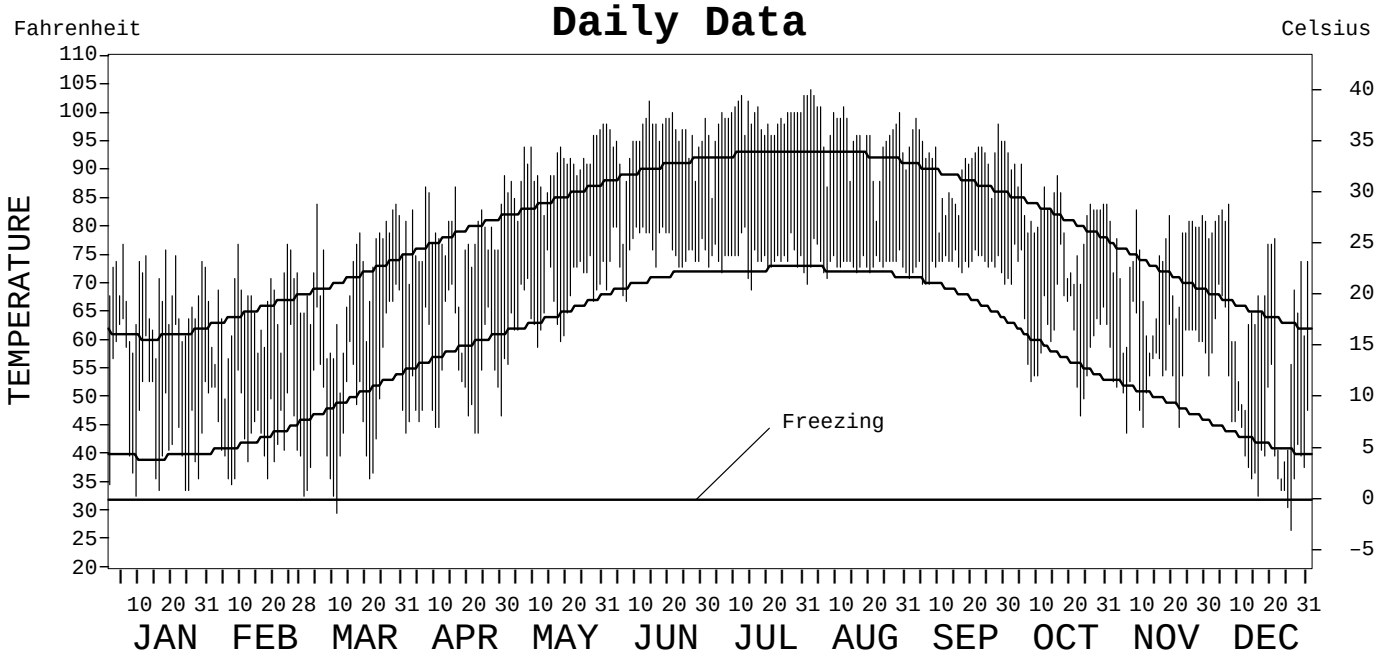
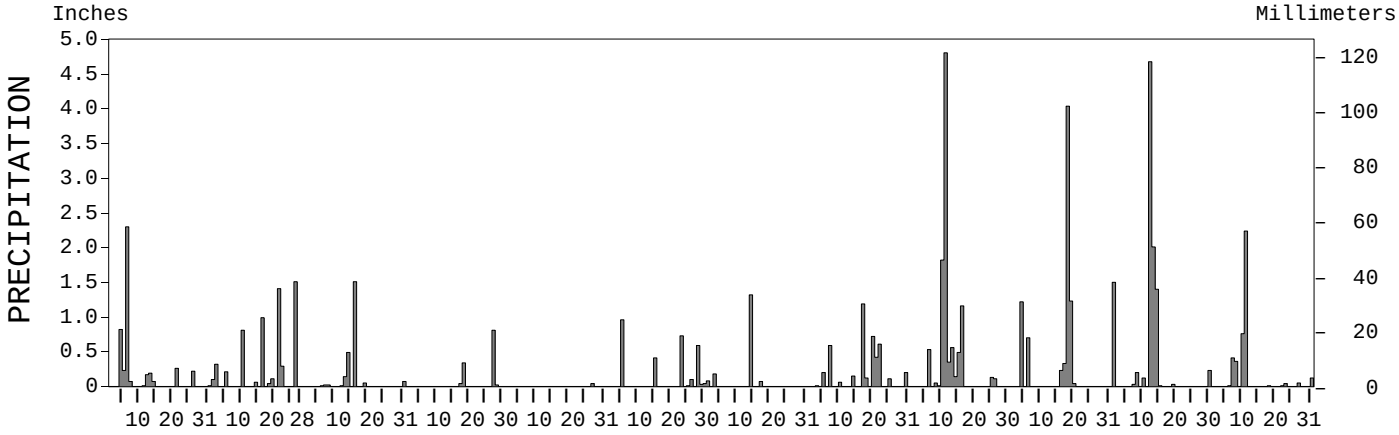
1998 LOCAL CLIMATOLOGICAL DATA
ANNUAL SUMMARY WITH COMPARATIVE DATA

