

# 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

DEC 1990  
 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 ISEASON BEGINS WITH JULY	COOLING ISEASON BEGINS WITH JANU			WATER EQUIVALENT (INCHES)	SNOW, ICE PELLETS (INCHES)		RESULTANT DIR.	RESULTANT SPEED	AVERAGE SPEED	PEAK GUST	FASTEST 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	62	30	46	2	25	19	0		0	0.00	0.0	30.230	20	10.3	10.5	21	15	20	565	96	3	3		
02	64	43	54	11	37	11	0		0	0.00	0.0	30.180	30	1.1	-7.5	14	12	19	326	56	10	10		
03	66	47	57	14	49	8	0	1	0	0.22	0.0	29.980	13	10.0	12.0	26	18	16	86	15	10	10		
04	67	35	51	8	39	14	0	1	0	0.16	0.0	29.720	26	10.2	14.7	31	21	28	319	55	6	6		
05	45	28	37	-5	15	28	0	0	0	0.00	0.0	29.980	27	8.8	10.4	25	21	28	581	100	0	1		
06	61	25	43	1	20	22	0		0	0.00	0.0	29.880	21	7.3	8.0	23	16	22	581	100	0	1		
07	48	33	41	-1	34	24	0		0	0.01	0.0	29.920	01	5.3	6.2	16	12	36	160	28	10	10		
08	50	33	42	0	32	23	0	1	8	0.06	0.0	29.870	36	9.4	9.6	23	17	35	300	52	6	6		
09	53	31	42	1	27	23	0		0	0.00	0.0	29.990	33	4.2	8.2	20	14	01	579	100	0	0		
10	65	32	49	8	30	16	0		0	0.00	0.0	29.850	26	5.6	9.3	22	14	26	542	94	5	3		
11	53	33	43	2	20	22	0		0	0.00	0.0	30.040	03	3.6	7.7	23	16	02	558	97	1	0		
12	68	31	50	9	32	15	0		0	0.00	0.0	29.935	20	8.1	8.5	20	15	22	521	90	6	5		
13	68	43	56	16	41	9	0		0	0.00	0.0	29.780	24	7.5	10.4	29	18	24	395	68	7	6		
14	51	30	41	1	20	24	0		0	0.00	0.0	30.220	03	8.4	10.3	26	20	01	494	86	2	6		
15	49	36	43	3	38	22	0	1		0.72	0.0	29.980	21	5.6	7.4	23	15	19	0	0	10	10		
16	54	37	46	6	42	19	0	1		0.00	0.0	29.890	28	3.8	7.2	20	14	22	228	40	10	9		
17	47	33	40	1	35	25	0		0	0.00	0.0	29.980	17	1.9	4.9	17	13	18	233	41	10	9		
18	74*	47	61	22	52	4	0	8		0.04	0.0	29.540	20	15.5	16.0	40	26	21	361	63	8	9		
19	57	38	48	9	45	17	0		0	0.01	0.0	29.890	02	6.0	7.5	17	14	04	395	69	9	7		
