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**INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION  
(of UNESCO)**

**MEETING OF THE OFFICERS OF THE  
INTERNATIONAL CO-ORDINATION GROUP FOR THE TSUNAMI  
WARNING SYSTEM IN THE PACIFIC (ICG/ITSU)  
6-10 December 2004, HONOLULU, HAWAII, USA**

**SUMMARY REPORT**



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## 1. OPENING

The ICG/ITSU Officers meeting took place in Honolulu, Hawaii, USA from 6-10 December 2004 under the auspices of the International Tsunami Information Center (ITIC).

The ICG/ITSU Chairman, Dr. F. Schindel  (France), opened the meeting at 9:30 on 6 December 2004. He welcomed the participants and identified the meeting's objectives. He reviewed the progress achieved by the ICG/ITSU since ITSU-XIX (29 September – 2 October 2003), specified problems encountered in the programme implementation and identified actions needed for the successful preparation of ITSU-XX. He requested the Officers to pay special attention to the resources available for the Tsunami Programme.

He introduced the new representative of Chile, Captain Roberto Garnham, Director of SHOA, Chile. Capt. Garnham thanked the Officers for inviting him to the meeting. He stressed the importance for him to get to know the ITSU Officers and looked forward to hosting ITSU-XX. He also called on the ICG/ITSU to increase awareness about the importance of the ICG/ITSU's work.

Dr. Schindel  recalled that the main purpose of the ICG/ITSU is to coordinate all tsunami warning and mitigation related activities at the regional and global level. The two main tasks of the Officers meeting are (i) to assess progress of the work plan adopted by the past meeting of the ICG/ITSU; and (ii) to prepare for the next ITSU Session. He further reminded that the IOC tsunami mitigation is based on assessment, warning and preparedness. Research must also be taken into account as it can improve assessment. In many countries only researchers work on tsunami related issues so ITSU must ensure that we have good contacts with them.

The ICG/ITSU Vice-Chairman, Mr C. McCreery expressed his appreciation to Chile for its active role in promotion of ICG/ITSU in Latin America.

The Agenda and Timetable was adopted as given in [Annex I](#). The List of Participants is presented in [Annex II](#).

The ITIC Director, Dr. Laura Kong, informed the participants on local arrangements. She informed the Officers about the Hawaii Tsunami Technical Review meeting to which the Officers were invited and where the ITSU Chairman will make a presentation.

## 2. PROGRESS IN THE ITSU-XIX DECISIONS IMPLEMENTATION

The ICG/ITSU Chairman presented for review the Action Sheet prepared on the decisions of ITSU-XIX.

Text in green indicates that the item has been completed prior to the December 2004 Officers meeting  
Text in purple indicates that the item is being implemented but has not yet been completed by the December 2004 Officers meeting

Text in red indicates that no action has been taken until the Officers meeting

Text in blue preceded by Officers meeting reports on the discussion on this item during the December 2004 Officers meeting

### 2. ORGANIZATION OF THE SESSION

21 The Group decided to dedicate this Session to Mr. Richard Hagemeyer, who had sadly passed away during the intersessional period, and requested the Secretariat to include a photograph of Mr. Hagemeyer and appropriate text in the Summary Report of the Session.

Action: Secretariat

Deadline: Report ITSU-XIX

Status: DONE

### 3.1 REPORT OF THE CHAIR ON THE PROGRAMME AND BUDGET

32 The Group called on Member States to be more responsive to inquiries from the ICG/ITSU Officers and be more supportive to the programme implementation.

Action: Member States

Deadline: continuous

Status: generic item. No specific action.

33 The Group requested the Technical Secretary to include the updated version of the Action Sheet, presented as Annex V to the ICG/ITSU Officers Meeting Report (IOC-INF-1181) as Annex V to the Summary Report of the Nineteenth Session of the ICG/ITSU, taking into consideration information provided under relevant Agenda items of this Session.

Action: Secretariat

Deadline: Report ITSU-XIX

Status: Done

### 3.2 NATIONAL REPORTS

51. The Group urged all Member States to add information on tsunami occurrences and observations on sea level stations to national reports.

Action: Member States

Deadline: ITSU-XX

53 The Group requested all Member States to provide, by the end of 2003, a summary (10-15 lines) of their national reports for publication in the ITSU Newsletter in early 2004.

Action: Secretariat (request to Member States by email), Member States (submission of reports to ITIC)

Deadline: end of 2003

Status: ongoing

Status: About 15 were received.. The Chair will remind the countries that have not submitted summaries (deadline: early January 2005). The received summaries will be included in the November/December 2004 issue. Dr Kong reported that information on events in the Newsletter is much more complete than in the past which makes the annual report redundant. There is a spreadsheet that includes all events. A summary of information on events could be compiled and posted on the web site.

Officers meeting: The Officers decided to (i) continue publication of event information in the Newsletter on an “as it comes in” basis; and (ii) maintain a compilation of events by year as well as additional information that was not published in the Newsletter, in the web site. The annual Newsletter will therefore be discontinued.

ACTION by ITIC

79: “PTWC must add warning points in several countries” (Guatemala, Honduras, Costa Rica, Australia, the Solomon Islands, Papua New Guinea, Indonesia, Tokelau, Vanuatu, Tonga, Kermadec Islands, Tuvalu, Wallis and Fortuna, Pitcairn, Niue, Antarctica).

Action: by PTWC

Officers meeting: C. McCreery reported that warning points have been added (see below map – red= existing; white=new warning points) for all countries identified during ITSU-XIX. What remains to be done is to coordinate which points to add for Australia. For Chile the point “Juan Fernandez” should be added.

ACTION by PTWC

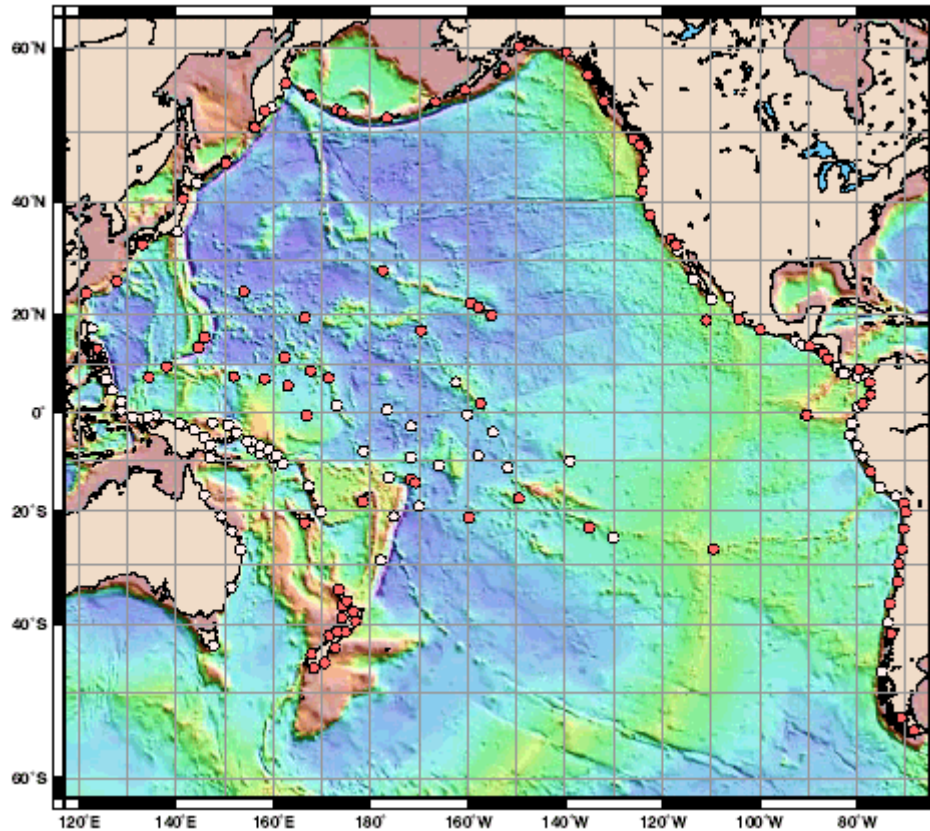


Figure 1: PTWC Warning Points

This illustrates the existing (red) and proposed (white) new warning points to be used by PTWC. A final map will be available for ITSU-XX.

### 3.4 PTWC DIRECTOR'S REPORT

84 The Group recommended that products should be designed in consultation with emergency response services to maximize their usefulness.

**Action: Member States**

Officers meeting: The PTWC Director reported that graphical products cannot be disseminated using the current method for dissemination of text-based products. They will need to be published on the web site (eg travel time map, countries in warning/watch). The PTWC Director will contact Canada, Chile and Australia to obtain recommendations for relevant products and investigate making them available on the web site. The PTWC Director will demonstrate the material at ITSU-XX.

ACTION by PTWC

### 3.5 RECENT TECHNOLOGICAL DEVELOPMENTS

89 The Group adopted Recommendation ITSU-XIX.1 (WORKING GROUP ON A COMPREHENSIVE TSUNAMI HAZARD REDUCTION PROGRAM)

“Recommends further that each ICG/ITSU Member State reports to the Group Chairman on its ongoing efforts related to each of the three TROIKA components, not later than 13 February 2004, to assist the Group in its efforts.”

**Action: Working Group members**

**Deadline: 13 February 2004**

**Status: 8/4/04: ITIC to remind ICG/ITSU MS; 29/6/04: progress report submitted to Chair ITSU.**

**22/9/04: Secretariat requested progress report from E. Bernard for web site - Received 27/9/04 and posted.**

Officers meeting: The ITIC Director reported that PMEL (E. Bernard) is developing tsunami propagation and inundation models for the Pacific region, mainly for use by the USA. However the model will also be made available to PTWC for running in real-time. PMEL is also working with New Zealand (IGNS) to use the Pacific model to provide local inundation and runup products for New Zealand.

The Officers recommended that this concept be utilized to serve similar products to other countries.

The Officers called for some caution on the use of models and recommended implementing the pilot project at PTWC to demonstrate the usefulness and applicability of the real-time use of models.

ACTION by PTWC

"Decided to establish an inter-sessional working group to prepare a pilot implementation programme for the Pacific..."

Action: Working Group members

Deadline: 2005 ITSU Officers Meeting : advanced to December 2004

Status: Ongoing. Group corresponded by email.

Officers meeting: The ITIC Director, in her capacity of Chair of the Group, reported that little progress was made as Rodrigo Nuñez and Neil Head had not been able to participate in the online discussions. (Note that a preliminary report was prepared by E. Bernard as reported above). The Officers were informed that Rodrigo Nuñez will now again be available to ITSU.

The Officers expressed their concern about the lack of progress. They stated that the development of a "comprehensive tsunami hazard reduction programme" is an extremely important initiative that needs to be followed-up.

The Officers decided to participate in the further work of the Working Group and set a deadline of 1 June 2005 for the preparation of a working document for ITSU-XX comprising the action elements included in Recommendation ITSU-XIX/1.

ACTION by Officers

98 "Although ....JMA is willing to send more data from other stations"

Action: JMA

Deadline: n/a

Officers meeting: The PTWC Director tabled a map of Japan Sea Level Gauges. The map shows JMA tide stations, existing PTWC stations and other sea level stations. The PTWC Director reported that JMA had confirmed that they will be able to provide more sea level data through GTS (the yellow stations). This is expected to start as from March 2005.



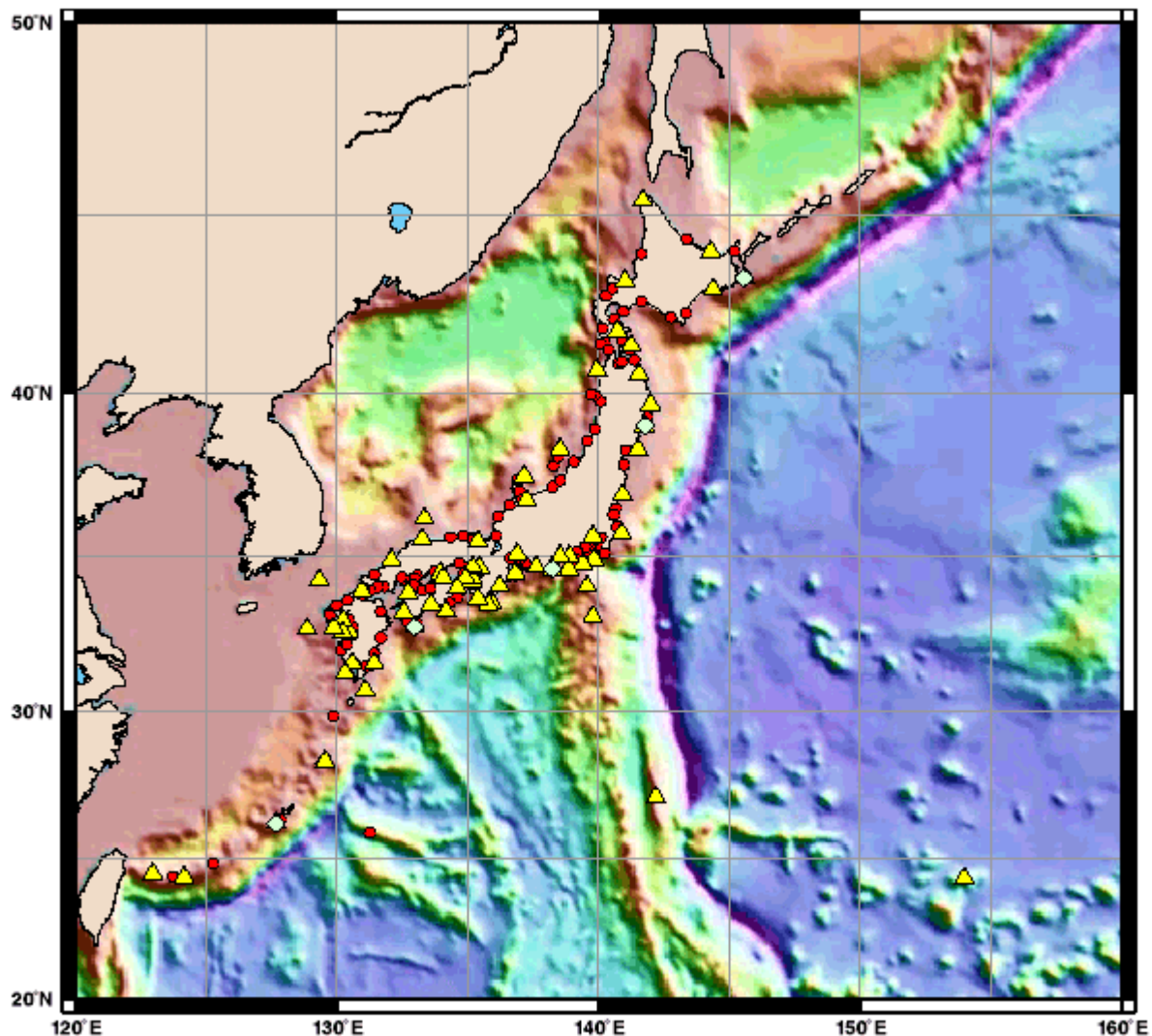


Figure 2: JMA Sea Level Gauges

PTWC Director will send a list of required stations to JMA

The PTWC Director reported that Japan will also provide cabled pressure gauge data (JMA, JAMSTEC, ERI of University of Tokyo). Formal discussions will continue with JMA and JAMSTEC in this regard.

