

APPENDIX B.

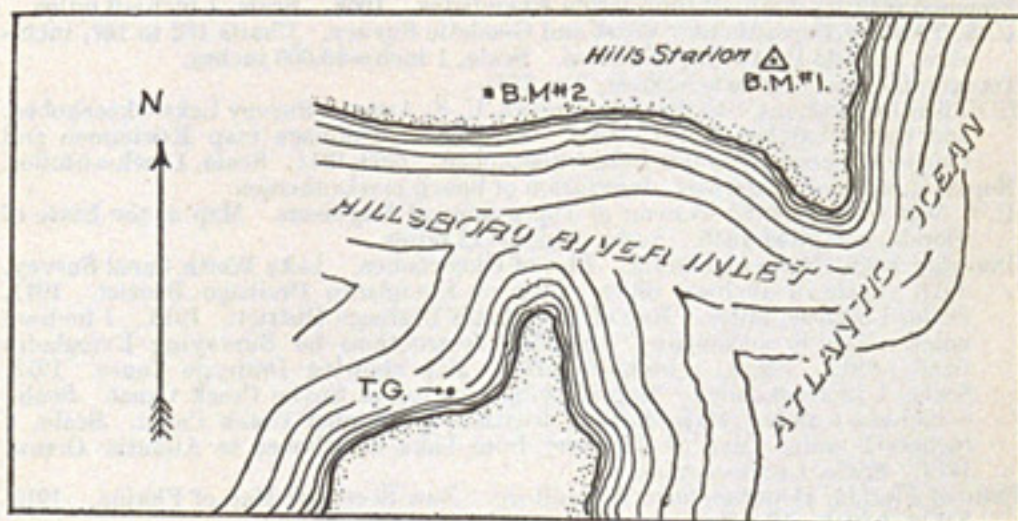
TIDE GAUGES, ATLANTIC OCEAN AND GULF OF MEXICO,
COAST AND GEODETIC SURVEY.

HILLSBORO INLET, HILLSBORO RIVER, FLA.

[Lat. 26° 15' N.; long. 80° 05' W.]

DESCRIPTION OF TIDE GAUGE AND BENCH MARKS.

A plain staff gauge was set up in Hillsboro Inlet on the south side of Hillsboro River, east coast of Florida. Tides were observed between December 28, 1883, and February 8, 1884, by party of Assistant B. A. Colonna.



Bench mark 1 is the top of the coquina stone marking the triangulation station Hills, which corresponds to a reading of 17.72 feet on tide staff.

Bench mark 2 is a galvanized-iron spike driven to the head in the east side of a coconut tree growing at the water's edge on north side of Hillsboro Inlet, some 50 meters west of Hills triangulation station. Bench mark 2 corresponds to a reading of 9.03 feet on tide staff.

Tide planes.	Readings on staff of 1883.	Elevation bench marks above tide planes.	
		Bench mark 1.	Bench mark 2.
	<i>Feet.</i>	<i>Feet.</i>	<i>Feet.</i>
Highest tide observed.....	3.70	14.02	5.33
Mean of 49 high waters.....	3.09	14.63	5.94
Mean half-tide level.....	1.92	15.80	7.11
Mean of 54 low waters.....	.75	16.97	8.28
Lowest tide observed.....	.00	17.72	9.03
Mean range of tide.....	2.34		

MIAMI ENTRANCE (NEW CUT), BISCAYNE BAY, FLA.

[Lat. 25° 46' N.; long. 80° 08' W.]

DESCRIPTION OF TIDE GAUGE AND BENCH MARKS 6, 7, 8, 9, 10, 11, AND 12.

[Bench marks 1 to 5 on separate sheet.]

Bench mark 6, established by United States engineers and recovered by Assistant W. C. Hodgkins in 1913, is a nail in the top of a concrete monument about 185 feet westerly from west end of North Jetty and almost in line with same.

Bench mark 7, established by United States engineers and recovered by Assistant W. C. Hodgkins in 1912, is a nail in the top of another concrete monument about 255 feet westerly from west end of North Jetty and almost in line with same.

Bench mark 8, established by Assistant W. C. Hodgkins in 1913, was a temporary one, the head of a large wire nail driven flush with the surface of an old 12 by 12 inch timber about 30 feet long, partly embedded in the sand, 26 paces to the westward of the tide gage. Three other nails form a rather large triangle about the bench mark.

Bench mark 9, established by Assistant W. C. Hodgkins in 1913, is the highest point of a large angular piece of rock at about high-water mark, at the foot of the south slope of the north jetty, abreast of the tide gage.

Bench mark 10, established by Assistant W. C. Hodgkins in 1913, is the top of a large piece of rock, about the middle line of north jetty and 17 paces eastward from bench mark 9. There is a 2-inch drill hole in the sloping northern surface of the rock about 2 feet north of the bench mark, which is the highest point of the rock.

Bench mark 11, established by Assistant W. C. Hodgkins in 1913, is the highest point of the south end of the large and rather flat-topped rock, 3 paces eastward of bench mark 10 and a little to the north of the middle line of the jetty.

Bench mark 12, established by Assistant W. C. Hodgkins in 1913, is the highest part of the sharp southwest point of a large brownish rock, a little to the southward of the middle line of the jetty and about 5½ paces to the eastward of bench mark 11. A very distinct band of feldspar crystals runs across the middle of the sloping northern face of the rock.

Tide planes.	Elevations of bench marks above tide planes.						
	Bench mark 6.	Bench mark 7.	Bench mark 8.	Bench mark 9.	Bench mark 10.	Bench mark 11.	Bench mark 12.
Highest tide observed.....	<i>Feet.</i> 2.88	<i>Feet.</i> 3.14	<i>Feet.</i> 2.24	<i>Feet.</i> -0.04	<i>Feet.</i> 1.41	<i>Feet.</i> 1.04	<i>Feet.</i> 0.66
Mean high water.....	4.80	5.06	4.16	1.88	3.33	2.96	2.60
Mean tide level.....	5.89	6.15	5.25	2.97	4.42	4.05	3.69
Mean low water.....	6.98	7.24	6.34	4.06	5.51	5.14	4.78
Lowest tide observed.....	7.88	8.14	7.24	4.96	6.41	6.04	5.68
Zero of tide staff.....	6.88	7.14	6.24	2.96	5.41	5.04	4.68

Table is based upon 392 high waters and 394 low waters.