20	50	35	43	4	37	22	0		0	0.03	0.0	30.320	03	7.7	8.4	15	14	05	311	54	10	7		
21	55	44	50	11	48	15	0	2		0.92	0.0	30.120	34	2.0	6.1	12	9	36	134	23	9	9		
22	65	52	59	21	58	6	0	2		0.00	0.0	29.970	18	6.9	7.4	14	12	17	0	0	10	10		
23	73	61	67*	29	63	0	2	1		0.08	0.0	29.730	19	10.9	11.8	31	23	21	152	26	10	10		
24	67	27	47	9	35	18	0	1		0.07	0.0	29.740	27	8.0	15.0	36	22	30	385	67	6	6		
25	38	22*	30*	-8	14	35	0		0	0.00	0.0	30.210	03	2.0	5.1	15	9	02	490	85	3	3		
26	42	24	33	-5	20	32	0		0	0.00	0.0	30.340	04	3.3	4.5	14	8	05	416	72	10	9		
27	35	29	32	-6	23	33	0	1 4 6		0.45	0.0	30.470	02	9.1	9.5	22	15	05	5	1	10	9		
28	36	33	35	-3	35	30	0	2		0.62	0.0	30.260	35	5.1	5.6	12	9	02	0	0	10	10		
29	52	35	44	7	43	21	0	2	8	0.00	0.0	30.180	19	7.3	7.9	16	12	18	161	28	10	10		
30	72	51	62	25	61	3	0	1		0.00	0.0	29.870	21	17.9	18.1	39	29	20	325	56	10	10		
31	70	32	51	14	40	14	0		0	0.13	0.0	30.080	01	7.2	11.9	31	18	35	438	76	9	9		
SUM	SUM	SUM	SUM	SUM	SUM	TOTAL	TOTAL	NUMBER OF DAYS		TOTAL	TOTAL								TOTAL	%	SUM	SUM		
1757	1110					574	2			3.52	1	30.005	24	1.9	9.3	40	SW	29	20	10041	FOR	220	213	
AVG.	AVG.	AVG.	AVG.	DEP.	AVG.	DEP.	DEP.	PRECIPITATION		DEP.									DATE: 18	DATE: 30	POSSIBLE	MONTH	AVG.	AVG.
56.7	35.8	46.3	6.4	35.7	-20.4	2		0.01 INCH.	14	0.13											17905	56	7.1	6.9
NUMBER OF DAYS						SEASON TO DATE		SNOW, ICE PELLETS		GREATEST IN 24 HOURS AND DATES				GREATEST DEPTH ON GROUND OF										
						TOTAL	TOTAL	≥ .01 INCH.					SNOW, ICE PELLETS OR ICE AND DATE											
MAXIMUM TEMP.		MINIMUM TEMP.				1118	1589	THUNDERSTORMS	PRECIPITATION		SNOW, ICE PELLETS													
≥ 90°	≤ 32°	≤ 32°	≤ 0°	DEP.	DEP.	HEAVY FOG	HEAVY FOG		1.07	27-28	trace	27												
0	0	12	0	-388	253	CLEAR	7	PARTLY CLOUDY	6	CLOUDY	18													

