



SEPTEMBER 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	96	73	85	3	72	76	0	20		0		0.0	0.00	29.78	29.88	4.1	17	5.5	24	14	21	15	01	
02	99	76	88	6	73	77	0	23		0		0.0	0.00	29.80	29.91	3.4	19	5.0	28	15	24	16	02	
03	100*	78	89*	7	73	77	0	24	RA	0		0.0	T	29.82	29.92	1.3	18	3.7	17	11	15	11	03	
04	97	77	87	5	72	76	0	22		0		0.0	0.00	29.89	29.99	3.6	14	5.1	21	04	18	04	04	
05	98	75	87	5	75	77	0	22	TS TSRA RA BR	0		0.0	0.40	29.93	30.03	3.1	08	4.4	29	09	23	10	05	
06	93	76	85	4	75	77	0	20		0		0.0	0.00	29.90	30.02	4.4	11	5.6	28	14	22	14	06	
07	88	74	81	0	74	75	0	16	TS RA	0		0.0	T	29.86	29.99	3.7	09	5.3	26	11	21	11	07	
08	90	73	82	2	73	75	0	17	RA	0		0.0	T	29.83	29.94	4.7	12	6.1	23	10	17	10	08	
09	92	74	83	3	73	76	0	18	TS	0		0.0	0.00	29.85	29.96	6.9	12	8.2	35*	14	22	13	09	
10	90	74	82	2	74	76	0	17	TS RA	0		0.0	0.09	29.92	30.02	7.5	11	8.4	30	13	24	13	10	
11	92	72	82	2	72	75	0	17		0		0.0	0.00	29.92	30.04	6.6	11	7.4	20	10	16	12	11	
12	94	74	84	4	71	75	0	19		0		0.0	0.00	29.86	29.98	4.5	11	6.7	22	12	17	12	12	
13	96	73	85	6	69	74	0	20		0		0.0	0.00	29.76	29.88	3.1	12	5.0	18	12	15	15	13	
14	94	74	84	5	72	75	0	19		0		0.0	0.00	29.78	29.89	5.3	10	6.4	23	15	20	15	14	
15	91	74	83	4	74	76	0	18	RA	0		0.0	0.07	29.85	29.96	7.8	09	8.6	30	14	25*	14	15	
16	93	73	83	4	74	76	0	18		0		0.0	0.00	29.88	30.00	6.1	09	7.6	22	12	17	15	16	
17	95	76	86	7	73	76	0	21		0		0.0	0.00	29.88	29.99	5.5	11	6.8	23	13	20	14	17	
18	93	74	84	6	74	76	0	19	RA	0		0.0	T	29.83	29.96	7.8	11	8.6	24	14	21	14	18	
19	93	75	84	6	76	77	0	19	RA	0		0.0	0.01	29.79	29.91	8.4	11	9.3	30	16	24	16	19	
20	84	73	79	1	76	77	0	14	TS TSRA RA BR	0		0.0	3.47	29.67	29.80	0.7	13	6.1	26	18	18	17	20	
21	82	70	76	-2	69	71	0	11	RA	0		0.0	0.02	29.68	29.80	10.1	03	10.5	26	36	21	04	21	
22	86	63*	75*	-2	59	65	0	10		0		0.0	0.00	29.68	29.80	8.9	04	9.3	23	04	18	04	22	
23	89	71	80	3	66	70	0	15		0		0.0	0.00	29.67	29.78	6.8	06	7.4	18	10	13	11	23	
24	95	71	83	6	69	73	0	18	RA	0		0.0	T	29.71	29.82	5.5	01	6.1	21	01	18	36	24	
25	95	66	81	4	64	70	0	16		0		0.0	0.00	29.71	29.82	0.5	16	3.0	14	04	9	13	25	
26	92	68	80	4	65	70	0	15		0		0.0	0.00	29.77	29.87	4.9	14	5.5	21	14	16	12	26	
27	88	70	79	3	72	75	0	14	RA	0		0.0	T	29.80	29.91	8.9	13	9.2	26	14	21	14	27	
28	87	74	81	5	75	76	0	16	TS TSRA RA BR	0		0.0	0.35	29.84	29.95	8.0	13	8.4	23	15	20	13	28	
29	83	74	79	3	75	76	0	14	TS TSRA RA FG	0		0.0	0.18	29.82	29.94	1.9	09	5.0	21	19	14	18	29	
30	88	74	81	6	74	76	0	16	TS TSRA RA	0		0.0	0.50	29.75	29.87	3.0	13	3.9	20	15	17	15	30	

