

Local Climatological Data

Annual Summary With Comparative Data

1983

HOUSTON, TEXAS



Narrative Climatological Summary

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 results in mild winters and, on the whole, relatively cool summer nights. 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 stimulating variability in the weather.

The average number of days with minimum temperatures of 32° or lower is only 7 per year at the City Office, about 15 at William P. Hobby Airport located in southeast Houston, and about 23 at Intercontinental Airport located in north Houston. Most freezing temperatures last only a few hours since they are usually accompanied by clear skies. The extreme persistence of freezing temperatures was in January-February 1951, when the temperature remained 32° or below for 123 consecutive hours.

Monthly rainfall is evenly distributed throughout the year. Annual downtown rainfall has varied from 72.86 inches in 1900 to 17.66 in 1917; 72.86 inches was also recorded at William P. Hobby Airport in 1946. About 75 percent of the years have total precipitation between 30 and 60 inches. Monthly precipitation at the city office has ranged from 17.64 inches to only a trace. Since thundershowers are the main source of rainfall, precipitation may vary substantially in different sections of the City on a day-to-day basis.

Records of sky cover for daylight hours indicate about one-fourth of the days per year as clear, with a maximum 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 averaged near 60 percent of the possible amount for the year at the Federal Building for 1938-1960, ranging from 46 percent for the winter months to 69 percent for the summer. Data from the airport locations since 1961 indicate slightly higher percentages of sunshine. Snow rarely occurs; however, on February 14-15, 1895, 20.0 inches of unmelted snow was measured, but 24-hour amounts were not reported. In only one winter season, 1972-73, were as many as three measurable snows recorded.

Heavy fog occurs on an average of 16 days a year and light fog occurs about 62 days a year in the City, but 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.

At the city office, the average date of the last temperature 32° or lower in spring is February 5. The average date of the first 32° temperature in fall is December 11. The average period from the last 32° temperature in spring to the first in fall is 309 days. The latest date of 32° temperature in spring is March 27, 1955, and the earliest date in fall is October 25, 1892.

noaa

NATIONAL OCEANIC AND
ATMOSPHERIC ADMINISTRATION

NATIONAL ENVIRONMENTAL SATELLITE,
DATA, AND INFORMATION SERVICE

NATIONAL CLIMATIC DATA CENTER
ASHEVILLE, N.C.

Meteorological Data For The Current Year

Station: HOUSTON, TEXAS
12960

INTERCONTINENTAL AIRPORT

Standard time used:

CENTRAL

wide: 29° 5:

Longitude: 95° 21' W

Elevation (ground) : 96 feet

Year: 1983

Month	Temperature °F							Degree days Base 65 °F	Precipitation in inches						Relative humidity, per cent.				Wind				Number of days						Average station pressure mb										
	Averages			Extremes					Water equivalent			Snow, ice pellets			Resultant		Fastest mile		Sunrise to sunset		Number of days																		
	Daily maximum	Daily minimum	Monthly	Highest	Date	Lowest	Date		Heating	Cooling	Total	Greatest in 24 hrs	Date	Total	Greatest in 24 hrs	Date	Hour	Hour	Hour	Hour	Direction	Average speed mph.	Speed mph.	Direction	Hour	Hour	Hour	Hour	Clear	Partly cloudy	Cloudy	0.01 inch or more	1.00 inch or more	Thunderstorms	Heavy fog, visibility 1/2 mile or less	Maximum	Minimum		
JAN	59.6	40.5	50.1	74	29	30	25	457	0	2.00	1.28	18-19	0.0	0.0	0.0	79	83	62	66	02	1.9	7.5	26	11	31	48	6.3	8	15	0	0	3	1	0	1015.0				
FEB	62.0	42.9	52.5	74	24	30	30	346	0	3.97	1.28	20-21	0.0	0.0	0.0	79	84	60	60	01	2.5	8.8	30	9	23	49	6.2	8	15	0	0	3	1	0	1011.0				
MAR	70.1	46.5	58.3	81	2	34	12	219	18	3.85	2.27	23	0.0	0.0	0.0	78	84	55	53	03	0.3	10.0	29	08	23	60	6.0	9	13	0	0	5	1	0	1007.0				
APR	79.3	53.7	64.0	83	29	38	16	96	76	0.43	0.22	21-22	0.0	0.0	0.0	76	82	57	55	16	1.9	11.4	37	21	52	52	5.5	12	14	6	0	0	0	0	0	1008.0			
MAY	83.2	63.6	73.4	90	30	48	4	268	7.29	3.38	20-21	0.0	0.0	0.0	86	91	60	63	13	4.5	9.0	46	23	20	54	6.3	8	7	16	14	5	1	0	1009.0					
JUN	87.6	70.3	79.0	95	30	62	1	427	5.37	1.33	15	0.0	0.0	0.0	88	92	64	66	12	3.8	7.3	28	07	15	54	5.7	6	17	7	13	9	2	0	1008.0					
JUL	90.6	73.7	82.2	95	28	69	8	541	5.23	2.75	13-14	0.0	0.0	0.0	86	92	63	63	12	3.1	7.2	23	06	21	62	4.9	15	8	15	0	0	5	0	0	1013.0				
AUG	91.5	73.7	82.6	95	31	71	18	0	554	9.42	6.69	18	0.0	0.0	0.0	86	94	64	69	11	1.6	6.9	51	08	18	56	6.0	4	18	9	11	11	0	0	1011.0				
SEP	85.9	67.3	76.6	93	5	49	22	6	362	7.23	3.53	19-20	0.0	0.0	0.0	88	90	61	68	10	3.8	7.1	23	34	20	60	5.2	10	11	9	13	10	1	0	1012.0				
OCT	80.5	59.7	70.1	89	4	46	27	27	196	1.56	0.92	16-17	0.0	0.0	0.0	85	88	59	68	08	3.3	6.8	16	32	21	60	4.6	15	5	11	4	0	0	0	0	1014.0			
NOV	73.6	52.6	63.1	84	14	33	29	138	87	3.17	1.29	5-6	0.0	0.0	0.0	81	84	58	70	13	2.0	8.7	35	30	23	46	5.4	9	9	12	11	5	0	0	1011.0				
DEC	55.3	36.1	45.7	82	5	11	25	606	18	3.69	1.92	9-10	0.0	0.0	0.0	74	77	60	62	36	4.1	9.7	28	29	13	43	6.3	10	5	16	6	0	0	0	0	1018.0			
YEAR	76.2	56.7	66.5	95	31	11	25	1895	2547	53.21	6.69	18	0.0	0.0	0.0	82	87	60	64	10	1.8	8.4	51	08	18	54	5.6	118	102	145	112	0	55	19	66	4	16	0	1011.0

Normals, Means, And Extremes

NOTE: NORMAL COOLING DEGREE DATA PUBLISHED IN THE 1982 ANNUAL WERE FOR THE 1951-1980 PERIOD.

NORMALS, MEANS, AND EXTREMES TABLE NOTE(S)

- (a) Length of record, years, through the current year unless otherwise noted, based on January data.
 (b) 70° and above at Alaskan stations.
 * Less than one half.
 T Trace.

BLANK entries denote missing or unreported

NORMALS - Based on record for the 1951-1980 period.
MEANS - Length of record in (a) is for complete data years.
EXTREMES - Length of record in (a) may be for other than
 complete or consecutive data years. Date is
 the most recent in cases of multiple occurrence.
WIND DIRECTION - Numerals indicate tens of degrees clockwise
 from true north. 00 indicates calm.
FASTEAST MILE WIND - Speed is fastest observed 1-minute value
 when direction is in tens of degrees.

Means and extremes above are from existing and comparable exposures. Annual extremes have been exceeded at other sites in the locality as follows:

Temperature
Highest: 108 in Aug. 1909.
Lowest : 5 in Jan. 1940+.

Precipitation
 Maximum monthly : 22.31 in Oct. 1949.
 Minimum monthly : T in Oct. 1952 & May 1937.
 Maximum in 24 hours: 15.65 in Aug. 1945.