ACTION by PTWC Director

### 3.6 SEA LEVEL ENHANCEMENTS

101 The Group recommended to make an inventory of existing sea level stations, the data of which can be used for the tsunami programme, and requested Member States to provide to ITIC all necessary details.

Action: Member States (providing details); ITIC (inventory)

Deadline: April 2004

Status: Ongoing- Secretariat to send reminder to MS in consultation with GLOSS Secretariat - Chair ITSU is discussing this matter with GLOSS Secretariat at IOC.



102 The Group recommended to keep real time data sets already collected by sea level stations at PTWC so they remain available.

Action: PTWC

Deadline: Continuous

Status: No action. Reminder sent to PTWC on 22/9

Officers meeting: The PTWC Director reported that sea level data transmissions are kept as from 2002 in encoded format (the data are received in numerous different encoding formats). The decoded data are kept on a private ftp site. These can be made available to the ITSU community. The data are not quality controlled.

### 3.7 WORKING GROUP ON INTERNATIONAL TSUNAMI SIGNS AND SYMBOLS

107 The Group accepted the “Tsunami Hazard Zone” and “Tsunami Evacuation Route” signs.

Action: Secretariat/ ITIC: put signs on web sites

Deadline: End of 2003

Status: IOC: DONE: signs posted on web site (29/10/03) (<http://ioc.unesco.org/itsu/contents.php?id=71>)

108 Several Member States pointed out that the use of the colour blue for a warning sign was not appropriate. The Group decided that guidance on colours should be obtained from the ISO (International Standards Organization).

Action: Secretariat

Deadline: March 2004

Status: Letter prepared for ISO (29/10/03)

Secretariat: 14/11/03: Response received from AFNOR: need to revise signs respecting standard ISO 3864-1

Secretariat: 20/11/03: Email sent to ITSU Chairs, ITIC Director and Associate Director and H. Gorziglia informing them on ISO reply. Recommended revision of signs for submission to ISO.

Revision received from ITIC (12 March 2004); Secretariat sent revised signs to AFNOR (8 April 2004)

Secretariat: Received comments from AFNOR (28 May 2004): comments on shape of signs. Forwarded comments to ITIC (1 June 2004); Reminded ITIC (27 August 2004) - Signs need minor adjustment then submission to AFNOR/ISO. - 22/9/04: ITSU Secretariat will hire contractor to finalize signs and submit to ISO for approval (deadline: 2004 Officers meeting)

Status 25/11/04: contractor finalized signs. Signs sent to AFNOR on 27/10/04. Response received from AFNOR on 16/11/04 requesting us to send the application to Secretariat du Groupe international responsable de la normalisation des nouveaux signaux de securite (ISO/TC 145/SC 2/GT 1). DONE on 17/11/04. Reminder sent on 25/11/04.

Officers meeting: The Officers requested the Secretariat to continue the discussions with ISO to have the signs adopted as soon as possible

ACTION by Secretariat

110 The Group accepted the use of text on the signs that in their English language versions read “Tsunami Hazard Zone” and “Tsunami Evacuation Route”, but requested all Member States to submit to the IOC Secretariat, by March 2004, the language versions of the text strings for both signs in all official (and other appropriate) languages for their country.

Action: Secretariat

Deadline: March 2004

Status: DONE: Circular Letter 2087 prepared (29/10/03)

8 April 2004 status: responses received from Rep. of Korea, Russia, Japan, Chile.

111 The Group requested the Executive Secretary IOC to submit a proposal for the agreed tsunami signs to the ISO, including the different language versions, as received from Member States, and to request advice from the ISO on colour schemes.

Action: Executive Secretary IOC

Deadline: June 2004

Status: ongoing

113 The Group tasked the ITIC Director to distribute information on the adopted signs widely upon their approval by the ISO.

Action: ITIC Director

Deadline: end of 2004

Status: No action. Postponed until ISO has approved signs.

#### 4. TRAINING AND EDUCATION

##### 4.1 ITSU TRAINING PROGRAMME

130 The Group decided to increase the duration of the ITSU Training Programme sessions to three weeks (15 working days), taking into consideration the increased requests for local/regional tsunami warning and hazard mitigation coverage, as well as the differences in the background of participants. The Group decided to maintain the frequency of one course per year for 2-3 students.

Action: Secretariat/ITIC: inform community through web site

Deadline: End 2003

Status: IOC: DONE: item posted on IOC/ITSU web site (31/10/03).

Officers meeting: The ITIC Director noted that 16 applications were received for the 2004 training programme. It was difficult to select only 5, of which ITSU supported 3. The three participants supported by ITSU filled an evaluation form with the view of improving the programme. Two of the three participants gave an excellent rating to the course. A detailed report will be prepared for ITSU-XX.

Several participants of the training course suggested to put together a video on tsunami hazards as a vehicle to provide more information to a wider audience. ITIC regularly receives requests for a video. Some national videos are available but we do not have anything general. ITIC has recently initiated the acquisition of some tsunami footage and tsunami animations and tsunami science presentations with the support of the US National Tsunami Hazard mitigation programme. Some interviews have also been recorded (PTWC Director, ITIC Director). This will be used for US national tsunami awareness managers. These "clips" may be available for an ITSU video as well.

The Officers considered the possibility of a 15-20 minute video that will be used at the community level (schools, community halls,...) but not for airing on TV as this will increase the copyright fees beyond our capacity. The voice-overs should be made available in multiple (possibly local) languages. In order to stress the international character of the ITSU programme some footage should also be prepared in non-USA locations. Chile could possibly assist with footage. Japan is also preparing some footage for the new tsunami warning system there.

The Officers requested the ITIC Director to provide, by February 2005, (i) a list of available footage; (ii) a detailed cost estimate and planning. The video should be completed by early June so it can be shown during the IOC Assembly (end of June 2005).

ACTION by ITIC Director

This item will have financial implications and has been included in the 2005 budget (see Agenda Item 5)

##### 4.2 TRAINING COURSES (EXPERT LEVEL)

133 The Group decided to establish a "Pool of Experts" to travel to Member States to provide training and expert consultation on tsunamis and tsunami mitigation (risk assessment, warning, preparedness) to emergency managers and other government personnel. The Group decided to initially include in the "pool", the ITIC Director and Associate Director, and as applicable, ITP/VEP alumni from the concerned region to assist. However, the Group stressed that the decision to send an expert to a Member State should be balanced against sending students to an ITP course at ITIC as the funds for the "expert pool" missions will need to come from the ITP budget.

Action: ITIC (create directory of experts for pool)

Deadline: April 2004

Status: No action - ITIC to post on web site - Reminder sent to ITIC on 21/9/04

Status 25/11/04: ITIC to report at Dec 2004 Officers Meeting.

Officers meeting: The ITIC Director reported that a list of alumni has been prepared but has not yet been posted on the web site. The Officers reviewed the list and approved it for posting on the web site. It covers 42 alumni who attended the ITP/VEP programme between 1969 and 2004.

140 The Group requested the IOC Secretariat to modify the Circular Letter sent to Member States annually (which invites Member States to nominate candidates for the ITP) to inform them of the ITP-Hawaii and ITP-International, and to also request Member States to inform the IOC of planned national and regional ITSU workshops since these would be opportunities to conduct the ITP-International.

Action: Secretariat/ITIC (Circular Letter)

Deadline: March 2004

Status: Done for 2004: ITIC sent text for CL by half April. Secretariat mailed CL.

Officers meeting: The Officers instructed the Secretariat to send the Circular Letter for the 2005 Course in January 2005. The ITIC Director will provide the background information to be used in the Letter by the end of December 2004. The Officers requested the Secretariat to send a copy of the information related to the requirements for, and benefits of IOC membership to ITIC. The ITIC Director noted that Samoa would be a suitable focus for the 2005 course. Russia had been identified as focus for the 2004 course but implementation had been impossible due to travel difficulties. It was therefore decided to include Russia for the 2005 course as well. In addition during the SOPAC meeting in September 2004 Vanuatu, Papua New Guinea and Solomon Islands expressed strong interest in ITSU. However these countries are not IOC member states. In view of the ITSU-XX Session it was proposed to have the 2005 course in April 2005.

#### ACTION by Secretariat

147 The Group strongly welcomed the co-operation between ICG/ITSU and the Circum-Pacific Council and requested the IOC Secretariat to discuss with CPC ways and means to establish formal and implementation levels of collaboration.

148 Because of the great similarities in the projects, the Group recommended that co-operation could focus on designing a plan of training and education that best addresses the needs requested by Member States.

Action: Secretariat (Letter)

Deadline: March 2004

Status: ongoing: ITIC Director discussed with Robin Falconer

Status 25/11/04: LK to report during Dec 2004 Officers Meeting

Officers meeting: The ITIC Director made a presentation at the CPC Board of Directors in Honolulu in April 2004 on ITSU and its intention to sponsor a tsunami awareness workshop in Fiji, in collaboration with SOPAC and to seek CPC's interest and co-sponsoring. Unfortunately CPC could not co-sponsor.

149 The Group requested the IOC Secretariat, CPC, PTWC and ITIC to jointly work towards the conduct of a tsunami session at the next SOPAC meeting in 2004 to raise awareness. It was agreed that this would also be an excellent occasion to organize a meeting of the intersessional working group on the Southwest Pacific and Indian Ocean Tsunami Warning System (see also Agenda Item 6.4).

Action: Secretariat, CPC, PTWC, ITIC

Deadline: September 2004

Status: Completed. [see HERE](#)

#### **4.3 PUBLIC EDUCATION**

159 Referring to discussions at the last ITSU Officers meeting, the Group requested Member States to send to ITIC any PowerPoint presentation they may have about ITSU (aimed at the general public), for posting on the ITIC web site for download.

Action: Member States; ITIC (send request, collect and post)

Deadline: End 2003

Status: 1 response received (Russia); Secretariat sent reminder by email on 21 January 2004. No response received (20 September 2004). -

22/9/04: reminder to be sent early 2005 by Chair.

Officers meeting: The ITIC Associate Director translated 5 presentations prepared for various occasions by ITIC and PTWC. The ITIC Director requested the Officers to provide their presentations. These will be combined with those already available and be made available on CD and possibly through the web site. ITIC does have presentations prepared for the ITP-Hawaii from Peru, Ecuador, Philippines, Indonesia, Chile, El Salvador and Colombia. There is also material from Chile. The material will be posted on the web site. The Chairman provided three presentations in French.

#### ACTION by Officers

160 The Group requested Member States to send copies of their tsunami Public Education material to ITIC. ITIC informed the Group that all public education material prepared by ITIC is available to all Member States in printed or electronic format.

Action: Member States; ITIC

Deadline: Continuous

Status: No action. 22/9/04: reminder to be sent early 2005 by Chair.

#### Officers meeting:

The Chair will send a reminder early 2005.

#### ACTION by Chair

Textbooks (Spanish version) are available from SHOA in black and white. A colour version will be available late December 2004 and made available on the SHOA web site. They can also be made available on the ITSU web site. (format information to be provided).

#### ACTION by SHOA

The ITIC Director informed the Officers that no information was received from ITSU member states. It is unclear whether the Russian version of the textbooks has been prepared. The ITIC Director will inquire from Russia.

#### ACTION by ITIC Director

### **5. ITSU PUBLICATIONS AND AWARENESS TOOLS**

Chile offered to print or re-print any public education material on an "at-cost" basis.

#### **5.1 TSUNAMI NEWSLETTER**

164 The Group decided to reduce the frequency of the Newsletter to 4 issues per year. The Group further instructed ITIC to henceforth publish time-sensitive material (announcements of conferences, tsunami events, etc.) on the ITSU web site (hosted by IOC). In this regard, the Technical Secretary informed the Group that the ITSU web site hosted by IOC has an in-built calendar system that can be used to advertise conferences and other tsunami related events. The Group instructed ITIC to publish short reports of ITSU meetings and training courses in the ITSU Newsletter.

Action: ITIC

Deadline: 2003-2005  
Status: ongoing

Officers meeting: The ITIC Director reported that the third issue for 2004 is now ready and a copy was provided. The fourth issue for 2004 will be ready in January 2005. The average number of pages is now 12-16. The Officers briefly discussed possible content for future issues. The Officers requested that copies of the Newsletter be sent to Patricio Bernal (with mention personal). The ITIC Director informed the Officers that 330 copies are sent in hard copy. The Newsletter is also available for download from the web site. The average cost per hardcopy mailed is US\$ 2. The Officers re-iterated that the Newsletter audience is technical experts working in tsunami related science and services.

