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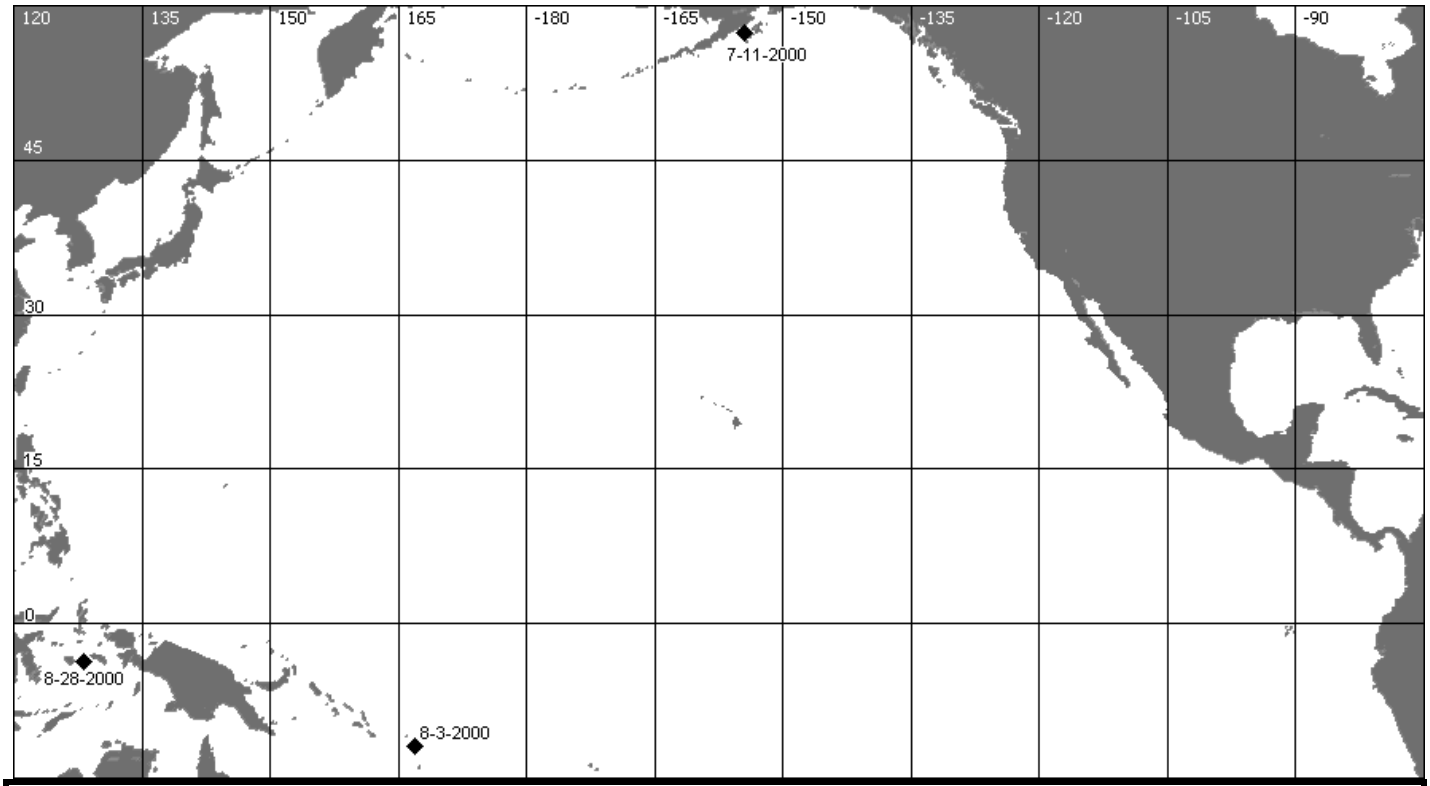
Tsunami Newsletter

INTERNATIONAL TSUNAMI INFORMATION CENTER - ITIC



SUMMARY OF PACIFIC BASIN EARTHQUAKES

Occurring July—September 2000

With surface wave or moment magnitudes greater than or equal to 6.5 and with a depth no greater than 100 km
(Preliminary M_s provided by PTWC, Harvard's moment and depth through NEIC)

DATE	LOCATION	TIME (UTC)	LAT.	LONG.	DEPTH	M_s	M_w	PTWC ACTION	ACTION (UTC)	Tsunami
11 July	Kodiak Island Region	01:32	57.5 N	154.5 W	47	6.1	6.5	TIB*	1:46	no
3 August	Santa Cruz Islands	01:09	12 S	166.5 E	52	6.3	6.6	None		no
28 August	Banda Sea	15:05	4 S	127.5 E	15	6.8	6.8	None		unk

*Tsunami Information Bulletin

*Tsu-nami

The Summary of Pacific Basin Earthquakes is a regular feature of the Tsunami Newsletter. It is a short list and a very specific list. In the next Tsunami Newsletter Mike Blackford will explain the purpose of the list and what numbers are used and why.

