

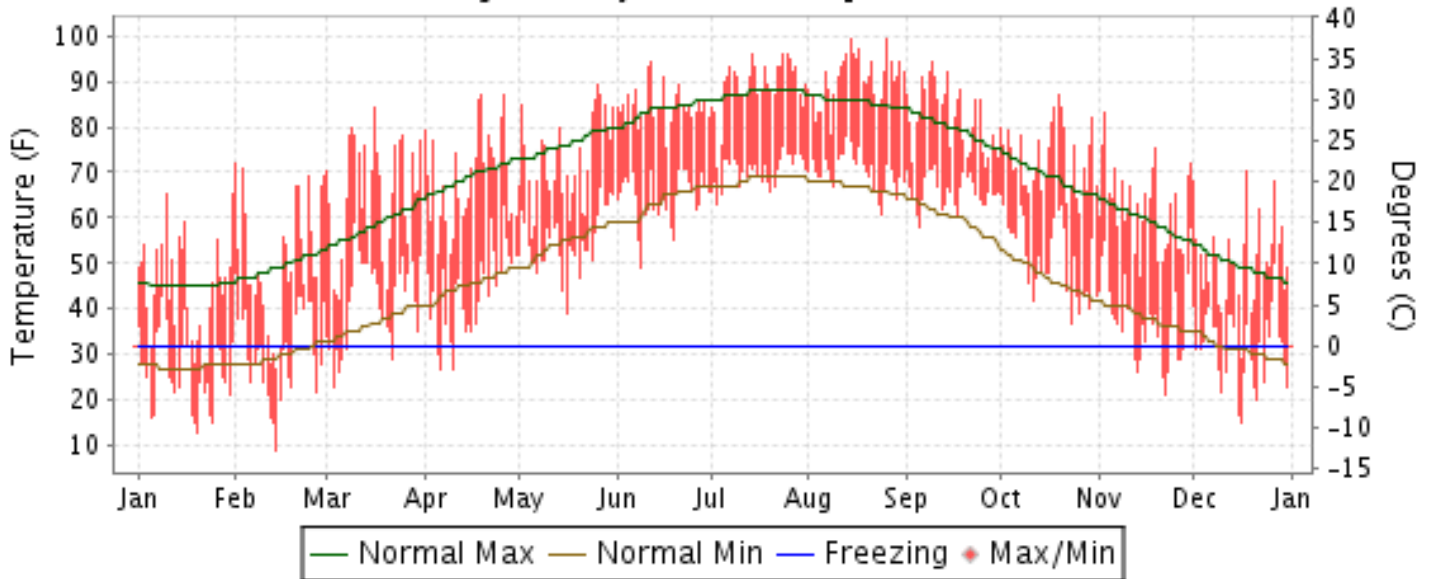


2016 LOCAL CLIMATOLOGICAL DATA ANNUAL SUMMARY WITH COMPARATIVE DATA

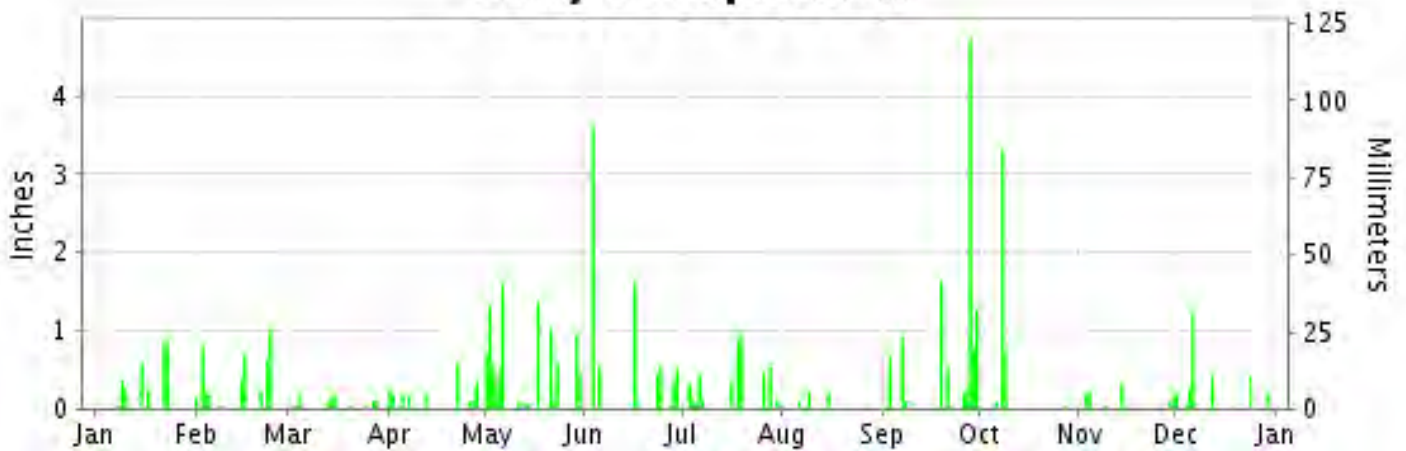
ISSN 0198-5361

RICHMOND, VIRGINIA (KRIC)

