

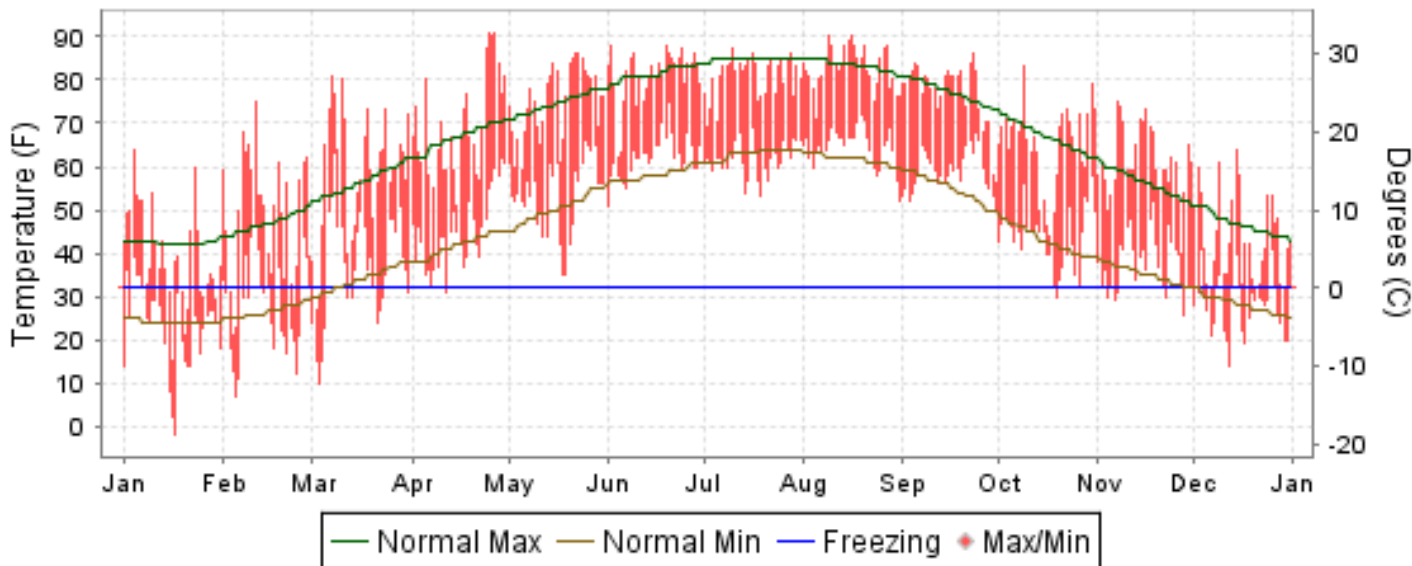


2009 LOCAL CLIMATOLOGICAL DATA ANNUAL SUMMARY WITH COMPARATIVE DATA

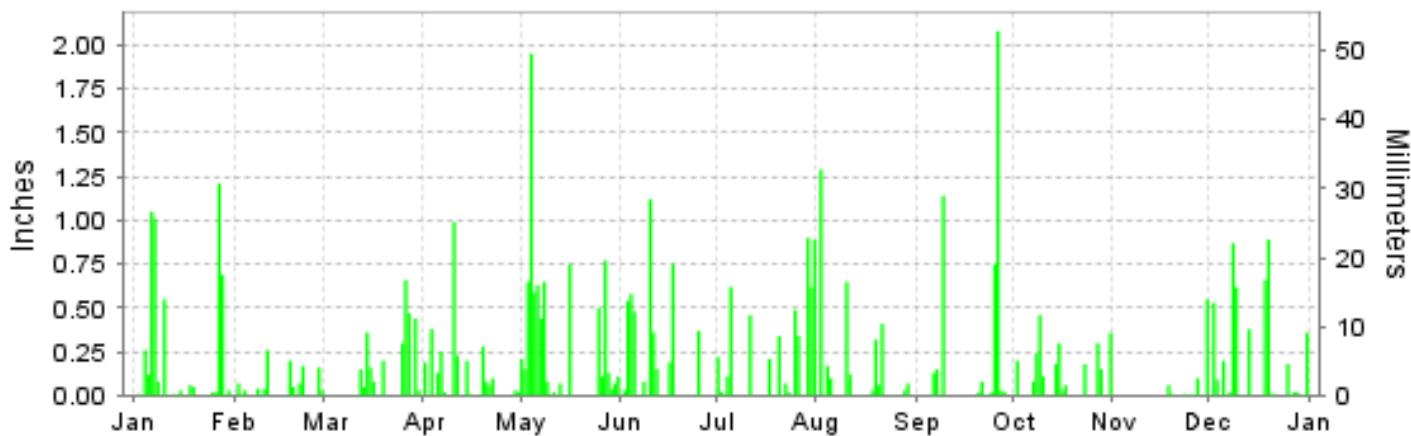
ISSN 0198-5604

CHARLESTON, WEST VIRGINIA (KCRW)

