



# LOCAL CLIMATOLOGICAL DATA

U.S. DEPARTMENT OF COMMERCE  
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION  
ENVIRONMENTAL DATA SERVICE

RICHMOND, VIRGINIA  
BYRD FIELD  
MARCH 1971

Latitude 37° 30' N Longitude 77° 20' W Elevation (ground) 164 ft. Standard time used: EASTERN WRAN #13740

Date	Temperature °F							Weather types on dates of occurrence 1 Fog 2 Heavy fog x 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 07AM In.	Precipitation		Avg. station pressure In. Elev. feet m.s.l.	Wind				Sunshine		Sky cover Tenths		Date	
	Maximum	Minimum	Average	Departure from normal	Average dew point	Degree days Base 65°				Water equivalent In.	Snow, ice pellets In.		Resultant direction	Resultant speed m.p.h.	Average speed m.p.h.	Fastest mile		Hours and tenths	Percent of possible	Sunrise to sunset		Midnight to midnight
						Heating	Cooling									Speed m.p.h.	Direction					
1	67	40	54	11	26	11	0	0	0	0	29.87	09	4.4	6.5	14	S	6.3	55	7	6	1	
2	52	40	46	3	37	19	0	0	0	0	29.84	05	5.0	8.2	13	NE	3.0	27	9	10	2	
3	43	35	39	3	37	26	0	1	4	0	29.45	01	8.6	10.1	16	N	0.0	0	10	10	3	
4	39	30	35	1	17	30	0	1	4	0	29.45	27	16.6	18.0	31	NW	9.2	80	4	4	4	
5	56	27	42	1	15	23	0	0	0	0	29.93	23	10.5	10.9	17	W	11.5	100	5	4	5	
6	64	32	48	3	27	17	0	0	0	0	29.74	19	9.1	9.8	15	SW	10.0	86	4	4	6	
7	56	35	46	1	29	19	0	1	0	0	29.40	26	12.7	15.1	24	W	8.5	73	3	4	7	
8	40	30	35	-10	13	30	0	0	0	0	29.61	25	14.3	15.4	28	W	7.0	60	6	3	8	
9	50	24	37	-6	11	28	0	0	0	0	29.92	26	9.2	10.9	17	NW	11.7	100	1	1	9	
10	56	27	42	-4	23	23	0	0	0	0	29.88	17	5.1	6.9	17	S	5.7	49	8	3	10	
11	61	34	48	2	32	17	0	1	0	0	29.75	31	5.9	7.9	17	NW	10.9	93	3	3	11	
12	66	32	49	2	32	16	0	0	0	0	29.85	13	4.8	6.2	15	SW	8.5	72	5	6	12	
13	73	44	59	12	41	6	0	1	8	0	29.74	16	2.9	6.8	10	SE	7.8	65	8	9	13	
14	67	42	55	8	44	10	0	1	8	0	29.81	09	6.5	8.5	14	SE	5.5	46	6	6	14	
15	75*	48	62*	14	55	3	0	1	0	0	29.61	19	12.7	13.5	29	SW	5.0	42	7	7	15	
16	70	42	56	8	35	9	0	1	0	0	29.61	24	6.9	9.6	23	NE	12.0	100	1	3	16	
17	50	33	42	-6	27	23	0	0	0	0	29.87	35	13.3	14.0	23	NW	6.9	57	8	4	17	
18	52	24*	38	-11	18	27	0	0	0	0	30.12	26	1.1	5.6	9	NE	12.0	100	1	1	18	
19	61	36	49	0	37	16	0	1	3	0	29.63	19	9.4	13.7	31	W	0.2	1	9	7	19	
20	46	36	41	-8	22	24	0	0	0	0	29.46	25	13.7	14.2	29	W	4.4	36	7	4	20	
21	55	32	44	-6	18	21	0	0	0	0	29.75	26	10.5	12.1	19	NW	12.2	100	0	0	21	
22	68	37	53	3	31	12	0	0	0	0	29.87	23	8.2	11.1	17	W	4.9	40	7	10	22	
23	50	31	41	-9	26	24	0	1	0	0	29.70	34	11.3	12.2	24	NW	6.6	53	7	6	23	
24	47	28	38	-13	10	27	0	0	0	0	29.91	32	11.6	12.4	19	NW	10.6	86	2	1	24	
25	46	25	36	-15	11	29	0	0	0	0	30.13	01	4.5	7.5	16	N	10.3	83	7	6	25	
26	36	29	33*	-18	27	32	0	1	0	0	29.94	03	9.1	10.4	17	N	0.0	0	10	10	26	
27	48	26	37	-14	19	28	0	0	0	0	29.90	34	9.7	10.8	20	N	12.4	100	1	1	27	
28	63	28	46	-6	30	19	0	0	0	0	29.73	17	5.6	7.3	16	SW	9.2	73	5	7	28	
29	52	44	48	-4	44	17	0	1	2	0	29.51	20	2.1	6.3	14	N	0.0	0	10	10	29	
30	52	34	43	-9	26	22	0	0	0	0	29.75	35	9.1	9.8	17	N	10.8	86	5	5	30	
31	60	32	46	-7	19	19	0	0	0	0	29.95	36	8.0	9.2	17	N	12.6	100	0	0	31	
Sum		Sum		Total		Total		Total		Total		For the month		Total		%		Sum		Sum		
1721		1037		627		0		Number of days		2.68		8.4		29.76		27		31		168		
Avg.		Avg.		Avg.		Avg.		Precipitation		Dep.		Dep.		Date: 19*		Possible month		Avg.		Avg.		
55.5		33.5		44.5		-3.2		27		81		11		=0.74				370.9		64		
Season to date		Snow, ice pellets		Snow, ice pellets		Snow, ice pellets		Snow, ice pellets		Snow, ice pellets		Snow, ice pellets		Snow, ice pellets		Snow, ice pellets		Snow, ice pellets		Snow, ice pellets		
Maximum Temp.		Minimum Temp.		Maximum Temp.		Minimum Temp.		Maximum Temp.		Minimum Temp.		Maximum Temp.		Minimum Temp.		Maximum Temp.		Minimum Temp.		Maximum Temp.		
≥ 90° F		≤ 32°		≥ 32°		≤ 0°		Dep.		Dep.		Dep.		Dep.		Dep.		Dep.		Dep.		
0		0		16		0		40		Clear 9		Partly cloudy 13		Cloudy 9								