91.8			73.0			82.4			☼	71.8			74.7			0.0		17.6		< MONTHLY AVERAGES TOTALS >				0.0		5.09		29.81		29.92		4.2		10		6.6		< MONTHLY AVERAGES			
2.1			3.2			2.6				<-----DEPARTURE FROM NORMAL----->												0.97		SUNSHINE, CLOUD, & VISIBILITY TABLES ON PAGE 3																	
DEGREE DAYS									GREATEST 24-HR PRECIPITATION : 3.47 DATE : 20									SEA LEVEL PRESSURE																							
MONTHLY									GREATEST 24-HR SNOWFALL : 0.0 DATE :									MAXIMUM : 30.09 11 1053																							
TOTAL DEPARTURE									GREATEST SNOW DEPTH : 0 DATE :									MINIMUM : 29.73 23 1607																							
SEASON TO DATE									NUMBER OF -> DAYS WITH									MAXIMUM TEMP >= 90 : 21			MINIMUM TEMP <= 32 : 0			PRECIPITATION >= 0.01 INCH : 9																	
TOTAL DEPARTURE									HEATING : 0 -1 0 -1			COOLING : 528 85 2921 96			MAXIMUM TEMP <= 32 : 0			MINIMUM TEMP <= 0 : 0			PRECIPITATION >= 0.10 INCH : 5																				
															THUNDERSTORMS : 8			HEAVY FOG : 0			SNOWFALL >= 1.0 INCH : 0																				

**SEPTEMBER 2013
HOUSTON, TX**

HOURLY PRECIPITATION

(WATER EQUIVALENT IN INCHES)

HOUSTON, TX (KIAH)
SEPTEMBER 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													01												01	0.00	0.00		
02													02												02	0.00	0.00		
03													03												03	T	T		
04													04												04	0.00	0.00		
05													05			0.31	0.09								05	0.40	0.40		
06													06												06	0.00	0.00		
07													07												07	T	T		
08													08	T	T										08	T	T		
09													09												09	0.00	0.00		
10			0.05	0.01	0.02	T	T	0.01	T	T	T		10				T								10	0.09	0.09		
11													11												11	0.00	0.00		
12													12												12	0.00	0.00		
13													13												13	0.00	0.00		
14													14												14	0.00	0.00		
15													15			0.07	T								15	0.07	0.07		
16													16												16	0.00	0.00		
17													17												17	0.00	0.00		
18													18				T								18	T	T		
19													19												19	0.01	0.01		
20	0.03					0.03	0.02			0.01		0.03	0.05	20	0.43	T	0.01		0.09	0.59	0.78	0.26	0.58	0.36	0.18	0.02	20	3.47	3.47
21			T	0.01	0.01	T				T	T		21												21	0.02	0.02		
22													22												22	0.00	0.00		
23													23												23	0.00	0.00		
24					T	T							24												24	T	T		
25													25												25	0.00	0.00		
26													26												26	0.00	0.00		
27													27												27	T	T		
28													28	0.03	0.10				T		T				28	0.35	0.35		
29										T	T	0.16	0.02	29											29	0.18	0.18		
30		0.02	0.48	T									30												30	0.50	0.50		

* 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)	0.26	0.35	0.42	0.57	0.83	1.07	1.13	1.31	1.43	1.50	1.62	1.85
Ending Date	20	30	20	20	20	20	20	20	20	20	20	20
Ending Time (Hr/Min)	1815	0232	1815	1814	1820	1821	1827	1855	1904	1929	1958	2038

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.

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).

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	
VC In the Vicinity	UP Unkown Precipitation		GL Glaze

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

HOUSTON, TX SEPTEMBER 2013

Sky Condition is based on the sum (not to exceed 8) of the sunrise to sunset cloud cover below and above 12,000 feet.

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.

