



**TOWARD GLOBALLY HARMONIZED TSUNAMI WARNING SYSTEM  
-INITIATIVES OF IOC/UNESCO-**

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# Tsunami issues in IOC

- 1960 Tsunami in the entire Pacific by the big earthquake in Chile
- 1965 International Tsunami Information Center (ITIC) established in Honolulu
- 1968 1<sup>st</sup> session of ICG/ITSU (International Tsunami Warning System in the Pacific)
- 2003 19<sup>th</sup> session of ICG/ITS
- 2004 Indian Ocean Tsunami
- 2005 23<sup>rd</sup> Session of IOC Assembly: Resolution XXIII-12-15 establishment of ICGs
- 2007 24<sup>th</sup> Session of IOC Assembly: Resolution XXIV-14 establishment of TOWS-WG
- 2011 East Japan Tsunami
- 2011 26<sup>th</sup> Session of IOC Assembly: Resolution XXVI-7
- 2012 Japan-Unesco/IOC-UNU Symposium in Tokyo



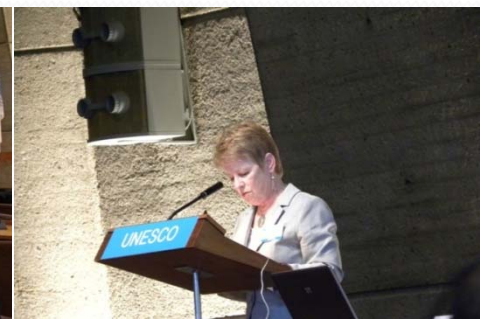
# IOC

## Intergovernmental Oceanographic Commission of UNESCO

Established in 1960, the Intergovernmental Oceanographic Commission of UNESCO promotes international cooperation and coordinates programmes in marine research, services, observation systems, hazard mitigation and capacity development in order to learn more and better manage the nature and resources of the ocean and coastal areas. Through the application of this knowledge the Commission aims to improve management practices and the decision-making process of its Member States, foster sustainable development and protect the marine environment.

In addition, The Commission strives to further develop ocean governance, which necessitates strengthening the institutional capacity of Member States in marine scientific research and of ocean management.

146 Member States



## Officers of IOC

Chair : S-K BYUN (Rep. of Korea)

Vice Chairs : (EG-1) P. HAUGAN (Norway)  
(EG-2) A. PALAZOV (Bulgaria)  
(EG-3) F. A. S. NOGUEIRA (Brazil)  
(EG-4) Y. MICHIDA (Japan)  
(EG-5) A. B. BLIVI (Togo)

