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From: tsunami-information-ioc@lists.unesco.org
Sent: Sunday, February 28, 2010 1:57 PM
To: IOC_Public_Lists@ptwc.noaa.gov
Subject: [Tsunami Message - IOC] Widespread Warning - Supplement

Categories: Reference & Research

TSUNAMI BULLETIN NUMBER 023
PACIFIC TSUNAMI WARNING CENTER/NOAA/NWS
ISSUED AT 0556Z 28 FEB 2010

THIS BULLETIN APPLIES TO AREAS WITHIN AND BORDERING THE PACIFIC OCEAN AND ADJACENT SEAS...EXCEPT ALASKA...BRITISH COLUMBIA... WASHINGTON...OREGON AND CALIFORNIA.

.... A WIDESPREAD TSUNAMI WARNING IS IN EFFECT ...

A TSUNAMI WARNING IS IN EFFECT FOR

RUSSIA / JAPAN

THIS BULLETIN IS ISSUED AS ADVICE TO GOVERNMENT AGENCIES. ONLY NATIONAL AND LOCAL GOVERNMENT AGENCIES HAVE THE AUTHORITY TO MAKE DECISIONS REGARDING THE OFFICIAL STATE OF ALERT IN THEIR AREA AND ANY ACTIONS TO BE TAKEN IN RESPONSE.

AN EARTHQUAKE HAS OCCURRED WITH THESE PRELIMINARY PARAMETERS

ORIGIN TIME - 0634Z 27 FEB 2010
COORDINATES - 36.1 SOUTH 72.6 WEST
DEPTH - 55 KM
LOCATION - NEAR COAST OF CENTRAL CHILE
MAGNITUDE - 8.8

MEASUREMENTS OR REPORTS OF TSUNAMI WAVE ACTIVITY

GAUGE LOCATION	LAT	LON	TIME	AMPL	PER
OFUNATO HONSHU	39.0N	141.8E	0532Z	0.21M / 0.7FT	32MIN
HANASAKI HOKKAIDO	43.3N	145.6E	0456Z	0.31M / 1.0FT	60MIN
GUAM US	13.4N	144.7E	0307Z	0.16M / 0.5FT	34MIN
DART SAIPAN 52401	19.3N	155.8E	0355Z	0.08M / 0.3FT	18MIN
MIDWAY	28.2N	177.4W	0137Z	0.28M / 0.9FT	10MIN
WAKE US	19.3N	166.6E	0259Z	0.26M / 0.8FT	12MIN
SITKA AK	57.1N	135.3W	0111Z	0.08M / 0.3FT	24MIN
NAWILIWILI KAUAI	22.0N	159.4W	2323Z	0.37M / 1.2FT	10MIN
HONOLULU OAHU	21.3N	157.9W	2200Z	0.25M / 0.8FT	46MIN
DART TONGA 51426	23.0S	168.1W	2003Z	0.04M / 0.1FT	32MIN
CRESCENT CITY CA	41.7N	124.2W	2213Z	0.37M / 1.2FT	50MIN
SANTA BARBARA CA	34.4N	119.7W	2150Z	0.53M / 1.7FT	20MIN
PAGO PAGO AS	14.3S	170.7W	2027Z	0.70M / 2.3FT	12MIN
JOHNSTON US	16.7N	169.5W	2248Z	0.22M / 0.7FT	64MIN
VANUATU	17.8S	168.3E	2246Z	0.15M / 0.5FT	22MIN
BARBERS PT HI	21.3N	158.1W	2157Z	0.12M / 0.4FT	54MIN
NUKUALOFA TO	21.1S	175.2W	2024Z	0.10M / 0.3FT	62MIN
KAWAIHAE HAWAII	20.0N	155.8W	2211Z	0.52M / 1.7FT	24MIN
KAUMALAPAU HAWAII	20.8N	156.9W	2136Z	0.18M / 0.6FT	56MIN
KAHULUI MAUI	20.9N	156.5W	2147Z	0.98M / 3.2FT	22MIN
MONTEREY HARBOR CA	36.6N	121.9W	2031Z	0.32M / 1.1FT	56MIN
SANTA MONICA CA	34.0N	118.5W	2035Z	0.41M / 1.4FT	32MIN
SAN DIEGO CA	32.7N	117.2W	2036Z	0.13M / 0.4FT	20MIN
APIA UPOLU WS	13.8S	171.8W	2018Z	0.16M / 0.5FT	16MIN
RAROTONGA CK	21.2S	159.8W	1907Z	0.15M / 0.5FT	24MIN