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

NORMALS ARE FOR THE YEARS 1981-2010

ADDITIONAL NOTES & ERRATA:

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	VISIBILITY (MILES)	
	MINIMUM	MAXIMUM
01	10.00	10.00
02	10.00	10.00
03	10.00	10.00
04	10.00	10.00
05	1.00	10.00
06	10.00	10.00
07	10.00	10.00
08	10.00	10.00
09	10.00	10.00
10	9.00	10.00
11	10.00	10.00
12	10.00	10.00
13	10.00	10.00
14	10.00	10.00
15	9.00	10.00
16	9.00	10.00
17	10.00	10.00
18	10.00	10.00
19	10.00	10.00
20	3.00	10.00
21	9.00	10.00
22	10.00	10.00
23	10.00	10.00
24	10.00	10.00
25	10.00	10.00
26	10.00	10.00
27	10.00	10.00
28	6.00	10.00
29	10.00	10.00
30	7.00	10.00
AVGS	9.10	10.00
MINIMUM VISIBILITY (MILES)		
<= .25	<= 3.0	>= 7.0
0	2	27

OBSERVATIONS AT 3-HOURLY INTERVALS

HOUSTON, TX SEPTEMBER 2013

KIAH

WBAN # 12960

HOUR (LST)	SKY COVER	CEILING 100's of FT.	VISIBILITY (MILES)	WEATHER	TEMPERATURE °F			RELATIVE HUMIDITY (PCT)	WIND		PRESSURE (INCHES, HG)	
					DRY BULB	DEW POINT	WET BULB		SPEED (MPH)	DIRECTION Tens of Deg	STATION	SEA LEVEL
SUNRISE: 0611 SEP 25					SUNSET: 1816							
03	CLR	NC	10.00		68	66	67	93	0	00	29.72	29.83
06	CLR	NC	10.00		68	66	67	93	0	00	29.74	29.84
09	CLR	NC	10.00		81	70	74	69	3	34	29.77	29.88
12	CLR	NC	10.00		91	62	72	38	3	VR	29.75	29.85
15	FEW	050	10.00		94	56	70	28	5	16	29.68	29.78
18	CLR	NC	10.00		83	64	71	53	6	06	29.67	29.78
21	CLR	NC	10.00		77	66	70	69	5	17	29.71	29.82
24	CLR	NC	10.00		72	67	69	84	3	19	29.71	29.82
SUNRISE: 0612 SEP 26					SUNSET: 1815							
03	CLR	NC	10.00		70	67	68	90	0	00	29.72	29.83
06	CLR	NC	10.00		68	67	67	96	0	00	29.75	29.86
09	CLR	NC	10.00		82	72	75	72	6	21	29.80	29.91
12	CLR	NC	10.00		90	59	70	35	9	13	29.79	29.89
15	FEW	060	10.00		90	63	72	41	15	12	29.74	29.85
18	FEW	100	10.00		84	62	70	48	10	13	29.75	29.86
21	SCT	100	10.00		73	65	68	76	5	16	29.78	29.89
24	SCT	070	10.00		72	69	70	91	5	17	29.79	29.90
SUNRISE: 0612 SEP 27					SUNSET: 1813							
03	BKN	065	10.00		72	70	71	94	0	00	29.78	29.89
06	FEW	070	10.00		72	70	71	94	3	11	29.81	29.92
09	SCT	100	10.00		84	76	78	77	9	12	29.84	29.95
12	BKN	065	10.00		87	74	78	65	14	10	29.83	29.93
15	BKN	090	10.00		85	72	76	65	15	13	29.78	29.89
18	BKN	090	10.00		83	74	77	74	15	12	29.79	29.90
21	SCT	250	10.00		79	73	75	82	13	13	29.82	29.93
24	FEW	250	10.00		77	72	74	85	5	15	29.81	29.91
SUNRISE: 0613 SEP 28					SUNSET: 1812							
03	SCT	250	10.00		77	73	74	88	7	16	29.80	29.91
06	SCT	250	10.00		75	73	74	94	6	13	29.83	29.94
09	SCT	250	10.00		83	75	77	77	14	15	29.86	29.97
12	BKN	100	6.00	-TSRA BR	79	77	78	94	0	00	29.87	29.98
15	BKN	250	10.00		83	78	79	85	13	13	29.83	29.93
18	BKN	100	10.00		81	76	77	85	10	13	29.83	29.94
21	SCT	100	10.00		79	75	76	88	10	14	29.86	29.97
24	BKN	250	10.00		78	75	76	90	6	06	29.87	29.98
SUNRISE: 0614 SEP 29					SUNSET: 1811							
03	SCT	250	10.00		77	75	76	94	3	18	29.85	29.96
06	BKN	250	10.00		78	75	76	90	5	18	29.85	29.96
09	BKN	050	10.00		80	76	77	87	7	17	29.86	29.97
12	BKN	250	10.00		82	75	77	79	11	01	29.87	29.98
15	BKN	230	10.00		82	73	76	74	6	06	29.81	29.91
18	BKN	130	10.00		78	75	76	90	7	06	29.79	29.90
21	OVC	085	10.00		77	75	76	94	5	12	29.81	29.92
24	BKN	085	10.00		75	74	74	96	0	00	29.80	29.91
SUNRISE: 0614 SEP 30					SUNSET: 1810							
03	OVC	025	7.00	-TSRA	75	75	75	100	0	00	29.77	29.88
06	OVC	020	10.00		75	75	75	100	3	01	29.77	29.88
09	OVC	027	10.00		78	75	76	90	0	00	29.79	29.90
12	OVC	060	10.00		85	74	77	70	3	09	29.77	29.87
15	BKN	080	10.00		83	75	77	77	9	12	29.71	29.82
18	BKN	250	10.00		81	75	77	82	10	15	29.72	29.83
21	SCT	250	10.00		77	75	76	94	8	11	29.76	29.87
24	SCT	250	10.00		75	74	74	96	6	12	29.77	29.88

