



# SEPTEMBER 2017 LOCAL CLIMATOLOGICAL DATA

NOAA, National Centers for Environmental Information

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	92	70	81	-1	70	73	0	16		0		0.0	0.00	29.88	29.99	1.7	11	4.4	18	09	10	03	01	
02	93	72	83	1	70	74	0	18	MIFG BR HZ	0		0.0	0.00	29.91	30.02	1.2	11	3.0	13	14	12	13	02	
03	92	73	83	1	71	74	0	18		0		0.0	0.00	29.95	30.06	2.5	09	3.6	15	04	12	08	03	
04	91	72	82	0	71	74	0	17	MIFG BR HZ	0		0.0	0.00	29.89	30.01	3.3	12	4.5	16	10	14	11	04	
05	93	73	83	1	72	75	0	18	MIFG	0		0.0	0.00	29.86	29.97	0.6	15	2.8	11	17	9	17	05	
06	85	66	76	-5	62	67	0	11	TS TSRA RA	0		0.0	0.06	29.93	30.04	8.9	03	9.2	35*	02	28*	03	06	
07	83	61	72*	-9	57	63	0	7		0		0.0	0.00	29.98	30.09	6.4	05	6.6	22	05	15	06	07	
08	85	61	73	-7	58	64	0	8		0		0.0	0.00	29.98	30.09	5.5	06	6.4	18	08	14	05	08	
09	85	64	75	-5	59	65	0	10		0		0.0	0.00	29.96	30.08	6.7	04	6.9	20	03	16	03	09	
10	87	65	76	-4	60	66	0	11		0		0.0	0.00	29.95	30.06	7.4	02	7.8	25	03	18	02	10	
11	85	64	75	-5	59	65	0	10		0		0.0	0.00	29.86	29.99	6.8	01	7.0	24	03	18	01	11	
12	88	60*	74	-6	59	65	0	9		0		0.0	0.00	29.72	29.86	2.8	33	4.8	21	02	15	31	12	
13	87	68	78	-1	65	69	0	13		0		0.0	0.00	29.71	29.83	3.4	21	4.8	17	23	14	25	13	
14	91	67	79	0	68	72	0	14	MIFG	0		0.0	0.00	29.75	29.86	6.4	14	7.0	21	11	17	12	14	
15	90	69	80	1	71	74	0	15	MIFG	0		0.0	0.00	29.80	29.91	6.0	14	6.3	22	17	16	15	15	
16	93	68	81	2	70	73	0	16	FG+ MIFG BR	0		0.0	0.00	29.86	29.96	2.6	11	4.2	15	15	13	14	16	
17	93	70	82	3	72	75	0	17	MIFG BR	0		0.0	0.00	29.88	29.99	3.2	11	4.6	17	11	13	10	17	
18	91	73	82	4	75	76	0	17	TS TSRA RA MIFG BR	0		0.0	0.42	29.85	29.97	2.6	13	4.0	31	24	21	23	18	
19	93	73	83	5	75	77	0	18	MIFG BR	0		0.0	0.00	29.80	29.92	5.2	16	6.3	20	13	18	11	19	
20	93	77	85*	7	75	78	0	20	TS TSRA RA	0		0.0	0.48	29.81	29.92	6.0	17	6.8	23	16	18	16	20	
21	88	75	82	4	74	76	0	17	TS RA BR	0		0.0	0.02	29.83	29.94	5.1	14	5.9	32	15	24	15	21	
22	91	71	81	4	72	75	0	16	MIFG	0		0.0	0.00	29.82	29.94	4.6	12	4.5	18	16	13	13	22	
23	91	72	82	5	72	74	0	17	MIFG BR	0		0.0	0.00	29.78	29.90	5.6	11	6.8	25	15	18	07	23	
24	92	72	82	5	72	74	0	17	RA MIFG BR	0		0.0	0.01	29.77	29.88	5.8	10	6.5	30	12	25	11	24	
25	91	73	82	5	72	75	0	17		0		0.0	0.00	29.74	29.85	6.5	11	7.4	23	12	17	14	25	
26	90	72	81	5	72	74	0	16		0		0.0	0.00	29.77	29.88	3.6	10	5.0	17	13	14	15	26	
27	92	75	84	8	72	75	0	19		0		0.0	0.00	29.80	29.91	3.6	06	4.2	16	13	12	05	27	
28	93*	75	84	8	73	75	0	19	RA BCFG	0		0.0	0.24	29.84	29.94	2.6	07	4.4	23	06	18	07	28	
29	91	73	82	6	69	73	0	17		0		0.0	0.00	29.90	30.00	8.3	04	8.8	19	07	15	01	29	
30	89	67	78	3	62	68	0	13		0		0.0	0.00	29.91	30.03	5.1	02	6.0	18	03	13	03	30	

