

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

JUN 1989
 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		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)	ELEV. 177 FEET ABOVE M.S.L.	RESULTANT DIR.	RESULTANT SPEED	AVERAGE SPEED	PEAK GUST	DIRECTION	FASTEST 1-MIN	MINUTES	PERCENT OF TOTAL POSSIBLE	SUNRISE TO SUNSET	MIDNIGHT TO MIDNIGHT		
01	95	69	82	12	67	0	17		0	0.00	0.0	29.860	26	7.8	9.0	21	W	14	28	796	91	3	3	
02	96*	69	83	13	67	0	18	3	0	0.35	0.0	29.790	26	7.5	9.6	44	NW	25	31	689	79	4	5	
03	88	65	77	6	69	0	12	1	0	0.00	0.0	29.760	17	4.0	6.4	15	S	9	19	704	80	6	7	
04	91	71	81	10	69	0	16		0	0.00	0.0	29.690	24	7.7	10.4	24	N	16	28	743	85	4	6	
05	86	68	77	6	69	0	12	1 3	0	0.62	0.0	29.730	20	5.6	8.1	32	S	15	17	614	70	8	9	
06	84	66	75	3	68	0	10	1	0	0.02	0.0	29.670	22	9.5	10.2	24	SW	16	23	628	71	10	9	
07	80	65	73	1	67	0	8	1 3	0	1.66	0.0	29.710	18	2.5	6.7	29	NW	18	32	387	44	10	10	
08	81	64	73	1	68	0	8	2	0	0.0	0.0	29.745	20	3.4	5.3	15	W	10	16	572	65	10	10	
09	81	68	75	3	71	0	10	1	0	0.23	0.0	29.620	20	9.2	10.5	25	SW	16	21	397	45	9	8	
10	85	64	75	3	63	0	10	1	0	0.00	0.0	29.740	29	9.0	10.1	23	NW	15	28	789	89	1	1	
11	77	58	68	-5	56	0	3		0	0.00	0.0	29.930	36	7.2	8.7	30	N	20	36	742	84	3	2	
12	82	54*	68*	-5	63	0	3	1 3	0	0.33	0.0	29.830	17	5.9	7.8	30	N	21	33	676	77	9	8	
13	87	66	77	4	68	0	12	1 3	0	0.73	0.0	29.620	24	9.4	10.3	46	W	22	25	577	65	7	7	
14	91	64	78	5	68	0	13	1 3	0	0.17	0.0	29.720	23	8.8	9.8	43	W	23	28	773	88	3	3	
15	90	66	78	4	70	0	13	1 3	0	0.21	0.0	29.760	22	10.0	10.8	48	W	28	27	653	74	10	10	
16	87	68	78	4	69	0	13	3	0	0.48	0.0	29.840	21	10.4	12.4	29	W	20	34	639	72	9	8	
17	80	66	73	-1	67	0	8		0	0.02	0.0	29.940	20	9.7	10.1	22	SW	16	22	709	80	9	8	
