

1999

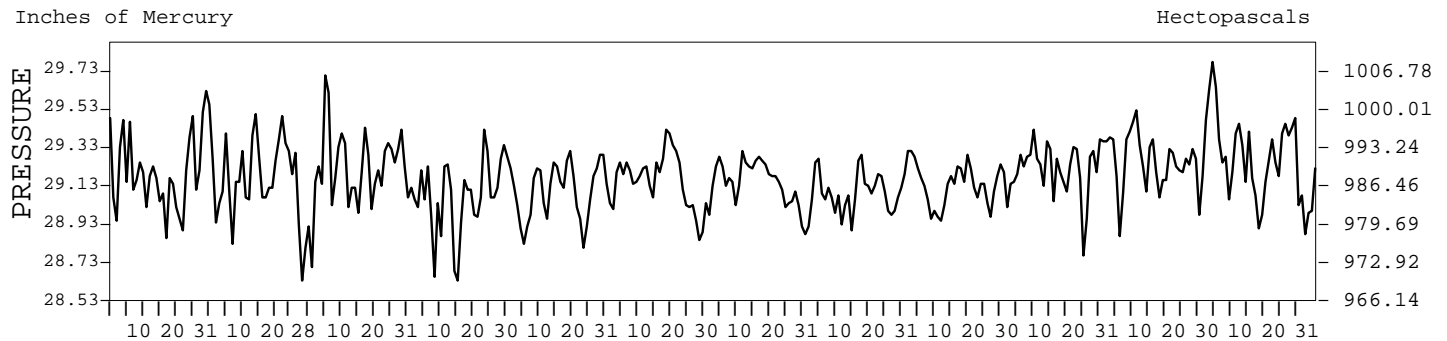
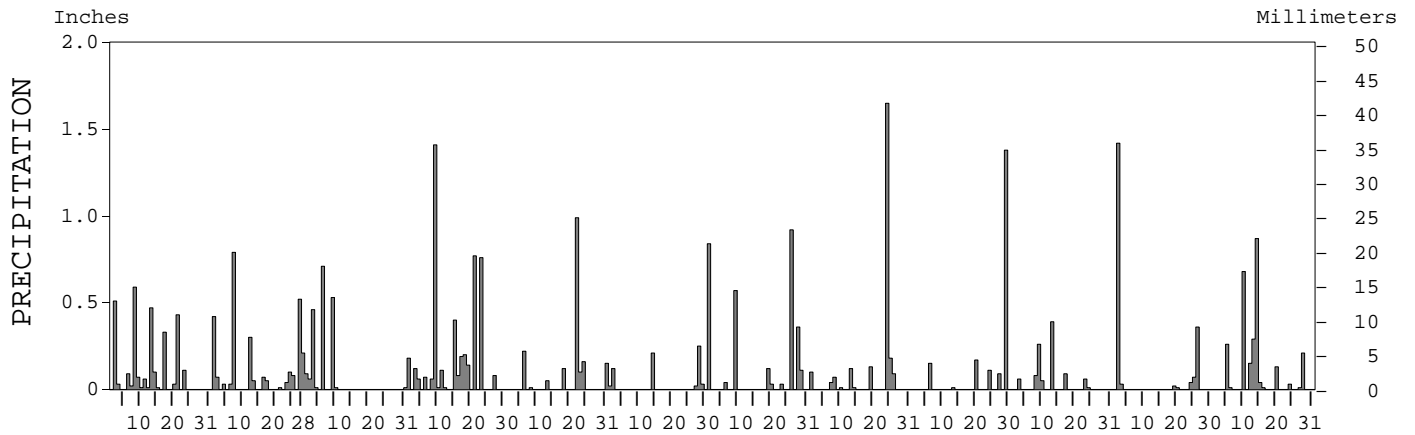
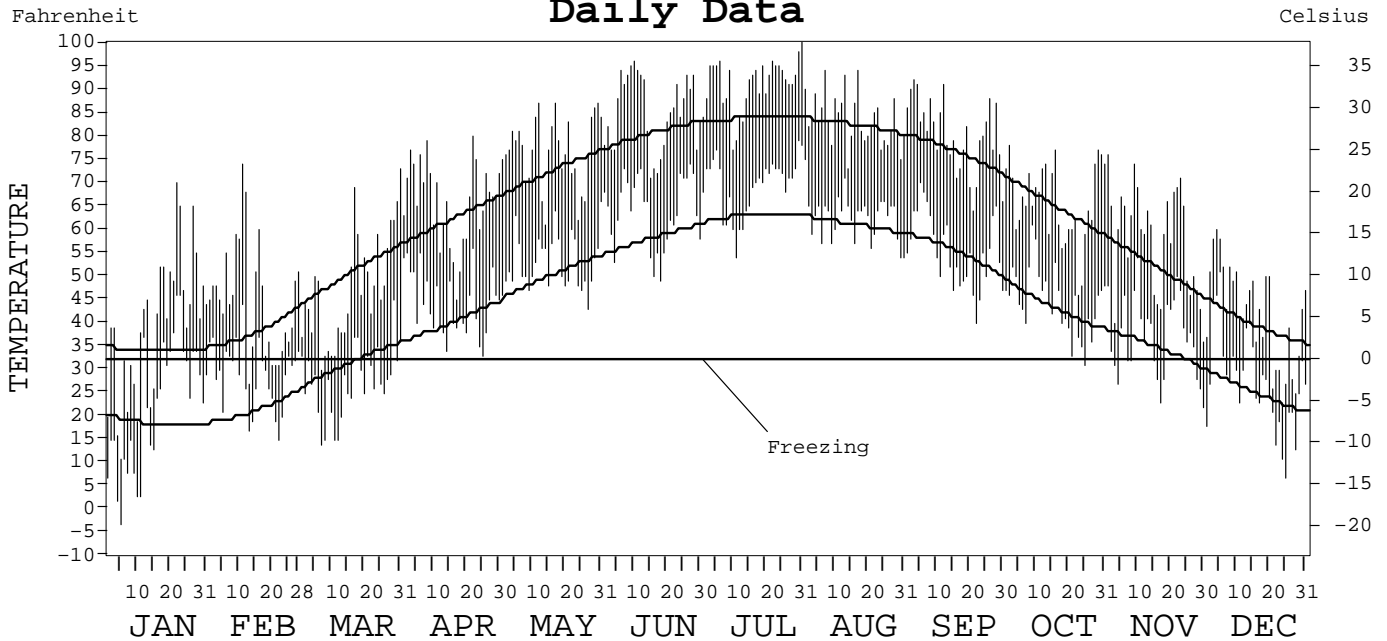
LOCAL CLIMATOLOGICAL DATA ANNUAL SUMMARY WITH COMPARATIVE DATA