MIAMI ENTRANCE (NEW CUT), BISCAYNE BAY, FLA.

[Lat. 25° 46' N.; long. 80° 08' W.]

DESCRIPTION OF TIDE GAUGE AND BENCH MARK.

Tide gauge No. 1 was a box gauge, with an iron float pipe, and light movable rod on float, located near shore end of North Jetty. Tide gauge No. 2, was a plain staff just inside the cut, on east side of Key Biscayne Bay, opposite Miami. The zeros of these gauges were the same, and correspond to mean low water as established by E. B. Thompson, assistant United States engineer. Tides were observed between June 22, 1908, and June 30, 1909.

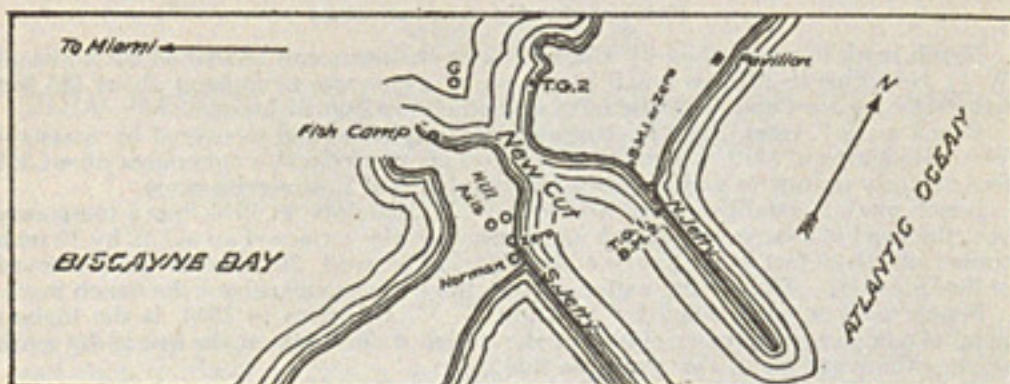
DESCRIPTIONS OF BENCH MARKS FROM RECORD LOANED BY UNITED STATES ENGINEERS.

Bench mark 1 is top of a 1½-inch pipe driven in North Jetty at its western or shore end. It was known as zero of North Jetty and corresponds to reading 5.385 feet on gauge.

Bench mark 2 is the top of iron flange of float pipe of gauge 1 and corresponds to a reading of 5.287 feet on gauge.

Bench mark 3 is a notch cut in Mangrove at the New Cut and corresponds to a reading of 4.150 feet on either gauge.

Bench mark 4 is the top of a 1½-inch pipe at Lums (7) Landing and corresponds to a reading of 3.890 feet on gauge.



Bench mark 5 is some nails on top of Pavilion wharf and corresponds to a reading of 3.645 feet on either gauge.

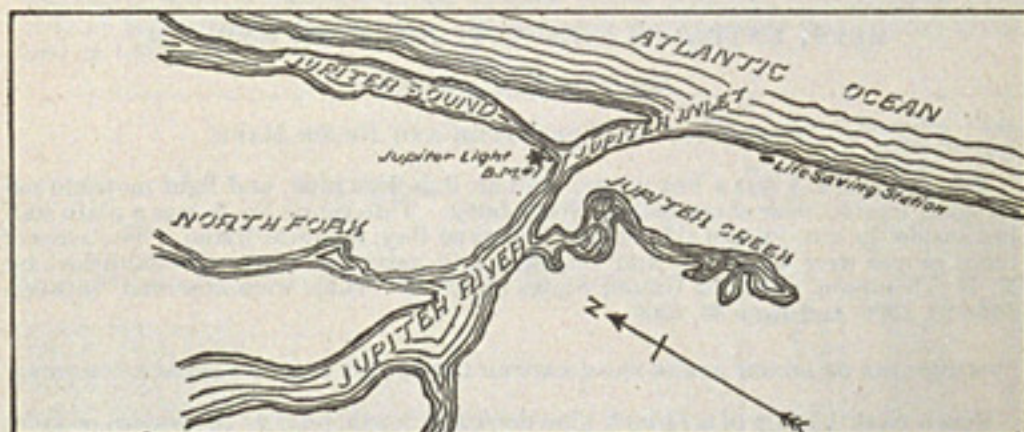
Tide planes.	Readings on elevation bench marks above tide planes.					
	Staff of No. 1.	Bench mark 1.	Bench mark 2.	Bench mark 3.	Bench mark 4.	Bench mark 5.
Highest tide observed.....	Feet. 4.00	Feet. 1.38	Feet. 1.39	Feet. 0.15	Feet. -0.11	Feet. -0.36
Mean 392 high waters.....	2.08	3.30	3.31	2.07	1.81	1.56
Mean half-tide level.....	0.99	4.39	4.40	3.15	2.90	2.65
Mean 394 low waters.....	-0.10	5.48	5.49	4.25	3.99	2.74
Lowest tide observed.....	-1.00	6.38	6.39	5.15	4.89	4.64
Mean range of tide.....	2.18					

JUPITER LIGHTHOUSE, FLORIDA.

[Lat. 26° 57' N.; long. 80° 05' W.]

DESCRIPTION OF TIDE GAUGE AND BENCH MARK.

A plain wooden tide staff was nailed to a pile of the wharf at Jupiter Lighthouse. Jupiter Inlet is very uncertain as to its closing or being open, and the entrance is about



as changeable as it can be, no two tides leaving the bar the same. Tides were observed between April 26 and May 12, 1883, by party of Lieut. H. B. Mansfield, United States Navy, and by party of Assistant B. A. Colonna, between March 20 and 23, 1884.