18	85	66	76	2	63	0	11	1	0	0.00	0.0	29.950	30	2.0	6.1	22	SW	10	02	752	85	5	5	
19	85	65	75	1	66	0	10	1	0	0.00	0.0	29.930	13	6.5	7.1	17	SE	13	10	799	90	6	6	
20	86	68	77	2	70	0	12	1 3	0	0.27	0.0	29.930	18	6.6	7.5	26	NW	17	30	441	50	10	10	
21	86	67	77	2	70	0	12	1 3	0	0.18	0.0	29.970	18	6.4	6.8	33	S	15	18	489	55	10	9	
22	87	70	79	4	71	0	14	1	0	0.00	0.0	29.940	17	5.6	6.3	25	SE	16	13	632	71	9	9	
23	87	70	79	4	71	0	14	1 3	0	0.57	0.0	29.850	13	0.7	4.6	21	E	15	11	497	56	7	8	
24	83	68	76	1	71	0	11	2	0	0.0	0.0	29.790	06	3.7	5.8	20	E	14	01	608	69	7	6	
25	87	65	76	1	71	0	11	1	0	0.00	0.0	29.815	25	0.3	3.3	12	W	7	25	774	87	4	4	
26	90	70	80	4	75	0	15	1 3	0	0.01	0.0	29.730	34	1.9	5.8	20	N	10	36	736	83	3	3	
27	94	72	83*	7	74	0	18	1 3	0	0.0	0.0	29.700	24	4.0	6.0	15	S	10	26	734	83	4	4	
28	89	72	81	5	73	0	16	1 3	0	0.00	0.0	29.730	28	3.5	6.9	18	NW	14	33	642	73	8	9	
29	82	62	72	-4	61	0	7		0	0.00	0.0	29.900	02	8.6	9.2	26	N	15	36	786	89	6	5	
30	81	57	69	-7	58	0	4		0	0.00	0.0	30.000	04	4.6	6.2	15	NE	12	05	813	92	2	1	
SUM	SUM					TOTAL	TOTAL			TOTAL	TOTAL	29.810	22	3.3	7.9	48	W	28	27	19791	% FOR MONTH	SUM	SUM	
2583	1983					0	341			5.85	0.0										196	193		
AVG.	AVG.	AVG.	DEP.	AVG.	DEP.	DEP.	DEP.			PRECIPITATION											POSSIBLE MONTH	AVG.	AVG.	
86.1	66.1	76.1	2.6	67.7	0	83	0			≥ .01 INCH.	15										26469	75	6.5	6.4
NUMBER OF DAYS						SEASON TO DATE		SNOW, ICE PELLETS ≥ 1.0 INCH		GREATEST IN 24 HOURS AND DATES				GREATEST DEPTH ON GROUND OF SNOW, ICE PELLETS OR ICE AND DATE										
MAXIMUM TEMP.		MINIMUM TEMP.		3959		483		THUNDERSTORMS		14		PRECIPITATION		SNOW, ICE PELLETS										
≥ 90°		≤ 32°		≤ 32°		≤ 0°		DEP.		DEP.		HEAVY FOG		2		1.66		07		0.0		0		
7		0		0		0		-1		113		CLEAR		6		PARTLY CLOUDY		11		CLOUDY		13		