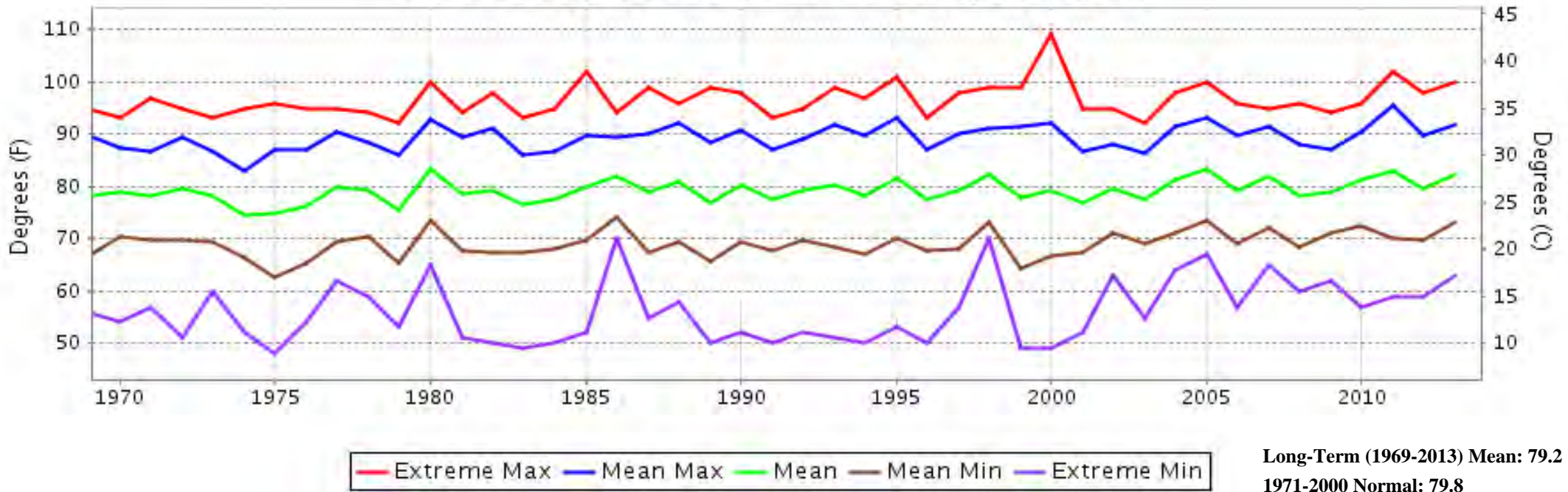
HOUR (LST)	SKY COVER	CEILING 100's of FT.	VISIBILITY (MILES)	WEATHER	TEMPERATURE °F			RELATIVE HUMIDITY (PCT)	WIND		PRESSURE (INCHES, HG)	
					DRY BULB	DEW POINT	WET BULB		SPEED (MPH)	DIRECTION Tens of Deg	STATION	SEA LEVEL

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.