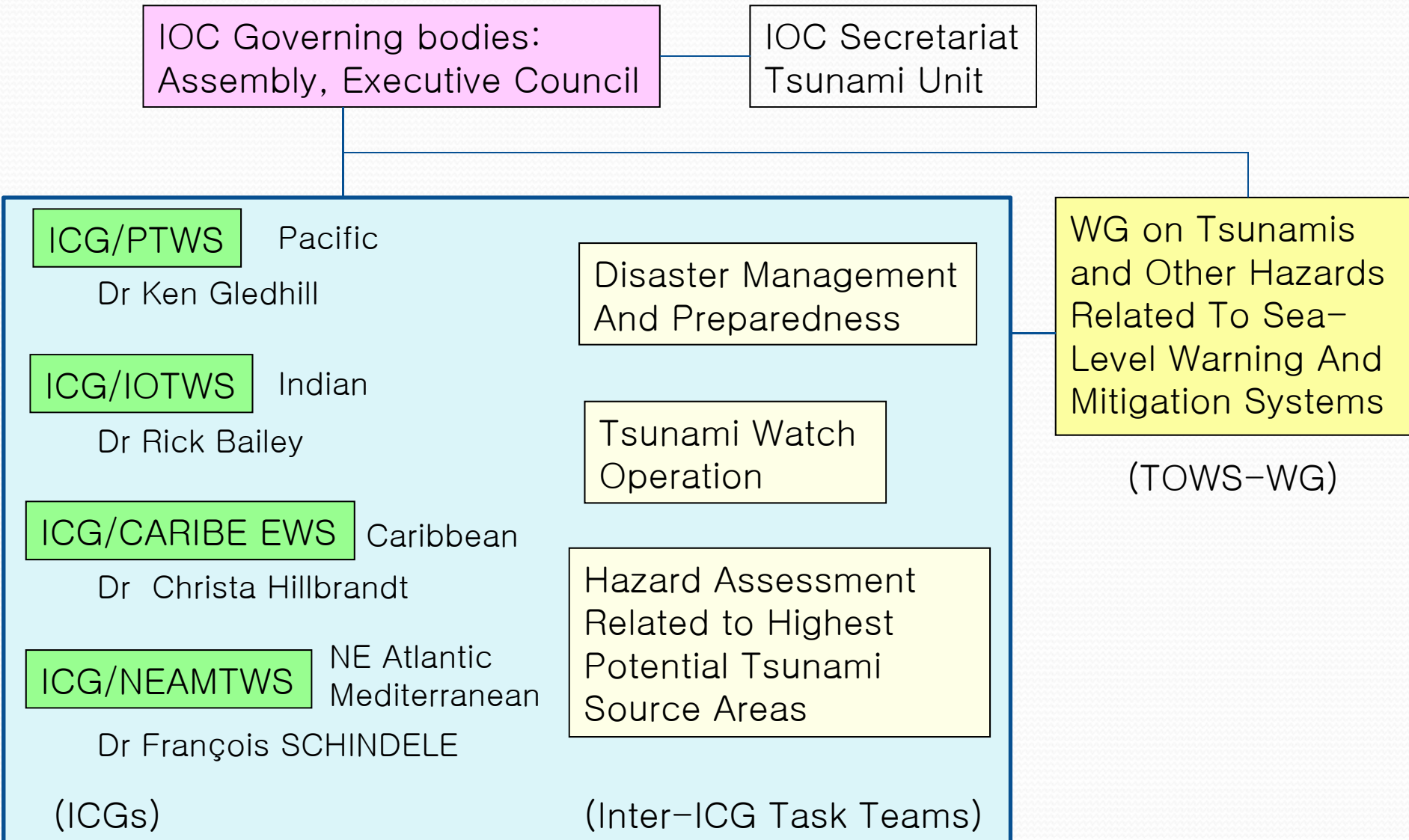
Executive Secretary: W. W. Wright (Canada)

Ex-Chair : J. Valladares (Argentine)