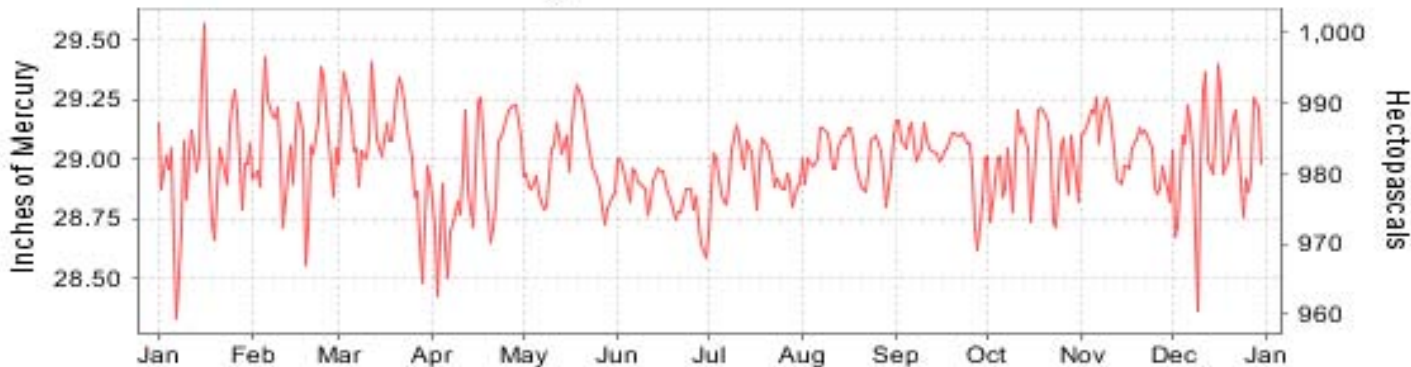
Daily Max/Min Temperature



Daily Precipitation



Daily Station Pressure



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NATIONAL
CLIMATIC DATA CENTER
ASHEVILLE, NORTH CAROLINA

Thomas R. Karl
DIRECTOR
NATIONAL CLIMATIC DATA CENTER

METEOROLOGICAL DATA FOR 2009

CHARLESTON (KCRW)

LATITUDE: 38 ° 22'N LONGITUDE: -81 ° 35'W ELEVATION (FT): GRND: 910 BARO: 1026 TIME ZONE: EASTERN (UTC -5) WBAN: 13866

ELEMENT		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR	
TEMPERATURE °F	MEAN DAILY MAXIMUM	39.5	48.5	58.9	68.6	75.0	81.0	80.7	82.9	77.2	65.1	61.0	43.4	65.2	
	HIGHEST DAILY MAXIMUM	64	75	81	91	86	88	87	90	86	83	75	64	91	
	DATE OF OCCURRENCE	04	11	07	27+	23+	19+	10	16+	23	09	07	14	APR 27+	
	MEAN DAILY MINIMUM	22.9	27.6	36.8	45.2	53.5	62.2	61.8	64.7	58.9	43.9	37.7	28.0	45.3	
	LOWEST DAILY MINIMUM	-2	7	10	31	35	51	53	52	50	30	26	14	-2	
	DATE OF OCCURRENCE	17	05	03	12	19+	01	19	31	30	19	28	12	JAN 17	
	AVERAGE DRY BULB	31.2	38.1	47.9	56.9	64.3	71.6	71.3	73.8	68.1	54.5	49.4	35.7	55.2	
	MEAN WET BULB	27.9	33.3	41.6	48.7	58.6	65.7	65.4	68.2	62.3	49.8	43.5			
	MEAN DEW POINT	22.3	25.9	33.4	40.2	54.5	62.9	62.5	65.8	59.6	46.1	36.9			
	NUMBER OF DAYS WITH:														
	MAXIMUM >= 90°	0	0	0	3	0	0	0	0	2	0	0	0	0	5
	MAXIMUM <= 32°	8	4	2	0	0	0	0	0	0	0	0	0	3	17
	MINIMUM <= 32°	26	18	12	2	0	0	0	0	0	2	9	24	93	
MINIMUM <= 0°	1	0	0	0	0	0	0	0	0	0	0	0	0	1	
H/C	HEATING DEGREE DAYS	1039	746	533	283	98	10	0	1	26	325	460	898	4419	
	COOLING DEGREE DAYS	0	0	8	48	82	214	203	284	125	9	0	0	973	
RH	MEAN (PERCENT)	73	64	62	59	75	78	78	82	80	78	66	72	72	
	HOUR 01 LST	77	72	71	70	90	93	94	96	92	90	79	79	84	
	HOUR 07 LST	80	76	76	72	83	85	87	94	90	88	85	78	83	
	HOUR 13 LST	64	53	51	45	56	61	57	60	59	58	47	60	56	
	HOUR 19 LST	71	57	52	50	71	74	76	83	84	80	59	71	69	
S	PERCENT POSSIBLE SUNSHINE														
W/O	NUMBER OF DAYS WITH:														
	HEAVY FOG(VISBY <= 1/4 MI)	5	0	4	1	6	11	7	17	11	9	1	0	72	
	THUNDERSTORMS	1	2	1	2	7	9	6	5	3	0	0	0	36	
CLOUDNESS	SUNRISE-SUNSET: (OKTAS)														
	CEILOMETER (<= 12,000 FT.)														
	SATELLITE (> 12,000 FT.)														
