



JULY 2007

LOCAL CLIMATOLOGICAL DATA

NOAA, National Climatic Data Center

RICHMOND, VA
RICHMOND INTERNATIONAL AIRPORT (KRIC)
 Lat:37° 30'N Long: 77° 19'W Elev (Ground) 163 Feet
 Time Zone : EASTERN WBAN: 13740 ISSN#: 0198-537X



Date 1	Temperature °F						Deg Days BASE 65°		WEATHER 10	SNOW/ICE ON GND(IN)		PRECIPITATION ON GND(IN)		PRESSURE (INCHES OF HG)		WIND SPEED = MPH DIR = TENS OF DEGREES								Date 24
	MAXIMUM 2	MINIMUM 3	AVERAGE 4	DEP FROM NORMAL 5	AVERAGE DEW PT 6	AVERAGE WET BULB 7	HEATING 8	COOLING 9		0700 LST	1300 LST	2400 LST	2400 LST	AVERAGE STATION 15	AVERAGE SEA LEVEL 16	RESULTANT SPEED 17	RES DIR 18	AVERAGE SPEED 19	MAXIMUM					
																			5-SEC		2-MIN			
2	3	4	5	6	7	8	9	11	12	13	14	15	16	20	21	22	23	24						
01	83	64	74	-3	54	63	0	9	BR			0.0	0.00	29.86	30.07	8.6	03	9.3	25	03	18	03	01	
02	80	59	70*	-7	53	60	0	5				0.0	0.00	29.99	30.20	3.4	07	4.4	18	08	16	08	02	
03	83	59*	71	-6	56	62	0	6				0.0	0.00	30.02		6.1	16	6.7	20	16	15	20	03	
04	88	68	78	1	59	66	0	13				0.0	0.00	29.93	30.11	14.2	22	14.5	26	22	21	22	04	
05	91	70	81	4	64	69	0	16	RA BR HZ			0.0	0.43	29.83	30.00	9.9	23	11.0	29	30	22	31	05	
06	90	69	80	3	65	70	0	15				0.0	0.00	29.76	29.95	3.8	29	5.0	16	25	12	28	06	
07	93	68	81	4	64	70	0	16				0.0	0.00	29.77	29.94	1.0	04	2.4	14	33	12	33	07	
08	95	68	82	5	65	71	0	17	BR HZ			0.0	0.00	29.70	29.88	1.2	21	2.4	15	22	10	30	08	
09	96	73	85	8	69	74	0	20	RA HZ			0.0	T	29.73	29.93	4.4	22	5.4	16	22	13	21	09	
10	95	73	84	6	71	74	0	19	TS TSRA RA BR HZ			0.0	0.08	29.75	29.94	1.6	20	5.8	39	36	29	01	10	
11	92	72	82	4	70	73	0	17	RA BR HZ			0.0	T	29.64	29.82	8.5	26	9.6	24	28	20	29	11	
12	88	70	79	1	58	66	0	14				0.0	0.00	29.73	29.93	5.9	02	7.7	21	01	16	03	12	
13	84	65	75	-3	56	64	0	10				0.0	0.00	29.81	30.00	2.8	26	4.9	10	25	9	25	13	
14	91	63	77	-1	60	66	0	12				0.0	0.00	29.78	29.96	4.9	23	5.7	20	28	15	22	14	
15	94	66	80	2	62	69	0	15				0.0	0.00	29.71	29.90	7.7	23	8.0	21	25	16	22	15	
16	95	69	82	4	67	71	0	17	TSRA RA BR HZ			0.0	T	29.77	29.96	3.2	24	5.8	30	32	23	31	16	
17	94	70	82	4	66	71	0	17	TS TSRA RA BR HZ			0.0	0.01	29.85	30.04	1.7	14	5.6	37	15	32	16	17	
18	94	72	83	4	67	72	0	18	BR			0.0	0.00	29.77	29.94	6.5	27	8.0	22	27	17	29	18	
19	98*	71	85*	6	68	72	0	20	TS TSRA RA BR HZ SQ			0.0	0.57	29.66	29.85	5.7	25	6.9	56*	31	47*	31	19	
20	86	68	77	-2	61	67	0	12	RA			0.0	0.01	29.68	29.89	6.1	01	8.5	23	01	18	34	20	
21	84	64	74	-5	53	61	0	9				0.0	0.00	29.85	30.06	6.8	02	7.3	23	04	18	01	21	
22	86	62	74	-5	56	63	0	9				0.0	0.00	29.93	30.12	5.8	05	6.8	24	06	17	06	22	
23	86	65	76	-3	56	63	0	11	RA			0.0	T	29.89	30.08	4.4	01	7.2	22	36	16	35	23	
24	88	64	76	-2	60	66	0	11	BR			0.0	0.00	29.91	30.10	3.6	22	5.8	21	25	17	24	24	
25	87	66	77	-1	63	68	0	12	RA			0.0	T	29.95	30.14	0.3	01	3.2	22	15	12	30	25	
26	89	67	78	0	63	68	0	13				0.0	0.00	29.93	30.11	2.8	13	3.6	14	10	12	11	26	
27	95	69	82	4	66	71	0	17	TS TSRA RA BR HZ			0.0	0.28	29.76	29.94	2.7	20	5.4	49	19	36	16	27	
28	93	68	81	3	67	71	0	16	TS RA BR HZ			0.0	T	29.68	29.87	2.7	19	4.1	22	25	17	14	28	
29	90	70	80	2	68	71	0	15	TS TSRA RA BR HZ			0.0	0.31	29.70	29.89	1.7	15	4.1	29	13	22	13	29	
30	87	70	79	1	69	72	0	14	RA BR			0.0	T	29.74	29.93	2.2	11	4.0	14	24	13	24	30	
31	91	70	81	3	69	72	0	16	TS RA BR HZ			0.0	T	29.75	29.94	3.6	05	4.1	23	02	20	01	31	

