

1998

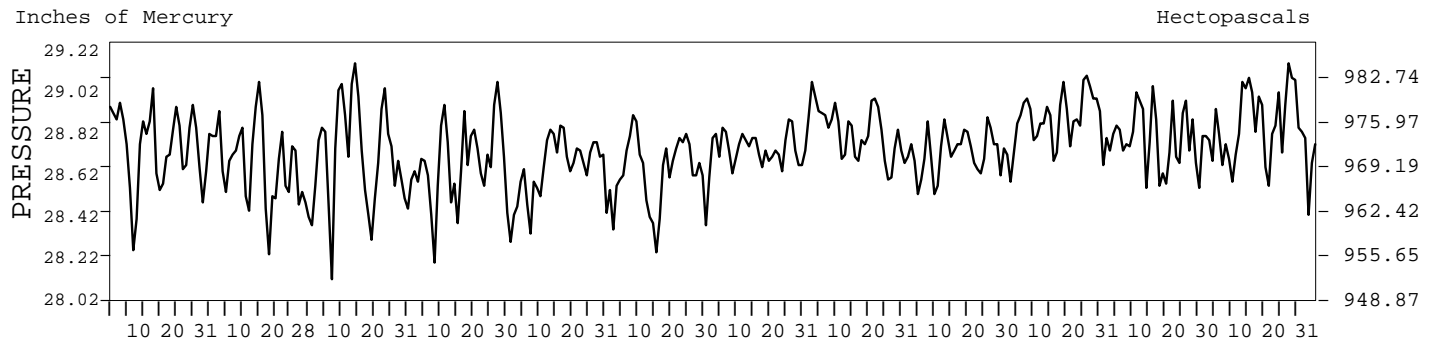
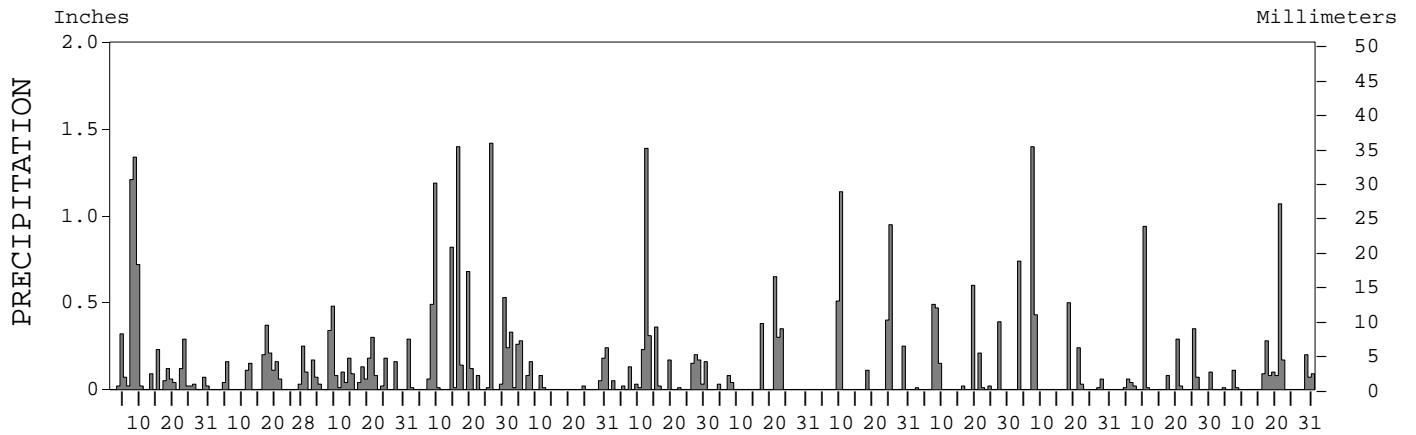
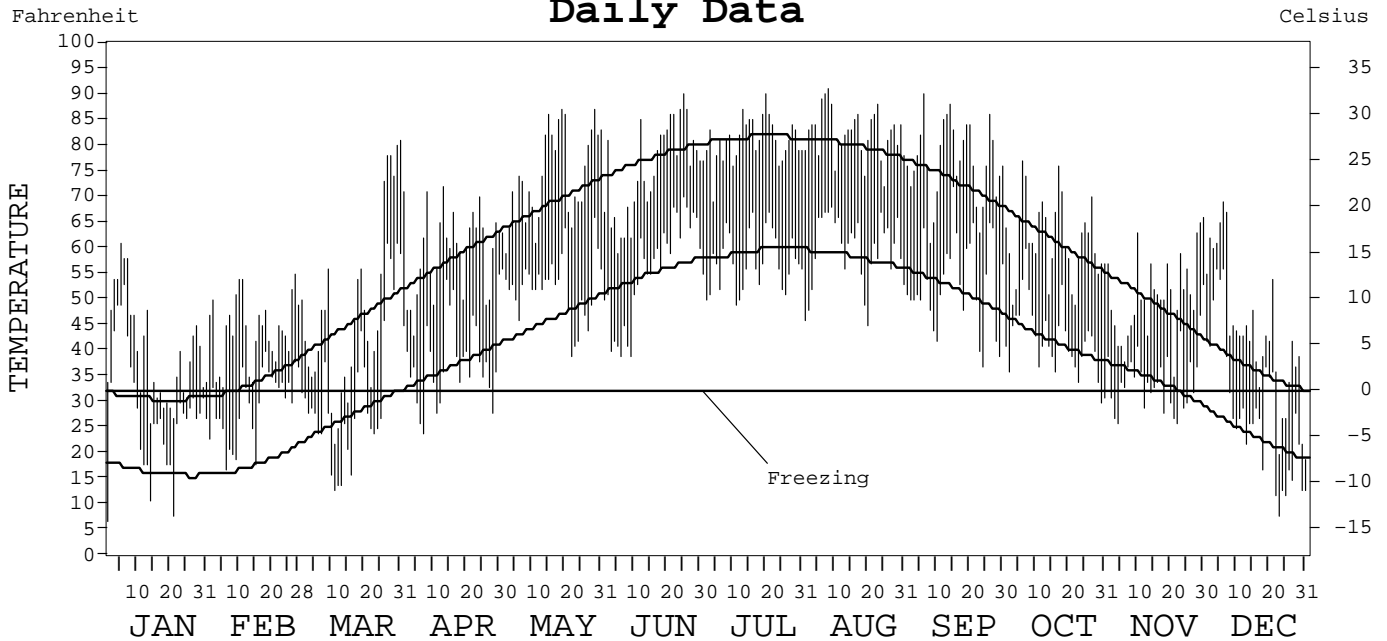
LOCAL CLIMATOLOGICAL DATA
ANNUAL SUMMARY WITH COMPARATIVE DATA



