



FEBRUARY 2002

LOCAL CLIMATOLOGICAL DATA

NOAA, National Climatic Data Center

RICHMOND, VA

R.E.BYRD INTERNATIONAL AP (RIC)
 Lat: 37°30' N Long: 77°19' W Elev (Ground): 164 Feet
 Time Zone: EASTERN WBAN: 13740 ISSN #:0198-537X

DATE	TEMPERATURE °F							DEG DAYS BASE 65°		WEATHER	SNOW/ICE ON GND(IN)		PRECIPITATION (INCHES)		PRESSURE (INCHES OF HG)		WIND SPEED = MPH DIR = TENS OF DEGREES								DATE																													
	MAXIMUM	MINIMUM	AVERAGE	DEP FROM NORMAL	AVERAGE DEW PT	AVERAGE WET BULB	HEATING	COOLING	0700 LST		1300 LST	2400 LST	2400 LST	AVERAGE STATION	AVERAGE SEA LEVEL	RESULTANT SPEED	RES DIR	AVERAGE SPEED	MAXIMUM																																			
																			5-SEC		2-MIN																																	
																			SPEED	DIR	SPEED	DIR																																
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																															
01	79*	48	64*	27	52	58	1	0	BR			0.0	0.00	29.76	29.95	13.1	24	18.4	48*	23	39*	22	01																															
02	48	30	39	2	18	32	26	0				0.0	0.00	30.16	30.36	8.3	36	9.1	25	36	22	36	02																															
03	46	28	37	0	25	33	28	0	RA			0.0	T	29.99	30.19	6.0	22	6.1	24	23	21	23	03																															
04	47	26	37	0	18	30	28	0	RA			0.0	T	29.76	29.95	13.4	30	14.2	40	34	33	32	04																															
05	39	19*	29*	-8	3	22	36	0				0.0	0.00	30.15	30.35	6.4	30	9.5	23	31	17	31	05																															
06	51	24	38	1	13	30	27	0	RA PL BR			T	0.05	30.08	30.28	3.3	19	4.2	12	21	10	20	06																															
07	41	33	37	0	37	37	28	0	RA BR			0.0	0.75	29.76	29.95	4.3	01	5.8	16	04	13	04	07																															
08	60	27	44	6	31	38	21	0	FG+ FZFG BR			0.0	0.00	29.93	30.12	2.8	22	3.9	14	23	12	21	08																															
09	57	29	43	5	32	38	22	0				0.0	0.00	30.21	30.41	4.4	08	5.2	21	09	17	09	09																															
10	58	32	45	6	45	46	20	0	RA FG+ BR			0.0	0.01	29.99	30.19	3.0	22	5.8	37	26	28	26	10																															
11	54	26	40	1	21	36	25	0				0.0	0.00	29.86	30.05	11.0	31	14.0	39	31	32	30	11																															
12	57	22	40	1	21	34	25	0				0.0	0.00	29.87	30.07	9.7	22	10.5	31	23	26	22	12																															
13	53	32	43	4	22	35	22	0				0.0	0.00	29.99	30.18	5.3	34	7.8	21	31	16	31	13																															
14	48	23	36	-3	16	29	29	0				0.0	0.00	30.23	30.42	1.9	07	4.8	13	01	10	14	14																															
15	57	28	43	3	29	36	22	0				0.0	0.00	30.03	30.22	6.7	19	7.0	24	20	20	21	15																															
16	62	42	52	12	31	43	13	0				0.0	0.00	29.69	29.87	6.2	25	7.7	22	33	17	32	16																															
17	49	32	41	1	20	34	24	0	RA SN GS			T	T	29.73	29.92	14.7	32	15.4	43	31	33	32	17																															
18	49	27	38	-2	16	29	27	0				0.0	0.00	30.12	30.31	7.7	34	7.9	26	33	21	33	18																															
19	64	22	43	3	21	35	22	0				0.0	0.00	30.09	30.29	6.2	20	6.8	20	23	16	23	19																															
20	68	46	57	16	45	52	8	0	RA			0.0	T	29.84	30.03	13.0	19	13.1	30	18	24	19	20																															
21	67	42	55	14	42	50	10	0	RA BR			0.0	0.01	29.68	29.87	8.6	24	10.1	25	25	21	25	21																															
22	61	34	48	7	31	41	17	0				0.0	0.00	29.80	29.99	4.8	32	7.9	25	01	21	02	22																															
23	49	31	40	-2	29	36	25	0				0.0	0.00	29.94	30.13	7.0	03	7.4	20	03	16	04	23																															
24	55	26	41	-1	21	33	24	0				0.0	0.00	30.06	30.25	5.3	03	5.8	18	08	15	03	24																															
25	62	25	44	2	29	38	21	0				0.0	0.00	30.00	30.19	6.1	19	6.6	20	20	15	17	25																															
26	71	40	56	14	41	49	9	0				0.0	0.00	29.60	29.79	12.6	21	14.3	35	21	29	23	26																															
27	54	27	41	-2	14	30	24	0				0.0	0.00	29.63	29.82	12.1	31	14.0	32	31	24	32	27																															
28	42	23	33	-10	9	25	32	0				0.0	0.00	29.99	30.19	8.1	26	8.8	21	26	17	26	28																															
< MONTHLY AVERAGES											TOTALS->			T	0.82	29.93	30.12	3.5	27	9.0	<- MONTHLY AVERAGES																																	
6.0				0.4				3.2				<-----DEPARTURE FROM NORMAL----->											-2.16				SUNSHINE, CLOUD, & VISIBILITY TABLES ON PAGE 3																											
DEGREE DAYS											GREATEST 24-HR PRECIPITATION: 0.80 DATE :06-07											SEA LEVEL PRESSURE DATE TIME																																
MONTHLY TOTAL DEPARTURE											GREATEST 24-HR SNOWFALL: T DATE :17+											MAXIMUM : 30.50 09 2054																																
SEASON TO DATE TOTAL DEPARTURE											GREATEST SNOW DEPTH:											MINIMUM : 26.62 26 2054																																
HEATING: 616 -120 2484 -650											NUMBER OF DAYS WITH =>											MAXIMUM TEMP ≥ 90: 0											MINIMUM TEMP ≤ 32: 21											PRECIPITATION ≥ 0.01 INCH : 4										
COOLING: 0 -1 3 2																						MAXIMUM TEMP ≤ 32 : 0											MINIMUM TEMP ≤ 0 : 0											PRECIPITATION ≥ 0.10 INCH : 1										
																						THUNDERSTORMS : 0											HEAVY FOG : 2											SNOWFALL ≥ 1.0 INCH : 0										