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RICHMOND, VA

89.9			67.5			78.7			☼	62.7			68.3			0.0		13.9		< MONTHLY AVERAGES TOTALS >				0.0		1.69		29.78		29.97		1.2		24		6.2		< MONTHLY AVERAGES			
2.4			-0.8			0.8				<----- DEPARTURE FROM NORMAL ----->																-2.98		SUNSHINE, CLOUD, & VISIBILITY TABLES ON PAGE 3													
DEGREE DAYS										GREATEST 24-HR PRECIPITATION : 0.58 DATE : 19-20										SEA LEVEL PRESSURE																					
MONTHLY					SEASON TO DATE					GREATEST 24-HR SNOWFALL : 0.0 DATE :					MAXIMUM : 30.25 03 0554					MINIMUM : 29.74 11 1554																					
TOTAL DEPARTURE					TOTAL DEPARTURE					GREATEST SNOW DEPTH : DATE :					PRECIPITATION >= 0.01 INCH: 7					PRECIPITATION >= 0.10 INCH: 4																					
HEATING : 0 0 0 0					NUMBER OF DAYS WITH					MAXIMUM TEMP >= 90 : 17					MINIMUM TEMP <= 32 : 0					PRECIPITATION >= 1.0 INCH : 0																					
COOLING : 431 16 963 122										MAXIMUM TEMP <= 32 : 0					MINIMUM TEMP <= 0 : 0					SNOWFALL >= 1.0 INCH : 0																					
										THUNDERSTORMS : 8					HEAVY FOG : 0																										

HOURLY PRECIPITATION

(WATER EQUIVALENT IN INCHES)

RICHMOND, VA (KRIC)
JULY 2007

WBAN # 13740

Date	FOR HOUR (LST) ENDING AT												Date	FOR HOUR (LST) ENDING AT												Date	Sum of Hourly Data	2400 LST Water Equiv.
	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													01												01	0.00	0.00	
02													02												02	0.00	0.00	
03													03												03	0.00	0.00	
04													04												04	0.00	0.00	
05													05	T		0.22	T	0.03	0.17	0.01				05	0.43	0.43		
06													06												06	0.00	0.00	
07													07												07	0.00	0.00	
08													08												08	0.00	0.00	
09													09								T				09	T	T	
10													10			0.05	0.03							10	0.08	0.08		
11													11		T		T	T						11	T	T		
12													12											12	0.00	0.00		
13													13											13	0.00	0.00		
14													14											14	0.00	0.00		
15													15											15	0.00	0.00		
16													16				T							16	T	T		
17													17					0.01	T	T	T	T	T	17	0.01	0.01		
18													18											18	0.00	0.00		
19													19			0.20	T	T				0.36	T	T	19	0.57	0.57	
20	0.01												20											20	0.01	0.01		
21													21											21	0.00	0.00		
22													22											22	0.00	0.00		
23													23											23	T	T		
24													24											24	0.00	0.00		
25													25			T								25	T	T		
26													26											26	0.00	0.00		
27													27				0.28	T						27	0.28	0.28		
28													28						T	T	T	T		28	T	T		
29													29					T	0.21	0.05	0.05	T		29	0.31	0.31		
30	T												30											30	T	T		
31													31			T								31	T	T		

* Indicates sum of Hourly and Daily disagree.

MAXIMUM SHORT DURATION PRECIPITATION (See Note)

Time Period (Minutes)	5	10	15	20	30	45	60	80	100	120	150	180
Precipitation (Inches)	0.19	0.31	0.33	0.33	0.33	0.33	0.36	0.36	0.36	0.36	0.36	0.37
Ending Date	19	19	19	19	19	19	19	19	19	19	19	05
Ending Time (Hr/Min)	2017	2021	2021	2021	2021	2021	2059	2059	2059	2059	2059	1831

Note : The hourly and daily precipitation totals are printed in the last 2 columns and hi-lighted in red when they disagree. 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.

Date and time are not entered for TRACE amounts.

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		
DESCRIPTOR	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	
PR Partial	RA Rain	PY Spray	SQ Squalls
SH Shower(s)	SG Snow Grains	SA Sand	SS Sandstorm
TS Thunderstorm	SN Snow	VA Volcanic Ash	GL Glaze
VC In the Vicinity	UP Unkown Precipitation		

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

RICHMOND, VA JULY 2007

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:

Station Augmentation-SANDSTON COOP
Lat/Lon:37.54417/-77.27583 Elevation:165
Distance:4 MI Dir:E
Augmented Elements:Temp, Precip, Snow
Equipment:MMTS, SRG, Snowboard

