

Cameron COUNTY ROLLED SKETCH NO. 23  
Tide Gauge Data, Port Isabel, Texas  
SURVEYED 1944-1955 BY National Ocean Survey  
21N57E FILED 3/9/76

PX-12  
PGS 7-17-79

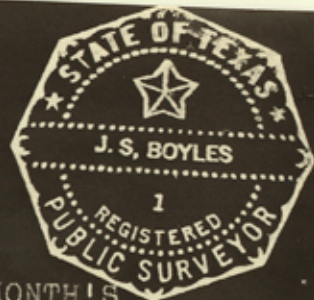
counter 439.31

TIDE GAUGE DATA, PORT ISABEL, TEXAS, U. S. COAST & GEODETIC SURVEY  
SHOWING THE NUMBER OF DAYS YEARLY WHEN THE TIDE GAUGE RECORDED A  
READING HIGHER THAN THE YEARLY AVERAGE MEAN HIGHER HIGH WATER FOR  
A 12-YEAR CYCLE 1944-1955 ELEVATION 4.84 ft.

<u>YEAR</u>		<u>NO. DAYS</u>
1944	out of possible 275 days	150
1945		125
1946		162
1947		133
1948	days gauge open 297	164
1949	" " " 293	175
1950	" " " 358	152
1951		135
1952		166
1953	" " " 336	165
1954	" " " 334	133
1955	" " " 347	162
Total number of days available - - - - -		4066
Total number of days above 4.84		
12-year mean higher high water average - - -		1682



counter 139321



TIDE RECORDS DATA - PORT ISABEL, TEXAS - U. S. COAST & GEODETIC SURVEY

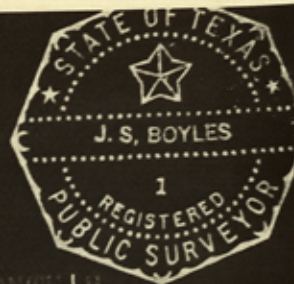
1944	MEAN TIDE LEVEL	MEAN HIGH WATER	MEAN LOW WATER	MEAN HIGHER HIGH WATER	MEAN LOWER LOW WATER	MEAN OF MHHW & MLLW	MONTH'S HIGHEST	DAY	MONTH'S LOWEST	DAY	MEAN RANGE MHHW & MLLW	MONTH'S EXTREME RANGE	YR'S. HIGH
April	4.32	4.76	3.89	4.85	3.76	4.30	5.2	2-11-25	3.2	14	1.09	8.0	
May	4.56	5.01	4.10	5.09	3.88	4.48	5.9	28	3.4	7-10-23	1.21	2.5	5.9
June	4.38	4.86	3.90	4.93	3.73	4.33	5.4	10	3.1	22-23	1.20	2.3	
July	4.06	4.58	3.54	4.66	3.41	4.04	5.2	3-5	2.8	7	1.25	2.4	
Aug.	4.08	4.57	3.59	4.62	3.35	3.98	5.2	31	2.8	12-13	1.27	2.1	
Sept.	4.68	5.04	4.31	5.15	4.18	4.66	5.9	27-28	3.4	2	0.97	2.5	
Oct.	4.56	4.93	4.19	5.04	4.08	4.56	5.6	9	3.6	22	0.96	2.0	
Nov.	4.38	4.88	3.89	4.94	3.79	4.36	5.4	3-4	2.9	30	1.15	2.5	
Dec.	3.72	4.36	3.08	4.40	3.05	3.72	5.4	5	2.0	14	1.35	3.4	
Total	38.74	42.99	34.49	43.66	33.23	30.43	49.20		27.20		9.36	21.70	
Average	4.30	4.78	3.83	4.85	3.69	3.38	5.47		3.02		1.04	2.41	
Local mean sea level				3.87									
Year's highest above L.M.S.L.				2.03									
1945													
Jan.	3.83	4.38	3.28	4.39	3.16	3.78	5.0	22	2.3	13	1.23	2.7	
Feb.	3.82	4.27	3.37	4.34	3.13	3.74	5.0	21	2.4	9	1.21	2.6	
March	4.02	4.42	3.62	4.46	3.38	3.92	5.0	31	2.4	22	1.08	2.6	
April	4.52	4.95	4.10	5.03	3.96	4.50	5.7	4	3.2	15	1.07	2.5	
May	4.18	4.73	3.64	4.83	3.52	4.18	5.4	1-16	2.8	13	1.31	2.6	
June	4.08	4.63	3.54	4.74	3.38	4.06	5.4	26	2.6	9-11	1.36	2.8	
July	3.96	4.47	3.44	4.55	3.26	3.90	5.2	21	2.4	8	1.29	2.8	
Aug.	4.28	4.78	3.78	4.81	3.53	4.17	5.7	26	3.0	6	1.28	2.4	Storm 7.0
Sept.	4.46	4.85	4.08	4.96	3.94	4.45	5.6	30	3.4	19	1.02	2.2	
Oct.	4.98	5.35	4.61	5.39	4.43	4.91	6.1	11	3.3	24	0.96	2.8	
Nov.	4.20	4.65	3.75	4.70	3.60	4.15	5.3	21	2.8	8	1.10	2.5	
Dec.	4.00	4.54	3.46	4.57	3.37	3.97	5.3	18	2.4	5	1.20	2.9	
Total	50.33	56.02	44.67	56.77	42.66	49.73	66.00	with strm.	33.0		14.11	33.4	with storm
Average	4.18	4.67	3.72	4.73	3.55	4.14	64.30	without	2.75		1.17	31.3	without strm.
Local mean sea level				4.25									
Year's highest above L.M.S.L.				2.75	with storm								
				1.85	without storm								