	MIDNIGHT-MIDNIGHT: (OKTAS)														
	CEILOMETER (<= 12,000 FT.)														
SATELLITE (> 12,000 FT.)															
NUMBER OF DAYS WITH:															
CLEAR															
PARTLY CLOUDY															
CLOUDY															
PR	MEAN STATION PRESS. (IN.)	28.99	29.06	29.07	28.92	28.98	28.85	28.94	29.01	29.03	28.98	29.05	29.03	28.99	
	MEAN SEA-LEVEL PRESS. (IN.)	30.07	30.13	30.13	29.97	30.01	29.88	29.97	30.04	30.07	30.03	30.11	30.10	30.04	
WINDS	RESULTANT SPEED (MPH)	3.6	4.1	1.6	3.4	0.9	1.7	1.8	1.3	0.1	1.0	0.6	2.3	1.8	
	RES. DIR. (TENS OF DEGS.)	25	25	24	24	23	25	24	23	22	24	24	23	25	
	MEAN SPEED (MPH)	5.7	6.7	5.7	6.4	3.9	3.9	3.7	2.5	2.8	3.5	3.5	5.2	4.5	
	PREVAIL.DIR.(TENS OF DEGS.)	24	27	23	27	22	24	24	23	04	23	24	27	24	
	MAXIMUM 2-MINUTE WIND														
	SPEED (MPH)	29	38	32	35	25	29	29	29	29	25	22	46	46	
	DIR. (TENS OF DEGS.)	26	23	24	27	31	31	31	31	10	19	17	25	25	
	DATE OF OCCURRENCE	07	11	29	05	16	10	31	10	09	09	18	09	DEC 09	
	MAXIMUM 3-SECOND WIND:														
	SPEED (MPH)	38	62	46	49	37	46	45	41	43	35	31	74	74	
DIR. (TENS OF DEGS.)	25	24	25	27	24	27	30	32	10	31	26	25	25		
DATE OF OCCURRENCE	07	11	29	05	28	03	31	10	09	09	27	09	DEC 09		
PRECIPITATION	WATER EQUIVALENT:														
	TOTAL (IN.)	5.20	1.13	2.90	2.97	7.92	4.65	5.32	3.25	4.42	2.65	0.74	4.86	46.01	
	GREATEST 24-HOUR (IN.)	1.91	0.28	0.73	1.22	2.23	1.38	1.51	1.29	2.34	0.57	0.55	1.52	2.34	
	DATE OF OCCURRENCE	06-07	10-11	25-26	10-11	03-04	10-11	30-31	02	25-26	09-10	30	18-19	SEP 25-26	
	NUMBER OF DAYS WITH:														
	PRECIPITATION 0.01	16	12	11	15	19	11	15	11	10	13	6	15	154	
PRECIPITATION 0.10	7	3	8	9	14	9	11	7	5	10	2	9	94		
PRECIPITATION 1.00	3	0	0	0	1	1	0	1	2	0	0	0	8		
SNOWFALL	SNOW,ICE PELLETS,HAIL														
	TOTAL (IN.)	14.3	8.0	3.4	T	0.0	0.0	0.0	0.0	0.0	0.0	T	17.2	42.9	
	GREATEST 24-HOUR (IN.)	3.3	3.6	2.3	T	0.0	0.0	0.0	0.0	0.0	0.0	T	10.3	10.3	
	DATE OF OCCURRENCE	27	22	12	21+							27	19	DEC 19	
	MAXIMUM SNOW DEPTH (IN.)	5	4	3	0	0	0	0	0	0	0	0	11	11	
	DATE OF OCCURRENCE	31	01	13									19	DEC 19	
	NUMBER OF DAYS WITH:														
SNOWFALL >= 1.0	4	3	2	0	0	0	0	0	0	0	0	3	12		