\* 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. Haden*  
 DIRECTOR NATIONAL CLIMATIC DATA CENTER

# OBSERVATIONS AT 3-HOUR INTERVALS

DEC 1990  
RICHMOND, VA 13740

HOUR L.S.T.	VISI-BILITY			TEMPERATURE				WIND			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)		
DEC 1st																																			
01	0	UNL	12			32	29	23	69	15	4	10	150	10			46	40	32	58	20	8	10	45	10					50	43	34	54	07	11
04	0	UNL	12			31	28	22	69	19	6	7	UNL	10			43	39	34	71	20	9	10	120	10					48	43	37	66	09	5
07	0	UNL	12			31	29	24	75	19	9	10	UNL	10			46	42	38	74	22	5	10	41	10					49	46	42	77	08	8
10	3	UNL	8			46	38	26	46	20	12	10	120	10			55	49	42	62	25	8	10	23	1	8	RF	50	50	49	96	09	9		
13	0	UNL	10			59	44	24	26	20	13	10	70	10			62	51	40	45	29	5	10	70	6		RF	58	55	52	81	13	9		
16	8	UNL	12			58	44	25	28	20	10	10	85	10			60	51	41	50	35	7	10	120	7			63	59	56	78	13	9		
19	8	UNL	12			49	39	25	39	19	9	10	250	8			54	46	37	53	04	7	10	85	7			65	59	54	68	15	15		
22	6	UNL	12			45	37	25	46	20	9	8	100	10			50	42	32	50	09	5	10	45	7			62	59	56	81	15	13		
DEC 2nd																																			
01	0	UNL	12			32	29	23	69	15	4	10	150	10			46	40	32	58	20	8	10	45	10			50	43	34	54	07	11		
04	0	UNL	12			31	28	22	69	19	6	7	UNL	10			43	39	34	71	20	9	10	120	10					48	43	37	66	09	5
07	0	UNL	12			31	29	24	75	19	9	10	UNL	10			46	42	38	74	22	5	10	41	10					49	46	42	77	08	8
10	3	UNL	8			46	38	26	46	20	12	10	120	10			55	49	42	62	25	8	10	23	1	8	RF	50	50	49	96	09	9		
13	0	UNL	10			59	44	24	26	20	13	10	70	10			62	51	40	45	29	5	10	70	6		RF	58	55	52	81	13	9		
16	8	UNL	12			58	44	25	28	20	10	10	85	10			60	51	41	50	35	7	10	120	7			63	59	56	78	13	9		
19	8	UNL	12			49	39	25	39	19	9	10	250	8			54	46	37	53	04	7	10	85	7			65	59	54	68	15	15		
22	6	UNL	12			45	37	25	46	20	9	8	100	10			50	42	32	50	09	5	10	45	7			62	59	56	81	15	13		
DEC 3rd																																			
01	0	UNL	12			32	29	23	69	15	4	10	150	10			46	40	32	58	20	8	10	45	10			50	43	34	54	07	11		
04	0	UNL	12			31	28	22	69	19	6	7	UNL	10			43	39	34	71	20	9	10	120	10					48	43	37	66	09	5
07	0	UNL	12			31	29	24	75	19	9	10	UNL	10			46	42	38	74	22	5	10	41	10					49	46	42	77	08	8
10	3	UNL	8			46	38	26	46	20	12	10	120	10			55	49	42	62	25	8	10	23	1	8	RF	50	50	49	96	09	9		
13	0	UNL	10			59	44	24	26	20	13	10	70	10			62	51	40	45	29	5	10	70	6		RF	58	55	52	81	13	9		
16	8	UNL	12			58	44	25	28	20	10	10	85	10			60	51	41	50	35	7	10	120	7			63	59	56	78	13	9		
19	8	UNL	12			49	39	25	39	19	9	10	250	8			54	46	37	53	04	7	10	85	7			65	59	54	68	15	15		
22	6	UNL	12			45	37	25	46	20	9	8	100	10			50	42	32	50	09	5	10	45	7			62	59	56	81	15	13		