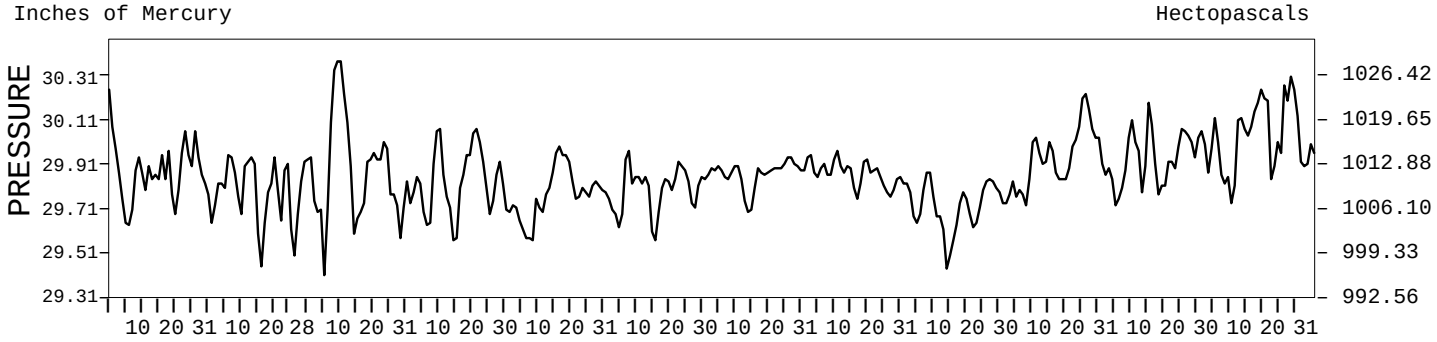
ISSN 0198-5094

HOUSTON,
TEXAS (IAH)

Daily Data







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

METEOROLOGICAL DATA FOR 1998

HOUSTON, TX (IAH)

LATITUDE: 29° 59′ 33″ N | LONGITUDE: 95° 21′ 50″ W | ELEVATION (FT): GRND: 96 BARO: 122 | TIME ZONE: CENTRAL (UTC+ 6) | WBAN: 12960

	ELEMENT	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
TEMPERATURE °F	MEAN DAILY MAXIMUM	67.5	65.7	70.9	77.6	90.3	95.1	98.5	95.7	91.1	82.2	72.9	65.1	81.0
	HIGHEST DAILY MAXIMUM	77	77	84	87	98	102	103	104	99	93	83	84	104
	DATE OF OCCURRENCE	05	24+	29+	16+	31	14	31+	02	03	01	09	07	AUG 02
	MEAN DAILY MINIMUM	46.7	44.5	49.2	54.1	67.0	75.9	74.6	73.6	73.2	62.9	55.6	45.1	60.2
	LOWEST DAILY MINIMUM	33	35	30	44	56	67	69	70	70	47	44	27	27
	DATE OF OCCURRENCE	09	07	11	23+	02	07	15	01	30+	23	06	26	DEC 26
	AVERAGE DRY BULB	57.1	55.1	60.1	65.9	78.7	85.5	86.6	84.7	82.2	72.6	64.3	55.1	70.7
	MEAN WET BULB	53.6	50.5	54.3	59.4	71.7	77.0	77.5	76.2	75.8	67.2	60.6	51.8	64.6
	MEAN DEW POINT	50.5	46.5	49.1	54.5	68.3	74.0	74.1	73.3	73.6	64.8	58.2	48.8	61.3
	NUMBER OF DAYS WITH:													
	MAXIMUM ≥ 90°	0	0	0	0	17	27	30	26	22	4	0	0	126
	MAXIMUM ≤ 32°	0	0	0	0	0	0	0	0	0	0	0	0	0
	MINIMUM ≤ 32°	0	0	1	0	0	0	0	0	0	0	0	2	3
	MINIMUM ≤ 0°	0	0	0	0	0	0	0	0	0	0	0	0	0
H/C	HEATING DEGREE DAYS	254	276	212	57	0	0	0	0	0	8	92	349	1248
	COOLING DEGREE DAYS	16	6	64	90	429	621	678	616	524	250	75	50	3419
RH	MEAN (PERCENT)	82	77	72	71	74	73	72	76	81	81	83	82	77
	HOUR 06 LST	92	92	88	90	92	91	97	96	95	93	91	91	92
	HOUR 12 LST	68	61	54	53	56	55	51	58	64	63	70	65	60
	HOUR 18 LST	73	64	59	56	59	61	54	65	76	77	82	81	67
	HOUR 24 LST	91	89	84	85	90	87	86	89	92	92	90	91	89
S	PERCENT POSSIBLE SUNSHINE													
W/O	NUMBER OF DAYS WITH:													
	HEAVY FOG(VISBY ≤ 1/4 MI)	3	1	2	1	2	0	0	1	0	2	8	4	24
	THUNDERSTORMS	6	7	1	1	0	5	5	18	8	4	6	1	62
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.)	29.89	29.79	29.89	29.84	29.78	29.80	29.88	29.87	29.72	29.95	29.95	30.05	29.87
	MEAN SEA-LEVEL PRESS. (IN.)	30.00	29.90	30.00	29.95	29.89	29.91	29.99	29.98	29.83	30.06	30.07	30.16	29.98
WINDS	RESULTANT SPEED (MPH)	1.8	1.0	2.8	1.4	2.0	4.0	1.1	1.2	0.7	3.0	1.8	1.0	1.4
	RES. DIR. (TENS OF DEGS.)	11	07	15	13	20	14	16	08	07	09	11	05	12
	MEAN SPEED (MPH)	7.1	6.6	8.8	6.7	6.5	7.9	6.2	4.7	6.3	6.4	5.9	6.3	6.6
	PREVAIL.DIR.(TENS OF DEGS.)	12	14	15	15	18	18	17	07	03	13	17	01	16
	MAXIMUM 2-MINUTE WIND:													
	SPEED (MPH)	23	28	29	25	24	24	36	31	33	28	30	25	36
	DIR. (TENS OF DEGS.)	02	13	16	14	16	10	34	09	13	31	32	34	34
	DATE OF OCCURRENCE	06	10	30+	12	08	27	14	19	06	18+	10	21	JUL 14
	MAXIMUM 5-SECOND WIND:													
	SPEED (MPH)	37	40	37	31	31	29	49	38	45	47	37	34	49
	DIR. (TENS OF DEGS.)	33	28	14	13	21	19	33	10	32	13	31	15	33
	DATE OF OCCURRENCE	14	18+	29	12	12+	11	14	03	18	04	10	18	JUL 14
PRECIPITATION	WATER EQUIVALENT:													
	TOTAL (IN.)	4.35	5.85	2.32	1.21	0.04	2.87	1.65	4.38	10.16	7.79	10.21	4.01	54.84
	GREATEST 24-HOUR (IN.)	2.30	1.70	1.51	0.81	0.04	0.96	1.32	1.19	6.14	4.04	6.33	2.25	6.33
	DATE OF OCCURRENCE	06	21-22	16	27	27	05	14	17	10-11	18	12-13	10-11	NOV 12-13
	NUMBER OF DAYS WITH:													
	PRECIPITATION ≥ 0.01	11	11	9	4	1	8	4	12	12	7	10	10	99
	PRECIPITATION ≥ 0.10	7	9	3	2	0	5	2	10	10	6	7	5	66
	PRECIPITATION ≥ 1.00	1	2	1	0	0	0	1	1	3	3	4	1	17
SNOWFALL	SNOW,ICE PELLETS,HAIL:													
	TOTAL (IN.)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	GREATEST 24-HOUR (IN.)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	DATE OF OCCURRENCE													
	MAXIMUM SNOW DEPTH (IN.)	0	0	0	0	0	0	0	0	0	0	0	0	0
	DATE OF OCCURRENCE													
	NUMBER OF DAYS WITH:													
	SNOWFALL ≥ 1.0	0	0	0	0	0	0	0	0	0	0	0	0	0