89.9	69.7	79.8	☼	68.3	71.9	0.0	15.0	< MONTHLY AVERAGES   TOTALS >				0.0	1.23	29.85	29.96	2.9	08	5.7	< MONTHLY AVERAGES			
0.2	-0.1	0.0		-----DEPARTURE FROM NORMAL ----->										-2.89	SUNSHINE, CLOUD, & VISIBILITY TABLES ON PAGE 3							

<b>DEGREE DAYS</b>				<b>GREATEST 24-HR PRECIPITATION :</b> 0.50 <b>DATE :</b> 20-21				<b>SEA LEVEL PRESSURE</b>			
<b>MONTHLY</b>				<b>GREATEST 24-HR SNOWFALL :</b> 0.0 <b>DATE :</b>				<b>MAXIMUM :</b> 30.15 <b>DATE</b> 08 <b>TIME</b> 0953			
<b>TOTAL DEPARTURE</b>				<b>GREATEST SNOW DEPTH :</b> 0 <b>DATE :</b>				<b>MINIMUM :</b> 29.78 <b>DATE</b> 13 <b>TIME</b> 1857			
<b>SEASON TO DATE</b>				<b>NUMBER OF -&gt; DAYS WITH</b>				<b>MAXIMUM TEMP &gt;= 90 :</b> 20			
<b>HEATING :</b> 0 -1 0 -1				<b>MAXIMUM TEMP &lt;= 32 :</b> 0				<b>MINIMUM TEMP &lt;= 32 :</b> 0			
<b>COOLING :</b> 451 8 3103 278				<b>THUNDERSTORMS :</b> 4				<b>HEAVY FOG :</b> 1			
				<b>PRECIPITATION &gt;= 0.01 INCH:</b> 6				<b>PRECIPITATION &gt;= 0.10 INCH:</b> 3			
				<b>SNOWFALL &gt;= 1.0 INCH :</b> 0							

**SEPTEMBER 2017  
HOUSTON, TX**

# HOURLY PRECIPITATION

(WATER EQUIVALENT IN INCHES)

HOUSTON, TX (KIAH)  
SEPTEMBER 2017

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	0.00	0.00	
04													04												04	0.00	0.00	
05													05												05	0.00	0.00	
06	0.05	0.01											06												06	0.06	0.06	
07													07												07	0.00	0.00	
08													08												08	0.00	0.00	
09													09												09	0.00	0.00	
10													10												10	0.00	0.00	
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												15	0.00	0.00	
16													16												16	0.00	0.00	
17													17												17	0.00	0.00	
18													18	0.28	0.02	0.01		T	0.01		T		T		18	0.42	0.42	
19													19												19	0.00	0.00	
20													20	T	0.32		0.16	T							20	0.48	0.48	
21													21												21	0.02	0.02	
22													22												22	0.00	0.00	
23													23												23	0.00	0.00	
24													24												24	0.01	0.01	
25													25												25	0.00	0.00	
26													26												26	0.00	0.00	
27													27												27	0.00	0.00	
28													28	T	T										28	0.24	0.24	
29													29												29	0.00	0.00	
30													30												30	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)	0.21	0.28	0.31	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.39	0.48
Ending Date	18	18	20	20	20	20	20	20	20	20	20	20
Ending Time (Hr/Min)	1211	1214	1317	1317	1317	1317	1317	1317	1317	1317	1533	1544

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 2017

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:

