

**COAST PILOT NOTES ON  
HAWAIIAN  
ISLANDS. SECOND  
EDITION. AUGUST 15, 1919**

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**E. LESTER JONES**

**COAST PILOT NOTES ON  
HAWAIIAN  
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DEPARTMENT OF COMMERCE  
COAST AND GEODETIC SURVEY  
R. LESTER JONES, Superintendent

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# COAST PILOT NOTES ON HAWAIIAN ISLANDS

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SECOND EDITION

AUGUST 16, 1919



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DEPARTMENT OF COMMERCE,  
U. S. COAST AND GEODETIC SURVEY,  
*Washington, D. C., August 15, 1919.*

The information contained in this publication relates to the Hawaiian Islands, and the islands and reefs westward to Midway Islands. It is a compilation from surveys by the U. S. Coast and Geodetic Survey; United States Hydrographic Office publication No. 115, *The Hawaiian Islands and the Islands, Rocks, and Shoals to the westward*; surveys by the Hawaiian Government Survey and United States Geological Survey; and the results of special investigations in 1911 by E. Vance Miller, nautical expert, the compiler, under the direction of J. J. Gilbert, assistant, U. S. Coast and Geodetic Survey, inspector of hydrography and topography.

Great courtesy has been shown by local authorities and masters and pilots navigating these waters in furnishing information for use in this publication.

Navigators are requested to notify the Superintendent of the U. S. Coast and Geodetic Survey of any errors or omissions they may find in this publication, or of additional matter which they think should be inserted for the information of mariners.

E. LESTER JONES,  
*Superintendent.*

## HAWAIIAN ISLANDS, AND THE ISLANDS, ROCKS, AND SHOALS WESTWARD.

### INTRODUCTION.

This volume covers the islands of Hawaii, Maui, Kahoolawe, Lanai, Molokai, Oahu, Kauai, and Niihau, and several smaller ones.

The Hawaiian Islands lie between the parallels  $19^{\circ} 00'$  and  $22^{\circ} 15'$  N latitude and  $155^{\circ} 00'$  and  $162^{\circ} 00'$  W longitude, extending in a general northwest by west direction for a distance of about 350 miles. The islands are of volcanic formation. The highest mountains are on Hawaii and Maui, the greatest elevation being Mauna Kea, 13,825 feet, on Hawaii. There are many fertile valleys, and on the coasts there generally more or less narrow strips of lowland from which the higher land rises abruptly at a short distance inland.

The hydrographic features are similar to the topographic features above mentioned. In general there is a narrow bank of soundings close inshore, from the edge of which the bottom pitches off rapidly to great depths. The reefs and shoals generally show in the daytime either by breakers or a difference in the color of the water over them.

**RIVERS.**—There are several hundred streams, some of which are of good size, but none are navigable, except for small boats.

**POPULATION.**—By the census of 1910, the islands had a population 191,874 inhabitants.

**PRODUCTS.**—Agriculture is the principal occupation of the inhabitants. Sugar, rice, coffee, and pineapples are the great staples, and vegetables and tropical fruits are also cultivated. Cattle and sheep are raised to some extent.

**TRADE.**—The principal trade is with the United States. In 1918 the total imports amounted to about \$50,000,000, and total exports \$31,000,000. The principal imports are iron, steel, and lumber products, cloths and provisions; the principal exports are sugar, pineapples, rice, bananas, and fruits.

The port of entry is Honolulu; the supports are Hilo and Mahukona, Hawaii; Kahului, Maui; and Koloa, Kauai.

**WHARVES AND LIGHTERS.**—At Honolulu, Hilo, and Kahului, there are wharves at which vessels can lie to discharge and load. At all other ports vessels discharge or load either by lighters or wire cable.

**STANDARD TIME.**—The standard time of the Hawaiian Islands is  $157^{\circ} 30'$  west longitude time.

**CLIMATE.**—The Hawaiian Islands lie within the Tropics, but the heat is tempered by the sea breezes and the islands are generally healthy. The mean monthly temperature at Honolulu varies from about  $70.5^{\circ}$  to  $76.8^{\circ}$  in January and July, respectively.