NORMALS, MEANS, AND EXTREMES

HOUSTON, TX (IAH)

LATITUDE: 29° 59′ 33″ N LONGITUDE: 95° 21′ 50″ W ELEVATION (FT): GRND: 96 BARO: 122 TIME ZONE: CENTRAL (UTC+ 6) WBAN: 12960

	ELEMENT	POR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
TEMPERATURE °F	NORMAL DAILY MAXIMUM	30	61.0	65.3	71.1	78.4	84.6	90.1	92.7	92.5	88.4	81.6	72.4	64.7	78.6
	MEAN DAILY MAXIMUM	29	61.4	65.7	72.6	78.8	85.2	90.8	93.8	93.3	88.8	81.4	71.4	64.8	79.0
	HIGHEST DAILY MAXIMUM	29	84	91	91	95	99	103	104	107	102	96	89	85	107
	YEAR OF OCCURRENCE		1975	1986	1989	1987	1996	1980	1980	1980	1985	1991	1989	1995	AUG 1980
	MEAN OF EXTREME MAXS.	29	78.2	81.2	85.4	88.4	92.7	97.0	98.6	98.7	96.1	91.1	85.0	80.3	89.4
	NORMAL DAILY MINIMUM	30	39.7	42.6	50.0	58.1	64.4	70.6	72.4	72.0	67.9	57.6	49.6	42.2	57.3
	MEAN DAILY MINIMUM	29	41.1	44.1	50.9	57.6	65.5	71.2	73.2	72.7	68.6	58.7	49.8	43.6	58.1
	LOWEST DAILY MINIMUM	29	12	20	22	31	44	52	62	60	48	29	19	7	7
	YEAR OF OCCURRENCE		1982	1997	1980	1987	1978	1970	1990	1992	1975	1993	1976	1989	DEC 1989
	MEAN OF EXTREME MINS.	29	24.8	27.1	32.6	39.8	51.9	62.1	68.2	67.3	54.6	41.9	32.0	26.3	44.0
	NORMAL DRY BULB	30	50.4	53.9	60.6	68.3	74.5	80.4	82.6	82.3	78.2	69.6	61.0	53.5	67.9
	MEAN DRY BULB	29	51.3	54.9	61.7	68.1	75.3	81.0	83.5	83.1	78.7	70.1	60.5	54.2	68.5
	MEAN WET BULB	15	47.6	50.9	56.1	62.0	69.8	74.4	75.7	75.5	71.7	64.3	56.3	46.9	62.6
	MEAN DEW POINT	15	42.6	45.8	51.1	57.4	66.3	71.4	72.7	72.3	68.4	60.5	52.3	42.9	58.6
	NORMAL NO. DAYS WITH:														
	MAXIMUM ≥ 90°	30	0.0	*	0.1	1.0	5.1	19.4	26.5	26.0	14.7	2.7	0.0	0.0	95.5
	MAXIMUM ≤ 32°	30	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.6
	MINIMUM ≤ 32°	30	7.8	4.8	1.4	0.1	0.0	0.0	0.0	0.0	0.0	*	1.6	5.6	21.3
	MINIMUM ≤ 0°	30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
H/C	NORMAL HEATING DEG. DAYS	30	468	322	187	36	0	0	0	0	0	31	181	374	1599
	NORMAL COOLING DEG. DAYS	30	16	11	50	135	295	462	546	536	396	174	61	18	2700
RH	NORMAL (PERCENT)	30	75	73	73	73	75	75	74	75	77	75	76	76	75
	HOUR 06 LST	30	82	83	83	85	87	87	87	88	89	88	86	84	86
	HOUR 12 LST	30	85	86	87	89	91	92	93	93	93	91	89	86	90
	HOUR 18 LST	30	63	61	59	58	59	59	58	58	60	56	59	62	59
	HOUR 24 LST	30	67	61	60	60	63	62	62	63	67	68	72	70	65
S	PERCENT POSSIBLE SUNSHINE	27	45	50	54	58	62	68	70	68	66	64	52	51	59
W/O	MEAN NO. DAYS WITH:														
	HEAVY FOG(VISBY≤1/4 MI)	29	4.6	3.4	3.0	2.4	1.7	0.7	0.2	0.3	1.2	2.6	3.6	4.1	27.8
	THUNDERSTORMS	29	2.3	2.4	3.5	3.9	7.0	8.3	10.0	10.4	7.2	3.8	2.8	1.8	63.4
CLOUDINESS	MEAN:														
	SUNRISE-SUNSET (OKTAS)	27	5.5	5.3	5.4	5.3	5.2	4.6	4.4	4.4	4.2	4.0	4.6	5.3	4.8