IN MEMORIAM
SYDNEY OSCAR WIGEN
1923-2000

Sydney O. Wigen, the first Associate Director of ITIC, passed away on August 20, 2000. He lived in Salt Spring Island, BC, Canada.

His career in tsunamis started in 1960 and covered an extensive range of tsunami study and activity. In 1945, following graduation from University of British Columbia in engineering, he joined the Canadian Hydrographic Service and eventually became head of the Tide and Current Survey. In 1960, he documented the impact of the 1960 Chilean Earthquake Tsunami on the West Coast of Canada. Similarly, he also surveyed the impact of the Prince Edward Sound Earthquake Tsunami, on the West Coast of Canada, following that event in March, 1964. By 1975, when he arrived in Honolulu to serve as Associate Director, he had worked to compile English language versions of Soloviev and Gos' tsunami catalogs. Soloviev highly recommended him for the newly created position at ITIC. This experience tied into his work of establishing standards for recording tsunami data which are still in use today.

While Associate Director at ITIC, he was also involved in two post-tsunami surveys. He traveled to areas surrounding Moro Gulf to investigate the Philippine tsunami of August 17, 1976. And in August, 1977, he was part of the team that went to Indonesia following a destructive earthquake and tsunami that ravaged the area. He surveyed coasts of Bali, Lombok, Sumbawa and Sumba. After visiting several islands, he traveled to Perth to survey the damage that had been done in Australia.

During his two years at ITIC, he seriously pursued improving communications within the tsunami warning program. Following the ITSU-V meeting in Lima Peru, he traveled to Ecaudor, El Salvador, Niguargua, Panama, Guatemala. He helped build relationships and bring interested parties into the warning system. He also visited Mexico to learn more about their warning system.

When he returned to Canada, he continued to work at the Institute of Ocean Sciences, Patricia Bay. He remained active in tsunami research, continuing to assess tsunami risk for Canada, and acting as tsunami advisor, even following his retirement in 1985. He participated in numerous international conferences, starting in 1965 and including the 1978 Symposium on Long Waves in the Ocean, in Ottawa, where he chaired and was keynote speaker for the tsunami session. He was pivotal in the success of the 1985 IUGG Tsunami Symposium in British Columbia in August 1985.

The memories that have been conveyed to ITIC from various friends reflect the warmth others felt for him. With his passing, more was learned about him as person. Tad Murty pointed out Sid's tremendous love for children. A tribute from Masayuki Uchida, an exchange student who lived with the Wigens attests that the feelings were reciprocated. Going through papers and records of the ITIC, looking for ways to best sum up his contribution to this organization, I came across the slides on the following page. When I saw the slide of children welcoming the helicopter during the field trip to the Philippines, I was sure he had taken it. I could be wrong, but I'm confident he'd have no objection to its being on the page. He will be remembered for his perseverance and kindheartedness. He is survived by Nancy, his wife, and children. Our condolences go out to them.

Above: "Lombok, Landing from ferry" Indonesia 1977

Above: Children running to greet the helicopter.
A picture Sid took in Mindanao, Philippines, August 1976

Below:
Outside the ITIC office, 1976.

In a letter Sid wrote in March 1976 to George Pararas-Carayannis, on his trip through South America, he closes with: "George, it's a great world".

CONFERENCE ANNOUNCMENT

March 25-30, 2001. Tsunami session (NH8) to be held at the XXV EGS General Assembly. Nice, France. *The aim of the symposium is to present the state-of-the-art as regards tsunami generation, propagation and impact along the coasts as well as to discuss the tools to assess and mitigate tsunami hazard. The symposium is open to contributions from different disciplinary fields: geophysics, geology, numerical modelling, social and economical sciences, urban planning, warning and early-warning systems. All aspects of tsunami research theoretical, numerical, experimental and observational works (including remote sensing) are welcomed.*

Abstracts should be sent to either Stephano Tinti or Efim Pelinovsky (see below) and to the EGS HQ before December 1, 2000. Electronic form of presentation either in LATEX or ASCII forms is strongly preferred. Practical information about the Congress can be found at http://www.mpae.gwdg.de/EGS/EGS.html and, http://www.mpae.gwdg.de/EGS/egsga/nice01/nice01.htm.

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SYDNEY O. WIGEN BIBLIOGRAPHY —based on ITIC holdings

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Wigen, S.O., 1990, Book review: United States Tsunamis 1690-1988; written by James F. Lander and Patricia A. Lockridge: Science of Tsunami Hazards, v. 8, no. 2, p. 60-61.

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Gusiakov, Viacheslav K., Two great Kamchatka tsunamis, 1737 and 1952, The Fourth International Congress on Earth Sciences, Santiago, Chile, August 7 2000-August 11 2000. Downloaded from http://www.igm.cl, 11 Sept. 2000.

