



# JANUARY 2013 LOCAL CLIMATOLOGICAL DATA

## NOAA, National Climatic Data Center

HOUSTON, TX  
G BUSH INTERCONTINENTAL AP/HOUSTON AP (KIAH)  
Lat:29° 58'N Long: 95° 21'W Elev (Ground) 95 Feet  
Time Zone : CENTRAL WBAN: 12960 ISSN#: 0198-5094



Date 1	Temperature °F						Deg Days BASE 65°		WEATHER 10	SNOW/ICE ON GND(IN)		PRECIPITATION ON GND(IN)		PRESSURE (INCHES OF HG)		WIND SPEED = MPH DIR = TENS OF DEGREES								Date 24
	MAXIMUM 2	MINIMUM 3	AVERAGE 4	DEP FROM NORMAL 5	AVERAGE DEW PT 6	AVERAGE WET BULB 7	HEATING 8	COOLING 9		0600 LST 11	1200 LST 12	2400 LST 13	2400 LST 14	AVERAGE STATION 15	AVERAGE SEA LEVEL 16	RESULTANT SPEED 17	RES DIR 18	AVERAGE SPEED 19	MAXIMUM					
																			3-SEC		2-MIN			
01	67	46	57	5	49	51	8	0	RA BR	0		0.0	0.13	29.98	30.08	11.1	35	11.0	23	36	18	36	01	
02	46	41	44	-8	36	41	21	0	RA	0		0.0	T	30.15	30.25	10.3	35	10.5	23	34	20	01	02	
03	56	38	47	-5	33	40	18	0		0		0.0	0.00	30.25	30.36	9.5	01	9.7	21	04	17	01	03	
04	50	43	47	-5	35	42	18	0	RA	0		0.0	T	30.30	30.41	8.1	03	8.3	22	04	18	04	04	
05	47	42	45	-7	43	44	20	0	RA BR	0		0.0	0.84	30.19	30.32	5.7	02	6.4	15	07	12	07	05	
06	60	40	50	-2	41	45	15	0	BR	0		0.0	0.00	30.19	30.31	8.3	36	8.6	29	04	18	34	06	
07	57	36	47	-5	40	44	18	0		0		0.0	0.00	30.09	30.23	3.8	08	4.7	15	10	12	08	07	
08	64	49	57	6	55	56	8	0	RA BR	0		0.0	0.30	29.85	30.00	7.5	08	8.7	29	10	24	11	08	
09	67	61	64	13	62	63	1	0	TS TSRA RA BR	0		0.0	1.30	29.86	29.96	8.7	11	10.3	35	04	29	04	09	
10	69	52	61	10	53	56	4	0	RA	0		0.0	0.07	29.91	30.02	3.7	22	4.3	16	23	12	24	10	
11	73	44	59	8	54	56	6	0	RA FG+ FG BR	0		0.0	0.01	29.83	29.96	5.0	14	5.9	20	15	17	15	11	
12	75	64	70	19	69	70	0	5	RA FG+ BR	0		0.0	0.10	29.67	29.82	10.8	17	11.0	31	16	24	16	12	
13	72	42	57	6	42	44	8	0	RA BR	0		0.0	0.25	29.93	30.02	12.3	34	13.5	30	34	22	35	13	
14	45	40	43	-8	39	41	22	0	RA BR	0		0.0	0.03	30.03	30.13	11.0	02	11.8	29	03	22	03	14	
15	42	37	40*	-11	35	37	25	0	RA BR	0		0.0	0.07	30.00	30.11	11.1	35	11.5	26	36	21	35	15	
16	52	32	42	-9	27	36	23	0		0		0.0	0.00	30.12	30.23	8.9	31	9.4	24	35	20	35	16	
17	63	29*	46	-6	31	39	19	0		0		0.0	0.00	30.28	30.38	3.3	33	3.8	21	01	14	34	17	
18	62	36	49	-3	36	42	16	0		0		0.0	0.00	30.32	30.44	2.8	14	3.6	15	10	13	11	18	
19	68	34	51	-1	43	47	14	0	MIFG BR	0		0.0	0.00	30.14	30.28	2.6	15	3.5	16	13	13	13	19	
20	69	43	56	4	47	50	9	0	FG+ MIFG BR HZ	0		0.0	0.00	30.08	30.21	1.3	16	1.8	16	13	14	14	20	
21	71	43	57	5	48	52	8	0	MIFG BR	0		0.0	0.00	30.08	30.19	1.2	20	2.3	12	21	8	18	21	
22	71	44	58	6	48	52	7	0	BCFG BR	0		0.0	0.00	30.16	30.26	3.7	14	4.4	18	15	15	15	22	
23	75	45	60	8	54	56	5	0	FG+ FG BCFG BR	0		0.0	0.00	30.16	30.28	3.5	17	4.4	20	21	14	22	23	
24	79	61	70	18	60	63	0	5	BR	0		0.0	0.00	30.09	30.21	5.8	20	6.3	21	18	15	21	24	
25	79	61	70	18	61	64	0	5		0		0.0	0.00	30.01	30.14	5.3	20	6.2	25	21	17	20	25	
26	78	59	69	17	60	63	0	4		0		0.0	0.00	30.03	30.14	6.1	17	6.7	22	18	15	16	26	
27	77	56	67	15	63	65	0	2	RA BCFG	0		0.0	T	29.98	30.10	9.7	16	9.8	29	16	23	15	27	
28	81*	70	76*	23	64	67	0	11		0		0.0	0.00	29.91	30.05	13.4	16	13.5	28	15	22	16	28	
29	77	59	68	15	66	68	0	3	RA	0		0.0	0.11	29.65	29.78	11.5	17	14.2	35	31	25	31	29	
30	61	39	50	-3	31	45	15	0		0		0.0	0.00	29.95	30.02	11.5	31	11.9	41*	32	32*	31	30	
31	67	33	50	-3	29	43	15	0		0		0.0	0.00	30.15	30.24	4.6	21	4.9	18	21	14	22	31	