Date	SUNSHINE		CLOUDINESS (OKTAS)				VISIBILITY (MILES)		RESERVED
	TOTAL MINUTES	PERCENT POSSIBLE	SR-SS		MN-MN		MINIMUM	MAXIMUM	
			Sky Cover	Satellite	Sky Cover	Satellite			
01							3.00	10.00	
02							10.00	10.00	
03							10.00	10.00	
04							10.00	10.00	
05							3.00	10.00	
06							7.00	10.00	
07							7.00	10.00	
08							4.00	10.00	
09							4.00	10.00	
10							4.00	10.00	
11							4.00	10.00	
12							10.00	10.00	
13							10.00	10.00	
14							7.00	10.00	
15							7.00	10.00	
16							4.00	10.00	
17							5.00	10.00	
18							5.00	10.00	
19							0.50	10.00	
20							8.00	10.00	
21							10.00	10.00	
22							10.00	10.00	
23							10.00	10.00	
24							6.00	10.00	
25							8.00	10.00	
26							8.00	10.00	
27							4.00	10.00	
28							4.00	10.00	
29							2.50	10.00	
30							5.00	10.00	
31							4.00	10.00	
MONTHLY AVGS							6.26	10.00	
SUNSHINE (Minutes)									
Total : 0					Possible : 26883				
Percent Possible : 0									
NUMBER OF DAYS WITH : SKY CONDITION									
Clear		Partly CLDY		Cloudy		Missing			
MINIMUM VISIBILITY (MILES)									
<= .25			<= 3.0			>= 7.0			
0			4			15			