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Minoura, Koji, and others, 2000, Discovery of Minoan tsunami deposits: Geology (Boulder), 28: 1, p. 59-62. The Hellenic arc is a terrane of extensive Quaternary volcanism. One of the main centers of explosive eruptions is located on Thera (Santorini), and the eruption of the Thera volcano in late Minoan time (1600-1300 B.C.) is considered to have been the most significant Aegean explosive volcanism during the late Holocene. The last eruptive phase of Thera resulted in an enormous submarine caldera, which is believed to have produced tsunamis on a large scale. Evidence suggesting seawater inundaton was found previously at some archaeological sites on the coast of Crete; however, the cause of the tsunami and its effects on the area have not been well understood. On the Aegean Sea coast of western Turkey (Didim and Fethye) and Crete (Gouves), we have found traces of tsunami deposits related to the Thera eruption. The sedimentological consequences and the hydraulics of a Thera-caused tsunami indicate that the eruption of Thera volcano was earlier than the previous estimates and the tsunami did not have disruptive influence on Minoan civilization.

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Tsunami risk assessment beyond 2000: Theory, practice and plans, The International Workshop, Moscow, Russia, June 14 2000-June 16 2000. Conference proceedings and abstracts.

Tsutsumi, Akito, and others, 2000, Nearshore flow velocity of Southwest Hokkaido Earthquake Tsunami: Journal of Waterway, Port, Coastal, and Ocean Engineering, v. 126, no. 3, p. 136-143.

The nearshore flow velocity of the tusnami caused by the Southwest Hokkaido earthquake on July 12, 1993 (M [jma]=7.8) was estimated at Aonae on the southern end of Okushiri Island, Japan, by estimating the forces exerted on damaged structures constructed along the coast of the island through in situ strength tests. The velocity of the tsunami flow was calculated from the estimated tsunami forces using Morison's equation. The in situ strength tests yielded a maximum velocity of 10-18 m/s for a tsunami arriving at Aonae from a northeast direction. A direct estimate of the flow velocity of a tsunami on land is very rare, and the presented results will provide fundamental data for designing coastal structures to prevent subsequent tsunami disasters. If the flow velocity, together with the advancing direction and the true height of a tsunami could be predicted quantitatively, this analysis would be a powerful tool for the future assessment of tsunami disaster in other areas. (abstract from article)

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Watts, Philip, 2000, Tsunami features of solid block underwater landslides: Journal of Waterway, Port, Coastal, and Ocean Engineering, v. 126, no. 3, p.144-152.

Near-field and far-field wave features generated by solid block underwater landslides are described qualitatively and quantitatively. The characteristic time of landslide motion and maximum near-field wave amplitude suffice to scale many of these water wave features. Criteria are provided to determine if water waves generated by underwater landslides propagate as deepwater or shallow water waves. Estimates of the dominant far-field wavelength are provided for both cases. A precise location is given for the beginning of far-field wave propagation for deepwater waves. Weakly nonlinear and dispersive effects of shallow water wave propagation are examined. Around 5% of solid block maximum kinetic energy is converted into wave energy. (abstract from article)

HISTORICAL TSUNAMI DATABASE REGIONAL COORDINATORS

Below is the list of regional contacts as it should have read in the last newsletter. These are the parties working with Dr. Viacheslav Gusiakov to scrutinize data contained in the Historical Tsunami Database of the Pacific.

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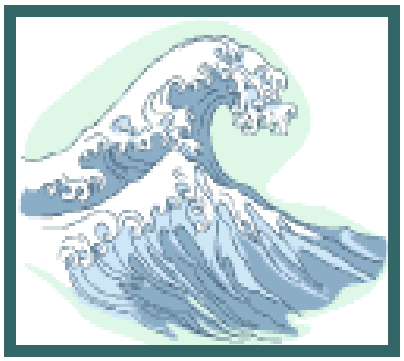
ITIC NEWS

RODRIGO VISITS HAWAII
ITIC's Associate Director, Rodrigo Nunez was in Honolulu for two weeks in July . During his stay he helped publish the last newsletter and worked with Mike on ITSU action items.

GERMAN STUDENT INTERNS
A newly graduated high school student, Carola Schulz, ventured to Hawaii as a follow-up to her Physics Club award-winning project on tsunamis. After a complete briefing with Michael Blackford at ITIC on the activities of the Center, she spent two more weeks at PTWC helping with projects. Although no major tsunami occurred during her visit she left with a much better understanding of the warning system. In October she begins classes at the University in Karlsruhe.



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INTERNATIONAL TSUNAMI INFORMATION CENTER (ITIC)

http://www.shoa.cl/oceano/itic/frontpage.html

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, United States of America, and Western Samoa.

ITIC is responsible, among other functions, for: **M**onitoring the international tsunami warning activities in the Pacific and recommending improvements with regard to communications, data networks, data acquisition, and information dissemination; **B**ringing to Member States and non-member States information on tsunami warning systems, on the affairs of ITIC and on how to become active participants in the activities of ICG/ITSU; **A**ssisting Member States of ITSU in the establishment of national warning systems and improving preparedness for tsunamis in all nations throughout the Pacific Ocean; **G**athering and promulgating knowledge on tsunamis and fostering tsunami research and its application to prevent loss of life and damage to property.