



# INTERNATIONAL TSUNAMI INFORMATION CENTER **NEWSLETTER**

ITIC • P.O. BOX 3887 • HONOLULU, HAWAII 96812 • USA

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FIRST MEETING OF THE INTERNATIONAL COORDINATING GROUP ON THE  
TSUNAMI WARNING SYSTEM IN THE PACIFIC - Honolulu, Hawaii, USA,  
March 25 - 28, 1968

**BACKGROUND:** In April 1965 the United States hosted an Intergovernmental Oceanographic Commission (UNESCO) Working Group Meeting on the International Aspects of the Tsunami Warning System in the Pacific. This special meeting was held at the East-West Center of the University of Hawaii in Honolulu, Hawaii on April 27 - 30, 1965.

Later in 1965, the Intergovernmental Oceanographic Commission at its Fourth Session in Paris, adopted a resolution entitled "International Aspects of the Tsunami Warning System in the Pacific." An important part of this resolution was the establishment of the International Coordinating Group (ICG) composed of IOC Member States in the Pacific. Functional responsibilities of the Group were set forth to: (a) effect liaison among the participating IOC Members; (b) promote exchange of information on developments of observing methods and of techniques of Tsunami forecasting; (c) effect liaison with other interested organizations; and (d) provide advice on the operation of the International Tsunami Information Center. A few months later the Intergovernmental Oceanographic Commission took official action to establish the International Coordinating Group comprised of the following Member States of the Commission: Canada, Chile, Japan, United Kingdom, United States of America, and Union of Soviet Socialist Republic.

The first meeting of the International Coordinating Group in Honolulu, Hawaii, March 25-28, 1968, is the result of an invitation extended by the United States and accepted by the IOC. The Environmental Science Services Administration (ESSA) of the U. S. Department of Commerce was designated host for the meeting.

## SUMMARY OF THE MEETING

The International Coordinating Group for the Tsunami Warning System was convened by USA Delegation Chairman, Mr. J. M. Klaasse. The Group was welcomed to Honolulu on behalf of the host country, by ESSA, U. S. Coast and Geodetic Survey, Senator H. Fong (U.S. Senator from Hawaii), General B. Webster (Director, Hawaii Department of Defense), and President T. Hamilton (University of Hawaii).

DR Takenouti, representing UNESCO and IOC, took the chair pending organization. Mr. Klaasse was elected chairman; Professor G. L. Pickard, Vice-Chairman, and DR D. C. Cox was appointed as Rapporteur. The Chairman and Vice-Chairman will function in a permanent capacity.

Official delegates present were: from Canada - G. L. Pickard and G. C. Dohler; from Chile (acting on behalf of the head of the Chilean Navy Hydrographic Service) - R. McIntyre; from Japan (acting on behalf of K. Kimura) - S. Suyehiro; from U.S.A. - J. M. Klaasse, L. M. Murphy, and B. D. Zetler; from U.S.S.R. - U. V. Tarbeev; no delegate was present to represent J. C. Grover, official representative from the United Kingdom. Other official representation, besides that of UNESCO/IOC, was provided from WMO, Mr. Murphy; from IUGG, Mr. Zetler; from PSA and CIG, DR D. C. Cox. These and other participants appear in an attached list.

The agenda as adopted is attached.

CDR Robert Munson, Director, ITIC, reported that the International Tsunami Information Center was established in accordance with the USA offer, which had been accepted by IOC, to designate as the ITIC the Honolulu Tsunami Warning Facilities of the USC&GS. The ITIC functions are:

1. To insure dissemination of tsunami warnings.
2. To collect tsunami information on a real-time basis.
3. To encourage tsunami research.
4. To promote the exchange of scientific and technical personnel and data among the participating nations.

National reports presented by the five countries represented at the meeting indicated that significant advances have been made in the tsunami warning system instrumentation but that delays in communications are still evident in some areas, particularly the southeast and northwest Pacific. The need for continuing public education regarding the nature of tsunamis and how to react to warnings is also evident.

Significant improvements were also noted along the lines indicated by the recommendations of the 1965 Working Group.

It was decided to recommend that the next meeting of the ICG be held in about two years, preferably in May 1970.

Copies of the following recommendations and resolutions, which were adopted, are appended.

1. Recommendation on communication frequencies.
2. Recommendation on equipment.
3. Resolution on ITIC establishment and visitation.
4. Recommendation on WDC-A relocation.
5. Recommendation on ICG membership and observers.

#### RECOMMENDATIONS AND RESOLUTIONS OF ICG MEETING, March 25-28, 1968

##### 1. RECOMMENDATION ON COMMUNICATION FREQUENCIES

The International Tsunami Information Center should be in a position to collect and interpret on a real-time basis seismic and sea level data from ocean and coastal stations by satellite communication system and/or by high frequency radio channels which have been designated for oceanographic data collection by the WARC-Maritime Mobile, Geneva 1967.

The Group recommends that the IOC Working Committee on IGOS, which will meet April 2-5, 1968, plan the use of these frequencies in accordance with WARC Resolution MAR 20, consider the feasibility of utilizing a portion of these channels for the transmission of seismic and sea level data within the guard bands of 250 c/s widths at both margins of the frequency bands.