FEBRUARY 2002
RICHMOND, VA

HOURLY PRECIPITATION

(WATER EQUIVALENT IN INCHES)

RICHMOND, VA

FEBRUARY 2002

RIC

WBAN # 13740

DATE	FOR HOUR (LST) ENDING AT												DATE	FOR HOUR (LST) ENDING AT												DATE	Sum if Different (See Note)	2400 LST	
	1	2	3	4	5	6	7	8	9	10	11	12		13	14	15	16	17	18	19	20	21	22	23	24			Water	Equiv.
01													01												01			0.00	
02													02												02			0.00	
03													03												03			T	
04													04	T	T										04			T	
05													05							T	T				05			0.00	
06													06												06			0.05	
07	0.05	0.10	0.11	0.09	0.05	0.12	0.09	0.09	0.03				07		T	T									07	0.73		0.75	
08													08												08			0.00	
09													09												09			0.00	
10													10	T	T	0.01	T	T	T						10			0.01	
11													11												11			0.00	
12													12												12			0.00	
13													13												13			0.00	
14													14												14			0.00	
15													15												15			0.00	
16													16												16			0.00	
17													17			T	T								17			T	
18													18												18			0.00	
19													19												19			0.00	
20													20												20			T	
21	0.01	T											21												21			0.01	
22													22												22			0.00	
23													23												23			0.00	
24													24												24			0.00	
25													25												25			0.00	
26													26												26			0.00	
27													27												27			0.00	
28													28												28			0.00	

MAXIMUM SHORT DURATION PRECIPITATION (See Note)

Time Period (Minutes)	5	10	15	20	30	45	60	80	100	120	150	180
Precipitation (Inches)	.02	.04	.05	.06	.08	.11	.13	.16	.19	.23	.29	.31
Ending Date	07	07	07	07	07	07	07	07	07	07	07	07
Ending Time (Hour/Min)	0715	0715	0715	0715	0722	0715	0722	0722	0722	0715	0722	0804

Date and time are not entered for TRACE amounts.

