

May 6, 1962

United States Coast & Geodetic Survey  
244 Federal Building  
Honolulu, Oahu

Gentlemen:

The local paper publishes your monthly predictions of times of occurrence of the tides at Honolulu. Correction factors are given for various places in the Islands. Please give the time correction for open sea tides at about 60 miles off shore around Maui on all four sides, if these differ.

Yours very truly,

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Grote Reber  
c/o Maui Vocational School  
P. O. Box 258  
Kahului, Maui T. H.

GR/ACT

244 FEDERAL BUILDING — HONOLULU, T. H.  
TIDE, SUN AND MOON TABLES FOR HONOLULU, T. H.  
APRIL, 1952

DAY	TIDE				— SUN —		— MOON —	
	TIME	HT.	TIME	HT.	RISE	SET	RISE	SET
Tue. 1	9:00 AM	0.4	6:25 AM	0.3	6:24 AM	6:46 PM	11:36 AM	12:46 AM
	10:30 PM	1.6	1:48 PM	0.2				
Wed. 2	11:15 AM	0.4	7:01 AM	0.3	6:23 AM	6:46 PM	12:30 PM	1:34 AM
	11:34 PM	1.6	3:27 PM	0.3				
Thur. 3			7:27 AM	0.2	6:22 AM	6:47 PM	1:24 PM	2:18 AM
	12:29 PM	0.5	5:06 PM	0.3				
Fri. 4	12:26 AM	1.6	7:47 AM	0.1	6:21 AM	6:47 PM	2:17 PM	2:57 AM
	1:14 PM	0.7	6:18 PM	0.3				
Sat. 5	1:09 AM	1.6	8:08 AM	0.1	6:21 AM	6:47 PM	3:08 PM	3:32 AM
	1:52 PM	0.9	9:17 PM	0.2				
Sun. 6	1:46 AM	1.5	8:26 AM	0.0	6:20 AM	6:48 PM	3:59 PM	4:06 AM
	2:25 PM	1.1	8:08 PM	0.2				
Mon. 7	2:17 AM	1.4	8:44 AM	0.0	6:19 AM	6:48 PM	4:50 PM	4:38 AM
	2:57 PM	1.3	8:54 PM	0.2				
Tue. 8	2:49 AM	1.3	9:02 AM	-0.1	6:18 AM	6:48 PM	5:43 PM	5:10 AM
	3:30 PM	1.5	9:41 PM	0.1				
Wed. 9	3:19 AM	1.2	9:22 AM	-0.1	6:17 AM	6:49 PM	6:37 PM	5:44 AM
	4:03 PM	1.7	10:29 PM	0.2				
Thu. 10	3:48 AM	1.0	9:42 AM	-0.2	6:16 AM	6:49 PM	7:34 PM	6:20 AM
	4:40 PM	1.8	11:20 PM	0.2				
Fri. 11	4:18 AM	0.8	10:06 AM	-0.2	6:15 AM	6:49 PM	8:34 PM	6:58 AM
	5:19 PM	1.9						
Sat. 12	4:49 AM	0.7	12:16 AM	0.2	6:14 AM	6:50 PM	9:37 PM	7:43 AM
	6:04 PM	2.0	10:33 AM	-0.2				
Sun. 13	5:24 AM	0.5	1:21 AM	0.3	6:14 AM	6:50 PM	10:41 PM	8:34 AM
	6:55 PM	2.0	11:06 AM	-0.2				
Mon. 14	6:13 AM	0.4	2:44 AM	0.3	6:13 AM	6:50 PM	11:43 PM	9:31 AM
	7:55 PM	1.9	11:46 AM	-0.1				
Tue. 15	7:31 AM	0.3	4:18 AM	0.2	6:12 AM	6:51 PM		10:34 AM
	9:02 PM	1.9	12:38 PM	0.0				
Wed. 16	9:39 AM	0.3	5:30 AM	0.1	6:11 AM	6:51 PM	12:41 AM	11:40 AM
	10:11 PM	1.8	1:56 PM	0.1				
Thu. 17	11:28 AM	0.5	6:16 AM	0.0	6:11 AM	6:51 PM	1:33 AM	12:45 PM
	11:15 PM	1.8	3:41 PM	0.2				
Fri. 18			6:51 AM	0.0	6:10 AM	6:51 PM	2:20 AM	1:49 PM
	12:36 PM	0.7	5:23 PM	0.3				
Sat. 19	12:12 AM	1.7	7:21 AM	-0.1	6:09 AM	6:52 PM	3:02 AM	2:49 PM
	1:27 PM	1.0	6:45 PM	0.3				
Sun. 20	1:02 AM	1.6	7:45 AM	-0.2	6:09 AM	6:52 PM	3:40 AM	3:48 PM
	2:10 PM	1.3	7:55 PM	0.2				
Mon. 21	1:47 AM	1.4	8:16 AM	-0.2	6:08 AM	6:52 PM	4:16 AM	4:47 PM
	2:49 PM	1.6	8:56 PM	0.2				
Tue. 22	2:27 AM	1.2	8:40 AM	-0.3	6:07 AM	6:52 PM	4:53 AM	5:45 PM
	3:29 PM	1.8	9:53 PM	0.2				
Wed. 23	3:05 AM	1.0	9:05 AM	-0.3	6:06 AM	6:53 PM	5:31 AM	6:44 PM
	4:05 PM	1.9	10:47 PM	0.2				
Thu. 24	3:40 AM	0.8	9:29 AM	-0.3	6:05 AM	6:53 PM	6:10 AM	7:43 PM
	4:42 PM	2.0	11:42 PM	0.2				
Fri. 25	4:14 AM	0.7	9:54 AM	-0.2	6:04 AM	6:54 PM	6:54 AM	8:43 PM
	5:21 PM	2.0						
Sat. 26	4:48 AM	0.5	12:37 AM	0.2	6:04 AM	6:54 PM	7:41 AM	9:41 PM
	6:02 PM	2.0	10:20 AM	-0.2				
Sun. 27	5:25 AM	0.4	1:37 AM	0.2	6:03 AM	6:55 PM	8:32 AM	10:37 PM
	6:46 PM	1.9	10:49 AM	-0.1				
Mon. 28	6:12 AM	0.4	2:46 AM	0.3	6:02 AM	6:55 PM	9:25 AM	11:27 PM
	7:34 PM	1.8	11:24 AM	0.0				
Tue. 29	7:23 AM	0.3	3:58 AM	0.2	6:02 AM	6:56 PM	10:20 AM	
	8:27 PM	1.7	12:06 PM	0.1				
Wed. 30	9:09 AM	0.4	4:56 AM	0.2	6:01 AM	6:56 PM	11:14 AM	12:12 AM
	9:25 PM	1.6	1:06 PM	0.3				