65.2		45.8		55.5		46.9		51.0		10.4		1.1		< MONTHLY AVERAGES   TOTALS >				0.0		3.21		30.04		30.16		0.7		05		7.8		< MONTHLY AVERAGES			
2.3		2.6		2.4		<-----		DEPARTURE FROM NORMAL		----->		-0.17		SUNSHINE, CLOUD, & VISIBILITY TABLES ON PAGE 3																					
<b>DEGREE DAYS</b>										GREATEST 24-HR PRECIPITATION : 1.33 DATE : 08-09										SEA LEVEL PRESSURE				DATE TIME											
MONTHLY					SEASON TO DATE					GREATEST 24-HR SNOWFALL : 0.0 DATE :					MAXIMUM : 30.54				18 1046																
TOTAL DEPARTURE					TOTAL DEPARTURE					GREATEST SNOW DEPTH : 0 DATE :					MINIMUM : 29.63				29 2053																
HEATING :		323		-62		747		-177		NUMBER OF		->		MAXIMUM TEMP >= 90 : 0		MINIMUM TEMP <= 32 : 2		PRECIPITATION >= 0.01 INCH : 11																	
COOLING :		35		20		35		20		DAYS WITH		THUNDERSTORMS : 1		MAXIMUM TEMP <= 32 : 0		MINIMUM TEMP <= 0 : 0		PRECIPITATION >= 0.10 INCH : 7																	
																		SNOWFALL >= 1.0 INCH : 0																	

JANUARY 2013  
HOUSTON, TX

# HOURLY PRECIPITATION

(WATER EQUIVALENT IN INCHES)