Note : The sum of the hourly totals is given when it differs from the daily total. NWS does not edit ASOS hourly values but may edit daily and monthly totals. Hourly, daily, and monthly totals are printed as reported by the ASOS site.

REFERENCE NOTES & SUPPLEMENTAL SUMMARIES

* = Extreme for the month (last occurrence if more than one)

T = Trace precipitation amount

+ = also occurs on earlier date

FG+ = Heavy fog, visibility .25 miles or less
BLANK entries denote missing or unreported data

Resultant wind is the vector sum of the wind speeds and directions divided by the number of observations.

Wind direction is recorded in tens of degrees (2 digits) clockwise from true north. '00' = calm, 'VR' = variable.

Precipitation is for the 24-hour period ending at the time indicated in the column heading.

Water Equivalent of snow on the ground is reported only when the depth is 2 or more inches.

NORMALS ARE FOR THE YEARS 1971–2000

WEATHER NOTATIONS

QUALIFIER	WEATHER PHENOMENA		
	PRECIPITATION	OBSCURATION	OTHER
BC Patches	DZ Drizzle	BR Mist	DS Duststorm
BL Blowing	GR Hail	DU Widespread Dust	FC Funnel Cloud
DR Low Drifting	GS Small Hail and/or Snow Pellets	FG Fog	+FC Tornado Waterspout
FZ Freezing	IC Ice Crystals	FU Smoke	PO Well-Developed Dust/Sand Whirls
MI Shallow	PL Ice Pellets	HZ Haze	SQ Squalls
PR Partial	RA Rain	PY Spray	SS Sandstorm
SH Shower(s)	SG Snow Grains	SA Sand	GL Glaze
TS Thunderstorm	SN Snow	VA Volcanic Ash	
VC In the Vicinity	UP Unknown Precipitation		

Intensity (as indicated on pages 4 to 6):
'+' = Heavy ' ' = Moderate '- ' = Light

RICHMOND, VA FEBRUARY 2002

Ceilometer (30-second) data are used to derive cloudiness at or below 12,000 feet. This cloudiness is the mean cloud cover detected during sunrise to sunset (SR–SS), or midnight to midnight (MN–MN).

Satellite data are used to derive cloudiness above 12,000 feet. Effective Cloud Amount is based on the cloud cover and the transparency of the clouds within the satellite field of view (approx. 31x31 miles).

Sky Condition is based on the sum (not to exceed 8) of the sunrise to sunset cloud cover below and above 12,000 feet. Both ceilometer and satellite data must be present to compute Sky Condition. Clear = 0–2 oktas, Partly Cloudy = 3–6 oktas, Cloudy = 7–8 oktas.

A Heating (Cooling) Degree Day is the difference between the average daily temperature and 65 degrees F. The HDD season begins July 1, the CDD season begins January 1.

Dew Point is the temperature to which the air must be cooled to achieve 100% relative humidity. Wet Bulb is the temperature the air would have if cooled to saturation at constant pressure by evaporation of water into it.

Snow Depth, Snowfall, and Sunshine data may come from nearby sites that the National Weather Service deems Climatologically representative of this site.