ACTION by ITIC

## 5.2 TSUNAMI INFORMATION KIT

169 The Group noted the progress with the Tsunami Information Kit and instructed ITIC and the IOC Secretariat to ensure that the product is completed by the January 2005 Officers meeting. The Group requested that at least 200 copies be printed and distributed.

Action: Secretariat; ITIC

Deadline: January 2005

Status: No action - 8 April 2004: Separate leaflets to be prepared by Chair for distribution in folder. Chair to prepare by June 2004. Layout and printing planned for second semester.- 22/9/04: postponed. Discussions to be held at 2004 Officers Meeting. Production Kit to be done early 2005.

Status 25/11/04: To be discussed at Dec 04 Officers Meeting.

Officers meeting: The Chairman tabled the proposal to create a “box” that will include including Great Waves, Glossary, Infosheet ITSU, Infosheet TWSP, Infosheet ITIC, Infosheet National Contact & Warning Centre, stickers post tsunami field guide. The Officers agreed with the proposal. They decided to:

- (i) box design: to be done by contractor (possibly IOC contractor E. Lodde) using existing “logo” and glossary front cover;
- (ii) prepare template for national sheets: use glossary front cover. At the bottom 3 logos will be placed: IOC, ITIC and ITSU (wave graphic with ITSU text above, circular). Background will be glossary background but lighter. At top of template national tsunami agencies will be able to add their own logo and titles;
- (iii) make template available to all ITSU member states – sheets should be attractive with good balance between text and imagery
- (iv) ITIC to design sheets on:
  - a. ITIC
  - b. ITSU (in collaboration with Chair)
  - c. TWSP (in collaboration with C. McCreery)

International Content of the box will include:

- Great Wave (available in E, F, S)
- Glossary (available in E, F, S)
- Post tsunami survey guide (available in E, F, S, R)
- ITIC sheet (to be available in E,F,S,R)
- ITSU sheet (to be available in E,F,S,R)
- TWSP sheet (to be available in E,F,S,R)

National Content can be added as required (national sheet, specific brochures,...)

The Officers decided that the “box” should be ready by early June 2005 for distribution at the IOC Assembly. 200 copies will be required. The draft design of the empty “box” should be submitted to the Officers for their approval by March 2005

ACTION by Secretariat and ITIC

The Officers will revise the drafts prepared by ITIC, PTWC and Secretariat, not later than March 2005 (English version only)..

ACTION by Officers

Printing of the box and international inserts should be done in May 2005.

ACTION by Secretariat and/or ITIC (printing by Chile: Secretariat and SHOA to discuss)

This item will have financial implications and has been included in the 2005 budget (See agenda item 5)

The Technical Secretary was requested to investigate if a stock of the “post tsunami survey guide” is still available at IOC HQ. He reported that only 40 copies of the French version are available at the Secretariat. Chile offered to print additional copies. The Officers expressed their appreciation for this kind offer.

176 The Group invited Member States to translate all ITSU documentation for public and expert use into their national and local languages.

Action: Member States

Deadline: Continuous

Status: No action - Member States are reminded -  
22/9/04: reminder to be sent early 2005 by Chair.

Action by Chairman

#### 5.4 ITSU WEBSITES

181 The Group thanked ITIC-USA and the IOC Secretariat for hosting the ITIC-USA and ITSU-IOC sites and instructed them to co-ordinate content development of the two sites, clearly keeping in mind the two target audiences.

Action: Secretariat, ITIC

Deadline: End of 2003

Status: Ongoing. Secretariat and ITIC to meet on 12-13 February 2004 in Honolulu to discuss practical arrangements for both sites.

8 April 2004: contractor prepared proposal for redesign of IOC ITSU web site including graphics and navigation. Officers consulted on financial implications. 18 May 2004: due to lack of funds project frozen.

22/9/04: Officers should assess work done for IODE site and consider hiring contractor for similar work for ITSU.

07/10/04: Chair requested Secretariat to proceed hiring contractor.

08/10/04: Secretariat contacted contractor. Work starting

25/11/04: First draft design provided. Will be discussed with Chair on 25/11.

Officers meeting: The IOC Technical Secretary presented a proposal for a unified ITSU web site combining the content of the current IOC/ITSU and ITIC/USA sites. ITSU currently has 2 web sites (<http://ioc.unesco.org/itsu> hosted by the IOC Secretariat and [http://www.prh.noaa.gov/itic/more\\_about/itsu/itsu.html](http://www.prh.noaa.gov/itic/more_about/itsu/itsu.html) hosted by NOAA). ITSU-XIX instructed ITIC-USA and IOC secretariat to co-ordinate content development of the two sites, clearly keeping in mind two target audiences. It was agreed that the IOC site should focus on experts (providing technical information such as history, structure, membership, activities, formal documents), whereas the ITIC-USA site should concentrate on the general public (containing the master plan, photo gallery, newsletters, reading list, safety rules, post-tsunami field guide, great waves, fact sheets, and other content aimed at creating awareness). During the past year we have attempted to implement these instructions as follows:

- (i) revision of the table of contents of both sites
- (ii) updating of the IOC/ITSU site by both Secretariat staff and ITIC staff
- (iii) updating of the ITIC site by ITIC staff



When comparing the tables of content it was found that there is substantial overlap in focus audience between the two sites: the IOC sites includes general audience content and the ITIC site covers quite a bit of expert information. Such overlap and duplication can only confuse our users, it takes more resources to maintain (resources we do not have) and it was therefore proposed to consolidate the content of the two existing sites into one site. It was further proposed to sub-divide at the top header level into “GENERAL INFO” and ‘TECHNICAL INFO”. The general section should include material that is easy to understand and provide the general public (or school) audience with general information on tsunamis.

### Structure

The Officers reviewed the proposed structure and approved the top level headers. It was agreed that the sublevels can be defined at a later stage when content is being migrated. The adopted structure is added in [Annex VI](#)

### Look and feel

With regard to “look and feel” the Officers expressed their appreciation for the new IODE web site. The Officers considered that ITIC is the information service of ITSU and therefore decided to use the following text for the homepage banner :

“International Tsunami Information Centre

The information services of the ITSU programme »

The ITSU text should have a mouse-over that shows the full meaning of the ITSU acronym.

The site will henceforth be know as the ITIC/ITSU site.

In order to acknowledge the substantial contribution of NOAA to the ITSU programme in general and ITIC in particular the following footer will be added:

“ITIC is hosted by the US National Weather Service of NOAA, Honolulu, Hawaii”

The “US National Weather Service” and “NOAA” will be hyperlinked to their web sites.

The NOAA logo will be placed on the left side of the footer.

If possible the left menu “box” should not be so wide

An extensible screen is acceptable but may require testing

The Officers urged to apply the planned new menu system that offers a second level list of choices after a mouse-over of the top level category

The space used for the IODE-XVIII image in the IODE site should be used to display tsunami damage images but this space should be easily editable to enable frequent changes of the image.

### Content display

The Officers felt that the way content is displayed in the IODE web site is too formal for the ITIC/ITSU site and should be changed as follows:

Category display:

It should be possible to display text describing the category.

Eg: About tsunamis ::

#### **What causes tsunamis**

In this section we will describe how tsunamis are caused through ocean bottom earthquakes.

For subsequent content items the following display format should be used:

- remove the black background of the title
- leave the title in upper case
- make the title hyperlinked to the content item display page
- remove the metadata line (author, date created,...)
- remove the “read more” link

- leave the summary but do not strip formatting from the summary
- the summary should not be shortened but displayed in full

#### Multilingual capability

The Officers stressed the need to enable a multilingual interface, especially for the “General Info” section content.

#### Banner

The Officers were not satisfied with the draft designs provided by the contractor and defined the following instructions:

##### MODEL 1:

- the background wave is agreeable but contrast is insufficient
- the sky is too blue and should get another more contrasting color
- the ITSU wave graphic element provided by IOC should be used only once and should be better visible
- the ITIC logo should be placed on the right hand side of the banner
- the banner should use the same rounded shape as the IODE site
- a link to the IOC site should be added identical to the IODE site

##### MODEL 2:

- use the wave background (respecting comments of model 1)
- use the tsunami warning signal but flatten it and superimpose on the wave

The designer may come up with other designs. The Officers requested the ITIC Director to provide a CD with imagery that may be used for the design.

Action by: Secretariat (technical issues); ITIC (migration); Officers (approval of designs by email)

182 The Group requested to provide access to tsunami bulletin board logs through the web site(s) and tasked ITIC to investigate the possibilities.

Action: ITIC

Deadline: March 2004

Status: No action - ITIC to report by half April 2004 - ITIC reminded 21/9/04

Status 25/11/04: ITIC to report during Dec 2004 Officers meeting

Officers meeting : In the new ITIC/ITSU web a link will be added to the tsunami bulletin board (TBB). On a related issue, the Officers requested if IOC could set up a new feature in the new site so that warning messages are automatically sent to all ITIC/ITSU web site subscribers and also automatically append the message to an online available archive.

Action by: IOC Secretariat in collaboration with ITIC

183 The Group requested Member States to register on the ITSU web site hosted by IOC (<http://ioc.unesco.org/itsu>).

Action: Member States (register); Secretariat (inform member states)

Deadline: end 2003

Status: DONE: message sent to IOC/ITSU web site members inviting them to promote the site and to register new members (30/10/03).

## **6. REGIONAL AND OTHER TSUNAMI WARNING SYSTEMS**

### **6.1 NORTHWEST PACIFIC TSUNAMI WARNING SYSTEM**

190 The Group regretted that there are currently no seismic stations available for tsunami warning close to the Philippines and Indonesia, although data are needed in that region. It was noted however, that there are 2 CTBTO (Comprehensive Test Ban Treaty Organization) stations in the Philippines and 6

in Indonesia. The Group requested the countries owning the stations to make them available for tsunami and earthquake warning purposes.

**Action: Chair**

**Deadline: March 2004**

**Status: No action - 8 April 2004: Chair will send text by end of April. Secretariat to send letter. - 22/9/04:**

**Postponed: Chair will submit text in October.**

**Status 25/11/04: Chair will report during Dec 2004 Officers Meeting.**

Officers meeting : The Chair recalled that the Japan Meteorological Agency (JMA) plans to begin operation of the Northwest Pacific Tsunami Information Center (NWPTIC) in March 2005. The NWPTIC was developed by JMA in response to the request by ITSU member states to provide tsunami information for the Northwest Pacific region. Since 2001, JMA provides tsunami information for countries bordering the Japan Sea. The NWPTIC, with support from PTWC and ITIC, will expand its services area in 2005 to include Russia, Republic of Korea, China, Philippines, Indonesia, Papua New Guinea, and island states in the North Pacific including the Commonwealth of the Northern Mariana Islands, Guam, the Republic of Palau and the Federated States of Micronesia.

When an earthquake greater than magnitude 7 takes place in the NWP area, the NWPTIC will initially provide earthquake location and magnitude. The NWPTIC will also provide information for each coastal area on an expected tsunami arrival time and an expected potential tsunami wave height extracted from a pre-calculated tsunami database. As data are received, the centre will also provide information on the observed and reported tsunami wave height. The first information is expected to be provided within about 20 minutes of the earthquake's occurrence.

All information disseminated from the NWPTIC shall be delivered to the relevant authorities as specified in the ITSU Communication Plan and be utilized for the mitigation of tsunami disasters. The centre plans to send the information of the GTS/WMO and by email and fax. The establishment of reliable, easy, and quick communication procedures and protocols between the NWPTIC and each country will be essential for the timely communication of tsunami information. The acquisition of additional seismological and sea level data in the region in real or near-real time will be critical for improving the quality and timeliness of the earthquake characterization and the evaluation of its tsunamigenic potential. Cooperation between JMA, PTWC, ITIC and all Pacific countries in the timely and open sharing of data and communication of information messages will be essential for a successful implementation of the NWPTIC.

The Officers welcomed the initiative of Japan to establish the NWPTIC which will strengthen the ITSU system and provide valuable services for many Pacific countries. The Officers expressed some concern over the possible problem of conflicting warnings (eg of different magnitude) issued by both PTWC and NWPTIC that could be and could thereby confuse the recipients.

The Officers requested the PTWC Director to discuss this matter in more detail with JMA and possibly undertake a pilot project between March and August 2005. The Officers further recommended that the modalities of operation for PTWC and NWPTIC be documented for discussion by ITSU-XX.

Action by PTWC

With regard to the CTBTO stations the Chair tabled the map of CTBTO stations. This shows that there are 6 stations in Indonesia, 2 in Phil, 2 in PNG, 1 in Salomon, 1 in Fiji, 1 in Tonga, and 1 in New Caledonia. We want to improve the precision of location and depth of events in the region. In many cases the hosts of CTBTO stations are not involved in tsunami warning (except for Japan). New Zealand is in charge in installation of some stations (possibly Fiji and Salomon). The auxiliary stations could serve for both CTBTO and ITSU. However, many are not real-time stations. In addition transmission costs can be quite high. Use of the stations for CTBTO and ITSU will require a separate digitizer.

The Officers concluded that there are CTBTO auxiliary stations that can enhance the PTWC seismic coverage to improve response in terms of time and accuracy. The Chair has encouraged PTWC to contact Southwest Pacific countries (Australia, New Zealand, Japan) responsible for these stations to seek permission for PWTC to gain near realtime access to these data.

The Chair will report on this matter to ITSU-XX.

Action by Chair

## 6.2 CENTRAL AMERICA PACIFIC COAST TSUNAMI WARNING SYSTEMS

204 The Group stressed the need to foresee multiple warning centres to provide the necessary redundancy in case of damage to warning centres after earthquakes. The Group also called on the participating Member States to ensure effective communication links to send and receive warning messages.

Action: Member States

Deadline: Continuous

Status: Member States reminded; No communications received (20 September 2004) -

22/9/04: ITSU Secretariat will contact members of the Working Group to obtain report on progress. Group will be requested to contact CEPREDENAC.