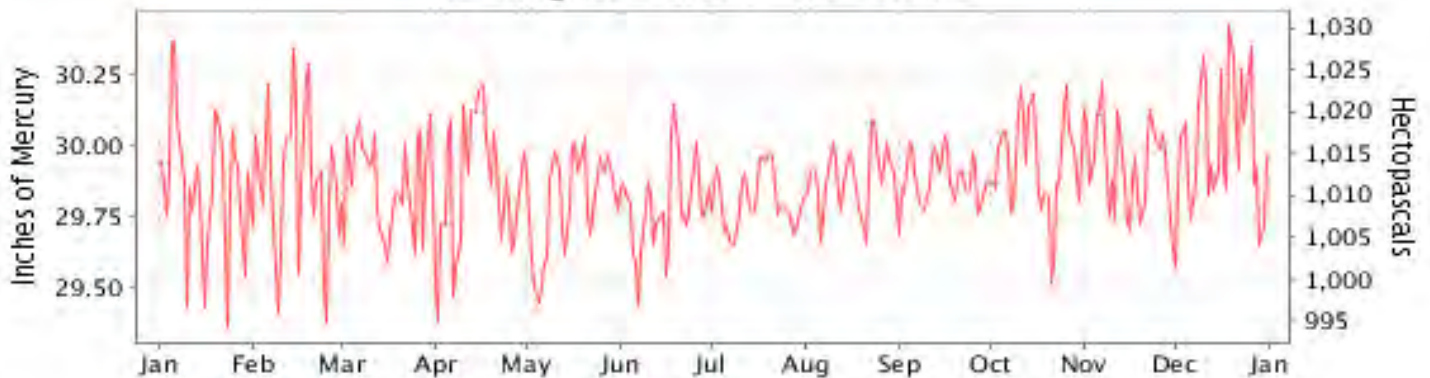
Daily Max/Min Temperature



Daily Precipitation



Daily Station Pressure



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NATIONAL
OCEANIC AND
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NATIONAL
ENVIRONMENTAL SATELLITE, DATA
AND INFORMATION SERVICE

NATIONAL CENTERS for
ENVIRONMENTAL INFORMATION (NCEI)
ASHEVILLE, NORTH CAROLINA

Margaret S. Gress
DIRECTOR
NCEI

METEOROLOGICAL DATA FOR 2016

RICHMOND (KRIC)

LATITUDE:
37° 30'N

LONGITUDE:
77° 19'W

ELEVATION (FT):
GRND: 164 BARO: 167

TIME ZONE:
EASTERN (UTC -5)

WBAN: 13740

ELEMENT		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR	
TEMPERATURE °F	MEAN DAILY MAXIMUM	45.1	50.7	65.2	68.6	72.6	84.5	89.1	90.4	82.0	73.0	62.1	50.5	69.5	
	HIGHEST DAILY MAXIMUM	65	72	84	87	89	94	96	99	94	87	83	70	99	
	DATE OF OCCURRENCE	31+	01	16	26+	26	12	25+	26+	09	19	03	18	AUG 26+	
	MEAN DAILY MINIMUM	26.2	30.9	41.7	44.6	54.9	64.5	70.6	70.3	65.9	51.7	37.5	31.7	49.2	
	LOWEST DAILY MINIMUM	13	9	23	27	39	49	63	61	58	37	21	15	9	
	DATE OF OCCURRENCE	20	14	03	10+	16	09	03	24	05	23	22	16	FEB 14	
	AVERAGE DRY BULB	35.7	40.8	53.4	56.6	63.8	74.5	79.8	80.3	74.0	62.4	49.8	41.1	59.4	
	MEAN WET BULB	31.6	36.2	47.0	49.1	58.8	67.0	73.1	72.3	68.2	56.8	44.5	37.0	53.5	
	MEAN DEW POINT	23.5	28.5	39.6	40.6	55.4	62.2	70.2	69.0	65.4	52.5	38.0	30.0	47.9	
	NUMBER OF DAYS WITH:														
	MAXIMUM >= 90°	0	0	0	0	0	3	16	19	5	0	0	0	0	43
	MAXIMUM <= 32°	4	4	6	0	0	0	0	0	0	0	0	1	15	
MINIMUM <= 32°	24	17	7	3	0	0	0	0	0	0	9	14	74		
MINIMUM <= 0°	0	0	0	0	0	0	0	0	0	0	0	0	0		
H/C	HEATING DEGREE DAYS	901	692	358	269	110	0	0	0	0	136	454	734	3654	
	COOLING DEGREE DAYS	0	0	6	24	79	295	468	482	279	62	4	0	1699	
RH	MEAN (PERCENT)	64	65	63	60	79	69	76	73	79	74	68	68	70	
	HOUR 01 LST	74	75	78	74	90	83	89	89	89	87	80	75	82	
	HOUR 07 LST	73	76	75	64	81	71	80	77	83	82	79	79	77	
	HOUR 13 LST	49	50	45	44	64	52	59	52	64	53	45	53	53	
	HOUR 19 LST	64	62	61	58	81	72	76	75	82	80	72	67	71	
W/O	NUMBER OF DAYS WITH:														
	HEAVY FOG(VISBY <= 1/4 MI)	2	3	1	0	6	2	0	2	2	3	2	2	25	
	THUNDERSTORMS	0	1	0	3	3	6	11	4	6	1	0	0	35	
PR	MEAN STATION PRESS. (IN.)	29.88	29.88	29.86	29.87	29.81	29.78	29.81	29.88	29.88	29.94	29.94	29.99	29.88	
	MEAN SEA-LEVEL PRESS. (IN.)	30.07	30.07	30.06	30.06	30.00	29.97	30.00	30.07	30.08	30.14	30.13	30.19	30.07	
WINDS	RESULTANT SPEED (MPH)	3.5	2.8	2.0	1.7	0.7	1.6	2.3	1.2	2.3	2.3	2.2	2.5	1.3	
	RES. DIR. (TENS OF DEGS.)	30	28	23	24	35	25	22	17	05	34	29	28	28	
	MEAN SPEED (MPH)	9.0	9.0	9.0	9.7	6.3	7.5	6.1	6.3	7.1	7.4	6.3	7.3	7.6	
	PREVAIL.DIR.(TENS OF DEGS.)	19	01	19	20	34	25	20	21	01	01	35	21	01	
	MAXIMUM 2-MINUTE WIND														
	SPEED (MPH)	37	33	30	39	37	41	40	30	25	33	31	37	41	
	DIR. (TENS OF DEGS.)	01	21	25	22	31	32	31	19	32	35	30	29	32	
	DATE OF OCCURRENCE	23	24	02	07	14	16	19	15	06	09	19	29	JUN 16	
	MAXIMUM 3-SECOND WIND:														
	SPEED (MPH)	43	48	38	50	51	60	58	39	35	45	40	45	60	
DIR. (TENS OF DEGS.)	01	26	32	22	31	31	30	18	32	35	29	31	31		
DATE OF OCCURRENCE	23	24	28	07	14	16	19	15	06	09	19	29	JUN 16		
PRECIPITATION	WATER EQUIVALENT:														
	TOTAL (IN.)	3.30	4.35	1.02	2.17	9.79	7.81	4.47	0.53	11.19	4.24	1.08	2.80	52.75	
	GREATEST 24-HOUR (IN.)	1.35	1.04	0.25	0.60	2.12	3.63	1.80	0.23	5.35	3.93	0.41	1.22	5.35	
	DATE OF OCCURRENCE	22-23	23-24	14-15	22	05-06	03	18-19	08-09	28-29	08-09	03-04	06	SEP 28-29	
	NUMBER OF DAYS WITH:														
PRECIPITATION 0.01	9	12	12	11	16	9	13	4	14	6	7	8	121		
PRECIPITATION 0.10	6	9	6	9	13	7	10	2	10	2	5	6	85		
PRECIPITATION 1.00	0	1	0	0	4	2	0	0	3	1	0	1	12		
SNOWFALL	SNOW,ICE PELLETS,HAIL														
	TOTAL (IN.)	12.1	1.8	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.1	
	GREATEST 24-HOUR (IN.)	6.1	1.4	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.1	
	DATE OF OCCURRENCE	22	15	04										JAN 22	
	MAXIMUM SNOW DEPTH (IN.)	9	1	1	0	0	0	0	0	0	0	0	0	9	
	DATE OF OCCURRENCE	24	15	04										JAN 24	
NUMBER OF DAYS WITH:															
SNOWFALL >= 1.0	2	1	0	0	0	0	0	0	0	0	0	0	3		