	MIDNIGHT-MIDNIGHT (OKTAS)	26	5.3	5.0	5.1	5.0	4.9	3.9	3.8	3.7	3.6	3.5	4.3	5.0	4.4
	MEAN NO. DAYS WITH:														
	CLEAR	27	7.2	7.0	7.0	7.2	5.6	7.3	6.9	6.1	8.6	11.2	9.0	7.2	90.3
	PARTLY CLOUDY	27	5.4	5.6	6.4	7.1	11.0	13.3	15.9	16.9	11.5	8.9	7.0	5.5	114.5
	CLOUDY	27	18.4	15.6	17.6	15.7	14.3	9.3	8.2	8.0	10.0	10.9	14.0	18.3	160.3
PR	MEAN STATION PRESSURE(IN)	26	30.00	29.99	29.90	29.90	29.80	29.80	29.90	29.90	29.89	29.90	30.00	30.00	29.91
	MEAN SEA-LEVEL PRES. (IN)	15	30.13	30.08	30.02	29.96	29.93	29.94	30.00	29.98	29.97	30.03	30.08	30.13	30.02
WINDS	MEAN SPEED (MPH)	26	8.2	8.6	9.2	9.1	8.2	7.7	7.0	6.2	6.7	7.2	7.9	7.8	7.8
	PREVAIL.DIR(TENS OF DEGS)	26	36	36	13	13	14	18	18	12	13	13	36	36	13
	MAXIMUM 2-MINUTE:														
	SPEED (MPH)	2	24	31	29	37	24	24	36	31	33	28	30	31	37
	DIR. (TENS OF DEGS)		35	15	16	11	16	09	34	09	13	31	15	34	11
	YEAR OF OCCURRENCE		1997	1997	1998	1997	1998	1997	1998	1998	1998	1998	1997	1997	APR 1997
	MAXIMUM 5-SECOND:														
	SPEED (MPH)	2	37	41	37	43	47	53	49	44	45	47	37	37	53
	DIR. (TENS OF DEGS)		33	16	14	09	35	21	33	23	32	13	31	34	21
	YEAR OF OCCURRENCE		1998	1997	1998	1997	1997	1997	1998	1997	1998	1998	1998	1997	JUN 1997
PRECIPITATION	NORMAL (IN)	30	3.29	2.96	2.92	3.21	5.24	4.96	3.60	3.49	4.89	4.27	3.79	3.45	46.07
	MAXIMUM MONTHLY (IN)	29	9.78	5.99	8.52	10.92	14.39	16.28	8.10	10.58	11.35	16.05	10.21	9.34	16.28
	YEAR OF OCCURRENCE		1991	1992	1972	1976	1970	1989	1979	1996	1976	1984	1998	1991	JUN 1989
	MINIMUM MONTHLY (IN)	29	0.36	0.38	0.12	0.43	0.04	0.26	0.47	0.31	0.80	0.05	0.41	0.64	0.04
	YEAR OF OCCURRENCE		1971	1976	1996	1983	1998	1970	1993	1990	1975	1978	1988	1973	MAY 1998
	MAXIMUM IN 24 HOURS (IN)	29	2.73	2.22	7.47	8.16	10.36	10.35	3.99	6.83	7.98	9.31	6.33	4.14	10.36
	YEAR OF OCCURRENCE		1995	1985	1972	1976	1989	1989	1973	1981	1976	1984	1998	1995	MAY 1989
	NORMAL NO. DAYS WITH:														
	PRECIPITATION ≥ 0.01	30	10.2	8.4	9.3	6.9	8.0	8.5	9.2	8.9	9.4	7.4	8.3	8.9	103.4
	PRECIPITATION ≥ 1.00	30	0.9	0.8	0.8	1.0	1.9	1.6	1.1	1.0	1.3	1.5	1.0	0.9	13.8
SNOWFALL	NORMAL (IN)	30	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	0.1	0.5
	MAXIMUM MONTHLY (IN)	29	2.0	2.8	T	T	T	T	0.0	0.0	0.0	0.0	T	1.7	2.8
	YEAR OF OCCURRENCE		1973	1973	1992	1993	1993	1996					1979	1989	FEB 1973
	MAXIMUM IN 24 HOURS (IN)	29	2.0	1.4	T	T	T	T	0.0	0.0	0.0	0.0	T	1.7	2.0
	YEAR OF OCCURRENCE		1973	1980	1992	1993	1993	1996					1979	1989	JAN 1973
	MAXIMUM SNOW DEPTH (IN)	28	1	1	0	0	0	0	0	0	0	0	0	0	1
	YEAR OF OCCURRENCE		1973	1973											FEB 1973
	NORMAL NO. DAYS WITH:														
	SNOWFALL ≥ 1.0	30	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.*	0.2