TIDE RECORDS DATA - PORT ISABEL, TEXAS - U. S. COAST & GEODETIC SURVEY

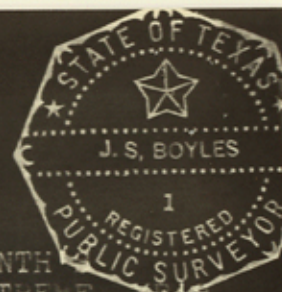


1948	MEAN TIDE LEVEL	MEAN HIGH WATER	MEAN LOW WATER	MEAN HIGHER HIGH WATER	MEAN LOWER LOW WATER	MEAN OF MHHW & MLLW	MONTH'S HIGHEST	DAY	MONTH'S LOWEST	DAY	MEAN RANGE MHHW & MLLW	MONTH'S EXTREME RANGE	YR'S. HIGH	
Jan.	3.99	4.51	3.47	4.62	3.33	3.98	5.5	13	2.5	25	1.29	3.0		
Feb.	3.96	4.45	3.48	4.54	3.24	3.89	5.3	21	2.7	10	1.30	2.6		
March	4.50	4.97	4.02	5.05	3.84	4.44	5.7	11	3.2	31	1.21	2.5		
April	Gauge out													
May	Gauge out													
June	4.11	4.68	3.54	4.73	3.31	4.02	5.1	8	2.5	10	1.42	2.6		
July	4.19	4.77	3.61	4.83	3.49	4.16	5.3	7-19	3.2	4-6	1.34	2.1		
Aug.	4.30	4.82	3.79	4.92	3.58	4.25	5.9	31	2.9	14	1.34	3.0		
Sept.	5.03	5.46	4.60	5.55	4.41	4.98	6.0	28	3.4	8	1.14	2.6		
Oct.	4.94	5.36	4.51	5.46	4.32	4.89	5.9	25	3.7	6	1.14	2.2		
Nov.	4.54	5.07	4.01	5.18	3.82	4.50	6.1	18	2.5	29	1.36	3.6	6.1	
Dec.	4.06	4.78	3.35	4.80	3.29	4.04	5.1	16	2.8	1-18	1.61	2.3		
Total	43.62	48.87	38.29	49.68	36.63	50.93	55.90		29.40		13.15	26.5	6.1	
Average	4.36	4.89	3.83	4.97	3.66	5.09	5.59		2.94		1.31	2.65		
Local mean sea level				4.06	(for 9 mo. 20 das.)									
Year's highest L.M.S.L.				2.04										
1949														
Jan.	Gauge out													
Feb.	Gauge out													
March	4.61	5.05	4.18	5.14	4.00	4.57	5.5	21	3.4	19	1.14	2.1 (17 days)		
April	4.34	4.86	3.82	4.96	3.66	4.31	6.0	4	2.8	8-14	1.30	3.2		
May	4.30	4.93	3.68	4.98	3.53	4.26	5.4	1	2.9	27-30	1.45	2.5		
June	4.17	4.89	3.45	4.91	3.34	4.12	5.6	9	2.9	24	1.57	2.5		
July	3.99	4.61	3.37	4.66	3.19	3.92	5.1	24	2.6	9	1.47	2.5		
Aug.	3.98	4.54	3.41	4.61	3.12	3.86	4.9	5-25	2.6	4	1.49	2.3		
Sept.	4.70	5.21	4.19	5.27	4.01	4.64	6.0	21-25	3.1	1	1.26	2.9		
Oct.	5.06	5.54	4.57	5.62	4.43	5.02	6.4	3	3.6	24	1.19	2.8	6.4	
Nov.	4.12	4.68	3.57	4.77	3.42	4.10	5.6	13	2.1	21	1.35	3.5		
Dec.	4.40	5.03	3.76	5.07	3.70	4.38	5.7	17	2.9	20	1.37	2.8		
Total	43.67	49.34	38.00	49.99	36.40	43.18	56.20		26.90		13.59	27.10	6.4	
Average	4.37	4.93	3.80	5.00	3.64	4.32	5.62		2.69		1.36	2.71		
Local mean sea level				4.44	(9 mo. 17 days)									
Year's highest L.M.S.L.				1.96										