ACAPULCO MX 16.8N 99.9W 1931Z 0.62M / 2.0FT 26MIN
 DART SAN DIEGO 4641 32.2N 120.7W 1931Z 0.06M / 0.2FT 24MIN
 LOTTIN PT NZ 37.6S 178.2E 1934Z 0.15M / 0.5FT 10MIN
 RAROTONGA CK 21.2S 159.8W 1918Z 0.32M / 1.0FT 06MIN
 CABO SAN LUCAS MX 22.9N 109.9W 1833Z 0.36M / 1.2FT 12MIN
 HIVA OA MARQUESAS 9.8S 139.0W 1741Z 1.79M / 5.9FT 12MIN
 PAPEETE TAHITI 17.5S 149.6W 1810Z 0.16M / 0.5FT 10MIN
 NUKU HIVA MARQUESAS 8.9S 140.1W 1745Z 0.95M / 3.1FT 04MIN
 MANZANILLO MX 19.1N 104.3W 1705Z 0.32M / 1.0FT 24MIN
 DART MANZANILLO 434 16.0N 107.0W 1611Z 0.07M / 0.2FT 24MIN
 RIKITEA PF 23.1S 134.9W 1559Z 0.15M / 0.5FT 22MIN
 DART MARQUESAS 5140 8.5S 125.0W 1531Z 0.18M / 0.6FT 18MIN
 QUEPOS CR 0.0N 9.4E 1416Z 0.24M / 0.8FT 52MIN
 BALTRA GALAPAGS EC 0.4S 90.3W 1452Z 0.35M / 1.2FT 14MIN
 EASTER CL 27.2S 109.5W 1205Z 0.35M / 1.1FT 52MIN
 ANCUD CL 41.9S 73.8W 0838Z 0.62M / 2.0FT 84MIN
 CALLAO LA-PUNTA PE 12.1S 77.2W 1029Z 0.36M / 1.2FT 30MIN
 ARICA CL 18.5S 70.3W 1008Z 0.94M / 3.1FT 42MIN
 IQUIQUE CL 20.2S 70.1W 0907Z 0.28M / 0.9FT 68MIN
 ANTOFAGASTA CL 23.2S 70.4W 0941Z 0.49M / 1.6FT 52MIN
 DART LIMA 32412 18.0S 86.4W 0941Z 0.24M / 0.8FT 36MIN
 CALDERA CL 27.1S 70.8W 0843Z 0.45M / 1.5FT 20MIN
 TALCAHUANO CL 36.7S 73.4W 0653Z 2.34M / 7.7FT 88MIN
 COQUIMBO CL 30.0S 71.3W 0852Z 1.32M / 4.3FT 30MIN
 CORRAL CL 39.9S 73.4W 0739Z 0.90M / 2.9FT 16MIN
 SAN FELIX CL 26.3S 80.1W 0815Z 0.53M / 1.7FT 08MIN
 VALPARAISO CL 33.0S 71.6W 0708Z 1.29M / 4.2FT 20MIN

LAT - LATITUDE (N-NORTH, S-SOUTH)

LON - LONGITUDE (E-EAST, W-WEST)

TIME - TIME OF THE MEASUREMENT (Z IS UTC IS GREENWICH TIME) AMPL - TSUNAMI AMPLITUDE
 MEASURED RELATIVE TO NORMAL SEA LEVEL.