HOUSTON, TX (KIAH)  
JANUARY 2013

WBAN # 12960

Date	FOR HOUR (LST) ENDING AT												Date	FOR HOUR (LST) ENDING AT												Date	Sum of Hourly Data	2400 LST Water Equiv.
	1	2	3	4	5	6	7	8	9	10	11	12		13	14	15	16	17	18	19	20	21	22	23	24			
01	0.01	T	0.03	0.08	T	T		T	0.01	T	T	T	01		T	T									01	0.13	0.13	
02													02	T	T	T									02	T	T	
03													03												03	0.00	0.00	
04													04												04	T	T	
05	T		T	0.07	0.05	0.02	0.10	0.04	0.12	0.33	T	T	05	0.05	0.03	0.03	T	T	T				T	05	0.84	0.84		
06													06												06	0.00	0.00	
07													07												07	0.00	0.00	
08				T	0.03	0.09	0.01	0.01				T	08	0.01	0.02	0.06	0.06	0.01	T				T	08	0.30	0.30		
09	T	T	0.20	0.11	0.06	T					T	T	09	0.33	0.30	0.14	0.02	0.02	T			T	T	09	1.30	1.30		
10	0.02		0.01	0.04	T								10											10	0.07	0.07		
11													11												11	0.01	0.01	
12	T	0.01										T	12	T	T								T	12	0.10	0.10		
13	0.01	0.03	0.06	0.01	T	T	0.01	0.08	0.05			T	13										T	13	0.25	0.25		
14							0.01	0.02	T	T			14											14	0.03	0.03		
15					T	0.02	0.03	0.01	0.01	T	T		15											15	0.07	0.07		
16													16											16	0.00	0.00		
17													17											17	0.00	0.00		
18													18											18	0.00	0.00		
19													19											19	0.00	0.00		
20													20											20	0.00	0.00		
21													21											21	0.00	0.00		
22													22											22	0.00	0.00		
23													23											23	0.00	0.00		
24													24											24	0.00	0.00		
25													25											25	0.00	0.00		
26													26											26	0.00	0.00		
27													27		T	T	T			T	T			27	T	T		
28													28											28	0.00	0.00		
29			T							T	T		29	T		T	T	T				0.07	0.04	29	0.11	0.11		
30													30											30	0.00	0.00		
31													31											31	0.00	0.00		

\* Indicates sum of Hourly and Daily disagree.

### MAXIMUM SHORT DURATION PRECIPITATION (See Note)

Time Period (Minutes)	5	10	15	20	30	45	60	80	100	120	150	180
Precipitation (Inches)	0.10	0.15	0.17	0.19	0.22	0.31	0.35	0.45	0.57	0.67	0.82	0.87
Ending Date	09	09	09	09	09	05	09	09	09	09	09	09
Ending Time (Hr/Min)	0225	0227	0227	0233	1253	0948	1242	1304	1406	1411	1411	1428

Note : The hourly and daily precipitation totals are printed in the last 2 columns and hi-lighted in red when they disagree. NWS does not edit ASOS hourly values but may edit daily and monthly totals. Hourly, daily, and monthly totals are printed as reported by the ASOS site.

Date and time are not entered for TRACE amounts.

# REFERENCE NOTES & SUPPLEMENTAL SUMMARIES

\* = Extreme for the month (last occurrence if more than one).

T = Trace precipitation amount.

+ = also occurs on earlier date.

FG+ = Heavy fog, visibility .25 miles or less.

BLANK entries denote missing or unreported data.

Resultant wind is the vector sum of the wind speeds and directions divided by the number of observations.

Wind direction is recorded in tens of degrees (2 digits) clockwise from true north. '00' = calm, 'VR' = variable.

Precipitation is for the 24-hour period ending at the time indicated in the column heading.

Water Equivalent of snow on the ground is reported only when the depth is 2 or more inches.

NORMALS ARE FOR THE YEARS 1981-2010

## WEATHER NOTATIONS

QUALIFIER	WEATHER PHENOMENA		
DESCRIPTOR	PRECIPITATION	OBSCURATION	OTHER
BC Patches	DZ Drizzle	BR Mist	DS Duststorm
BL Blowing	GR Hail	DU Widespread Dust	FC Funnel Cloud
DR Low Drifting	GS Small Hail and/or Snow Pellets	FG Fog	+FC Tornado Waterspout
FZ Freezing	IC Ice Crystals	FU Smoke	PO Well-Developed Dust/Sand Whirls
MI Shallow	PL Ice Pellets	HZ Haze	
PR Partial	RA Rain	PY Spray	SQ Squalls
SH Shower(s)	SG Snow Grains	SA Sand	SS Sandstorm
TS Thunderstorm	SN Snow	VA Volcanic Ash	GL Glaze
VC In the Vicinity	UP Unkown Precipitation		

Intensity (as indicated on pages 4 to 6):  
'+' = Heavy    '' = Moderate    '-' = Light

# HOUSTON, TX JANUARY 2013

Ceilometer (30-second) data are used to derive cloudiness at or below 12,000 feet. This cloudiness is the mean cloud cover detected during sunrise to sunset (SR-SS), or midnight to midnight (MN-MN).