* 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

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OBSERVATIONS AT 3-HOUR INTERVALS

JUN 1989
RICHMOND, VA

13740

HOUR L.S.T.	SKY COVER (TENTHS)		VISI-BILITY		TEMPERATURE				WIND		SKY COVER (TENTHS)	VISI-BILITY		TEMPERATURE				WIND													
	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)										
JUN 1st																															
01	2	UNL	5	H	75	70	67	76	24	8	JUN 2nd																				
04	3	UNL	5	H	71	68	66	84	27	5	3	UNL	5	H	78	73	70	77	28	7	6	UNL	6	F	69	68	68	97	20	6	
07	0	UNL	5	H	76	70	67	74	28	5	2	UNL	5	H	71	69	68	90	22	4	7	UNL	6	F	67	66	66	97	18	4	
10	0	UNL	6	H	89	73	65	45	32	10	1	UNL	3	H	78	73	70	77	24	5	7	100	3	FH	70	69	68	93	21	4	
13	3	UNL	6	H	93	75	66	41	27	10	0	UNL	6	H	91	75	68	47	30	8	10	100	5	H	77	71	68	74	07	6	
16	8	UNL	5	H	94	75	66	40	28	12	3	UNL	6	H	95	75	66	39	24	13	5	UNL	6	H	84	74	69	61	11	3	
19	4	UNL	6	H	86	74	69	57	20	8	4	UNL	6	H	93	74	64	38	27	12	6	UNL	6	H	87	75	69	55	16	5	
22	3	UNL	5	H	82	74	70	67	24	10	10	80	7	H	69	68	68	97	24	5	5	UNL	6	H	82	75	72	72	19	6	8
JUN 3rd																															
01	10	100	6	H	74	71	69	85	19	9	JUN 4th																				
04	6	UNL	6	H	72	70	69	90	20	9	10	45	7	RW	73	71	70	90	29	7	10	28	6	F	68	68	68	100	19	7	
07	1	UNL	5	H	76	71	69	79	24	12	10	45	6	F	69	69	69	100	17	6	3	UNL	6	F	66	66	66	100	21	7	
10	2	UNL	7	H	85	74	69	59	24	11	10	21	3	H	79	73	70	74	17	7	10	13	7	F	69	68	68	97	23	9	
13	4	UNL	7	H	91	75	68	47	25	11	8	32	6	H	83	73	68	61	20	9	10	19	7	F	76	71	68	76	23	14	
16	6	250	7	H	83	72	66	57	35	10	5	UNL	6	H	86	75	70	59	22	9	10	27	7	F	78	71	68	72	25	13	
19	9	UNL	8	H	81	74	70	69	20	6	10	80	6	TH	79	73	70	74	18	5	8	250	7	R	84	73	67	57	18	7	
22	6	70	7	H	73	72	71	94	21	6	10	25	5	RW	69	69	69	100	22	9	10	100	7	R	69	68	68	97	19	4	
JUN 5th																															
JUN 6th																															
JUN 7th																															
JUN 8th																															
JUN 9th																															
01	10	90	7		70	69	68	93	19	3	JUN 10th																				
04	10	9	2	RF	68	68	68	100	19	7	10	8	0	8	F	65	65	65	100	06	3	10	80	7		69	69	69	100	18	6
07	10	9	2	RF	68	68	68	100	21	6	10	25	0	8	F	65	65	65	100	00	0	10	12	2	RF	68	68	68	100	13	7
10	10	16	3	H	75	70	68	79	27	5	10	5	1	8	F	58	67	67	97	28	5	10	9	2	RF	70	70	70	100	18	9
13	10	30	5	H	78	70	66	67	19	6	10	9	2	FH	71	69	68	90	24	6	10	15	4	F	74	73	72	94	18	12	
