INTERNATIONAL TSUNAMI
INFORMATION CENTER

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TSUNAMI NEWSLETTER is published by the International Tsunami Information Center to bring news and information to scientists, engineers, educators, community protection agencies, and governments throughout the world.

We welcome contributions from our readers.

The International Tsunami Information Center (ITIC) is maintained by the U.S. National Oceanic and Atmospheric Administration (NOAA) for the Intergovernmental Oceanographic Commission (IOC). The Center's mission is to mitigate the effects of tsunamis throughout the Pacific.

MEMBER STATES

Present membership of the IOC International Coordination Group for the Tsunami Warning System in the Pacific (ITSU) comprises of the following States:

AUSTRALIA
CANADA
CHILE
CHINA
COLOMBIA
COOK ISLANDS
DEMOCRATIC PEOPLE'S REPUBLIC OF KOREA
ECUADOR
FIJI
FRANCE
GUATEMALA
INDONESIA
JAPAN
MEXICO
NEW ZEALAND
PERU
PHILIPPINES
REPUBLIC OF KOREA
SINGAPORE
THAILAND
UNITED KINGDOM (HONG KONG)
UNITED STATES OF AMERICA
UNION OF SOVIET SOCIALIST REPUBLICS
WESTERN SAMOA
**NEWS EVENTS**

**TSUNAMI - 89**

The International Tsunami Meetings were held during 31 July - 10 August 1989 at Novosibirsk Science Center which is the main center of the Siberian Division of the USSR Academy of Sciences and known all over the world as the Science Town “Akademgorodok.” Novosibirsk is the largest city in the entire eastern part of the Soviet Union between the Urals and the Pacific Ocean. Akademgorodok is a modern and attractive research community of up to 50 thousand population, and is located 20 km south from downtown Novosibirsk in a pine-tree forest growing along the banks of the Ob river.

The Tsunami 89 meetings were arranged by an International Organizing Committee, and a Novosibirsk Local Host Committee, and were sponsored by the following organizations:

- Intergovernmental Oceanographic Commission (IOC)
- International Coordination Group for the Tsunami Warning System in the Pacific (ICG/ITSU)
- Tsunami Commission of the International Union of Geodesy and Geophysics (IUGG)
- International Tsunami Information Center (ITIC)
- USSR State Committee on Hydrometeorology
- Academy of Sciences of the USSR Scientific-Technical Center RITM

Novosibirsk Computing Center
Krasnoyarsk Computing Center

The Program of the Meetings included the International Tsunami Symposium of the IUGG Tsunami Commission, the Workshop on the Technical Aspects of Tsunami Warning Systems, Tsunami Analysis, Preparedness, Observation and Instrumentation, and XII Session of the International Coordination Group for the Tsunami Warning System in the Pacific. The Meetings helped greatly in deepening the understanding of tsunamis by providing a forum for an exchange of views between scientists and specialists from all over the world.

**INTERNATIONAL TSUNAMI SYMPOSIUM, 31 JULY-3 AUG 1989**

The International Tsunami Symposium, organized by the International Union of Geodesy and Geophysics (IUGG) Tsunami Commission was held at Novosibirsk, USSR, from 31 July - 3 August 1989. The Symposium brought together scientists and engineers from all over the world specializing in the field of the tsunami research giving them the opportunity to exchange information and discuss progress.

The Novosibirsk Symposium covered all aspects of tsunami phenomena, whether scientific, technical, social, or historical. Presentations were grouped into the following research themes:

- Tsunami Generation; Tsunami Propagation; Tsunami Coastal Effects; Seismic and Tectonics; Tsunami Observations; Tsunami Hazard Mitigation.
More than 100 participants from 20 countries participated. The IUGG Tsunami Commission will publish the complete proceedings of the Symposium in the near future.

For more information write to:
Dr. Eddie Bernard
Chairman, IUGG Tsunami Commission
PMEL/NOAA
7600 Sand Point Way, N.E.
Seattle, WA 98115 U.S.A.