NORMALS, MEANS, AND EXTREMES CHARLESTON (KCRW)

LATITUDE: 38 ° 22'N LONGITUDE: -81 ° 35'W ELEVATION (FT): GRND: 910 BARO: 1026 TIME ZONE: EASTERN (UTC -5) WBAN: 13866

	ELEMENT	POR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
TEMPERATURE °F	NORMAL DAILY MAXIMUM	30	42.6	47.0	56.6	66.7	74.6	81.5	84.9	83.5	77.3	67.1	56.4	46.8	65.4
	MEAN DAILY MAXIMUM	61	43.1	46.7	56.0	67.6	75.7	82.6	85.5	84.5	78.5	68.0	56.5	46.3	65.9
	HIGHEST DAILY MAXIMUM	62	79	79	89	94	93	98	104	104	102	93	85	80	104
	YEAR OF OCCURRENCE		1950	2000	1990	1990	2006	1999	1988	2007	1953	2007	1993	1982	AUG 2007
	MEAN OF EXTREME MAXS.	61	67.2	69.3	79.3	86.2	88.9	92.0	93.8	92.9	90.3	83.3	77.0	68.6	82.4
	NORMAL DAILY MINIMUM	30	24.2	26.7	34.0	41.8	50.3	58.3	62.9	61.7	55.0	43.1	35.3	28.2	43.5
	MEAN DAILY MINIMUM	61	25.2	27.2	34.4	43.5	51.8	60.0	64.4	63.4	56.3	44.6	35.8	28.4	44.6
	LOWEST DAILY MINIMUM	62	-16	-12	0	19	26	33	46	41	34	17	6	-12	-16
	YEAR OF OCCURRENCE		1994	1996	1980	1982	1966	1972	1963	1965	1983	1962	1950	1989	JAN 1994
	MEAN OF EXTREME MINS.	61	3.6	7.6	17.0	26.7	35.6	46.3	53.1	52.0	41.3	28.8	18.9	9.3	28.4
	NORMAL DRY BULB	30	33.4	36.9	45.3	54.3	62.4	69.9	73.9	72.6	66.2	55.1	45.9	37.5	54.5
	MEAN DRY BULB	61	34.2	36.9	45.2	55.6	63.8	71.4	75.0	74.0	67.4	56.3	46.1	37.4	55.3
	MEAN WET BULB	26	30.5	32.6	38.8	47.2	56.6	64.9	68.8	67.7	61.0	50.6	41.2	33.7	49.5
	MEAN DEW POINT	26	26.7	27.9	33.7	42.0	53.6	62.3	66.3	65.6	58.7	47.3	36.8	28.9	45.8
	NORMAL NO. DAYS WITH: MAXIMUM >= 90	30	0.0	0.0	0.0	0.4	0.7	4.0	8.4	5.1	1.4	0.0	0.0	0.0	20.0
	MAXIMUM <= 32	30	7.3	4.8	0.8	*	0.0	0.0	0.0	0.0	0.0	0.0	0.2	4.3	17.4
MINIMUM <= 32	30	23.1	19.6	14.2	4.8	0.3	0.0	0.0	0.0	0.0	3.2	12.6	20.2	98.0	
MINIMUM <= 0	30	1.0	0.2	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	1.5	
H/C	NORMAL HEATING DEG. DAYS	30	977	794	604	330	141	19	8	3	62	309	560	837	4644
	NORMAL COOLING DEG. DAYS	30	0	0	7	25	76	182	300	254	114	17	3	0	978
RH	NORMAL (PERCENT)	30	72	69	63	60	70	74	77	78	78	74	70	73	72
	HOURLY 01 LST	30	76	74	69	68	82	87	90	92	91	86	77	76	81
	HOURLY 07 LST	30	79	78	77	77	85	88	91	93	93	89	82	79	84
	HOURLY 13 LST	30	65	60	53	47	53	56	59	60	59	55	57	63	57
	HOURLY 19 LST	30	67	61	53	48	57	63	67	71	74	68	63	67	63
S	PERCENT POSSIBLE SUNSHINE														
W/O	MEAN NO. DAYS WITH: HEAVY FOG(VISBY <= 1/4 MI)	46	3.2	2.3	2.2	2.6	6.4	8.8	11.4	15.3	14.8	9.0	3.2	2.4	81.6
	THUNDERSTORMS	61	0.5	0.9	2.4	4.0	6.9	8.2	9.5	7.2	3.1	1.1	0.8	0.3	44.9
CLOUDNESS	MEAN: SUNRISE-SUNSET (OKTAS)														
	MIDNIGHT-MIDNIGHT (OKTAS)														
	MEAN NO. DAYS WITH: CLEAR	1	1.0				7.0	12.0	1.0	7.0	4.0	6.0		3.0	
	PARTLY CLOUDY														
	CLOUDY	1	8.0	10.0	8.0		12.0	5.0	2.0	1.0	7.0	4.0		14.0	
PR	MEAN STATION PRESSURE(IN)	26	29.04	29.03	28.99	28.94	28.96	28.96	28.96	29.01	29.04	29.07	29.06	29.06	29.01
	MEAN SEA-LEVEL PRES. (IN)	26	30.12	30.10	30.05	29.98	29.99	29.99	30.01	30.04	30.07	30.12	30.12	30.13	30.06
WINDS	MEAN SPEED (MPH)	26	5.7	5.6	5.8	5.7	4.4	3.9	3.6	3.1	3.3	3.6	4.6	5.2	4.5
	PREVAIL.DIR(TENS OF DEGS)	30	24	24	24	25	23	23	23	23	06	24	24	24	24
	MAXIMUM 2-MINUTE: SPEED (MPH)	15	36	38	53	38	36	44	48	38	30	38	38	46	53
	DIR. (TENS OF DEGS)		27	23	30	23	28	30	26	32	25	26	26	25	30
	YEAR OF OCCURRENCE		2008	2009	2008	2006	2001	2004	2007	2006	2008	2003	2006	2009	MAR 2008
	MAXIMUM 3-SECOND SPEED (MPH)	15	52	62	84	51	54	67	76	61	44	51	46	74	84
	DIR. (TENS OF DEGS)		27	24	29	27	28	30	25	31	24	26	27	25	29
	YEAR OF OCCURRENCE		2008	2009	2008	2004	2001	2004	2007	2000	2008	2003	2003	2009	MAR 2008
PRECIPITATION	NORMAL (IN)	30	3.25	3.19	3.90	3.25	4.30	4.09	4.86	4.11	3.45	2.67	3.66	3.32	44.05
	MAXIMUM MONTHLY (IN)	62	9.11	7.46	8.35	6.46	8.76	10.56	13.54	10.45	7.69	6.49	9.12	8.02	13.54
	YEAR OF OCCURRENCE		1950	2003	1997	1965	2001	1998	1961	1958	2004	1983	2003	1978	JUL 1961
	MINIMUM MONTHLY (IN)	62	1.09	0.64	1.30	0.50	0.84	0.70	1.98	0.66	0.65	0.09	0.64	0.45	0.09
	YEAR OF OCCURRENCE		1981	1968	1987	1976	1977	1966	1993	1957	1959	1963	1965	1965	OCT 1963
	MAXIMUM IN 24 HOURS (IN)	62	2.45	2.71	2.86	2.72	3.31	2.73	5.60	4.17	4.17	2.48	3.66	2.47	5.60
	YEAR OF OCCURRENCE		1994	2003	1967	1948	1982	2003	1961	1958	2004	1961	2003	1978	JUL 1961
	NORMAL NO. DAYS WITH: PRECIPITATION >= 0.01	30	15.8	14.0	14.7	13.6	13.8	12.4	12.4	11.1	10.0	9.5	12.4	14.5	154.2
	PRECIPITATION >= 1.00	30	0.4	0.3	0.7	0.3	0.8	1.0	1.2	1.0	0.8	0.4	0.8	0.4	8.1
SNOWFALL	NORMAL (IN)	30	13.4	9.7	6.6	1.3	0.*	0.0	0.0	0.0	0.0	0.1	2.0	5.3	38.4
	MAXIMUM MONTHLY (IN)	54	39.5	21.8	20.4	20.7	0.6	T	T	T	T	2.8	25.8	21.9	39.5
	YEAR OF OCCURRENCE		1978	1964	1993	1987	1989	1994	1990	2008	2006	1961	1950	1995	JAN 1978
	MAXIMUM IN 24 HOURS (IN)	54	15.8	11.2	17.1	11.3	0.6	T	T	T	T	2.8	15.1	11.2	17.1
	YEAR OF OCCURRENCE		1978	1983	1993	1987	1989	1994	1990	1989	1994	1961	1950	1967	MAR 1993
	MAXIMUM SNOW DEPTH (IN)	49	23	13	9	17	T	0	0	0	0	2	19	11	23
	YEAR OF OCCURRENCE		1978	1985	1980	1987	1989					1961	1950	2009	JAN 1978
	NORMAL NO. DAYS WITH: SNOWFALL >= 1.0	30	3.6	2.9	2.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.8	2.1	11.6