Date	VISIBILITY (MILES)	
	MINIMUM	MAXIMUM
01	7.00	10.00
02	6.00	10.00
03	8.00	10.00
04	4.00	10.00
05	8.00	10.00
06	8.00	10.00
07	10.00	10.00
08	10.00	10.00
09	10.00	10.00
10	10.00	10.00
11	10.00	10.00
12	10.00	10.00
13	10.00	10.00
14	8.00	10.00
15	10.00	10.00
16	0.00	10.00
17	6.00	10.00
18	4.00	10.00
19	6.00	10.00
20	7.00	10.00
21	6.00	10.00
22	7.00	10.00
23	4.00	10.00
24	6.00	10.00
25	7.00	10.00
26	10.00	10.00
27	10.00	10.00
28	3.00	10.00
29	7.00	10.00
30	7.00	10.00
<b>AVGS</b>	7.30	10.00
<b>MINIMUM VISIBILITY (MILES)</b>		
<= .25	<= 3.0	>= 7.0
1	2	20





# OBSERVATIONS AT 3-HOURLY INTERVALS

## HOUSTON, TX

### SEPTEMBER 2017

### 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					
<b>SUNRISE: 0611      SEP 25      SUNSET: 1816</b>					03	FEW	020	10.00		74	72	73	94	6	10	29.75	29.85
06	FEW	025	7.00		73	72	72	96	3	36	29.77	29.88					
09	FEW	250	10.00		82	75	77	79	7	09	29.80	29.91					
12	SCT	250	10.00		88	73	77	61	14	11	29.77	29.87					
15	SCT	250	10.00		90	70	76	52	10	11	29.70	29.80					
18	BKN	250	10.00		83	72	75	70	13	14	29.71	29.81					
21	SCT	250	10.00		77	72	74	85	5	12	29.74	29.85					
24	FEW	250	10.00		74	72	73	94	3	14	29.75	29.85					
<b>SUNRISE: 0612      SEP 26      SUNSET: 1815</b>					03	FEW	020	10.00		73	71	72	94	3	36	29.76	29.87
06	FEW	250	10.00		73	71	72	94	3	02	29.77	29.88					
09	SCT	250	10.00		83	74	77	74	8	11	29.80	29.91					
12	BKN	250	10.00		88	72	77	59	7	VR	29.79	29.89					
15	BKN	250	10.00		89	69	75	52	9	09	29.73	29.83					
18	SCT	110	10.00		84	72	76	67	10	13	29.75	29.85					
21	BKN	250	10.00		78	72	74	82	5	17	29.80	29.90					
24	BKN	250	10.00		75	73	74	94	0	00	29.79	29.90					
<b>SUNRISE: 0612      SEP 27      SUNSET: 1813</b>					03	BKN	250	10.00		76	73	74	91	0	00	29.79	29.89
06	BKN	250	10.00		76	73	74	91	0	00	29.81	29.92					
09	BKN	250	10.00		83	73	76	72	5	10	29.85	29.95					
12	BKN	250	10.00		89	72	77	57	6	05	29.83	29.93					
15	BKN	250	10.00		92	70	77	49	5	05	29.77	29.87					
18	BKN	250	10.00		85	72	76	65	8	06	29.77	29.88					
21	SCT	250	10.00		78	73	75	85	0	00	29.83	29.94					
24	BKN	250	10.00		76	73	74	91	0	00	29.83	29.94					
<b>SUNRISE: 0613      SEP 28      SUNSET: 1812</b>					03	BKN	250	10.00		76	73	74	91	0	00	29.81	29.92
06	BKN	250	10.00	BCFG	76	73	74	91	0	00	29.84	29.94					
09	BKN	300	10.00		82	74	76	77	6	05	29.87	29.98					
12	BKN	170	10.00		91	72	78	54	5	01	29.84	29.95					
15	BKN	190	10.00		87	73	77	63	7	13	29.79	29.90					
18	BKN	110	7.00		76	73	74	91	10	13	29.84	29.94					
21	OVC	150	7.00		77	73	74	88	3	31	29.88	29.99					
24	OVC	095	7.00		76	74	75	94	3	34	29.87	29.98					
<b>SUNRISE: 0614      SEP 29      SUNSET: 1811</b>					03	BKN	250	9.00		76	72	73	88	6	01	29.87	29.97
06	BKN	250	10.00		73	69	70	87	9	05	29.90	30.00					
09	FEW	180	10.00		80	68	72	67	11	06	29.93	30.04					
12	FEW	180	10.00		88	70	76	55	8	05	29.91	30.01					
15	SCT	250	10.00		91	68	75	47	13	04	29.86	29.96					
18	SCT	250	10.00		83	70	74	65	8	02	29.87	29.98					
21	FEW	250	10.00		79	67	71	67	10	04	29.92	30.03					
24	FEW	250	10.00		76	61	67	60	8	05	29.93	30.04					
<b>SUNRISE: 0614      SEP 30      SUNSET: 1810</b>					03	SCT	250	10.00		69	62	65	78	3	02	29.94	30.05
06	FEW	250	10.00		67	61	63	81	6	35	29.95	30.05					
09	FEW	250	10.00		77	60	66	56	10	06	29.98	30.09					
12	FEW	250	10.00		86	61	70	43	5	VR	29.95	30.06					
15	FEW	250	10.00		88	60	70	39	9	03	29.88	29.98					
18	FEW	250	10.00		83	61	69	48	8	01	29.88	29.99					
21	CLR	NC	10.00		74	64	68	71	3	04	29.91	30.02					
24	CLR	NC	10.00		72	62	66	71	0	00	29.89	30.00					