All times given are Hawaiian Standard time.

The columns of height give the elevation of each tide above the plane of chart soundings. The numbers are always additive to the chart depth unless preceded by the minus sign (-) when the numbers are subtractive from the depth given on the chart. To find the time of tide at the following places, either add or subtract as indicated from the Honolulu time of tide.

	— PORT —	H	M
Port Allen, Kauai		-0	15
Nawiliwili Bay, Kauai		-0	20
Hanalei Bay, Kauai		-1	40
Haleiwa Waialua Bay, Oahu		-1	35
Waianae, Oahu		+0	15
Hanauma Bay, Oahu		-0	55
Waimanalo, Oahu		-1	15
Waikane, Kaneohe Bay, Oahu		-1	35
Lai'e Bay, Oahu		-1	50
Kaunakakai, Molokai		-0	10
Kahului, Maui		-1	35
Kihei, Maalaea Bay, Maui		-0	15
Lahaina, Maui		-0	20
Mahukona, Hawaii		-0	25
Kealahou Bay, Hawaii		-0	15
Honuapo, Hawaii		-0	25
Hilo, Hawaii		-1	05

— MOON PHASES —

First Quarter	April 1
Full Moon	April 9
Last Quarter	April 16
New Moon	April 23
Morning twilight begins	1 hour 16 minutes before sunrise.
Evening twilight ends	1 hour 17 minutes after sunset.