OBSERVATIONS AT 3-HOURLY INTERVALS

RICHMOND, VA

JULY 2007

KRIC

WBAN # 13740

HOUR (LST)	SKY COVER	CEILING 100's of FT.	SATELLITE		VISIBILITY (MILES)	WEATHER	TEMPERATURE °F			RELATIVE HUMIDITY (PCT)	WIND		PRESSURE (INCHES, HG)																	
			Observation Time (LST)	Eff Cld Amt Oktas			DRY BULB	DEW POINT	WET BULB		SPEED (MPH)	DIRECTION Tens of Deg	STATION	SEA LEVEL																
															Observation Time (LST)	Eff Cld Amt Oktas	DRY BULB	DEW POINT	WET BULB	RELATIVE HUMIDITY (PCT)	SPEED (MPH)	DIRECTION Tens of Deg	STATION	SEA LEVEL						
SUNRISE: 0452 JUL 01							SUNSET: 1934							SUNRISE: 0455 JUL 07							SUNSET: 1933									
01	BKN	250			5.00	BR	71	68	69	90	0	00	29.80	29.98	01	SCT	090			9.00			73	66	69	79	0	00	29.79	29.98
04	BKN	250			6.00	BR	69	65	66	87	10	03	29.81	30.00	04	FEW	070			8.00			70	65	67	84	0	00	29.79	29.97
07	BKN	250			10.00		70	54	61	57	17	03	29.86	30.05	07	BKN	250			9.00			76	67	70	74	3	01	29.80	29.99
10	BKN	250			10.00		77	51	62	40	17	05	29.91	30.10	10	FEW	150			10.00			86	63	71	46	0	00	29.80	29.99
13	BKN	250			10.00		79	48	61	34	10	03	29.92	30.10	13	SCT	060			10.00			89	62	71	41	3	VR	29.76	29.95
16	BKN	200			10.00		81	45	61	28	14	01	29.89	30.08	16	SCT	065			10.00			93	62	72	36	5	01	29.70	29.88
19	SCT	200			10.00		76	49	61	39	3	04	29.89	30.08	19	FEW	070			10.00			87	59	69	39	3	09	29.71	29.90
22	SCT	200			10.00		65	56	60	73	8	12	29.94	30.13	22	CLR	NC			8.00			75	67	70	76	3	14	29.73	29.91
SUNRISE: 0452 JUL 02							SUNSET: 1934							SUNRISE: 0455 JUL 08							SUNSET: 1933									
01	FEW	250			10.00		64	56	59	75	0	00	29.95	30.14	01	CLR	NC			6.00	BR		71	67	68	87	0	00	29.71	29.89
04	SCT	250			10.00		59	55	57	87	0	00	29.96	30.15	04	FEW	095			5.00	BR		70	66	67	87	0	00	29.70	29.89
07	BKN	250			10.00		65	57	60	75	8	06	30.02	30.21	07	CLR	NC			4.00	HZ		74	69	71	84	0	00	29.72	29.91
10	BKN	250			10.00		73	50	60	44	8	05	30.04	30.23	10	CLR	NC			8.00			87	67	74	52	5	20	29.73	29.91
13	SCT	050			10.00		77	52	62	42	5	VR	30.02	30.21	13	SCT	070			10.00			91	61	71	37	0	00	29.70	29.88
16	SCT	250			10.00		79	49	62	35	7	08	30.00	30.19	16	FEW	080			10.00			94	58	71	30	3	31	29.65	29.84
19	SCT	250			10.00		74	51	61	45	5	11	30.01	30.19	19	FEW	080			10.00			87	66	73	50	5	17	29.67	29.85
22	FEW	250			10.00		64	54	58	70	3	16	30.05	30.24	22	CLR	NC			8.00			80	68	72	67	0	00	29.70	29.88
SUNRISE: 0453 JUL 03							SUNSET: 1934							SUNRISE: 0456 JUL 09							SUNSET: 1933									
01	FEW	250			10.00		61	54	57	78	0	00	30.07	30.25	01	CLR	NC			6.00	HZ		76	68	71	76	5	21	29.70	29.88
04	SCT	250			10.00		60	55	57	84	0	00	30.05	30.24	04	CLR	NC			6.00	HZ		77	68	71	74	6	24	29.72	29.91
07	BKN	250			10.00		64	55	59	73	0	00	30.07		07	CLR	NC			5.00	HZ		79	70	73	74	5	26	29.77	29.95
10	BKN	250			10.00		75	53	62	46	8	15	30.06		10	CLR	NC			6.00	HZ		88	72	77	59	3	20	29.78	29.96
13	SCT	050			10.00		80	56	65	44	7	VR	30.02		13	SCT	055			6.00	HZ		95	68	76	41	7	24	29.75	29.94
16	BKN	250			10.00		81	57	66	44	11	17	29.98		16	SCT	070			7.00			96	66	75	37	10	20	29.71	29.90
19	BKN	250			10.00		76	56	64	50	13	14	29.97		19	BKN	250			7.00			90	70	76	52	3	17	29.71	29.89
22	BKN	250			10.00		73	56	63	55	9	17	30.00	30.19	22	BKN	250			9.00			82	70	74	67	6	20	29.77	29.96
SUNRISE: 0453 JUL 04							SUNSET: 1934							SUNRISE: 0457 JUL 10							SUNSET: 1933									
01	BKN	130			10.00		70	54	61	57	15	19	29.98	30.17	01	CLR	NC			10.00			80	71	74	74	8	21	29.77	29.95
04	OVC	110			10.00		69	55	61	61	14	20	29.97	30.16	04	CLR	NC			9.00			76	71	73	85	3	21	29.77	29.95
07	SCT	110			10.00		71	57	63	61	14	22	29.97	30.16	07	BKN	250			5.00	HZ		79	74	76	85	6	23	29.79	29.98
10	SCT	100			10.00		79	61	68	54	16	22	29.96	30.15	10	BKN	250			9.00			88	75	79	65	5	19	29.79	29.97
13	BKN	250			10.00		86	64	72	48	14	25	29.93	30.12	13	BKN	250			10.00			93	71	78	49	3	VR	29.73	29.91
16	BKN	200			10.00		86	63	71	46	17	22	29.88	30.07	16	OVC	200			5.00	-TSRA		76	71	73	85	5	02	29.72	29.91
19	BKN	150			10.00		83	60	68	46	10	21	29.85	30.04	19	OVC	200			6.00	BR		77	73	74	88	10	23	29.74	29.93
22	BKN	250			10.00		79	59	67	50	11	21	29.88	30.07	22	BKN	250			6.00	BR		74	70	71	87	7	21	29.72	29.90
SUNRISE: 0454 JUL 05							SUNSET: 1934							SUNRISE: 0457 JUL 11							SUNSET: 1932									
01	BKN	250			10.00		75	57	64	54	16	21	29.88	30.06	01	SCT	250			6.00	BR		73	70	71	90	5	22	29.70	29.89
04	BKN	250			10.00		72	59	64	64	14	22	29.85	30.04	04	BKN	004			7.00			72	69	70	90	8	23	29.66	29.85
07	SCT	250			10.00		74	61	66	64	13	23	29.87	30.05	07	BKN	009			5.00	HZ		75	70	72	85	9	24	29.67	29.86
10	BKN	250			10.00		83	64	71	53	14	22	29.83	30.02	10	BKN	250			10.00			86	69	74	57	9	28	29.66	29.85
13	OVC	250			10.00		84	64	71	51	13	24	29.81	29.99	13	BKN	250			10.00			91	68	75	47	11	26	29.60	29.79
16	BKN	060			3.00	-RA BR	75	71	72	87	5	08	29.77	29.96	16	BKN	150			10.00			87	71	76	59	13	34	29.55	29.74
19	OVC	150			3.00	-RA BR	74	70	71	87	9	22	29.79	29.98	19	BKN	150			10.00			79	71	74	77	11	26	29.58	29.77
22	BKN	110			6.00	BR	73	69	70	87	8	23	29.78	29.97	22	FEW	120			10.00			76	71	73	85	6	23	29.65	29.83
SUNRISE: 0454 JUL 06							SUNSET: 1934							SUNRISE: 0458 JUL 12							SUNSET: 1932									
01	BKN	110			9.00		73	67	69	82	9	26	29.76	29.95	01	SCT	200			10.00			75	65	69	71	11	36	29.67	29.85
04	FEW	130			9.00		72	66	68	82	5	26	29.75	29.93	04	FEW	080			10.00			72	61	65	68	13	02	29.70	29.88
07	BKN	250			7.00		74	67	69	79	6	28	29.77	29.96	07	FEW	080			10.00			73	58	64	59	11	03	29.77	29.96
10	BKN	250			10.00		83	66	72	57	5	VR	29.78	29.97	10	SCT	250			10.00			79	53	64	41	11	36	29.78	29.97
13	SCT	150			10.00		87	64	72	46	8	31	29.77	29.96	13	SCT	065			10.00			85	56	67	37	7	VR	29.77	29.95
16	SCT	200			10.00		90	60	71	37	6	32	29.73	29.92	16	SCT	070			10.00			86	56	67	36	0	00	29.74	29.92
19	FEW	055			10.00		87	60	70	40	5	30	29.75	29.93	19	SCT	070			10.00			79	58	66	49	6	13	29.74	29.93
22	CLR	NC			10.00		76	65	69	69	0	00	29.78	29.97	22	BKN	080			10.00			71	61	65	71	0	00	29.78	29.96