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.

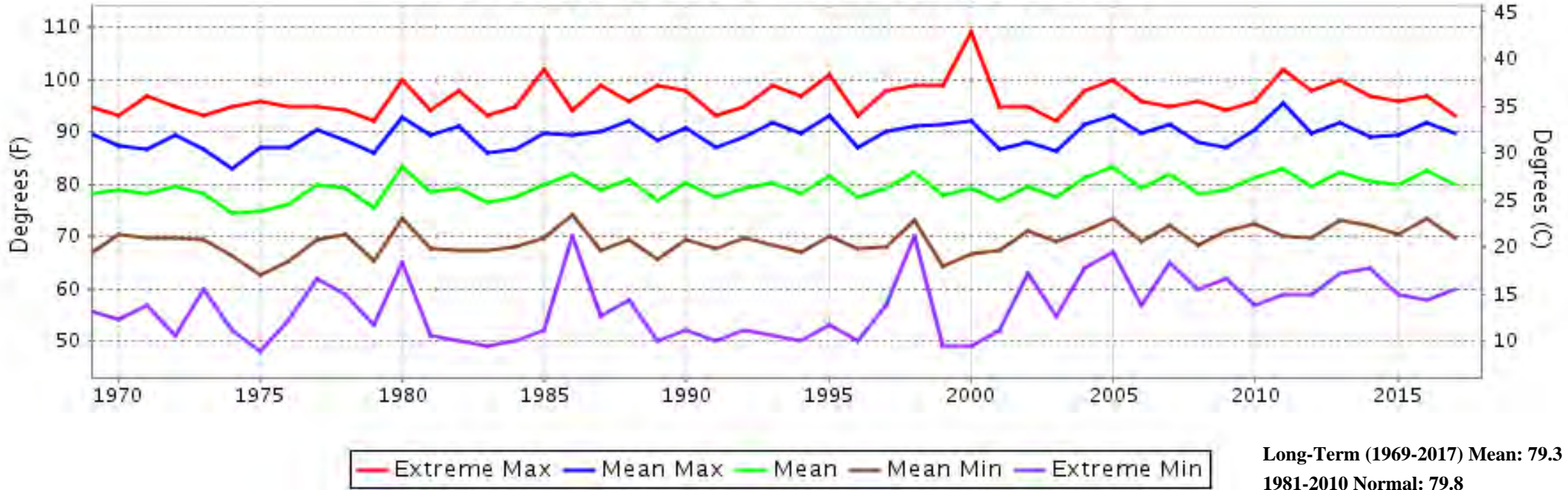
& = Original observation contained additional weather elements.

See page 3 for additional notes.

