

TSUNAMI COMMISSION REPORT 1997

Report of the IUGG Tsunami Commission Business Meeting and Symposium Melbourne, Australia July 2-4, 1997

The 17th International Tsunami Symposium was held in Melbourne, Australia, on July 2-4, in conjunction with the Joint Assemblies of IAMAS and IAPSO. This was the first time that the ITC held its symposium with one of its sponsoring associations except during IUGG General Assemblies and the first symposium held in the Southern Hemisphere since the 1974 Symposium in Wellington, New Zealand. Dr. Roger Braddock served as the local convener and will serve as the editor of the papers selected for publication through Kluwer Academic Publishers. A total of 40 papers were presented in 10 sessions chaired by Dr.V.Gusiakov, Dr.K.Satake, Dr. E.Pelinovsky, Dr.N.Shuto, Dr.F.Gonzalez, Dr.W.DeLange and Dr.E.Bryant. Authors were present from Australia (6), Indonesia (2), New Zealand (2), Japan (18), Russia (4), Greece (2), Turkey (1), and the United States (5). On average, there were about 30 attendees in each session. Whenever it was possible, the presentations were followed with a lively question and answer period.

Papers selected for publication will be chosen from those which dealt with tsunami topics from the South Pacific as the publisher required a theme for the publication rather than to publish a proceedings volume.

BUSINESS MEETING

The business meeting of the Commission was held on Wednesday evening, July 2 at the Melbourne Congress Center. Members present were: Dr. K.Abe, Dr.R.Braddock, Dr.F.Camfield, Dr.F.Gonzalez, Dr.V.Gusiakov, Mr.S.-I. Iwasaki, Mr.J.Lander, Dr.H.Matsutomi, Dr.G.Papadopoulos, Prof.E.Pelinovsky, Dr.K.Satake, Prof.N.Shuto, Dr.A.Yalciner, and Dr.H.Yeh. The meeting was open also for other participants of the tsunami symposium who were not members of the commission.

1. Activities of the Commission in 1995-1997

1.1. Until 1995, the International Tsunami Commission had been jointly sponsored by the IASPEI and IAPSO, but this was expanded to include the IAVCEI which we felt important due to volcanic tsunamis. This required the agreement of the three associations and the IUGG Executive Council. This was accomplished in the fall of 1996.

The IAVCEI chose to name representatives to the Commission and IAPSO and IASPEI also named official representatives for the first time. The current official Association representatives within the Tsunami Commission are:

IASPEI

Dr. Hiroo Kanamori

IAPSO

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1.2. Important Tsunami Workshops

Members and officers of the ITC participated in a number of significant workshops in this period including:

1. Two Great Tsunamis: U.S. - Japan Anniversary Symposium, April 1-3, 1996 A symposium and joint UJNR Workshop was held in Hilo, Hawaii, with George Curtis and James Lander as Conveners. It commemorated the 50th anniversary of the disastrous April 1, 1946 tsunami which resulted in the establishment of the Pacific Tsunami Warning System and the restoring of the international cooperation in tsunami research and the 100th anniversary of the great Sanriku, Japan tsunami of June 15, 1896. Commission members participating included Dr.K.Abe, Dr. S.-I.Iwasaki, Mr.J.Lander, Dr.H.Matsutomi, and Dr.K.Sataki and with a message from Dr. Nobuo Shuto being read. Selected papers were published in the Science of Tsunami Hazards, Vol. 14, no. 2, 1996
2. International Workshop "Tsunami Mitigation and Risk Assessment" August 21-24, 1996, Petropavlovsk-Kamchatkiy, Russia. Conveners: V.K.Gusiakov and B.W.Lewin The purpose of the workshop was to consider the state-of-the art of the problem of the long-term estimation of tsunami risk (tsunami-zoning) and to establish a consensus in the tsunami research community on the needs for the development of new-generation methodology for tsunami hazard assessment based on seismo-tectonic probability and to create the framework for such kind of project.