### HOURLY PRECIPITATION (Water equivalent in inches)

Hour	A. M. Hour ending at												P. M. Hour ending at												Sun	
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12		
1																										
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29																										
30																										
31																										

\* Extreme temperatures for the month. May be the last of more than one occurrence.  
- Below zero temperature or negative departure from normal.  
+  $\leq 70^\circ$  at Alaskan stations.  
# Also on an earlier date, or dates.  
X Heavy fog restricts visibility to  $\frac{1}{4}$  mile or less.  
T In the Hourly Precipitation table and in columns 9, 10, and 11 indicates an amount too small to measure.  
The season for degree days begins with July for heating and with January for cooling.  
Data in columns 6, 12, 13, 14, and 15 are based on 8 observations per day at 3-hour intervals.  
Wind directions are those from which the wind blows.  
Resultant wind is the vector sum of wind directions and speeds divided by the number of observations.  
Figures for directions are in tens of degrees from true North; i.e., 09 = East, 18 = South, 27 = West, 36 = North, and 00 = Calm. When directions are in tens of degrees in Col. 17, entries in Col. 16 are fastest observed 1-minute speeds. If / appears in Col. 17, speeds are gusts.  
Any errors detected will be corrected and changes in summary data will be annotated in the annual summary.

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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 Center, Asheville, North Carolina 28801.