OBSERVATIONS AT 3-HOURLY INTERVALS

RICHMOND, VA

JULY 2007

KRIC

WBAN # 13740

HOUR (LST)	SKY COVER	CEILING 100's of FT.	SATELLITE		VISIBILITY (MILES)	WEATHER	TEMPERATURE °F			RELATIVE HUMIDITY (PCT)	WIND		PRESSURE (INCHES, HG)		HOUR (LST)	SKY COVER	CEILING 100's of FT.	SATELLITE		VISIBILITY (MILES)	WEATHER	TEMPERATURE °F			RELATIVE HUMIDITY (PCT)	WIND		PRESSURE (INCHES, HG)		
			Observation Time (LST)	Eff Cld Amt Oktas			DRY BULB	DEW POINT	WET BULB		SPEED (MPH)	DIRECTION Tens of Deg	STATION	SEA LEVEL				Observation Time (LST)	Eff Cld Amt Oktas			DRY BULB	DEW POINT	WET BULB		SPEED (MPH)	DIRECTION Tens of Deg	STATION	SEA LEVEL	
																														Observation Time (LST)
SUNRISE: 0459 JUL 13 SUNSET: 1931															SUNRISE: 0503 JUL 19 SUNSET: 1928															
01	BKN	100			10.00		73	57	63	57	5	33	29.78	29.97	01	SCT	250			7.00		HZ	76	69	71	79	5	19	29.70	29.89
04	BKN	100			10.00		74	52	61	46	7	33	29.79	29.98	04	SCT	250			6.00		HZ	76	69	71	79	5	27	29.70	29.88
07	BKN	250			10.00		74	54	62	50	3	01	29.83	30.02	07	BKN	250			10.00			81	66	71	60	6	27	29.69	29.87
10	OVC	250			10.00		81	52	64	37	3	VR	29.84	30.03	10	OVC	250			10.00			91	66	74	44	9	26	29.68	29.87
13	OVC	150			10.00		81	55	65	41	5	18	29.84	30.03	13	SCT	250			10.00			95	67	76	40	15	22	29.64	29.83
16	OVC	150			10.00		79	59	67	50	7	22	29.80	29.99	16	OVC	150			10.00		-RA	72	68	69	87	7	20	29.65	29.84
19	BKN	250			10.00		77	58	65	52	8	23	29.79	29.98	19	OVC	250			10.00			76	70	72	82	3	18	29.60	29.79
22	BKN	250			10.00		68	60	63	76	5	22	29.82	30.01	22	OVC	150			10.00			72	69	70	90	6	21	29.62	29.81
SUNRISE: 0459 JUL 14 SUNSET: 1931															SUNRISE: 0504 JUL 20 SUNSET: 1928															
01	BKN	250			10.00		67	59	62	76	3	18	29.81	30.00	01	OVC	150			10.00			73	68	70	84	7	25	29.61	29.80
04	SCT	250			8.00		63	59	61	87	0	00	29.79	29.98	04	BKN	150			8.00			71	68	69	90	3	22	29.62	29.81
07	BKN	250			9.00		70	62	65	76	3	33	29.83	30.01	07	BKN	250			10.00			74	69	71	84	6	33	29.66	29.85
10	BKN	250			10.00		81	60	68	49	6	23	29.81	30.00	10	OVC	250			10.00			76	66	70	71	11	03	29.72	29.91
13	BKN	250			10.00		85	58	68	40	8	21	29.78	29.97	13	BKN	250			10.00			83	60	68	46	16	01	29.71	29.90
16	OVC	200			10.00		88	58	69	36	10	25	29.74	29.93	16	BKN	250			10.00			85	57	68	39	9	05	29.71	29.90
19	BKN	200			10.00		83	61	69	48	7	23	29.72	29.91	19	SCT	250			10.00			78	55	64	45	6	05	29.73	29.92
22	BKN	250			10.00		76	60	66	58	6	24	29.74	29.93	22	BKN	250			10.00			74	53	62	48	13	01	29.77	29.96
SUNRISE: 0460 JUL 15 SUNSET: 1931															SUNRISE: 0504 JUL 21 SUNSET: 1927															
01	BKN	250			10.00		68	61	64	78	8	22	29.73	29.92	01	BKN	250			10.00			68	54	60	61	7	02	29.81	29.99
04	SCT	250			10.00		70	62	65	76	8	24	29.70	29.89	04	BKN	250			10.00			66	53	59	63	9	01	29.82	30.01
07	BKN	250			8.00		72	63	66	73	7	21	29.73	29.92	07	OVC	250			10.00			69	55	61	61	9	03	29.88	30.07
10	SCT	250			10.00		83	65	71	55	8	23	29.73	29.91	10	BKN	200			10.00			76	55	64	48	10	01	29.91	30.10
13	BKN	250			10.00		90	59	70	35	5	22	29.71	29.90	13	BKN	200			10.00			81	47	62	30	14	34	29.89	30.08