ISSN 0198-4047

YOUNGSTOWN,
OHIO (YNG)

Daily Data



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Thomas R. Karl

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
 NATIONAL ENVIRONMENTAL AND INFORMATION SERVICE
 NATIONAL ENVIRONMENTAL SATELLITE, DATA, AND INFORMATION SERVICE
 NATIONAL CLIMATIC DATA CENTER
 ASHEVILLE, NORTH CAROLINA
 DIRECTOR NATIONAL CLIMATIC DATA CENTER

METEOROLOGICAL DATA FOR 1998

YOUNGSTOWN, OH (YNG)

LATITUDE: 41° 15' 16" N LONGITUDE: 80° 40' 26" W ELEVATION (FT): GRND: 1178 BARO: 1199 TIME ZONE: EASTERN (UTC+ 5) WBAN: 14852

	ELEMENT	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR	
TEMPERATURE °F	MEAN DAILY MAXIMUM	39.8	44.2	47.8	59.4	73.9	75.3	80.9	82.4	76.9	61.7	50.8	43.4	61.4	
	HIGHEST DAILY MAXIMUM	61	55	81	72	87	90	90	91	90	77	66	69	91	
	DATE OF OCCURRENCE	05	27	31	13	29+	25	20	08	06	06	30	06	AUG 08	
	MEAN DAILY MINIMUM	28.3	29.7	32.0	38.2	52.4	55.7	57.4	59.7	53.3	42.2	34.5	28.6	42.7	
	LOWEST DAILY MINIMUM	7	17	13	24	39	39	49	45	37	30	26	8	7	
	DATE OF OCCURRENCE	01	06	11	07	22	09+	11	20	24	30	22+	23	JAN 01	
	AVERAGE DRY BULB	34.1	37.0	39.9	48.8	63.2	65.5	69.2	71.1	65.1	52.0	42.7	36.0	52.1	
	MEAN WET BULB	32.2	33.8	36.5	43.4	57.7	61.1	63.2	64.8	59.5	47.7	38.8	32.8	47.6	
	MEAN DEW POINT	28.4	30.1	31.4	36.4	53.4	57.8	58.7	60.7	55.5	43.3	33.3	27.8	43.1	
	NUMBER OF DAYS WITH:														
	MAXIMUM ≥ 90°	0	0	0	0	0	1	1	2	1	0	0	0	0	5
	MAXIMUM ≤ 32°	10	0	5	0	0	0	0	0	0	0	0	5	20	
	MINIMUM ≤ 32°	23	15	21	6	0	0	0	0	0	2	12	21	100	
MINIMUM ≤ 0°	0	0	0	0	0	0	0	0	0	0	0	0	0		
H/C	HEATING DEGREE DAYS	951	781	790	478	111	106	2	7	83	401	663	892	5265	
	COOLING DEGREE DAYS	0	0	19	0	61	128	139	201	95	3	0	0	646	
RH	MEAN (PERCENT)	80	80	74	66	73	78	71	72	73	75	71	75	74	
	HOUR 01 LST	82	85	82	74	85	89	88	86	83	81	76	80	83	
	HOUR 07 LST	83	86	83	79	84	88	86	87	88	88	80	83	85	
	HOUR 13 LST	75	70	63	52	58	65	53	53	57	59	61	65	61	
	HOUR 19 LST	79	79	69	56	65	67	57	62	69	75	67	73	68	
S	PERCENT POSSIBLE SUNSHINE														
W/O	NUMBER OF DAYS WITH:														
	HEAVY FOG (VISBY ≤ 1/4 MI)	4	2	2	0	2	1	3	7	1	3	1	1	27	
	THUNDERSTORMS	2	0	0	2	6	11	3	4	4	0	0	0	32	
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.)	28.76	28.68	28.70	28.68	28.64	28.63	28.75	28.82	28.72	28.89	28.79	28.85	28.74	
	MEAN SEA-LEVEL PRESS. (IN.)	30.05	29.97	29.99	29.95	29.89	29.88	30.00	30.07	29.97	30.16	30.08	30.15	30.01	
WINDS	RESULTANT SPEED (MPH)	3.0	1.8	2.5	1.6	0.3	2.4	1.4	0.3	2.3	1.7	4.5	5.7	1.7	
	RES. DIR. (TENS OF DEGS.)	22	05	22	01	33	23	26	19	25	24	23	23	24	
	MEAN SPEED (MPH)	8.7	8.9	10.3	8.7	7.1	7.5	6.8	6.6	6.9	7.7	9.2	8.5	8.1	
	PREVAIL. DIR. (TENS OF DEGS.)	22	11	21	01	01	20	22	36	21	25	22	20	22	
	MAXIMUM 2-MINUTE WIND:														
	SPEED (MPH)	29	33	37	28	30	30	36	26	32	25	34	30	37	
	DIR. (TENS OF DEGS.)	24	10	22	29	31	27	33	22	29	31	24	32	22	
	DATE OF OCCURRENCE	10	17	28+	08+	31	13	21	09	07	01	11	29	MAR 28+	
	MAXIMUM 5-SECOND WIND:														
	SPEED (MPH)	36	41	46	37	41	37	46	34	39	30	45	37	46	
DIR. (TENS OF DEGS.)	25	11	27	31	32	31	32	24	28	23	24	26	32		
DATE OF OCCURRENCE	09	17	14	08	31	12	21	25	07	18+	11	22+	JUL 21		
PRECIPITATION	WATER EQUIVALENT:														
	TOTAL (IN.)	4.88	1.85	2.84	7.29	1.94	3.44	1.83	3.36	2.37	3.41	1.99	2.36	37.56	
	GREATEST 24-HOUR (IN.)	1.72	0.51	0.51	1.49	0.45	1.39	0.71	1.62	0.60	1.83	0.95	1.23	1.83	
	DATE OF OCCURRENCE	07-08	16-17	08-09	8-9	01-02	12	21-22	09-10	19	07-08	10-11	21-22	OCT 07-08	
	NUMBER OF DAYS WITH:														
	PRECIPITATION ≥ 0.01	21	12	21	17	13	17	7	6	10	8	12	13	157	
PRECIPITATION ≥ 0.10	8	9	11	10	7	10	4	6	6	5	4	6	86		
PRECIPITATION ≥ 1.00	2	0	0	3	0	1	0	1	0	1	0	1	9		
SNOWFALL	SNOW, ICE PELLETS, HAIL:														
	TOTAL (IN.)	6.3	T	14.3	T	0.0	T	0.0	0.0	T	T	0.1	10.0	30.7	
	GREATEST 24-HOUR (IN.)	1.8	T	3.6	T	0.0	T	0.0	0.0	T	T	0.1	3.4	3.6	
	DATE OF OCCURRENCE	18	23+	14	08	02	0	0	0	08	22	21	17	MAR 14	
	MAXIMUM SNOW DEPTH (IN.)	5	T	4	0	0	0	0	0	0	0	0	5	5	
	DATE OF OCCURRENCE	01	05	15+									18	DEC 18	
NUMBER OF DAYS WITH:															
SNOWFALL ≥ 1.0	2	0	5	0	0	0	0	0	0	0	0	5	12		