PRECIPITATION (inches) 2016 RICHMOND (KRIC)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1987	5.53	2.57	1.65	7.31	2.94	6.29	1.20	1.11	4.43	1.25	3.13	2.86	40.27
1988	2.53	3.08	1.98	2.55	4.81	2.25	7.50	2.95	1.74	2.74	4.34	0.79	37.26
1989	1.88	4.34	5.00	4.27	5.02	5.85	4.00	4.89	5.33	3.54	3.00	2.62	49.74
1990	2.84	2.38	2.54	2.81	6.85	0.97	6.74	5.76	1.92	3.90	1.70	3.52	41.93
1991	3.62	1.09	5.87	0.87	0.91	6.24	3.47	3.32	2.69	2.50	0.67	4.53	35.78
1992	1.57	2.89	5.87	2.21	4.95	2.28	5.68	6.40	2.35	1.94	2.62	2.79	41.55
1993	4.48	2.88	7.24	3.23	4.66	1.75	1.91	3.89	2.97	2.23	3.24	3.77	42.25
1994	3.10	4.38	7.92	2.70	2.49	1.73	7.46	2.54	3.99	2.56	3.99	0.95	43.81
1995	3.15	1.14	3.00	1.98	4.33	1.85	2.89	2.59	3.82	5.11	2.87	1.71	34.44
1996	4.65	2.97	2.71	2.88	3.18	4.35	6.51	4.40	6.87	7.18	3.52	4.91	54.13
1997	1.93	3.71	2.96	3.94	1.36	2.21	4.85	1.41	0.82	3.25	5.33	2.36	34.13
1998	6.85	5.76	6.72	4.32	3.72	4.41	2.37	1.89	3.94	0.47	1.30	5.00	46.75
1999	4.70	1.47	4.04	2.60	2.75	6.29	2.77	2.00	16.60	2.25	1.01	1.72	48.20
2000	3.96	1.60	3.67	4.78	3.03	6.07	4.05	8.28	3.60	0.01	1.72	2.38	43.15
2001	2.06	2.55	3.77	2.14	2.03	6.53	2.73	5.08	2.14	0.65	0.17	1.67	31.52
2002	3.58	0.82	4.48	2.33	3.49	1.56	1.63	3.18	2.88	6.09	4.28	3.45	37.77
2003	2.18	4.21	5.92	4.38	8.59	3.87	9.26	4.66	10.12	2.43	3.39	4.28	63.29
2004	1.55	1.87	2.22	3.42	3.06	9.93	6.42	16.30	6.14	1.95	3.27	2.37	58.50
2005	3.42	1.39	3.99	2.05	4.22	1.19	9.28	2.56	0.08	3.74	3.81	5.81	41.54
2006	2.89	1.47	0.20	2.18	3.24	7.85	4.57	5.99	9.52	6.12	6.67	1.42	52.12
2007	3.46	2.06	2.66	3.62	3.69	5.22	1.69	6.81	1.11	3.54	0.80	3.24	37.90
2008	0.96	3.41	3.50	8.32	5.10	3.64	4.05	5.73	5.94	1.32	3.51	4.07	49.55
2009	1.49	0.74	4.26	2.56	3.71	4.32	3.39	4.04	2.46	3.59	9.60	8.16	48.32
2010	3.60	2.82	6.17	1.59	2.62	0.82	1.19	3.92	6.49	2.14	1.27	3.26	35.89
2011	2.48	2.09	4.28	2.63	4.35	3.03	3.63	7.10	8.95	2.79	4.18	2.03	47.54
2012	1.73	3.22	2.51	2.40	2.45	4.27	5.29	3.50	4.08	4.00	0.27	2.83	36.55
2013	5.33	2.60	5.57	2.88	2.50	6.50	5.88	7.61	1.39	4.25	3.06	6.11	53.68
2014	3.28	3.03	3.24	4.05	2.44	3.39	2.63	3.61	1.35	2.63	2.95	3.14	35.74
2015	3.49	3.77	3.78	5.33	1.61	5.91	5.89	2.77	3.43	3.24	3.91	5.94	49.07
2016	3.30	4.35	1.02	2.17	9.79	7.81	4.47	0.53	11.19	4.24	1.08	2.80	52.75
POR= 96 YRS	3.29	2.89	3.66	3.15	3.67	3.87	4.99	4.82	3.75	3.12	2.95	3.22	43.38