Snowfall
 Maximum monthly : 4.4 in Feb. 1960.
 Maximum in 24 hours: 4.4 in Feb. 1960.

Average Temperature

Year	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Annual
1944	52.3	61.4	61.7	69.5	73.3	82.0	84.4	83.8	79.4	69.9	61.8	52.2	69.3
1945	52.4	58.6	67.8	68.8	73.1	80.9	83.0	83.0	79.9	68.5	65.5	51.4	69.4
1946	51.6	56.4	64.0	70.6	75.4	79.2	82.2	82.8	78.4	72.1	62.2	57.8	69.4
1947	52.2	48.8	56.0	69.4	75.4	81.6	82.5	82.6	80.0	75.0	59.0	55.0	68.1
1948	46.2	54.8	61.7	71.4	76.7	82.4	84.3	84.5	77.3	69.6	60.5	59.0	69.0
1949	52.5	59.0	62.5	66.1	78.0	82.6	83.2	82.0	80.0	71.9	62.8	56.2	69.9
1950	63.1	61.3	60.5	67.0	78.0	80.3	82.3	82.4	79.3	73.0	60.7	55.1	70.2
1951	53.8	55.2	62.9	67.0	75.0	82.1	84.3	85.8	79.6	72.4	58.2	56.1	69.5
1952	62.0	58.8	60.1	64.9	73.3	81.3	84.7	86.6	78.5	65.9	59.0	53.7	68.7
1953	56.6	55.8	68.5	68.7	76.4	83.9	84.1	82.1	79.4	71.5	60.0	51.4	69.9
1954	56.4	60.6	60.9	71.5	72.4	81.3	84.8	84.5	81.4	73.0	60.0	57.4	70.3
1955	54.1	56.1	64.7	71.2	77.0	79.4	83.1	82.8	80.3	70.7	61.5	56.2	69.8
1956	54.3	59.2	62.6	67.7	77.3	80.8	84.3	83.8	80.2	73.3	59.9	59.0	70.2
1957	57.9	62.9	61.2	68.6	76.5	80.5	85.4	85.4	83.8	76.9	67.9	61.3	57.3
1958	50.3	49.9	57.8	69.2	77.2	83.4	84.8	84.2	79.7	69.6	62.5	52.6	65.4
1959	50.3	56.3	60.3	66.7	76.9	82.3	82.3	82.3	80.1	72.2	55.8	55.0	68.4
#1960	51.8	49.7	57.4	69.8	73.9	82.4	84.7	82.8	79.5	73.2	64.3	52.6	68.5
1961	49.5	57.9	66.8	68.0	77.0	80.4	82.6	82.2	79.7	70.5	59.8	56.3	69.2
1962	49.3	63.9	58.9	68.1	75.7	75.8	84.1	85.9	81.3	74.6	60.1	54.8	69.7
1963	48.3	52.6	64.9	74.5	77.5	82.0	84.3	84.3	80.4	75.0	64.1	47.1	69.6
1964	51.6	49.4	60.4	70.2	75.8	80.4	83.7	84.7	79.3	67.8	65.0	55.9	68.7
1965	56.0	55.1	58.7	73.5	77.1	83.0	85.3	85.3	81.2	69.4	69.1	58.9	70.9
1966	48.4	52.8	61.5	70.6	75.9	80.0	84.3	82.4	79.6	69.7	64.7	54.2	68.7
1967	54.9	54.5	67.6	75.7	75.9	82.6	82.1	81.1	77.6	70.5	64.1	55.4	70.2
1968	52.7	50.4	59.0	71.1	76.3	80.5	82.5	84.0	78.6	73.5	59.7	55.7	68.7
P1969	56.7	56.9	56.1	70.3	75.4	80.0	84.4	82.3	78.2	71.0	58.5	55.2	68.8
1970	46.7	53.9	56.9	63.7	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	82.8	81.6	74.6	70.6	60.2	54.6	68.9	70.1
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	62.2	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	85.1	81.9	73.9	69.5	54.4	69.2
1983	50.1	52.5	58.3	64.0	73.4	79.0	82.4	82.6	76.6	70.1	63.1	47.6	66.5
RECORD	50.5	53.7	61.4	67.9	74.4	80.5	83.1	82.4	78.1	69.4	59.8	53.8	67.9
MEAN	60.8	65.3	72.5	78.4	84.6	90.7	93.6	92.7	88.1	81.2	71.4	65.1	78.7
MAX	40.1	42.1	50.3	57.4	64.1	70.3	72.5	72.1	66.1	57.5	48.2	42.5	57.1
MIN	40.1	42.1	50.3	57.4	64.1	70.3	72.5	72.1	66.1	57.5	48.2	42.5	57.1