ADDITIONAL NOTES:

DATE	SUNSHINE		CLOUDINESS (OKTAS)				VISIBILITY (MILES)		RESERVED
	TOTAL MINUTES	PERCENT POSSIBLE	SR–SS		MN–MN		MINIMUM	MAXIMUM	
			CEILOMETER	SATELLITE	CEILOMETER	SATELLITE			
01							.75	10.00	
02							10.00	10.00	
03							10.00	10.00	
04							10.00	10.00	
05							10.00	10.00	
06							6.00	10.00	
07							2.00	10.00	
08							.13	10.00	
09							7.00	10.00	
10							.13	10.00	
11							10.00	10.00	
12							10.00	10.00	
13							10.00	10.00	
14							10.00	10.00	
15							10.00	10.00	
16							10.00	10.00	
17							7.00	10.00	
18							10.00	10.00	
19							10.00	10.00	
20							10.00	10.00	
21							6.00	10.00	
22							10.00	10.00	
23							10.00	10.00	
24							9.00	10.00	
25							7.00	10.00	
26							8.00	10.00	
27							10.00	10.00	
28							10.00	10.00	
MONTHLY AVGS							8.08	10.00	
SUNSHINE (MINUTES)									
Total: Possible: Percent Possible:									
NUMBER OF DAYS WITH:									
SKY CONDITION									
CLR PTLY CLDY CLOUDY MISSING 28									
MINIMUM VISIBILITY (MILES)									
<=0.25 <=3.0 >=7.0 2 4 22									