23/9/04: Report received from ITIC Director: Since May 2004, the ITIC has engaged the Region with the following activities in support of the CA-PAC TWS:

1. A representative from El Salvador, Carlos Pullinger, Director, Servicio Geologico, Servicio Nacional de Estudios Territoriales, participated in the ITP-Hawaii program held in August, 2004. His report is attached.
2. The ITIC Director and Associate Director are coordinating with the countries of El Salvador and Nicaragua for the conduct of a ITP-International training. Originally planned for November, 2004, it has recently been proposed to focus on raising the level of tsunami awareness in the Region, and specifically to partner with CEPREDENAC in hosting a workshop for Central America CEPREDENAC Board of Directors and other key participants. If this is decided in favor, planning would continue for the remainder of 2004 for a meeting in the 1st quarter of 2005. Specifically, there is a need to identify key tsunami risk reduction advocates from scientific research, the seismic and water level network and instrument operators, and the disaster management agencies; this constituency is critical for progress to be made in regionally and nationally. The workshop would consist of components of training (ITP-International), discussion and identification of regional and national strategies and action priorities for tsunami risk reduction, and the furthering of coordination and support for the CA-TWS. The ITIC has transmitted the Agenda that was followed for the recently conducted and successful South Pacific Tsunami Awareness

Workshop co-convened by the ITIC and SOPAC (Regional organization with disaster and risk management programme activities) as an example for a Central America Tsunami Awareness Workshop. For a CATAW, the ITIC hopes that El Salvador will be a key contributor because of their recent participation in the ITP-Hawaii and now, their familiarity to the operations of the PTWC and the emergency response agencies roles in tsunami warning for Hawaii.

3. We understand that CEPREDENAC has translated the CA-PAC TWS proposal/implementation plan developed in mid-2004 in Spanish to English, but have not received an English version for comment as was indicated in the CA-PAC TWS Terms of Reference.

Status 25/11/04: to be discussed at Dec 2004 Officers Meeting:

Officers meeting : The Officers requested the ITIC Associate Director to contact the ITSU national contact in El Salvador (Antonio Arenas) and propose to organize a training meeting in El Salvador with emergency managers from other countries in the Central America region (Guatemala, Honduras, Nicaragua, Costa Rica, Panama) where they will discuss their cooperation with ITSU.

Action by: ITIC Associate Director

206 The Group adopted **Recommendation ITSU-XIX.2 (WORKING GROUP ON THE CENTRAL AMERICA PACIFIC COAST TSUNAMI WARNING SYSTEM)**

Action: Working Group

Deadline: ITSU-XX

Status: 8 April 2004: secretariat reminded Mr Gutierrez Huete; Reminder sent on 20 September 2004. See 204

Status 25/11/04: report by E. Lorca to be provided during Dec 2004 Officers Meeting

Officers meeting: no additional information was reported. The Chairman will contact Mr Gutierrez Huete and urge urgent action.

Action by Chair

**6.3 SOUTHWEST PACIFIC AND INDIAN OCEAN TSUNAMI WARNING SYSTEM**

213 The Group considered that it may be appropriate to expand the geographic focus of the ICG/ITSU beyond the Pacific, provided that concerned Member States would express the need for such an expansion at the IOC Governing Body level. This may be discussed during ITSU-XX.

Action: ITSU-XX

Deadline: ITSU-XX

Status: n/a

215 The Group adopted Recommendation ITSU-XIX.4 (WORKING GROUP ON THE TSUNAMI WARNING SYSTEM IN THE SOUTHWEST PACIFIC AND INDIAN OCEAN)

Action: Working Group

Deadline: ITSU-XX

Status: Ongoing. 8 April 2004: secretariat reminded Mr Ibnu Purwana. 22/9/04: New Indonesia contact is Dr Masturyono.

Status 25/11/04: To be discussed at Dec 2004 Officers Meeting

Officers meeting: The ITIC Director reported that a meeting had been held in Fiji. Mr Purwana is now involved with CTBTO. The new ITSU contact is Dr Masturyono. It has been difficult to contact Dr Masturyono. One of the recommendations from that meeting that the Southwest Pacific and Indian Ocean should be separated. The capabilities of countries in these regions were assessed. The requirements as referred to in the Recommendation ITSU-XIX.4 will be part of the Fiji report meeting recommendations. A report has not yet been prepared but will be available by ITSU-XX. The Officers urged that the report should include clear proposals for the future. The Officers requested the ITIC Director to urgently contact Dr Masturyono.

Action by: ITIC Director

**6.4 OTHER REGIONS**

**7. EXISTING PARTNERSHIPS AND OPPORTUNITIES FOR NEW ONES**

**7.1 CO-OPERATION WITH THE IUGG TSUNAMI COMMISSION**

230 The Group proposed to organize the next Workshop back-to-back with the next ITSU Session (see also Agenda Item 13).

Action: ITIC/IUGG (coordinate)

Deadline: Early 2004

Status: No action – ITIC to contact IUGG Chair by end April 2004 – 22/9/04: reminded ITIC

Status 25/11/04: Workshop ITSU/IUGG planned prior to ITSU-XX. Details to be provided by E. Lorca at Dec 2004 Officers Meeting

Officers meeting: See Officers Meeting agenda item 3.3

The ITIC Director noted that the 2003 Sapporo IUGG Tsunami Symposium and Tsunamis in the South Pacific Workshop proceedings will be available in March 2005. A proposal was made to provide copies to ITSU Member States.

## 7.2 CO-OPERATION WITH ISDR

234 The Group requested the IOC Secretariat, in co-operation with Australia and Fiji, to urgently approach ISDR and invite them to participate in the above-mentioned event [Tsunami Workshop in conjunction with the next SOPAC conference in 2004].

Action: Secretariat, Australia, Fiji

Deadline: End of 2003. REVISED 21/1/04: February 2004

Status: Ongoing. Secretariat sent email to Australia and Fiji on 21 January 2004. No response received. 22/9/04: ITSU has opportunity to participate in World Conference on Disaster Reduction, 18-22 January 2005, Kobe, Japan. Director ITIC has been invited to represent ITSU (Chair unavailable). 22/9/04: ITSU Secretariat contacted ISDR secretariat.

Status 25/11/04: The Vice-Chairman of ITSU (Dr Charles McCreery) will be representing IOC-ITSU at the World Conference on Disaster Reduction, 18-22 January 2005 in Kobe, Japan. Dr McCreery will be participating in the thematic session titled "Risk Identification, Assessment, Monitoring and Early Warning: People-Centered Early Warning Systems". IOC-ITSU has also contributed to the upcoming World Expo, 25 March – 25 September 2005 in Aichi, Japan. To date, ITSU has contributed 2 CD's produced by the Japan Meteorological Agency, one that is an explanatory tsunami video with live footage, and the other a 3-part, animated examination of earthquakes, tsunamis and tsunami forecasting. Both are in Japanese. A pending contribution is a tsunami simulation exercise.

Officers meeting: The ITIC Director informed the Officers that the United States will also participate in the Kobe meeting and present a paper on the US National Tsunami Hazard Mitigation Programme. There will therefore be 4 opportunities to present tsunami warning and mitigation at the Kobe meeting. The Officers urged the ITSU Vice-Chair to use all opportunity at the Kobe meeting to raise visibility for ITSU.

Action by: ITSU Vice-Chair

The ITIC Director inquired whether there will be poster space for ITSU. This will be further investigated by the IOC/ITSU Secretariat.

Action by: IOC/ITSU Secretariat

235 The Group requested the IOC Secretariat to send the ITSU-XVIII and ITSU-XIX Summary Reports to ISDR to inform them about the ITSU and IUGG programmes and activities.

Action: Secretariat

Deadline: End 2003

Status: DONE 21 January 2004 by email (sent ITSU-XIX report)

## 7.3 WORLD DATA CENTRE, SOLID EARTH GEOPHYSICS DEVELOPMENTS RELATED TO TSUNAMIS

245 The Group requested Dr. V. Gusiakov to provide the IOC Secretariat with a master copy of the HTDB database (version 4.9), and requested the IOC Secretariat to copy and distribute the CD-ROM to all ICG/ITSU Member States (2 copies/country).

Action: V. Gusiakov (provide master copy); Secretariat: copy and distribute

Deadline: March 2004

Status: No action - 8 April 2004: V.Gusiakov contacted by secretariat - 22/9/04: ITSU Secretariat reminded V.Gusiakov

25/11/04: ITSU Secretariat reminded V. Gusiakov - CD to be available for Dec 2004 Officers Meeting

Officers meeting: The Officers were provided with a copy of the Integrated Tsunami Database for the Pacific (ITDB) version 5.11 of July 31, 2004. A short report provided by V.Gusiakov was provided to the Officers. The Officers requested the Secretariat to distribute the software to all ITSU Member States as agreed (2 copies/country).

Action by: IOC/ITSU Secretariat

249 The Group adopted **Recommendation ITSU-XIX.3 (GLOBAL HISTORICAL TSUNAMI DATABASE PROJECT)**

Project implementation:

Action: ITIC, the WDG/NGDC and the NTL/ICMMG

Deadline: ITSU-XX

Status: No action - 8 April 2004: V.Gusiakov contacted by secretariat. Progress report received: 9 June 2004 ([REPORT HERE](#))

Officers meeting: Tsunami travel time is incorporated in ITDB version 5.11. However the WDC/NGDC and NTL/ICMMG databases have not been merged. The Officers, noting the difficulties of Dr Gusiakov to travel to the USA, requested the ITIC Director to consult with Dr Gusiakov to find a solution to complete the work.. After consultation with Dr Gusiakov it was concluded that Dr Gusiakov would need to travel to the USA to enable completion of the work. If he remains unable to obtain a visa for the USA then the work will not be completed. The Officers requested the ITIC Director and the Secretariat to send another invitation to Dr Gusiakov and coordinate this request with all possible diplomatic channels at UNESCO and USA.

Action by ITIC Director and IOC/ITSU Secretariat

Product dissemination:

Action: WDG/NGDC (send CD-ROM); Secretariat (disseminate to Member States)

Deadline: ITSU-XX

Status: No action

#### 7.4 CO-OPERATION WITH GLOSS

256 The Group recommended not to approach GLOSS with a broad request involving all sea-level stations, but rather to concentrate on new stations and most advanced stations as they could easily provide for the needs of ITSU.

Action: Chair

Deadline: GE-GLOSS 2003

Status: ongoing (report to be submitted by Chair)

Status 25/11/04: Chair to report during Dec 2004 Officers Meeting. Chair will make presentation at GLOSS 2005.

Officers meeting: the Officers were joined by Dr. Mark Merrifield (Chair of the GE-GLOSS), based at the University of Hawaii. The ITSU Chairman gave a brief presentation on ITSU. The Officers then discussed cooperation.

The PTWC Director noted that many gauges now sample at relatively low frequencies and transmit only once an hour. ITSU is only interested in short-term variations whereas GLOSS is interested in long-term variations. It was noted that it is cheaper to have one station with two sensors than to have two stations.

The Chair GE-GLOSS expressed his appreciation for the invitation to participate in the meeting. He then gave a brief introduction on GLOSS. GLOSS was started in the mid-80s as a network of tide gauge stations in support of international sea level programmes related oceanography, geophysics and climatic change. The purpose is the establishment of a 'global baseline' around which more dense regional and national networks would be constructed for local and practical purposes. The GLOSS Core Network (GCN) would be operated with high quality gauges and to common standards.

GLOSS is now a JCOMM activity under the JCOMM Observations Programme area. The below figure shows the JCOMM structure:

### JCOMM STRUCTURE

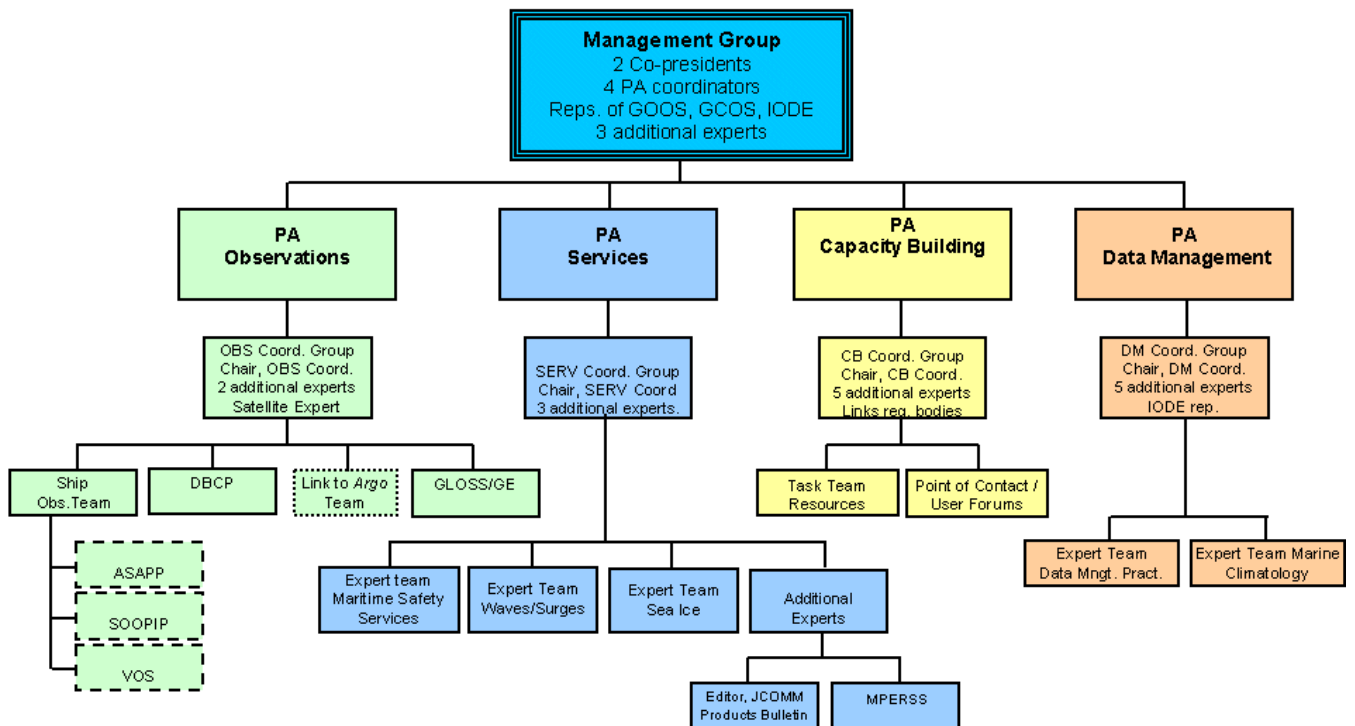


Figure 4: JCOMM structure

The below figure shows the GLOSS Global Core Network:

### GLOSS Global Core Network

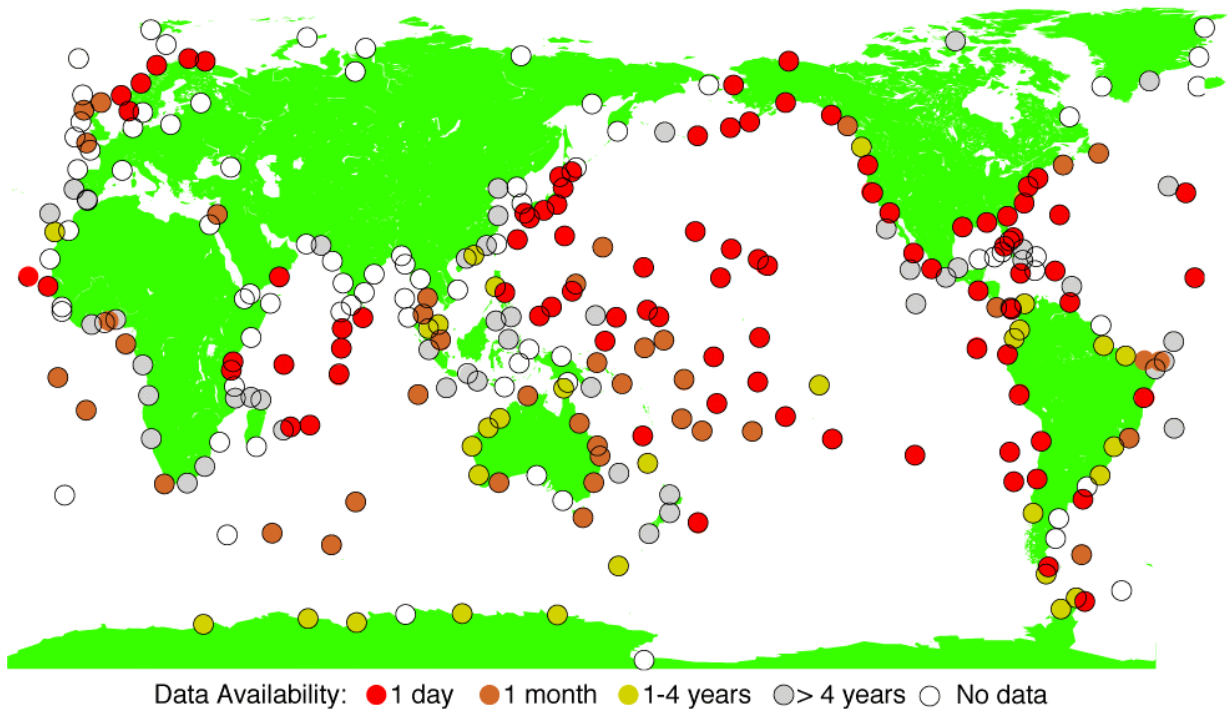
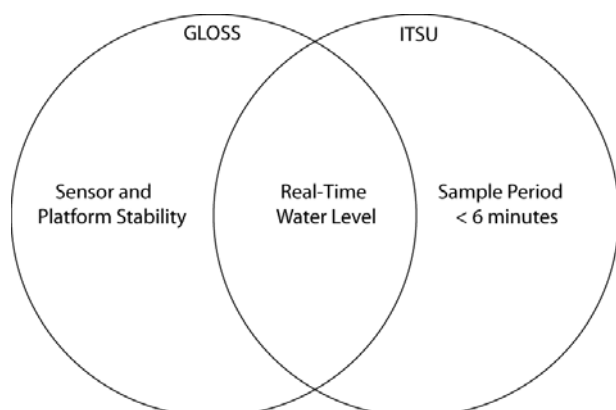


Figure 5: GLOSS Global Core Network



The orange dots in the S-Pacific report to GLOSS only once a month but many report to PTWC hourly. Mexico, SE Asia (Indonesia, Philippines, China) are data problem areas. In Europe there are some dataflow issues between ESEAS and GLOSS. GLOSS is trying to establish 6 stations in Indonesia.



The left figure shows the overlap between GLOSS and ITSU and also the points of difference.

GLOSS would like 6-15 minute sampling rates for GODAE. ITSU requires higher frequency. GLOSS prefers stations in harbours. The PTWC Director noted that this is not the best location for ITSU but it is a good compromise for a more long-term reliability.

The Officers noted that NOAA/NESDIS controls the satellites and ITSU should inform NESDIS that we need more frequent transmissions through the US satellites. The Officers recommended that the IOC Executive Secretary send a letter to Adm. Lautenbacher (NOAA Administrator) requesting appropriate transmission slots on GOES East and West, to accommodate critical sampling and transmissions rates for tsunami signals.

Action by IOC/ITSU Secretariat

The NTF (National Tidal Facility) stations sample at high frequency but most data are not transmitted but stored. NTF is now NTC (National Tidal Centre) and under the Australia Bureau of Meteorology. They are increasing their capacity in line with meteorology requirements.

The Chair GE-GLOSS and PTWC Director will undertake a comparison mapping of the GLOSS Core network and ITSU stations in the Pacific. On the basis of the results of this exercise requirements will be identified to mutually improve coverage.

Action by: Chair GE-GLOSS and PTWC Director

The Officers invited Dr Merrifield to ITSU-XX and requested the Secretariat to ensure a formal invitation is sent.

Action by IOC/ITSU Secretariat

M. Merrifield will contact S. Wilson (Senior Scientist, NOAA/NESDIS) to request that the MOU regarding the installation of sea level stations with Indonesia be modified.

The ITIC Director will send a full list of ITSU member states to M. Merrifield.

Action by ITIC Director

The Officers instructed the ITIC Director and IOC/ITSU Secretariat to ensure a link to the GLOSS web site is included in the new ITSU web site.

Action by ITIC Director

258 The Group requested the Chair to identify, for e.g., Indonesia, El Salvador and Nicaragua, the best sites to install new gauges.

Action: Chair

Deadline: March 2004

Status: ongoing: Gauges installed in Nicaragua and El Salvador. Indonesia requires further consultation. Status 25/11/04: No contact received from Indonesia. To discuss at Dec 2004 2004 Officers Meeting

Officers meeting: The PTWC Director reported that gauges in El Salvador and Nicaragua were installed in January 2004. For Indonesia: NOAA has a project to install 6 real-time sea level stations in Indonesia. The Officers instructed the Secretariat to obtain more information from S. Wilson.

Action by IOC/ITSU Secretariat

## 7.5 OTHER

### 7.5.1 Joint IOC-WMO Technical Commission for Oceanography and Marine Meteorology (JCOMM)

261 The Group agreed to investigate a potential closer relationship with JCOMM, through a recommendation to the IOC and WMO Executive Councils, to agree to investigate the benefits and how best they might be realized. The recommendation envisages a report would be prepared for consideration by JCOMM-II, which will be held in Halifax, Canada, in the fall of 2005.

*Action: Officers*

*Deadline: March 2004 (for IOC EC)*

*Status: Ongoing: Discussed at JCOMM Management Committee, Third Session (March 2004) through P. Parker and IOC/ITSU Secretariat: extract from report: "4.1.7 The SPA Coordinator discussed the prospects for closer ties between JCOMM and the IOC International Coordination Group for the Tsunami Warning System in the Pacific (ITSU) while attending ITSU-XIX (Wellington, New Zealand, 29 September – 3 October 2003). It was agreed that a discussion paper on possible cooperation will be prepared in consultation with ITSU Chairman Dr François Schindel  (France) with the view to submission for consideration by the IOC EC and subsequently JCOMM-II. . The Committee agreed the IOC EC should be informed through the co-presidents of this development. The Committee noted that one of the apparent benefits of the collaboration would be seen in the field of operational deployment/usage of high-frequency sea level gauges."*

*See 262*

262 The Group recommended to study the Terms of Reference of the JCOMM Programme Area in general, and its Expert Teams in particular, and identify areas where JCOMM and ICG/ITSU could collaborate. This could involve the Services, Observations, Capacity Building or Data Management Programme Areas.

*Action: Officers*

*Deadline: (March 2004 (see 261)) new deadline: 2004/2005 Officers meeting*

*Status: No action. 22/9/04: Chair to discuss with Johannes Guddal (JCOMM Co-President)*

*Status 25/11/04: Chair has had discussions with JCOMM Co-President. He will report during Dec 04 Officers Meeting.*

Officers meeting: The Chair reported on his discussion with Johannes Guddal, JCOMM Co-President. Dr Guddal had suggested two ways to start cooperation: (i) to contact the Services Programme Area Chair (P. Parker); (ii) to contact the Chair of the Expert Team on waves and storm surges (Val Swail). The Chair informed the Officers that the report of the 2003 Session of the JCOMM Expert Team on Wind waves and storm surges makes no mention about tsunamis.

The Officers expressed their concern about the possible transfer of ITSU into JCOMM as there was currently no reference to tsunamis in any of the relevant Programme Areas (Services and Observations).

The Officers requested the Chair to contact Dr. V. Swail on this matter.

Action by Chair

263 The Group adopted **Resolution IOC/ITSU-XIX.1**

*Action: Chair (Requests the Chair to discuss the co-operation with JCOMM at the appropriate level)*

*Deadline: March 2004 (see 261, 262)*

*Status: Done (see 261)*

7.5.2 Co-ordination Center for the Prevention of Natural Disasters in Central America (CEPREDENAC)

264 The Group requested the Chair and IOC Secretariat to contact the CEPREDENAC Executive Secretary with the objective of seeking formal collaboration between CEPREDENAC and ICG/ITSU.

Action: Chair; Secretariat (Letter)

Deadline: End 2003

Status: No action. Secretariat requested Chair to act on this matter.(21/1/04) - See action 204

Status 25/11/04: to be discussed at Officers Meeting

Officers meeting: The Officers recommended to invite a CEPREDENAC representative to ITSU-XX and requested the Secretariat to contact the CEPREDENAC Executive Secretary (Lic. Geronimo J. Giusto-Robelo ([ggiusto@cepredenac.org](mailto:ggiusto@cepredenac.org)) in this regard.

Action by IOC/ITSU Secretariat

## 8. PROPOSALS FOR FUTURE PROJECTS

### 8.1 RESILIENCE OF MARGINAL COMMUNITIES UNDER TSUNAMI THREAT

268 The Group decided to establish an intersessional working group to further develop the proposal including a detailed implementation plan, budget and timetable. The Group will be chaired by Prof. H. Meyer (Colombia) and membership will include Australia and the ITIC Director. The working group will submit the revised draft proposal to the 2005 Officers Meeting.

Action: Working Group

Deadline: January 2005 (or November 2004)

Status: No action - To discuss at 2004 Officers Meeting

Officers meeting: The Chair will send a reminder to Prof. Meyer.

Action by Chair

### 8.2 SEA-LEVEL WAVEFORM DATABASE

276 The PTWC will investigate the possibility to install the AUTODRM server at PTWC as a pilot project activity and will inform the Officers on its progress during their 2005 Meeting. Member States will be provided with a full report during ITSU-XX.

Action: PTWC

Deadline: January 2005

Status: No action. 22/9/04: reminder sent to PTWC

Status 25/11/04: C. McCreery to report during Dec 2004 Officers Meeting

Officers meeting: The PTWC Director reported that the matter was investigated by PTWC staff. The AutoDRM server is quite challenging to install and little expertise appears to be available in this regard. The Officers decided that the PTWC Director will report at ITSU-XX on the technical possibilities, as well as other issues, of Member States accessing the sea-level data in near real-time mode from the PTWC ftp site.

Action by PTWC Director

277 In addition, WDC, Solid Earth Geophysics will investigate the possibility of archiving the complete database and making it accessible for research purposes.

Action: WDC, Solid Earth Geophysics

Deadline: January 2005

Status: No action

Status 25/11/04: LK to report during Dec 2004 Officers Meeting

Officers meeting: The ITIC Director reported that WDC SEG can archive all data provided that no digitization is required. The Officers noted that the ITSU-XIX summary report para 277 was unclear and could give the impression that the data to be archived are all data (including data without a tsunami signal). The Officers clarified that ONLY data related to a tsunami event in the Pacific should be

archived (ie data collected by all sea level gauges in the Pacific of which at least one recorded a tsunami event or a tsunami is known to have occurred).

## **9. LONG TERM STRATEGY OF THE ITSU PROGRAMME**

281 The Group considered that substantial progress has been made in the implementation of the Master Plan and recommended focused action on (i) acquisition of data in real-time; (ii) optimizing the network to ensure accurate warning issuance and minimization of false warnings.

282 The Group, noting that capacity building and mitigation are currently not included in the above-mentioned list of issues, decided to add these terms to the list, and to publish the revised Master Plan “conclusions” on the ITSU web site. The revised conclusions are added as Annex VIII.

Action: Secretariat

Deadline: Report ITSU-XIX

Status: Done

283 The Group decided to include the revision of the Master Plan in the agenda of ITSU-XX.

Action: Secretariat

Deadline: ITSU-XX

Status: No action. To be done for planning ITSU-XX: To be discussed at Dec 2004 Officers Meeting.

Officers meeting: The Chair proposed to send a message to member states in January 2005 to inquire if any changes should be made in the master plan. The Chair suggested a few modifications: seismic station map, water level map, list of national and regional tsunami warning centres, list of events, new criteria for tsunami warning, tsunami glossary, web site. The Officers noted that the master plan evolved from a strategic document to a document that also includes information on the current status of ITSU and they felt that the master plan should focus only on long-term strategy.