Bench mark 1 is the western end of cast-iron doorsill of lighthouse doorway, and corresponds to 62.85 feet on staff.

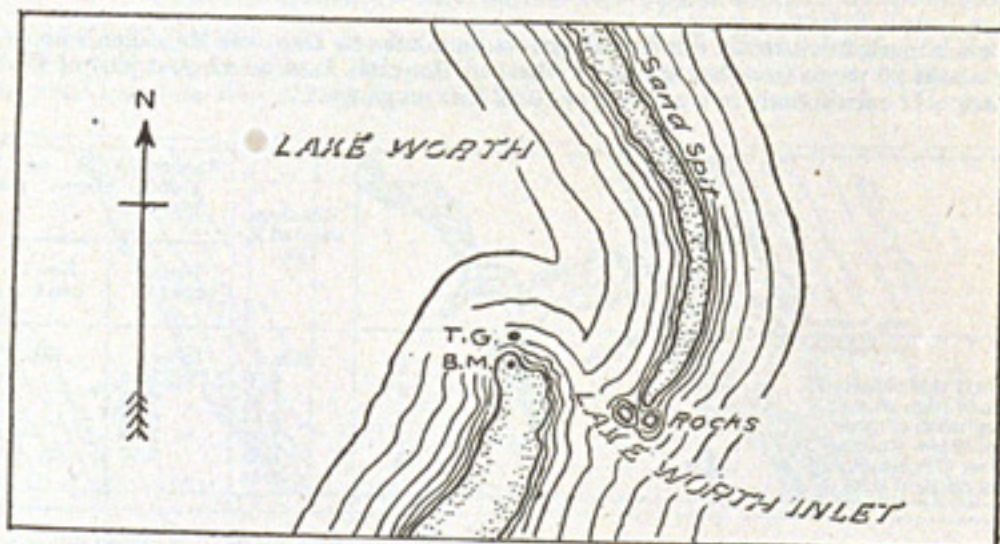
Tide planes.	Readings on staff of 1883.	Elevations of bench mark above tide planes.
Highest tide observed.....	Feet. 5.90	Feet. 56.95
Mean 30 high waters.....	5.21	57.64
Mean half-tide level.....	4.79	58.06
Mean 29 low waters.....	4.37	58.48
Lowest tide observed.....	4.00	58.85
Mean range of tide.....	.84

LAKE WORTH INLET, FLA.

[Lat. 26° 49' N.; long. 80° 02' W.]

DESCRIPTION OF TIDE GAUGE AND BENCH MARK.

A plain wooden tide staff was erected on the southwest side of Lake Worth Inlet, Fla. Tides were observed between February 22 and March 6, 1884, by party of Assistant B. A. Colonna.



Bench mark 1 is the head of a nail driven all the way into a bay stump on south side of Lake Worth Inlet. It corresponds to a reading of 5.02 feet on tide gauge.

Tide planes.	Readings on staff of 1884.	Elevations of bench mark above tide planes.
Highest tide observed.....	Feet. 4.40	Feet. 0.62
Mean of 9 high waters.....	3.89	1.13
Mean half-tide level.....	3.36	1.66
Mean of 13 low waters.....	2.83	2.19
Lowest tide observed.....	2.54	2.48
Mean range of tide.....	1.06

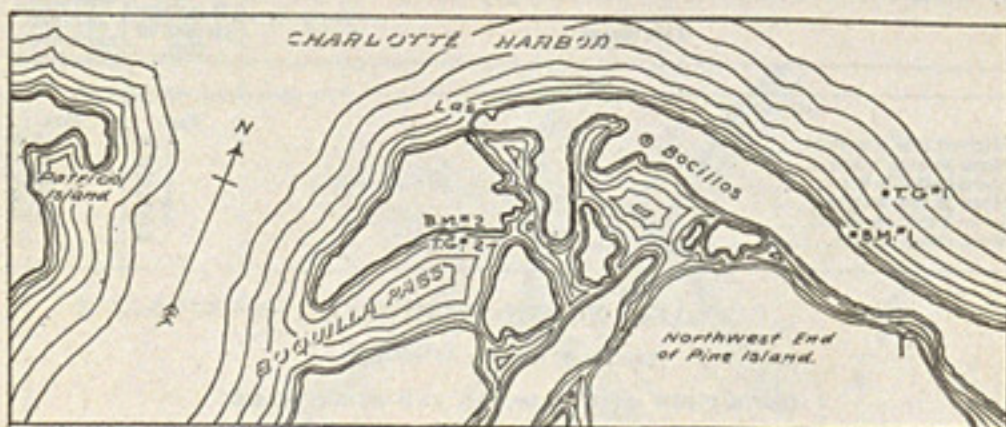
PINE ISLAND, CHARLOTTE HARBOR, FLA.

[Lat. 26° 42' N.; long. 82° 09' W.]

DESCRIPTION OF TIDE GAUGE AND BENCH MARK.

Plain wooden tide staves were set up at the two places indicated in sketch on the northern end of Pine Island. Tides were observed by party of Lieut. Commander

C. M. Chester, United States Navy, and assistant United States Coast and Geodetic Survey on staff 1, from February 1 to April 13, 1880, and on staff 2 from March 7 to May 15, 1880.



Bench mark 1 consists of 4 copper tacks driven thus into a blazed surface on the northern side of a large palm tree, corresponding to a reading of 11.12 feet on gauge 1, or 9.35 feet on gauge 2.

Bench mark 2 consists of 6 iron nails driven in a large fig tree near Mr. Allen's house, and about 20 paces from beginning of wharf in Boquilla Pass, northwest part of Pine Island. It corresponds to a reading of 10.32 feet on gauge 2.