**WINDS.**—The Hawaiian Islands lie within the limits of the strong northeast trades, which prevail for eight or nine months of the year. They begin early in March, blowing well from the northward until May and from then until October they are more easterly. During the trades frequent calms and light variable winds may be found for several miles to leeward of the larger islands.



During October the trades are light with frequent calms and occasionally a west-southwest swell sets in causing anchorages on the lee side of the islands to be more or less uncomfortable.

During November and December the trades are strong and variable, occasionally being interrupted by light southerly winds.

During January and February southerly and southwesterly gales often prevail. These winds are known as konas and they are generally from a few hours to two or three days duration, followed by rain. During the konas all anchorages on the lee side of the islands are unsafe.

Along the west coast of Hawaii and the south coast of Maui the land and sea breezes are very regular, the wind blowing on shore during the day and off shore at night.

In general, November and February are the most stormy months, December and January often being fair, although stormy weather may occur at any time during the winter season. Fair weather may be expected during May, June, September, and October.

**RAINFALL.**—The rainfall in the Hawaiian Islands varies greatly for different localities. From observations made at different stations it is found that the amount of rainfall often varies greatly at the same station for the same months in different years, or for the total rainfall of different years. The greatest rainfall is always found on the windward side of the islands. November and February have the greatest rainfall. In general the winter and early spring is the rainy season although there is some rain in July.

Fog does not occur around the islands and except for rain squalls, mists, and haze, there is no thick weather. The mountains on the islands, however, are often obscured by clouds.

**AIDS TO NAVIGATION.**—Some of the prominent points and the principal harbors are marked by lighthouses, and some of the principal dangers by buoys.

**ANCHORAGES** are numerous, except on the northerly and easterly sides of the islands, the first requirement under ordinary conditions being shelter from the trade winds. During kona weather most of the anchorages on the southerly and westerly sides of the islands are unsafe.

**PILOTAGE** is compulsory for certain vessels. There are pilots at the principal ports who come off in small boats to vessels making signal outside the entrance.

**TOWBOATS.**—There are no seagoing towboats in the islands. The local steamers do towing. In some of the harbors there are large launches which sometimes assist lighters and vessels when inside.

**HARBOR CONTROL.**—A harbor master is appointed for each of the harbors of Honolulu, Hilo, and Kahului, and they have charge of the anchorage and berthing of vessels in their respective harbors.

**SUPPLIES.**—Provisions, ice, lumber, and some ship-chandler's stores can be obtained at Honolulu, Hilo, and Kahului. Some provisions can be obtained at other places.

**WATER** can be conveniently obtained at Honolulu, Hilo, and Kahului. Water can be obtained also from streams at many places.

**FUEL.**—Coal and fuel oil (for vessels) can be obtained at Honolulu, Hilo, and Kahului.

**REPAIRS.**—There are machine shops at Honolulu, Hilo, and Kahului, and ordinary repairs to machinery can be made. There is a floating dry dock with a dead-weight capacity of 4,500 tons at Honolulu.

**COMMUNICATION** with San Francisco, Vancouver, Auckland, Sydney, Yokohama, and Hongkong may be had by several regular lines of steamers which touch at Honolulu. There is also a line of steamers to Seattle and Tacoma and another to the Isthmus of Tehuantepec via San Francisco. There is frequent communication by inter-island vessels around the islands.

**RAILROADS.**—A railroad skirts the shores of Oahu westward from Honolulu along the southwesterly and northwesterly sides and half-way down the northeasterly side. Railroads extend southward and southeastward from Hilo. Railroads also extend a short distance northeastward, southward, and northwestward from Kahului.

**HIGHWAYS.**—There are good highways in many parts of the islands, and carriages or automobiles can be obtained at most of the towns.

**CABLE.**—There is communication by cable to San Francisco and to Manila via Midway and Guam. There is good telephone service on all the large islands.

**WIRELESS TELEGRAPH.**—There is wireless telegraph communication between the islands.

**QUARANTINE.**—National quarantine laws are enforced in the islands by officers of the United States Public Health Service.

**MARINE HOSPITAL.**—There is a relief station of Class II of the United States Public Health Service at Honolulu.

**CURRENTS.**—The currents are, as a rule, greatly influenced by the direction and strength of the trade winds. In general, there is a westerly set, due to the prevailing northeasterly trade winds; they are, however, subject to much variation, both in force and direction, at different seasons, without appearing to be influenced by the winds or to follow any general law.