NORMALS, MEANS, AND EXTREMES

YOUNGSTOWN, OH (YNG)

LATITUDE: 41° 15' 16" N LONGITUDE: 80° 40' 26" W ELEVATION (FT): GRND: 1178 BARO: 1199 TIME ZONE: EASTERN (UTC+ 5) WBAN: 14852

ELEMENT		POR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
TEMPERATURE °F	NORMAL DAILY MAXIMUM	30	30.7	33.9	45.3	57.7	68.7	77.4	81.3	79.6	72.6	60.9	48.4	36.0	57.7
	MEAN DAILY MAXIMUM	51	32.3	35.3	45.0	58.1	69.1	77.9	81.7	80.2	72.9	61.6	48.1	36.6	58.2
	HIGHEST DAILY MAXIMUM	55	71	71	82	88	92	99	100	97	99	87	80	76	100
	YEAR OF OCCURRENCE		1950	1997	1986	1990	1962	1988	1988	1988	1954	1953	1961	1982	JUL 1988
	MEAN OF EXTREME MAXS.	51	54.8	56.8	70.6	79.6	84.5	89.8	91.3	89.7	86.8	78.4	68.7	58.1	75.8
	NORMAL DAILY MINIMUM	30	16.4	17.9	27.3	36.8	46.2	54.9	59.2	57.9	51.6	41.5	33.6	22.9	38.9
	MEAN DAILY MINIMUM	51	17.9	19.2	26.8	36.9	46.2	55.2	59.4	58.0	51.2	41.5	33.0	23.2	39.0
	LOWEST DAILY MINIMUM	55	-22	-14	-10	11	24	30	42	32	29	20	1	-12	-22
	YEAR OF OCCURRENCE		1994	1979	1980	1950	1970	1972	1990	1982	1991	1988	1976	1989	JAN 1994
	MEAN OF EXTREME MINS.	51	-2.9	-1.2	8.1	20.6	31.4	40.3	46.7	44.7	35.7	27.2	16.4	4.6	22.6
	NORMAL DRY BULB	30	23.6	25.9	36.3	47.3	57.5	66.2	70.3	68.8	62.2	51.2	41.0	29.5	48.3
	MEAN DRY BULB	51	25.1	27.3	35.9	47.6	57.7	66.5	70.6	69.1	62.2	51.5	40.5	30.0	48.7
	MEAN WET BULB	14	24.9	26.5	33.1	42.6	52.3	61.0	64.9	63.8	53.4	46.9	37.3	26.6	44.4
	MEAN DEW POINT	14	20.3	21.4	27.1	35.7	46.7	56.7	60.9	60.4	50.1	42.3	32.5	22.8	39.7
	NORMAL NO. DAYS WITH: MAXIMUM ≥ 90°	30	0.0	0.0	0.0	0.0	0.1	1.1	2.7	1.1	0.3	0.0	0.0	0.0	5.3
MAXIMUM ≤ 32°	30	17.3	12.9	5.4	0.3	0.0	0.0	0.0	0.0	0.0	*	1.9	12.7	50.5	
MINIMUM ≤ 32°	30	28.2	24.8	22.0	11.2	1.8	*	0.0	*	*	4.9	15.0	25.7	133.6	
MINIMUM ≤ 0°	30	3.5	2.6	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	7.5	
H/C	NORMAL HEATING DEG. DAYS	30	1283	1095	890	531	268	62	8	22	129	435	720	1101	6544
	NORMAL COOLING DEG. DAYS	30	0	0	0	0	35	98	172	140	45	7	0	0	497
RH	NORMAL (PERCENT)	30	74	73	70	66	68	71	72	75	77	73	75	78	73
	HOUR 01 LST	30	77	76	74	73	78	83	85	87	86	80	78	80	80
	HOUR 07 LST	30	79	79	78	76	79	82	86	88	89	84	81	81	82
	HOUR 13 LST	30	70	67	62	55	54	56	56	58	61	59	68	73	62
	HOUR 19 LST	30	72	70	65	59	59	62	63	68	74	71	73	76	68
S	PERCENT POSSIBLE SUNSHINE														
W/O	MEAN NO. DAYS WITH: HEAVY FOG(VISBY≤1/4 MI)	55	2.2	2.3	1.9	1.6	2.0	2.2	2.5	3.5	3.1	2.1	2.1	2.9	28.4
	THUNDERSTORMS	55	0.3	0.3	1.6	3.4	4.5	7.0	6.6	5.4	3.4	1.2	0.8	0.2	34.7
CLOUDINESS	MEAN: SUNRISE-SUNSET (OKTAS)	1						5.6							