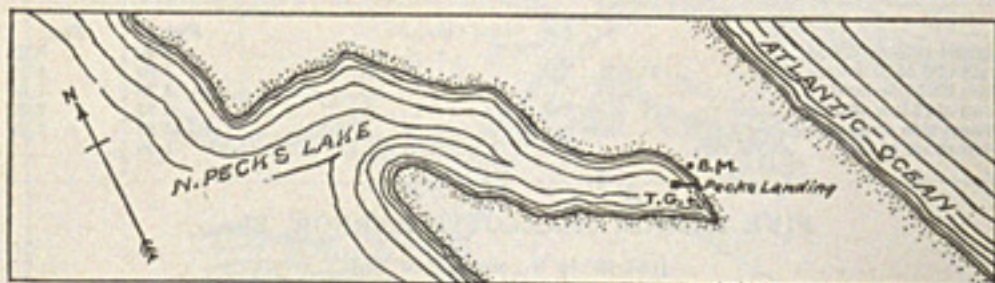
Tide planes.	Readings on staff 2, 1880.	Elevation of bench marks above tide planes.	
		Bench mark 1.	Bench mark 2.
Highest tide observed.....	Feet. 4.30	Feet. 5.05	Feet. 6.02
Mean 97 high waters.....	3.31	6.04	7.01
Mean half-tide level.....	2.74	6.61	7.58
Mean 82 low waters.....	2.17	7.18	8.15
Lowest tide observed.....	1.38	7.97	8.94
Mean range of tides.....	1.14		

PECKS LANDING, PECKS LAKE, FLA.

[Lat. 27° 07' N.; long. 80° 08' W.]

DESCRIPTION OF TIDE GAUGE AND BENCH MARK.

A plain wooden tide staff, was set up about 12 feet from shore at the end of a small arm extending eastward from Pecks Lake, about half a mile north of the north end



of South Jupiters Narrows. Tides were observed between June 9, 1883, and February 18, 1884, by party of Assistant B. A. Colonna.

Bench mark consists of a coquina stone 18 inches long and 6 inches square, resting on an iron signal head which is buried so as to leave about an inch of the top of the stone above ground. The bench mark is right at the landing, on north side of curve, and about 12 feet from the water line, and 80 feet north of tide gauge. It corresponds to a reading of 2.40 feet on tide gauge.

Tide planes.	On staff.	Below bench mark.
Highest water observed.....	Feet. 4.10	Feet. -1.70
Mean water level.....	1.83	.57
Lowest water observed.....	.40	2.00

There is practically no periodic tide. Rise and fall of water depends chiefly upon meteorological conditions.

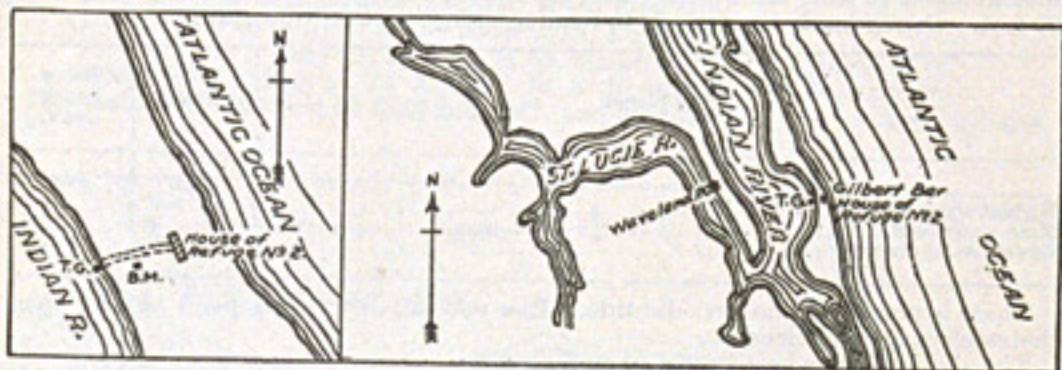
The above table is based upon 762 staff readings.

GILBERT BAR, INDIAN RIVER, FLA.

[Lat. 27° 11' N.; long. 80° 10' W.]

DESCRIPTION OF TIDE GAUGE AND BENCH MARK.

A plain wooden tide staff was fastened to the end of the wharf belonging to House of Refuge No. 2, at Gilbert Bar, on the coast shore of Indian River. Tides were observed between May 22 and June 11, 1883, by party of Assistant B. A. Colonna.



Bench mark is a brass nail in top of a coquina stone about 4 feet south of trail leading from wharf to house of refuge No. 2, and about 30 meters from the house. The stone is 31 inches long and 6 inches square, and rests in a hole 6 inches deep cut in the solid rock 20 inches below the surface of the ground. The top of the stone was cut square. In 1907, Assistant I. Winston found this stone with one-half of top broken off, but not destroyed. He had it placed in position, and a nail keg was placed around the stone and filled with cement and sand for the purpose of preserving it. Bench mark corresponds to a reading of 10,000 feet on tide staff.

Tide planes.	On staff.	Below bench mark.
Highest water observed.....	Feet. 2.00	Feet. 8.00
Mean water level.....	1.13	8.87
Lowest water observed.....	.65	9.35

There is practically no periodic tide. Rise and fall of water depend chiefly upon meteorological conditions.

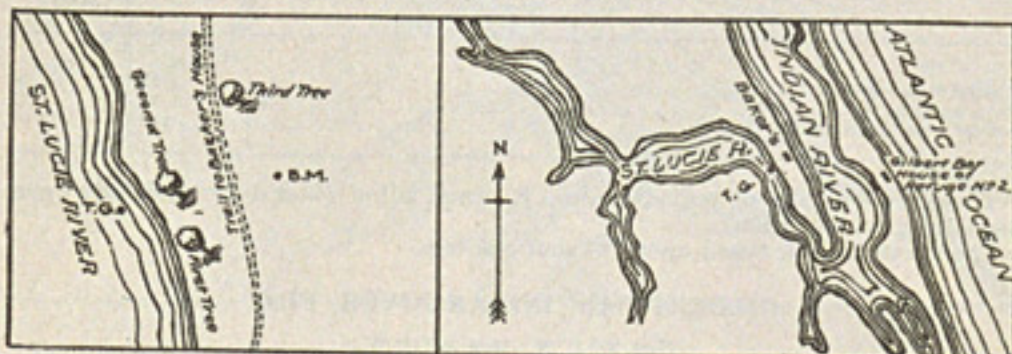
The above table is based upon 40 staff readings.

