

PRELIMINARY CHART OF
NEW YORK BAY AND HARBOR

From a Trigonometrical Survey
under the direction of AD BACHE, Superintendent of the
SURVEY OF THE COAST OF THE UNITED STATES

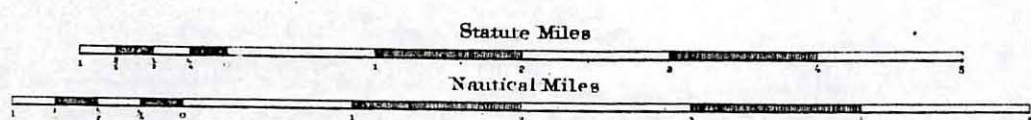
Triangulation by J. FERGUSON and E. BLUNT, Assts.
Topography by S. A. GILBERT, A. S. WADSWORTH,
A. M. HARRISON, H. ADAMS and H. L. WHITING, Assistants.

Hydrography by the Parties
under the command of Lieut. Comdr. R. WAINWRIGHT
T. A. CRAVEN and W. G. TEMPLE, U. S. N. Assts.

Scale 60,000
1857.



Noted
The Seal of the Coast Survey
Asst. in charge of Office



NOTE

The soundings are expressed in feet, and show the depth at mean low water
the plane of reference. The dotted lines show the water mark, except the
bottom within the respective depths of 12 and 15 feet. Within
for 12 feet for 15 feet. The characteristic soundings only are given
on the map, they are selected from the numerous soundings taken in the
survey, so as to represent the figure of the bottom.

Latitude of New York City Hall
Longitude of do west from Greenwich City in arc
Longitude of do do in time

Variations of the Magnetic Needle.

Locality	From Observations in	Observer	Variation 1850	Variation 1857
Columbia College	August 1846	Prof. J. R. Smith	6° 53' E	7° 10' E
Bloomingdale Asylum	September 1846	Prof. J. R. Smith	6° 53' E	7° 10' E
Newark	April 1846	Prof. J. R. Smith	6° 53' E	7° 10' E
Mount Prospect	May 1846	Prof. J. R. Smith	6° 53' E	7° 10' E
Legget	October 1846	Prof. J. R. Smith	6° 53' E	7° 10' E
Governor's Island	August 1855	C. A. Smith	6° 53' E	7° 10' E
Hellgate Island	August 1855	C. A. Smith	6° 53' E	7° 10' E
Reservoir Reservoir	August 1855	C. A. Smith	6° 53' E	7° 10' E
Sandy Hook	August 1855	C. A. Smith	6° 53' E	7° 10' E

The triangulation was carried on
The topography do do
The hydrography do do

Abbreviations used in the bottom of this Map

Material in situ	Coloring on the map	Observations on the bottom
M. for Mud	dk. for black	hd. for hard
S. for Sand	wh. for white	st. for soft
G. for Gravel	gy. for grey	fl. for fine
Sh. for Shells	dk. for dark	slk. for sticky
C. for Clay		brk. for broken
R. for Rocks		rfv. for rocky

Note: The principal materials and their qualities are represented by larger letters than the subsidiary.