	MIDNIGHT-MIDNIGHT (OKTAS)														
	MEAN NO. DAYS WITH: CLEAR	1			5.0		6.0	5.0							
	PARTLY CLOUDY	1	2.0				1.0	6.0							
	CLOUDY	1	5.0	4.0	9.0		11.0	9.0							
PR	MEAN STATION PRESSURE (IN)	26	28.77	28.78	28.74	28.72	28.73	28.75	28.78	28.81	28.83	28.82	28.80	28.80	28.78
	MEAN SEA-LEVEL PRES. (IN)	14	30.09	30.08	30.06	29.97	30.00	29.97	30.02	30.06	30.08	30.10	30.09	30.11	30.05
WINDS	MEAN SPEED (MPH)	39	11.4	11.0	11.4	10.8	9.3	8.3	7.8	7.3	8.1	9.1	10.8	11.1	9.7
	PREVAIL.DIR.(TENS OF DEGS)	24	24	24	27	32	23	22	24	23	23	22	24	24	23
	MAXIMUM 2-MINUTE: SPEED (MPH)	3	40	44	37	51	46	32	36	29	32	36	38	34	51
	DIR. (TENS OF DEGS)		23	23	25	33	24	33	33	22	29	24	25	25	33
	YEAR OF OCCURRENCE		1996	1997	1996	1996	1997	1997	1998	1997	1998	1996	1996	1996	APR 1996
	MAXIMUM 5-SECOND: SPEED (MPH)	3	57	57	51	62	57	37	46	37	39	48	47	43	62
DIR. (TENS OF DEGS)		22	24	26	33	25	34	32	21	28	24	25	26	33	
	YEAR OF OCCURRENCE		1996	1997	1996	1996	1997	1997	1998	1997	1998	1996	1996	1996	APR 1996
PRECIPITATION	NORMAL (IN)	30	2.13	2.03	3.11	3.06	3.52	3.94	4.07	3.32	3.48	2.62	3.11	2.93	37.32
	MAXIMUM MONTHLY (IN)	55	7.64	5.26	6.20	7.29	9.87	10.66	9.68	7.86	6.35	8.59	9.11	6.53	10.66
	YEAR OF OCCURRENCE		1950	1950	1964	1998	1946	1986	1992	1956	1996	1954	1985	1990	JUN 1986
	MINIMUM MONTHLY (IN)	55	0.73	0.55	1.07	1.01	0.78	0.71	0.66	0.51	0.27	0.43	0.94	0.88	0.27
	YEAR OF OCCURRENCE		1985	1987	1990	1982	1977	1988	1997	1969	1960	1953	1976	1958	SEP 1960
	MAXIMUM IN 24 HOURS (IN)	55	2.79	2.76	2.47	1.75	2.85	3.57	3.82	4.54	4.02	4.31	3.00	2.28	4.54
	YEAR OF OCCURRENCE		1959	1959	1954	1957	1946	1986	1967	1994	1979	1954	1985	1979	AUG 1994
NORMAL NO. DAYS WITH: PRECIPITATION ≥ 0.01	30	15.6	13.9	14.8	13.9	12.9	11.7	10.0	10.4	11.1	11.5	14.6	17.4	157.8	
	PRECIPITATION ≥ 1.00	30	0.2	0.1	0.2	0.5	0.5	0.8	1.1	0.7	0.8	0.3	0.2	0.4	5.8
SNOWFALL	NORMAL (IN)	30	13.8	11.7	10.3	2.8	0.2	0.0	0.0	0.0	T	0.5	4.9	13.0	57.2
	MAXIMUM MONTHLY (IN)	54	36.0	22.7	30.9	12.4	5.4	T	T	0.0	T	7.7	30.6	29.5	36.0
	YEAR OF OCCURRENCE		1978	1967	1993	1987	1966	1998	1991	1994	1993	1950	1987	1987	JAN 1978
	MAXIMUM IN 24 HOURS (IN)	54	17.5	13.4	15.3	12.4	5.4	T	T	0.0	T	5.2	20.7	14.8	20.7
	YEAR OF OCCURRENCE		1948	1984	1993	1987	1966	1998	1991	1994	1993	1950	1944	1944	NOV 1950
	MAXIMUM SNOW DEPTH (IN)	49	18	18	11	10	2	0	0	0	0	3	25	15	25
	YEAR OF OCCURRENCE		1948	1977	1984	1987	1966					1962	1950	1950	NOV 1950
NORMAL NO. DAYS WITH: SNOWFALL ≥ 1.0	30	4.5	4.2	3.2	0.7	0.*	0.0	0.0	0.0	0.0	0.1	1.4	4.4	18.5	