The Officers agreed to review the Master Plan and discuss any required changes by email. They requested additional input from the TROIKA group. The Chair will then submit, on the basis of the comments by Officers, Member States and TROIKA group, a proposal for changes to ITSU-XX.

Action by Officers

## **10. EVALUATION OF THE IOC TSUNAMI PROGRAMME**

288 After some discussions the Group decided to:  
add Dr. George Maul (University of Florida, USA) and Dr. Paul LeBlond (ex-University of British Columbia, Canada) to the list;

Action: Secretariat (contact George Maul)

Deadline: 1 November 2003

Status: Done (email sent 3/11/03) - response: cannot accept the task

request the IOC Secretariat and ITIC Director to define the Terms of Reference for the Review by 1 December 2003, based upon the GOOS Review Terms of Reference;

Action: Secretariat; ITIC

Deadline: 1 December 2003

Status: Done: GOOS Review document sent to ITIC Director (3/11/03). Terms of Reference prepared and posted on web site ([http://ioc.unesco.org/itsu/categories.php?category\\_no=65](http://ioc.unesco.org/itsu/categories.php?category_no=65))

request the Chair and IOC Secretariat to contact the above-mentioned experts and prepare the final list of Review Team members (and Chair of the Review Team) by 31 December 2003;

Action: Chair, Secretariat

Deadline: 31 December 2003

Status: Done: suggestions received. Chair identified (8 April 2004): Costas Synolakis accepted. Other

possible members being contacted. Group composed (see [http://ioc.unesco.org/itsu/categories.php?category\\_no=65](http://ioc.unesco.org/itsu/categories.php?category_no=65)) in June 2004.

make the necessary arrangements for the Review Team to implement the Review and submit their Report by May 2004;

Action: Chair, Secretariat (implement review)

Deadline: May 2004. New deadline ITSU Officers meeting 2004 (December 2004)

Status: Ongoing

Status 25/11/04: Review Team composed. Will start work December 2004. Discussions will be held with Chair Review Team (Dr Synolakis) at 2004 Officers Meeting (10 December 2004) to discuss requirements for review.

Status: a meeting was held between the ITSU Officers and Dr Costas Synolakis during the afternoon of Friday 10 December. During that meeting two online survey questionnaires (one for ITSU contact points and one for civil defence staff) were prepared to be posted on the WWW. The ITIC and PTWC Directors will prepare email lists so relevant individuals can be contacted to invite them to fill the questionnaires.

invite the Chair of the Review Team to provide a summary report during the IOC Executive Council, June 2004.

Action: Chair Review Team

Deadline: June 2004 (EC)

Status: short report to be provided by ITSU Chair: DONE

289 The Group requested the Executive Secretary IOC to allocate the necessary funds for the Review from the IOC Policy Budget.

Action: Executive Secretary IOC (provide funds as necessary defined under 288)

Deadline: 1 January 2004

Status: No action. No funds provided.

## 11. OTHER BUSINESS

291 The Group noted the statement of Papua New Guinea's Observer with appreciation and looked forward to welcoming Papua New Guinea as a new Member of ICG/ITSU.

Action: Papua New Guinea; Chair; Secretariat (contact observer PNG)

Deadline: 2004

Status: Pending. Information package sent to PNG by IOC Secretariat (sent again 5/10/04).

Status 25/11/04: ...

Officers meeting: The ITIC Director reported that she had discussed with Lawrence Anton. The IOC Secretariat was requested to send a standard information letter on membership of IOC to the ITIC Director.

Action by IOC/ITSU Secretariat

## 12. PROGRAMME AND BUDGET FOR 2004-2005

294 The Group adopted Recommendation IOC/ITSU-XIX.5, containing the programme activities adopted during the Session and estimate of funds needed to implement them successfully.

Action: Secretariat (disburse funds as required)

Deadline: 2004-2005

Status: ONGOING

295 The Group noted that the total requested budget of US\$ 63,000 for 2004, and US\$ 78,500 for 2005 (total US\$ 141,500) exceeded the expected funds available from the UNESCO Regular Programme budget, allocated to ITSU but considered that the difference could be covered by Member State contributions to the IOC Trust Fund or in-kind contributions towards the implementation of programme activities.

296 The Group expressed its highest appreciation for support provided by Member States to the IOC Trust Fund, earmarked for ITSU, and hoped that Member States will continue to provide financial or in-kind support.

Action: Member States (contributions); Secretariat (Circular Letter to member states)

Deadline: January 2004

Status: DONE: Circular Letter 2089 (4 November 2003): 'Request to contribute to the IOC Trust Fund in support of the ITSU-XIX Work Plan implementation'

### 13. DATES AND PLACE FOR ITSU-XX

297 The Group welcomed the kind offer of Chile, offered by Capt. Fernando Mingram, to host the Twentieth Session of ICG/ITSU in Valparaiso, Chile between 3 and 7 October 2005. Chile also kindly offered to host the IUGG Workshop in the preceding week in Santiago.

298 The Group gratefully accepted their offer to host the Twentieth Session. The meeting will be formally hosted by the Hydrographic and Oceanographic Service of the Chilean Navy (SHOA). The IUGG Workshop will be co-organized with the National Emergency Office (ONEMI).

Action: Chile; Secretariat (arrangements)

Deadline: June 2004 – October 2005

Status: No action. Secretariat contacted Chile 20/9/04

Officers meeting: See Officers Meeting agenda item 3

### 15. ADOPTION OF THE SUMMARY REPORT AND RECOMMENDATIONS

304 The Group reviewed the draft resolutions and recommendations and the draft Summary Report and adopted them as herein presented. The Group requested the ICG/ITSU Chair and the IOC Technical Secretary to prepare an Action Sheet on the ITSU-XIX decisions by the end of 2003, and to make it available to all Member States and ITSU-XIX participants through the ITSU web site.

Action: Secretariat

Deadline: December 2003

Status: DONE

305 The Group requested its Chair to report on the proceedings of ITSU-XIX to the upcoming Session of the IOC Executive Council and to urge Member States for continued and increased support for ITSU.

Action: Chair

Deadline: March 2004 (document for EC)

Status: Done, Report presented at EC-XXXVII

## 3. PREPARATIONS FOR ITSU-XX

### 3.1 REVIEW AND ADOPTION OF THE DRAFTS OF THE BASIC ITSU-XX DOCUMENTS

Following the joint proposal of the Chair and IUGG, the Officers agreed to have the Tsunami Workshop "Tsunami Hazard Mitigation and Risk Assessment", Santiago, Chile, **29-30 September 2005** (at the National Emergency Office Headquarters), and ITSU-XX from **3 to 7 October 2005** in Valparaiso, Chile at the Gala Hotel. The Officers thanked the local Organizing Committee under the leadership of Emilio Lorca for their efforts in arranging the Session. They also expressed the need for the Workshop Organizing Committee to assist the co-convenors in the preparation and implementation of the meeting.

The Officers acknowledged with satisfaction the preparation of the Session and Workshop and encouraged the local Organizing Committee to continue efforts for the successful implementation of the events.

The Technical Secretary presented the drafts of the ITSU-XX Provisional Agenda, List of Documents for comments and approval. The Technical Secretary informed the participants that the Annotated Provisional Agenda would be prepared based upon discussions at the Officers Meeting and the structure will be in line with the new format of the IOC Action Paper used for the IOC Assembly and Executive Council. It was agreed that the Annotated Provisional Agenda will be posted on the web site.

The Officers reviewed the drafts, made modifications and requested the Chairman and the Technical Secretary to make the first dispatch of ITSU-XX documents by the end **February 2005** of containing the letter of invitation and all agreed-upon basic documents (Provisional Agenda, Timetable, Local arrangements). The letters of invitation should include comments made by the Officers regarding national reports, project proposals, etc. The first announcement of the Workshop should also be attached.

The Officers reminded the Secretariat that SOPAC, JCOMM, IUGG, ISDR and GLOSS should be invited. Dr. Gusiakov should be invited as an expert.

The agreed-upon Provisional Agenda of ITSU-XX is presented in [Annex III](#). [Annex IV](#) contains the ITSU-XX List of Documents with information on the responsible persons for their preparation and deadlines for their submission to the IOC Secretariat.

### 3.2 LOCAL ARRANGEMENTS

The Representative of the local Organizing Committee, Captain Robert Garnham, informed the Officers on the local arrangements for the Twentieth Session and the IUGG-ICG/ITSU Tsunami Workshop. The Technical Secretary reported on the status of developing the Letter of Agreement between UNESCO/IOC and Chile on implementing ITSU-XX. The draft Agreement was prepared and will be sent **around half January 2005** to Chile for signature.

#### Equipment and facilities:

On the web site we should indicate what audio visual equipment will be available (video projector, overhead projector, microphones and PA). Internet will be available in one of the side rooms + in the Secretariat room. The room configuration will be U-shape. The working language of the meeting will be English only. No interpretation or translation will be provided. There will be 2 computers for the Secretariat (US keyboard), 1 laser printer, photocopier. Two local administrative assistants. There will be space for exhibits. (need to inform via web site). Name cards will be provided.

#### Registration

Approximately 30 participants are expected from Member States; ITIC (1) and PTWC (1); IOC Secretariat (2); IUGG (1); observers from other countries and organizations (10); and local participants (10). ITSU Member States and organizations (such as SOPAC, WESTPAC, ISDR, WDC for SEG, SPREP, APEC) will be invited through a IOC Circular Letter (to be sent early 2005). The Circular Letter will request participants to inform the local organizer of their intention to participate. The local organizer will also arrange for hotel bookings. The Circular Letter will include information on local arrangements (hotel options, venue information). Full information on local facilities will be made available through the IOC/ITSU web site.

#### Documents

Documents will be made available through the web site. In addition the Secretariat will send copies of documents.

#### Opening ceremony

The meeting will possibly be opened by the Governor of the region of Valparaiso. He will then make a speech (last). The address will be in Spanish. The speech may therefore be translated in advance and

circulated to all participants. A representative of the host organization (Capt. R. Garnham) will also make a speech.

Sequence of opening speeches:

- François Schindelé (Chair ITSU)
- Peter Pissierssens (representing IOC Exec Sec)
- Capt. R. Garnham (rep host organization)
- Governor of Valparaiso (rep Government of Chile)

#### Hotel arrangements

The local organizers have identified the GALA Hotel. The rates will be US\$ 81-93 (depending on view) for a single room including breakfast. (note: UN per diem is approx. USD 108/day). As the Gala hotel cost may be too high for some participants the local organizers will also identify other cheaper accommodation. The local organizers request bookings at the Gala hotel until 31 August 2005.

#### Lunches

Lunches will be at the participants' own expenses inside or outside the hotel.

#### Working hours

09h00-13h00 (4 hours)

13h00-15h00 lunch

15h00-18h00 (3 hours)

#### Social events

Opening cocktail on first evening

Dinner at SHOA : possibly Wednesday (third day) – transportation will be provided.

#### Transport from/to airport Santiago

The Officers will receive transport. Other participants will be able to take a free bus to Vina del Mar. Information will be posted on the web site.

#### Visa arrangements

There should be no problem.

#### Officers meeting

Will be on Sunday before the Session. Can be organized in one of the meeting rooms.

### 3.3 IUGG/ITSU CO-OPERATION: WORKSHOP ON "Tsunami Hazard Mitigation and Risk Assessment"

The Officers discussed the preparations for the international workshop "Tsunami Hazard Mitigation and Risk Assessment" which will take place in Santiago, Chile, back-to-back with ITSU-XX, **29 and 30 September 2005**. The event will be organized jointly by the IUGG Tsunami Commission (IUGG/TC), Oficina Nacional de Emergencia (ONEMI), SHOA, and the International Co-ordination Group for the Tsunami Warning System in the Pacific (ICG/ITSU). The convenors will be Emilio Lorca Mella (Chile), François Schindelé (France) and Viacheslav Gusiakov (Russia).

This will be the fifth workshop in a series of joint workshops organized by the IUGG/TC and the ICG/ITSU.

The main purpose of the Workshop will be to consider the present situation with the estimation of the long-term tsunami risk for coastal areas, to review the existing methods of risk calculation and mapping of tsunami hazard, to identify the gaps in theory and practice of tsunami



hazard estimates for particular coastal locations, and to consider the ways for improvements of risk assessment reliability.

The scope of the workshop will cover the following basic items:

- historical tsunami catalogs and databases;
- tsunami geology and paleotsunamis;
- seismotectonics of tsunami and case studies of historical tsunamigenic events in the Pacific;
- involvement of underwater slumping into tsunami generation mechanism;
- tsunami modeling techniques;
- probabilistic estimates of tsunami hazard;
- methods of tsunami inundation maps development;
- tsunami risk mitigation and countermeasures for specific coastal locations.

The workshop format will include talks given by leading experts, presentations of participants and round-table discussions. The language of the Workshop will be English.

An announcement will be distributed via the Tsunami Bulletin Board, the IOC Circular Letter on ITSU-XX and the ITSU web site.

#### 3.4 ELECTION OF CHAIR AND VICE-CHAIR

Both the Chair and Vice Chair are now due for replacement as they served three terms. In accordance with the IOC manual the current Chair and Vice-Chair were re-elected for an exceptional third term during ITSU-XX. An election should therefore be organized at ITSU-XX. The Officers noted that the Member States may not be aware that the Chairs are due for replacement. The Officers requested the Secretariat to send out a Circular Letter quoting the IOC Manual that states that an election should be organized or that the Member States can re-elect, for exceptional reasons, the current Chairs. The deadline for submission of names should be the second day of the Session.