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AVERAGE TEMPERATURE (°F) 2016 RICHMOND (KRIC)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1987	34.7	37.0	47.1	54.3	67.3	75.8	81.3	78.5	72.3	52.9	51.3	43.0	58.0
1988	32.3	39.1	47.9	56.0	65.8	72.8	79.9	79.8	68.4	53.6	50.6	39.2	57.1
1989	42.3	39.6	47.9	55.8	64.1	76.1	77.7	75.3	70.8	60.2	49.3	31.3	57.5
1990	46.3	48.0	52.1	57.9	65.8	75.0	79.9	76.3	69.5	63.1	52.6	46.3	61.1
1991	40.2	44.0	50.8	60.2	72.1	75.3	80.7	78.6	71.6	59.9	49.6	44.3	60.6
1992	40.7	42.7	47.2	57.8	61.7	70.8	79.5	73.7	70.3	56.3	50.6	40.9	57.7
1993	41.4	37.8	45.9	55.9	67.7	75.0	82.5	78.5	72.5	58.6	50.9	39.0	58.8
1994	33.4	40.2	48.9	63.2	63.2	78.0	81.1	75.4	69.2	57.6	52.6	45.6	59.0
1995	40.7	38.7	50.2	58.1	65.8	74.1	80.8	78.9	69.1	61.1	44.2	35.6	58.1
1996	34.1	37.8	43.2	57.9	64.8	75.1	76.4	74.3	70.1	58.9	43.2	43.8	56.6
1997	37.7	43.7	49.6	53.6	62.9	71.4	77.8	75.8	70.3	58.9	46.5	39.9	57.3
1998	43.2	44.2	48.5	58.0	67.4	74.0	78.3	78.3	74.2	59.7	49.5	44.2	60.0
1999	42.0	42.2	45.2	57.7	65.5	72.3	79.6	77.9	68.5	57.2	52.9	42.4	58.6
2000	36.3	43.4	52.0	56.4	68.0	75.4	74.7	74.9	67.5	59.7	46.1	33.0	57.3
2001	37.1	42.3	45.2	58.2	65.2	75.0	74.9	78.2	67.8	59.1	54.6	46.0	58.6
2002	42.1	42.7	49.1	60.5	65.4	76.0	80.2	79.3	71.8	60.0	47.7	38.5	59.4
2003	33.7	36.7	49.6	56.9	63.5	72.7	77.8	78.3	70.0	58.1	53.9	39.6	57.6
2004	33.4	38.7	50.0	59.1	73.1	74.5	78.7	75.7	71.6	60.2	52.6	42.4	59.2
2005	40.1	42.1	45.2	58.5	63.4	76.2	81.7	80.6	75.6	61.9	53.1	38.6	59.8
2006	45.1	40.3	49.8	60.2	65.4	74.9	81.5	80.7	69.9	59.8	53.7	47.3	60.7
2007	43.5	35.5	51.7	57.1	67.5	75.8	78.7	80.4	72.6	66.9	49.5	44.0	60.3
2008	40.0	43.5	50.9	59.5	65.5	79.0	79.1	77.2	71.9	58.8	48.9	44.5	59.9
2009	35.3	42.2	46.8	58.9	68.2	75.5	77.0	79.9	70.0	59.0	53.0	39.4	58.8
2010	36.0	35.3	51.9	62.3	70.3	81.1	82.8	79.9	74.6	61.1	50.0	33.3	59.9
2011	34.4	44.8	48.7	61.8	69.1	78.1	82.0	79.0	72.6	59.4	53.5	46.3	60.8
2012	42.7	44.7	58.3	58.6	70.5	74.1	82.7	78.2	70.3	60.4	46.4	46.7	61.1
2013	41.3	40.1	43.4	59.8	66.7	76.7	80.5	75.9	70.8	62.6	48.7	43.8	59.2
2014	33.7	39.8	45.0	59.1	70.0	76.6	79.5	76.4	72.7	62.3	47.1	43.9	58.8
2015	37.3	31.4	47.5	59.5	71.5	77.9	79.2	77.5	74.4	57.6	53.0	52.1	59.9
2016	35.7	40.8	53.4	56.6	63.8	74.5	79.8	80.3	74.0	62.4	49.8	41.1	59.4
POR= 96 YRS	37.9	40.1	48.0	57.7	66.4	74.6	78.4	76.9	70.7	59.4	49.6	40.8	58.4