ISSN 0198-3954

COLUMBUS,
OHIO (CMH)

Daily Data



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Thomas R. Karl

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
 NATIONAL ENVIRONMENTAL AND INFORMATION SERVICE
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 ASHEVILLE, NORTH CAROLINA

METEOROLOGICAL DATA FOR 1999

COLUMBUS, OH (CMH)

LATITUDE: 39° 59' 29" N LONGITUDE: 82° 52' 51" W ELEVATION (FT): GRND: 813 BARO: 813 TIME ZONE: EASTERN (UTC + 5) WBAN: 14821

ELEMENT		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR	
TEMPERATURE °F	MEAN DAILY MAXIMUM	39.8	45.1	47.5	65.8	76.7	85.1	91.1	83.5	80.2	65.8	57.9	41.9	65.0	
	HIGHEST DAILY MAXIMUM	70	74	73	80	87	96	100	94	92	78	76	60	100	
	DATE OF OCCURRENCE	22	11	31	22	30+	10	31	17+	03	02	01	04	JUL 31	
	MEAN DAILY MINIMUM	22.3	29.0	27.4	44.1	52.9	63.9	69.3	62.6	55.5	44.7	37.1	27.3	44.7	
	LOWEST DAILY MINIMUM	-3	15	14	33	43	49	54	54	40	31	22	7	-3	
	DATE OF OCCURRENCE	05	22	07	25	27	18	11	31+	22	25	30	25	JAN 05	
	AVERAGE DRY BULB	31.1	37.1	37.5	55.0	64.8	74.5	80.2	73.1	67.9	55.3	47.5	34.6	54.9	
	MEAN WET BULB	28.6	33.4	33.0	49.4	57.1	65.5	71.7	65.4	59.5	49.6	42.9	31.9	49.0	
	MEAN DEW POINT	24.4	28.3	26.2	43.9	50.6	59.7	67.3	60.8	53.4	44.0	37.6	26.8	43.6	
	NUMBER OF DAYS WITH:														
	MAXIMUM ≥ 90°	0	0	0	0	0	12	20	4	4	0	0	0	0	40
	MAXIMUM ≤ 32°	10	4	1	0	0	0	0	0	0	0	0	7	22	
MINIMUM ≤ 32°	22	19	24	0	0	0	0	0	0	1	11	23	100		
MINIMUM ≤ 0°	1	0	0	0	0	0	0	0	0	0	0	0	1		
H/C	HEATING DEGREE DAYS	1045	776	848	299	68	9	0	0	46	295	517	936	4839	
	COOLING DEGREE DAYS	0	0	0	4	69	301	476	258	139	0	0	0	1247	
RH	MEAN (PERCENT)	78	74	67	70	62	63	68	69	64	70	71	74	69	
	HOUR 01 LST	77	75	74	80	73	74	82	82	76	80	78	77	77	
	HOUR 07 LST	82	82	85	84	76	77	84	86	85	86	85	83	83	
	HOUR 13 LST	72	67	56	58	49	48	51	52	47	55	59	65	57	
	HOUR 19 LST	76	70	57	60	53	52	56	56	51	61	64	70	60	
S	PERCENT POSSIBLE SUNSHINE														
W/O	NUMBER OF DAYS WITH:														
	HEAVY FOG (VISBY ≤ 1/4 MI)	3	1	1	3	0	0	0	0	2	2	0	2	14	
	THUNDERSTORMS	3	1	0	7	3	1	11	4	3	2	0	0	35	
CLOUDINESS	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.)	29.20	29.16	29.20	29.06	29.10	29.14	29.13	29.10	29.11	29.23	29.27	29.22	29.16	
	MEAN SEA-LEVEL PRESS. (IN.)	30.12	30.07	30.11	29.95	29.98	30.02	30.00	29.97	29.99	30.12	30.15	30.12	30.05	
WINDS	RESULTANT SPEED (MPH)	3.6	2.4	3.4	1.5	1.2	1.3	0.5	1.9	0.4	1.4	2.8	3.7	1.3	
	RES. DIR. (TENS OF DEGS.)	22	24	33	23	25	11	32	35	28	24	25	23	25	
	MEAN SPEED (MPH)	10.3	9.7	9.5	9.7	7.5	8.0	7.1	7.2	6.1	7.2	7.8	8.5	8.2	
	PREVAIL. DIR. (TENS OF DEGS.)	24	19	35	02	12	19	24	36	36	16	19	20	19	
	MAXIMUM 2-MINUTE WIND:														
	SPEED (MPH)	33	30	31	41	47	28	37	34	44	36	32	37	47	
	DIR. (TENS OF DEGS.)	25	24	28	27	24	27	28	32	23	32	28	23	24	
	DATE OF OCCURRENCE	18	12	18	09	06	02	28	13	29	03	03	15	MAY 06	
	MAXIMUM 5-SECOND WIND:														
	SPEED (MPH)	40	38	39	48	54	34	45	39	61	44	39	46	61	
DIR. (TENS OF DEGS.)	25	28	27	24	24	27	01	31	23	32	28	24	23		
DATE OF OCCURRENCE	18	28+	18	06	06	02	21	13	29	03	03	15	SEP 29		
PRECIPITATION	WATER EQUIVALENT:														
	TOTAL (IN.)	2.87	2.77	1.88	4.65	1.80	0.65	3.02	2.40	1.91	1.00	1.95	2.69	27.59	
	GREATEST 24-HOUR (IN.)	0.66	0.79	0.71	1.47	0.99	0.28	0.92	1.68	1.38	0.39	1.43	1.06	1.68	
	DATE OF OCCURRENCE	08-09	07	06	08-09	22	28-29	26	24-25	29	13	02-03	13-14	AUG 24-25	
	NUMBER OF DAYS WITH:														
PRECIPITATION ≥ 0.01	16	15	8	17	8	6	9	10	6	8	7	12	122		
PRECIPITATION ≥ 0.10	7	6	3	10	6	3	6	5	4	2	2	7	61		
PRECIPITATION ≥ 1.00	0	0	0	1	0	0	0	1	1	0	1	0	4		
SNOWFALL	SNOW, ICE PELLETS, HAIL:														
	TOTAL (IN.)	20.6	7.3	9.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	4.6	43.8	
	GREATEST 24-HOUR (IN.)	6.4	2.2	7.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	3.6	7.2	
	DATE OF OCCURRENCE	02	12	09								02	28	MAR 09	
	MAXIMUM SNOW DEPTH (IN.)	13	4	7	0	0	0	0	0	0	0	0	4	13	
	DATE OF OCCURRENCE	08	14+	10								29	JAN 08		
NUMBER OF DAYS WITH:															
SNOWFALL ≥ 1.0	5	4	2	0	0	0	0	0	0	0	1	1	13		