PRECIPITATION (inches) 1998 HOUSTON, TX (IAH)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1969	2.74	5.31	3.18	3.34	4.73	1.51	3.89	2.67	6.08	3.30	2.13	4.38	43.26
1970	1.93	2.52	5.08	2.21	14.39	0.26	2.28	2.03	6.22	9.09	1.54	0.64	48.19
1971	0.36	2.11	1.21	2.14	3.41	2.42	1.42	6.95	5.17	3.49	1.82	7.33	37.83
1972	3.30	1.20	8.52	2.85	6.99	3.02	2.76	3.90	6.23	3.34	6.49	2.20	50.80
1973	5.00	3.40	3.68	7.15	4.22	13.46	6.77	3.73	9.38	9.31	1.59	2.47	70.16
1974	7.68	0.55	4.20	1.68	5.61	0.59	1.75	6.94	4.51	4.53	7.90	3.35	49.29
1975	1.97	2.63	3.19	4.80	7.57	7.50	5.48	5.72	0.80	5.62	2.08	3.61	50.97
1976	1.39	0.38	1.53	10.92	5.80	2.63	3.93	1.59	11.35	5.83	3.05	6.22	54.62
1977	2.67	1.70	1.95	4.34	0.79	3.55	2.69	4.45	3.92	0.82	5.17	2.89	34.94
1978	7.15	3.07	1.70	0.57	4.15	9.37	2.35	3.66	4.27	0.05	5.99	2.60	44.93
1979	6.30	5.23	2.88	7.79	3.78	1.88	8.10	4.57	9.83	2.80	1.78	4.03	58.97
1980	6.09	2.54	5.39	2.05	5.63	0.92	1.57	1.40	6.00	4.03	2.12	1.25	38.99
1981	2.32	2.21	1.74	2.69	8.75	9.65	4.43	7.01	2.91	6.96	5.26	2.05	55.98
1982	1.82	1.59	1.55	2.28	6.87	1.10	4.32	1.90	0.98	6.64	8.91	4.91	42.87
1983	2.00	3.97	3.85	0.43	7.29	5.37	5.23	9.42	7.23	1.56	3.17	3.69	53.21
1984	3.99	4.37	2.41	0.56	3.13	1.99	3.43	3.52	3.87	16.05	2.28	2.59	48.19
1985	2.10	5.38	4.52	4.31	1.57	5.29	4.93	1.14	4.67	6.54	4.84	3.85	49.14
1986	0.71	2.74	1.44	2.63	4.29	6.34	0.61	3.27	3.70	6.83	6.66	5.71	44.93
1987	2.42	4.26	0.88	0.47	5.39	9.31	4.79	1.48	3.46	0.17	3.41	4.56	40.60
1988	1.27	1.29	4.88	1.26	1.32	2.00	3.23	3.52	1.20	1.29	0.41	1.26	22.93
1989	4.80	0.90	3.96	1.48	13.56	16.28	1.92	2.74	2.69	1.76	1.84	0.80	52.73
1990	3.96	4.54	5.11	6.21	2.23	2.98	4.85	0.31	1.57	3.79	3.01	1.81	40.37
1991	9.78	5.79	1.77	8.06	4.02	7.69	1.31	2.97	2.76	2.57	5.03	9.34	61.09
1992	7.70	5.99	6.28	3.74	7.05	3.38	3.85	2.78	1.08	1.03	5.99	3.46	52.33
1993	5.79	2.67	6.41	7.88	8.50	12.08	0.47	1.82	1.10	5.32	3.27	2.68	57.99
1994	2.08	2.79	2.39	2.11	5.02	3.40	1.60	5.45	1.12	10.62	1.67	4.90	43.15
1995	5.95	2.55	4.11	2.59	3.83	4.11	2.68	4.90	2.52	2.77	3.63	4.99	44.63
1996	0.88	1.29	0.12	2.05	0.56	8.37	1.11	10.58	6.96	2.60	4.55	3.74	42.81
1997	3.26	5.35	7.96	7.17	6.69	4.46	2.30	2.26	4.86	7.11	3.38	5.42	60.22
1998	4.35	5.85	2.32	1.21	0.04	2.87	1.65	4.38	10.16	7.79	10.21	4.01	54.84
POR= 64 YRS	3.75	3.19	2.90	3.44	4.79	4.79	3.81	3.99	4.44	4.09	4.00	4.02	47.21