*What is really need is tide in the open sea.*

*I should get a complete set of steel  
this year at Maui News. 1st. paper of month.*

U.S. COAST AND GEODETIC SURVEY  
 244 FEDERAL BUILDING — HONOLULU, T. H.  
 TIDE, SUN AND MOON TABLES FOR HONOLULU, T. H.  
 OCTOBER 1952

DAY	TIDE				— SUN —		— MOON —	
	HIGH WATER TIME	HT.	LOW WATER TIME	HT.	RISE	SET	RISE	SET
Wed., 1	2:37 AM	1.5	8:21 AM	0.2	6:22 AM	6:19 PM	5:11 PM	4:33 AM
Thurs., 2	2:36 PM	1.9	9:05 PM	0.0	6:22 AM	6:18 PM	5:50 PM	5:35 AM
	3:18 AM	1.7	9:18 AM	0.2				
Fri., 3	3:14 PM	1.7	9:30 PM	0.0	6:23 AM	6:17 PM	6:29 PM	6:37 AM
	4:00 AM	1.9	10:14 AM	0.3				
Sat., 4	3:51 PM	1.5	9:56 PM	0.0	6:23 AM	6:16 PM	7:12 PM	7:30 AM
	4:41 AM	2.1	11:10 AM	0.4				
Sun., 5	4:26 PM	1.3	10:21 PM	0.0	6:23 AM	6:15 PM	7:57 PM	8:41 AM
	5:24 AM	2.1	12:11 PM	0.4				
Mon., 6	4:59 PM	1.0	10:47 PM	0.0	6:24 AM	6:14 PM	8:46 PM	9:45 AM
	6:08 AM	2.2	1:17 PM	0.5				
Tues., 7	5:33 PM	0.8	11:15 PM	0.1	6:24 AM	6:13 PM	9:38 PM	10:44 AM
	6:57 AM	2.1	2:41 PM	0.6				
Wed., 8	6:10 PM	0.7	11:46 PM	0.2	6:24 AM	6:12 PM	10:32 PM	11:41 AM
	7:53 AM	2.0						
Thurs., 9	7:12 PM	0.6	4:29 PM	0.5	6:25 AM	6:11 PM	11:28 PM	12:32 PM
	8:57 AM	1.9	12:25 AM	0.3				
Fri., 10	9:12 PM	0.6	5:53 PM	0.5	6:25 AM	6:10 PM		1:19 PM
	10:05 AM	1.9	1:25 AM	0.4				
Sat., 11	11:17 PM	0.7	6:32 PM	0.4	6:25 AM	6:09 PM	12:22 AM	2:01 PM
	11:10 AM	1.8	3:08 AM	0.6				
Sun., 12			6:58 PM	0.4	6:26 AM	6:09 PM	1:15 AM	2:38 PM
	12:22 AM	0.8	4:51 AM	0.6				
Mon., 13	12:02 PM	1.8	7:22 PM	0.3	6:26 AM	6:08 PM	2:07 AM	3:12 PM
	1:05 AM	1.0	6:08 AM	0.6				
Tues., 14	12:46 PM	1.7	7:42 PM	0.3	6:26 AM	6:07 PM	2:57 AM	3:44 PM
	1:42 AM	1.2	7:08 AM	0.5				
Wed., 15	1:23 PM	1.7	8:02 PM	0.2	6:27 AM	6:06 PM	3:46 AM	4:15 PM
	2:14 AM	1.4	8:00 AM	0.5				
Thurs., 16	1:56 PM	1.6	8:22 PM	0.2	6:27 AM	6:06 PM	4:36 AM	4:46 PM
	2:45 AM	1.6	8:47 AM	0.4				
Fri., 17	2:28 PM	1.4	8:39 PM	0.1	6:27 AM	6:05 PM	5:27 AM	5:19 PM
	3:17 AM	1.8	9:34 AM	0.4				
Sat., 18	2:57 PM	1.3	8:58 PM	0.1	6:28 AM	6:04 PM	6:19 AM	5:55 PM
	3:49 AM	2.0	10:20 AM	0.4				
Sun., 19	3:25 PM	1.1	9:17 PM	0.0	6:28 AM	6:04 PM	7:14 AM	6:34 PM
	4:23 AM	2.1	11:09 AM	0.4				
Mon., 20	3:54 PM	1.0	9:39 PM	0.0	6:28 AM	6:03 PM	8:13 AM	7:19 PM
	4:59 AM	2.2	12:02 PM	0.5				
Tues., 21	4:23 PM	0.9	10:05 PM	0.0	6:29 AM	6:02 PM	9:13 AM	8:10 PM
	5:41 AM	2.2	1:05 PM	0.5				
Wed., 22	4:56 PM	0.7	10:35 PM	0.0	6:29 AM	6:02 PM	10:15 AM	9:06 PM
	6:29 AM	2.2	2:22 PM	0.5				
Thurs., 23	5:39 PM	0.6	11:11 PM	0.1	6:29 AM	6:01 PM	11:14 AM	10:08 PM
	7:23 AM	2.2	3:50 PM	0.4				
Fri., 24	6:51 PM	0.5	11:58 PM	0.2	6:30 AM	6:00 PM	12:09 PM	11:12 PM
	8:26 AM	2.1						
Sat., 25	8:55 PM	0.5	5:02 PM	0.4	6:30 AM	6:00 PM	12:59 PM	
	9:32 AM	2.1	1:07 AM	0.3				
Sun., 26	10:58 PM	0.6	5:45 PM	0.3	6:31 AM	5:59 PM	1:45 PM	12:15 AM
	10:38 AM	2.0	2:53 AM	0.5				
Mon., 27			6:20 PM	0.2	6:31 AM	5:58 PM	2:27 PM	1:18 AM
	12:09 AM	0.9	4:45 AM	0.6				
Tues., 28	11:36 AM	1.9	6:51 PM	0.1	6:32 AM	5:57 PM	3:06 PM	2:20 AM
	1:01	1.2	6:16 AM	0.5				
Wed., 29	12:28 PM	1.7	7:19 PM	0.0	6:32 AM	5:56 PM	3:44 PM	3:20 AM
	1:46 AM	1.5	7:31 AM	0.5				
Thurs., 30	1:16 PM	1.6	7:47 PM	-0.1	6:33 AM	5:56 PM	4:23 PM	4:20 AM
	2:26 AM	1.8	8:36 AM	0.4				
Fri., 31	2:01 PM	1.4	8:14 PM	-0.1	6:34 AM	5:55 PM	5:03 PM	5:21 AM
	3:06 AM	2.1	9:35 AM	0.4				
	2:41 PM	1.2	8:40 PM	-0.1				