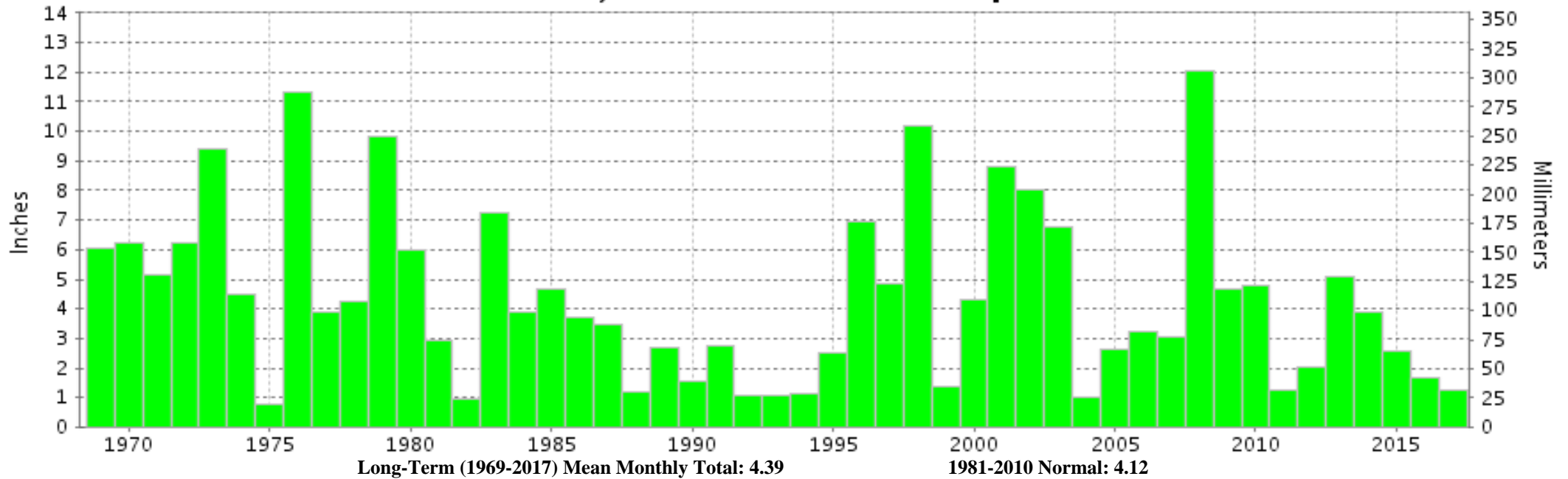
### SUMMARY BY HOUR

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	73	69	71	88	29.85	29.95	9.55	3	2	11
02	73	69	71	89	29.84	29.95	9.31	3	1	12
03	72	69	70	90	29.84	29.95	9.10	2	2	11
04	72	68	70	90	29.85	29.96	8.90	2	2	11
05	71	68	69	90	29.86	29.97	8.73	3	2	11
06	71	68	69	91	29.87	29.98	8.26	2	2	12
07	72	69	70	89	29.88	29.99	8.37	4	2	10
08	77	70	72	81	29.89	30.00	8.67	5	3	10
09	80	70	73	71	29.90	30.01	9.63	7	4	10
10	83	69	74	63	29.90	30.01	9.90	7	4	10
11	85	68	74	57	29.90	30.00	10.00	7	4	10
12	87	67	74	53	29.88	29.99	9.80	9	4	10
13	87	67	74	51	29.86	29.97	10.00	8	5	10
14	88	67	74	50	29.84	29.95	9.90	8	4	10
15	88	66	73	50	29.82	29.93	10.00	8	5	09
16	87	66	73	51	29.81	29.92	10.00	10	6	09
17	85	67	73	56	29.81	29.92	9.66	10	7	09
18	83	68	73	63	29.82	29.92	9.90	9	6	09
19	79	68	72	70	29.83	29.93	10.00	7	4	09
20	78	69	72	75	29.84	29.95	9.90	6	4	10
21	76	69	72	78	29.86	29.96	9.90	5	3	10
22	76	69	71	80	29.86	29.97	9.90	4	2	10
23	75	69	71	83	29.86	29.97	9.87	3	1	11
24	74	69	71	86	29.85	29.96	9.83	3	2	10

## HOUSTON, TX SEPTEMBER Temperatures



## HOUSTON, TX SEPTEMBER Precipitation







SEPTEMBER 2017

HOUSTON, TX

## LOCAL CLIMATOLOGICAL DATA

### NOAA, National Centers for Environmental Information

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A handwritten signature in black ink that reads "Mary A. Wohlgemuth".

**DIRECTOR**

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NOAA\National Centers for Environmental Information  
Attn: User Engagement & Services Branch  
151 Patton Avenue  
Asheville, NC 28801-5001