HEATING DEGREE DAYS (base 65°F) 2016 RICHMOND (KRIC)

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
1987-88	0	0	5	370	409	677	1008	746	527	279	79	32	4132
1988-89	0	0	27	361	425	794	696	709	546	293	108	0	3959
1989-90	0	3	38	181	468	1036	574	472	436	258	50	3	3519
1990-91	0	0	33	146	365	574	762	582	443	193	27	1	3126
1991-92	0	0	25	190	458	637	749	640	545	261	142	10	3657
1992-93	0	0	37	275	427	739	724	757	585	280	24	0	3848
1993-94	0	0	26	213	436	799	973	687	497	130	120	0	3881
1994-95	0	0	11	232	365	595	750	731	453	236	72	1	3446
1995-96	0	0	28	166	620	905	952	782	669	247	122	8	4499
1996-97	0	0	10	193	652	654	840	589	472	337	117	45	3909
1997-98	0	0	19	247	547	771	667	575	536	232	50	7	3651
1998-99	0	0	10	173	457	652	710	631	606	237	60	7	3543
1999-00	0	0	29	249	362	693	882	620	404	257	45	2	3543
2000-01	0	0	61	190	561	983	858	631	605	244	67	0	4200
2001-02	0	0	57	213	312	582	704	616	490	210	101	1	3286
2002-03	0	0	0	214	512	814	962	785	470	257	98	7	4119
2003-04	0	0	13	216	341	779	974	756	461	238	25	1	3804
2004-05	0	0	6	178	370	695	770	634	608	214	102	3	3580
2005-06	0	0	2	150	359	810	612	686	481	173	84	3	3360
2006-07	0	0	16	197	339	543	662	821	421	264	64	0	3327
2007-08	0	0	12	80	458	643	767	620	430	193	63	0	3266
2008-09	0	0	9	218	476	631	913	633	567	226	56	0	3729
2009-10	0	0	5	204	351	787	889	828	399	143	48	0	3654
2010-11	0	0	1	158	442	976	942	559	500	170	35	0	3783
2011-12	0	0	17	197	340	573	685	578	233	222	10	5	2860
2012-13	0	0	11	191	553	559	724	690	664	213	85	0	3690
2013-14	0	0	13	137	490	651	962	700	613	194	20	0	3780
2014-15	0	0	7	128	535	646	851	935	535	181	28	6	3852
2015-16	0	0	0	231	361	403	901	692	358	269	110	0	3325
2016-	0	0	0	136	454	734							

WBAN : 13740

COOLING DEGREE DAYS (base 65°F) 2016 RICHMOND (KRIC)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1987	0	0	0	2	136	329	513	427	227	0	3	0	1637
1988	0	0	3	16	108	269	466	465	137	12	0	0	1476
1989	0	3	24	27	88	341	403	331	218	42	4	0	1481
1990	0	1	43	51	81	312	470	356	177	96	0	2	1589
1991	0	0	10	53	254	316	494	428	227	40	3	0	1825
1992	0	0	0	51	48	192	457	275	202	12	3	0	1240
1993	0	0	0	14	112	307	547	426	261	20	18	0	1705
1994	0	0	5	80	70	396	507	332	142	9	2	2	1545
1995	1	0	0	35	105	281	495	437	157	52	3	0	1566
1996	0	0	0	40	123	315	360	293	173	12	0	0	1316
1997	0	0	4	2	59	244	406	341	182	65	0	0	1303
1998	2	0	32	26	131	282	420	418	292	15	0	12	1630
1999	1	0	0	24	82	231	460	409	140	13	2	0	1362
2000	0	0	5	6	143	320	305	313	141	33	0	0	1266
2001	0	0	0	45	79	307	314	414	149	38	7	0	1353
2002	3	0	6	83	122	340	478	451	213	67	1	0	1764
2003	0	0	0	20	56	246	406	418	172	9	15	0	1342
2004	0	0	3	66	284	293	433	336	210	36	5	0	1666
2005	3	0	0	26	55	346	521	492	328	60	7	0	1838
2006	0	0	17	34	103	308	519	492	171	41	7	3	1695
2007	0	0	16	36	148	332	431	488	247	146	0	0	1844
2008	0	6	1	34	84	425	443	386	224	33	1	1	1638
2009	0	0	8	48	160	322	378	470	160	23	0	0	1569
2010	0	0	0	66	218	490	559	470	295	47	0	0	2145
2011	0	1	1	81	169	398	531	439	250	28	2	0	1900
2012	0	0	33	35	185	285	555	416	180	55	0	0	1744
2013	1	0	0	65	147	358	490	344	194	71	8	4	1682
2014	0	0	2	27	179	355	459	358	244	52	3	0	1679
2015	0	0	0	25	237	401	449	395	292	10	8	8	1825
2016	0	0	6	24	79	295	468	482	279	62	4	0	1699

SNOWFALL (inches) 2016 RICHMOND (KRIC)