TIDE RECORDS DATA - PORT ISABEL, TEXAS - U. S. COAST & GEODETIC SURVEY

1950	MEAN TIDE LEVEL	MEAN HIGH WATER	MEAN LOW WATER	MEAN HIGHER HIGH WATER	MEAN LOWER LOW WATER	MEAN OF MHHW & MLLW	MONTH'S HIGHEST	DAY	MONTH'S LOWEST	DAY	MEAN RANGE MHHW & MLLW	MONTH'S EXTREME RANGE	YR'S. HIGH
Jan.	4.42	4.98	3.85	5.05	3.66	4.36	5.6	4	2.8	7	1.39	2.8	
Feb.	4.30	4.79	3.82	4.86	3.59	4.22	5.8	13	2.6	15	1.27	3.2	
March	4.31	4.86	3.76	4.92	3.63	4.28	5.5	4	3.1	26-27	1.29	2.4	
April	4.55	5.04	4.06	5.12	3.80	4.46	6.2	17	3.2	8to 10	1.32	3.0	6.2
May	4.08	4.79	3.36	4.85	3.25	4.05	5.4	1-2-3	2.3	30	1.60	2.1	
June	3.92	4.68	3.17	4.71	3.09	3.90	5.2	2	2.2	28	1.62	3.0	
July	3.86	4.52	3.21	4.57	3.03	3.80	5.1	25-26	2.5	1	1.54	2.6	
Aug.	4.28	4.78	3.78	4.83	3.54	4.18	5.7	30	2.9	5	1.29	2.8	
Sept.	4.52	5.04	3.99	5.17	3.92	4.54	5.9	6-29	2.9	18	1.25	3.0	
Oct.	Gauge out												
Nov.	4.05	4.87	3.24	4.88	3.20	4.04	5.4	20	2.6	30	1.68	2.8 (23 days)	
Dec.	3.86	4.49	3.22	4.53	3.12	3.84	5.3	5	2.0	8	1.43	3.3	
Total	45.07	52.84	39.46	53.49	37.83	45.67	61.10		29.10		15.68	31.10	6.2
Average	4.18	4.44	3.59	4.86	3.44	4.15	5.55		2.64		1.42	2.83	
Local mean sea level				4.28									
Year's highest L.M.S.L.				1.92									
<u>1951</u>													
Jan.	3.93	4.48	3.38	4.54	3.09	3.82	5.9	6	2.1	8	1.45	3.8	
Feb.	3.83	4.39	3.28	4.46	3.05	3.76	4.9	28	2.3	3-6	1.41	2.6	
March	4.28	4.71	3.86	4.80	3.42	4.11	5.5	28	2.7	14	1.38	2.8	
April	3.99	4.48	3.50	4.67	3.26	3.96	5.6	11	2.5	14	1.41	3.1	
May	4.19	4.75	3.64	4.84	3.31	4.08	5.7	11	2.5	6-22	1.53	3.2	
June	3.88	4.59	3.18	4.63	3.00	3.82	5.2	4	2.2	19	1.63	3.0	
July	3.75	4.37	3.13	4.55	2.92	3.74	4.9	17	2.2	17	1.63	2.7	
Aug.	4.01	4.57	3.45	4.01	3.45	3.91	5.0	18	2.5	12-14	1.40	2.5	
Sept.	4.43	4.90	3.96	4.96	3.75	4.36	5.3	16-30	2.9	11	1.21	2.4	
Oct.	4.69	5.25	4.13	5.21	4.02	4.62	5.9	18	3.2	6	1.19	2.7	5.9
Nov.	4.18	4.84	3.53	4.92	3.48	4.20	5.8	6	3.0	3-29	1.44	2.8	
Dec.	4.22	4.94	3.50	5.09	3.45	4.27	5.8	14	2.4	30	1.64	3.4	
Total	48.48	56.27	42.54	56.68	40.20	48.65	65.50		30.50		17.32	35.00	5.9
Average	4.04	4.69	3.54	4.72	3.35	4.05	5.46		2.54		1.44	2.91	
Local mean sea level				4.18									
Year's highest L.M.S.L.				1.72									