*William H. Haggard*  
Director, National Climatic Center

### SUMMARY BY HOURS

Hour	Local time	Sky cover Tenths	AVERAGES							Resultant wind	
			Station pressure In.	Temperature			Relative humidity %	Wind speed m.p.h.	Direction	Speed m.p.h.	
				Air °F	Wet bulb °F	Dew Pt. °F					
01	6	29.76	40	36	28	65	8	25	2.8		
04	5	29.75	38	34	28	68	8	25	3.1		
07	5	29.79	37	33	27	70	9	28	3.0		
10	5	29.80	45	38	26	52	13	30	3.9		
13	6	29.75	50	41	27	45	13	27	3.2		
16	5	29.71	54	42	26	40	12	26	3.3		
19	5	29.73	47	39	27	49	9	25	3.3		
22	5	29.76	41	36	28	61	8	23	3.3		

OBSERVATIONS AT 3-HOUR INTERVALS

HOUR	SKY COVER	CEILING	WIND	TEMPERATURE				WIND	WIND	TEMPERATURE	WIND	WIND	TEMPERATURE	WIND	WIND	TEMPERATURE	WIND	WIND
				AIR	WET	BULB	DEW											
DAY 01																		
01	8	80	12	47	42	37	68	00	0	10	250	12	40	37	32	73	15	3
04	10	80	12	50	42	33	64	00	6	10	120	12	43	38	32	65	26	5
07	10	70	12	50	39	24	36	04	8	10	50	6	42	40	37	83	35	4
10	10	60	12	52	40	25	32	07	7	10	50	6	43	41	39	86	32	7
13	9	90	12	51	45	23	23	11	7	8	50	6	46	44	42	86	04	10
16	1	UNL	12	41	45	22	22	17	9	8	100	10	52	46	40	64	07	10
19	0	UNL	12	46	38	23	37	12	7	10	80	10	46	42	38	74	02	10
22	0	UNL	12	44	36	23	44	00	0	10	20	8	45	41	37	74	03	8
DAY 02																		
01	10	5	4	35	34	33	92	33	14	0	UNL	12	30	24	10	43	24	12
04	10	5	4	33	32	31	92	28	13	0	UNL	12	30	23	09	45	23	12
07	9	60	7	30	25	15	54	28	16	0	UNL	12	28	23	11	49	23	9
10	7	UNL	12	33	27	14	45	27	18	7	UNL	12	39	30	12	33	23	11
13	2	UNL	15	36	28	11	35	26	18	8	250	12	50	37	15	25	22	12
16	1	UNL	15	38	29	11	35	26	20	8	UNL	12	55	40	17	22	25	10
19	0	UNL	12	34	26	08	40	24	11	7	UNL	12	45	37	24	44	21	5
22	0	UNL	12	32	26	10	40	24	11	4	UNL	12	38	32	22	53	18	5
DAY 03																		
01	10	5	4	35	34	33	92	33	14	0	UNL	12	30	24	10	43	24	12
04	10	5	4	33	32	31	92	28	13	0	UNL	12	30	23	09	45	23	12
07	9	60	7	30	25	15	54	28	16	0	UNL	12	28	23	11	49	23	9
10	7	UNL	12	33	27	14	45	27	18	7	UNL	12	39	30	12	33	23	11
13	2	UNL	15	36	28	11	35	26	18	8	250	12	50	37	15	25	22	12
16	1	UNL	15	38	29	11	35	26	20	8	UNL	12	55	40	17	22	25	10
19	0	UNL	12	34	26	08	40	24	11	7	UNL	12	45	37	24	44	21	5
22	0	UNL	12	32	26	10	40	24	11	4	UNL	12	38	32	22	53	18	5
DAY 04																		
01	10	60	8	56	49	43	62	21	14	0	UNL	12	33	28	18	54	22	13
04	10	60	8	54	50	47	77	20	11	0	UNL	12	32	27	18	56	23	14
07	10	25	3	54	51	49	89	23	11	0	UNL	15	30	26	16	56	23	11
10	7	50	12	51	42	30	43	30	15	4	UNL	15	37	29	12	36	25	14
13	0	UNL	12	53	41	23	31	28	17	10	40	12	38	30	12	34	26	16
16	0	UNL	12	54	40	18	24	26	12	7	40	12	38	29	11	33	26	15
19	0	UNL	12	45	34	11	25	27	15	1	UNL	15	36	28	08	31	29	14