NORMALS, MEANS, AND EXTREMES

COLUMBUS, OH (CMH)

LATITUDE: 39° 59' 29" N LONGITUDE: 82° 52' 51" W ELEVATION (FT): GRND: 813 BARO: 813 TIME ZONE: EASTERN (UTC + 5) WBAN: 14821

ELEMENT		POR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
TEMPERATURE °F	NORMAL DAILY MAXIMUM	30	34.1	38.0	50.5	62.0	72.3	80.4	83.7	82.1	76.2	64.5	51.4	39.2	61.2
	MEAN DAILY MAXIMUM	52	35.9	39.7	49.9	62.4	72.9	81.7	85.1	83.5	77.0	65.3	51.4	40.0	62.1
	HIGHEST DAILY MAXIMUM	60	74	74	85	89	94	102	100	101	100	90	80	76	102
	YEAR OF OCCURRENCE		1950	1999	1945	1948	1941	1944	1999	1983	1951	1951	1987	1982	JUN 1944
	MEAN OF EXTREME MAXS.	52	58.2	62.0	74.0	81.9	87.5	92.9	94.4	93.0	90.0	81.8	71.4	61.8	79.1
	NORMAL DAILY MINIMUM	30	18.5	21.2	31.2	40.0	50.1	58.0	62.7	60.8	54.8	42.9	34.3	24.6	41.6
	MEAN DAILY MINIMUM	52	20.3	22.7	30.6	40.4	50.3	59.5	63.8	61.9	54.6	43.1	34.0	25.1	42.2
	LOWEST DAILY MINIMUM	60	-22	-13	-6	14	25	35	43	39	31	20	5	-17	-22
	YEAR OF OCCURRENCE		1994	1977	1984	1982	1966	1972	1972	1965	1963	1962	1976	1989	JAN 1994
	MEAN OF EXTREME MINS.	52	-1.5	2.6	12.6	24.7	35.3	45.5	51.6	49.4	38.0	27.7	17.7	4.8	25.7
	NORMAL DRY BULB	30	26.4	29.6	40.9	51.0	61.2	69.2	73.2	71.5	65.5	53.7	42.9	31.9	51.4
	MEAN DRY BULB	52	28.2	31.2	40.3	51.4	61.7	70.5	74.4	72.8	65.7	54.2	42.7	32.5	52.1
	MEAN WET BULB	16	27.3	29.7	36.3	45.9	55.5	64.0	67.9	66.1	59.7	48.9	39.6	31.1	47.7
	MEAN DEW POINT	16	22.1	24.0	29.4	38.9	49.8	59.1	63.5	62.2	55.2	43.6	34.2	26.4	42.4
	NORMAL NO. DAYS WITH:														
MAXIMUM ≥ 90°	30	0.0	0.0	0.0	0.0	0.5	3.5	5.9	3.4	1.2	0.0	0.0	0.0	14.5	
MAXIMUM ≤ 32°	30	13.6	9.4	2.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	1.1	8.9	35.5	
MINIMUM ≤ 32°	30	27.2	23.5	18.3	6.9	0.7	0.0	0.0	0.0	0.1	4.1	13.6	23.9	118.3	
MINIMUM ≤ 0°	30	3.0	1.6	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	5.6	
H/C	NORMAL HEATING DEG. DAYS	30	1197	991	747	420	187	23	0	12	81	361	663	1026	5708
	NORMAL COOLING DEG. DAYS	30	0	0	0	0	69	149	258	214	96	11	0	0	797
RH	NORMAL (PERCENT)	30	71	70	64	62	66	68	71	73	73	69	72	74	69
	HOUR 01 LST	30	74	73	70	70	77	80	82	84	83	78	76	77	77
	HOUR 07 LST	30	76	76	74	75	79	81	84	87	87	82	80	79	80
	HOUR 13 LST	30	67	64	56	52	54	55	56	58	58	55	63	69	59
	HOUR 19 LST	30	69	66	60	54	56	58	60	63	65	64	69	73	63
S	PERCENT POSSIBLE SUNSHINE	45	36	42	44	50	56	60	60	60	61	56	37	31	49
W/O	MEAN NO. DAYS WITH:														
	HEAVY FOG (VISBY ≤ 1/4 MI)	50	1.9	1.6	1.1	0.6	0.9	0.9	1.1	1.6	1.7	1.4	1.2	1.6	15.6
	THUNDERSTORMS	60	0.4	0.6	2.0	4.1	6.2	8.0	8.1	6.1	3.0	1.3	1.0	0.3	41.1
CLOUDINESS	MEAN:														
	SUNRISE-SUNSET (OKTAS)	47	6.2	6.1	5.9	5.6	5.3	5.0	4.8	4.6	4.5	4.5	5.8	6.2	5.4