Satellite data are used to derive cloudiness above 12,000 feet. Effective Cloud Amount is based on the cloud cover and the transparency of the clouds within the satellite field of view (approx. 31x31 miles).

Sky Condition is based on the sum (not to exceed 8) of the sunrise to sunset cloud cover below and above 12,000 feet. Both ceilometer and satellite data must be present to compute Sky Condition. Clear = 0-2 oktas, Partly Cloudy = 3-6 oktas, Cloudy = 7-8 oktas.

A Heating (Cooling) Degree Day is the difference between the average daily temperature and 65 degrees F. The HDD season begins July 1, the CDD season begins January 1.

Dew Point is the temperature to which the air must be cooled to achieve 100% relative humidity. Wet Bulb is the temperature the air would have if cooled to saturation at constant pressure by evaporation of water into it.

Snow Depth, Snowfall, and Sunshine data may come from nearby sites that the National Weather Service deems Climatologically representative of this site.

## ADDITIONAL NOTES:

Beginning with the January 2013 LCD, monthly mean temperature calculations have changed to the National Data Stewardship Team standard. Monthly maximum and minimum temperature are not rounded until after monthly mean temperature is calculated. This is the most accurate outcome, but may be slightly different from the mean derived from rounded monthly maximum and minimum.

Date	SUNSHINE		CLOUDINESS (OKTAS)				VISIBILITY (MILES)		RESERVED
	TOTAL MINUTES	PERCENT POSSIBLE	SR-SS		MN-MN		MINIMUM	MAXIMUM	
			Sky Cover	Satellite	Sky Cover	Satellite			
01							0.75	10.00	
02							2.00	10.00	
03							10.00	10.00	
04							10.00	10.00	
05							1.00	10.00	
06							0.25	10.00	
07							0.50	10.00	
08							0.25	10.00	
09							2.00	10.00	
10							7.00	10.00	
11							0.12	10.00	
12							0.12	10.00	
13							0.12	10.00	
14							2.00	10.00	
15							2.50	10.00	
16							10.00	10.00	
17							10.00	10.00	
18							10.00	10.00	
19							3.00	10.00	
20							0.00	10.00	
21							3.00	10.00	
22							5.00	10.00	
23							0.25	10.00	
24							2.00	10.00	
25							10.00	10.00	
26							7.00	10.00	
27							7.00	10.00	
28							10.00	10.00	
29							7.00	10.00	
30							10.00	10.00	
31							10.00	10.00	
MONTHLY AVGS							4.61	10.00	
<b>SUNSHINE (Minutes)</b>									
Total : 0					Possible : 19489				
Percent Possible : 0									
<b>NUMBER OF DAYS WITH :</b>									
<b>SKY CONDITION</b>									
Clear		Partly CLDY			Cloudy			Missing	
<b>MINIMUM VISIBILITY (MILES)</b>									
<= .25			<= 3.0				>= 7.0		
7			17				13		