INTERNATIONAL TSUNAMI WORKSHOP 4-5 AUGUST 1989

The Second International Workshop on the Technical Aspects of Tsunami Warning Systems, Tsunami Analysis, Preparedness, Observation and Instrumentation, was held in Novosibirsk, USSR, on August 4-5, 1989. The main idea of the Workshop was to bring together tsunami specialists from different countries working on improving the understanding of the tsunami phenomena and on the practical solutions for the mitigation of the tsunami hazard.

The program of the Workshop was intensive with morning and afternoon lectures and technical talks and covered the following basic items:

International Cooperation; Existing Tsunami Warning Centers; New Methods of Tsunami Prognosis; Tsunami Data Bases; Instrumentation and Observations; Tsunami Preparedness.

The first International Tsunami Workshop on Technical Aspects of Tsunami Analysis, Prediction, and Communication had been held in 1985 in Sidney, Canada.

Just as the first workshop, this second workshop contributed greatly to the beneficial exchange of views and concepts between participants and facilitated the resolution of a number of problems of operational nature.

A summary report and the Workshop Proceedings will be prepared by the International Tsunami Information Center and will be published and distributed by the Intergovernmental Oceanographic Commission (IOC). For more information write to:
Dr. George Pararas-Carayannis
Workshop Chairman
International Tsunami Information Center
Box 50027
Honolulu HI 96850-4993
USA

XII SESSION OF ITSU GROUP 7-10 AUGUST 1989

The Twelfth Session of the International Coordination Group for the Tsunami Warning System in the Pacific was held in Novosibirsk, USSR during 7-10 August. The Agenda of the Session included national reports for the Member States, the survey of recent improvements of the Tsunami Warning System in the Pacific, consideration of implementation of resolutions and recommendations of the previous Session, and discussions of the current and future activities of the Group. Attendance was open to all the National Representatives of the Member States and to observers. Mr. Richard Hagemeyer was the Chairman of the Twelfth Session, Dr. Al Tolkachev of IOC was the Secretary. IOC will publish a summary report on the meeting. For more
TSUNAMI COMMISSION MEETING

2 AUGUST 1989

The IUGG Tsunami Commission convened its biennial business meeting on 2 August 1989 in Novosibirsk, USSR. The meeting was well attended. Minutes of the meeting and recommendations can be obtained from:

Dr. E. Bernard
Chairman, IUGG Tsunami Commission
PMEL/NOAA
7600 Sand Point Way, N.E.
Seattle, WA 98115 USA

EARTHQUAKE IN HAWAII

JUNE 1989

The largest earthquake in the last six years, with a magnitude of 6.1 shook the Island of Hawaii at 5:26 pm on 25 June 1989. Its epicenter was very close to the 1975 earthquake epicenter, near Kalapana on the southern coast of the island. The quake had a focal depth of only 5.5 miles. It was felt as far away as Maui and Oahu. At least five people reported minor injuries by falling debris in their homes. Only two homes in the Kalapana area were reported as destroyed by the quake. Unconfirmed reports were received that other homes may have been damaged by the quake. Several landslides were reported, the most serious occurring at Honomu, north of Hilo, which closed the one side of the Hawaii Belt Highway. Also, the quake caused sporadic electric power and telephone service interruption for most of the Island of Hawaii. The quake was the strongest to hit Hawaii since 15 November 1983, when a 6.6 quake caused several million dollars damage on the island.

The 25 June quake caused a small tsunami which registered 22.8 inches high at Honuapo, 8.4 inches in Kapoho, and 5.6 at Hilo. The tsunami did not cause any damage and the Hawaii Regional Tsunami Warning System did not issue a tsunami warning.

EARTHQUAKE IN MEXICO

APRIL 1989

On 25 April 1989, an earthquake measuring 6.8 on the Richter Scale struck Mexico City and Acapulco. No buildings collapsed, but one man died as a result of electrocution. No tsunami was reported.

