

# 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

MAR 1991  
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	DIRECTION	MINUTES	PERCENT OF TOTAL POSSIBLE	SUNRISE TO SUNSET	MIDNIGHT TO MIDNIGHT
01	72	37	55	13	40	10	0		0	0.00	0.0	29.990	17	9.8	10.5	24	S	18	16	548	80	9	8
02	71	59	65	22	58	0	0		0	0.63	0.0	29.530	20	13.5	14.8	32	S	23	22	509	74	10	10
03	65	51	58	15	56	7	0	1	0	0.26	0.0	29.310	15	8.2	10.5	26	S	16	16	155	23	10	10
04	60	45	53	10	44	12	0	1	0	0.08	0.0	29.140	24	8.7	13.0	29	N	18	23	471	68	9	9
05	64	34	49	6	34	16	0		0	0.00	0.0	29.620	23	3.7	5.5	13	S	9	23	691	100	0	1
06	62	39	51	7	41	14	0		0	0.02	0.0	29.510	18	13.0	13.5	32	S	22	18	367	53	10	8
07	64	43	54	10	40	11	0		0	T	0.0	29.460	28	9.1	12.7	29	NW	20	31	607	87	3	6
08	49	31	40	-4	25	25	0		0	0.00	0.0	29.800	35	4.9	5.9	18	N	12	36	471	67	8	7
09	52	27	40	-5	22	25	0		0	0.00	0.0	29.880	03	3.6	6.3	23	N	16	36	700	100	0	0
10	52	29	41	-4	28	24	0		0	0.00	0.0	29.810	34	9.7	10.1	28	NW	18	33	563	80	5	4
11	50	30	40	-5	23	25	0		0	0.00	0.0	29.880	33	12.8	13.2	37	NW	23	34	648	92	1	1
12	50	25*	38	-8	19	27	0		0	T	0.0	29.875	32	4.1	7.6	16	N	16	36	607	86	7	6
13	42	36	39	-7	39	26	0	1	0	0.39	0.0	29.630	05	5.2	9.2	18	N	13	01	317	45	10	10
14	40	35	38*	-8	36	27	0	1	0	0.34	T	29.560	34	10.6	11.0	18	N	15	33	78	11	10	10
15	51	37	44	-3	33	21	0	1	0	T	0.0	29.920	34	13.9	14.2	26	NW	21	34	565	79	9	8
16	57	30	44	-3	32	21	0	0	0	0.00	0.0	30.170	33	5.5	6.7	18	NW	13	36	684	95	6	3
17	64	29	47	0	35	18	0		0	0.02	0.0	30.090	15	6.0	6.5	18	SE	13	13	672	93	8	8
18	67	45	56	8	48	9	0	1	0	0.99	0.0	29.560	26	3.5	8.8	30	N	16	27	378	52	8	8
19	57	43	50	2	37	15	0		0	0.00	0.0	29.590	30	13.9	14.4	32	NW	23	32	633	87	7	5
20	67	38	53	4	38	12	0		0	0.00	0.0	29.830	26	6.8	8.1	20	W	14	29	638	88	8	6
21	76	48	62	13	48	3	0	1	8	0.03	0.0	29.850	19	5.7	8.5	22	SE	17	19	485	66	9	7
22	71	52	62	13	54	3	0	1	8	0.05	0.0	29.835	18	3.2	7.8	18	NW	14	24	204	28	10	8
23	55	48	52	2	51	13	0	23	0	0.12	0.0	29.775	05	1.3	8.1	20	NE	13	34	63	9	10	10
24	76	46	61	11	41	4	0	1	0	0.00	0.0	29.580	27	10.1	14.5	40	N	26	25	695	94	2	2
25	68	36	52	2	40	13	0		0	0.00	0.0	29.885	31	2.1	6.8	23	NE	14	24	687	93	1	1
26	65	39	52	1	43	13	0		0	T	0.0	30.020	12	4.5	7.6	16	S	12	18	551	74	7	6
27	83	50	67	16	58	0	2		0	0.00	0.0	29.710	21	13.0	14.0	32	SW	24	20	551	74	10	10
28	83*	62	73*	22	58	0	8		0	T	0.0	29.520	23	14.3	16.0	40	S	24	22	554	74	9	9
29	65	51	58	6	54	7	0	1	0	2.82	0.0	29.440	02	4.2	7.8	17	SW	17	18	3	0	10	10
30	51	35	43	-9	36	22	0	1	0	0.12	0.0	29.720	36	12.8	13.2	33	N	26	35	437	58	8	6
31	58	32	45	-8	29	20	0		0	0.00	0.0	30.090	07	3.0	6.8	15	SE	12	01	720	95	2	1
SUM	SUM	SUM	SUM	SUM	SUM	TOTAL	TOTAL	NUMBER OF DAYS		TOTAL	TOTAL	FOR THE MONTH:				TOTAL	%	SUM	SUM				
1907	1242					443	10			5.87	T	29.730	27	2.5	10.1	40	S	26	35	15252	100	216	198
AVG.	AVG.	AVG.	AVG.	DEP.	AVG.	DEP.	DEP.	PRECIPITATION		DEP.						DATE: 28+	DATE: 30+	POSSIBLE	MONTH	AVG.	AVG.		
61.5	40.1	50.8	3.6	39.9	-10.9	10		2.01 INCH.		13								22252	69	7.0	6.4		
NUMBER OF DAYS						SEASON TO DATE		SNOW, ICE PELLETS		GREATEST IN 24 HOURS AND DATES				GREATEST DEPTH ON GROUND OF									
MAXIMUM TEMP.						TOTAL		≥ 1.0 INCH		PRECIPITATION				SNOW, ICE PELLETS									
MINIMUM TEMP.						2905		10		THUNDERSTORMS				1									
≥ 90°						≤ 32°		≤ 0°		HEAVY FOG				1									
0						0		-76.4		10				CLEAR 7 PARTLY CLOUDY 5 CLOUDY 19									