16	10	40	1	TRW	68	67	67	97	07	4	10	35	5	H	75	70	68	79	24	6	10	17	7	F	79	74	72	79	21	12	
19	10	25	1	TRWF	68	68	68	100	07	6	10	100	5	RH	81	73	69	67	00	0	8	25	7		79	74	72	79	22	12	
22	10	75	6	F	66	66	66	100	13	3	10	100	5	RH	74	71	69	85	18	4	5	UNL	8		78	74	72	82	22	10	
JUN 11th																															
JUN 12th																															
01	0	UNL	7		72	71	70	94	28	7	JUN 13th																				
04	0	UNL	7		68	65	63	84	27	5	0	UNL	7		64	61	58	81	01	7	0	UNL	8		57	56	55	93	00	0	
07	0	UNL	7		70	66	63	79	28	9	0	UNL	8		59	58	57	93	34	5	0	UNL	7		56	55	54	93	24	3	
10	0	UNL	7		81	70	64	56	31	11	2	UNL	7		63	67	67	97	01	12	10	UNL	7		64	61	59	84	19	4	
13	3	UNL	7		83	70	63	51	30	12	7	UNL	7		69	58	50	51	01	13	10	60	7	H	75	66	60	60	17	9	
16	3	UNL	7		84	69	60	44	28	13	6	UNL	8		73	61	53	50	34	10	4	UNL	6	H	80	69	62	54	18	10	
19	1	UNL	7		79	68	61	54	26	5	2	UNL	8		76	66	60	58	34	5	10	40	6	H	79	71	67	67	19	8	
22	4	UNL	7		68	65	63	84	01	5	3	UNL	8		72	64	59	64	36	7	10	41	2	RF	70	70	70	100	14	7	
JUN 14th																															
JUN 15th																															
01	10	41	6	F	68	67	66	93	29	9	JUN 16th																				
04	7	120	6	F	66	66	66	100	23	8	0	UNL	5	F	67	67	67	100	20	4	10	90	7		72	70	69	90	20	6	
07	8	120	7		70	68	66	87	23	10	2	UNL	7		65	65	65	100	20	5	6	UNL	7		67	67	67	100	00	0	
10	3	UNL	8		81	73	69	67	23	13	0	UNL	7		70	68	67	90	24	5	10	UNL	7		72	70	69	90	20	7	
13	7	43	10		87	75	70	57	23	12	1	UNL	8		83	73	68	61	27	6	10	UNL	7		84	76	72	67	21	10	
16	8	65	7		71	71	71	100	21	8	5	UNL	10		88	74	68	52	23	14	10	120	8		88	77	72	59	23	14	
19	9	49	10		76	74	73	91	26	6	7	UNL	10		90	75	68	48	24	14	10	120	7		87	75	70	57	22	14	
22	3	UNL	7		68	68	68	100	00	0	4	UNL	7		84	75	71	65	21	9	10	30	7	TRW	75	69	65	71	27	14	
JUN 17th																															
JUN 18th																															
01	7	200	7		69	68	68	97	20	7	JUN 19th																				
04	10	21	7		69	68	67	93	21	11	8	UNL	7	R	67	65	64	90	19	13	6	43	7		66	66	66	100	18	3	
07	9	19	7		72	70	69	90	23	10	10	13	7		67	66	66	97	22	9	10	3	2	F	69	69	69	100	24	6	
10	8	100	8		79	73	70	74	22	13	10	15	7		68	67	67	97	22	9	10	7	2	F	70	69	68	93	31	7	
13	8	37	8		84	75	70	53	22	13	10	25	10		73	70	68	84	23	10	3	UNL	7		77	66	59	54	02	9	
16	9	43	7	TRW	84	75	70	53	22	13	10	25	10		78	71	68	72	19	9	5	UNL	7		80	67	59	49	36	6	
19	10	120	7	RW	77	72	69	76	34	17	10	80	10		76	71	68	76	19	11	4	UNL	7		80	67	59	49	30	3	
22	10	32	7	RW	69	68	68	97	18	6	4	UNL	7		74	70	68	82	20	5	1	UNL	7		78	65	57	49	25	5	