	MIDNIGHT-MIDNIGHT (OKTAS)	32	6.0	5.5	5.5	5.1	4.8	4.7	4.4	4.3	4.3	4.3	5.6	6.0	5.0
	MEAN NO. DAYS WITH:														
CLEAR	1	2.0													
PARTLY CLOUDY	1	6.0													
CLOUDY	1	23.0													
PR	MEAN STATION PRESSURE (IN)	27	29.20	29.19	29.10	29.10	29.10	29.10	29.10	29.20	29.19	29.20	29.20	29.19	29.16
	MEAN SEA-LEVEL PRES. (IN)	16	30.12	30.10	30.06	29.97	29.99	29.97	30.02	30.05	30.06	30.10	30.12	30.13	30.06
WINDS	MEAN SPEED (MPH)	40	9.7	9.4	10.0	9.5	8.0	6.9	6.3	5.8	6.3	7.1	8.9	9.1	8.1
	PREVAIL. DIR (TENS OF DEGS)	25	27	27	28	36	18	18	18	36	36	18	18	18	18
	MAXIMUM 2-MINUTE:														
	SPEED (MPH)	4	39	41	43	47	47	36	47	43	44	40	45	37	47
	DIR. (TENS OF DEGS)		28	27	21	26	26	20	33	29	23	24	27	25	33
	YEAR OF OCCURRENCE		1997	1996	1996	1996	1997	1998	1997	1996	1999	1996	1996	1996	JUL 1997
	MAXIMUM 5-SECOND:														
SPEED (MPH)	4	47	53	51	58	54	52	60	56	61	51	56	46	61	
DIR. (TENS OF DEGS)		25	18	23	26	24	23	28	29	23	23	25	24	23	
YEAR OF OCCURRENCE		1997	1997	1996	1996	1999	1996	1997	1996	1999	1996	1998	1999	SEP 1999	
PRECIPITATION	NORMAL (IN)	30	2.18	2.24	3.27	3.21	3.93	4.04	4.31	3.72	2.96	2.15	3.22	2.86	38.09
	MAXIMUM MONTHLY (IN)	60	8.29	5.15	9.59	6.51	9.11	9.75	12.36	8.63	6.76	5.24	10.67	6.98	12.36
	YEAR OF OCCURRENCE		1950	1990	1964	1998	1968	1958	1992	1979	1979	1954	1985	1990	JUL 1992
	MINIMUM MONTHLY (IN)	60	0.53	0.29	0.61	0.67	0.95	0.65	0.48	0.58	0.51	0.11	0.60	0.46	0.11
	YEAR OF OCCURRENCE		1944	1978	1941	1971	1977	1999	1940	1951	1963	1963	1976	1955	OCT 1963
	MAXIMUM IN 24 HOURS (IN)	52	4.81	2.15	3.40	2.37	2.72	2.93	5.16	3.79	4.86	2.21	2.47	2.56	5.16
	YEAR OF OCCURRENCE		1959	1975	1964	1957	1968	1958	1992	1972	1979	1986	1985	1998	JUL 1992
	NORMAL NO. DAYS WITH:														
PRECIPITATION ≥ 0.01	30	12.8	11.1	13.8	12.4	12.3	10.5	10.9	10.0	8.4	9.3	11.7	13.5	136.7	
PRECIPITATION ≥ 1.00	30	0.2	0.3	0.3	0.6	0.8	1.1	1.1	1.0	0.7	0.3	0.7	0.3	7.4	
SNOWFALL	NORMAL (IN)	30	9.2	7.0	4.4	1.1	0.*	0.0	0.0	0.0	T	0.1	1.9	5.3	29.0
	MAXIMUM MONTHLY (IN)	51	34.4	16.4	13.5	12.6	0.8	T	T	0.0	T	4.6	15.2	17.3	34.4
	YEAR OF OCCURRENCE		1978	1979	1962	1987	1989	1995	1995	1994	1993	1950	1960	1960	JAN 1978
	MAXIMUM IN 24 HOURS (IN)	51	8.8	8.9	8.6	12.3	0.8	T	T	0.0	T	4.6	8.2	8.7	12.3
	YEAR OF OCCURRENCE		1996	1971	1962	1987	1989	1995	1995	1994	1993	1950	1960	1960	APR 1987
	MAXIMUM SNOW DEPTH (IN)	50	17	13	9	10	0	0	0	0	0	0	13	10	17
	YEAR OF OCCURRENCE		1978	1979	1984	1987							1950	1960	JAN 1978
NORMAL NO. DAYS WITH:															
SNOWFALL ≥ 1.0	30	3.0	2.4	1.4	0.2	0.0	0.0	0.0	0.0	0.0	0.*	0.6	1.9	9.5	