Main topics of the workshop agenda were:

1. Paleotsunami Research

2. Historical Catalogs and Databases
3. Seismo-tectonics of Tsunami
4. Numerical Models of Tsunami Behavior
5. Methods of Calculation of Tsunami Risk
6. Combination of Tsunamis with other Dangerous Oceanic Phenomena
7. Mitigation and Counter-measures
8. Tsunami Data Centers

40-min introductory presentations on each topic prepared by session co-conveners were followed by round-table discussions and short (up to 10- min) presentations by other participants. Altogether nearly 55 participants from Russia, USA, Japan and South Korea attended the workshop. Commission members present include Prof.B.H.Choi, Dr.V.Gusiakov, Mr.J.Lander, Prof.B.Levin, Dr. E.Okal, Prof.E.Pelinovsky, Dr.J.Preuss, Dr. K.Satake, Prof.C.Synolakis, Dr.Y.Tsuji and Prof.H.Yeh. The contributions from the section conveners were collected by V.Gusiakov during the winter of 1996/97 and will be published in the volume of proceedings of the workshop by the Novosibirsk Computing Center later this summer. Currently, all contributions and the workshop recommendations can be found on the [NCC Tsunami Laboratory web site](#).

3. GITEC Project working meeting in Reykjavik, Iceland, September 5-9, 1996. The brief information about activity under the GITEC (Genesis and Impact Tsunami on European Coast) Project was given by Dr.G.Papadopoulos. In the framework of the XXV General Assembly of the European Seismological Commission (ESC) there was a one-day tsunami symposium with about 20 participants and 17 papers presented. The symposium was followed by the GITEC working group meeting, where representatives of each participating research group of eight European countries reported about results obtained on the final stage of GITEC Project and plans for the first year (1996-97) of GITEC-TWO.

Dr.V.Gusiakov was invited by the Prof.S.Tinti, the GITEC Project Coordinator, to participate at this meeting along with 2 other foreign experts (Prof.N.Shuto and Dr.E.Okal). Other ITC members present were Dr.G. Papadopoulos, Prof.S.Tinti, Dr.L.Mendez-Victor, Prof.A.Dawson. In his presentation at the GITEC meeting, Dr.V.Gusiakov outlined the structure, current activity, and future plans of the Tsunami Commission and stressed the increased activity of European countries in the tsunami research and implementation of the results obtained into the warning and mitigation strategy. Dr.P.Heinrich, a representative of the Laboratory of Detection and Geophysics, France, announced their intention to organized an international tsunami workshop somewhere in France (probably, in Paris) in the spring of 1998.

4. Caribbean Tsunami Workshop, Mayaguez, Puerto Rico, Prof. Aurelio Mercado, Convener, June 11-13, 1997. This workshop brought together about 130 participants, mostly from the Civil Defense Agencies from around the Caribbean to explore the tsunami risk and mitigation options for the region. It produced recommendations for a report to be sent to the Heads of State of the countries in the Caribbean to support the development of a regional warning system and mitigation planning, tsunami research,

and education of the population about the hazard. The Caribbean has had 57 tsunamis historically and 427 fatalities in the last 150 years, more than Hawaii, Alaska, and the U.S. West Coast combined. It has a unique opportunity to develop a mitigation plan before it has another and probably greater disaster. Members participating were Dr.V.Gusiakov, Mr.J.Lander and Dr.J.Preuss.

1.3. Status of the Publication of the Proceedings of the 1995 ITC Symposium, Boulder, CO, USA.

According to the information obtained by email from Dr.J.Hebenstreit, the Editor of the Proceedings, the volume of the Proceedings has been transferred to the publisher (Kluwer Academic Publ.) and it is expected to be available later this summer.

2. Research Projects Coordinated by the Commission

2.1. Status of the TIME Project

Prof.N.Shuto reported on the TIME Project. It was launched in 1991, and since then it is progressing with great success. The Disaster Control Research Center at Tohoku University has transferred its tsunami numerical simulation program to 12 institutes in 10 countries. Since the Boulder meeting they have trained two Indonesian scientist in the use of the programs, Dr. Gegar Sapta Prasetya and Mr. Nur Adi Kristanto. Copies of the codes were sent to Mr. Aldo Drago of the Malta Council for Science and Technology, and Dr. Modesto Ortiz of Mexico, an earlier recipient, had shared a copy with Prof. Aurelio Mercado, University of Puerto Rico, Mayaguez, who used it to model the 1918 Puerto Rico tsunami.