PRECIPITATION (inches) 2009 CHARLESTON (KCRW)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1980	2.85	2.25	5.32	4.49	2.67	2.17	8.47	10.32	2.37	2.03	3.02	1.85	47.81
1981	1.09	4.59	1.80	4.04	3.78	6.46	3.02	2.24	2.36	2.43	1.29	2.71	35.81
1982	3.74	3.23	4.96	1.14	6.19	7.00	2.68	2.65	2.58	1.65	4.65	2.71	43.18
1983	1.24	2.72	3.15	3.96	5.98	2.77	4.19	2.54	1.33	6.49	4.80	3.19	42.36
1984	1.67	2.56	2.72	4.00	3.71	2.56	4.37	4.57	2.95	3.28	4.73	3.78	40.90
1985	3.07	2.32	4.23	1.84	5.88	3.07	3.22	2.02	0.71	3.65	8.45	2.71	41.17
1986	2.12	4.35	1.87	1.39	4.86	2.36	7.61	4.71	3.51	2.20	6.88	3.89	45.75
1987	3.23	3.34	1.30	4.05	2.49	3.38	4.23	3.56	3.89	1.10	2.71	4.13	37.41
1988	1.62	2.50	2.71	2.17	2.59	0.94	3.00	2.86	3.46	1.87	5.02	2.66	31.40
1989	2.92	6.05	5.81	4.13	6.79	7.54	3.04	5.62	7.28	4.09	2.87	1.83	57.97
1990	2.86	3.74	1.94	2.89	4.87	3.01	5.35	2.54	4.26	3.51	2.07	7.01	44.05
1991	2.68	2.98	6.07	3.49	1.47	2.49	2.84	2.95	5.51	1.10	5.00	5.89	42.47
1992	1.94	2.72	4.79	2.93	4.66	3.21	6.41	4.41	1.38	0.94	3.15	3.50	40.04
1993	1.87	2.98	6.68	1.78	1.98	5.01	1.98	2.71	5.99	3.50	3.95	3.23	41.66
1994	6.42	5.56	7.73	3.78	3.98	4.43	3.71	6.20	1.95	1.13	1.95	2.52	49.36
1995	6.02	2.98	2.73	2.59	6.15	4.93	2.91	5.81	2.70	2.61	3.31	2.79	45.53
1996	5.18	2.82	4.32	3.77	7.40	3.59	8.50	2.82	7.37	2.49	4.36	2.04	54.66
1997	1.76	1.76	8.35	2.77	3.60	5.24	5.83	4.14	1.94	0.84	2.96	1.57	40.76
1998	3.43	4.23	3.41	4.77	5.27	10.56	3.65	3.70	2.50	1.67	1.89	3.18	48.26
1999	4.81	2.67	3.70	2.20	1.90	1.30	5.37	2.97	1.81	3.43	4.53	2.55	37.24
2000	1.41	4.25	2.26	4.67	4.75	3.38	6.06	4.35	2.87	0.87	1.27	2.10	38.24
2001	2.43	1.90	3.28	1.30	8.76	4.19	10.06	2.74	1.85	1.36	1.43	2.47	41.77
2002	3.15	0.89	5.92	4.49	4.86	3.61	3.67	1.72	3.24	6.11	4.12	2.94	44.72
2003	1.79	7.46	1.78	3.40	4.99	9.93	5.89	6.53	4.77	2.46	9.12	2.89	61.01
2004	3.74	2.38	4.45	4.96	8.09	5.70	3.73	3.92	7.69	3.48	4.29	2.91	55.34
2005	3.04	3.12	3.51	4.43	3.01	3.35	4.91	5.62	1.07	3.34	3.56	2.65	41.61
2006	3.85	1.20	1.90	3.85	1.68	3.72	8.44	5.78	4.56	4.37	2.07	1.99	43.41
2007	2.66	1.50	4.49	3.81	2.12	1.10	5.18	2.82	1.34	3.64	3.13	5.64	37.43
2008	2.43	4.62	4.44	3.21	6.12	5.46	5.16	2.97	1.16	1.92	2.71	5.08	45.28
2009	5.20	1.13	2.90	2.97	7.92	4.65	5.32	3.25	4.42	2.65	0.74	4.86	46.01
POR= 61 YRS	3.38	3.16	3.93	3.37	4.17	3.86	5.14	3.96	3.21	2.67	3.32	3.30	43.47