PRECIPITATION (inches) 1999 COLUMBUS, OH (CMH)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1970	1.60	1.68	3.04	5.52	5.37	5.65	3.73	3.94	3.95	2.07	2.88	2.50	41.93
1971	1.57	3.16	2.70	0.67	3.66	4.16	4.22	2.81	3.08	1.32	1.73	4.61	33.69
1972	1.40	1.74	2.86	3.74	6.56	3.98	2.60	7.96	5.13	1.74	4.40	3.49	45.60
1973	2.46	1.29	3.43	3.72	3.36	8.77	4.07	4.97	2.82	3.29	5.37	2.70	46.25
1974	2.40	2.30	4.38	2.66	3.29	5.04	1.14	4.88	3.32	1.51	3.39	2.68	36.99
1975	3.21	3.47	4.10	2.71	3.17	3.53	2.04	4.51	5.46	2.29	1.54	3.01	39.04
1976	3.15	2.03	2.17	1.44	1.41	4.52	5.12	5.08	2.54	2.86	0.60	0.93	31.85
1977	1.57	1.02	3.88	4.04	0.95	4.02	2.52	4.76	3.48	2.57	3.77	3.54	36.12
1978	5.89	0.29	2.98	3.02	4.15	3.65	1.81	5.23	1.16	2.39	1.56	5.01	37.14
1979	3.32	2.88	1.01	4.01	3.27	4.23	8.06	8.63	6.76	1.26	3.91	1.83	49.17
1980	1.69	1.38	3.77	1.59	4.56	5.17	4.58	6.26	1.86	2.53	2.07	1.96	37.42
1981	0.70	4.60	1.11	5.38	6.50	5.73	4.14	1.41	2.28	1.40	1.65	2.88	37.78
1982	4.77	1.49	3.99	1.90	4.68	3.37	3.90	1.02	4.25	0.92	5.19	3.84	39.32
1983	1.20	0.74	1.69	5.58	5.06	4.59	2.80	2.23	1.91	4.45	5.00	3.16	38.41
1984	1.07	1.97	3.89	3.10	4.93	0.71	3.15	2.96	1.48	2.91	4.41	2.84	33.42
1985	1.31	1.67	3.78	0.73	4.96	1.41	6.88	2.34	1.18	1.93	10.67	1.81	38.67
1986	1.54	2.96	2.61	1.31	2.47	5.53	3.60	1.61	3.44	4.16	3.00	2.81	35.04
1987	1.14	0.59	2.04	2.02	2.85	3.60	3.89	2.96	1.53	1.57	1.63	2.88	26.70
1988	2.14	4.26	2.54	2.24	2.27	1.34	7.80	2.68	3.52	1.70	3.59	2.49	36.57
1989	1.97	3.10	4.16	3.30	4.69	6.36	6.79	4.30	2.16	2.49	2.65	1.79	43.76
1990	2.43	5.15	1.32	2.82	7.01	5.25	8.00	1.86	5.26	5.05	2.03	6.98	53.16
1991	1.97	2.30	3.97	4.15	2.47	2.81	2.14	2.02	4.05	1.76	1.31	3.79	32.74
1992	1.79	0.85	3.40	2.83	3.40	2.33	12.36	3.75	2.14	1.40	4.03	1.32	39.60
1993	4.14	1.82	3.50	4.49	2.47	3.33	5.95	0.74	1.75	3.05	4.45	2.16	37.85
1994	3.79	1.56	1.94	3.64	1.69	1.93	6.02	3.29	1.68	0.92	2.94	2.22	31.62
1995	4.54	1.64	1.61	3.17	4.86	5.30	6.99	7.56	1.15	4.04	2.47	1.97	45.30
1996	3.73	2.14	3.40	6.39	5.81	3.82	5.09	1.58	5.50	1.44	3.20	3.46	45.56
1997	2.19	1.50	3.96	1.65	5.58	6.62	2.91	5.76	1.36	1.58	2.92	2.13	38.16
1998	2.32	2.48	1.88	6.51	3.09	6.99	2.75	1.99	1.27	3.05	1.99	3.25	37.57
1999	2.87	2.77	1.88	4.65	1.80	0.65	3.02	2.40	1.91	1.00	1.95	2.69	27.59
POR= 121 YRS	2.86	2.42	3.82	3.21	3.70	3.72	3.88	3.19	2.59	2.18	2.78	2.62	36.97

