

Tsunami Newsletter



INTERNATIONAL TSUNAMI INFORMATION CENTER - ITIC

SUMMARY OF PACIFIC BASIN EARTHQUAKES

Occurring October –November 2000

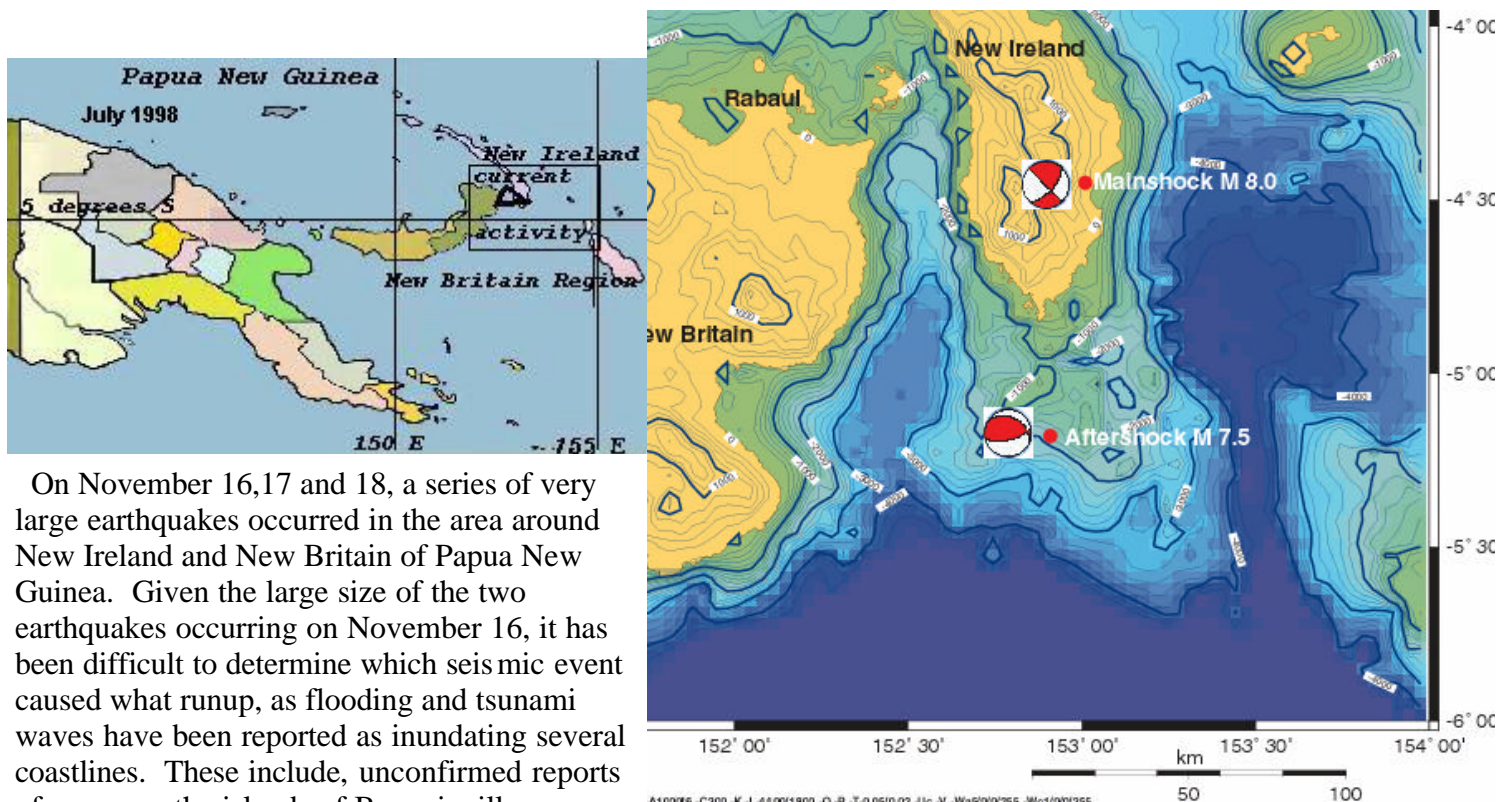
*With surface wave or moment magnitudes greater than or equal to 6.5 and with a depth no greater than 100 km
(Data provided by PTWC or through NEIC)*