PRECIPITATION (inches) 1998 YOUNGSTOWN, OH (YNG)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1969	2.56	0.83	1.83	3.91	4.07	3.57	5.79	0.51	1.95	2.80	2.67	2.84	33.33
1970	1.39	1.93	2.22	2.85	3.22	3.52	3.48	1.08	1.80	5.20	3.24	2.90	32.83
1971	2.08	3.56	2.36	1.57	2.58	2.46	2.19	2.78	2.74	1.40	3.26	5.52	32.50
1972	1.35	2.28	3.22	3.97	2.41	4.43	3.66	1.11	4.38	0.81	4.29	3.11	35.02
1973	1.80	1.79	3.72	4.39	5.10	3.51	2.97	2.83	2.96	2.89	1.71	3.04	36.71
1974	2.78	1.61	4.48	3.05	4.67	3.95	3.20	7.21	3.36	1.67	3.98	3.03	42.99
1975	3.14	3.12	3.22	1.61	5.94	2.75	2.35	6.06	5.04	2.59	1.91	2.89	40.62
1976	3.20	3.24	4.01	1.64	1.61	4.07	7.16	2.41	5.16	2.43	0.94	1.66	37.53
1977	1.53	1.19	4.46	4.06	0.78	5.75	5.72	4.64	5.05	2.25	4.55	3.75	43.73
1978	4.52	0.60	1.64	3.01	4.49	3.88	3.98	2.72	4.23	4.34	1.36	4.22	38.99
1979	2.95	2.03	1.94	4.02	4.40	2.16	3.60	4.72	5.57	1.63	2.67	3.95	39.64
1980	1.73	1.26	5.17	2.16	2.74	3.77	6.20	7.74	4.37	2.08	1.88	1.52	40.62
1981	0.75	3.85	2.04	4.84	3.99	3.21	3.39	2.01	4.12	2.34	1.70	2.77	35.01
1982	4.27	1.50	3.24	1.01	4.37	5.20	1.73	1.75	2.16	0.59	4.93	2.96	33.71
1983	1.20	1.19	3.57	5.28	3.00	4.42	2.59	2.31	3.98	3.55	3.90	3.70	38.69
1984	1.20	2.40	2.90	2.43	5.84	3.72	4.18	3.84	2.53	2.28	3.55	2.92	37.79
1985	0.73	1.22	5.77	1.76	3.06	2.88	6.01	3.07	2.40	1.34	9.11	2.07	39.42
1986	0.87	2.29	1.38	2.03	3.62	10.66	8.31	1.72	5.83	3.05	2.92	3.42	46.10
1987	1.89	0.55	3.25	2.97	2.54	6.57	3.19	6.77	3.71	2.62	1.55	2.73	38.34
1988	1.05	2.60	1.62	2.43	3.39	0.71	5.31	3.43	3.50	2.62	3.04	1.93	31.63
1989	1.96	1.90	3.64	1.56	6.24	10.09	3.33	1.68	6.11	2.90	2.47	1.45	43.33
1990	2.06	4.56	1.07	3.21	4.60	3.05	6.93	3.04	5.19	4.23	2.24	6.53	46.71
1991	2.13	1.51	2.56	3.02	1.57	1.51	4.04	0.86	3.00	1.11	1.40	2.53	25.24
1992	2.22	1.66	3.60	3.94	2.03	0.99	9.68	3.86	4.60	2.48	4.21	3.50	42.77
1993	3.75	1.94	4.31	2.74	0.90	4.04	3.47	1.79	3.49	2.85	4.93	2.58	36.79
1994	2.77	1.48	3.91	6.06	1.77	2.21	2.49	6.60	3.30	1.74	2.60	2.99	37.92
1995	2.43	1.53	1.48	2.80	4.43	3.32	3.15	1.57	1.07	4.95	2.56	1.79	31.08
1996	2.84	2.05	3.02	5.12	3.91	4.05	3.19	1.93	6.35	3.66	2.75	2.86	41.73
1997	1.03	1.47	2.99	2.86	4.59	4.12	0.66	4.40	3.90	1.16	3.42	2.71	33.31
1998	4.88	1.85	2.84	7.29	1.94	3.44	1.83	3.36	2.37	3.41	1.99	2.36	37.56
POR= 55 YRS	2.65	2.21	3.21	3.50	3.62	3.71	3.88	3.29	3.25	2.60	2.99	2.79	37.70