WBAN : 13866

AVERAGE TEMPERATURE (°F) 2009 CHARLESTON (KCRW)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1980	34.1	29.7	42.0	53.3	63.6	68.8	76.6	76.3	69.8	53.6	43.2	36.3	53.9
1981	28.0	37.2	41.4	59.1	60.4	73.2	75.7	72.8	66.5	54.2	45.3	34.6	54.0
1982	29.8	36.1	47.2	51.5	68.6	68.8	76.2	71.1	65.9	57.7	49.0	44.8	55.6
1983	34.0	37.7	47.0	52.1	61.1	71.6	77.0	78.0	68.4	58.1	47.4	32.0	55.4
1984	30.6	41.5	41.1	54.2	61.4	75.3	73.2	74.9	65.4	64.4	44.6	46.9	56.1
1985	27.2	34.0	49.4	60.8	66.3	71.0	75.8	74.0	69.6	62.3	55.5	33.8	56.6
1986	34.1	40.5	47.1	57.9	65.3	72.2	77.2	71.9	69.5	57.9	46.4	36.4	56.4
1987	33.0	37.2	47.0	52.7	68.4	73.5	77.1	77.0	67.1	50.3	49.0	39.8	56.0
1988	31.1	35.2	46.1	54.1	63.2	71.0	78.6	77.4	66.6	49.3	47.0	37.4	54.8
1989	41.1	34.9	47.8	52.8	59.4	71.7	75.7	73.2	67.0	56.7	46.4	26.0	54.4
1990	42.3	45.2	51.7	55.1	62.9	72.3	75.8	74.1	68.7	58.2	50.7	43.6	58.4
1991	36.5	40.3	47.4	60.3	71.7	73.9	77.9	75.2	68.4	59.1	45.8	41.3	58.2
1992	35.6	41.8	45.4	55.7	61.2	68.8	76.0	70.9	67.4	54.1	47.4	37.9	55.2
1993	40.2	34.0	41.8	55.0	64.9	71.4	79.0	76.4	66.6	55.1	47.1	36.6	55.7
1994	28.1	38.7	45.3	60.5	59.7	74.2	76.1	72.4	65.4	54.8	50.6	41.2	55.6
1995	34.7	34.0	46.9	55.2	61.9	71.4	76.4	77.6	64.6	56.9	40.8	32.5	54.4
1996	32.1	35.5	39.6	54.0	64.7	71.9	71.6	72.8	65.9	55.8	40.2	41.4	53.8
1997	35.6	43.8	47.1	50.8	58.7	70.1	74.5	70.8	65.0	55.1	42.2	36.5	54.2
1998	41.0	42.0	45.9	55.4	65.8	70.3	73.7	73.9	70.2	56.1	46.7	40.4	56.8
1999	38.3	39.4	40.1	58.5	64.0	72.9	79.1	72.3	65.8	54.8	48.9	38.2	56.0
2000	32.1	43.2	49.2	54.1	66.0	72.3	71.3	71.8	65.7	57.7	43.3	28.6	54.6
2001	33.2	40.6	40.3	59.1	64.0	70.6	72.4	74.8	64.6	55.1	50.4	42.3	55.6
2002	38.4	38.1	45.7	57.8	60.5	72.8	76.3	75.9	71.2	57.0	43.9	37.6	56.3
2003	28.2	33.9	48.6	57.4	62.2	67.6	73.2	74.4	65.1	54.8	49.7	36.3	54.3
2004	30.9	36.8	48.1	55.8	69.0	70.8	74.5	71.7	68.4	58.9	50.0	37.8	56.1
2005	38.4	39.7	41.7	56.3	59.8	73.9	77.1	77.7	70.4	57.6	48.3	33.4	56.2
2006	43.2	36.1	45.1	59.8	61.7	70.1	75.9	76.9	64.6	54.9	48.0	42.4	56.6
2007	38.8	28.2	51.5	54.1	67.1	73.8	74.0	79.4	70.9	62.6	46.1	41.1	57.3
2008	34.7	38.0	46.3	57.3	61.3	73.2	74.2	72.8	70.9	55.7	43.3	38.2	55.5
2009	31.2	38.1	47.9	56.9	64.3	71.6	71.3	73.8	68.1	54.5	49.4	35.7	55.2
POR= 61 YRS	34.2	36.9	45.2	55.6	63.8	71.4	75.0	74.0	67.4	56.3	46.1	37.4	55.3

HEATING DEGREE DAYS (base 65°F) 2009 CHARLESTON (KCRW)