16	OVC	250			10.00		93	58	70	31	13	25	29.67	29.85	16	BKN	250			10.00			84	47	63	28	11	01	29.86	30.05
19	BKN	250			10.00		87	62	71	43	11	22	29.68	29.87	19	BKN	250			10.00			77	50	61	39	5	06	29.86	30.05
22	BKN	250			9.00		78	65	70	64	7	22	29.72	29.91	22	SCT	085			10.00			69	57	62	66	0	00	29.91	30.10
SUNRISE: 0501 JUL 16 SUNSET: 1930															SUNRISE: 0505 JUL 22 SUNSET: 1927															
01	BKN	250			8.00		79	66	70	65	7	24	29.73	29.92	01	CLR	NC			10.00			64	56	59	75	0	00	29.90	30.09
04	BKN	250			5.00	HZ	73	67	69	82	3	20	29.73	29.91	04	FEW	080			10.00			63	53	57	70	5	35	29.91	30.10
07	BKN	250			5.00	HZ	76	68	71	76	8	24	29.78	29.96	07	BKN	250			10.00			68	56	61	66	8	02	29.94	30.13
10	BKN	250			6.00	HZ	83	68	73	61	7	25	29.78	29.97	10	SCT	250			10.00			80	58	66	47	8	07	29.96	30.14
13	OVC	250			7.00		90	69	76	50	3	VR	29.76	29.95	13	BKN	250			10.00			82	52	64	35	10	04	29.94	30.13
16	BKN	250			8.00		92	64	73	40	7	26	29.74	29.93	16	BKN	250			10.00			82	51	64	34	13	07	29.92	30.11
19	OVC	200			10.00		76	67	70	74	6	21	29.78	29.97	19	BKN	250			10.00			76	58	65	54	7	12	29.93	30.12
22	OVC	250			8.00		77	69	72	76	5	31	29.82	30.01	22	SCT	200			10.00			69	60	64	73	3	05	29.93	30.12
SUNRISE: 0501 JUL 17 SUNSET: 1930															SUNRISE: 0506 JUL 23 SUNSET: 1926															
01	BKN	200			10.00		72	66	68	82	3	35	29.84	30.03	01	BKN	250			10.00			66	57	61	73	7	02	29.90	30.09
04	SCT	250			10.00		71	66	68	84	0	00	29.85	30.03	04	BKN	200			10.00			67	56	61	68	8	36	29.89	30.08
07	SCT	250			10.00		76	68	71	76	5	36	29.87	30.06	07	BKN	150			10.00			68	57	62	68	8	35	29.92	30.11
10	SCT	250			10.00		86	60	69	42	7	07	29.89	30.07	10	SCT	150			10.00			79	54	64	42	8	04	29.93	30.11
13	SCT	250			10.00		91	62	72	38	5	16	29.87	30.05	13	SCT	150			10.00			84	53	65	34	7	02	29.89	30.08
16	OVC	200			10.00		89	66	74	47	9	11	29.80	29.99	16	SCT	250			10.00			86	51	65	30	5	VR	29.84	30.03
19	OVC	200			5.00	-RA BR	75	71	72	87	10	17	29.83	30.02	19	SCT	100			10.00			78	58	66	50	5	14	29.86	30.04
22	OVC	200			6.00	-RA BR	75	70	72	85	9	24	29.84	30.03	22	FEW	250			10.00			70	60	64	71	3	16	29.89	30.08
SUNRISE: 0502 JUL 18 SUNSET: 1929															SUNRISE: 0507 JUL 24 SUNSET: 1925															
01	BKN	150			6.00	HZ	74	69	71	84	9	24	29.82	30.01	01	FEW	250			10.00			68	62	64	81	8	18	29.90	30.09
04	BKN	150			9.00		74	69	71	84	5	24	29.78	29.97	04	SCT	250			9.00			65	62	63	90	0	00	29.91	30.10
07	OVC	150			7.00		74	70	71	87	8	25	29.80	29.99	07	SCT	200			6.00		BR	67	64	65	90	0	00	29.94	30.12
10	SCT	250			9.00		83	69	74	63	8	26	29.78	29.97	10	BKN	150			10.00			81	60	68	49	6	VR	29.93	30.12
13	OVC	250			10.00		91	65	74	42	11	33	29.74	29.93	13	BKN	200			10.00			84	55	66	37	8	19	29.90	30.09
16	SCT	250			10.00		93	64	74	38	15	27	29.70	29.89	16	BKN	200			10.00			85	56	67	37	13	26	29.88	30.07
19	OVC	250			10.00		89	64	72	44	7	32	29.71	29.90	19	BKN	250			10.00			80	60	67	51	6	26	29.88	30.07
22	BKN	250			9.00		76	67	70	74	6	21	29.73	29.91	22	BKN	250			10.00			74	62	67	66	5	02	29.93	30.12