In his comments, Dr.V.Gusiakov stressed the TIME Project gives an example of truly international and mutually beneficial project initiated by Shuto's group and strongly supported by Dr.E.Bernard, Past-Chair of the ITC. Besides the enthusiasm and great efforts of the host organization (DCRC of Tohoku University), its success was due to possibility to obtain a special budget for the project (IOC contribution of about US\$50,000).

2.2. New Projects.

2.2.1. CD-ROM "Tsunamis in the Pacific, 684-2000."

Dr.V.Gusiakov briefly described the current situation with converting existing historical tsunami catalogs for the Pacific into digital databases. This work was started long ago but is still far from completion. However, a lot a data already exist in digital form and several GIS-types of software are available for their interactive processing and handling. To improve the situation with catalogozation of historical tsunamis in the Pacific, he expressed an idea to develop the CD-ROM "Tsunamis in the Pacific, 684-2000", which could summarized the long-term efforts of several research groups and individuals in developing digital tsunami catalogs and databases.

Possible content of the CD-ROM can be seen as follows:

1. Catalog of historical tsunamis in the Pacific (source data, textual descriptions)
2. Catalog of the observed tsunami run-up heights (with geographical coordinates of sites)
3. Digitized and/or scanned mariograph records of historical tsunamis
4. Digitized tsunami photos
5. Pacific-wide and regional seismic catalogs
6. Gridded topography/bathymetry data on Pacific-wide (5-min) and regional (up to 3-sec) levels
7. Vectorized shoreline data (geographical contours)
8. Some seismo-tectonic data (plate boundaries, main tectonic faults, axes of deep water trenches, data on sediments, etc.)
9. Gazetteer of geographical names mentioned in tsunami literature
10. Tsunami bibliography
11. Glossary of tsunami related terms

CD-ROM will be accompanied by a diskette with the GIS-type visualization software which will provide a possibility of manipulating tsunami-related and geographical data in the convenient and efficient manner. The ETDB graphic shell, developed at the NCC Tsunami Laboratory, could be used as a prototype for this kind of software.

In following discussion, the idea of having the comprehensive tsunami database on a CD-ROM was favoured by the commission members. However, it was pointed out that the biggest problem foreseen will be to find the potential source of funding for this sort of project (the estimated amount of funds for its full scale implementation is about US\$50,000). Also, the local project coordinators should be designated for the major tsunamigenic regions (Japan, Kuril-Kamchatka, US and Canada Pacific coast, Central and South America, Australia, Indonesia, and Philippines). As the first practical step, it was recommended that the Chair of the Commission would bring the project proposal to the attention of the next ITSU Session to be held on September 23-26, 1997 in Lima, Peru, with a request for some limited support (within US\$10,000) to initiate the work on the beta-version of the CD-ROM that could be developed by the ITSU-XVII in 1999.

2.2.2. Improve the gridded bathymetry on a regional and global basis.

Brief introductory talk on this subject was made by Dr.V.Gusiakov. He described several existing gridded and contoured bathymetry datasets (global and regional) and pointed out the needs of compilation of numerous gridded bathymetry arrays that have been developed at different institutions and research centers by tsunami modelers. As the first step in this direction, the inventory of existing digital bathymetric arrays should be developed. The list of available DBMs with their basic parameters and indication of ownership will be made available to everybody through the Tsunami BB and some dedicated web site.

In the following discussion, some general problems of bathymetry data availability and quality were discussed. Harry Yeh expressed the idea that an ad hoc working group on digital bathymetry should be established. This group would take an initiative in the formulating the policy and standards in further developing the DBM and in representing our interest in other international bodies dealing with bathymetry data (IOC, IHO, BODC, NGDC, GEBCO Guiding Committee, etc.). Initially, the following people agreed to be members of the group: V.Gusiakov, H.Yeh, F.Imamura, F.Gonzalez, K.Satake. Other voluntary members are most welcome. Please, indicate your interest in participation by sending email to V.Gusiakov and/or H.Yeh.