# OBSERVATIONS AT 3-HOURLY INTERVALS

**HOUSTON, TX**  
**JANUARY 2013**

**KIAH**

**WBAN # 12960**

HOUR (LST)	SKY COVER	CEILING 100's of FT.	SATELLITE		WEATHER	TEMPERATURE °F			WIND		PRESSURE (INCHES, HG)																																																																																																				
			Observation Time (LST)	Eff Clد Amt Oktas		VISIBILITY (MILES)	DRY BULB	DEW POINT	WET BULB	RELATIVE HUMIDITY (PCT)	SPEED (MPH)	DIRECTION Tens of Deg	STATION	SEA LEVEL																																																																																																	
<b>SUNRISE: 0715</b>						<b>JAN 25</b>						<b>SUNSET: 1752</b>																																																																																																			
03	OVC	015				61	60	60	97	5	18	30.03	30.15	06	OVC	018				63	62	62	97	6	18	30.03	30.13	09	OVC	011				65	62	63	90	6	23	30.06	30.18	12	BKN	250				73	59	65	62	10	21	30.06	30.16	15	BKN	250				78	58	66	50	10	19	29.98	30.09	18	SCT	250				75	58	65	56	5	20	29.97	30.08	21	FEW	040				67	62	64	84	5	18	30.01	30.11	24	BKN	027				68	63	65	84	6	18	30.03	30.15
<b>SUNRISE: 0715</b>						<b>JAN 26</b>						<b>SUNSET: 1753</b>																																																																																																			
03	BKN	026				67	63	65	87	5	17	30.03	30.14	06	BKN	028				64	63	63	97	5	16	30.03	30.14	09	BKN	250				66	64	65	93	3	17	30.06	30.18	12	SCT	250				74	58	64	58	7	22	30.06	30.18	15	SCT	250				78	56	65	47	9	20	29.98	30.10	18	SCT	250				73	59	65	62	10	16	30.00	30.10	21	SCT	250				65	61	63	87	7	15	30.03	30.14	24	SCT	250				61	59	60	93	3	13	30.03	30.15
<b>SUNRISE: 0714</b>						<b>JAN 27</b>						<b>SUNSET: 1754</b>																																																																																																			
03	SCT	250				58	57	57	97	5	14	30.01	30.12	06	BKN	250				61	60	60	97	0	00	30.00	30.10	09	BKN	250				66	63	64	90	7	14	30.03	30.13	12	BKN	250				75	64	68	69	13	18	30.02	30.12	15	OVC	065				75	64	68	69	17	16	29.94	30.05	18	OVC	050				72	66	68	82	11	16	29.95	30.06	21	OVC	035				71	65	67	81	14	16	29.97	30.08	24	OVC	070				71	65	67	81	11	17	29.98	30.08
<b>SUNRISE: 0714</b>						<b>JAN 28</b>						<b>SUNSET: 1755</b>																																																																																																			
03	OVC	065				70	64	66	81	11	17	29.97	30.08	06	OVC	075				70	66	67	87	10	16	29.96	30.07	09	OVC	080				71	66	68	84	13	17	30.00	30.11	12	OVC	075				76	62	67	62	16	16	29.98	30.09	15	OVC	080				79	59	67	50	16	16	29.90	30.01	18	BKN	060				74	64	68	71	15	17	29.88	29.99	21	OVC	017				72	67	69	84	11	16	29.89	30.00	24	OVC	013				72	68	69	87	14	16	29.86	29.97
<b>SUNRISE: 0713</b>						<b>JAN 29</b>						<b>SUNSET: 1756</b>																																																																																																			
03	OVC	013				72	68	69	87	17	16	29.80	29.91	06	OVC	026				73	67	69	82	15	16	29.75	29.86	09	OVC	046			-RA	72	68	69	87	16	16	29.76	29.87	12	OVC	022				75	69	71	82	16	17	29.68	29.79	15	OVC	040				77	68	71	74	21	17	29.56	29.67	18	OVC	040				75	68	70	79	13	17	29.53	29.63	21	OVC	029				75	68	70	79	17	18	29.52	29.63	24	OVC	065				59	54	56	84	7	34	29.66	29.77
<b>SUNRISE: 0713</b>						<b>JAN 30</b>						<b>SUNSET: 1757</b>																																																																																																			
03	OVC	070				61	38	50	43	13	29	29.69	29.80	06	OVC	095				58	27	45	31	9	29	29.74	29.85	09	SCT	100				57	22	43	26	18	29	29.84	29.95	12	FEW	055				58	30	46	35	22	31	29.94	30.04	15	FEW	055				59	27	45	29	23	33	29.94	30.05	18	FEW	250				54	25	42	33	11	34	29.98	30.10	21	FEW	250				47	29	40	50	0	00	30.08	30.19	24	FEW	250				41	32	37	70	0	00	30.13	30.24

HOUR (LST)	SKY COVER	CEILING 100's of FT.	SATELLITE		WEATHER	TEMPERATURE °F			WIND		PRESSURE (INCHES, HG)																																																																																																				
			Observation Time (LST)	Eff Clد Amt Oktas		VISIBILITY (MILES)	DRY BULB	DEW POINT	WET BULB	RELATIVE HUMIDITY (PCT)	SPEED (MPH)	DIRECTION Tens of Deg	STATION	SEA LEVEL																																																																																																	
<b>SUNRISE: 0712</b>						<b>JAN 31</b>						<b>SUNSET: 1758</b>																																																																																																			
03	CLR	NC												06	FEW	130				37	33	35	86	0	00	30.11	30.22	09	SCT	250				35	32	34	89	0	00	30.11	30.23	12	FEW	250				48	35	42	61	5	22	30.19	30.31	15	FEW	250				62	23	45	22	14	24	30.19	30.31	18	SCT	250				66	21	47	18	13	21	30.13	30.24	21	SCT	250				63	22	46	21	5	21	30.11	30.22	24	BKN	250				57	30	45	36	6	19	30.19	30.30