EARTHQUAKE IN MOLUCCAN SEA

FEBRUARY 1989

On 10 February 1989, an earthquake measuring 6.9 on the Richter Scale occurred 870 miles southeast of Manila in the Molucca Sea. No tsunami was reported.

EARTHQUAKE IN PHILIPPINES

NOVEMBER 1988

In November 1988, a medium intensity earthquake rocked the central Philippines toppling two bridges and damaging schoolhouses. The earthquake registered 5.1 on the Richter Scale. Its epicenter was 25 miles off Samar in the sea. No tsunami was reported.
Group picture of the participants of the Tsunami 89 meetings in Novosibirsk, USSR.
Graduation day for visiting scientists Mr. Antonio Sanchez and Mr. Vladimir Berdin. With them is Mr. Richard Hagemeyer, Chairman ITSU, and Dr. George Pararas-Carayannis, ITIC Director.
INTERNATIONAL TSUNAMI INFORMATION CENTER

UNDP/UNESCO(IOC) MISSION SUB-REGIONAL TSUNAMI WARNING SYSTEM IN THE SOUTHWEST PACIFIC

In May/June 1989, Dr. George Pararas-Carayannis, Director of ITIC, Dr. Kazuhizo Kitazawa of IOC, and Mr. Ronald Richmond (Australia) were the members of a joint UNDP/UNESCO(IOC) Mission that visited the Southwest Pacific for Project Formulation of a Sub-Regional Tsunami Warning System. The itinerary was as follows: Philippines (15-20 May); Indonesia (20-26 May); Papua New Guinea (28-31 May); Solomon Islands (31 May-1 June); and Fiji (1-3 June).

At least six hazardous tsunamis have occurred in the region since 1976, resulting in great loss of life and property. The worst of these occurred in the Philippines in 1976 when 8,000 people died. The need to establish a regional warning system has been recommended by ICG/ITSU in the past, and proposals for support were submitted to UNDP. Dr. Kitazawa recently revived interest in this project. Once funded, the goal of the Project will be to develop a regional tsunami warning system with an adequate array of tidal and seismological stations and a rapid communication network for both observed data and tsunami information (warning). Sub-regional systems, as components of the Pacific-wide tsunami observatory network, can monitor effectively the tsunami phenomenon. The Southwest Pacific is considered one of the sub-regions that needs to be strengthened.

The Mission reviewed the present situation of national networks of tide stations and seismic observatories, collected information, and met with scientists, administrators, and representatives of organizations involved in relevant activities in the mitigation of the tsunami hazard. As a result of this mission a five-year plan for the region has been drafted and a new project proposal will be submitted to UNDP.

VISITORS TO ITIC

Recent visitors to ITIC include S. Joy Svhra, Librarian, Earthquake Engineering Research Center, University of California, Richmond; Dr. Frantisek Wald, Department of Steel Structures, Czech Technical University, Prague, Czechoslovakia; CSIRO; Professor Geoff Lennon, Institute of Atmospheric and Marine Sciences, Flinders University, South Australia; Mr. Peter Shaw, Australian Bureau of Meteorology; Mr. Ken Ridgeway, CSIRO’s Division of Oceanography, Australia; Mr. A.D. O’Connor, Director, Hydrography, Canadian Hydrographic Service, Pacific Region.

DIRECTOR, ITIC, ADDRESSES U.S. COAST GUARD OFFICERS ASSOCIATION, HONOLULU, HAWAII

Dr. George Pararas-Carayannis, Director, ITIC, recently gave a Tsunami Preparedness presentation to the U.S. Coast Guard Officers Association in Honolulu, Hawaii.
top left- Mr. Gordon Burton, Geophysicist-in-Charge PTWC, and wife Mary, with LCDR Sigrist (USA), and with Mr. Vladimir Berdin (USSR). top right- Dr. Huating Yang (People’s Republic of China) poses for a photo during a social event. above left- Dr. Mohammed El Sabh (Canada), poses for a candid photo following a small accident on the dancing floor. above- ITSU Chairman Mr. Richard Hagemeyer and wife Helen, with George Pararas-Carayannis during a coffee break at the Tsunami 89 meetings. bottom- Emilio Lorca and Cdr. A.H. Gorriglia (Chile) with Dr. & Mrs. Gusiakov.
the new national contact for ITSU in New Zealand, in May 1989.