Name and Locality	Latitude	Longitude	Height above sea level	Light character	Range in miles
Highlands of New York	40° 51' 46" N	73° 58' 46" W	158	Flashing	12
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Sandy Hook Light	40° 51' 46" N	73° 58' 46" W	158	Flashing	12
East Beacon on North Point	40° 51' 46" N	73° 58' 46" W	158	Flashing	12
West Beacon on the Bay side	40° 51' 46" N	73° 58' 46" W	158	Flashing	12
Man Channel Beacon	40° 51' 46" N	73° 58' 46" W	158	Flashing	12
Canoe Beacon near to Beach	40° 51' 46" N	73° 58' 46" W	158	Flashing	12
Chapel Hill Beacon back of	40° 51' 46" N	73° 58' 46" W	158	Flashing	12
Point Comfort Bay side Beacon	40° 51' 46" N	73° 58' 46" W	158	Flashing	12
Wilson's Bay Beacon	40° 51' 46" N	73° 58' 46" W	158	Flashing	12
Princes Bay on Staten Island	40° 51' 46" N	73° 58' 46" W	158	Flashing	12
Swath Channel Beacon	40° 51' 46" N	73° 58' 46" W	158	Flashing	12
Beacons on Staten Island	40° 51' 46" N	73° 58' 46" W	158	Flashing	12
Fort Tompkins on Staten Island	40° 51' 46" N	73° 58' 46" W	158	Flashing	12
W. side of the Narrows	40° 51' 46" N	73° 58' 46" W	158	Flashing	12
Robbins Reef off Tompkinsville	40° 51' 46" N	73° 58' 46" W	158	Flashing	12
Bergen Point	40° 51' 46" N	73° 58' 46" W	158	Flashing	12
Corner Stake opposite Elizabeth Pt.	40° 51' 46" N	73° 58' 46" W	158	Flashing	12
Pasquo Light near mouth of	40° 51' 46" N	73° 58' 46" W	158	Flashing	12
Pasquo River	40° 51' 46" N	73° 58' 46" W	158	Flashing	12
Elbow Beacon 2 miles North of	40° 51' 46" N	73° 58' 46" W	158	Flashing	12
Pasquo Light	40° 51' 46" N	73° 58' 46" W	158	Flashing	12
Set-off Point Beacon on entrance	40° 51' 46" N	73° 58' 46" W	158	Flashing	12
to Pasquo River	40° 51' 46" N	73° 58' 46" W	158	Flashing	12
Throg's Neck near F. Schuyler	40° 51' 46" N	73° 58' 46" W	158	Flashing	12
Roman Iron Beacon	40° 51' 46" N	73° 58' 46" W	158	Flashing	12
Beacon on the Bay side	40° 51' 46" N	73° 58' 46" W	158	Flashing	12
Sandy Hook Light Vessel	40° 51' 46" N	73° 58' 46" W	158	Flashing	12

Off the entrance to New York Bay, 6 1/2 miles N.E. of the Highlands of New York Light 6 1/2 miles E. from Sandy Hook Light, two lights 45 feet above the level of the sea, visible at a distance of 12 nautical miles.

TIDES

Current Establishment	High Water	Low Water
Rise of Highest Tide observed above the plane of reference	12.5	8.2
Fall of Lowest Tide do below do do	1.5	2.2
Fall of Mean Low Water of Spring Tides below do	0.5	0.5
Height of Mean Low Water of Neap Tides above do	4.8	4.3
Mean do of Spring Tides	1.4	3.1
Mean do of Neap Tides	4.0	3.9
Mean Duration of Rise reckoning from the middle of ebb	4.10	4.10
Mean do of Fall do do do do do do do do do do	4.10	4.10
Mean do of Stand	0.10	0.10

SAILING DIRECTIONS

In running to the Bar, along the Jersey or Long Island shore, avoid getting in less than 20 fathoms, till near the Light Ship.

GEDNEY'S CHANNEL

At the entrance to the harbor, at mean low water, from the Light Ship, steer N.W. When in 5 fathoms, with Light Ship bearing S.E. and the point of Sandy Hook on with Wilcox Light House, steer W.N.W. (N.W. by W) in being the channel range on, which range keep till past the Hook.

STREET RANGE

At the entrance to the harbor, at mean low water, from the Light Ship, steer N.W. When in 5 fathoms, with Light Ship bearing S.E. and the point of Sandy Hook on with Wilcox Light House, steer W.N.W. (N.W. by W) in being the channel range on, which range keep till past the Hook.

OLD SOUTH CHANNEL

The Elm Tree Light (South Channel Range) is very low, with not less than 12 feet, depending to 5 fathoms, inside. Keep more to the Westward to pass the Hook, giving it a berth of 1/2 mile, or pass it on Gedney's channel range.

SWATH CHANNEL

When inside the Hook, stand to the Southward and Westward to bring the Hook Light House just open to the Southward of the West Beacon, which ranges clear the S.W. Spit. When the Chapel Hill Beacon is in range, steer with them up to the Narrows. Robins Reef Lt. Ho. bearing N.W. by W (N.W. 1/4 W) run for it, and when abreast of Quarantine, haul up for the City.

HOOK CHANNEL

With the Elm Tree Light in range, or that can be carried through, keeping the Upper Light House open, about twice its length to the Northward of the Lower curve through 3 1/2 fathoms.

EAST CHANNEL

It is for vessels of light draft, but is very little used, as the ranges are distant and uncertain, and the East Bank shoals up very suddenly.

REMARKS

The currents of half Ebb, in the Swath Channel, set to the Eastward strong, stronger west, beware of being drifted on the Roman shoal, also in passing through the East Channel, where the Hook sets towards the lower, the Ebb towards the East Bank.

Strangers should anchor as soon as inside the Hook, running to the Southward and Westward till in 5 fathoms, the anchorage is good.