**3-HOURLY OBSERVATION NOTES**

Sky Cover is the amount of the sky obscured. CLR or SKC = 0, FEW = 1/8-2/8, SCT = 3/8-4/8, BKN = 5/8-7/8, OVC = 8/8, W = Vertical Visibility = 8/8

Ceiling is reported in hundreds of feet above ground level for clouds at or below 12,000 feet. NC = No Ceiling detected.

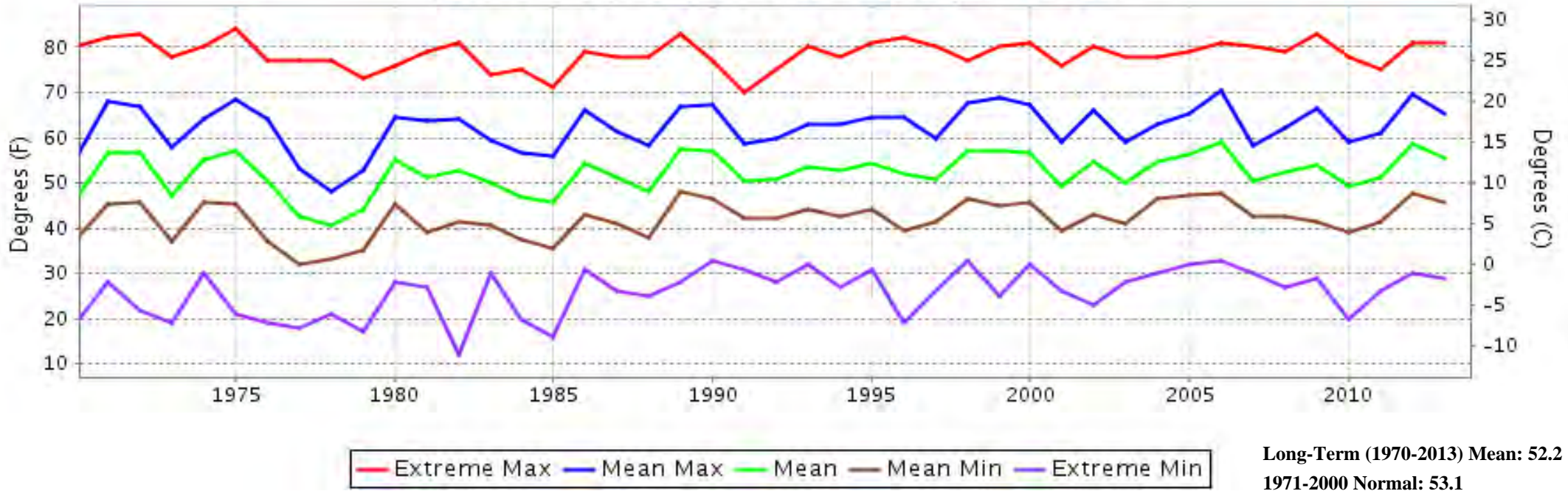
& = Original observation contained additional weather elements.

See page 3 for additional notes.