DATE	LOCATION	TIME (UTC)	LAT.	LONG.	DEPTH (km)	M _s	M _w	PTWC ACTION	ACTION (UTC)	Tsunami
Oct. 4	Vanuatu	16:58	15.4 S	166.9 E	23	6.9	6.8	TIB	17:29	?
Oct. 6	Western Honshu, Japan	04:30	35.6 N	133 E	20	6.7	6.7	none	-	no
Oct 29	Solomon Islands	08:37	5.0 S	154 E	78	6.1	6.9	none		no
Nov. 16	New Britain Region, PNG	04:55	4.0 S	151 E	22.5	8.1	8.0	RWW Sup 1 Sup 2 Cancel	5:35 6:34 7:34 8:31	yes
Nov. 16	New Ireland Region, PNG	07:42	5.0S	153.3 E	45	7.8	7.6	RWW Sup 1 Cancel	8:46 8:59 9:27	yes
Nov. 17	New Britain Region, PNG	21:02	5.5 S	151.7 E	12	8.0	7.6	TIB RWW Cancel	21:31 21:58 22:53	?
Nov 18	New Ireland Region, PNG	02:06	5.0 S	153 E	25	6.7	6.9	none		?
Nov. 18	New Britain Region, PNG	06:55	5.1 S	151.7 E	36	6.6	6.8	TIB	7:49	?

TIB=Tsunami Information Bulletin **RWW**=Regional Watch Warning: **Sup**=Supplemental message

The list of Pacific Basin earthquakes is one of the basic features of the Tsunami Newsletter. Some of you may be wondering why and how this list is compiled. It is a way of monitoring both the seismic activity which has the potential to generate a tsunami and the activities of PTWC. Generally, PTWC responds to any earthquake with a surface magnitude equal to or greater than 6.5. To include all possible earthquakes of that size, ITIC relies on NEIC earthquake bulletins for earthquakes that have either a surface wave magnitude equal to or greater than 6.5 or a moment magnitude equal to or greater than 6.5. If either of these criteria is met, the location and depth provide the next level of evaluation. The earthquake must occur within the Pacific Basin, preferably underwater or in a location that could generate a tsunami. For this reason, earthquakes with a depth over 100 km are not included on the list. There is a 'grey-area' of what to include in the Pacific Basin, generally, PTWC's area of responsibility is used, however, ITIC will sometimes include earthquakes that could create a tsunami on the shores of a Member State. The recent Bellany Earthquake is a case in point (see the 1998/99 ITIC Annual). If PTWC or NEIC have different moment measurements, the largest measurement is used on the table. Depending on which institution's solution is used (usually either USGS or Harvard) the depth corresponding to that institution's measurement is used. No averaging occurs but the chart does draw on data from several sources.

PAPUA NEW GUINEA 16 NOV 2000, 4:55 UTC 4°S, 151.5°E, $M_s = 8.1$, $M_w = 8.0$
16 NOV 2000, 7:42 UTC 5°S, 153.3°E, $M_s = 7.8$, $M_w = 7.6$



On November 16, 17 and 18, a series of very large earthquakes occurred in the area around New Ireland and New Britain of Papua New Guinea. Given the large size of the two earthquakes occurring on November 16, it has been difficult to determine which seismic event caused what runup, as flooding and tsunami waves have been reported as inundating several coastlines. These include, unconfirmed reports of runup on the islands of Bougainville

(Torokina reporting 2.5 to 3 m. runup) and Buka. In addition, it was reported a tsunami reaching Trobriand Islands (SW Solomon Sea) measured .3-1 meter. According to Rabaul Volcano Observatory (e-mail correspondence, Dec. 1, 2000) initial indications were that only the first large earthquake (4:55 UTC) caused a tsunami. But after reference to tide gauge records, it appeared most likely that it was the second earthquake (7:42 UTC) that created a tsunami. The inundation of a hardware store in Rabaul, occurring 20-30 minutes following the first earthquake, was most likely caused by a seiche. Runup of .9 meter was reported in Rabaul. Because it was dark by the time the aftershock occurred it was difficult to verify when some coastlines were inundated. Follow-up confirmation reports and tide gage records have yet to be received.

NEW MATERIALS at ITIC

California's Governor's Office of Emergency Services and California Tsunami Steering Committee. Local planning guidance on tsunami response: A supplement to the Emergency Planning Guidance for Local Governments, 2nd ed.

Cornas, M. C. and Akhmanov, G. G. editors. Geological processes on European continental margins: International conference and eighth post-cruise meeting of the training through research programme, Granada, Spain, 31 January-3 February 2000. Intergovernmental Oceanographic Commission Workshop Report; No. 168.

Intergovernmental Oceanographic Commission. Intergovernmental Oceanographic Commission. The ad hoc advisory group for IOCARIBE-GOOS : First session Caracas, Venezuela, 3-5 November 1999. Paris: Unesco; 2000 GOOS Report No.88.