UNESCO WORKSHOP’S MARINE SCIENCE EDUCATION GUIDELINES FOR THE YEAR 2000

A UNESCO workshop in Paris on 6-10 June 1989 recommended guidelines for marine science education for institutional and international education and training programmes. Twenty-five participants from three countries and seventeen organizations reviewed the results of a recent UNESCO survey on the subject. The workshop covered six areas: research; problems of developing coastal states with special reference to small islands; economic and social potentials of marine science; sustainable development and management; data management and information acquisition; and continuing education and retraining.

POST-IDOE STUDIES OF EAST ASIAN TECTONICS AND RESOURCES (SEATAR)

A meeting is proposed for November/December to discuss Post-IDOE Studies of East Asian Tectonics and Resources (SEATAR). It will be a joint CCOP-IOC Working Group. IOC is the responsible organization.

IOC TECHNICAL COMMITTEE FOR TRAINING, EDUCATION AND MUTUAL ASSISTANCE (TEMA)

The IOC Technical Committee for Training, Education, and Mutual Assistance (TEMA) will hold its 5th session in Paris
Tsunami Newsletter
from 27 February - 3 March 1990.

IOC REGIONAL COMMITTEE FOR THE
WESTERN PACIFIC (WESTPAC)

It is planned to hold the 5th session of
the IOC Regional Committee for the West-
ern Pacific (WESTPAC) in China Febru-
ary/March 1990.

THIRTEENTH SESSION OF THE
IOC TECHNICAL COMMITTEE ON
INTERNATIONAL OCEANOGRAPHIC
DATA AND INFORMATION
EXCHANGE (IODE)
NEW YORK, USA, 17-24 JANUARY 1990

The Thirteenth Session of the IOC
Technical Committee on International
Oceanographic Data and Information
Exchange (IODE) will be held in New York
on 17-24 January 1990. Included among the
items on the agenda were the Status of
Global Oceanographic Data Exchange;
Participation in Global Ocean Science
Programmes; New Data Types and Pro-
cessing; Data Products and Services; IODE
Development of Technology and System;
Marine Information Management; and
Regional Programmes and Training and
Mutual Assistance Activities in Marine
Information and Data Management.

LIST OF NATIONAL CONTACTS
OF ICG/ITSU

The following is a list of National Con-
tacts of ITSU members on file at the ITIC
office. Please inform ITIC if there are any
changes.

AUSTRALIA
Mr. P. F. Noar
Assistant Director (Services)
Bureau of Meteorology
GPO Box 1289 K
Melbourne, Victoria 3001
Australia

CANADA
Mr. W. J. Rapatz
Regional Tidal Superintendent
Institute of Ocean Sciences
Dept. of Fisheries and Oceans
P.O. Box 6000
Sidney, B. C. V8L 4B2, Canada

CHILE
Captain Carlos Bari White
Director
Instituto Hidrografico de la Armada
Casilla 324
Valparaiso, Chile

CHINA
Mr. Luo Yuru
Director
National Bureau of Oceanography of the
People's Republic of China
Beijing, China

COLOMBIA
Commander Ricardo Alvarado
Secretario General
Comision Colombiana de Oceanografia
Apartado Aereo No. 28466
Bogota, D.E., Colombia