22	0	UNL	12	39	30	13	34	26	10	0	UNL	15	32	25	08	36	29	10
DAY 05																		
01	10	UNL	12	30	26	19	64	00	0	8	30	12	44	41	38	80	33	4
04	10	UNL	12	33	27	12	42	19	4	0	UNL	7	36	36	35	96	00	0
07	8	UNL	12	28	24	15	58	13	4	0	UNL	5	36	35	34	92	30	7
10	4	UNL	12	46	38	27	48	13	8	0	UNL	7	49	43	36	61	32	9
13	10	250	12	54	40	18	24	17	8	6	250	15	56	44	30	37	27	12
16	10	250	12	55	41	21	27	19	13	3	UNL	15	60	45	27	28	28	9
19	10	25	7	48	43	31	56	20	7	2	UNL	12	51	41	28	41	34	3
22	10	40	12	45	43	40	85	34	4	0	UNL	10	38	35	31	76	03	11
DAY 06																		
01	9	80	12	54	47	39	57	19	9	10	UNL	10	51	47	43	74	12	2
04	8	60	12	40	45	40	69	19	7	4	UNL	6	46	44	42	86	02	7
07	10	250	10	44	41	38	80	21	4	0	UNL	12	42	41	40	93	02	6
10	9	UNL	8	54	48	41	52	36	5	10	3	12	45	46	43	93	05	6
13	4	UNL	7	69	55	43	39	34	4	1	UNL	3	56	51	46	69	09	8
16	7	UNL	12	71	55	39	31	22	3	2	UNL	8	66	57	49	54	11	9
19	10	250	12	60	52	45	58	12	9	7	UNL	7	56	50	45	67	11	12
22	10	250	12	56	50	44	64	11	6	10	3	2	46	45	45	96	13	9
DAY 07																		
01	10	250	10	61	59	57	87	24	7	2	UNL	10	47	40	30	52	36	7
04	7	UNL	10	56	48	40	55	25	5	0	UNL	10	39	35	28	65	36	11
07	3	UNL	6	45	44	42	89	16	3	10	60	10	37	33	27	67	01	14
10	0	UNL	10	63	48	32	31	23	12	9	90	10	43	37	27	53	15	0
13	0	UNL	12	69	50	28	22	23	13	9	40	12	46	38	27	48	34	15
16	0	UNL	12	70	50	26	19	24	12	5	UNL	12	48	39	27	44	31	14
19	2	UNL	12	62	46	27	26	24	5	0	UNL	12	42	36	27	55	34	11
22	8	100	12	53	43	29	40	01	10	0	UNL	12	36	31	23	59	35	8
DAY 08																		
01	5	UNL	10	39	34	25	57	15	8	0	UNL	10	40	35	27	60	22	9
04	8	120	10	41	37	32	70	14	10	0	UNL	10	37	33	25	62	23	15
07	10	30	8	44	37	32	70	16	10	6	35	12	45	36	23	42	25	15
10	10	25	2	44	43	41	89	16	12	6	12	6	46	35	17	31	26	15
13	10	40	2	49	48	48	96	16	12	10	40	12	45	36	20	37	27	12
16	10	35	2	57	55	53	87	19	15	10	90	12	45	36	20	37	27	12
19	5	UNL	15	51	47	43	74	28	15	4	UNL	12	41	33	18	40	26	13
22	0	UNL	12	45	38	28	51	24	13	0	UNL	15	37	30	18	46	25	13
DAY 09																		
01	10	250	10	61	59	57	87	24	7	2	UNL	10	47	40	30	52	36	7
04	7	UNL	10	56	48	40	55	25	5	0	UNL	10	39	35	28	65	36	11
07	3	UNL	6	45	44	42	89	16	3	10	60	10	37	33	27	67	01	14
10	0	UNL	10	63	48	32	31	23	12	9	90	10	43	37	27	53	15	0
13	0	UNL	12	69	50	28	22	23	13	9	40	12	46	38	27	48	34	15
16	0	UNL	12	70	50	26	19	24	12	5	UNL	12	48	39	27	44	31	14
19	2	UNL	12	62	46	27	26	24	5	0	UNL	12	42	36	27	55	34	11
22	8	100	12	53	43	29	40	01	10	0	UNL	12	36	31	23	59	35	8
DAY 10																		
01	9	80	12	54	47	39	57	19	9	10	UNL	10	51	47	43	74	12	2
04	8	60	12	40	45	40	69	19	7	4	UNL	6	46	44	42	86	02	7
07	10	250	10	44	41	38	80	21	4	0	UNL	12	42	41	40	93	02	6
10	9	UNL	8	54														