WBAN : 12960

AVERAGE TEMPERATURE (°F) 1998 HOUSTON, TX (IAH)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1969	56.7	56.9	56.1	70.3	75.4	80.0	84.4	83.2	78.2	71.0	58.5	55.2	68.8
1970	46.7	53.9	56.9	69.3	72.1	78.4	81.4	83.1	78.9	66.7	56.9	60.5	67.1
1971	56.7	55.7	59.4	66.6	74.1	80.3	83.9	80.4	78.3	72.0	60.0	59.9	68.9
1972	56.5	55.2	64.3	71.2	73.7	80.8	80.3	80.3	79.6	69.8	54.7	52.0	68.2
1973	47.4	51.4	63.7	64.6	72.8	79.2	83.0	79.5	78.1	71.8	67.3	53.5	67.7
1974	55.0	56.2	66.8	67.2	76.9	79.9	82.8	81.6	74.6	70.6	60.2	54.6	68.9
1975	56.9	55.4	61.1	68.3	75.9	80.0	81.5	81.1	74.9	69.5	59.7	52.7	68.1
1976	50.6	60.1	62.2	67.7	70.5	78.4	80.5	81.4	76.2	60.6	51.8	49.2	65.8
1977	42.7	53.8	60.9	66.9	74.5	81.0	82.4	83.1	80.0	69.2	61.8	53.7	67.5
1978	40.8	45.1	57.3	67.6	76.0	80.4	83.7	83.1	79.3	68.9	64.7	52.9	66.7
1979	44.1	51.7	62.4	68.7	73.1	79.8	82.6	81.5	75.6	70.7	55.7	52.4	66.5
1980	55.0	53.7	60.9	66.2	77.3	85.1	87.5	86.6	83.2	67.8	58.0	55.2	69.7
1981	51.4	55.4	60.9	74.3	75.3	82.7	84.4	84.4	78.6	72.3	64.4	54.5	69.9
1982	52.9	52.1	64.9	67.8	75.3	83.0	85.4	84.1	79.3	69.5	60.9	55.4	69.2
1983	50.1	52.5	58.3	64.0	73.4	79.0	82.2	82.6	76.6	70.1	63.1	45.7	66.5
1984	47.0	54.0	61.9	67.8	74.9	78.6	81.8	82.9	77.4	74.2	60.0	63.4	68.7
1985	45.7	49.6	64.7	70.0	75.6	81.0	81.6	84.2	79.8	72.5	67.0	51.0	68.6
1986	54.4	59.9	63.3	71.7	75.8	82.0	85.9	82.6	81.8	68.9	62.0	51.7	70.0
1987	51.4	56.1	58.9	67.2	77.1	81.3	83.5	86.2	78.9	68.7	60.5	55.6	68.8
1988	48.1	54.1	61.3	67.6	73.6	80.5	84.4	85.3	80.8	72.0	65.7	55.4	69.1
1989	57.5	52.7	61.3	69.4	77.8	79.9	82.4	81.7	77.0	70.2	62.9	44.4	68.1
1990	57.0	59.1	62.9	69.4	78.1	84.8	82.1	85.1	80.1	68.7	63.4	53.6	70.4
1991	50.4	57.4	63.5	72.2	78.0	82.0	84.0	83.0	77.4	72.3	56.7	56.2	69.4
1992	51.0	58.5	64.0	68.7	73.7	81.7	83.6	80.1	79.3	71.4	56.8	56.7	68.8
1993	53.6	56.7	61.1	65.9	73.4	81.6	85.8	86.5	80.2	69.5	56.9	54.6	68.8
1994	52.6	55.2	62.7	69.6	76.0	83.5	85.5	83.1	78.3	71.9	65.7	57.2	70.1
1995	54.3	58.7	62.9	68.6	77.9	80.6	84.8	84.9	81.6	70.4	61.4	57.1	70.3
1996	52.0	58.7	58.1	69.4	81.4	80.7	83.8	82.0	77.5	70.6	62.0	57.4	69.5
1997	50.8	55.3	65.3	64.2	73.6	79.2	83.1	83.2	79.1	68.9	55.7	50.1	67.4
1998	57.1	55.1	60.1	65.9	78.7	85.5	86.6	84.7	82.2	72.6	64.3	55.1	70.7
POR= 29 YRS	51.2	54.8	61.8	68.2	75.2	81.0	83.4	83.1	78.6	70.1	60.5	54.2	68.5

HEATING DEGREE DAYS (base 65°F) 1998 HOUSTON, TX (IAH)