**TIDAL CURRENTS.**—The tidal currents seem to have but little influence and are not generally taken into consideration.

#### HAWAII,

the largest of the islands, is at the southeast end of the group. It is triangular in shape and has a greatest length of 81 miles north and south and a greatest width of 73 miles. The interior of the island is mountainous and rugged, and the domes of **Mauna Loa** and **Mauna Kea**, 20 miles apart, are each nearly 14,000 feet high; in the central western part Mount **Hualalai** rises to an altitude of a little over 8,000 feet. There is much fertile land along the east side of the island and down the southeast side as far as the **Kau** district; from here around **Kalae** (South Cape) and up the west coast there is but little vegetation.

**RIVERS.**—There are numerous streams on the east coast, but none are navigable except for boats and small craft. The southeast and west coasts have no streams that reach the sea.

**POPULATION.**—By the census of 1910 Hawaii had 55,382 inhabitants.

**WINDS.**—The easterly trade winds seem to divide at Cape **Kumu-kahi**, part following the coast northwestward around **Upolu Point**, where it loses its force, the other part following the southeast coast around **Kalae**, where it loses its force. On the west coast of Hawaii the sea breeze sets in about 9 a. m. and continues until after sundown, when the land breeze then springs up. Vessels from westward bound to ports on the windward side of Hawaii should pass close to **Upolu**

Point and keep near the coast, as the wind is generally much lighter than off shore. Sailing vessels from westward bound to ports on the eastern side of Hawaii should keep well northward until clear of Alenuihaha Channel.

**RAINFALL.**—The rainfall in Hawaii varies greatly in different localities. The greatest amount is found along the windward side and on the western highlands, while very little reaches the southeasterly coast, and practically none reaches the west coast.

**ANCHORAGES** are numerous except on the northeast and southeast coasts, the first requirement under ordinary conditions being shelter from the northeast trades.

**SUPPLIES.**—Provisions, ice, lumber, and some ship chandler's stores can be obtained at Hilo. Some provisions can be obtained at other places.

**WATER** can be conveniently obtained at Hilo.

**COAL** and fuel oil for vessels can be obtained at Hilo.

**REPAIRS.**—There is a machine shop at Hilo, where vessels can make extensive repairs.

**COMMUNICATION** with Honolulu by a regular line of steamers can be had several times a week.

**RAILROADS** extend southeastward and southward from Hilo. There is a railroad that follows the coast from Mahukona around the north end of the island to within 1 mile of Akoko Point.

**HIGHWAYS.**—There are good highways in many parts of the island, and carriages can be obtained at most of the towns.

**TELEPHONE.**—There is communication by telephone to all parts of the island and by wireless telegraph to the other islands.

**CURRENTS.**—Generally the currents follow the trades, but occasionally they set against the wind. A current follows the coast north of Cape Kumukahi around Upolu Point; another one follows the trend of the coast off shore southwestward from Cape Kumukahi around Kalae and northward as far as Upolu Point. There is an inshore current that sets southward from Okoe Landing along the west coast around Kalae, and thence northeastward along the shore as far as Keauhou.

#### NORTHEAST COAST OF HAWAII.

From Upolu Point to Cape Kumukahi, a distance of 80 miles, the coast has a general southeasterly trend; it is only partially surveyed, but is generally bold. The only known outlying dangers are shoals off Kauhola Point and Blonde Reef in Hilo Bay, and all other dangers will be avoided by giving the coast a berth of about 2 miles.

There are no harbors or sheltered anchorages on this coast except Hilo Bay. At the various landings the freight is handled by local vessels, and at most of the landings vessels load by means of a wire cable.

When running the coast at night, it will be found that the electric lights of the various sugar mills define the coast fairly well.

Upolu Point, the northernmost point of Hawaii, is hard to identify. There are numerous bluffs, forming headlands, in the vicinity, all of which are quite similar from seaward. The bluff at Upolu Point is a little higher than the others. The country back of the point is covered with sugar cane, and here and there may be seen clumps of trees, among which are generally situated the mills, camps, and villages.