Heating Degree Days

HOUSTON, TX

Season	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	Total
1963-64	0	0	0	0	108	551	413	446	158	19	0	0	1695
1964-65	0	0	0	31	124	315	300	284	250	0	0	0	1294
1965-66	0	0	2	20	23	212	516	334	144	12	0	0	1263
1966-67	0	0	0	27	99	359	342	298	68	0	0	0	1193
1967-68	0	0	3	14	99	312	415	229	17	0	0	0	1463
#1968-69	0	0	0	5	199	297	284	234	281	1	0	2	1303
1969-70	0	0	0	29	238	304	579	309	252	51	12	0	1774
1970-71	0	0	0	72	274	209	298	275	219	72	3	0	1420
1971-72	0	0	2	6	195	315	295	85	17	0	0	0	1109
1972-73	0	0	2	50	320	610	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	1734
1975-76	0	0	0	26	217	399	441	178	155	26	7	0	1469
1976-77	0	0	0	173	398	484	687	312	166	25	0	0	2245
1977-78	0	0	0	34	150	265	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							

Cooling Degree Days

Year	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	Total
#1969	35	13	11	167	328	456	608	569	402	222	48	9	2666
1970	18	7	18	328	409	513	567	423	131	38	76	2611	
1971	48	18	55	126	292	466	594	485	409	229	52	44	2118
1972	58	20	71	208	275	480	480	482	447	206	17	12	2756
1973	1	4	41	113	253	434	564	458	401	225	151	12	2655
1974	24	33	156	132	374	454	558	519	295	196	60	18	2821
1975	47	8	61	155	342	455	514	505	303	174	68	24	2566
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	468	437	150	105	26	2866
1979	7	13	62	261	454	552	519	324	211	6	6	25	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
RECORD	0	0	0	0	0	0	0	0	0	0	0	0	0.4
MEAN	0	0	0	0	0	0	0	0	0	0	0	0	0.4

Snowfall

Season	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	Total

<tbl_r cells="14" ix

STATION LOCATION

HOUSTON, TEXAS

Location	Occupied from	Occupied to	Airlane distance and direction from previous location	Latitude	Longitude	Ground at sea level	Elevation above Ground						Automatic Observing Equipment *	Type M = AMOS T = AUTOB	Remarks
							Wind instruments	Extreme thermometers	Psychrometer	Sunshine Switch	Tipping bucket rain gage	Weighting rain gage	8" rain gage		
<u>Cotton Station</u>	7/14/81	9/15/09													Location of cotton station not available.
<u>CITY</u>															
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.
<u>COOPERATIVE</u>															
Harrisburg, Texas	11/01/23	2/29/32		29° 42'	95° 17'	38		4				4			Suburb of the City of Houston.
<u>AIRPORT</u>															
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. a - Added 9/1/68.
Trailer, NW corner of Houston Intercontinental Airport	6/01/69	8/15/72	23 mi. NNW	29° 59'	95° 22'	96	20	5	5	c4	3	b4			b - Commissioned 11/14/69. c - Commissioned 1/1/70.
Qualitron Building Intercontinental Airport 17795 J. F. Kennedy Blvd.	8/15/72	Present	1.6 mi. SE	29° 58'	95° 21'	96	d20	NA	NA	46	e45	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.

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

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