

PREFACE.

Before the acquisition of California by the United States, comparatively little was known of the hydrography and geography of its coast, except by the few navigators trading along its seaboard, or the daring otter hunter, familiar with every cove, rock, and headland.

In the following pages it is proposed to state what is known at the present time of the Pacific coast of the United States, from the southern boundary of California, in latitude $32^{\circ} 32'$, to the northern boundary of Washington Territory, in latitude 49° , embracing an ocean shore-line of over three thousand one hundred and twenty miles, divided as follows: California, including the islands of Santa Barbara Channel, one thousand and ninety-seven miles; Oregon two hundred and eighty-five miles; Washington Territory, including islands in Washington Sound and shores of Puget Sound, one thousand seven hundred and thirty-eight miles.

Whatever has not come under our own criticism will be taken from the published reports and maps of the U. S. Coast and Geodetic Survey.

The names adopted will be those most reliable, or in use at the present time.

Where any known changes have taken place they will be stated.

The longitude is reckoned west from Greenwich, and is based upon astronomical observations and telegraphic determinations. The U. S. Coast and Geodetic Survey astronomical station at Lafayette Park, San Francisco, is $8^{\circ} 09' 42.5''$ west from Greenwich.

Where any geographical position is given to the nearest minute only, it has been taken from the latest chart of the Coast and Geodetic Survey.

Tides.—Each year the Survey publishes a small pamphlet which gives the times and heights of every high and low water for the principal ports on the Pacific coast, with constants for determining similar quantities for intermediate ports. But in the absence of this publication, tables and examples are introduced to show the manner of predicting the times and heights of high and low waters at San Francisco and other harbors.

Soundings are given for the mean of the lower low waters. The lowest tides may fall one and a quarter feet below this plane.

Distances are expressed in geographical (nautical) miles.

Bearings are magnetic. The easterly variation of the compass has nearly reached the maximum throughout the Pacific coast. This maximum will probably be reached in 1895.

Descriptions of light-houses, fog signals, buoys, and other aids to navigation are taken from the published notices of the Light House Board, and from personal examination.

In conformity with section 4678 of the Revised Statutes of the United States, the following order is observed in coloring and numbering the buoys along the coast, or in bays, harbors, sounds, or channels, viz:

1. In approaching the channel, etc., from seaward, RED BUOYS, with EVEN NUMBERS, will be found on the STARBOARD side of the channel, and must be left on the STARBOARD hand in passing in.

2. In approaching the channel, etc., from seaward, BLACK BUOYS, with ODD NUMBERS, will be found on the PORT side of the channel, and must be left on the PORT hand in passing in.

3. BUOYS painted with RED and BLACK HORIZONTAL STRIPES will be found on OBSTRUCTIONS, with channel ways on either side of them, and may be left on either hand in passing in.

4. BUOYS painted with WHITE and BLACK PERPENDICULAR STRIPES will be found in MID-CHANNEL, and must be passed close to to avoid danger.