##### 2. RECOMMENDATION ON EQUIPMENT

To improve detection and communication in the event of tsunami generation, the ICG recommends that certain key seismic and sea level recording stations (location could be submitted at a later stage) be equipped for telemetry and/or direct interrogation by the Honolulu Observatory and other participating nations.

The IOC should approach member nations having such equipment available or developed and encourage them to arrange for the availability of this equipment to other countries as recommended by ICG in order to improve the efficiency of the network of key stations in sensors and communication. Due consideration must be given to the recipient's willingness of acceptance, maintenance and safekeeping of the equipment for the benefit of the Tsunami Warning System.

##### 3. RESOLUTION ON ITIC ESTABLISHMENT AND VISITATION

RESOLVED: "That this Group recognizes the importance of the establishment of the ITIC by the United States, acknowledges gratefully the offer by USA authorities to accept visiting scientists at the ITIC for the purpose of carrying out studies related to tsunamis, and notes appreciatively the

remarks of the IOC representative as to the availability of UNESCO funding to support travel of scientists visiting the ITIC."

#### 4. RECOMMENDATION ON WDC RELOCATION

The World Data Centers A and B for Seismology presently have responsibility for the international collection of tsunami data. It is recommended that the Branch for Tsunamis in World Data Center A be relocated to the ITIC in Honolulu. It is further recommended that a note to this effect be included in International Oceanographic Commission technical series #4, Manual on International Oceanographic Data Exchange, under Specialized Centers.

#### 5. RECOMMENDATION ON ICG MEMBERSHIP AND OBSERVERS

It was noted that the present membership of the ICG reflects desires as to inclusion expressed by member states to the IOC at its 1965 session. It is recommended that the ICG remain open to membership from additional IOC member states, and to the attendance of observers from state of the UN family.

#### NATIONAL COORDINATORS, OTHER NATIONAL REPRESENTATIVES AND PARTICIPANTS REPRESENTING INTERNATIONAL AGENCIES AT THE IOC/ICG, TSUNAMI WARNING SYSTEM MEETING ON March 25-28, 1968

##### CANADA

DR G. L. Pickard, National Coordinator  
Director, Institute of Oceanography  
University of British Columbia  
Vancouver 8, B.C., Canada

Mr. G. C. Dohler  
Head, Tides and Water Levels  
Department of Energy, Mines and Resources  
No. 8 Temp. Bldg.  
Ottawa, Ontario, Canada

##### CHILE

CDR Ronald McIntyre  
Chilean Navy  
Assistant Naval Attache  
Chilean Embassy Washington  
2154 Florida Avenue, N.W.  
Washington D. C., 20008, U.S.A.

##### JAPAN

DR Shigeji Suyehiro  
Japan Meteorological Agency  
Otemachi, Chiyoda-Ku  
Tokyo, Japan

##### U.K.

Not represented.

U.S.A. Mr. James M. Klaasse, National Coordinator  
Associate Director  
Coast and Geodetic Survey, ESSA  
Rockville, Maryland 20852, U.S.A.

Mr. Leonard M. Murphy  
Chief, Seismology Division  
Coast and Geodetic Survey, ESSA  
Rockville, Maryland 20852, U.S.A.

Mr. Bernard D. Zetler  
Atlantic Oceanographic Laboratories, ESSA  
901 South Miami Avenue  
Miami, Florida 33120, U.S.A.

U.S.S.R. DR U. V. Tarbeev  
Head Hydrometeorological Office  
Pavlik Morosov Street 12  
Moscow, U.S.S.R.

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IOC REPRESENTATIVE

IOC/UNESCO DR A. Y. Takenouti  
Assistant Secretary  
Intergovernmental Oceanographic Commission  
UNESCO  
Place de Fontenoy  
Paris VI, France

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INTERNATIONAL ORGANIZATION OBSERVERS

CIG DR Doak C. Cox  
Director, Water Resources Research Center  
University of Hawaii  
2525 Correa Road  
Honolulu, Hawaii 96822, U.S.A.

PSA DR Doak C. Cox  
(Also represented CIG, see above)

WMO Mr. Leonard M. Murphy  
(Also represented U.S.A., see above)

IUGG Mr. Bernard D. Zetler  
(Also represented U.S.A., see above)

OBSERVERS FROM MEMBER STATESFRANCE

DR I. D. Raoux  
Geophysical Laboratory  
B. P. 640 Papeete  
Tahiti, French Polynesia

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AGENDA ADOPTED FOR MEETING OF ICG TSUNAMI WARNING SYSTEM IN THE  
PACIFIC, MARCH 25-28, 1968, HONOLULU, HAWAII, U.S.A.