TIDE RECORDS DATA - PORT ISABEL, TEXAS - U. S. COAST & GEODETIC SURVEY

1952 MONTH	MEAN TIDE LEVEL	MEAN HIGH WATER	MEAN LOW WATER	MEAN HIGHER HIGH WATER	MEAN LOWER LOW WATER	MEAN OF MHHW & MLLW	MONTH'S HIGHEST	DAY	MONTH'S LOWEST	DAY	MEAN RANGE MHHW & MLLW	MONTH EXTREME RANGE	1952 HIGH
Jan.	4.25	4.72	3.78	4.82	3.54	4.18	5.6	24-25	3.0	11	1.28	2.6	
Feb.	4.02	4.46	3.58	4.68	3.33	4.00	5.6	23	2.4	8	1.35	3.2	
March	4.45	4.95	3.94	4.99	3.69	4.34	5.5	18	2.8	1	1.30	2.7	
April	4.21	4.57	3.85	4.74	3.40	4.07	5.3	4-13	2.7	14	1.34	2.6	
May	4.12	4.66	3.59	4.85	3.43	4.14	5.5	11	2.5	12-15	1.42	3.0	
June	4.08	4.69	3.48	4.73	3.25	3.99	5.7	8	2.5	19-20	1.48	3.2	
July	4.34	4.98	3.70	4.79	3.28	4.04	5.5	17-18	2.3	7	1.51	3.2	
Aug.	3.95	4.54	3.36	4.71	3.27	3.99	5.7	29	2.8	2-14	1.44	2.9	
Sept.	4.71	5.19	4.23	5.34	4.10	4.72	6.2	11	2.9	1	1.24	3.3	6.2
Oct.	4.33	4.84	3.82	4.96	3.75	4.36	5.8	7	3.2	24	1.21	2.6	
Nov.	4.23	4.86	3.61	4.93	3.51	4.22	5.6	29	2.9	18	1.42	2.7	
Dec.	4.13	4.76	3.50	4.81	3.38	4.10	5.2	2	2.7	15-17	1.43	2.5	
Total	50.82	57.22	44.44	58.35	41.93	50.15	67.20		32.70		16.42	34.50	
Average	4.23	4.77	3.70	4.86	3.49	4.18	5.60		2.72		1.37	2.88	6.2
Local mean sea level				4.26									
Year's highest L.M.S.L.				1.94									
1953													
Jan.	3.58	4.22	2.94	4.27	2.76	3.52	5.0	31	1.9	25	1.51	3.1	
Feb.	4.11	4.58	3.65	4.69	3.35	4.02	5.4	20	2.8	9	1.34	2.6	
March	4.03	4.52	3.54	4.62	3.33	3.98	5.1	4-11	2.7	20	1.29	2.4	
April	4.20	4.75	3.65	4.84	3.48	4.16	5.5	16	3.0	6	1.36	2.5	
May	4.33	4.99	3.67	5.07	3.56	4.32	5.6	14	2.8	29	1.51	2.8	
June	4.28	4.96	3.61	5.06	3.51	4.28	5.6	8-9	2.9	23	1.55	2.7	
July	Gauge out												
Aug.	4.02	4.58	3.47	4.64	3.23	3.94	5.2	30	2.5	7	1.41	2.7	
Sept.	4.58	5.09	4.08	5.20	3.96	4.58	6.0	25	3.3	3	1.24	2.7	
Oct.	4.75	5.21	4.29	5.28	4.08	4.68	6.5	24	3.2	14	1.20	3.3	6.5
Nov.	4.30	4.90	3.71	5.00	3.68	4.34	6.0	7-21	3.0	23	1.32	3.0	
Dec.	3.96	4.63	3.29	4.68	3.23	3.96	5.6	19	2.4	15-17	1.45	3.2	
Total	46.11	52.43	39.90	53.35	38.17	45.78	61.50		30.50		15.18	31.50	6.5
Average	4.19	4.77	3.63	4.85	3.43	4.16	5.59		2.77		1.38	2.86	
Local mean sea level				4.28									
Year's highest L.M.S.L.				2.22									