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
1969–70	0	0	0	29	238	304	579	309	252	51	12	0	1774
1970–71	0	0	0	72	274	209	298	273	219	72	3	0	1420
1971–72	0	0	2	6	195	194	315	295	85	17	0	0	1109
1972–73	0	0	2	50	320	410	540	379	75	117	5	0	1898
1973–74	0	0	0	8	74	364	330	273	95	60	0	0	1204
1974–75	0	0	0	15	196	336	290	270	179	48	0	0	1334
1975–76	0	0	0	26	217	399	441	178	155	26	7	0	1449
1976–77	0	0	0	173	398	484	687	312	166	25	0	0	2245
1977–78	0	0	0	34	150	365	752	553	250	33	17	0	2154
1978–79	0	0	0	22	111	393	646	376	135	23	2	0	1708
1979–80	0	0	0	27	297	389	308	350	169	45	0	0	1585
1980–81	0	0	0	67	255	323	416	291	144	6	1	0	1503
1981–82	0	0	0	50	82	326	409	363	143	79	1	0	1453
1982–83	0	0	0	53	175	328	457	346	219	96	0	0	1674
1983–84	0	0	6	27	138	606	549	325	150	45	2	0	1848
1984–85	0	0	6	12	204	144	591	432	91	22	0	0	1502
1985–86	0	0	5	17	76	434	326	209	99	11	0	0	1177
1986–87	0	0	0	28	175	411	421	245	196	82	0	0	1558
1987–88	0	0	0	16	185	301	525	331	171	35	0	0	1564
1988–89	0	0	0	5	120	309	260	379	210	56	0	0	1339
1989–90	0	0	0	47	160	637	264	177	122	34	0	0	1441
1990–91	0	0	0	61	129	395	448	222	115	8	0	0	1378
1991–92	0	0	0	15	289	303	428	197	95	37	4	0	1368
1992–93	0	0	0	1	270	268	351	235	157	62	0	0	1344
1993–94	0	0	0	76	269	343	391	291	136	40	1	0	1547
1994–95	0	0	0	21	75	268	347	192	155	28	0	0	1086
1995–96	0	0	4	8	145	303	408	267	259	54	0	0	1448
1996–97	0	0	1	29	159	280	458	287	77	70	0	0	1361
1997–98	0	0	0	58	282	454	254	276	212	57	0	0	1593
1998–	0	0	0	8	92	349							

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COOLING DEGREE DAYS (base 65°F) 1998 HOUSTON, TX (IAH)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1969	35	13	11	167	328	456	608	569	402	222	48	9	2868
1970	18	3	7	188	238	409	513	567	423	131	38	76	2611
1971	48	18	55	126	292	466	594	485	409	229	52	44	2818
1972	58	20	71	208	275	480	480	482	447	206	17	12	2756
1973	1	4	41	111	253	434	564	458	401	225	151	12	2655
1974	24	33	158	132	374	454	558	519	295	196	60	18	2821
1975	47	8	61	155	342	455	514	505	303	174	68	24	2656
1976	5	43	75	110	182	408	490	520	341	42	9	0	2225
1977	0	5	44	91	302	487	547	565	456	173	58	23	2751
1978	10	5	19	120	369	471	584	568	437	150	108	25	2866
1979	7	13	62	142	261	454	552	519	324	211	26	6	2577
1980	4	31	49	86	388	610	705	677	553	162	52	26	3343
1981	1	28	23	295	330	538	606	609	413	285	71	7	3206
1982	39	11	147	170	329	547	641	599	437	199	60	40	3219
1983	0	0	18	76	268	427	541	554	362	196	87	18	2547
1984	0	13	64	135	315	415	527	562	384	302	62	100	2879
1985	0	6	87	180	335	487	521	602	456	257	143	9	3083
1986	4	71	52	220	341	518	654	553	510	157	92	4	3176
1987	4	4	14	154	383	497	580	661	423	137	54	15	2926
1988	7	20	65	121	274	472	609	637	478	229	144	20	3076
1989	33	44	105	194	405	454	547	526	363	218	105	5	2999
1990	20	19	65	174	413	603	536	630	456	181	87	47	3231
1991	0	14	76	231	408	514	593	565	376	248	47	37	3109
1992	0	17	74	155	281	508	584	476	437	210	32	20	2794
1993	4	10	42	92	267	506	652	674	463	221	31	27	2989
1994	15	25	74	186	347	561	644	569	406	243	102	33	3205
1995	24	22	98	142	406	476	622	622	508	183	42	65	3210
1996	15	89	53	192	513	475	587	532	384	205	78	51	3174
1997	23	21	94	52	274	432	567	570	426	187	9	0	2655
1998	16	6	64	90	429	621	678	616	524	250	75	50	3419

SNOWFALL (inches) 1998 HOUSTON, TX (IAH)

YEAR	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
1970–71	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0	0.0	0.0	0.0	T
1971–72	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0	0.0	0.0	0.0	T
1972–73	0.0	0.0	0.0	0.0	0.0	0.0	2.0	2.8	0.0	0.0	0.0	0.0	4.8
1973–74	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974–75	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0	0.0	0.0	0.0	T
1975–76	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976–77	0.0	0.0	0.0	0.0	T	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T
1977–78	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.4
1978–79	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0	0.0	0.0	0.0	T
1979–80	0.0	0.0	0.0	0.0	T	0.0	0.0	1.4	0.0	0.0	0.0	0.0	1.4
1980–81	0.0	0.0	0.0	0.0	0.0	0.0	T	T	0.0	0.0	0.0	0.0	T
1981–82	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0	0.0	0.0	0.0	T
1982–83	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1983–84	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1984–85	0.0	0.0	0.0	0.0	0.0	0.0	1.4	0.3	0.0	0.0	0.0	0.0	1.7
1985–86	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1986–87	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1987–88	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0	0.0	0.0	T
1988–89	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0	0.0	0.0	T
1989–90	0.0	0.0	0.0	0.0	0.0	1.7	0.0	0.0	0.0	0.0	0.0	T	1.7
1990–91	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1991–92	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	T	0.0	T
1992–93	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	T	0.0	T
1993–94	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1
1994–95	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0	0.0	0.0	0.0	T
1995–96	0.0	0.0	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0	0.0	T	T
1996–97	0.0	0.0	0.0	0.0	0.0	T	0.0	0.0	0.0	0.0	0.0	0.0	T
1997–98	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1998–	0.0	0.0	0.0	0.0	0.0	0.0							
POR= 63 YRS	0.0	0.0	0.0	0.0	T	0.0	0.2	0.2	0.0	T	T	T	0.4

WBAN : 12960

REFERENCE NOTES:

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).