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
1988-89	0.0	0.0	0.0	0.0	0.0	1.8	T	13.6	T	T	T	0.0	15.4
1989-90	0.0	0.0	0.0	0.0	1.1	9.9	0.0	T	T	0.2	0.0	0.0	11.2
1990-91	0.0	0.0	0.0	0.0	0.0	T	T	1.9	T	0.0	0.0	0.0	1.9
1991-92	0.0	0.0	0.0	0.0	0.1	T	0.0	0.8	T	T	0.0	0.0	0.9
1992-93	0.0	0.0	0.0	0.0	0.0	0.0	0.5	5.3	3.5	T	0.0	0.0	9.3
1993-94	0.0	0.0	0.0	0.0	0.0	5.1	2.2	1.7	0.7	0.0	T	0.0	9.7
1994-95	0.0	0.0	0.0	0.0	0.0	T	3.1	T	0.8	0.0	0.0	0.0	3.9
1995-96	0.0	0.0	0.0	0.0	T	1.5	16.2	T	T	T	0.0	0.0	
1996-97					T	1.0	0.7	1.0	T	T	0.0	0.0	
1997-98	0.0	0.0	0.0	0.0									
1998-99													
1999-00							15.2	0.2					
2000-01							0.3	2.5	0.5	0.0	0.0	0.0	
2001-02	0.0	0.0	0.0	0.0	0.0	0.0	8.7	T	T	0.0	0.0	0.0	8.7
2002-03	0.0	0.0	0.0	0.0	0.0	0.0	5.0	5.9	6.0	0.1	0.0	0.0	17.0
2003-04	T	0.0	0.0	0.0	0.0	T	4.9	1.4	0.0	0.0	0.0	0.0	6.3
2004-05	0.0	0.0	0.0	0.0	0.0	1.3	2.1	2.0	0.3	0.0	0.0	0.0	5.7
2005-06	0.0	0.0	0.0	0.0	T	4.4	T	3.2	0.9	T	0.0	0.0	8.5
2006-07	0.0	0.0	0.0	0.0	0.0	0.0	T	0.3	0.0	1.0	T	0.0	1.3
2007-08	0.0	0.0	0.0	0.0	0.0	T	0.8	T	T	0.0	0.0	0.0	0.8
2008-09	0.0	0.0	T	0.0	T	T	T	0.3	6.3	0.0	0.0	0.0	6.6
2009-10	0.0	0.0	0.0	0.0	0.0	7.4	10.4	9.8	0.4	0.0	0.0	0.0	28.0
2010-11	0.0	0.0	0.0	0.0	0.0	8.0	2.7	0.1	T	0.0	0.0	0.0	10.8
2011-12	0.0	0.0	0.0	0.0	0.0	0.0	T	4.0	0.5	0.0	0.0	T	4.5
2012-13	0.0	0.0	0.0	0.0	0.0	0.0	3.2	T	5.4	T	0.0	0.0	8.6
2013-	0.0	0.0	0.0	0.0	T	T							
2013-14	0.0	0.0	0.0	0.0	T	T	5.1	5.8	3.6	0.0	0.0	0.0	14.5
2014-15	0.0	0.0	0.0	0.0	T	0.0	0.3	12.2	0.3	0.0	0.0	0.0	12.8
2015-16	0.0	0.0	0.0	0.0	0.0	0.0	12.1	1.8	1.2	0.0	0.0	0.0	15.1
2016-	0.0	0.0	0.0	0.0	0.0	0.0							
POR= 92 YRS	T	0.0	T	0.0	0.4	2.0	4.4	3.6	1.9	0.1	T	T	12.4

WBAN : 13740

REFERENCE NOTES :