WBAN : 14852

AVERAGE TEMPERATURE (°F) 1998 YOUNGSTOWN, OH (YNG)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1969	24.7	26.8	31.5	48.5	56.8	64.3	69.8	69.1	61.4	50.9	38.0	24.6	47.2
1970	17.8	24.5	31.5	48.4	61.2	65.8	70.0	68.9	65.1	53.7	40.9	30.1	48.2
1971	20.7	27.1	30.3	43.4	55.2	69.6	68.1	67.5	66.0	57.9	38.5	35.8	48.3
1972	26.5	23.5	31.6	44.4	58.3	60.8	69.1	67.6	60.9	46.1	36.7	33.3	46.6
1973	27.4	24.9	44.5	47.8	54.4	69.2	71.1	71.0	63.5	54.8	42.8	31.4	50.2
1974	30.0	25.4	36.5	49.8	56.1	65.3	69.7	69.1	58.3	49.3	41.7	30.5	48.5
1975	30.2	29.2	33.4	40.9	62.0	68.6	71.1	71.2	58.7	52.5	46.2	30.5	49.5
1976	19.9	34.6	43.2	50.2	55.4	68.9	68.7	66.1	59.5	45.9	32.4	22.1	47.2
1977	10.3	24.8	42.3	50.7	62.6	63.4	72.3	69.4	65.6	51.0	43.2	28.0	48.6
1978	19.5	15.6	31.5	45.5	57.3	65.4	68.4	70.4	65.9	50.0	42.0	32.4	47.0
1979	20.7	17.2	39.6	46.1	56.0	65.3	68.4	68.1	62.0	50.9	43.0	33.0	47.5
1980	24.4	20.9	32.2	44.9	58.0	61.5	69.4	71.0	63.1	46.1	37.2	25.5	46.2
1981	18.4	29.4	35.9	51.3	58.2	70.2	71.2	68.1	60.3	48.9	40.7	29.2	48.5
1982	19.2	25.6	35.2	43.9	64.2	62.4	71.1	65.9	60.8	55.5	45.5	40.3	49.1
1983	29.9	33.2	40.4	46.9	53.3	66.3	74.1	74.2	63.8	51.8	42.8	24.0	50.1
1984	19.9	35.5	29.4	48.7	54.9	69.2	68.8	71.0	60.4	56.2	39.3	36.2	49.1
1985	19.2	24.1	39.1	53.4	59.6	62.2	68.3	67.9	64.0	52.9	45.2	24.4	48.4
1986	25.9	28.6	39.1	50.5	60.2	65.2	70.8	66.9	64.2	52.6	39.1	31.4	49.5
1987	26.0	29.1	39.0	49.4	61.6	68.9	74.1	68.2	61.9	45.6	44.5	33.5	50.2
1988	24.4	26.0	36.4	47.1	59.0	66.2	73.9	71.7	61.2	45.1	42.4	29.7	48.6
1989	33.0	24.8	37.9	44.2	56.1	66.0	71.8	69.1	62.8	52.6	39.1	18.1	48.0
1990	35.0	34.0	41.5	49.7	55.1	66.0	69.3	68.3	61.9	53.5	44.6	35.1	51.2
1991	26.6	31.8	40.8	52.1	66.2	69.4	72.1	71.7	62.3	54.0	39.2	32.5	51.6
1992	28.8	31.6	35.1	47.8	56.8	62.9	69.8	65.5	60.8	47.9	40.8	32.2	48.3
1993	31.1	24.8	34.2	47.3	57.7	66.1	73.2	71.2	59.8	49.3	40.4	29.3	48.7
1994	18.4	25.7	34.8	50.2	53.4	68.9	71.9	67.1	60.9	50.9	45.4	35.0	48.6
1995	29.5	24.9	39.7	45.7	58.2	70.2	73.4	75.5	59.7	53.4	35.9	24.8	49.2
1996	23.8	25.8	31.1	45.9	56.0	67.9	67.5	67.8	61.4	50.8	34.6	33.4	47.2
1997	24.9	32.8	37.0	44.3	51.4	66.7	68.8	66.0	60.7	51.7	37.5	32.3	47.8
1998	34.1	37.0	39.9	48.8	63.2	65.5	69.2	71.1	65.1	52.0	42.7	36.0	52.1
POR= 55 YRS	25.2	27.2	36.1	47.5	57.7	66.5	70.5	69.2	62.4	51.7	40.4	29.8	48.7

HEATING DEGREE DAYS (base 65°F) 1998 YOUNGSTOWN, OH (YNG)

