100	8	79	75	73	82	20	11	
04	2	UNL	4	F	74	73	73	97	21	8	10	100	7	73	72	71	94	20	7	2	UNL	7	76	73	72	88	20	13	
07	9	UNL	3	F	77	75	74	91	20	9	10	100	7	76	73	72	88	20	9	7	100	10	77	74	72	85	20	16	
10	8	80	3	FH	84	78	75	75	24	11	10	100	10	82	76	73	74	22	12	8	250	15	83	75	72	70	21	14	
13	10	100	5	H	89	80	77	68	20	11	10	100	10	85	79	76	75	21	11	8	UNL	15	89	78	73	59	20	14	
16	8	100	5	H	91	82	79	68	18	14	9	100	15	85	77	74	70	19	16	8	250	15	88	77	73	61	19	16	
19	10	100	8	H	82	73	69	65	24	5	9	100	8	82	78	76	82	19	14	7	250	12	85	76	72	65	19	10	
22	10	100	7	H	76	73	71	85	19	18	9	100	8	80	77	75	85	20	12	10	50	8	RW	73	72	71	94	26	7
JUL 20th																													
JUL 21st																													
JUL 22nd																													
JUL 23rd																													
JUL 24th																													
JUL 25th																													
JUL 26th																													
JUL 27th																													
JUL 28th																													
JUL 29th																													
JUL 30th																													
JUL 31st																													

SUMMARY BY HOURS

HOUR L.S.T.	SKY COVER (TENTHS)	STATION PRESSURE (INCHES)	TEMPERATURE				WIND SPEED (MPH)	RESULTANT WIND	
			AIR TEMP OF	WET BULB OF	DEW POINT OF	REL HUMIDITY %		DIRECTION	SPEED (MPH)
01	6	29.850	73	70	68	85	6.6	21	4.9
04	4	29.840	70	68	67	90	5.9	20	4.6
07	6	29.870	74	70	68	82	8.0	21	5.4
10	5	29.880	83	73	68	63	8.4	22	3.7
13	6	29.860	88	74	67	53	10.1	22	6.3
16	6	29.820	89	74	67	52	10.6	18	6.1
19	6	29.830	82	73	69	66	9.6	20	5.3
22	5	29.860	75	71	69	84	7.6	18	6.2

HOURLY PRECIPITATION (WATER EQUIVALENT IN INCHES)

JUL 1988
RICHMOND, VA

13740

DATE	A.M. HOUR ENDING AT												P.M. HOUR ENDING AT												DATE
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	
01																								01	
02																								02	
03																								03	
04																								04	
05																								05	
06																								06	
07																								07	
08																								08	
09																			1.10	0.36	0.05	0.01		09	
10																								10	
11																								11	
12												T	0.06	0.09	T	0.02								12	
13																								13	
14																								14	
15																								15	
16																								16	
17																								17	
18																								18	
19																								19	
20																								20	
21																								21	
22																								22	
23				0.17	0.02	0.06	T																	23	
24																								24	
25																								25	
26																								26	
27																								27	
28			0.01	T																				28	
29																								29	
30																								30	
31																								31	

MAXIMUM SHORT DURATION PRECIPITATION

TIME PERIOD (MINUTES)	5	10	15	20	30	45	60	80	100	120	150	180
PRECIPITATION (INCHES)	0.41	0.81	0.98	1.26	1.36	1.43	1.47	1.53	1.56	1.93	2.70	2.81
ENDED: DATE	23	23	23	09	09	09	23	23	23	23	23	23
ENDED: TIME	1423	1424	1429	1904	1914	1924	1646	1658	1720	1614	1644	1712

THE PRECIPITATION AMOUNTS FOR THE INDICATED TIME INTERVALS MAY OCCUR AT ANY TIME DURING THE MONTH. THE TIME INDICATED IS THE ENDING TIME OF THE INTERVAL. DATE AND TIME ARE NOT ENTERED FOR TRACE AMOUNTS.

VALIDATED BY:
DON HOWELL

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