All times given are Hawaiian Standard time.

The columns of height give the elevation of each tide above the plane of chart soundings. The numbers are always additive to the chart depth unless preceded by the minus (—) sign when the numbers are subtractive from the depth given on the chart. To find the time of tide at the following places, either add or subtract as indicated from the Honolulu time of tide.

— PORT —	H	M
Port Allen, Kanai	—0	15
Nawiliwili Bay, Kauai	—0	20
Hanalei Bay, Kauai	—1	40
Haleiwa Waialua Bay, Oahu	—1	35
Waianae, Oahu	+0	15
Hanauma Bay, Oahu	—0	55
Waimanalo, Oahu	—1	15
Waikane, Kaneohe Bay, Oahu	—1	35
Laie Bay, Oahu	—1	50
Kaunakakai, Molokai	—0	10
Kahului, Maui	—1	35
Kihei, Maalaea Bay, Maui	—0	15
Lahaina, Maui	—0	20
Mahukona, Hawaii	—0	25
Kealahou Bay, Hawaii	—0	15
Napooopo, Kealahou Bay, Hawaii	—0	15
Honouliuli, Hawaii	—0	25

— MOON PHASES —

Full Moon	October 3
Last Quarter	October 10
New Moon	October 18
First Quarter	October 25

Morning Twilight begins 1 hour 15 minutes before Sunrise.

Evening Twilight ends 1 hour 15 minutes after Sunset.