COOK ISLANDS
Commissioner H. R. Melrose
Police National Headquarters
P.O. Box 101
Rarotonga, Cook Islands
ECUADOR
Calm. Fernando Alfaro Echeverria
Director
Instituto Oceanografico de la Armada
Casilla 5940
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FIJI
Mr. A. Rahiman
Director, Mineral Development
Mineral Resources Department
Private Mail Bag
Suva, Fiji

FRANCE
Dr. M. Jacques Recy
Directeur de la Recherche
Office de la Recherche Scientifique et
Technique Outre-Mer
B.P. A5
Noumea Cedex (Nouvelle Caledonie) France

GUATEMALA
Ing. Eddy Hardie Sanchez Benett
Instituto Nacional de Sismologia
Vulcanologia,
Meteorologia e Hidrologia,
Ministerio de Comunicaciones
Transporte y Obras Publicas
7a Avenida 14-57 Zona 13
Guatemala, C.A.

INDONESIA
Head
Meteorology & Geophysical Agency
Dept. of Communication
Jl. Arief Rachman Hakim No. 3
P.O. Box 3540 jkt
Jakarta 10340, Indonesia

JAPAN
Dr. Toshio Akiyama
Head, Earthquake and Tsunami Observation
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Japan Meteorological Agency
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Chiyoda-ku
Tokyo, Japan 100

KOREA (DPR OF KOREA)
Mr. Jong Young Gu
National Oceanographic Commission
Hydrometeorological Service
P.O. Box 100
Pyongyang
Democratic People's Republic of Korea

KOREA (REPUBLIC OF)
Mr. Sang-jo Kim
Korea Meteorological Service
1 Songwol-dong, Chongno-gu
Seoul 110-101, Korea

MEXICO
Lic. Ma de los Angeles Lopez-Ortega
Ministro Consejero
Encargada de Negocios a.i.
UNESCO
Delegacion Permanente de Mexico
1, Rue Miollis
75732 Paris, France

NEW ZEALAND
Mr. Edward Latter
Director of Civil Defence
Ministry of Civil Defence
P.O. Box 5010
Wellington, New Zealand
Tsunami Newsletter

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Gamarra No. 500
Chucuito, Callao, Peru

PHILIPPINES
Mr. Conrado M. Santos
OIC, Oceanographic Surveys Div.
National Mapping Resource
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421 Barraca St., San Nicolas
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SINGAPORE
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Singapore 9181, Republic of Singapore

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Bangkok 10110, Thailand

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Apia, Western Samoa

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CHAIRMAN, ICG/ITSU
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Box 50027
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NATIONAL AND AREA REPORTS

CICESE REPORTS ON
CABO SAN LUCAS TIDAL STATION
AND ISLA GUADELOUPE

Dr. Salvador F. Farrerias, Research Oceanographer at CICESE, Ensenada, reported in May 1989 that the Cabo San Lucas tidal station is now in full operation equipped with two recording gauges: one digital and one analog. The Isla Guadalupe
is being considered again as a possible tidal station for the Regional and Pacific Tsunami Warning System. The Department of Hydrography of the Mexican Navy has agreed to install an analog tidal recorder and provide maintenance and personnel.

**ANNOUNCEMENTS**

**THIRD INTERNATIONAL COURSE ON DISASTER MEDICINE**
**30 OCTOBER - 18 NOVEMBER 1989**

The European Center for Disaster Medicine will hold its Third International Course on Disaster Medicine on 30 October to 18 November 1989 in the Republic of San Marino. For further information, contact:
The Secretariat General
Ospedale di Stato
Republica di San Marino
Telephone: 39 (0) 549 994535/906244,
Telefax: 903706.

The meeting will be held under the auspices of the Council of Europe.

**PACIFIC TELECOMMUNICATIONS:**
**TWELFTH ANNUAL CONFERENCE**
**4-17 JANUARY 1990, HAWAII, USA**

PTC will be holding its Twelfth Annual Conference on 14-17 January 1990 at the Hilton Hawaiian Village, Honolulu, Hawaii. The theme is “Pacific Telecommunications: Weaving the Technological and Social Fabric.” For further information, contact: PTC'90, 1110 University Avenue, Suite 308, Honolulu, HI 96826, U.S.A.