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
1980-81	0	0	33	356	650	882	1138	774	727	207	175	2	4944
1981-82	0	1	76	335	585	936	1086	801	545	405	36	2	4808
1982-83	1	2	69	268	480	626	955	757	554	388	153	16	4269
1983-84	4	0	66	227	521	1019	1059	674	734	346	171	5	4826
1984-85	1	0	98	74	613	563	1164	860	488	192	54	18	4125
1985-86	0	0	51	127	294	960	954	679	554	249	83	7	3958
1986-87	0	23	23	255	550	880	989	770	549	374	63	4	4480
1987-88	0	0	37	447	473	774	1043	859	577	326	112	38	4686
1988-89	2	0	37	484	534	849	735	837	536	367	221	2	4604
1989-90	0	7	72	270	553	1203	697	549	446	323	111	8	4239
1990-91	0	0	59	230	428	655	876	685	558	192	21	1	3705
1991-92	0	0	80	229	576	729	904	670	602	319	170	24	4303
1992-93	0	1	67	335	522	834	760	862	713	306	73	24	4497
1993-94	0	0	64	307	540	873	1136	732	607	191	197	3	4650
1994-95	0	4	34	308	424	729	932	861	555	306	138	7	4298
1995-96	0	0	72	262	721	999	1008	848	779	357	105	4	5155
1996-97	2	0	59	278	743	727	908	592	547	429	213	23	4521
1997-98	0	6	53	324	676	877	733	639	626	283	60	38	4315
1998-99	0	0	29	290	541	758	821	711	763	213	74	13	4213
1999-00	0	1	56	312	475	821	1014	627	490	320	51	14	4181
2000-01	0	0	94	250	644	1122	978	681	759	249	82	13	4872
2001-02	0	0	95	309	433	699	822	748	591	256	198	0	4151
2002-03	0	0	14	280	624	843	1135	865	503	244	106	34	4648
2003-04	0	0	61	312	451	883	1053	811	523	293	43	6	4436
2004-05	0	5	21	187	446	837	820	702	713	259	180	2	4172
2005-06	0	0	11	245	502	974	667	806	611	181	161	10	4168
2006-07	0	0	74	318	502	695	808	1022	441	351	64	0	4275
2007-08	0	0	28	163	562	735	932	777	572	245	132	0	4146
2008-09	0	0	3	295	644	823	1039	746	533	283	98	10	4474
2009-	0	1	26	325	460	898							

WBAN : 13866

COOLING DEGREE DAYS (base 65°F) 2009 CHARLESTON (KCRW)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1980	0	0	0	6	71	147	370	358	182	9	0	0	1143
1981	0	0	2	38	41	256	340	251	126	5	0	0	1059
1982	0	0	0	6	154	122	355	196	101	47	5	6	992
1983	0	0	2	6	39	222	385	407	177	18	0	0	1256
1984	0	0	0	27	64	318	261	312	116	65	7	8	1178
1985	0	0	9	72	105	204	339	285	194	52	14	0	1274
1986	0	0	4	41	100	227	384	244	167	43	0	0	1210
1987	0	0	0	13	177	268	381	379	108	0	2	0	1328
1988	0	0	3	9	64	225	430	392	91	4	3	0	1221
1989	0	0	11	6	55	211	339	273	140	23	2	0	1060
1990	0	0	41	33	54	232	342	286	174	28	7	0	1197
1991	0	0	17	60	236	273	408	324	190	53	5	0	1566
1992	0	0	2	47	57	143	347	192	145	4	0	0	937
1993	0	0	0	14	76	222	444	364	119	7	8	0	1254
1994	0	0	4	62	37	288	353	240	51	0	1	0	1036
1995	1	0	1	20	51	209	363	401	69	23	2	0	1140
1996	0	0	0	34	105	214	213	247	93	2	5	0	913
1997	1	5	0	11	23	182	302	195	61	23	0	0	803
1998	0	0	39	3	93	205	275	283	194	20	0	4	1116
1999	0	0	0	24	48	254	443	236	89	1	0	0	1095
2000	0	0	5	3	93	241	201	218	122	27	0	0	910
2001	0	0	0	80	56	185	235	310	93	12	0	0	971
2002	0	0	0	48	64	241	360	344	208	42	0	0	1307
2003	0	0	1	22	26	120	260	297	72	1	1	0	800
2004	1	0	8	22	173	188	303	219	131	7	3	0	1055
2005	0	0	0	6	23	278	383	400	182	24	8	0	1304
2006	0	0	2	31	65	168	345	373	68	11	0	0	1063
2007	0	0	29	31	134	269	283	454	209	97	0	0	1506
2008	0	0	0	20	25	254	294	252	188	12	0	0	1045
2009	0	0	8	48	82	214	203	284	125	9	0	0	973

SNOWFALL (inches) 2009 CHARLESTON (KCRW)