WEATHER CODES

- * TORNADO
- T THUNDERSTORM
- Q SQUALL
- R RAIN
- RW RAIN SHOWERS
- ZR FREEZING RAIN
- L DRIZZLE
- ZL FREEZING DRIZZLE
- S SNOW
- SW SNOW SHOWERS
- SG SNOW GRAINS
- SP SNOW PELLETS
- IC ICE CRYSTALS
- IP ICE PELLETS
- IPW ICE PELLET SHOWERS
- A HAIL
- F FOG
- IF ICE FOG
- GF GROUND FOG
- BD BLOWING DUST
- 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

JUN 1989 RICHMOND, VA 13740

HOUR L.S.T.	SKY COVER (TENTHS)			VISI-BILITY	WEATHER	TEMPERATURE				WIND		SKY COVER (TENTHS)			VISI-BILITY	WEATHER	TEMPERATURE				WIND											
	CEILING IN HUNDREDS OF FEET	WHOLE MILES	16THS MILE			AIR OF	NET BULB OF	DEW POINT OF	REL HUMIDITY %	DIRECTION	SPEED (KNOTS)	CEILING IN HUNDREDS OF FEET	WHOLE MILES	16THS MILE			AIR OF	NET BULB OF	DEW POINT OF	REL HUMIDITY %	DIRECTION	SPEED (KNOTS)										
JUN 19th																																
01	4	UNL	7			66	64	63	90	15	3	10	80	5	H	69	67	65	87	13	6	7	100	7			68	68	68	100	16	3
04	8	120	5		F	67	66	65	93	08	3	10	3	2	FH	69	69	69	100	17	4	7	UNL	5		F	67	67	67	100	00	0
07	5	110	1	8	F	71	70	69	93	16	4	10	8	2	FH	74	73	72	94	20	7	10	2	0	8	F	71	71	71	100	18	6
10	4	UNL	7			81	72	67	63	18	5	8	20	7	T	76	73	71	85	20	10	10	13	6	H	77	74	72	85	22	7	
13	5	UNL	7			83	72	66	57	16	8	8	35	7	T	80	74	71	74	21	7	8	80	8	H	83	75	72	70	19	7	
16	3	UNL	7			84	72	65	53	12	9	10	40	6	RN	73	72	71	94	21	7	10	30	7	H	73	72	71	94	17	9	
19	7	UNL	7			77	69	64	64	13	9	10	100	7		72	71	70	94	17	6	10	200	8		74	72	71	90	18	6	
22	4	UNL	7			70	66	63	79	12	6	10	200	7		69	69	69	100	16	5	10	100	8		69	69	69	100	14	4	
JUN 20th																																
JUN 21st																																
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JUN 24th																																
JUN 25th																																
JUN 26th																																
JUN 27th																																
JUN 28th																																
JUN 29th																																
JUN 30th																																

SUMMARY BY HOURS

HOUR L.S.T.	SKY COVER (TENTHS)	STATION PRESSURE (INCHES)	AVERAGES				RESULTANT WIND		
			TEMPERATURE			REL HUMIDITY %	WIND SPEED (MPH)	DIRECTION	SPEED (MPH)
			AIR TEMP OF	NET BULB OF	DEW POINT OF				
01	7	29.800	70	68	67	93	6.1	22	3.3
04	6	29.800	68	67	67	96	5.4	21	3.0
07	6	29.830	71	69	68	89	7.3	24	3.5
10	6	29.840	79	72	68	69	9.7	25	3.5
13	6	29.810	83	73	68	61	10.5	24	5.1
16	7	29.780	82	73	68	64	10.0	22	2.6
19	7	29.785	77	71	68	77	7.5	19	3.9
22	6	29.820	71	69	68	92	6.3	19	4.0

HOURLY PRECIPITATION (WATER EQUIVALENT IN INCHES)

JUN 1989
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																0.08	0.20	0.04	0.02	0.01				02	
03																								03	
04																								04	
05	T	0.01	T																0.25	0.17	0.15	0.03	0.01	05	
06																								06	
07		0.04	0.04	0.01	T	0.01	T	T							T	0.02	T	0.02	T					07	
08																0.19	0.55	0.15	T					08	
09		T	0.01	T	0.04	0.01	0.11	0.02	0.04	T						T		T			T	T	T	09	
10																								10	
11																								11	
12																0.24	0.08	0.01						12	
13																0.43		0.26						13	
14																								14	
15	0.02																	0.01	0.05	0.01	0.10	0.02	0.17	15	
16																								16	
17			0.01	0.01	T	T	T									T	0.35	0.10	0.02	T	0.01	T		17	
18																								18	
19																								19	
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22																								22	
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25																								25	
26																								26	
27	T	T																					0.01	27	
28																								28	
29																								29	
30																								30	

MAXIMUM SHORT DURATION PRECIPITATION

TIME PERIOD (MINUTES)	5	10	15	20	30	45	60	80	100	120	150	180
PRECIPITATION (INCHES)	0.18	0.31	0.41	0.41	0.41	0.55	0.61	0.68	0.75	0.85	0.88	0.96
ENDED: DATE	23	07	07	07	23	07	07	07	07	07	07	07
ENDED: TIME	1614	1446	1446	1446	1637	1849	1911	1924	1919	1919	1924	1849

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:
MATTHEW BODOSKY

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