3. Commission Membership.

No new members were proposed at this meeting. New members must be proposed by current Commission Members from the same country if any exists or by any member for proposed members from countries not represented on the Commission. This should be in a written form giving in a short paragraph the qualifications of the nominee.

Membership is voted upon at a business meeting of the Commission. Members are dropped if they miss three consecutive Commission meetings (in 4 years interval).

4. Future ITC Meetings

IASPEI meeting, Thessaloniki, Greece, August 18-28, 1997. There will be a Tsunami Source Workshop, W22, on Thur. 28th, organized by Prof. C.Koutitas. Commission members Prof. S.Tinti, Dr.G.Papadopoulos, and Dr. V. K. Gusiakov are conveners of sessions. On Thursday evening we will hold a second ITC Business Meeting with a similar agenda so that those who could not attend the Melbourne meeting can keep their record of attendance.

XXII IUGG General Assembly, Birmingham, England, July 10-30, 1999. The ITC will sponsor a symposium titled "Tsunami Observation, Modeling and Hazard Reduction," probably on July 21-23 or July 26-28, with a business meeting in the evening after the second day. In Birmingham, we will need to decide whether we want to have in 2001 a separate meeting or to stay with one of co-sponsoring associations (IAPSO, IASPEI, IAVSEI). In case of the separate meeting we need to select a site and to find somebody who would be willing to serve as a local organizer. Alternative possibility is to joint ITSU-XVIII Session (a country is not determined yet). The IOC is usually very favorable for joint meetings of operational and research tsunami communities. In 1999, we will again be open for nominations for new members.

5. Other Tsunami Related Meetings (in the order of dates):

International Conference on "Modern Preparation and Response Systems for Earthquakes, Tsunami and Volcanic Hazards"
April 27-30, 1998
Santiago, Chile

Chile National Committee can be reached through

Phone: 56-2-698-8278

Fax: 56-2-698-8221

Email: seisvolc@conf.dgf.uchile.cl

C.N. Hugo Gorziglia, Chairman of the ITSU is a member of Local Organizing Committee.

HAZARDS '98, 7th International Conference on Natural and Man-Made Hazards
May 17-22, 1998

Chania, Crete, Greece

Dr. G. A. Papadopoulos is the local Chairman and may be contacted at:

Phone: 301 3462 664

Fax: 301 3426 005

E-mail: m.sachp@egelados.gein.nad.gr

The meeting will have sessions on tsunamis.

Tsunami Workshop sponsored by the European Union, UNESCO, and the Laboratory of
Detection and Geophysics, France

25-27 May, 1998

Paris, France

It will be organized around themes including Observations, Instrumentation, Prediction,
and Simulation, Warning Systems, and Mitigation. For further information contact Dr. B.
Massinon massinon@ldg.bruyeres.cea.fr or Dr. Fr. Schindele
schindele@ldg.bruyeres.cea.fr or Fax 33 1 69 26 70 23.

Okushiri Tsunami Workshop

July 9-10, 1998

Sapporo, Japan with a field trip to Okushiri on July 11-14.

Major topics include: Tsunami Around Island, Tsunami Generated by Landslide and
Tectonic Movement, Local Tsunami Runup, Disaster and Reconstruction.

Contact Dr. Fumihiko Imamura:

Fax: 81 22-217-7514

E-mail: imamura@tsunami2.civil.tohoku.ac.jp

6. Other Items

6.1. An email message of Dr.E.Bernard was announced where he tells that the U.S.
Tsunami Hazard Reduction Program can be monitored at web site [http://
www.pmel.noaa.gov/tsunami-hazard](http://www.pmel.noaa.gov/tsunami-hazard) and suggests that the Commission develop a web
page to serve as a point of contact. Dr.V.Gusiakov reported that preliminary steps for
establishing such a site have already been made (for instance, the history of Tsunami
Commission Symposia and a list of the proceedings have been compiled). What is not
decided yet, is a web site where the ITC Homepage should be established. Some
possibilities are the IUGG Homepage, one of co-sponsoring Associations homepages, the
planned ITIC web site, NCC Tsunami Lab Homepage.

6.2. Thanks were expressed to Dr. Roger Braddock for his efforts in organizing this symposium.

V.Gusiakov, ITC Chair and J.Lander, ITC Secretary

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