TIDE RECORDS DATA - PORT ISABEL, TEXAS - U. S. COAST & GEODETIC SURVEY



1954	MEAN TIDE LEVEL	MEAN HIGH WATER	MEAN LOW WATER	MEAN HIGHER HIGH WATER	MEAN LOWER LOW WATER	MEAN OF MHHW & MLLW	MONTH'S HIGHEST	DAY	MONTH'S LOWEST	DAY	MEAN RANGE MHHW & MLLW	MONTH'S EXTREME RANGE	YR'S. HIGH
Jan.	3.89	4.59	3.20	4.55	3.09	3.82	5.1	14	2.4	16	1.46	2.7	
Feb.	4.11	4.60	3.62	4.55	3.18	3.86	5.1	23	2.5	10	1.37	2.6	
March	3.98	4.42	3.54	4.61	3.37	3.99	5.3	13	2.6	10-11	1.24	2.7	
April	4.25	4.70	3.80	4.78	3.46	4.12	5.2	5	2.9	7	1.32	2.3	
May	4.35	4.97	3.74	5.04	3.53	4.28	5.9	3	2.9	31	1.51	3.0	
June	3.95	4.70	3.19	4.74	3.09	3.92	5.3	1	2.2	29	1.65	3.1	
July	3.67	4.26	3.09	4.40	2.84	3.62	4.9	29	2.2	25	1.56	2.7	
Aug.	4.06	4.53	3.59	4.58	3.34	3.96	5.1	26	2.8	21	1.24	2.3	
Sept.	4.69	5.17	4.22	5.27	4.10	4.68	6.1	16	3.5	6	1.17	2.6	
Oct.	4.71	5.23	4.19	5.30	4.03	4.60	6.0	4	3.2	18	1.27	2.8	
Nov.	4.19	4.79	3.59	4.88	3.52	4.20	6.2	12	2.5	24-28	1.36	3.7	6.2
Dec.	Gauge out												
Total	45.85	47.73	36.89	52.70	37.43	45.05	60.20		29.70		15.15	30.50	6.2
Average	4.16	4.34	3.35	4.79	3.40	4.09	5.44		2.70		1.35	2.77	
Local mean sea level													
Year's highest L.M.S.L.													

1955

Jan.	Gauge out												
Feb.	4.05	4.54	3.56	4.59	3.37	3.98	5.1	4-20	2.5	1	1.22	2.6	
March	3.93	4.44	3.43	4.55	3.16	3.86	5.1	26	2.8	2-31	1.39	2.3	
April	4.08	4.67	3.49	4.74	3.38	4.06	5.2	13-27	2.8	2-25	1.36	2.4	
May	4.08	4.54	3.63	4.73	3.32	4.02	5.3	20-23	2.7	6	1.41	2.6	
June	4.09	4.77	3.42	4.85	3.31	4.08	5.5	19	2.7	19	1.54	2.8	
July	4.18	4.77	3.59	4.82	3.33	4.08	5.2	5-19	2.7	16-17	1.49	2.5	
Aug.	4.13	4.63	3.64	4.71	3.33	4.02	5.2	28	2.7	15	1.38	2.5	
Sept.	4.82	5.24	4.40	5.32	4.22	4.77	5.7	6	3.7	23	1.10	2.0	
Oct.	4.43	4.97	3.90	5.19	3.97	4.58	5.8	4-10	3.1	31	1.22	2.7	5.8
Nov.	4.39	4.92	3.86	5.08	3.70	4.39	5.7	8	2.4	1-2	1.38	3.3	
Dec.	4.16	4.86	3.47	4.86	3.47	4.16	5.8	1	2.4	27	1.39	3.1	5.8
Total	46.34	52.35	40.39	53.44	38.56	49.96	59.60		30.50		14.87	28.80	5.8
Average	4.22	4.76	3.67	4.86	3.50	4.54	5.42		2.77		1.35	2.62	
Local mean sea level													
Year's highest L.M.S.L.													

count 13733-7