\* 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

**noaa**

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

MAR 1991  
RICHMOND, VA 13740

HOUR L. S. T.	VISI-BILITY				TEMPERATURE				WIND		SKY COVER (TENTHS)	VISI-BILITY				TEMPERATURE				WIND														
	SKY COVER (TENTHS)	CELLING 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)	CELLING IN HUNDREDS OF FEET	WHOLE MILES	16THS MILE	WEATHER	AIR OF	WET BULB OF	DEW POINT OF	REL HUMIDITY %	DIRECTION	SPEED (KNOTS)											
MAR 1st																																		
01	0	UNL	10			40	36	31	70	19	8	10	9	7			59	57	56	90	14	11	10	UNL	10			59	57	55	87	22	8	
04	6	UNL	10			39	36	31	73	18	6	10	8	7			65	64	63	93	16	17	8	UNL	10			55	54	53	93	19	8	
07	7	UNL	8			37	35	31	79	15	3	10	12	7			60	59	59	97	19	14	10	UNL	7			52	52	51	96	15	4	
10	9	UNL	10			56	49	41	57	21	8	10	250	15			64	61	59	84	22	14	10	4	2	8	F	57	56	55	93	12	7	
13	7	UNL	10			68	55	44	42	18	15	10	250	15			69	62	58	68	21	18	10	75	7		R	60	58	57	90	03	5	
16	10	UNL	10			69	55	43	39	17	14	10	UNL	12			70	63	58	66	20	15	10	200	8			65	63	61	87	16	11	
19	10	UNL	10			60	51	42	52	16	8	10	250	12			62	59	56	81	19	9	10	75	7		R	60	58	57	90	16	12	
22	10	UNL	10			59	52	45	60	15	16	10	250	10			62	59	56	81	19	9	10	9	30	7			59	58	57	93	15	13
MAR 2nd																																		
MAR 3rd																																		
MAR 4th																																		
MAR 5th																																		
MAR 6th																																		
MAR 7th																																		
MAR 8th																																		
MAR 9th																																		
MAR 10th																																		
MAR 11th																																		
MAR 12th																																		
MAR 13th																																		
MAR 14th																																		
MAR 15th																																		
MAR 16th																																		
MAR 17th																																		
MAR 18th																																		