### 4. TSUNAMI PROGRAMME AT THE 2004 EXECUTIVE COUNCIL (XXXVII<sup>th</sup> SESSION)

The ITSU Chairman provided an overview of the ITSU programme. The Executive Council made the following statements:

*“The Executive Council requested the delegate of Japan to express its condolences to the family of Prof. Kajiura.*

*The Executive Council instructed the ICG/ITSU to identify specific bathymetric needs and priorities that could improve the tsunami programme, and make this information available to IHO for consideration by the appropriate IHO regional hydrographic commissions.*

*The Executive Council called for close collaboration between ITSU, GLOSS and JCOMM, for example, and invited the Chairpersons of relevant IOC and other programmes to attend ITSU Sessions and identify joint activities that will further the aims of ITSU.*

*The Executive Council expressed its strong appreciation of and support for the ITSU programme, as one of the IOC programmes that specifically protects human life and property, thus having substantial societal importance and therefore direct relevance to GEO.*

*The Executive Council noted with appreciation the establishment of working groups on a Central America Pacific Coast Tsunami Warning System and on a Tsunami Warning System in the South-west Pacific and Indian Ocean, and encouraged Member States bordering other ocean basins to consider similar initiatives.*

*The Executive Council adopted Resolution EC-XXXVII.4*

Resolution EC-XXXVII.4

**THE INTERNATIONAL CO-ORDINATION GROUP FOR THE TSUNAMI WARNING SYSTEM IN THE PACIFIC**

The Executive Council,

**Recalling** that the IOC Tsunami Programme is a high priority programme of the Commission,

**Appreciating:**

- (i) the support of Chile, France, New Zealand, Republic of Korea and USA to the IOC Tsunami Programme in 2002–2003 through Trust Fund and in-kind contributions,
- (ii) the support of the USA in hosting and co-funding the operation of the International Tsunami Information Centre (ITIC) in Hawaii, and of Chile for the post of ITIC Associate Director,
- (iii) the establishment of the North-western Pacific Tsunami Information Centre by Japan in 2004,

**Considering** the Summary Report, Resolution and Recommendations of the 19th Session of the International Co-ordination Group for the Tsunami Warning System in the Pacific (ITSU-XIX), held in Wellington, New Zealand, from 29 September to 2 October 2003, and the progress achieved by the ICG in the implementation of the ITSU Programme at the national and international levels,

**Welcoming** the studies in support of the development of sub-regional tsunami warning systems for the Central American Pacific Coast and for the South-west Pacific and Indian Ocean, and the possible development of a comprehensive tsunami hazard-reduction programme,

**Endorses** the Summary Report and Resolution **and adopts** the Recommendations of ITSU-XIX;

**Strongly encourages** Member States to contribute actively to the further development and maintenance of the Tsunami Programme, either through financial contributions to the IOC Trust Fund, staff support or in-kind contributions;

**Instructs** the IOC Executive Secretary to take action to strengthen the IOC Secretariat support for the ITSU Programme.

---

Financial implications (2004–2005):

US\$82,500 from Regular Programme Budget

- US\$58,500 from ITSU
- US\$24,000 from Regions

US\$59,000 from extra-budgetary resources to be identified

Total amount: US\$141,500

With regard to the issue of bathymetric charts **the Officers decided** to send a letter or message to the ITSU member states to identify specific bathymetric data needs within their EEZ that could improve the tsunami programme. **The Secretariat was requested** to send this letter or message as soon as possible.

Action: IOC/ITSU Secretariat

## 5. RESOURCES: FUNDING AND STAFF

The Secretariat informed the Meeting that the United States of America had contributed an amount of US\$ 40,000 to the IOC trust Fund, earmarked for ITSU. This was the result of a call by Dr. R. Spinrad (USA) to US NOAA agencies to identify priority areas in which the USA could assist IOC. The ITIC Director had submitted a draft request for US\$ 50,000 in response to this call. Further negotiations and adjustments finally brought the amount down to US\$ 40,000.

The Officers expressed their appreciation for this substantial contribution to ITSU and requested the Chair to communicate the ICG's gratitude to the United States.

The Officers regretted however that no other contributions had been made or pledged and expressed their concern. The Technical Secretary reported that no responses had been received to Circular Letter 2089 (issued 4 November 2003). The Officers re-iterated their concern with the shrinking funds available for the ITSU Programme implementation.

The Officers noted that the Executive Secretary had not responded to the request to compensate the ITSU programme for the expenditure of US\$ 5000, made in 2002 for the 'Volga/Caspian Project' which was unrelated to ITSU.

The Officers then proceeded with a review of financial requirements and planned activities for 2005:

The Officers were informed that the IOC regular programme budget includes a total of US\$ 29,250. It is currently unclear whether any additional funds will be available from the TEMA & regions budget line (previously amounting to approx. US\$ 12,000-15,000 ). This uncertainty is due to the IOC financial situation that has worsened in the current biennium and the substantial funds required for the organization of JCOMM-II by IOC in September 2005.

It was recalled that ITSU-XX had adopted the below programme of work for 2004/2005: The Officers revised the work plan based upon the expected availability of funds:

i. **Assistance to the International Tsunami Information Centre (ITIC) for its continuing activities and fulfilling its obligations to the ICG/ITSU during 2004-2005.**

Budget:	2004	US\$ 29,000	<b>Provided: US\$ 29,000 (ITSU RP)</b>
	2005	US\$ 27,000	

ii. **Support to the ITIC Associate Director, including one trip each year to ITIC for briefing and reporting on the accomplishments.**

Budget:	2004	US\$ 3,500	Provided: 0
	2005	US\$ 3,500	

Note: The Associate Director's visit expenses were covered by the funds provided by IOC to ITIC. It was recommended to henceforth include the Associate Director's visit to ITIC in the IOC ITIC contract.

iii. **Organization of the ITSU Officers Meeting in January 2005 in Honolulu, Hawaii, USA and the Twentieth Session of the Group (ITSU-XX) in October of 2005, in Valparaiso, Chile**

Budget:	2004	US\$ 5,000	<b>Provided: 4,700 (staff travel) (Regions)</b>
	2005	US\$ 25,000	

iv. **Participation of ITSU Officers/Experts/Secretariat at meetings of other organizations dealing with issues relevant to the Tsunami Programme and of the ICG/ITSU Chairman at meetings of other bodies.**

Budget:	2004	US\$ 5,000	Provided: 0
	2005	US\$ 5,000	

Note: The ITIC Director's and PTWC Director's participation in the Fiji SOPAC Annual Session (September 2004) was covered by the USA and by the IOC ITIC contract. The ITIC Director's and PTWC Director's participation in a coordination meeting for the start of the NW Pacific Tsunami Information Center at JMA HQ (19-20 October 2004) was covered by the Japan Weather Association.

v. **Partial support to complete the development of the Global Tsunami Data Base (GTDB) and the new Integrated Tsunami Data Base (ITDB) consisting of WinHTDB graphic shell and Tsunami Travel Time (TTT) module.**

Budget:	2004	US\$ 3,000	<b>Provided:US\$ 2,000 (Regions)</b>
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Note: Dr. Gusiakov was provided with travel funding to attend the Tsunami Awareness Workshop (Fiji, 1-3 July 2004) and to have discussions with the ITIC Director and representatives of the Southwest Pacific countries on the GTDB project and historical tsunami database for the SW Pacific (4-7 July), and with the HTDB Regional Coordinator for New Zealand-Tonga region (9-12 July).

vi. **Tsunami Information Kit finalization.**

Budget:	2004	US\$ 2,000	Provided: 0
	2005	US\$ 5,000 (*)	

(\*) 3,000 printing and 2,000 for the translation into French and Spanish languages – 1,000 each  
Note: see para 169

vii. **Support for the Working Group on a Comprehensive Tsunami Hazard Reduction Programme (TROIKA).**

Budget:	2004	US\$ 5,500	Provided: 0
	2005	US\$ 3,000	

Note: There was no meeting of the working group. See para 89

viii. **Support for the Working Group on the Central American Pacific Coast Tsunami Warning System (CAPC-TWS).**

Budget:	2004	US\$ 5,000	Provided: 0
	2005	US\$ 5,000	:

Note: No meeting took place. see para 204.

ix. **Support for the Working Group on the Tsunami Warning System in the Southwest Pacific and Indian Ocean (SWP-TWS).**

Budget	2004	US\$ 5,000	<b>Provided:US\$ 5000 (Suva) (Regions)</b>
	2005	US\$ 5,000	

Note: Contract provided to ITIC to invite 2 participants (Indonesia, Samoa) to participate in the South Pacific Tsunami Awareness Workshop (1-3 July, Suva, Fiji)

**ADDITIONAL EXPENDITURES**

- Design signs and symbols: US\$ 300 (from ITSU RP)
- ITSU web site development : US\$ 7400 (from USA trust fund contribution 2004/2005, to be reimbursed)
- Regularisation Meyer air ticket Wellington: US\$ 1731 (from Chile contribution 2003/2004)

**Totals provided 2004:**

- ITSU Regular Programme (global):	US\$ 29,300
- IOC TEMA & regions:	US\$ 11,700
- USA trust fund contribution 2004/05	US\$ 7,400

**Totals proposed 2005**

The Officers proposed the following budget for 2005, taking into consideration the confirmed funding from IOC's RP (US\$ 29,250) and the extra-budgetary funds received from the USA (US\$ 40,000).

	<b>IOC RP</b>	<b>USA TF</b>	<b>IOC TEMA</b>
<u>ITIC support:</u>			
- ITP Hawaii	-	15,500	-
- ITP International	-	3,500	-
- Newsletter and library	6,000	-	-
- ITIC Dir/Assoc Dir travel	11,500	-	-
<u>ITSU-XX &amp; Workshop</u>			
- Secretariat travel	6,000	-	-
- Participants support	3,000	-	-
<u>Officers participation in other meetings</u>	2,000	-	-
<u>Information Kit</u>	1,000	-	-
<u>Working groups</u>			
WG Troika	-	-	5,000
WG CAPC-TWS	-	-	5,000
WG SWP-TWS	-	-	5,000
<u>Training video</u>	-	10,000	
<u>Web site renewal &amp; Related training</u>	-	11,000 (*)	
<b>TOTALS</b>	<b>29,500</b>	<b>40,000</b>	<b>15,000</b>

(\*) Note that permission needs to be obtained from the USA to use funding for the renewal of the web site and organize related training as the funding is currently earmarked for training.

The Technical Secretary then informed the Group that the Executive Secretary had proposed a complete re-organization of the IOC as from 2006. During the past two weeks training had been organized at the IOC Secretariat to draft the 2006/07 work plan according to Results Based Management (RBM) principles. According the proposed plan the IOC programme will have the following structure:

- MLA1: Addressing scientific uncertainties for the management of the marine environment and climate change;
- MLA2: Developing operational capabilities for the management and sustainable development of the open and coastal ocean;
- MLA3: Building capacity of member states in marine scientific research for management of coastal ocean resources.

The above plan is substantially different from the structure adopted by the IOC Executive Council during its 37<sup>th</sup> Session (Resolution EC-XXXVII.11 and Document IOC/EC-XXXVII/2 Annex 16)) which comprised 5 MLAs including MLA3: developing and strengthening the global mechanism to ensure full and open access to ocean data and information for all.

Under the new structure ITSU will be included in MLA2 Developing operational capabilities for the management and sustainable development of the open and coastal ocean under the Action "Support the work of the joint commission on oceanography and marine meteorology (JCOMM) and other activities". The Ocean Services Section that previously handled MLA3 may be abolished and the Head of Ocean Services (P.Pissierssens) will work under the Head of Section of MLA2, K. Alverson.

The proposal for re-organization will be submitted to the IOC Assembly in June 2005 for discussion.

## 6. ANY OTHER BUSINESS

The Chairman referred to a communication he received from Hugo Gorziglia (IHO) in which he inquired about the possibility to disseminate tsunami warnings also to ships and boats through the radio navigation warning system (RNW). **The Officers invited** Capt Gorziglia to report on this matter to ITSU-XX.

**Action:** [Capt. Gorziglia](#)

The Officers were invited to participate in the Hawaii Tsunami Technical Review Committee meeting that was organized by the Hawaii State Civil Defense on Thursday 9 December (am). The ITSU Chair made a presentation on the ITSU programme highlighting the importance of international collaboration on tsunami warning and mitigation as a Pacific wide event with potentially disastrous consequences.

The State Civil Defense formed the Tsunami Technical Review Committee (TTRC) in 1998 to reduce the risk of tsunamis to the State of Hawaii. The volunteer TTRC consists of a broad cross section of scientists, engineers, land use planners, emergency managers, and public affairs personnel. Organizations represented included the National Oceanic and Atmospheric Administration (NOAA), the Pacific Tsunami Warning Center, the International Tsunami Information Center, University of Hawaii, Pacific Disaster Center, U.S. Army Corps of Engineers, Federal Emergency Management Agency, American Red Cross, State Department of Education, State Department of Business, Economic Development and Tourism, State Warning Point, State and County Civil Defense Agencies. The committee findings and recommendations represent a technical methodology.

TTRC engages in the following general activities:

- Tsunami Hazard and Risk Assessment
- Tsunami Warning Guidance
- Emergency Management and Mitigation Activities
- Public Awareness Activities

TTRC meets about twice a year, and is funded through State Civil Defense and NOAA's National Tsunami Hazard Mitigation Program.

The Officers noted with appreciation the efforts made by the State of Hawaii in establishing a coordinating mechanism that brings together all stakeholders to ensure an effective preparedness and response system related to the tsunami hazard.

The Officers requested the ITIC Director to collect documentation on the Hawaii Tsunami Technical Review Committee as well as similar bodies in other ITSU member states as this information may assist other ITSU member states who currently do not have such coordinating mechanism.

Action

## **7. DATES AND PLACE OF ITSU-XXI**

The Officers were informed that Ecuador is offering to host ITSU-XXI in 2007. The Officers requested the Chair, once the official offer has been received by the IOC Secretariat, to formally thank the Government of Ecuador for their kind offer. The offer will be reported to ITSU-XX for acceptance. The Officers thanked Ecuador for considering to host ITSU-XXI.

## **8. ADOPTION OF THE SUMMARY REPORT**

The Officers reviewed and adopted the summary report of the meeting.

## **9. CLOSURE**

The ICG/ITSU Chairman closed the Session at 12:00 on Friday 10 December 2004 In his closing address the Chair thanked the Officers for their hard work during the Session. He also thanked the NOAA National Weather Service, Pacific Region, NOAA Pacific Services Center, and ITIC (Laura Kong, Linda Sjogren and Tammy Kaitoku) for hosting the Session.