WAVELAND POST OFFICE, ST. LUCIE RIVER, FLA.

[Lat. 27° 11' N.; long. 80° 12' W.]

DESCRIPTION OF TIDE GAUGE AND BENCH MARK.

A plain wooden staff was nailed to a post driven in the river bed on the east shore of St. Lucie River, about 2 miles above the mouth and at the end of trail leading over from Dr. W. H. Baker's house on Indian River. Tides were observed between May 22 and June 9, 1883, by party of Assistant B. A. Colonna.



Bench mark is a nail in top of a coquina stone, about 50 feet back from St. Lucie River, just at the foot of a high bank and close to the trail coming over from Dr. Baker's house. The stone is 30.7 inches long; the top was cut square and projects about 4 inches above ground. The stone rests on an iron signal or tripod head. Triangles were cut on three palmetto trees, bearing from bench mark as follows: First tree, 249°, distant about 20 feet; second tree, 255° in line to gauge; and third tree, 333°, distant 26 feet. Bench mark corresponds to reading of 9.90 feet on tide staff.

Tide planes.	On staff.	Below bench mark.
	Feet.	Feet.
Highest water observed.....	1.60	8.30
Mean water level.....	.96	8.94
Lowest water observed.....	.50	9.40

There is practically no periodic tide. Rise and fall of water depend chiefly upon meteorological conditions.

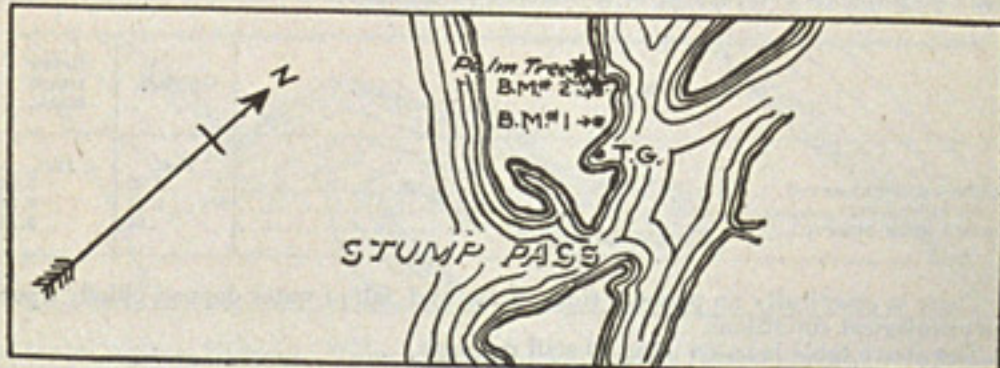
The above table is based upon 34 staff readings.

STUMP PASS, LEMON BAY, FLA.

[Lat. 26° 55' N.; long. 82° 21' W.]

DESCRIPTION OF TIDE GAUGE AND BENCH MARKS.

A plain staff gauge was set in first cove on the north side after entering Stump Pass. Tides were observed between May 23 and June 4, 1883, by party of Assistant J. Hergesheimer and between May 5 and 7, 1884, by party of Lieut. H. B. Mansfield.



Bench mark 1 is the top of a stone with U. S. B. M. 1880 cut in the top. It corresponds to a reading of 4.65 feet on staff of 1883.

Bench mark 2 is the top horizontal line of a triangle cut in a palm tree. It corresponds to a reading of 7.998 feet on staff of 1883.

Tide planes.	Readings on staff of 1883.	Elevation of bench marks above tide planes.	
		Bench mark 1.	Bench mark 2.
Highest tide observed.....	Feet.	Feet.	Feet.
Mean high water.....	3.40	1.25	4.60
Mean half-tide level.....	3.00	1.65	5.00
Mean low water.....	2.12	2.53	5.88
Lowest tide observed.....	1.24	3.41	6.76
Mean range of tides.....	.80	3.85	7.20
	1.76		

The above table is based upon 11 observed high waters and 6 observed low waters.

PUNTA RASSA, FLA.

[Lat. 26° 29' N.; long. 81° 59' W.]

DESCRIPTION OF TIDE GAUGE AND BENCH MARKS.

Plain wooden tide staffs were set up on the wharf in front of Government building at Punta Rassa, Fla., as follows:

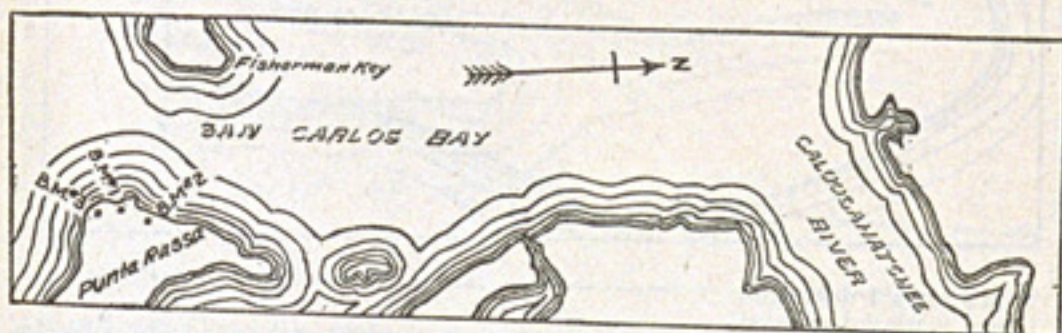
1866, June 21 to August 15, by Asst. W. S. Edwards.