## WEATHER CODES

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

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

MAR 1991  
RICHMOND, VA 13740

HOUR	L. S. T.	VISI-BILITY			TEMPERATURE				WIND			SKY COVER (TENTHS)	CELLING IN HUNDREDS OF FEET	VISI-BILITY			WEATHER	TEMPERATURE				WIND																							
		WHOLE MILES	16THS MILE		AIR OF	WET BULB OF	DEW POINT OF	REL HUMIDITY %	DIRECTION	SPEED (KNOTS)	SKY COVER (TENTHS)			CELLING IN HUNDREDS OF FEET	WHOLE MILES	16THS MILE			AIR OF	WET BULB OF	DEW POINT OF	REL HUMIDITY %	DIRECTION	SPEED (KNOTS)																					
MAR 19th																																													
01	7	65	10		53	48	42	66	29	11		0	UNL	8											44	39	33	65	25	7	10	250	10							51	46	41	69	00	0
04	2	UNL	8		50	45	40	69	28	8		0	UNL	7												41	38	34	76	25	5	10	250	10					50	46	42	74	20	3	
07	7	200	8		48	43	36	63	29	12		7	UNL	7												43	40	35	74	25	7	10	75	6	RF				49	48	47	93	03	3	
10	7	UNL	10		54	46	37	53	32	18		8	UNL	7												58	49	39	49	28	11	10	120	7					57	53	49	75	11	7	
13	7	55	10		55	47	37	51	31	15		7	UNL	8												63	52	40	43	29	12	10	140	5	H				63	56	51	65	19	9	
16	7	60	10		55	47	37	51	31	16		4	UNL	10												66	54	43	43	25	7	9	140	6	K				74	62	53	48	19	15	
19	8	UNL	10		52	44	35	53	29	8		10	UNL	10												57	49	41	55	24	5	5	UNL	6	H				62	55	48	60	19	9	
22	1	UNL	10		50	43	34	54	31	13		10	UNL	10												51	46	40	66	14	4	0	UNL	6	H				64	56	49	58	21	12	
MAR 20th																																													
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MAR 27th																																													
MAR 28th																																													
MAR 29th																																													
MAR 30th																																													
MAR 31st																																													

### SUMMARY BY HOURS

HOUR	L. S. T.	AVERAGES									RESULTANT WIND	
		SKY COVER (TENTHS)	STATION PRESSURE (INCHES)	TEMPERATURE			REL HUMIDITY %	WIND SPEED (MPH)	DIRECTION	SPEED (MPH)		
				AIR TEMP OF	WET BULB OF	DEW POINT OF						
01	6	29.730	47	44	40	78	8.5	24	1.3			
04	6	29.720	45	42	40	83	8.5	23	1.5			
07	6	29.750	43	42	39	85	8.2	28	1.7			
10	7	29.770	52	46	39	64	11.9	29	4.0			
13	7	29.730	57	49	41	58	12.7	27	4.1			
16	7	29.685	60	51	42	55	12.4	27	4.1			
19	7	29.690	54	48	40	63	10.1	25	1.5			
22	6	29.730	50	45	39	69	9.5	19	0.6			

HOURLY PRECIPITATION (WATER EQUIVALENT IN INCHES)

MAR 1991  
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					0.52	0.09	0.02	T	T															02		
03					0.01	0.01	0.01																	03		
04	0.04	T	T	0.01	0.01	0.01	0.01																	04		
05																								05		
06																								06		
07	T																					0.01	0.01	07		
08																								08		
09																								09		
10																								10		
11																								11		
12																								12		
13	0.01	0.03	0.03	0.03	0.03	0.02	0.04	0.02	0.01	0.02	0.01	0.07	0.04	0.01	0.01	T	T	T	T	T	T	T	T	13		
14	T	T	T	0.01	0.12	0.11	0.08	0.02	T	T	T	T	T											14		
15	T	T	T																					15		
16																								16		
17																								17		
18	0.04	0.05	0.03	0.01	0.05	0.08	0.17	0.23	0.26	0.06	0.01	T											18			
19																								19		
20																								20		
21					T	T	0.02	0.01	T															21		
22								T	T			0.05	T											22		
23														T	0.02	T	0.10				T	T	T	23		
24																								24		
25																								25		
26																								26		
27																								27		
28																								28		
29	T			0.01	0.03	0.06	0.12	0.21	0.24	0.09	0.24	0.14	0.19	T	0.18	0.18	0.49	0.20	0.15	0.11	0.04	0.05	0.06	T	0.03	29
30	0.02	0.01	0.04	0.01	0.03	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	30	
31																									31	

MAXIMUM SHORT DURATION PRECIPITATION

TIME PERIOD (MINUTES)	5	10	15	20	30	45	60	80	100	120	150	180
PRECIPITATION (INCHES)	0.18	0.23	0.28	0.34	0.39	0.48	0.54	0.63	0.70	0.77	0.85	0.96
ENDED: DATE	02	02	02	02	02	02	02	29	29	29	29	29
ENDED: TIME	0424	0429	0434	0439	0449	0503	0516	1603	1627	1642	1710	1638

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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