ANNEX I

AGENDA/TIMETABLE

<b>Time</b>	<b>Monday, 6 Dec.</b>	<b>Tuesday, 7 Dec.</b>	<b>Wednesday, 8 Dec.</b>	<b>Thursday 9 Dec.</b>	<b>Friday 10 Dec</b>
09h00 11h00	1. Opening 2. ITSU-19 Decisions Implementation	2. ITSU-19 Decisions Implementation	2. ITSU-19 Decisions Implementation	Hawaii Tsunami Technical Review mtg	7. Awareness & Capacity Building 8. Dates & Place for ITSU-XXI
<b>11h00 11h30</b>	<b><i>COFFEE BREAK</i></b>	<b><i>COFFEE BREAK</i></b>	<b><i>COFFEE BREAK</i></b>	<b><i>COFFEE BREAK</i></b>	<b><i>COFFEE BREAK</i></b>
11h30 13h00	2. ITSU-19 Decisions Implementation	2. ITSU-19 Decisions Implementation	3. ITSU-20 Preparations	Hawaii Tsunami Technical Review mtg	9. Adoption of the report 10. Closure
<b>13h00 14030</b>	<b><i>LUNCH BREAK</i></b>	<b><i>LUNCH BREAK</i></b>	<b><i>LUNCH BREAK</i></b>	<b><i>LUNCH BREAK</i></b>	<b><i>LUNCH BREAK</i></b>
14h00 17h00	2. ITSU-19 Decisions Implementation	2. ITSU-19 Decisions Implementation	3. ITSU-20 Preparations 4. ITIC Activities	5. Tsunami programme at EC- 36 and IOC-23 6. Resources	



## ANNEX II

### LIST OF PARTICIPANTS

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## **ANNEX III**

### **ITSU-XX PROVISIONAL AGENDA**

- 1. OPENING**
- 2. ORGANIZATION OF THE SESSION**
- 3. PROGRESS IN THE PROGRAMME IMPLEMENTATION**
  - 3.1 REPORT OF THE CHAIRMAN ON THE PROGRAMME AND BUDGET
  - 3.2 NATIONAL REPORTS
  - 3.3 ITIC DIRECTOR'S REPORT
  - 3.4 PTWC DIRECTOR'S REPORT
  - 3.5 WORKING GROUP ON A COMPREHENSIVE TSUNAMI HAZARD REDUCTION PROGRAM
  - 3.6 WORKING GROUP ON THE CENTRAL AMERICA PACIFIC COAST TSUNAMI WARNING SYSTEM
  - 3.7 WORKING GROUP ON THE TSUNAMI WARNING SYSTEM IN THE SOUTHWEST PACIFIC AND INDIAN OCEAN
  - 3.8 REPORT ON GLOBAL HISTORICAL TSUNAMI DATABASE PROJECT
  - 3.9 RECENT TECHNOLOGICAL DEVELOPMENTS
- 4. ITSU STRATEGIC PLAN**
  - 4.1 Evaluation of the ITSU Programme
  - 4.2 ITSU and IOC's reorganization as from 2006
  - 4.3 ITSU Master Plan
- 5. TRAINING AND EDUCATION**
  - 5.1 ITSU TRAINING PROGRAMME
  - 5.2 TRAINING COURSES (EXPERT LEVEL)
  - 5.3 PUBLIC EDUCATION
  - 5.4 OTHER
- 6. ITSU PUBLICATIONS AND AWARENESS TOOLS**
  - 6.1 TSUNAMI NEWSLETTER
  - 6.2 TSUNAMI INFORMATION KIT
  - 6.3 ITSU WEBSITES
  - 6.4 OTHER
- 7. REGIONAL AND OTHER TSUNAMI WARNING SYSTEMS**
  - 7.1 NORTHWEST PACIFIC TSUNAMI WARNING SYSTEM
  - 7.2 IAS TSUNAMI WARNING SYSTEM
  - 7.3 CENTRAL AMERICA PACIFIC COAST TSUNAMI WARNING SYSTEM
  - 7.4 SOUTHWEST PACIFIC AND INDIAN OCEAN TSUNAMI WARNING SYSTEM
  - 7.5 OTHER REGIONS
- 8. EXISTING PARTNERSHIPS AND OPPORTUNITIES FOR NEW ONES**
  - 8.1 CO-OPERATION WITH THE IUGG TSUNAMI COMMISSION
  - 8.2 CO-OPERATION WITH ISDR
  - 8.3 WORLD DATA CENTRE-A, SOLID EARTH GEOPHYSICS DEVELOPMENTS RELATED TO TSUNAMIS

- 8.4 COOPERATION WITH SOPAC
- 8.5 COOPERATION WITH GLOSS
- 8.6 COOPERATION WITH JCOMM
- 8.7 OTHER

- 9. PROPOSALS FOR FUTURE PROJECTS**
- 10. OTHER BUSINESS**
- 11. PROGRAMME AND BUDGET FOR 2006-2007**
- 12. DATES AND PLACE FOR ITSU-XXI**
- 13. ELECTION OF CHAIR AND VICE-CHAIR**
- 14. ADOPTION OF THE SUMMARY REPORT AND RECOMMENDATIONS**
- 15. CLOSURE**

ANNEX IV

ITSU-XX PROVISIONAL LIST OF DOCUMENTS

Working Documents	Title	Agenda Item	Responsible	Deadline for submission
IOC/ITSU-XX/1 prov.	Provisional Agenda	1	FS/PP	Feb
IOC/ITSU-XX/1 add.	Provisional Timetable	1	FS/PP	Feb
IOC/ITSU-XX/2 prov.	Annotated Provisional Agenda	1-14	FS/PP	Jul
IOC/ITSU-XX/3	Summary Report (prepared during the Session)	15	FS/PP	Oct
IOC/ITSU-XX/4 prov.	Provisional List of Documents (this Document)	1	FS/PP	Sep
IOC/ITSU-XX/5 prov.	Provisional List of Participants	1	PP	Oct
IOC/ITSU-XX/6	Report of the Chairman of ICG/ITSU on Intersessional Activities	3.1	FS	Aug
IOC/ITSU-XX/7	National Reports on Tsunami-related Activities	3.2	MS/PP	Aug
IOC/ITSU-XX/8	Report of the ITIC Director	3.3	LK	Aug
IOC/ITSU-XX/9	Report of the PTWC Director	3.4	CM	Aug
IOC/ITSU-XX/10	Report of the Working Group on a comprehensive Tsunami Hazard Reduction Programme	3.5	LK	Aug
IOC/ITSU-XX/11	Report of the Working Group on the Central America Pacific Coast Tsunami Warning System	3.6	Gutierrez	Aug
IOC/ITSU-XX/12	Report of the Working Group on the Tsunami Warning System in the Southwest Pacific and Indian Ocean	3.7	Masturyono	Aug
IOC/ITSU-XX/13	Report on the Global Historical Tsunami Database Project	3.8	Gusiakov	Aug
IOC/ITSU-XX/14	ITSU Training Programme (2004-2005)	5	LK	Aug
IOC/ITSU-XX/15	Report on ITSU Publications and Awareness Tools	6	LK/PP	Aug
IOC/ITSU-XX/16	Co-operation with the IUGG Tsunami Commission	8.1	Satake	Aug

FS: F. Schindele  
PP: P. Pissierssens  
CM: C. McCreery

MS: Member States  
LK: Laura Kong

<b>Information Documents</b>	<b>Title</b>	<b>Agenda Item</b>	<b>Responsible</b>	<b>Deadline</b>
IOC/ITSU-XX/Inf.1	Local arrangements for ITSU-XX	2	Lorca	Jul
IOC/ITSU-XX/Inf.2	Format guidelines for the submission of National Reports	3.2	PP	Feb
IOC/ITSU-XX/Inf.4	List of IOC Circular Letters related to ITSU (inter-sessional period 2004-2005) (available from web site on <a href="http://ioc.unesco.org/itsu/categories.php?category_no=14">http://ioc.unesco.org/itsu/categories.php?category_no=14</a> )	1-14	PP	done
IOC/ITSU-XX/Inf.5	Extract from the Summary Report of the Thirty-seventh Session of the IOC Executive Council (Paris, 23-29 June 2004) and 23 <sup>rd</sup> Session of the IOC Assembly (June 2005) related to ITSU	3.1	PP	done
<b>IOC Governing Bodies</b>				
IOC/ITSU-XIX/3	Summary Report of the ICG/ITSU Nineteenth Session (Wellington, New Zealand, 29 september – 2 October 2003)	1-14	-	-
IOC/EC-XXXVII/3	Summary Report of the Thirty-seventh Session of the IOC Executive Council (Paris, 23-29 June 2004)	1-14	-	-
<b>IOC Workshop Reports, Training Course Reports, Technical Series</b>				
IOC Technical Series No. 1124	Tsunami Master Plan, 1999, UNESCO (E,F,S,R)	5		
	Tsunami Glossary, 2001 (E,F,S,R)	5.3		
	Tsunami Information Kit	5.2		
ITIC publications	<b><u>Tsunami Newsletter</u></b>	5.1		
<b>Other Documents</b>				



ANNEX V

NATIONAL REPORT FORMAT

As agreed by ITSU Officers, 12 February 2003

NATIONAL REPORT FORMAT(\*) submitted by .....  
(country name)

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**BASIC INFORMATION**

**1.- ICG/ITSU National Contact:**

Name:  
Organization:  
Postal Address:  
e-mail Address:  
Telephone Number:  
Fax Number:  
Cellular phone:

**2.- Primary Warning Recipient.** (person, agency or organization with primary responsibility receiving and acting upon messages issued by PTWC)

Name:  
Responsible Organization:  
Postal Address:  
e-mail Address:  
Emergency Telephone Number:  
Emergency Fax Number:  
Emergency Cellular phone:

**3.- Tsunami Advisor(s).** (Person, Committee or Agency managing Tsunami mitigation)

Name:  
Postal Address:  
e-mail Address:  
Emergency Telephone Number:  
Emergency Fax Number:  
Emergency Cellular phone:

**4.- Local Tsunami Procedures.** (if a local tsunami hazard exists)

- What organization identifies and characterizes tsunamigenic events in the immediate source area??
- What is the threshold for declaring a potential local tsunami emergency??
- What organization acts on the information provided by the agency responsible for characterizing the potential local tsunami threat??
- How is the emergency situation terminated??

**5.- Distant Tsunami Procedures.** (when distant tsunami hazard exists)

- What organization becomes aware of tsunamigenic events from a distant source??
- What action does this organization take with regard to tsunamigenic events from a distant source??
- What are the criteria for initiating tsunami mitigation procedures??

- What actions were taken in response to warnings issued by PTWC during the intersessional period??

6.- **National Sea Level Network.** (Please include a table with position and description of stations/sensors).

7.- **Information on Tsunami occurrences.** (Please include records, pictures, etc.)

**SUMMARY**

(Brief statement of no more than one page addressing all items discussed in the Narrative section of the National Report, to be published in the ITIC Tsunami Newsletter and website.)

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.....  
.....  
.....

**NARRATIVE**

(Detailed description of innovations or modifications to National tsunami warnings procedures or operations since last National Report. Tsunami research projects on mitigation, as well as public education programmes or other measures taken to heighten awareness of the tsunami hazard and risk.)

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.....  
.....  
.....  
.....

Date: .....  
Name: .....

(\*) as agreed at IOC/ITSU-XVIII.

## ANNEX VI

### STRUCTURE OF THE UNIFIED ITIC/ITSU WEB SITE

#### GENERAL INFO

- **About tsunamis**
  - The Great Waves
  - What causes tsunami?
  - Tsunamis on the move
  - How we save lives
  - Reading List (list of books and articles with links)
    - Overviews (list of links)
    - Great Waves (in PDF and html version) (multiple languages)
  - Learn more: Tsunami Glossary
  - Education/classroom
  - Photogallery
  - Tsunamis in the Press
- **Tsunami warnings**
  - What are they?
  - Current messages
  - Previous messages
- **Am I in danger?**
  - Risk zones around the Pacific
  - Where will the water reach? (inundation maps)
  - Warning signs
- **What to do?**
  - Safety rules
    - Warning signs
  - Before a tsunami
  - After a tsunami
- **IOC's tsunami programme**
  - What is the ICG/ITSU?
  - What is ITIC?
- **For the media**
- **Contacts**
  - In your country
  - At IOC and ITIC

#### TECHNICAL INFO

- **ITSU structure**
  - Member states/ National contacts
  - Officers
  - Secretariat
  - ITIC
  - PTWC
  - Working Groups
  - IOC Decisions on ITSU
  - Cooperation with other organizations

- ICG/ITSU history  
(when established, who were Chairs/Vice Chairs, other relevant historical facts)
- ICG/ITSU Sessions
  - ITSU-XX (session site)
  - ITSU-XIX
  - ITSU-VIII
  - Before ITSU-XVIII
- Strategy and management
  - ICG/ITSU Session Work plans (action sheets)
  - Circular Letters
  - Annual reports [do we have these?]
  - Strategic Plan
    - ITSU Master Plan
    - ITSU Evaluation
- National/Regional systems
  - National
  - Central America Pacific Coast
  - Southwest Pacific and Indian Ocean
  - Pacific Region
- Products and services
  - Tsunami database
  - Model outputs
  - Signs and Symbols
  - Public Info tools
    - Newsletter
    - Posters, Slideshows, etc
  - Directory of tsunami experts (pool of experts)
  - Tsunami research
  - Tsunami related meetings
- Tsunami Warnings
  - Logs
  - Data
- Tsunami Events
  - Current messages
  - Recent data
  - Historical data
  - Media resources
- Training programme
  - ITSU Training programme at ITIC
    - Next course
    - Past courses
    - List of Alumni
  - ITSU Training Programme International
    - 2003, 2004,...
  - Training materials
- Library
  - Browse and Search
- Other tsunami info sources

[end]