1. Opening of the Meeting.
2. Election of the Chairman and Vice-Chairman.
3. Adoption of the Agenda.
4. Report of the Director of the International Tsunami Information Center and discussion of the Center.
5. National reports on the development of the Tsunami Warning System and other related scientific and technical achievements since the 1965 meeting of the IOC Working Group on the Tsunami Warning System.
6. Discussion of progress made with respect to the recommendations adopted at the 1965 meeting.
7. Communications for Tsunami Warning System.
8. Review of, and future plans for the existing observation networks.
9. Exchange of information relating to tsunamis.
10. Cooperative efforts for tsunami research.
11. Date and place of next meeting and arrangements for coordination of ICG activities during the interim period.
12. Other business.
13. Adoption of report of meeting.
14. Closure of meeting.

## INTERNATIONAL COMMUNICATIONS FOR TSUNAMI SYSTEM

At the March 1968 meeting of IOC's International Coordinating Group for the Tsunami Warning System in the Pacific, a special recommendation on the use of international communication frequencies was adopted and submitted to the Intergovernmental Oceanographic Commission. Subsequently, the IOC Working Committee for an Integrated Global Ocean Station System (IGOSS) at its meeting in early April 1968 took official action on the recommendation and referred the request for favorable and competent consideration by the Joint IOC/WMO Panel of Experts on Coordination of Requirements and subsequently by the Joint IOC/WMO Group of Experts on Telecommunications.

## EXCHANGE OF SCIENTIFIC PERSONNEL

Limited monetary assistance may be furnished by UNESCO/IOC for scientists who would like to do research on tsunamis at the International Tsunami Information Center in Honolulu. Requests for such support should be addressed to the Director, International Tsunami Information Center, P. O. Box 3887, Honolulu, Hawaii 96812, U.S.A., and a copy of the request should be sent to the Secretary, Intergovernmental Oceanographic Commission, UNESCO, Place de Fontenoy, Paris 7<sup>e</sup>, France.

## IUGG MEETING

The International Union of Geodesy and Geophysics (IUGG) tsunami research symposium will be held at the East-West Center of the University of Hawaii, Honolulu, Hawaii, October 7-10, 1969. Three research seminars have been scheduled. The seminar on seismic source and energy transfer will be organized by DR S. L. Soloviev, USSR; the seminar on propagation and run-up by DR K. Kajiura, Japan, and the seminar on instrumentation by DR. M. Vitousek, USA. A final open discussion on tsunami research will be chaired by DR G. Miller, USA.

## TIDE GAGE ADDITION

Final plans are being made in cooperation with the Department of Cartography of the Republic of El Salvador, to add the Acazutla Tide Station to the International Tsunami Warning System. The addition of Acazutla to the network of reporting stations will partially close one of the largest gaps remaining in the network coverage.

The new edition of the Communication Plan for Tsunami Warning System is being prepared by U.S. ESSA, Coast and Geodetic Survey and will include Acazutla.

## TSUNAMI INVESTIGATIONS, APRIL - MAY 1968

Three tsunamis were investigated during April and May 1968 by the International Tsunami Information Center's Honolulu Observatory.

On April 4<sup>1</sup>, 1968 at 0042 GMT, a severe earthquake in the vicinity of Kyushu I, Japan, (Epicenter 32.4N, 132.5E, depth 50 km, magnitude 7-3/4 on the Richter Scale), generated a minor tsunami which was observed along the coastal area of Southeast Kyushu, Shikoku and the Pacific Coast of Central Honshu. At Shimizu the range of the largest wave recorded was 2.32 m and at Aburatsu 1.00 m.

A tsunami Warning was issued for Japan and a tsunami Watch for the rest of the Pacific.

On May 16, 1968, two large earthquakes occurred in Japan at 0049 GMT and at 1039 GMT. The first earthquake had a magnitude of 8-1/4 on the Richter scale and its epicenter was in the vicinity of Hachinohe, at 41°N, 143°E. The first tsunami waves started hitting the coasts of Hokkaido and the Tohoku district ten minutes later. At Miyako, Iwate Prefecture, the water level rose 2 meters above normal, at Otunato 1.2 meters and at Hachinohe 2.8 meters. Waves beat a 1,000 km stretch of the coast causing much destruction to houses and boats.

The second earthquake at 1039 GMT had its epicenter at 41.4°N Latitude, 143.0°E Longitude, and also generated a tsunami. To this day the effects of the two different tsunamis of May 16 have not been separated and clearly differentiated. Newspaper accounts are rather confused as to times, and the two events are treated as one. The maximum wave height reported for Miyako was 4.5 meters and for Kamaishi Port 3.4 meters. At this latter place 800 houses were flooded above floor level according to the Tokyo News Services. In the Hokkaido-Tohoku regions a total of 62 ships sank or ran aground including eight larger freighters and fishing vessels.

Tsunami warnings were issued for Japan for both earthquakes. Watches were issued for the rest of the Pacific for both earthquakes and regional warnings for the second earthquake for the west coasts of North and South America.

## PERSONNEL CHANGES

LCDR Donald R. Tibbitt has been named to succeed LCDR James S. Midgley as Director of the U.S. Coast and Geodetic Survey's National Tsunami Warning Center in Honolulu.

Mr. Ronald L. Viets, Geophysicist at ITIC's Honolulu Observatory will be leaving to assume a new position with the U. S. Coast and Geodetic Survey's Fredericksburg Geomagnetic Center.