New Zealand Earthquake Commission, 2000, Twelfth World Conference on Earthquake Engineering [CD-ROM]. Jan 31 -- Feb 4; Auckland, New Zealand. Includes the following papers:

Kagami, Hiroshi, Problems on earthquake disasters in rural area : consideration from the recent damaging earthquakes in Hokkaido, northern Japan.

Ohmachi, T., H. Tsukiyama, and H. Matsumoto, Tsunami simulation using dynamic ground displacement due to seismic faulting.

Rynn, J. and others, Suva Earthquake Risk Management Scenario Pilot Project (SERMP).

Urabe, K. and others, Development of a pictogram system for earthquake and tsunami disaster reduction.

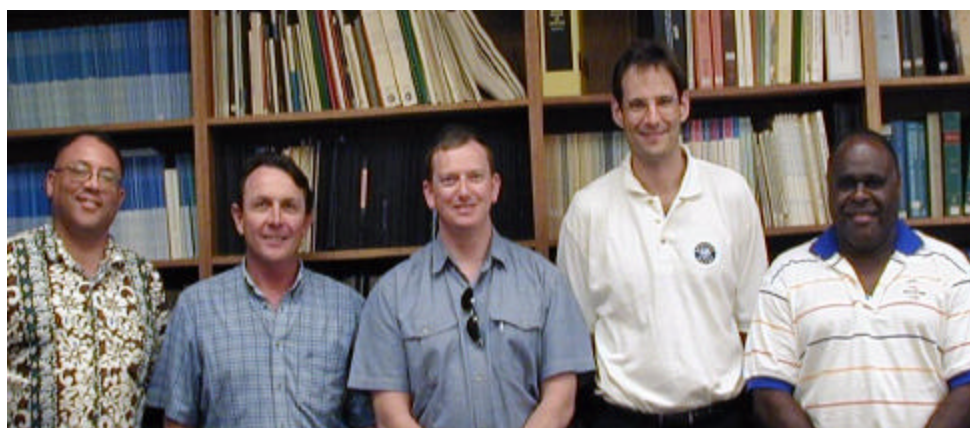
ITIC NEWS

ITIC Welcomes Visiting Scientists

Participating in the IOC Visiting Experts Program, Alexandra Quiceno and Daniel Olcese Huerta are at ITIC for two weeks. Alexandra is a physicist for Centro Control Contaminacion del Pacifico in Tumaco. It is a division of the Colombian Navy. She has been involved in inundation mapping for the Pacific Coast of Colombia, particularly for the city of Tumaco. Daniel is a geologist, who heads the Instituto



Geofísico del Perú's, tsunami and seismic observation program. Instituto Geofísico del Perú is under the jurisdiction of the Dirección de Hidrografía y Navegación. Besides discussions like this one with Mike Blackford they have toured and spoken with scientists at the Pacific Tsunami Warning Center and Hawaii State Civil Defense. They also visited Laupahoehoe and the Pacific Tsunami Museum on the Big Island (Hawai'i). Both are especially interested in the current state of technology for improving regional and local warning systems. We hope that they have learned many useful things that they can apply in their home countries.



Guests of Ed Young at the NWS Pacific Region Headquarters, following the GDIN conference in early October. From left: Ed Young of the NWS Pacific Region, Graham Shorten of SOPAC, Rob Lee and Jonathan Abrahams of EMA, (Australia) and Job Easu of National Disaster Management, Vanuatu. Graham and Job were especially interested in ITIC and spent some time talking to Linda about tsunami. Thanks for stopping by!



Bob Eppley, formerly ITIC director, dropped in on a recent trip to Honolulu. He now resides in Arizona.

SEASON'S GREETINGS
AND a JOYOUS 2001

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**INTERNATIONAL
TSUNAMI
INFORMATION
CENTER
(ITIC)**



Located in Honolulu, the **International Tsunami Information Center (ITIC)** was established on 12 November 1965 by the Intergovernmental Oceanographic Commission (IOC) of the United Nations Educational, Scientific and Cultural Organization (UNESCO). In 1968, IOC formed an International Coordination Group for the Tsunami Warning System in the Pacific (ICG/ITSU). The present 25 Member States are:

Australia, Canada, Chile, China, Colombia, Cook Islands, Costa Rica, Democratic People's Republic of Korea, Ecuador, Fiji, France, Guatemala, Indonesia, Japan, Mexico, New Zealand, Nicaragua, Peru, Philippines, Republic of Korea, Singapore, Thailand, Russian Federation,

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