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.
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.

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.

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 EIGHTS(OKTAS) FOR REPORTING THE AMOUNT OF SKY COVER.

1998
HOUSTON, TEXAS (IAH)

Houston, the largest city in Texas, is located in the flat Coastal Plains, about 50 miles from the Gulf of Mexico and about 25 miles from Galveston Bay. The climate is predominantly marine. The terrain includes numerous small streams and bayous which, together with the nearness to Galveston Bay, favor the development of both ground and advective fogs. Prevailing winds are from the southeast and south, except in January, when frequent passages of high pressure areas bring invasions of polar air and prevailing northerly winds.

Temperatures are moderated by the influence of winds from the Gulf, which result in mild winters. Another effect of the nearness of the Gulf is abundant rainfall, except for rare extended dry periods. Polar air penetrates the area frequently enough to provide variability in the weather.

Records of sky cover for daylight hours indicate about one–fourth of the days per year as clear, with a high number of clear days in October and November. Cloudy days are relatively frequent from December to May and partly cloudy days are the more frequent for June through September. Sunshine averages nearly 60 percent of the possible amount for the year ranging from 42 percent in January to 67 percent in June.

Heavy fog occurs on an average of l6 days a year and light fog occurs about 62 days a year in the city. The frequency of heavy fog is considerably higher at William P. Hobby Airport and at Intercontinental Airport.

Destructive windstorms are fairly infrequent, but both thundersqualls and tropical storms occasionally pass through the area.

STATION LOCATION

HOUSTON, TEXAS

LOCATION	OCCUPIED FROM	OCCUPIED TO	AIRLINE DISTANCES AND DIRECTIONS FROM PREVIOUS LOCATION	LATITUDE NORTH	LONGITUDE WEST	ELEVATION ABOVE SEA LEVEL: GROUND TEMPERATURE SITE	ELEVATION ABOVE GROUND: WIND INSTRUMENTS	EXTREME THERMOMETERS	PSYCHROMETER	SUNSHINE SWITCH	TIPPING BUCKET RAIN GAGE	WEIGHING RAIN GAGE	8 INCH RAIN GAGE	HYGROTHERMOMETER	AUTOMATIC OBSERVING EQUIPMENT *	* Type M = AMOS T = AUTOB S = ASOS W = AWOS	REMARKS
Cotton Station	7/14/81	9/15/09															Location of cotton station not available.
CITY																	
~~4th~~ Floor, Stewart Bldg Preston & Fannin Sts.	9/16/09	12/13/09		29° 46'	95° 22'	51	122	111	111		104		104				
8th Floor, Stewart Bldg Preston & Fannin Sts.	12/14/09	2/28/26		29° 46'	95° 22'	51	122	111	111		104		104				
19th Floor, Shell Bldg Texas & Fannin Sts.	3/01/26	12/22/32	1/8 mi. SW	29° 46'	95° 22'	52	314	293	293		287		287				
22nd Floor, Shell Bldg Texas & Fannin Sts.	12/23/32	6/21/35		29° 46'	95° 22'	52	314	293	293		287		287				
14th Floor, Shell Bldg Texas & Fannin Sts.	6/22/35	8/25/38		29° 46'	95° 22'	52	314	293	293		287		287				
10th Floor, Federal Building Franklin & Fannin Sts.	8/26/38	Present	1/4 mi. NE	29° 46'	95° 22'	41	190	162	158		160		159				Temperature and precipitation data telemetered to airport office 3/31/61 to 6/14/67. Summary published through August 1967.
COOPERATIVE																	
~~Harrisburg,~~ Texas	11/01/23	2/29/32		29° 42'	95° 17'	38		4					4				Suburb of the City of Houston.
AIRPORT																	
~~Houston~~ Municipal AP	7/16/30	8/01/40		29° 39'	95° 17'	50	37	30	30				25				
Houston International Airport	8/01/40	7/29/60	1000 ft. S	29° 39'	95° 17'	50	87	28	28				21				Known as Houston Municipal Airport until 4/15/55.
Houston International Airport+ +William P. Hobby Airport effective 9/1/67.	7/29/60	5/31/69		29° 39'	95° 17'	50	20	23	23			a23	22	4			Moved from third to ground floor of same building and hygrothermometer installed 1500 feet E of thermometer site.
Trailer, NW corner of Houston Intercontinental AP	6/01/69	8/15/72	23 mi. NNW	29° 59'	95° 22'	96	20	5	5			c4	3	b4			a - Added 9/1/68. b - Commissioned 11/14/69. c - Commissioned 1/1/70.
Qualitron Building Intercontinental AP 17795 J.F. Kennedy Blvd	8/15/72	Present	1.6 mi. Se	29° 58'	95° 21'	96	d20	NA	NA	46	e45	45	45	d4 f5	NA		d - Same site as prior to 8/15/72. e - Added 10/15/74. f - Type change and move 1250 ft. NNW 7/28/82.
															S		ASOS Commissioned 06/01/96

SUBSCRIPTION:
Price and ordering information available through: National Climatic Data Center, Federal Building, Asheville, North Carolina 28801.

INQUIRIES/COMMENTS CALL: (828) 271-4800

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

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE $300
FORWARD AND ADDRESS CORRECTION