**U.S. COAST AND GEODETIC SURVEY**  
**244 FEDERAL BUILDING — HONOLULU, T. H.**  
**TIDE, SUN AND MOON TABLES FOR HONOLULU, T. H.**  
 MAY, 1952

DAY	HIGH WATER		LOW WATER		— SUN —		— MOON —	
	TIME	HT.	TIME	HT.	RISE	SET	RISE	SET
Sat. 3			6:33 AM	0.0	5:59 AM	6:58 PM	1:50 PM	2:04 AM
Sun. 4	12:46 PM	0.9	5:51 PM	0.5				
	12:01 AM	1.3	6:56 AM	0.0	5:58 AM	6:58 PM	2:40 PM	2:36 AM
	1:26 PM	1.1	7:03 PM	0.4				
Mon. 5	12:43 AM	1.2	7:18 AM	-0.1	5:58 AM	6:58 PM	3:32 PM	3:08 AM
	2:00 PM	1.4	8:05 PM	0.4				
Tue. 6	1:23 AM	1.1	7:40 AM	-0.1	5:57 AM	6:59 PM	4:25 PM	3:41 AM
	2:33 PM	1.6	9:00 PM	0.3				
Wed. 7	2:01 AM	0.9	8:02 AM	-0.2	5:56 AM	6:59 PM	5:21 PM	4:15 AM
	3:08 PM	1.9	9:53 PM	0.2				
Thu. 8	2:37 AM	0.8	8:27 AM	-0.3	5:56 AM	6:59 PM	6:21 PM	4:53 AM
	3:44 PM	2.0	10:45 PM	0.2				
Fri. 9	3:16 AM	0.7	8:55 AM	-0.3	5:55 AM	7:00 PM	7:24 PM	5:37 AM
	4:24 PM	2.2	11:39 PM	0.1				
Sat. 10	3:56 AM	0.5	9:27 AM	-0.3	5:55 AM	7:00 PM	8:29 PM	6:26 AM
	5:06 PM	2.2						
Sun. 11	4:38 AM	0.4	12:36 AM	0.1	5:55 AM	7:00 PM	9:34 PM	7:23 AM
	5:51 PM	2.2	10:03 AM	-0.3				
Mon. 12	5:30 AM	0.4	1:36 AM	0.1	5:54 AM	7:01 PM	10:34 PM	8:25 AM
	6:41 PM	2.2	10:44 AM	-0.2				
Tue. 13	6:40 AM	0.3	2:41 AM	0.1	5:54 AM	7:01 PM	11:29 PM	9:31 AM
	7:34 PM	2.1	11:31 AM	-0.1				
Wed. 14	8:10 AM	0.3	3:42 AM	0.0	5:54 AM	7:01 PM		10:38 AM
	8:31 PM	2.0	12:31 PM	0.1				
Thu. 15	9:55 AM	0.5	4:32 AM	0.0	5:53 AM	7:02 PM	12:18 AM	11:43 AM
	9:30 PM	1.8	1:53 PM	0.3				
Fri. 16	11:21 AM	0.7	5:15 AM	-0.1	5:53 AM	7:02 PM	1:01 AM	12:44 PM
	10:28 PM	1.6	3:29 PM	0.4				
Sat. 17	12:24 PM	1.0	5:51 AM	-0.1	5:53 AM	7:03 PM	1:40 AM	1:43 PM
	11:23 PM	1.4	5:26 PM	0.5				
Sun. 18			6:24 AM	-0.2	5:52 AM	7:03 PM	2:17 AM	2:40 PM
	1:12 PM	1.3	6:57 PM	0.5				
Mon. 19	12:16 AM	1.2	6:53 AM	-0.2	5:52 AM	7:04 PM	2:53 AM	3:37 PM
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	2:35 PM	1.8	9:18 PM	0.3				
Wed. 21	1:52 AM	0.8	7:50 AM	-0.3	5:51 AM	7:05 PM	4:07 AM	5:32 PM
	3:12 PM	2.0	10:15 PM	0.2				
Thu. 22	2:34 AM	0.6	8:17 AM	-0.3	5:51 AM	7:05 PM	4:49 AM	6:31 PM
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Fri. 23	3:13 AM	0.5	8:45 AM	-0.3	5:51 AM	7:06 PM	5:34 AM	7:34 PM
	4:25 PM	2.2	11:56 PM	0.2				
Sat. 24	3:50 AM	0.4	9:16 AM	-0.2	5:50 AM	7:06 PM	6:24 AM	8:26 PM
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Sun. 25	4:30 AM	0.4	12:43 AM	0.2	5:50 AM	7:07 PM	7:16 AM	9:18 PM
	5:40 PM	2.1	9:48 AM	-0.2				
Mon. 26	5:17 AM	0.4	1:29 AM	0.2	5:49 AM	7:07 PM	8:10 AM	10:06 PM
	6:19 PM	2.0	10:22 AM	-0.1				
Tue. 27	6:11 AM	0.4	2:16 AM	0.2	5:49 AM	7:08 PM	9:05 AM	10:49 PM
	7:00 PM	1.9	11:00 AM	0.0				
Wed. 28	7:21 AM	0.4	3:00 AM	0.2	5:48 AM	7:08 PM	9:59 AM	11:27 PM
	7:41 PM	1.8	11:44 AM	0.1				
Thu. 29	8:43 AM	0.5	3:40 AM	0.1	5:48 AM	7:08 PM	10:51 AM	
	8:24 PM	1.6	12:38 PM	0.3				
Fri. 30	10:10 AM	0.6	4:15 AM	0.1	5:48 AM	7:09 PM	11:41 AM	12:02 AM
	9:10 PM	1.5	1:57 PM	0.5				
Sat. 31	11:17 AM	0.8	4:47 AM	0.1	5:48 AM	7:09 PM	12:31 PM	12:34 AM
	9:56 PM	1.3	3:40 PM	0.6				