1867, March 28 to April 29, by Asst. W. S. Edwards.

1884, May 12 to May 29, by Asst. H. B. Mansfield, United States Navy.

1885, May 7 to May 14, by Asst. E. D. F. Healed, United States Navy.

The same staff was used in 1866 and 1867, and another staff was used in 1884 and 1885.



Bench mark 1 originally consisted of 5 nails driven into the southwest corner foundation post of the Parker House in the form of a cross thus $\cdot\cdot\cdot$ the center nail being 12 feet above zero of tide staff of 1866-67. Later, this mark was changed by tacking a strip of sheet copper on the post, the upper edge of which was the same height as the central nail, that is, 12 feet on staff of 1866-67, and 10.68 feet on staff 1884-85.

Bench mark 2 is the central one of 7 copper nails driven thus $\cdot\cdot\cdot$ in the form of an inverted triangle, into the southwest support of the pyramidal house near the wharf, about 2 feet above the ground. It corresponds to a reading of 10.22 feet on staff of 1866-67 and 8.90 feet on staff of 1884-85.

Bench mark 3 is the flat top of a square brick column, about 3 feet high, 500 meters south of gauge and 50 meters east of telegraph station, is probably a triangulation station, and corresponds to a reading of 12.12 feet on staff of 1866-67 and 10.80 feet on staff of 1884-85.

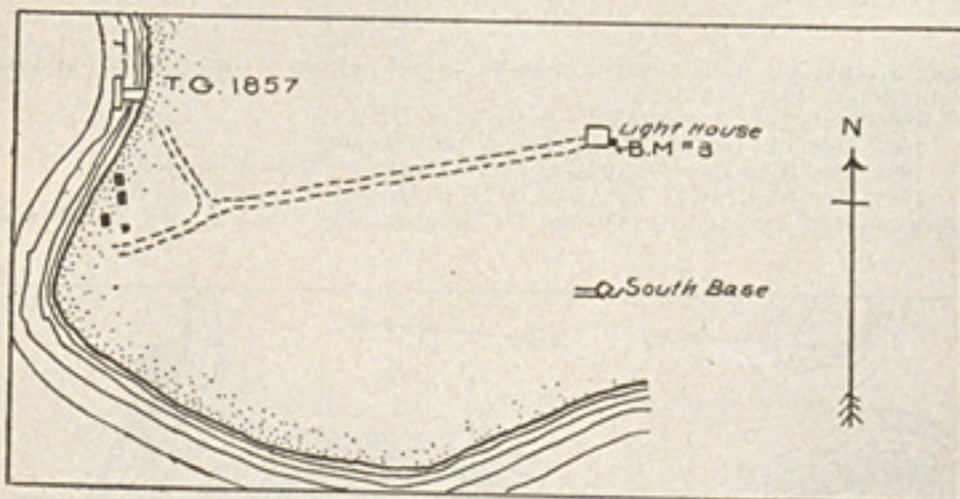
Tide planes.	Readings on staff of 1854-55.	Elevation bench marks above tide planes.		
		Bench mark 1.	Bench mark 2.	Bench mark 3.
Highest tide observed.....	<i>Feet.</i> 5.68	<i>Feet.</i> 5.00	<i>Feet.</i> 3.22	<i>Feet.</i> 5.12
Mean of 96 high waters.....	5.06	5.62	3.84	5.74
Mean half-tide level.....	4.20	6.48	4.70	6.60
Mean of 100 low waters.....	3.34	7.34	5.56	7.46
Lowest tide observed.....	2.05	8.63	6.85	8.75
Mean range of tide.....	1.72			

CAPE FLORIDA, KEY BISCAYNE, FLA.

[Lat. 25° 40' N.; long. 80° 10' W.]

DESCRIPTION OF TIDE GAUGE AND BENCH MARKS.

A self-registering tide gauge was set up on piles on the inside shore, about 5° N. of W. from the lighthouse. A fixed staff was used for the purpose of comparison. Observations made in 1854, 1855, 1857, and 1858.



Bench mark 1 destroyed.

Bench mark 2 destroyed.

Bench mark 3 is the north end of outer edge of stone sill of lighthouse and is 7.48 feet above zero of tide staff of 1857.

Bench mark 4 established by Assistant I. Winston in 1908 is a 6-inch iron pipe 4 feet long, buried 3 feet 6 inches in the ground. It was surrounded by a mass of cement and sand and brickbats and was filled with the same material except that pure cement was used on the inside at the top. A standard brass precise leveling bench mark was inserted in this cement so that the disk shows just above the surface. The disk is lettered U. S. C & G. S. \$250 fine, etc. The upper surface of the disk at its center was used as the bench mark. An avenue of coconut palms extends west from the lighthouse to shore across the point of the cape and bench mark is on south side of avenue 50 meters west of lighthouse. Bench mark 4 corresponds to a reading of 6.46 feet on staff of 1857.

Bench mark 5 established by Assistant I. Winston in 1908. Forty meters from the lighthouse to southwest of top of a cylindrical cistern, built with top covered with a thick coat of cement, stands about 2 feet above the ground. The ruins of the keeper's houses are nearby and the cistern is uncovered. On one side the figures "1898" are roughly printed in the cement and the surface of the cement inside the top of the figure 9 was used as the bench mark. Bench mark 5 corresponds to a reading of 8.31 feet on staff of 1857.