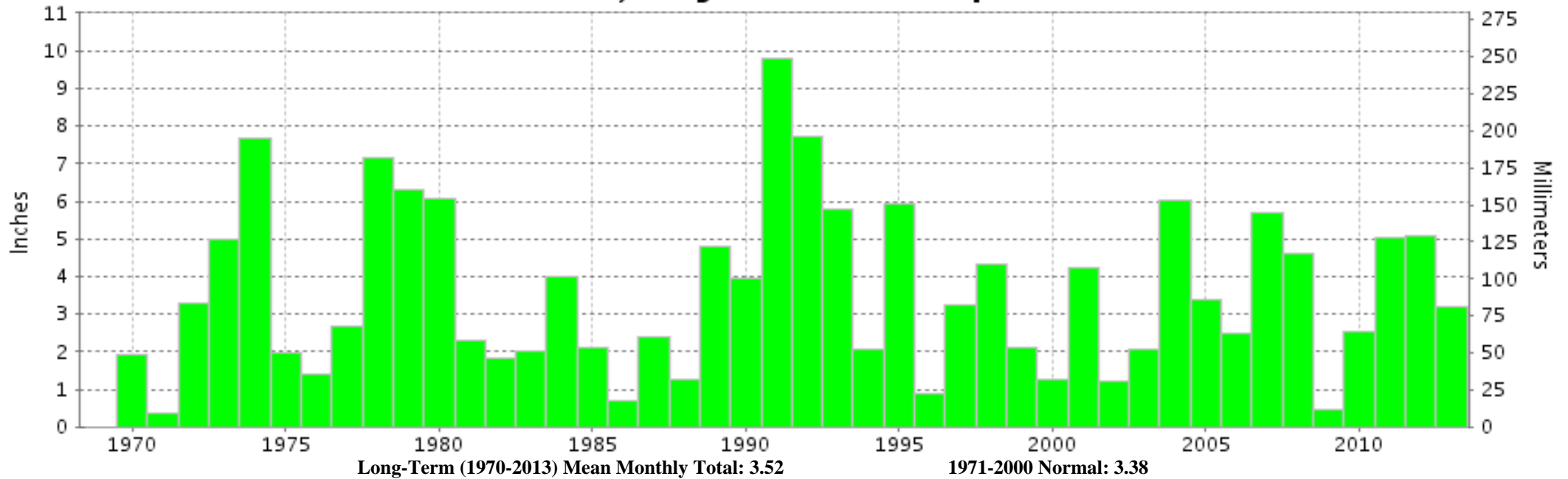
## SUMMARY BY HOUR

HOUR (LST)	AVERAGES										RESULTANT WIND (MPH)	
	CEILOMETER	EFF CLD AMT	DRY BULB	DEW POINT	WET BULB	RELATIVE HUMIDITY	PRESSURE (Inches, HG)		VISIBILITY (Miles)	WIND SPEED (MPH)	SPEED	DIRECTION
							STATION	SEA LEVEL				
01			53	49	51	87	30.04	30.15	8.65	6	1	11
02			51	47	49	87	30.04	30.15	8.37	5	1	13
03			51	46	49	87	30.04	30.15	8.26	6	0	17
04			50	46	48	87	30.04	30.15	8.73	7	1	11
05			50	46	48	88	30.03	30.14	8.63	6	1	11
06			50	46	48	88	30.04	30.15	8.50	6	1	23
07			49	46	48	88	30.05	30.17	7.98	6	1	24
08			50	46	48	89	30.07	30.19	7.45	7	0	19
09			52	47	50	85	30.09	30.20	7.54	7	0	12
10			55	47	51	78	30.11	30.22	8.08	9	1	11
11			57	47	52	71	30.10	30.21	9.04	10	1	10
12			60	46	53	65	30.08	30.19	9.27	10	1	24
13			61	46	53	62	30.04	30.16	9.23	10	0	22
14			62	46	54	59	30.02	30.13	9.36	11	1	25
15			63	46	54	58	30.01	30.12	9.44	10	0	19
16			62	46	54	58	30.01	30.12	9.71	11	1	11
17			61	46	54	62	30.01	30.12	9.66	10	2	10
18			59	47	53	67	30.02	30.13	9.60	8	2	10
19			58	47	53	71	30.03	30.14	9.47	8	2	10
20			56	48	52	75	30.04	30.15	9.34	7	1	10
21			55	48	52	79	30.05	30.16	9.27	7	1	10
22			54	48	51	82	30.05	30.16	9.10	7	1	10
23			53	48	50	83	30.06	30.17	8.78	6	2	10
24			52	47	50	84	30.06	30.17	9.00	6	1	10

# HOUSTON, TX JANUARY Temperatures



# HOUSTON, TX JANUARY Precipitation





**JANUARY 2013  
HOUSTON, TX**

**LOCAL CLIMATOLOGICAL DATA  
NOAA, National Climatic Data Center**

*I certify that this is an official publication of the National Oceanic and Atmospheric Administration (NOAA). It is compiled using information from weather observing sites operated by NOAA-National Weather Service / Department Of Transportation-Federal Aviation Administration and received at the National Climatic Data Center (NCDC), Asheville, North Carolina 28801.*

A handwritten signature in black ink, appearing to read "Thomas R. Karl".

**DIRECTOR**

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