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
1969-70	13	17	167	440	803	1242	1457	1128	1036	509	180	77	7069
1970-71	20	19	101	347	716	1077	1367	1055	1070	642	314	18	6746
1971-72	16	26	76	221	788	898	1186	1198	1028	611	208	157	6413
1972-73	51	39	154	580	842	972	1157	1116	630	512	324	6	6383
1973-74	8	17	120	308	659	1037	1077	1103	878	465	288	60	6020
1974-75	8	10	216	480	692	1064	1069	995	972	717	149	48	6420
1975-76	8	8	189	389	559	1063	1391	873	672	468	313	22	5955
1976-77	18	59	183	584	969	1321	1692	1119	703	449	148	127	7372
1977-78	9	28	65	429	652	1142	1403	1378	1030	582	273	86	7077
1978-79	31	2	82	456	680	1004	1363	1332	781	568	310	74	6683
1979-80	35	37	141	445	652	987	1250	1270	1008	596	233	139	6793
1980-81	11	12	117	576	826	1220	1438	989	894	408	232	16	6739
1981-82	12	21	189	491	721	1101	1414	1098	920	628	81	99	6775
1982-83	11	65	161	302	587	763	1083	885	757	543	359	81	5597
1983-84	13	0	143	406	662	1265	1393	850	1101	486	323	18	6660
1984-85	16	13	182	271	763	885	1417	1137	796	383	200	111	6174
1985-86	10	17	141	365	589	1255	1207	1014	799	437	186	86	6106
1986-87	9	64	105	381	772	1036	1201	999	802	464	185	43	6061
1987-88	6	44	118	594	611	971	1252	1123	878	532	206	91	6426
1988-89	11	29	134	618	675	1086	983	1119	837	618	306	48	6464
1989-90	0	20	130	382	772	1446	925	863	731	488	306	75	6138
1990-91	20	6	141	357	603	918	1183	927	745	399	102	26	5427
1991-92	0	3	165	360	766	999	1115	960	919	515	264	108	6174
1992-93	12	55	168	523	721	1005	1044	1121	950	526	239	70	6434
1993-94	3	8	192	481	732	1099	1438	1091	929	452	364	58	6847
1994-95	5	39	156	429	581	922	1096	1113	776	572	213	20	5922
1995-96	20	0	169	353	869	1238	1273	1134	1043	567	318	33	7017
1996-97	29	12	141	434	904	971	1236	894	862	617	415	52	6567
1997-98	19	45	148	435	817	1007	951	781	790	478	111	106	5688
1998-	2	7	83	401	663	892							

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COOLING DEGREE DAYS (base 65°F) 1998 YOUNGSTOWN, OH (YNG)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1969	0	0	0	1	26	101	170	151	67	8	0	0	524
1970	0	0	0	16	71	110	182	148	112	4	0	0	643
1971	0	0	0	0	16	164	119	109	114	10	0	0	532
1972	0	0	0	0	8	38	184	125	39	0	0	0	394
1973	0	0	0	4	2	137	204	210	81	0	0	0	638
1974	0	0	0	15	21	74	162	143	21	0	1	0	437
1975	0	0	0	0	65	163	204	207	8	9	0	0	656
1976	0	0	0	30	21	145	137	100	28	0	0	0	461
1977	0	0	4	28	80	86	246	171	89	0	4	0	708
1978	0	0	0	0	37	102	142	176	117	0	0	0	574
1979	0	0	0	7	38	95	147	139	61	14	0	0	501
1980	0	0	0	0	23	41	153	203	66	0	0	0	486
1981	0	0	0	6	30	179	212	124	55	0	0	0	606
1982	0	0	0	2	66	28	209	98	42	16	10	4	475
1983	0	0	0	5	5	127	299	292	117	4	0	0	849
1984	0	0	0	6	18	151	141	207	53	6	0	0	582
1985	0	0	0	41	39	33	119	111	118	0	1	0	462
1986	0	0	2	9	44	97	196	136	90	5	0	0	579
1987	0	0	0	5	84	167	294	153	33	0	1	0	737
1988	0	0	0	0	27	136	295	246	25	7	0	0	736
1989	0	0	4	0	37	84	219	153	71	8	0	0	576
1990	0	0	10	35	9	112	159	117	56	8	0	0	506
1991	0	0	0	18	144	165	227	216	89	23	0	0	882
1992	0	0	0	5	16	52	166	75	49	0	0	0	363
1993	0	0	0	0	18	111	261	209	41	1	0	0	641
1994	0	0	0	15	12	182	224	112	39	0	0	0	584
1995	0	0	0	0	9	185	287	332	16	0	0	0	829
1996	0	0	0	0	46	128	116	107	37	0	0	0	434
1997	0	0	0	0	0	110	143	86	28	30	0	0	397
1998	0	0	19	0	61	128	139	201	95	3	0	0	646

SNOWFALL (inches) 1998 YOUNGSTOWN, OH (YNG)