**ALASKA TSUNAMI WARNING CENTER (ATWC) REPORTS ON TSUNAMI MODELING AND OTHER MATTERS**

The ATWC has expanded its development efforts into tsunami modeling in cooperation with Dr. Zygmundt Kowalik, University of Alaska, Fairbanks. The research should lead towards predicting reasonable wave heights at various coastal communities. Also the ATWC successfully tested a new concept to alert standby personnel of the occurrence of local, regional, or worldwide events. The new equipment, which consists of a radio-alarm receiver unit (RU) and interfacing, was loaned to the ATWC by Mr. M. Searcy of Motorola. Small enough to fit into the palm of a hand, the equipment permits immediate earthquake information to be transmitted and received by the standby duty personnel informing them of the urgency of the situation.

**NEW COLLECTED PAPERS ON TSUNAMI PUBLISHED IN USSR**

A new collection of papers has been recently published in Russian. Entitled Tsunami Researches No. 3, it is edited by Professor S.L. Soloviev and Dr. E.A. Kulikov and published by the Soviet Geophysical Committee, Moscow 1988. The collection comprises of 16 papers.
INSTITUTO TECNOLOGICO DE SEGURIDAD MAPFRE (ITSEMAP)
ORGANIZING MEETING
"CATASTROPHES AND SOCIETY,"
24-26 OCTOBER 1989, MADRID, SPAIN

ITSEMAP is organizing an international meeting on the subject of “Catastrophes and Society” on 24-26 October 1989 in Madrid.

For further information, contact:
ITSEMAP, Secretaria
“Encuentro Catastrofes y Sociedad”
Paseo de Recoletos, 25
28004 Madrid, Spain
Telephone: 34-1/5811110
Telex: 42544 MAPFRE
Telefax: 34-1/4199195.

SYMPOSIUM ON PREPAREDNESS,
MITIGATION AND MANAGEMENT OF
NATURAL DISASTER
2-4 AUGUST 1989, NEW DELHI, INDIA

A symposium on Preparedness, Mitigation and Management of Natural Disaster was held on 2-4 August 1989 at New Delhi, India. For further information, contact:
Mr. O.D. Mande
Convenor, Organising Committee,
Symposium PMMND & Director
(EmbK-NW & S)
Central Water Commission
West Block-II, Second Floor
R.K. Puram, New Delhi-110066, India.
Telephone: 601198, Telex: 031 66323
Telegram: “CWC” New Delhi.

IGCP FOURTH FIELD MEETING
AND WORKSHOP
30 SEPTEMBER - 8 OCTOBER 1989
ATHENS AND KALAMATA, GREECE

The IGCP's Fourth Field Meeting and Workshop will take place on 30 September - 8 October 1989 at Athens and Kalamata, Greece. For further information about the field meeting, contact:
Professor Ilias Mariolakos
University of Athens
Department of Geology
157 71 Athens, Greece
Telephone: (01) 72 42 743

OCEANS’89
8-21 SEPTEMBER 1989
SEATTLE, WASHINGTON

OCEANS’89 was held on 18-21 September 1989 in Seattle. For further information, contact:
OCEANS’89
Exhibits Committee
Applied Physics Laboratory,
University of Washington GN-10
1013 NE 40th St.
Seattle, WA 98105, U.S.A.

INTERNATIONAL TROPICAL OCEAN
GLOBAL ATMOSPHERE (TOGA)
SCIENTIFIC CONFERENCE
16-20 JULY 1990, HONOLULU, HAWAII

An International TOGA Scientific Conference will be held on 16-20 July 1990 in
Honolulu, Hawaii, to review the TOGA programme after its first five years. For further information, contact:
Director, International TOGA Project Office
World Meteorological Organization
Case Postale No. 5
CH-1211 Geneva 20, Switzerland.