OBSERVATIONS AT 3-HOURLY INTERVALS

RICHMOND, VA

JULY 2007

KRIC

WBAN # 13740

HOUR (LST)	SKY COVER	CEILING 100's of FT.	SATELLITE		WEATHER	TEMPERATURE °F			WIND		PRESSURE (INCHES, HG)						
			Observation Time (LST)	Eff Cl'd Amt Oktas		VISIBILITY (MILES)	DRY BULB	DEW POINT	WET BULB	RELATIVE HUMIDITY (PCT)	SPEED (MPH)	DIRECTION Tens of Deg	STATION	SEA LEVEL			
SUNRISE: 0507						JUL 25						SUNSET: 1924					
01	BKN	250				73	60	65	64	9	30	29.94	30.13				
04	OVC	200				67	61	63	81	3	18	29.93	30.11				
07	OVC	250				72	62	66	71	0	00	29.97	30.16				
10	OVC	150				76	63	68	64	0	00	29.99	30.18				
13	BKN	250				83	64	71	53	5	22	29.97	30.16				
16	OVC	150				86	66	73	51	6	05	29.93	30.12				
19	SCT	055				83	64	71	53	5	05	29.92	30.11				
22	SCT	100				75	66	69	74	3	14	29.96	30.14				
SUNRISE: 0508						JUL 26						SUNSET: 1924					
01	CLR	NC				70	66	67	87	3	14	29.95	30.14				
04	SCT	200				69	65	66	87	0	00	29.96	30.15				
07	BKN	250				71	66	68	84	3	14	29.98	30.17				
10	OVC	150				83	61	69	48	3	VR	29.98	30.16				
13	BKN	250				87	60	70	40	6	VR	29.94	30.13				
16	SCT	150				88	63	72	43	7	10	29.87	30.06				
19	SCT	250				82	60	68	47	5	12	29.85	30.04				
22	BKN	250				73	65	68	76	5	16	29.87	30.06				
SUNRISE: 0509						JUL 27						SUNSET: 1923					
01	FEW	170				71	67	68	87	0	00	29.86	30.05				
04	BKN	180				70	68	69	93	0	00	29.82	30.01				
07	BKN	250			BR	71	69	70	93	5	20	29.83	30.01				
10	SCT	250				88	65	73	47	5	22	29.80	29.98				
13	SCT	060				91	62	72	38	7	24	29.74	29.93				
16	SCT	250				93	61	72	34	11	24	29.67	29.86				
19	OVC	250			HZ	76	70	72	82	11	35	29.69	29.88				
22	BKN	250			BR	73	69	70	87	0	00	29.72	29.90				
SUNRISE: 0510						JUL 28						SUNSET: 1922					
01	SCT	250				71	66	68	84	7	20	29.69	29.88				
04	BKN	250			BR	69	65	66	87	5	19	29.67	29.86				
07	SCT	250			BR	71	67	68	87	0	00	29.70	29.89				
10	SCT	200				83	69	74	63	3	VR	29.70	29.89				
13	SCT	065				91	64	73	41	0	00	29.67	29.85				
16	BKN	140				86	67	73	53	10	18	29.64	29.83				
19	OVC	250				80	67	71	65	6	33	29.67	29.86				
22	OVC	250				73	69	70	87	5	21	29.69	29.88				
SUNRISE: 0511						JUL 29						SUNSET: 1921					
01	BKN	250				74	68	70	82	0	00	29.68	29.86				
04	BKN	250			BR	71	68	69	90	0	00	29.68	29.87				
07	BKN	250			HZ	74	69	71	84	0	00	29.71	29.90				
10	BKN	250				85	70	75	61	3	VR	29.72	29.91				
13	BKN	250				88	68	74	52	5	16	29.69	29.88				
16	OVC	250			HZ	82	70	74	67	10	02	29.67	29.86				
19	OVC	048			-TSRA BR	71	66	68	84	10	08	29.74	29.93				
22	OVC	150				71	67	68	87	6	16	29.73	29.92				
SUNRISE: 0511						JUL 30						SUNSET: 1920					
01	BKN	150			BR	70	68	69	93	5	03	29.74	29.93				
04	OVC	150			BR	70	68	69	93	0	00	29.73	29.91				
07	BKN	150			BR	71	68	69	90	3	06	29.76	29.95				
10	BKN	250				80	70	73	72	3	07	29.77	29.96				
13	BKN	250				86	70	75	59	8	10	29.74	29.93				
16	BKN	250				83	69	74	63	6	12	29.71	29.90				
19	BKN	250				80	69	73	69	3	19	29.72	29.91				
22	SCT	050				76	70	72	82	0	00	29.77	29.96				

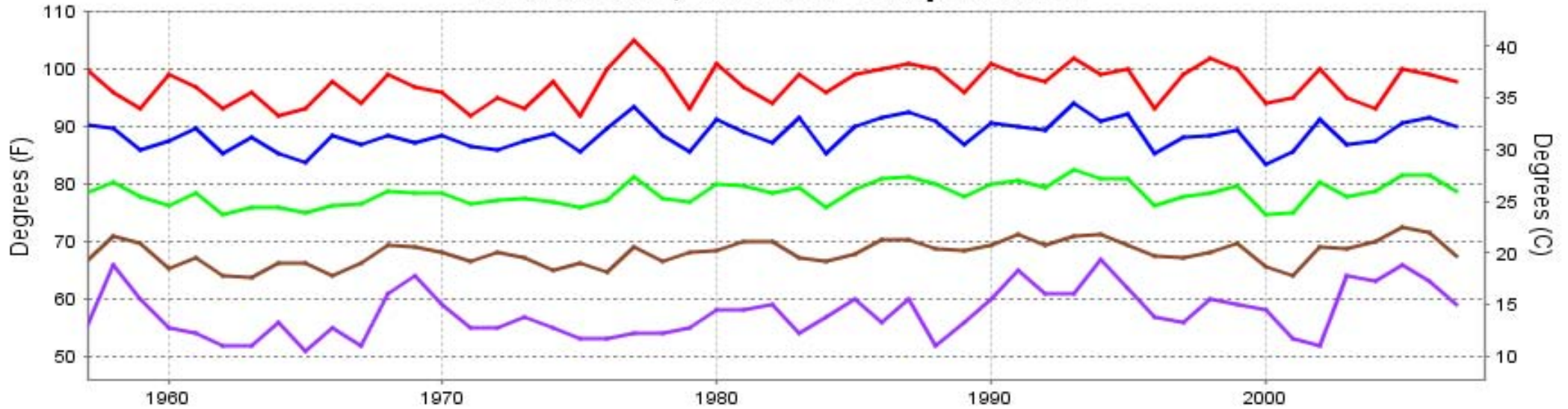
HOUR (LST)	SKY COVER	CEILING 100's of FT.	SATELLITE		WEATHER	TEMPERATURE °F			WIND		PRESSURE (INCHES, HG)						
			Observation Time (LST)	Eff Cl'd Amt Oktas		VISIBILITY (MILES)	DRY BULB	DEW POINT	WET BULB	RELATIVE HUMIDITY (PCT)	SPEED (MPH)	DIRECTION Tens of Deg	STATION	SEA LEVEL			
SUNRISE: 0512						JUL 31						SUNSET: 1919					
01	CLR	NC				73	69	70	87	3	01	29.76	29.95				
04	CLR	NC				71	68	69	90	3	36	29.74	29.93				
07	FEW	015				74	69	71	84	7	06	29.77	29.96				
10	BKN	025				82	68	73	63	13	04	29.78	29.96				
13	SCT	040				86	67	73	53	8	06	29.75	29.94				
16	BKN	250				87	68	74	53	3	34	29.71	29.90				
19	BKN	250				81	69	73	67	0	00	29.72	29.91				
22	BKN	250				77	71	73	82	3	03	29.77	29.96				

3-HOURLY OBSERVATION NOTES
 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, W = Vertical Visibility = 8/8
 Ceiling is reported in hundreds of feet above ground level for clouds at or below 12,000 feet. NC = No Ceiling detected.
 & = Original observation contained additional weather elements.
 See page 3 for additional notes.