Tide planes.	Readings on staff of 1857.	Elevations bench marks above tide planes.		
		Bench mark 3.	Bench mark 4.	Bench mark 5.
Highest tide observed.....	<i>Feet.</i>	<i>Feet.</i>	<i>Feet.</i>	<i>Feet.</i>
Mean high water.....	5.00	2.48	1.46	3.31
Mean tide level.....	3.50	3.98	2.96	4.81
Mean low water.....	2.74	4.74	3.72	5.57
Lowest tide observed.....	1.98	5.50	4.48	6.33
Mean range of tide.....	1.20	6.28	5.26	7.11
	1.52			

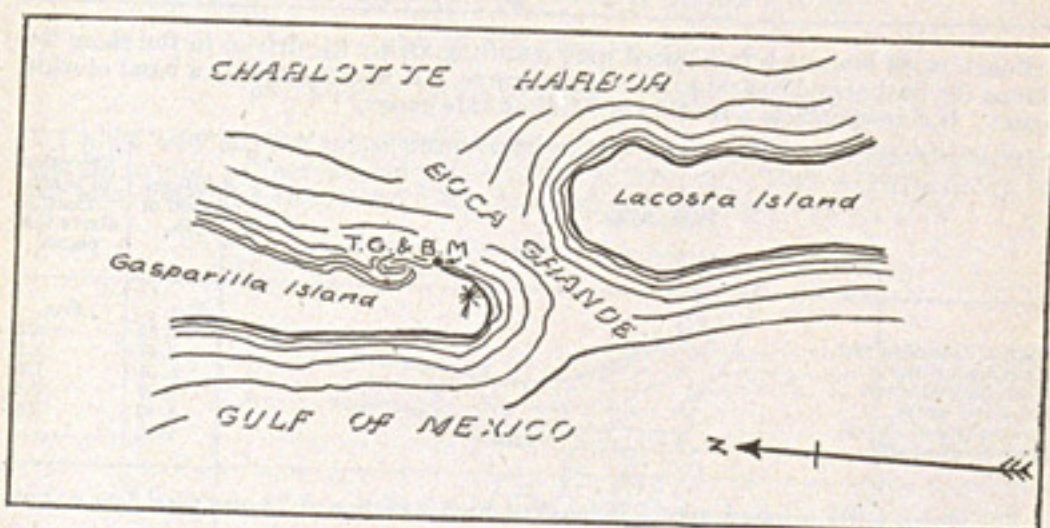
Table is based upon 930 high waters and 929 low waters.

GASPARILLA ISLAND, CHARLOTTE HARBOR, FLA.

[Lat. 26° 41' N.; long. 80° 17' W.]

DESCRIPTION OF TIDE GAUGE AND BENCH MARK.

A plain tide staff was set up inside of Boca Grande, on the southern end of Gasparilla Island, Charlotte Harbor, Fla. Tides were observed by party of Edward Cordell between April 10 and 30, 1863.



Bench mark is an iron spike in the center of a cross of copper nails driven into a mangrove stump about 3 feet above ground. The stump is at the edge of the woods, 5 paces from high water mark, and 444 meters NE. by E. 1/4 E. from Boca Grande Lighthouse. The bench mark corresponds to a reading of 6.40 feet on tide gauge.

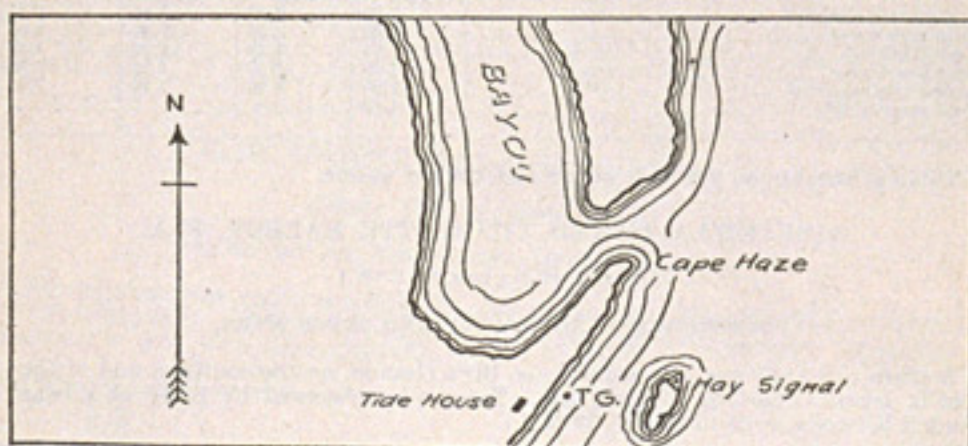
Tide planes.	Readings on staff of 1863.	Elevation of bench mark above tide planes.
Highest tide observed.....	<i>Feet.</i>	<i>Feet.</i>
Mean of 31 high waters.....	2.60	3.80
Mean half-tide level.....	2.43	3.97
Mean of 31 low waters.....	1.70	4.70
Lowest tide observed.....	.97	5.43
Mean range of tides.....	.40	6.00
	1.46	

CAPE HAZE, CHARLOTTE HARBOR, FLA.

[Lat. 26° 47' N.; long. 82° 09' W.]

DESCRIPTION OF TIDE GAUGE AND BENCH MARK.

A plain staff gauge was secured by braces about 5 meters from shore of Cape Haze, about one-eighth mile due W. 1/2 S. from El Cabo or Hay signal. Tides were observed between March 17 and May 9, 1878, by party of J. M. Hawley.



Bench mark is a notch in a tarred pine scantling, 5½ by 3½, driven in the shore line among the bushes and braced to a stout mangrove. It was marked by a band of white paint. It corresponds to a reading of 8 feet on tide gauge.