Mr. Willie Rapatz
Institute of Ocean Sciences
P.O. Box 6000
Sydney, B.C. V8L 4B2, Canada

TSUNAMI! PUBLISHED BY UNIVERSITY OF HAWAII PRESS 1988


HISTORIC TSUNAMI DATA COMPILED BY THE NATIONAL GEOPHYSICAL DATA CENTER (NGDC) AND THE WORLD DATA CENTER-A FOR SOLID-EARTH GEOPHYSICS

The National Geophysical Data Center (NGDC) and the collocated World Data Center A for Solid-Earth Geophysics have compiled a unique set of data bases. They include digital historic tsunami data, tide gauge records, photographs, bathymetric data, and technical publications. Currently the data base consists of about 6,600 records and represents events from 49 B.C. to the present. Also available is a set of twenty 35-mm slides of tsunami, tide gauge records, and bathymetric data. For further information, contact: National Geophysical Data Center, NOAA, Code E/GC4, 325 Broadway, Boulder, CO 80303, U.S.A. Telephone: (303) 497-6337

AWARD PRESENTATIONS BY THE TSUNAMI SOCIETY

Three awards were presented by the Tsunami Society at the Ensenada meeting of the Hazards 88 Conference, but which were not announced in previous newsletters. The George Mansfield Goding Award was presented to Dr. Cinna Lomnitz; the Tadashi Nakashizuka Award was presented to Mr. James Lander; and the William Mansfield Adams Award was presented to Professor Sergei L. Soloviev. Organizations or individuals wishing to sponsor future awards should contact the President of the Tsunami Society.
“LIVING WITH DISASTER” SHOWN ON PUBLIC TELEVISION, 7 JUNE 1989

The concluding episode in “The Infinite Voyage,” “Living with Disaster” was aired on PBS on 7 June 1989. The episode divided into three varieties of Earth-born forces – atmospheric, earthquake, and volcanic.

JOINT INSTITUTE FOR MARINE AND ATMOSPHERIC RESEARCH’S (JIMAR) ANNUAL SCIENTIFIC REVIEW, 5 APRIL 1989, HONOLULU, HAWAII

JIMAR held its Annual Scientific Review on 5 April 1989 at Honolulu, Hawaii. Topics included Tsunami Research, Fisheries Oceanography, and Climate Research.

CONFERENCE ON GEOMORPHOLOGY, MAN AND NATURAL RESOURCES AND INTERNATIONAL SYMPOSIUM ON NATURAL CATASTROPHES AND THEIR IMPACT 27-31 MARCH 1989, ANKARA, TURKEY

As part of the 25th Anniversary of the Association of Geomorphologists of Turkey, a Conference on Geomorphology, “Man and Natural Resources” and an international symposium on “Natural Catastrophes and Their Impact” were held in Ankara, Turkey on 27-31 March 1989.

SIXTH SYMPOSIUM ON COASTAL AND OCEAN MANAGEMENT 11-14 JULY 1989 CHARLESTON, SOUTH CAROLINA

The Sixth Symposium on Coastal and Ocean Management was held in Charleston, South Carolina, on 11-14 July 1989.

EUROPEAN GEOPHYSICAL SOCIETY XIV GENERAL ASSEMBLY 13-17 MARCH 1989 BARCELONA, SPAIN

The European Geophysical Society held its Fourteenth General Assembly at Barcelona on 13-17 March 1989. Among the topics discussed was Calderas and Volcanoes: Genesis, Structures, and Unrest.