SUMMARY BY HOUR

HOUR (LST)	AVERAGES										RESULTANT WIND (MPH)	
	CEILOMETER	EFF CLD AMT	DRY BULB	DEW POINT	WET BULB	RELATIVE HUMIDITY	PRESSURE (Inches, HG)		VISIBILITY (Miles)	WIND SPEED (MPH)	SPEED	DIRECTION
							STATION	SEA LEVEL				
01			71	64	66	77	29.80	29.99	8.71	5	3	24
02			71	64	66	79	29.80	29.98	8.74	4	3	24
03			70	63	66	79	29.79	29.98	8.42	5	3	23
04			70	63	66	80	29.80	29.99	8.35	4	3	23
05			69	63	65	82	29.81	30.00	7.94	5	2	22
06			70	63	66	81	29.82	30.01	7.32	4	2	21
07			72	64	67	75	29.83	30.01	7.87	6	2	22
08			76	64	68	67	29.83	30.01	8.71	7	3	23
09			79	63	69	59	29.83	30.01	9.35	7	2	20
10			82	63	70	53	29.83	30.01	9.42	7	2	19
11			84	62	70	48	29.83	30.01	9.58	8	2	22
12			86	61	70	45	29.82	30.00	9.61	8	2	23
13			87	61	70	43	29.80	29.99	9.61	8	3	23
14			88	61	70	40	29.79	29.97	9.52	9	2	23
15			88	60	70	41	29.78	29.96	9.18	9	2	23
16			86	61	70	46	29.77	29.95	9.16	9	2	22
17			84	61	70	48	29.77	29.95	9.10	7	1	20
18			83	61	69	51	29.77	29.95	9.03	8	1	20
19			80	63	69	58	29.78	29.96	8.79	7	1	19
20			77	64	69	65	29.78	29.97	8.94	4	2	20
21			75	64	68	70	29.80	29.98	8.87	5	2	19
22			74	64	68	74	29.81	29.99	8.87	5	2	22
23			73	64	67	76	29.81	30.00	8.84	4	2	22
24			72	64	67	76	29.81	29.99	8.81	5	3	23

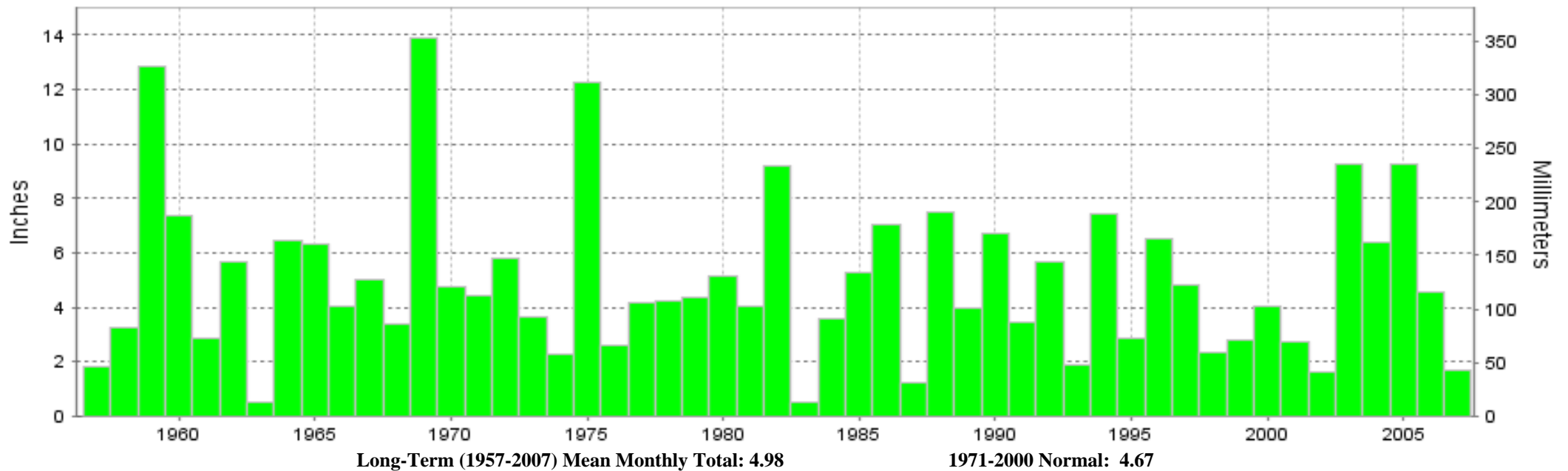
RICHMOND, VA JULY Temperatures



— Extreme Max
 — Mean Max
 — Mean
 — Mean Min
 — Extreme Min

Long-Term (1957-2007) Mean: 78.3
1971-2000 Normal: 77.9

RICHMOND, VA JULY Precipitation



Long-Term (1957-2007) Mean Monthly Total: 4.98

1971-2000 Normal: 4.67



**JULY 2007
RICHMOND, VA**

**LOCAL CLIMATOLOGICAL DATA
NOAA, National Climatic Data Center**

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