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
1969-70	0.0	0.0	0.0	0.4	6.0	21.2	15.2	13.4	10.0	0.6	0.0	0.0	66.8
1970-71	0.0	0.0	T	T	1.7	15.6	16.0	18.0	22.0	0.4	0.0	0.0	73.7
1971-72	0.0	0.0	0.0	0.0	20.1	7.2	9.0	19.0	9.3	2.1	0.0	0.0	66.7
1972-73	0.0	0.0	0.0	0.4	8.2	8.3	5.3	11.8	8.5	1.8	T	0.0	44.3
1973-74	0.0	0.0	0.0	0.0	3.3	7.0	9.8	9.2	9.2	4.7	T	0.0	43.2
1974-75	0.0	0.0	0.0	0.9	5.3	20.4	6.6	10.2	13.5	1.8	0.0	0.0	58.7
1975-76	0.0	0.0	0.0	0.0	3.7	10.2	19.7	7.9	5.0	0.6	T	0.0	47.1
1976-77	0.0	0.0	0.0	T	8.9	10.9	22.0	10.5	3.3	0.6	0.0	0.0	56.2
1977-78	0.0	0.0	0.0	T	5.6	18.6	36.0	9.6	3.6	T	0.0	0.0	73.4
1978-79	0.0	0.0	0.0	0.0	2.0	5.7	16.2	9.6	2.8	T	0.0	0.0	36.3
1979-80	0.0	0.0	0.0	T	1.6	7.4	6.2	9.2	8.4	T	T	0.0	32.8
1980-81	0.0	0.0	0.0	0.1	5.9	11.0	13.8	8.2	10.1	T	0.0	0.0	49.1
1981-82	0.0	0.0	0.0	0.4	1.5	17.6	13.5	5.4	13.1	10.6	0.0	0.0	62.1
1982-83	0.0	0.0	0.0	T	4.1	10.7	3.4	7.6	11.9	1.7	0.0	0.0	39.4
1983-84	0.0	0.0	T	0.0	2.8	7.9	12.4	22.3	18.0	T	0.0	0.0	63.4
1984-85	0.0	0.0	0.0	0.0	4.6	9.4	21.2	9.1	1.7	5.8	0.0	0.0	51.8
1985-86	0.0	0.0	0.0	0.0	T	16.4	7.0	9.9	7.4	3.2	T	0.0	43.9
1986-87	0.0	0.0	0.0	0.0	6.8	3.2	20.3	3.7	20.6	12.4	0.0	0.0	67.0
1987-88	0.0	0.0	0.0	0.2	4.6	29.5	10.4	17.4	14.4	1.2	0.0	0.0	77.7
1988-89	0.0	0.0	0.0	0.9	2.4	13.0	3.7	9.6	11.1	1.9	0.3	0.0	42.9
1989-90	0.0	0.0	0.0	2.3	3.0	14.6	11.7	8.4	2.3	3.5	T	0.0	45.8
1990-91	0.0	0.0	T	0.0	0.5	6.6	9.3	12.2	1.6	0.4	0.0	0.0	30.6
1991-92	T	0.0	0.0	0.0	2.3	8.3	18.3	3.0	21.1	1.5	0.0	0.0	54.5
1992-93	0.0	0.0	0.0	4.0	6.8	14.0	8.7	17.6	30.9	0.5	0.0	0.0	82.5
1993-94	0.0	0.0	0.0	7.7	1.4	17.4	27.2	15.6	9.2	2.5	0.0	0.0	81.0
1994-95	0.0	0.0	T	0.0	1.5	3.6	8.8	12.4	6.3	1.1	T	0.0	33.7
1995-96	0.0	0.0	0.0	0.0		18.6	13.9	5.6	4.9	2.8			
1996-97													
1997-98				0.8	8.2	13.5	6.3	T	14.3	T	0.0	T	
1998-	0.0	0.0	T	T	0.1	10.0							
POR= 53 YRS	T	0.0	T	0.6	5.5	12.5	12.8	10.6	10.7	2.4	0.1	0.0	55.2

WBAN : 14852

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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1998
YOUNGSTOWN,
OHIO (YNG)

The Youngstown Municipal Airport is located in northeastern Ohio approximately 8 miles north of the city of Youngstown in Trumbull County. Airport elevation is 1,178 feet, about 200 feet higher than most communities in the Mahoning and Shenango River Valleys. There are numerous natural and man-made lakes in the region, including Lake Erie, 45 miles to the north. Drainage from the area flows southward through the Mahoning and Shenango Rivers which join to form the Beaver River at New Castle, Pennsylvania. The Beaver empties into the Ohio River at Rochester, Pennsylvania.

This entire area experiences frequent outbreaks of cold Canadian air masses which may be modified by passage over Lake Erie. This effect produces widespread cloudiness especially during the cool months of the year. The winter months are characterized by persistent cloudiness and intermittent snow flurries. The daily temperature range during most winter days is quite small. During most winters, the bulk of the snow falls as flurries of 2 inches or less per occurrence, although several snowstorms per year will produce amounts in the 4- to 10-inch range.

Destructive storms seldom occur, and tornadoes are not common. During recent years flood control projects have all but eliminated the threat of serious river flooding. Flash flooding of small streams and creeks rarely affects residential areas. Certain communities have well known areas of urban flooding during periods of prolonged heavy thunderstorms.

The climate of the Youngstown district has had an important role in the growth and development of this industrial area. Temperatures seldom reach extreme values especially during the summer months. However, high humidity during most days of the year tends to accentuate the temperature. Rainfall, reasonably well distributed throughout the year, provides a more than adequate supply of water for agriculture, industrial, and residential use.

Based on the 1951-1980 period, the average first occurrence of 32 degrees Fahrenheit in the fall is October 14 and the average last occurrence in the spring is May 6.

STATION LOCATION

YOUNGSTOWN, OHIO

LOCATION	OCCUPIED FROM	OCCUPIED TO	AIRLINE DISTANCES AND DIRECTIONS FROM PREVIOUS LOCATION	LATITUDE NORTH	LONGITUDE WEST	ELEVATION ABOVE										AUTOMATED STATION	* Type M = AMOS T = AUTOB S = ASOS W = AWOS	REMARKS
						SEA LEVEL	GROUND											
							WIND	WIND	WIND	WIND	WIND	WIND	WIND	WIND	WIND			
Administration Building Municipal Airport	4/13/42	Present	NA	41°16'	80°40'	1178	a20	c4	4e5	NA	NA	3d3	3d3	b4f4	NA	Thermometer shelter and rain gage 50 feet S of Admin. Bldg. to 4/27/50 and 160 feet ENE of Admin. Bldg. thereafter. a - 62 feet to November 1958. b - Commissioned 9/25/59 on site about 1800 feet SW of Admin. Bldg. c - Removed prior to 12/31/66. d - Minor adjustment 5/3/69. e - Minor adjustment 5/15/81. f - Type change 7/17/85. S ASOS Commissioned 09/01/95		

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

National Climatic Data Center
 151 Patton Avenue, Rm 120
 Asheville NC 28801-5001

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