Tide planes.	Readings on staff of 1878.	Elevation of bench mark above tide planes.
Highest tide observed.....	Feet. 8.35	Feet. -0.35
Mean high water.....	6.67	1.33
Mean half-tide level.....	6.01	1.99
Mean low water.....	5.35	2.65
Lowest tide observed.....	4.45	3.55
Mean range of tides.....	1.32

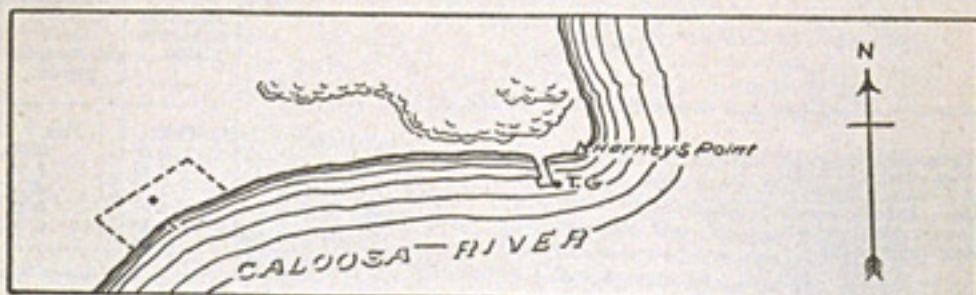
The above table is based upon 73 observed high waters and 73 observed low waters.

HARNEYS POINT, CALOOSA RIVER, FLA.

[Lat. 26° 33' N.; long. 81° 56' W.]

DESCRIPTION OF TIDE GAUGE AND BENCH MARKS.

Tide gauge was placed on southeast pile of wharf and tides were observed between April 14-28, 1893, by party of Assistant W. I. Vinal.



Bench mark 1 is a horizontal row of four wire nails and one galvanized nail, thus in the third pile north from the southeast corner of Harneys Wharf, and corresponds to a reading of 6 feet on tide gauge.

Bench mark 2 is a horizontal row of three wire nails and one galvanized nail, thus . . . in the second pile north from the southeast corner of Harneys Wharf and corresponds to a reading of 6 feet on tide gauge.

Bench mark 3 is a horizontal row of three galvanized nails, thus—in the pile at the southeast corner of Harneys Wharf and corresponds to a reading of 6 feet on gauge.

Bench mark 4 is a horizontal row of four wire, two galvanized, and one copper nails, thus . . . in the second pile west of the southeast corner of Harneys Wharf and corresponds to a reading of 6 feet on tide gauge.

Tide planes.	Readings on staff of 1893.	Elevation of bench marks above tide plane bench marks.
Highest tide observed.....	<i>Feet.</i> 5.20	<i>Feet.</i> 0.80
Mean 11 observed high waters.....	4.10	1.90
Mean half-tide level.....	3.72	2.28
Mean 13 observed low waters.....	3.34	2.66
Lowest tide observed.....	3.00	3.00
Mean range of tides.....	.76

MIAMI RIVER, KEY BISCAYNE BAY, FLA.

[Lat. 25° 46' N.; long. 80° 12' W.]

DESCRIPTION OF TIDE GAUGE AND BENCH MARK.

A plain wooden staff gauge was erected on the southern shore of the Miami River near its mouth. Observation by party of C. A. Bradbury, United States Navy, and assistant, Coast and Geodetic Survey, between March 23 and May 13, 1876.



Bench mark 1 consists of two galvanized iron spikes, driven into the coral rock at the tide gauge on a level with the 3-foot mark of the gauge.

Tide planes.	Readings on staff of 1876.	Elevations of bench mark above tide planes.
Highest tide observed.....	<i>Feet.</i> 2.75	<i>Feet.</i> 0.25
Mean of 65 high waters.....	1.76	1.24
Mean half-tide level.....	1.23	1.77
Mean of 64 low waters.....	.70	2.30
Lowest tide observed.....	.20	2.80
Mean range of tide.....	1.06

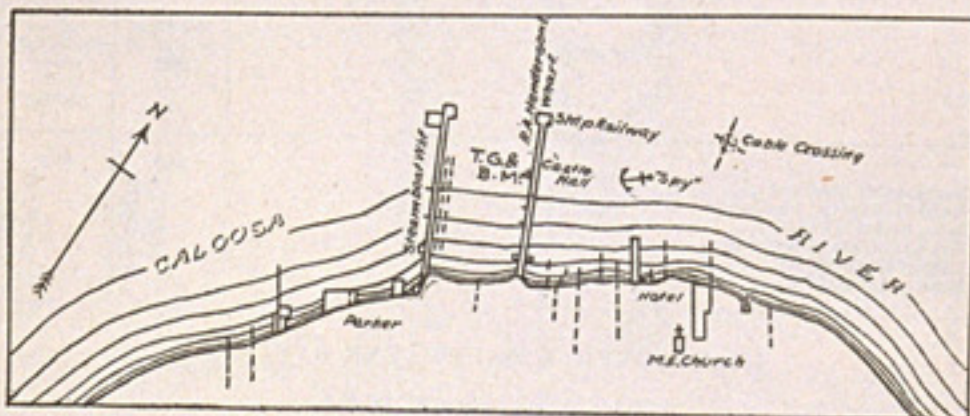
MYERS, CALOOSA RIVER, FLA.

[Lat. 29° 39' N.; long. 81° 52' W.]

DESCRIPTION OF TIDE GAUGE AND BENCH MARKS.

A plain staff gauge was attached to a pile in bathing tank under "Castle Hall," property of G. W. Kennison.

Tides were observed between April 1 and May 5, 1893, by party of Assistant W. I. Vinal.



Bench mark 1 consists of 4 galvanized nails driven in a pile supporting the tide staff. This is on south side of "Castle Hall" and is 2 meters from southwest corner. It corresponds to reading of 8 feet on gauge.

Bench mark 2 is the top of sill supporting platform inside of the bathing tank, and corresponds to reading of 5.20 feet on gauge.

Tide planes.	Readings on staff of 1893.	Elevation bench marks above tide planes.	
		Bench mark 1.	Bench mark 2.
Highest tide observed.....	Feet. 5.50	Feet. 2.50	Feet. -0.30
Mean 31 high waters.....	4.04	2.96	1.16
Mean tide level.....	2.62	4.38	1.58
Mean 22 low waters.....	3.20	4.80	2.00
Lowest tide observed.....	2.80	5.20	2.40
Zero of tide staff.....	.00	8.00	5.20
Mean range of tide.....	.83		