IT IS ...NOT... CREST-TO-TROUGH WAVE HEIGHT.

VALUES ARE GIVEN IN BOTH METERS(M) AND FEET(FT).

PER - PERIOD OF TIME IN MINUTES(MIN) FROM ONE WAVE TO THE NEXT.

EVALUATION

SEA LEVEL READINGS CONFIRM THAT A TSUNAMI HAS BEEN GENERATED WHICH COULD CAUSE WIDESPREAD DAMAGE. AUTHORITIES SHOULD TAKE APPROPRIATE ACTION IN RESPONSE TO THIS THREAT. THIS CENTER WILL CONTINUE TO MONITOR SEA LEVEL DATA TO DETERMINE THE EXTENT AND SEVERITY OF THE THREAT.

A TSUNAMI IS A SERIES OF WAVES AND THE FIRST WAVE MAY NOT BE THE LARGEST. TSUNAMI WAVE HEIGHTS CANNOT BE PREDICTED AND CAN VARY SIGNIFICANTLY ALONG A COAST DUE TO LOCAL EFFECTS. THE TIME FROM ONE TSUNAMI WAVE TO THE NEXT CAN BE FIVE MINUTES TO AN HOUR, AND THE THREAT CAN CONTINUE FOR MANY HOURS AS MULTIPLE WAVES ARRIVE.

FOR ALL AREAS - WHEN NO MAJOR WAVES ARE OBSERVED FOR TWO HOURS AFTER THE ESTIMATED TIME OF ARRIVAL OR DAMAGING WAVES HAVE NOT OCCURRED FOR AT LEAST TWO HOURS THEN LOCAL AUTHORITIES CAN ASSUME THE THREAT IS PASSED. DANGER TO BOATS AND COASTAL STRUCTURES CAN CONTINUE FOR SEVERAL HOURS DUE TO RAPID CURRENTS. AS LOCAL CONDITIONS CAN CAUSE A WIDE VARIATION IN TSUNAMI WAVE ACTION THE ALL CLEAR DETERMINATION MUST BE MADE BY LOCAL AUTHORITIES.

ESTIMATED INITIAL TSUNAMI WAVE ARRIVAL TIMES AT FORECAST POINTS WITHIN THE WARNING AND WATCH AREAS ARE GIVEN BELOW. ACTUAL ARRIVAL TIMES MAY DIFFER AND THE INITIAL WAVE MAY NOT BE THE LARGEST. A TSUNAMI IS A SERIES OF WAVES AND THE TIME BETWEEN SUCCESSIVE WAVES CAN BE FIVE MINUTES TO ONE HOUR.

LOCATION FORECAST POINT COORDINATES ARRIVAL TIME

 RUSSIA MEDNNY IS 54.7N 167.4E 0236Z 28 FEB
 UST KAMCHATSK 56.1N 162.6E 0302Z 28 FEB
 PETROPAVLOVSK K 53.2N 159.6E 0333Z 28 FEB
 URUP IS 46.1N 150.5E 0354Z 28 FEB

	SEVERO KURILSK	50.8N 156.1E	0410Z 28 FEB
JAPAN	KUSHIRO	42.9N 144.3E	0435Z 28 FEB
	KATSUURA	35.1N 140.3E	0453Z 28 FEB
	HACHINOHE	40.5N 141.5E	0509Z 28 FEB
	SHIMIZU	32.8N 133.0E	0557Z 28 FEB
	OKINAWA	26.2N 127.8E	0610Z 28 FEB

BULLETINS WILL BE ISSUED HOURLY OR SOONER IF CONDITIONS WARRANT.
THE TSUNAMI WARNING WILL REMAIN IN EFFECT UNTIL FURTHER NOTICE.

THE WEST COAST/ALASKA TSUNAMI WARNING CENTER WILL ISSUE PRODUCTS FOR ALASKA...BRITISH COLUMBIA...WASHINGTON...OREGON...CALIFORNIA.