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Nawiliwili Bay, Kauai		-0	20
Hanalei Bay, Kauai		-1	40
Haleiwa Waialua Bay, Oahu		-1	35
Waianāe, Oahu		+0	15
Hanauma Bay, Oahu		-0	55
Waimanalo, Oahu		-1	15
Waikane, Kaneohe Bay, Oahu		-1	35
Laie Bay, Oahu		-1	50
Kaunakakai, Molokai		-0	10
Kahului, Maui		-1	35
Kihei, Maalaea Bay, Maui		-0	15
Lahaina, Maui		-0	20
Mahukona, Hawaii		-0	25
Kealahou Bay, Hawaii		-0	15
Honuapo, Hawaii		-0	25
Hilo, Hawaii		-1	05

— MOON PHASES —

Full Moon	May 9
Last Quarter	May 16
New Moon	May 23
First Quarter	May 31
Morning Twilight begins	1 hour 21 minutes before Sunrise.
Evening Twilight ends	1 hour 21 minutes after Sunset.



## Warning For Waves

Seismic sea waves, commonly called tidal waves, are a concern for Hawaii's people.

And they should be, for the wave of April, 1946 killed 173 people and caused more than \$25,000,000 property damage.

Nothing man can do, however, will stop a seismic wave some 20 to 50 feet high and traveling nearly 450 miles an hour.

Adequate warning of the people is the job of the U.S. Coast and Geodetic Survey. They, under the supervision of Cmdr. Clarence A. George, help operate a seismic sea wave warning system which should alert Hawaii residents in time.

With seismograph instruments which measure the shock and motion of earthquakes, and tide gauges, warning station personnel are able to locate the center of an earthquake and estimate, should a wave develop, how long it will take to reach Hawaii.

Tide gauges are located on many Pacific islands such as Guam, Wake, Johnston and Pago Pago. Gauges and automatic seismic sea wave detectors, which only operate when a tidal wave occurs, combine forces at Midway and Hilo.

Reports on tidal waves must be made quickly. It took the 1946 wave but 4½ hours to travel from the Aleutian Islands to Honolulu, a distance of 2,000 miles.

Once the Honolulu center's seismograph shows an earthquake, particularly an undersea one, has occurred, all tide stations are notified immediately. Each is given a time when any wave which occurs might arrive at the station.

Each station then sends back periodic reports so the local office can tell whether a wave actually is under way.

The one disadvantage of the warning system, according to Cmdr. George, is that a wave originating close to the islands cannot be detected except visually and by the automatic devices at Barber's Point and Hilo.

The slow rolling action typical of the wave then gives Hawaii residents up to 15 minutes to reach safety.

It is impossible to set up stations in exposed areas to detect waves originating close by, Cmdr. George points out. Storms and high seas easily destroy the delicate mechanisms.

Although the waves travel at great speeds, it is possible for them to go unnoticed from the

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surface when in deep water. Ships at times pass right through them unharmed. But when the wave reaches shallower water, it slows down and builds up in height.

Cmdr. George concludes that the seismic sea wave warning system will give Hawaii's people as much warning as possible.

The Island Call  
Nov. 1952