OBSERVATIONS AT 3-HOURLY INTERVALS

RICHMOND, VA

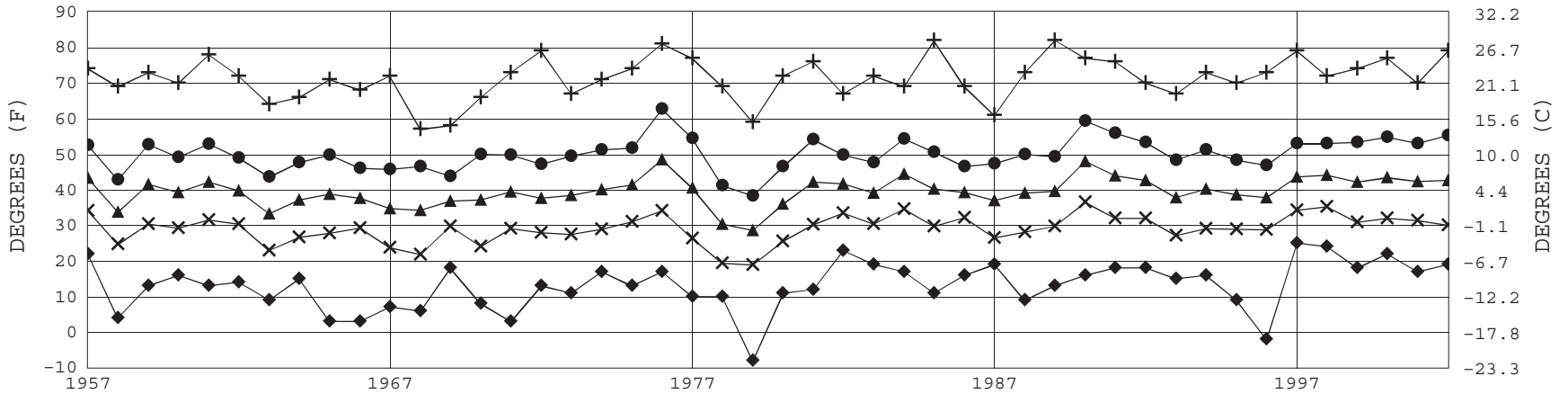
FEBRUARY 2002

RIC

WBAN # 13740

HOUR (LST)	SATELLITE		WEATHER	TEMPERATURE °F				WIND		PRESSURE (INCHES, HG)		HOUR (LST)	SATELLITE		WEATHER	TEMPERATURE °F				WIND		PRESSURE (INCHES, HG)				
	SKY COVER	CEILING 100'S OF FT		OBSERVATION TIME (LST)	EFF CLD AMT Oktas	VISIBILITY (MILES)	DRY BULB	DEW POINT	WET BULB	RELATIVE HUMIDITY (PCT)	SPEED (MPH)		DIRECTION TENS OF DEG	STATION		SEA LEVEL	OBSERVATION TIME (LST)	EFF CLD AMT Oktas	VISIBILITY (MILES)	DRY BULB	DEW POINT	WET BULB	RELATIVE HUMIDITY (PCT)	SPEED (MPH)	DIRECTION TENS OF DEG	STATION
SUNRISE: 0646 FEB 25 SUNSET: 1759												SUNRISE: FEB 31 SUNSET:														
01	CLR	NC			29	22	27	75	0	00	30.10	30.29														
04	SCT	NC			28	23	26	81	0	00	30.08	30.28														
07	FEW	NC			25	24	25	96	0	00	30.11	30.31														
10	BKN	250			46	36	42	68	8	21	30.11	30.30														
13	OVC	250			57	30	45	36	10	19	30.00	30.19														
16	OVC	250			61	29	47	30	12	18	29.93	30.12														
19	OVC	250			52	31	43	45	9	18	29.89	30.08														
22	OVC	250			50	30	41	46	10	18	29.87	30.06														
SUNRISE: 0645 FEB 26 SUNSET: 1760												3-HOURLY OBSERVATION NOTES														
01	OVC	250			43	28	37	56	9	20	29.83	30.02	Sky Cover is the amount of the sky obscured. CLR or SKC = 0, FEW = 1/8-2/8, SCT = 3/8-4/8, BKN = 5/8-7/8, OVC = 8/8, VV = Vertical Visibility = 8/8.													
04	OVC	250			44	32	39	63	10	19	29.75	29.95	Ceiling is reported in hundreds of feet above ground level for clouds at or below 12,000 feet.													
07	SCT	NC			43	37	40	80	9	19	29.72	29.91	NC = No ceiling detected.													
10	CLR	NC			57	44	50	62	18	19	29.67	29.86	& = Original observation contained additional weather elements.													
13	SCT	NC			68	42	54	39	23	21	29.57	29.76	See page 3 for additional notes.													
16	BKN	065			69	45	56	42	14	22	29.48	29.66														
19	FEW	NC			64	46	54	52	16	20	29.45	29.63														
22	BKN	080			60	45	52	58	9	28	29.48	29.66														
SUNRISE: 0643 FEB 27 SUNSET: 1801												SUMMARY BY HOUR														
01	OVC	044			49	40	45	71	12	02	29.54	29.72	AVERAGES													
04	OVC	036			45	24	37	44	12	30	29.54	29.72	HOUR (LST)	CEILOMETER	EFF CLD AMT	DRY BULB	DEW POINT	WET BULB	RELATIVE HUMIDITY	PRESSURE (INCHES, HG)		VISIBILITY (MILES)	WIND SPEED (MPH)	RESULTANT WIND (MPH)		
07	OVC	080			41	14	32	33	13	31	29.55	29.74								STATION	SEA LEVEL			SPEED	DIRECTION	
10	OVC	060			36	25	32	64	7	04	29.58	29.77	01			39	27	35	66	29.93	30.12	9.05	7	3	26	
13	SCT	NC			40	7	30	25	10	26	29.56	29.75	02			38	27	34	68	29.92	30.12	9.04	7	3	29	
16	BKN	080			38	4	28	24	20	32	29.59	29.78	03			37	26	33	68	29.92	30.12	9.00	6	3	29	
19	FEW	NC			33	2	25	26	18	29	29.72	29.91	04			36	26	32	70	29.92	30.12	9.10	6	3	29	
22	CLR	NC			29	2	22	31	15	29	29.83	30.03	05			35	26	32	72	29.92	30.12	9.18	6	3	31	
SUNRISE: 0642 FEB 28 SUNSET: 1802												06			35	26	32	73	29.93	30.13	9.15	6	3	30		
01	CLR	NC			26	3	20	37	14	27	29.87	30.06	07			34	26	31	74	29.94	30.14	8.90	6	3	29	
04	CLR	NC			24	6	19	46	12	26	29.91	30.11	08			36	28	33	74	29.96	30.16	8.85	8	2	28	
07	CLR	NC			23	7	19	50	13	26	29.98	30.18	09			41	28	36	64	29.96	30.16	9.36	10	3	30	
10	CLR	NC			32	8	25	36	10	26	30.03	30.22	10			45	28	38	54	29.97	30.16	9.65	11	5	29	
13	CLR	NC			39	10	30	30	3	VR	29.98	30.18	11			48	27	39	46	29.96	30.16	9.66	13	5	29	
16	BKN	250			41	9	31	27	13	25	29.95	30.15	12			50	26	40	43	29.94	30.13	9.75	11	5	28	
19	FEW	NC			37	10	29	33	9	24	30.02	30.22	13			51	26	41	40	29.91	30.10	9.82	12	6	26	
22	CLR	NC			29	12	24	49	5	22	30.08	30.28	14			52	25	42	38	29.89	30.08	9.82	11	6	27	
SUNRISE: FEB 29 SUNSET:												15			53	24	42	36	29.88	30.07	9.93	12	6	27		
SUNRISE: FEB 30 SUNSET:												16			53	24	41	36	29.88	30.07	9.89	12	7	26		
												17			52	25	42	38	29.88	30.08	9.85	12	5	25		
												18			48	25	39	42	29.89	30.09	9.86	10	4	26		
												19			46	25	38	47	29.91	30.10	9.89	9	2	25		
												20			43	25	37	52	29.92	30.11	9.79	9	3	24		
												21			42	26	36	54	29.92	30.12	9.71	8	3	23		
												22			41	26	35	57	29.93	30.13	9.75	7	3	25		
												23			40	26	35	61	29.93	30.13	9.75	7	3	26		
												24			39	26	34	63	29.93	30.13	9.48	7	3	26		