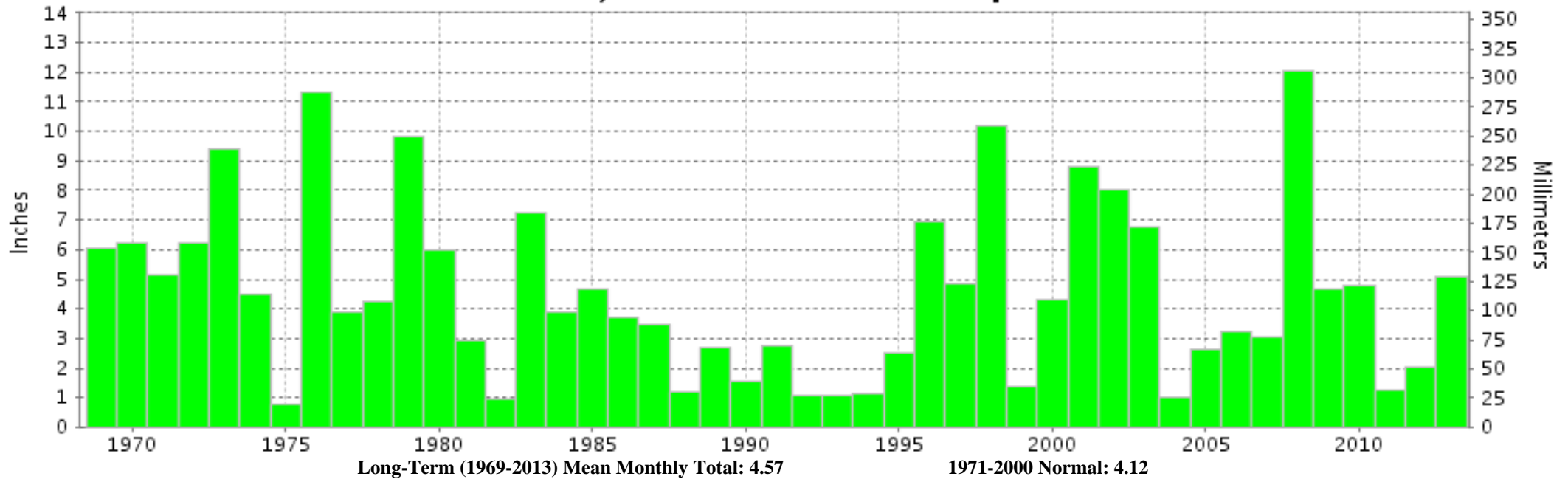
SUMMARY BY HOUR

HOUR (LST)	AVERAGES								RESULTANT WIND (MPH)	
	DRY BULB	DEW POINT	WET BULB	RELATIVE HUMIDITY	PRESSURE (Inches, HG)		VISIBILITY (Miles)	WIND SPEED (MPH)	SPEED	DIRECTION
					STATION	SEA LEVEL				
01	76	72	73	89	29.82	29.92	9.97	3	2	09
02	75	72	73	91	29.81	29.92	9.97	3	3	09
03	75	72	73	92	29.81	29.91	9.90	3	2	09
04	75	72	73	93	29.81	29.91	9.97	3	2	09
05	75	72	73	93	29.81	29.92	10.00	3	2	09
06	74	72	73	93	29.82	29.93	10.00	3	2	09
07	75	73	74	92	29.84	29.94	10.00	4	4	09
08	79	74	75	84	29.85	29.95	10.00	6	4	09
09	82	74	76	76	29.86	29.96	9.97	7	4	09
10	85	73	77	69	29.86	29.97	10.00	8	6	09
11	86	72	76	64	29.86	29.96	10.00	8	6	09
12	88	71	76	58	29.84	29.95	9.87	9	7	09
13	89	70	76	56	29.82	29.92	9.90	9	8	09
14	89	70	76	56	29.80	29.90	10.00	10	7	09
15	89	70	76	56	29.78	29.89	9.70	11	9	09
16	88	70	76	57	29.77	29.88	9.93	10	7	09
17	87	70	76	60	29.77	29.88	9.90	11	8	09
18	84	71	75	66	29.78	29.89	9.83	11	6	09
19	82	71	75	72	29.79	29.90	9.80	8	5	09
20	81	71	74	74	29.80	29.91	9.80	7	4	09
21	79	72	75	81	29.81	29.92	9.77	6	4	09
22	78	72	74	84	29.82	29.93	9.93	5	3	09
23	77	72	74	86	29.82	29.92	10.00	4	3	09
24	76	72	74	89	29.82	29.92	10.00	3	2	09

HOUSTON, TX SEPTEMBER Temperatures



HOUSTON, TX SEPTEMBER Precipitation





**SEPTEMBER 2013
HOUSTON, TX**

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

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

DIRECTOR

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