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
1980-81	0.0	0.0	0.0	T	0.5	2.6	9.1	6.8	7.5	T	0.0	0.0	26.5
1981-82	0.0	0.0	0.0	T	0.5	8.2	12.1	6.4	7.4	1.0	0.0	0.0	35.6
1982-83	0.0	0.0	0.0	0.0	T	2.9	5.8	15.0	5.2	0.1	0.0	0.0	29.0
1983-84	0.0	0.0	0.0	0.0	0.3	3.8	12.8	9.7	2.4	0.0	0.0	0.0	29.0
1984-85	0.0	0.0	0.0	0.0	T	3.7	17.6	20.1	0.9	1.7	0.0	0.0	44.0
1985-86	0.0	0.0	0.0	0.0	0.0	8.9	13.1	17.7	3.7	T	0.0	0.0	43.4
1986-87	0.0	0.0	0.0	0.0	0.2	0.1	16.3	9.7	3.9	20.7	0.0	0.0	50.9
1987-88	0.0	0.0	0.0	T	2.4	5.7	8.3	7.8	4.6	T	0.0	0.0	28.8
1988-89	0.0	0.0	0.0	T	T	6.9	1.7	4.6	T	1.4	0.6	0.0	15.2
1989-90	0.0	T	T	T	2.0	14.1	11.0	3.8	6.6	1.1	0.0	0.0	38.6
1990-91	T	0.0	0.0	0.0	0.0	1.2	3.5	6.5	5.3	T	0.0	0.0	16.5
1991-92	0.0	0.0	0.0	0.0	4.1	0.7	5.6	1.1	8.6	3.6	T	T	23.7
1992-93	0.0	0.0	0.0	T	2.5	3.7	0.4	12.0	20.4	T	0.0	T	39.0
1993-94	0.0	0.0	0.0	1.5	0.4	12.4	34.2	7.0	3.1	0.0	0.0	T	58.6
1994-95	0.0	0.0	T	0.0	T	T	9.1	7.9	8.7	0.0	0.0	0.0	25.7
1995-96	0.0	0.0	0.0	0.0	13.6	21.9	35.1	14.2	20.4	0.8	0.0	T	106.0
1996-97	0.0	0.0	0.0										
1997-98													
1998-99													
1999-00													
2000-01													
2001-02													
2002-03													
2003-04													
2004-05						4.8	6.8	6.0	8.8	0.7	0.0	0.0	
2005-06	0.0	0.0	0.0	0.0	0.9	4.7	3.1	8.5	0.5	T	0.0	0.0	17.7
2006-07	0.0	0.0	T	T	T	0.4	4.0	9.4	2.4	0.8	0.0	0.0	17.0
2007-08	0.0	0.0	0.0	0.0	0.0	3.6	7.0	7.8	3.9	0.0	0.0	0.0	22.3
2008-09	0.0	T	0.0	T	1.3	4.7	14.3	8.0	3.4	T	0.0	0.0	31.7
2009-	0.0	0.0	0.0	0.0	T	17.2							
POR= 61 YRS	T	T	T	0.1	1.9	4.7	9.1	7.6	4.7	0.7	T	T	28.8

WBAN : 13866

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).</p> <p>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. NORMALS ARE 30-YEAR AVERAGES (1971 - 2000). 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 AND ON SATELLITE DATA FOR CLOUDS ABOVE 12,000 FEET. THE NUMBER OF DAYS WITH CLEAR, PARTLY CLOUDY, AND CLOUDY CONDITIONS FOR ASOS STATIONS IS THE SUM OF THE CEILOMETER AND SATELLITE DATA FOR THE SUNRISE TO SUNSET PERIOD. CLEAR INDICATES 0 - 2 OKTAS, PARTLY CLOUDY INDICATES 3 - 6 OKTAS, AND CLOUDY INDICATES 7 OR 8 OKTAS. WHEN AT LEAST ONE OF THE ELEMENTS (CEILOMETER OR SATELLITE) IS MISSING, THE DAILY CLOUDINESS IS NOT COMPUTED.</p>	<p>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 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 HISTORY GO TO "MULTI-NETWORK METADATA SYSTEM", URL IS: https://mi3.ncdc.noaa.gov/mi3qry/login.cfm</p> <p>NOTE: The "Period of Record:(POR) for all "averages" is based on the "Summary of the Day First Order Station" and "Cooperative Summary of the Day" archives.</p>
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2009 CHARLESTON WEST VIRGINIA (KCRW)

Charleston lies at the junction of the Kanawha and Elk Rivers in the western foothills of the Appalachian Mountains. The main urban and business areas have developed along the two river valleys, while some residential areas are in nearby valleys and on the surrounding hills. The hilltops are around 1,100 feet above sea level, about 500 feet higher than the valleys. The Kanawha Airport is just over 2 miles northeast of the center-city area, on an artificial plateau constructed from several hilltops.

Weather records are maintained at the Kanawha Airport by National Weather Service personnel. This site tends to be slightly cooler than the river valleys during the afternoons. Conversely, the valleys can become cooler than the hilltops during clear, calm nights. The weather at Charleston is highly changeable, especially from mid-autumn through the spring.

Winters can vary greatly from one season to the next. Snow does not favor any given winter month, heavy snowstorms are infrequent, and most snowfalls are in the 4-inch or less category. Snow and ice usually do not persist on valley roads, but can linger longer on nearby hills and outlying rural roads.

Afternoon temperatures in the 40s and morning readings in the 20s are common during the winter. Yet, every winter typically has two or three extended cold spells when temperatures stay below freezing for a few consecutive days. Northwesterly winds are associated with the cold weather. Air reaching Charleston from the northwest can cause cloudiness and flurries, even when there is no nearby organized storm system. Winter conditions are much more severe over the higher mountains less than 50 miles to the northeast through the southeast. Temperatures warm rapidly in the spring and are accompanied by low daytime humidities.

Summer and early autumn have more day-to-day consistency in the weather. Sunshine is more abundant than in winter. Summer precipitation falls mostly in brief, but sometimes heavy, showers. Flash flooding can occur along small streams, but flooding is rare on the dam-controlled Kanawha and Elk Rivers.

Afternoon summer temperatures are mostly in the 80s. Readings above 95 degrees are rare. However, during a hot spell, haze and humidity can add to the unpleasantness and indoor air conditioning is recommended. Cooler and less humid air often penetrates the area from the north to end a hot spell.

Early morning fog is common from late June into October. Industrial and vehicular pollutants can contribute to limited visibility any time of the year, especially when cooler air becomes trapped in the valleys. Autumn foliage is generally at its peak during the second and third weeks of October. By the end of October, the first 32 degree temperature has usually arrived.

Ample precipitation is well distributed throughout the year. July is quite often the wettest month of the year, while October averages the least rain. Droughts severe enough to limit water use are scarce. Any dry spells during the spring or autumn can cause conditions favorable for brush fires in outlying areas.

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