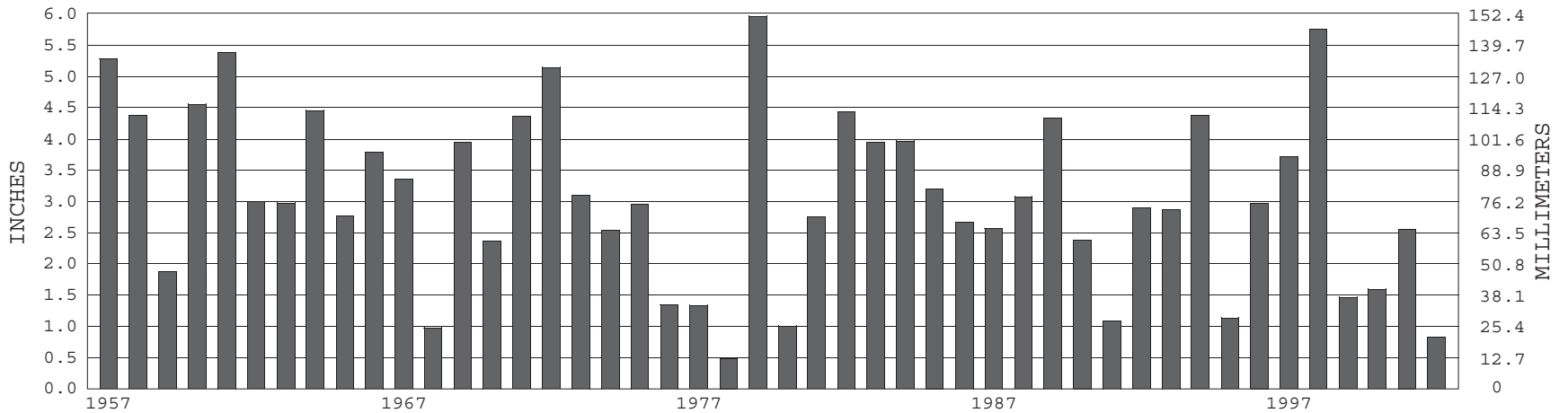
RICHMOND, VA FEBRUARY TEMPERATURES



+ Extreme Max. ● Mean Max. ▲ Mean × Mean Min. ◆ Extreme Min.

Long-Term (1957-2002) Mean: 39.6 1961-1990 Normal: 39.5

RICHMOND, VA FEBRUARY PRECIPITATION



Long-Term (1957-2002) Mean Monthly Total: 3.09

1961-1990 Normal: 2.98



FEBRUARY 2002

RICHMOND, VA

LOCAL CLIMATOLOGICAL DATA

NOAA, National Climatic Data Center

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