WBAN : 14821

AVERAGE TEMPERATURE (°F) 1999 COLUMBUS, OH (CMH)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1970	20.6	28.5	36.9	53.4	64.9	69.8	73.5	72.4	68.9	55.6	42.4	34.3	51.8
1971	24.3	30.8	36.6	49.0	58.0	73.5	70.5	68.9	67.8	59.8	40.4	38.4	51.5
1972	28.2	27.7	37.0	48.8	60.8	63.6	71.9	70.1	64.6	49.6	40.5	36.1	49.9
1973	31.2	31.4	50.4	51.1	59.5	72.6	74.3	74.2	68.9	58.6	45.1	33.7	54.3
1974	33.2	31.2	44.6	54.3	60.8	67.7	74.4	74.0	62.2	52.8	44.5	34.0	52.8
1975	32.5	33.4	37.3	46.7	66.6	72.4	75.1	77.3	62.7	54.7	47.5	33.5	53.3
1976	24.0	37.4	46.5	50.9	58.1	70.5	72.0	68.3	61.7	47.5	33.9	24.8	49.6
1977	11.4	26.5	45.6	54.8	66.8	67.5	76.2	72.0	68.2	52.0	45.1	29.5	51.3
1978	19.0	16.6	34.5	50.6	59.6	70.4	73.5	73.2	69.8	51.5	44.4	34.4	49.8
1979	21.4	19.3	44.3	50.1	60.5	69.6	71.8	71.9	65.1	53.3	43.6	35.1	50.5
1980	29.3	25.2	37.2	49.5	62.4	67.4	75.9	75.9	68.3	50.8	40.8	32.5	51.3
1981	23.3	34.0	40.2	55.8	59.5	70.9	71.9	70.4	62.3	51.1	40.9	30.6	50.9
1982	21.2	29.2	40.4	46.4	66.8	65.8	74.4	69.2	63.5	56.2	45.4	40.4	51.6
1983	29.9	34.0	43.3	48.4	57.6	69.4	76.7	76.2	67.1	54.5	44.0	24.8	52.2
1984	23.3	37.4	32.3	50.0	57.6	73.1	71.2	72.9	63.1	59.4	40.6	39.5	51.7
1985	21.7	26.0	43.7	56.3	62.6	66.9	72.7	71.2	66.6	57.3	48.2	26.0	51.6
1986	30.1	32.7	42.5	54.5	64.3	70.6	75.7	71.0	69.2	56.3	41.3	33.3	53.5
1987	29.9	34.9	44.3	52.1	66.0	72.7	76.6	74.3	66.9	49.1	47.6	35.7	54.2
1988	26.5	29.3	40.2	50.3	62.6	69.6	77.5	75.3	65.2	47.4	43.9	31.6	51.6
1989	36.6	28.7	42.0	48.2	57.2	68.8	73.9	71.2	65.2	54.2	42.1	19.8	50.7
1990	37.7	37.5	45.3	50.7	59.1	70.3	73.6	72.5	66.4	55.1	46.2	37.2	54.3
1991	29.7	35.7	43.9	56.1	70.9	75.0	77.6	75.0	66.2	55.9	41.0	36.4	55.3
1992	32.2	36.8	40.7	51.8	59.9	67.3	73.5	69.4	64.7	51.9	44.8	34.7	52.3
1993	34.3	27.8	38.6	50.3	62.2	69.8	76.2	75.7	64.9	53.0	43.5	32.9	52.4
1994	21.3	30.0	39.5	53.9	58.4	73.9	75.2	71.7	65.4	55.5	48.2	38.8	52.7
1995	29.4	27.9	43.6	50.8	60.9	72.9	76.0	78.4	64.2	56.1	37.7	28.8	52.2
1996	27.8	30.5	35.6	50.2	60.9	72.3	72.8	74.0	65.8	55.0	37.5	37.1	51.6
1997	28.1	36.3	42.7	48.4	56.6	70.2	74.2	70.3	65.1	55.2	40.1	34.7	51.8
1998	37.6	40.5	43.6	53.1	67.3	71.7	74.8	76.3	71.6	55.7	45.9	38.1	56.4
1999	31.1	37.1	37.5	55.0	64.8	74.5	80.2	73.1	67.9	55.3	47.5	34.6	54.9
POR= 121 YRS	29.0	31.0	40.1	51.1	61.9	70.7	74.8	72.8	66.4	54.7	42.4	32.5	52.3

HEATING DEGREE DAYS (base 65°F) 1999 COLUMBUS, OH (CMH)

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
1970-71	10	0	58	297	674	944	1256	950	871	475	230	4	5769
1971-72	3	5	52	181	733	815	1133	1077	860	482	146	101	5588
1972-73	22	18	77	473	727	889	1041	934	444	427	184	0	5236
1973-74	0	3	35	219	589	963	977	940	628	332	178	31	4895
1974-75	0	0	130	374	609	954	999	878	850	542	73	18	5427
1975-76	0	0	110	321	520	973	1263	791	570	440	229	4	5221
1976-77	1	25	118	537	925	1241	1659	1071	601	324	91	64	6657
1977-78	1	17	36	394	594	1091	1420	1346	938	424	223	23	6507
1978-79	0	0	38	411	610	943	1346	1270	637	449	185	18	5907
1979-80	11	16	83	376	632	920	1099	1148	855	458	133	53	5784
1980-81	0	0	46	435	717	1000	1286	864	761	287	195	14	5605
1981-82	8	5	141	429	713	1061	1351	997	758	556	45	33	6097
1982-83	3	19	107	304	585	759	1081	863	669	493	239	30	5152
1983-84	6	0	83	325	626	1236	1284	796	1007	447	254	3	6067
1984-85	6	3	143	182	727	782	1339	1086	654	286	134	35	5377
1985-86	0	2	96	249	500	1202	1076	901	694	328	113	19	5180
1986-87	0	26	41	287	702	974	1083	838	637	393	103	9	5093
1987-88	0	4	53	489	521	900	1187	1029	762	433	119	49	5546
1988-89	3	7	57	547	624	1032	873	1009	711	499	274	28	5664
1989-90	0	11	90	345	680	1394	840	766	613	444	190	26	5399
1990-91	0	3	83	310	558	857	1089	817	649	282	42	0	4690
1991-92	0	0	105	296	714	878	1011	814	747	402	190	35	5192
1992-93	0	8	101	403	600	932	942	1034	811	434	130	51	5446
1993-94	0	1	84	366	637	989	1351	973	787	340	233	12	5773
1994-95	0	8	51	295	497	805	1098	1031	657	427	150	6	5025
1995-96	0	0	78	274	810	1112	1147	992	905	448	191	11	5968
1996-97	2	0	74	307	821	859	1136	798	687	494	264	15	5457
1997-98	0	10	63	346	741	933	843	679	681	352	38	41	4727
1998-99	0	0	22	292	567	829	1045	776	848	299	68	9	4755
1999-	0	0	46	295	517	936							