<p>PAGE 1: THE TEMPERATURE GRAPH SHOWS NORMAL MAXIMUM AND NORMAL MINIMUM DAILY TEMPERATURES (SOLID CURVES) AND THE ACTUAL DAILY HIGH AND LOW TEMPERATURES (VERTICAL BARS).</p> <p>PAGE 2 AND 3: H/C INDICATES HEATING AND COOLING DEGREE DAYS. RH INDICATES RELATIVE HUMIDITY W/O INDICATES WEATHER AND OBSTRUCTIONS S INDICATES SUNSHINE. PR INDICATES PRESSURE. CLOUDINESS ON PAGE 3 IS THE SUM OF THE CEILOMETER AND SATELLITE DATA NOT TO EXCEED EIGHT EIGHTHS(OKTAS). GENERAL: T INDICATES TRACE PRECIPITATION, AN AMOUNT GREATER THAN ZERO BUT LESS THAN THE LOWEST REPORTABLE VALUE. + INDICATES THE VALUE ALSO OCCURS ON EARLIER DATES. BLANK ENTRIES DENOTE MISSING OR UNREPORTED DATA. ASOS INDICATES AUTOMATED SURFACE OBSERVING SYSTEM. PM INDICATES THE LAST DAY OF THE PREVIOUS MONTH. POR (PERIOD OF RECORD) BEGINS WITH THE JANUARY DATA MONTH AND IS THE NUMBER OF YEARS USED TO COMPUTE THE MEAN. INDIVIDUAL MONTHS WITHIN THE POR MAY BE MISSING. WHEN THE POR FOR A NORMAL IS LESS THAN 30 YEARS, THE NORMAL IS PROVISIONAL AND IS BASED ON THE NUMBER OF YEARS INDICATED. 0.* OR * INDICATES THE VALUE OR MEAN-DAYS-WITH IS BETWEEN 0.00 AND 0.05. CLOUDINESS FOR ASOS STATIONS DIFFERS FROM THE NON-ASOS OBSERVATION TAKEN BY A HUMAN OBSERVER. ASOS STATION CLOUDINESS IS BASED ON TIME-AVERAGED CEILOMETER DATA FOR CLOUDS AT OR BELOW 12,000 FEET CLEAR INDICATES 0 - 2 OKTAS, PARTLY CLOUDY INDICATES 3 - 6 OKTAS, AND CLOUDY INDICATES 7 OR 8 OKTAS. GENERAL CONTINUED: WIND DIRECTION IS RECORDED IN TENS OF DEGREES (2 DIGITS) CLOCKWISE FROM TRUE NORTH. "00" INDICATES CALM. "36" INDICATES TRUE NORTH. RESULTANT WIND IS THE VECTOR AVERAGE OF THE SPEED AND DIRECTION. AVERAGE TEMPERATURE IS THE SUM OF THE MEAN DAILY MAXIMUM AND MINIMUM TEMPERATURE DIVIDED BY 2. SNOWFALL DATA COMPRISE ALL FORMS OF FROZEN</p>	<p>PRECIPITATION, INCLUDING HAIL. A HEATING (COOLING) DEGREE DAY IS THE DIFFERENCE BETWEEN THE AVERAGE DAILY TEMPERATURE AND 65 F. DRY BULB IS THE TEMPERATURE OF THE AMBIENT AIR. DEW POINT IS THE TEMPERATURE TO WHICH THE AIR MUST BE COOLED TO ACHIEVE 100 PERCENT RELATIVE HUMIDITY. WET BULB IS THE TEMPERATURE THE AIR WOULD HAVE IF THE MOISTURE CONTENT WAS INCREASED TO 100 PERCENT RELATIVE HUMIDITY. ON JULY 1, 1996, THE NATIONAL WEATHER SERVICE BEGAN USING THE "METAR" OBSERVATION CODE THAT WAS ALREADY EMPLOYED BY MOST OTHER NATIONS OF THE WORLD. THE MOST NOTICEABLE DIFFERENCE IN THIS ANNUAL PUBLICATION WILL BE THE CHANGE IN UNITS FROM TENTHS TO EIGHTHS(OKTAS) FOR REPORTING THE AMOUNT OF SKY COVER. STATION HISTORY STOPPED WITH THE 2009 ANNUAL. IF YOU NEED STATION HISTORY INFORMATION GO TO "Historical Observing Metadata Repository", URL IS: http://www.ncdc.noaa.gov/homr/ SNOWFALL STOPPED MONTH & YEAR INDICATED ABOVE. NO FURTHER YEARS INCLUDED UNLESS RESTARTED.</p> <p>NOTE:</p> <p>The "Period of Record:(POR)" for all "averages" is based on "Summary of the Day First Order Station" and "Cooperative Summary of the Day" archives.</p>
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2016 RICHMOND VIRGINIA (KRIC)

Richmond is located in east-central Virginia at the head of navigation on the James River and along a line separating the Coastal Plains (Tidewater Virginia) from the Piedmont. The Blue Ridge Mountains lie about 90 miles to the west and the Chesapeake Bay 60 miles to the east. Elevations range from a few feet above sea level along the river to a little over 300 feet in parts of the western section of the city.

The climate might be classified as modified continental. Summers are warm and humid and winters generally mild. The mountains to the west act as a partial barrier to outbreaks of cold, continental air in winter. The cold winter air is delayed long enough to be modified, then further warmed as it subsides in its approach to Richmond. The open waters of the Chesapeake Bay and Atlantic Ocean contribute to the humid summers and mild winters. The coldest weather normally occurs in late December and January, when low temperatures usually average in the upper 20s, and the high temperatures in the upper 40s. Temperatures seldom lower to zero, but there have been several occurrences of below zero temperatures. Summertime high temperatures above 100 degrees are not uncommon, but do not occur every year.

Precipitation is rather uniformly distributed throughout the year. However, dry periods lasting several weeks do occur, especially in autumn when long periods of pleasant, mild weather are most common. There is considerable variability in total monthly amounts from year to year. Snow usually remains on the ground only one or two days at a time. Ice storms (freezing rain or glaze) are not uncommon, but they are seldom severe enough to do any considerable damage. A notable exception was the spectacular glaze storm of January 27-28, 1943, when nearly 1 inch of ice accumulation caused heavy damage to trees and overhead transmission lines.

The James River reaches tidewater at Richmond where flooding may occur in every month of the year, most frequently in March and least in July. Hurricanes and tropical storms have been responsible for most of the flooding during the summer and early fall months. Hurricanes passing near Richmond have produced record rainfalls. In 1955, three hurricanes brought record rainfall to Richmond within a six-week period. The most noteworthy of these were Hurricanes Connie and Diane that brought heavy rains five days apart.

Damaging storms occur mainly from snow and freezing rain in winter and from hurricanes, tornadoes, and severe thunderstorms in other seasons. Damage may be from wind, flooding, or rain, or from any combination of these. Tornadoes are infrequent but some notable occurrences have been observed within the Richmond area.

Based on the 1951-1980 period, the average first occurrence of 32 degrees Fahrenheit in the fall is October 26 and the average last occurrence in the spring is April 10.