VIDEOS AND SLIDES AVAILABLE TO HAZARDS EDUCATORS

Several videos and a slide set are available to hazards educators. Thunderstorms is a 24-minute video produced by Everyday Weather Project, SUNY College at Brockport, Brockport, NY 14420, at $79.95 plus $5.00 for postage. Shake, Rattle and Roll is a 25-minute video about earthquakes, and is available from Lafferty and Associates, Inc., P.O. Box 1026, La Canada, CA 91011, at $175. It is also available with slides and an audio cassette at $150. The handbook Earthquake Preparedness costs $5.00 for individual copies. Be Ready, dealing also with earthquakes, costs $100, for video or slides and cassette, and can be ordered from Lafferty and Associates, Inc. The Earthquake Engineering Research Institute (EERI) has produced a set of 40 annotated slides illustrating the effects of seven hazards: earthquakes, volcanic eruptions, windstorms, floods, landslides, tsunamis, and wildfires. The slides are available from EERI, 6431 Fairmount Avenue, Suite 7, El Cerrito, CA 94530-3624 at $50 for
members and $60 for nonmembers. Earthquake Hazards is also an EERI product consisting of 40 slides dealing with earthquake resistant design. The set costs $50 for EERI members and $60 for nonmembers.

EARTHQUAKE PREPAREDNESS CONFERENCE
A CALL TO COMMITMENT
29-30 MARCH 1989
SAN DIEGO, CALIFORNIA

An earthquake preparedness conference “A Call to Commitment” took place in San Diego, California on 29-30 March 1989. Dr. George Pararas-Carayannis, Director, ITIC, attended and participated in several of the workshops.

“BEAT THE QUAKE”
CALIFORNIA, APRIL 1989

April of this year was the designated California Earthquake Preparedness Month by Governor George Deukmejian. The campaign aimed at taking earthquake preparedness into the community to businesses, homes, schools, local governments, and state agencies.

BIG BIRD GET READY™ EARTHQUAKE KIT

FEMA released in May CTW’s Big Bird GET READY™ Earthquake Kit for children. It contains a brochure on safety, a game board, and a cassette with stories. For a free copy, contact:
FEMA
P.O. Box 70274
Washington, DC 20024.

PACIFIC TSUNAMI WARNING CENTER

REPORT OF VISIT OF
MR. GORDON BURTON,
GEOPHYSICIST-IN-CHARGE, PTWC,
TO NEW ZEALAND CIVIL DEFENCE
26 JUNE - 4 JULY 1988

Mr. Gordon Burton, Geophysicist-in-Charge, PTWC, was invited by the Ministry of Civil Defence to visit New Zealand from 26 June to 4 July 1988. His schedule included meetings with Civil Defence officers and site visits. Discussion centered on the various aspects of the tsunami hazard to New Zealand. Following the visit, a national tsunami exercise was conducted based on a simulated tsunami being generated off the coast of Peru. PTWC took part in “Exercise Breaker,” the first time in which PTWC has assisted in a national exercise with an ICG/ITSU member nation.

PTWC JOINS IN A COOPERATIVE MEMORANDUM OF AGREEMENT WITH THE NATIONAL EARTHQUAKE INFORMATION CENTER OF THE U.S. GEOLOGICAL SURVEY FOR GOES ACQUISITION OF SEISMIC DATA

In January 1989, PTWC joined in a cooperative Memorandum of Agreement in the National Earthquake Information Center of the U.S. Geological Survey for GOES acquisition of seismic data. The basic objective is to obtain P-data quickly for an early detection and location of any major earthquake in the Pacific Basin. The
Tsunami Newsletter

coordinated efforts of both Centers, using applicable resources, can result in a near real-time availability of seismic data from a network of GOES Data Collection Platforms spanning the Pacific. The operational goal is to detect significant earthquakes in the Pacific within five minutes of origin and to provide sufficient data for epicenter determination and preliminary evaluation within ten minutes of origin.
### SEISMIC SUMMARY
(AUGUST 1988 TO PRESS TIME)

<table>
<thead>
<tr>
<th>EVENT NO.</th>
<th>EVENT</th>
<th>LOCATION</th>
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<td>1988-18</td>
<td>Aug 14</td>
<td>Chile</td>
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<tr>
<td>1753Z</td>
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