DEC 4th																																			
01	10	13	4		RF	62	61	61	97	17	14	4	UNL	15			35	29	15	44	28	8	0	UNL	12			30	26	19	64	20	4		
04	10	17	8			66	64	62	87	19	17	6	70	15			34	28	17	50	28	10	0	UNL	12			30	26	17	58	19	5		
07	10	29	8			66	62	60	81	20	17	0	UNL	15			32	26	14	47	28	8	0	UNL	10			26	24	18	72	19	7		
10	10	35	10			56	51	47	72	30	13	0	UNL	15			37	29	13	37	29	10	0	UNL	10			43	35	20	40	22	8		
13	8	37	15			56	48	40	55	28	13	0	UNL	15			42	32	13	31	29	13	0	UNL	10			59	42	17	19	22	14		
16	0	UNL	15			50	40	25	38	27	14	0	UNL	15			45	34	13	27	30	13	1	UNL	10			60	43	18	20	26	11		
19	0	UNL	15			41	33	17	38	30	8	0	UNL	15			37	30	16	42	23	4	0	UNL	10			44	36	23	44	20	7		
22	0	UNL	15			36	30	18	48	27	8	0	UNL	15			34	29	18	52	23	5	2	UNL	10			38	33	24	57	18	3		
DEC 5th																																			
01	10	13	4		RF	62	61	61	97	17	14	4	UNL	15			35	29	15	44	28	8	0	UNL	12			30	26	19	64	20	4		
04	10	17	8			66	64	62	87	19	17	6	70	15			34	28	17	50	28	10	0	UNL	12			30	26	17	58	19	5		
07	10	29	8			66	62	60	81	20	17	0	UNL	15			32	26	14	47	28	8	0	UNL	10			26	24	18	72	19	7		
10	10	35	10			56	51	47	72	30	13	0	UNL	15			37	29	13	37	29	10	0	UNL	10			43	35	20	40	22	8		
13	8	37	15			56	48	40	55	28	13	0	UNL	15			42	32	13	31	29	13	0	UNL	10			59	42	17	19	22	14		
16	0	UNL	15			50	40	25	38	27	14	0	UNL	15			45	34	13	27	30	13	1	UNL	10			60	43	18	20	26	11		
19	0	UNL	15			41	33	17	38	30	8	0	UNL	15			37	30	16	42	23	4	0	UNL	10			44	36	23	44	20	7		
22	0	UNL	15			36	30	18	48	27	8	0	UNL	15			34	29	18	52	23	5	2	UNL	10			38	33	24	57	18	3		
DEC 6th																																			
01	10	13	4		RF	62	61	61	97	17	14	4	UNL	15			35	29	15	44	28	8	0	UNL	12			30	26	19	64	20	4		
04	10	17	8			66	64	62	87	19	17	6	70	15			34	28	17	50	28	10	0	UNL	12			30	26	17	58	19	5		
07	10	29	8			66	62	60	81	20	17	0	UNL	15			32	26	14	47	28	8	0	UNL	10			26	24	18	72	19	7		
10	10	35	10			56	51	47	72	30	13	0	UNL	15			37	29	13	37	29	10	0	UNL	10			43	35	20	40	22	8		
13	8	37	15			56	48	40	55	28	13	0	UNL	15			42	32	13	31	29	13	0	UNL	10			59	42	17	19	22	14		
16	0	UNL	15			50	40	25	38	27	14	0	UNL	15			45	34	13	27	30	13	1	UNL	10			60	43	18	20	26	11		
19	0	UNL	15			41	33	17	38	30	8	0	UNL	15			37	30	16	42	23	4	0	UNL	10			44	36	23	44	20	7		
22	0	UNL	15			36	30	18	48	27	8	0	UNL	15			34	29	18	52	23	5	2	UNL	10			38	33	24	57	18	3		
DEC 7th																																			
01	10	UNL	10			37	33	25	62	34	4	10	70	6		RF	41	41	40	96	01	7	0	UNL	8			42	35	24	49	36	12		
04	10	UNL	10			35	32	27	73	00	0	10	75	5		RF	42	41	40	93	35	6	0	UNL	10			37	33	25	62	36	9		
07	10	120	10			38	36	32	79	02	6	10	80	6																					