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COOLING DEGREE DAYS (base 65°F) 1999 COLUMBUS, OH (CMH)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1970	0	0	0	22	125	166	281	237	179	13	0	0	1023
1971	0	0	0	0	21	266	181	135	144	24	0	0	771
1972	0	0	0	1	24	67	245	183	71	0	0	0	591
1973	0	0	3	14	17	236	295	292	160	25	0	0	1042
1974	0	0	4	20	58	117	296	286	52	3	0	0	836
1975	0	0	0	1	130	248	320	389	48	10	1	0	1147
1976	0	0	3	23	23	174	223	135	25	2	0	0	608
1977	0	0	8	24	151	148	354	242	139	0	7	0	1073
1978	0	0	0	0	59	190	270	261	188	0	0	0	968
1979	0	0	0	7	54	163	230	239	93	22	0	0	808
1980	0	0	0	0	61	132	343	344	151	3	0	0	1034
1981	0	0	0	16	32	198	231	181	64	4	0	0	726
1982	0	0	0	4	111	66	301	154	67	39	7	4	753
1983	0	0	1	2	17	167	377	355	152	9	0	0	1080
1984	0	0	0	8	30	253	205	254	94	14	0	0	858
1985	0	0	2	32	64	97	245	201	152	19	2	0	814
1986	0	0	2	19	95	194	339	221	171	25	0	0	1066
1987	0	0	0	11	142	246	366	299	116	0	5	0	1185
1988	0	0	0	0	54	194	396	333	70	5	0	0	1052
1989	0	0	5	2	40	149	282	211	106	12	0	0	807
1990	0	0	11	21	13	191	273	244	133	9	3	0	898
1991	0	0	0	21	232	307	402	317	147	23	0	0	1449
1992	0	0	0	13	37	115	272	152	99	2	0	0	690
1993	0	0	0	0	48	204	352	343	89	2	0	0	1038
1994	0	0	0	15	39	286	322	224	71	8	0	0	965
1995	0	0	0	6	32	251	347	424	61	4	0	0	1125
1996	0	0	0	11	72	238	251	285	102	2	0	0	961
1997	0	0	0	0	10	181	291	182	73	48	0	0	785
1998	0	0	27	0	118	248	313	357	227	10	0	3	1303
1999	0	0	0	4	69	301	476	258	139	0	0	0	1247

SNOWFALL (inches) 1999 COLUMBUS, OH (CMH)

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
1970-71	0.0	0.0	0.0	0.0	0.9	1.4	6.5	12.3	12.3	T	0.0	0.0	33.4
1971-72	0.0	0.0	0.0	0.0	5.0	0.6	5.8	6.6	5.0	0.6	0.0	0.0	23.6
1972-73	0.0	0.0	0.0	T	6.3	2.8	4.4	1.8	2.1	7.1	0.0	0.0	24.5
1973-74	0.0	0.0	0.0	0.0	T	6.4	2.3	5.0	4.5	0.3	0.0	0.0	18.5
1974-75	0.0	0.0	0.0	T	0.3	7.4	8.1	3.7	2.6	T	0.0	0.0	22.1
1975-76	0.0	0.0	0.0	0.0	1.1	2.9	12.4	1.8	1.0	T	0.0	0.0	19.2
1976-77	0.0	0.0	0.0	T	3.1	4.6	18.1	6.7	0.3	0.1	0.0	0.0	32.9
1977-78	0.0	0.0	0.0	0.0	2.2	7.5	34.4	4.5	5.5	T	0.0	0.0	54.1
1978-79	0.0	0.0	0.0	T	1.3	1.8	17.3	16.4	0.8	0.3	0.0	0.0	37.9
1979-80	0.0	0.0	0.0	0.0	0.1	0.2	7.0	8.1	1.2	T	0.0	0.0	16.6
1980-81	0.0	0.0	0.0	T	8.0	7.3	7.8	3.7	3.3	0.0	0.0	0.0	30.1
1981-82	0.0	0.0	0.0	0.0	1.9	9.8	11.8	3.7	3.2	4.7	0.0	0.0	35.1
1982-83	0.0	0.0	0.0	0.0	T	1.5	2.6	4.5	2.8	0.1	0.0	0.0	11.5
1983-84	0.0	0.0	0.0	0.0	0.5	5.7	9.0	10.8	9.8	0.3	0.0	0.0	36.1
1984-85	0.0	0.0	0.0	0.0	0.9	7.3	21.9	12.5	T	0.8	0.0	0.0	43.4
1985-86	0.0	0.0	0.0	0.0	0.0	8.6	4.8	9.8	1.8	T	0.0	0.0	25.0
1986-87	0.0	0.0	0.0	0.0	0.4	0.4	2.7	1.2	5.9	12.6	0.0	0.0	23.2
1987-88	0.0	0.0	0.0	T	0.6	4.6	8.4	6.5	3.8	T	0.0	0.0	23.9
1988-89	0.0	0.0	0.0	T	0.8	5.9	0.6	3.9	6.6	0.1	0.8	0.0	18.7
1989-90	0.0	0.0	0.0	0.4	0.3	9.4	3.3	6.0	1.4	0.4	0.0	T	21.2
1990-91	0.0	0.0	0.0	0.0	0.0	3.7	3.4	4.5	4.0	T	0.0	0.0	15.6
1991-92	0.0	0.0	0.0	T	0.6	1.6	12.2	1.8	1.6	1.1	0.0	0.0	18.9
1992-93	0.0	0.0	0.0	T	3.0	2.4	1.5	14.6	8.9	0.2	0.0	0.0	30.6
1993-94	0.0	0.0	0.0	4.6	0.8	4.2	19.5	2.9	4.6	1.1	0.0	T	37.7
1994-95	T	0.0	T	0.0	0.0	0.3	12.6	5.3	2.5	T	0.0	T	20.7
1995-96	T	0.0	0.0	0.0	2.7	11.8	24.5	4.3	7.6	3.2	0.0		
1996-97					1.9								
1997-98					0.9	2.9	1.2	2.2	2.8	T	0.0	T	
1998-99	0.0	0.0	0.0	0.0	0.0	2.8	20.6	7.3	9.8	0.0	0.0	0.0	40.5
1999-	0.0	0.0	0.0	0.0	1.5	4.6							
POR= 50 YRS	T	0.0	T	0.1	2.2	5.3	8.6	5.9	4.5	1.0	0.1	T	27.7

WBAN : 14821

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 (1961 - 1990). 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.</p>	<p>GENERAL CONTINUED: 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. 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.</p> <p>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.</p>
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1999
COLUMBUS,
OHIO (CMH)

Columbus is located in the center of the state and in the drainage area of the Ohio River. The airport is located at the eastern boundary of the city approximately 7 miles from the center of the business district.