Station History

RICHMOND, VA

NAME	Begin Date	End Date	Latitude	Longitude	Elevation Feet	Relocation	Platform
BYRD	1928-08-01	1928-11-30	37° 30'	-77° 19'			AIRWAYS
BYRD	1935-08-01	1935-09-30	37° 30'	-77° 19'			AIRWAYS
BYRD	1937-01-01	1939-03-31	37° 30'	-77° 19'			AIRWAYS
RICHMOND R E BYRD INTL AP	1973-01-01	1981-12-31	37° 30'	-77° 19'	164		COOP, WXSVC
RICHMOND R E BYRD INTL AP	1992-12-10	1995-09-14	37° 31'	-77° 19'	164		COOP
RICHMOND INTERNATIONAL AP	2016-08-16	Present	37° 30'	-77° 19'	164		ASOS, COOP
BYRD	1930-02-01	1930-12-31	37° 30'	-77° 19'			AIRWAYS
RICHMOND BYRD FIELD	1948-01-01	1950-01-01	37° 30'	-77° 19'	167		AIRWAYS, COOP
RICHMOND BYRD FIELD	1950-01-01	1971-01-01	37° 30'	-77° 19'	180		AIRWAYS, COOP
RICHMOND BYRD FIELD	1971-01-01	1971-02-18	37° 30'	-77° 19'	164		AIRWAYS, COOP
RICHMOND R E BYRD INTL AP	1971-02-18	1973-01-01	37° 30'	-77° 19'	164		AIRWAYS, COOP
RICHMOND/BYRD FIELD	1942-01-01	1975-12-31	37° 30'	-77° 19'	177.2		UPPERAIR, BALLOON
RICHMOND R E BYRD INTL AP	1995-09-14	1995-10-01	37° 30'	-77° 19'	164		COOP
BYRD	1940-01-01	1942-09-24	37° 30'	-77° 19'			AIRWAYS
RICHMOND BYRD FIELD	1942-09-24	1942-12-31	37° 30'	-77° 19'			AIRWAYS
RICHMOND INTL AP	2005-03-14	2016-08-16	37° 30'	-77° 19'	164		ASOS, COOP
RICHMOND BYRD FIELD	1946-04-01	1948-01-01	37° 30'	-77° 19'			AIRWAYS
RICHMOND R E BYRD INTL AP	1981-12-31	1992-12-10	37° 30'	-77° 19'	164		COOP
RICHMOND INTL AP	1995-10-01	2005-03-14	37° 30'	-77° 19'	164		ASOS, COOP

Element History

Element	Begin Date	End Date	Frequency	Time Of Observation	Equipment *	Equipment * Modifications	Equipment Exposure
PRECIP	1928-08-01	1942-12-31	HOURLY	UNKN			
PRECIP	1928-08-01	1942-12-31	DAILY	UNKN			
TEMP	1991-01-01	1995-09-14	DAILY	2400	HYGR		
TEMP	1946-04-01	1979-05-01	DAILY	UNKN			
PRECIP	1991-01-01	1995-09-14	HOURLY	2400	UNIV	RCRD	
PRECIP	1995-10-01	2007-03-28	DAILY	2400	PCPNX		
PRECIP	2007-03-28	2011-10-13	DAILY	2400	PCPNX		
WIND	2016-08-16	Present	HOURLY	UNKN	ANEMSONIC		
TEMP	1928-08-01	1942-12-31	DAILY	UNKN			
PRECIP	1995-09-14	1995-10-01	HOURLY	2400	AHTB		
TEMP	2007-03-28	2011-10-13	DAILY	2400	ATEMP		
WIND	2011-10-13	2016-08-16	HOURLY	UNKN	ANEMSONIC		
WIND	1995-10-01	2007-03-28	HOURLY	UNKN	ANEMCUP		
SNOWFALL	2016-08-16	Present	DAILY	2400	SNOWSTICK		
TEMP	1979-05-01	1991-01-01	DAILY	2400	MXMN		
PRECIP	1979-05-01	1991-01-01	DAILY	2400	SRG		
PRECIP	1979-05-01	1991-01-01	HOURLY	2400	TB		
TEMP	1995-10-01	2007-03-28	DAILY	2400	ATEMP		
PRECIP	2016-08-16	Present	DAILY	2400	PCPNX		
PRECIP	2016-08-16	Present	HOURLY	2400	AWPAG	RCRD;HTD	
TEMP	2016-08-16	Present	DAILY	2400	ATEMP		
PRECIP	1995-10-01	2007-03-28	HOURLY	2400	AHTB		
PRECIP	2011-10-13	2016-08-16	DAILY	2400	PCPNX		
SNOWFALL	2016-08-16	Present	DAILY	2400	SNOWBOARD		
PRECIP	1946-04-01	1979-05-01	DAILY	UNKN			
PRECIP	1991-01-01	1995-09-14	DAILY	2400	UNIV	RCRD	
PRECIP	1995-09-14	1995-10-01	DAILY	2400	PCPNX		
PRECIP	2007-03-28	2011-10-13	HOURLY	2400	AHTB		
SNOWDPH	2016-08-16	Present	DAILY	2400	SNOWBOARD		
PRECIP	1946-04-01	1979-05-01	HOURLY	UNKN			
TEMP	1995-09-14	1995-10-01	DAILY	2400	ATEMP		
WIND	2007-03-28	2011-10-13	HOURLY	UNKN	ANEMSONIC		
TEMP	2011-10-13	2016-08-16	DAILY	2400	ATEMP		
PRECIP	2011-10-13	2016-08-16	HOURLY	2400	AHTB	RCRD;HTD	
SNOWDPH	2016-08-16	Present	DAILY	2400	SNOWSTICK		

* For explanation of codes and abbreviations see Station Metadata link below.

Other Station Information can be found at:

ASOS Implementation by NWS: <http://www.nws.noaa.gov/ops2/Surface/asosimplementation.htm>

Station Metadata website: <http://www.ncdc.noaa.gov/homr>

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