OBSERVATIONS AT 3-HOUR INTERVALS

DEC 1990  
RICHMOND, VA

13740

HOUR	L.S.T.	VISI-BILITY			WEATHER	TEMPERATURE				WIND		SKY COVER (TENTHS)	VISI-BILITY			WEATHER	TEMPERATURE				WIND											
		CEILING IN HUNDREDS OF FEET	WHOLE MILES	16THS MILE		AIR OF	WET BULB OF	DEW POINT OF	REL HUMIDITY %	DIRECTION	SPEED (KNOTS)		CEILING IN HUNDREDS OF FEET	WHOLE MILES	16THS MILE		AIR OF	WET BULB OF	DEW POINT OF	REL HUMIDITY %	DIRECTION	SPEED (KNOTS)										
DEC 19th																																
01	10	85	7			56	55	55	97	26	6	0	UNL	10		38	36	32	79	02	6	10	8	7			44	44	43	96	02	7
04	10	55	7		RH	56	55	55	97	26	4	0	UNL	10		37	35	31	79	02	6	10	3	1	8	RF	45	45	44	96	02	7
07	10	55	7			54	54	53	96	35	3	6	UNL	8		36	34	32	85	02	8	10	4	1	8	RF	46	46	46	100	01	7
10	10	75	8			53	49	45	74	04	12	10	UNL	10		43	40	35	74	05	12	10	4	1	12	RF	47	47	47	100	02	5
13	9	250	10			55	49	43	64	01	8	10	200	8		49	44	38	66	06	7	10	5	3		RF	50	50	49	96	29	6
16	6	250	12			55	48	41	60	02	8	10	24	8		48	44	40	74	02	9	5	UNL	7		F	55	52	50	83	00	0
19	0	UNL	15			47	43	38	71	04	7	10	24	8		47	44	40	77	03	9	8	21	3		F	51	51	50	96	22	5
22	0	UNL	15			42	39	34	73	03	7	10	15	7		44	43	42	93	36	7	10	3	2	8	F	52	52	51	96	15	4
DEC 20th																																
DEC 21st																																
DEC 22nd																																
DEC 23rd																																
DEC 24th																																
DEC 25th																																
DEC 26th																																
DEC 27th																																
DEC 28th																																
DEC 29th																																
DEC 30th																																
DEC 31st																																

SUMMARY BY HOURS

HOUR	L.S.T.	AVERAGES						RESULTANT WIND	
		SKY COVER (TENTHS)	STATION PRESSURE (INCHES)	TEMPERATURE			WIND SPEED (MPH)	DIRECTION	SPEED (MPH)
				AIR TEMP OF	WET BULB OF	DEW POINT OF			
01	7	29.990	43	40	35	76	8.7	25	0.8
04	7	29.990	43	40	36	78	8.8	21	2.0
07	7	30.010	42	40	36	81	8.7	25	1.7
10	8	30.050	47	42	36	68	10.4	31	2.1
13	7	30.000	52	45	35	57	11.4	25	4.2
16	7	29.980	53	45	36	57	10.2	24	2.4
19	6	30.010	47	42	36	68	8.1	19	2.4
22	7	30.010	45	41	36	73	8.2	21	1.6

HOURLY PRECIPITATION (WATER EQUIVALENT IN INCHES)

DEC 1990  
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	0.04	0.01					0.07	0.04	0.05	T	T		0.01	T						T	0.02	0.08	0.06	04	
05																								05	
06																								06	
07																								07	
08	T	T	0.01	0.02	0.03	T	T								T	T		T	T	T	T	0.01	T	08	
09																								09	
10																								10	
11																								11	
12																								12	
13																								13	
14																								14	
15					T	0.01	0.05	0.11	0.07	0.07	0.01	0.03	0.01	0.01	T	0.01	0.12	0.12	0.02	0.04	0.02	0.02		15	
16																								16	
17																								17	
18																								18	
19	T	0.01	T	T	T																	0.03	0.01	T	19
20																									20
21	T	0.01	0.02	0.06	0.16	0.14	0.22	0.11	0.13	0.06	0.01													21	
22																									22
23																									23
24	T	0.05	0.01	0.01											T										24
25																									25
26																									26
27																									27
28	0.04	0.06	0.22	0.24	0.03	0.02	0.01	T																	28
29																									29
30	T																								30
31	0.08	0.04	0.01																						31

MAXIMUM SHORT DURATION PRECIPITATION

TIME PERIOD (MINUTES)	5	10	15	20	30	45	60	80	100	120	150	180
PRECIPITATION (INCHES)	0.05	0.07	0.09	0.12	0.17	0.21	0.24	0.30	0.37	0.46	0.47	0.55
ENDED: DATE	21	21	21	21	21	21	21	21	21	21	21	21
ENDED: TIME	0748	0749	0756	0651	0656	0710	0749	0749	0807	0807	0807	0756

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:  
CHARLOTTE HARD

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