Four nearly parallel streams run through or adjacent to the city. The Scioto River is the principal stream and flows from the northwest into the center of the city and then flows straight south toward the Ohio River. The Olentangy River runs almost due south and empties into the Scioto just west of the business district. Two minor streams run through portions of Columbus or skirt the eastern and southern fringes of the area. They are Alum Creek and Big Walnut Creek. Alum Creek empties into the Big Walnut southeast of the city and the Big Walnut empties into the Scioto a few miles downstream. The Scioto and Olentangy are gorge-like in character with very little flood plain and the two creeks have only a little more flood plain or bottomland.

The narrow valleys associated with the streams flowing through the city supply the only variation in the micro-climate of the area. The city proper shows the typical metropolitan effect with shrubs and flowers blossoming earlier than in the immediate surroundings and in retarding light frost on clear quiet nights. Many small areas to the southeast and to the north and northeast show marked effects of air drainage as evidenced by the frequent formation of shallow ground fog at daybreak during the summer and fall months and the higher frequency of frost in the spring and fall.

The average occurrence of the last freezing temperature in the spring within the city proper is mid-April, and the first freeze in the fall is

very late October, but in the immediate surroundings there is much variation. For example, at Valley Crossing located at the southeastern outskirts of the city, the average occurrence of the last 32 degree temperature in the spring is very early May, while the first 32 degree temperature in the fall is mid-October.

The records show a high frequency of calm or very low wind speeds during the late evening and early morning hours, from June through September. The rolling landscape is conducive to air drainage and from the Weather Service location at the airport the air drainage is toward the northwest with the wind direction indicated as southeast. Air drainage takes place at speeds generally 4 mph or less and frequently provides the only perceptible breeze during the night.

Columbus is located in the area of changeable weather. Air masses from central and northwest Canada frequently invade this region. Air from the Gulf of Mexico often reaches central Ohio during the summer and to a much lesser extent in the fall and winter. There are also occasional weather changes brought about by cool outbreaks from the Hudson Bay region of Canada, especially during the spring months. At infrequent intervals the general circulation will bring showers or snow to Columbus from the Atlantic. Although Columbus does not have a wet or dry season as such, the month of October usually has the least amount of precipitation.

STATION LOCATION

COLUMBUS, OHIO

LOCATION	OCCUPIED FROM	OCCUPIED TO	AIRLINE DISTANCES AND DIRECTIONS FROM PREVIOUS LOCATION	LATITUDE NORTH	LONGITUDE WEST	ELEVATION ABOVE											* Type	REMARKS	
						SEA LEVEL	GROUND												A
							WIND	EMER	EMER	EMER	EMER	EMER	EMER	EMER	EMER	EMER			
CITY NOTE: For period July, 1878 through May, 1889, refer to previous editions																			
Board of Trade Building 40 East Broad Street	5/1/89	2/1/93	1/2 blk E	39°58'	83°00'	755	100	102	102				96	96			On 9/16/91 anemometer was raised to 15 feet above roof - 108 feet above ground.		
Wheeler Building 5 West Broad Street	2/1/93	11/1/94	1/2 blk W	39°58'	83°00'	759	132	126	126				120	120					
Eberly Building to 215 South High Street	11/1/94	6/1/02	0.25mi S	39°58'	83°00'	770	93	87	87				81	81			On 10/7/96 anemometer raised 100 feet above ground.		
New Hayden Building 16 East Broad Street	6/1/02	7/1/30	0.25mi N	39°58'	83°00'	759	190	173	173				171	171			Erection of taller building to SW caused interferences with wind record 4/3/06 to 9/22/06 at which time wind instruments were moved to the Capitol		
Trust																	Building and mounted 222 feet above ground. Erection of taller building in 1927, one block SW, interfered with wind records.		
8 East Broad Building	7/1/30	2/1/35	1st bldg W	39°58'	83°00'	759	230	216	216				209	209					
New Post Office Bldg. 85 Marconi Boulevard	2/1/35	5/1/73	0.25mi NW	39°58'	83°00'	724	c110	90	90				89a	b89			a - Moved to airport 5/11/51. b - Installed 5/11/51. On ground site 7/10/51 to 12/1/54. c - Wind observations discontinued 7/8/55.		
<u>AIRPORT</u>																			
Administration Building Municipal Airport 1:30AM (7.3 mi. ENE of P.O.)	5/7/30	10/1/58	NA	40°00'	82°53'	815	46	f32	5f32	5e31	NAe4	NAe4	d5	2	NA	NA	Data for 1/1/40-6/30/45 based on 24 hour day ending at		
Terminal Building Port Columbus Airport (Columbus Municipal) + + Port Columbus International Airport (Effective 1965)	10/1/58	7/1/81	1 mi. NW	40°00'	82°53'	814j812	128h20	30k	23m15	32	NAg28	NAh28	28p28	NAi4	NA	NA	d - Record source 10/17/45 until removed 5/11/51. e - Installed 5/15/51. f - Moved to roof 6/21/55. g - Minor adjustment 2/12/59. h - Relocated 10/9/59. i - Commissioned 2640; E of office 1/1/60. j - Effective 1/1/60. k - Removed 1/1/60. m - Effective 7/15/63. n - Commissioned on roof 12/1/71. p - Minor relocation 12/1/71.		
Port Columbus Int'l AP 4600 Bridgeway Ave.	7/1/81	02/01/96	1 mi. N	40°00'	82°53'	813	q20	5	5	8	3	4	4	4r4	NA	NA	q - Not moved 7/1/81. r - Type change 9/8/82		
Port Columbus Int'l AP	02/01/96	Present	NA	39°59'	82°53'	813										S	ASOS Commissioned 02/01/96		

SUBSCRIPTION: Price and ordering information available through: National Climatic Data Center, Federal Building, Asheville, North Carolina 28801. INQUIRIES/COMMENTS CALL: (828) 271-4800

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