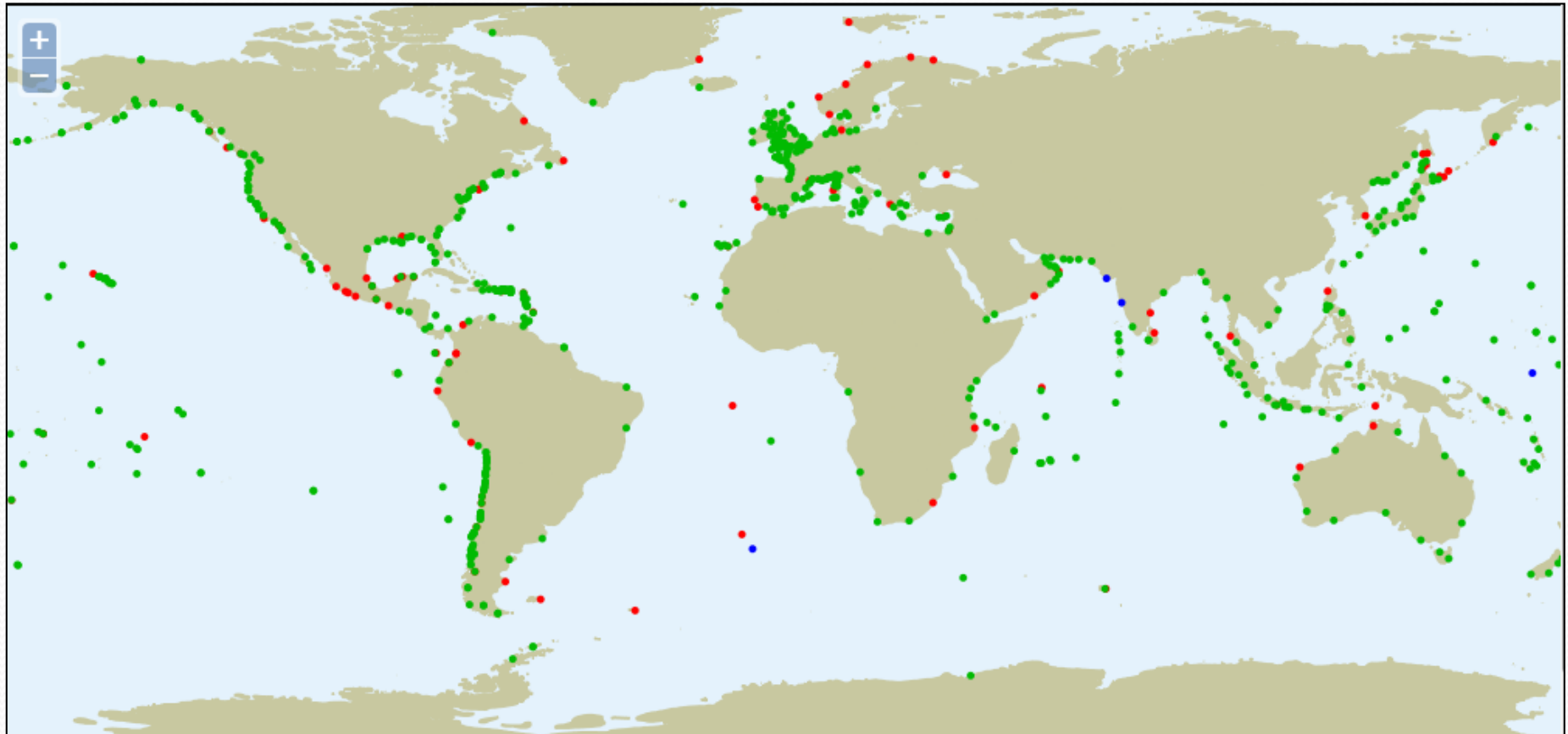
【Re-Elected at 27<sup>th</sup> Assembly in June-July 2013】



# Structure of Tsunami Programme in IOC



## Global tsunami monitoring network





## References

Decision XXVII/Dec.5.2.2 (2013)

Decision EC–XLV/Dec.3.2 (2012)

Resolution XXVI–7 (2011)

Resolution EC–XLIII.6 (2010)

Resolution XXV–13 (2009)

Resolution EC–XLI.6 (2008)

Resolution XXIV–14 (2007)



## TOWS-WG

- **TOWS-4:** UNESCO Headquarter (Paris, France)  
20–21 March 2011 (Chair: Dr Sang-Kyung BYUN)  
to review progress with respect to actions and decisions taken by Governing Bodies, including preliminary report on 3.11 tsunami in Japan
  
- **TOWS-5:** UNU (Tokyo, Japan)  
15 February 2012 (Chair: Dr Yutaka MICHIDA)  
to review progress during the inter-sessional period including tsunami exercises, including discussions on the issues related to communication and education, and collaboration with IOC's and non-IOC's bodies




## TOWS-VI, Unseco, 21-22 Feb. 2013

The group recognized that the current financial situation strongly limits the implementation of the tasks of the Group, ICGs and Inter-ICG Task Teams and strongly urged the Member States to increase their extra-budgetary contributions to the IOC to provide the needed resources for the priorities identified by TOWS-WG and ICGs.

The group accepted the recommendations from the Task Team on Tsunami Watch Operations and requested the Task Team to implement them, in particular,

- Finalize the documentation of areas of responsibilities;
- Develop a standard questionnaire for post-event analysis in consultation with the Task Team on Disaster Management and Preparedness.



The group requested the Inter-ICG Task Team on Tsunami Watch Operations to review the present status of issuing of tsunami advisories to shipping and recommend ways of enhancing dissemination in consultation with relevant organizations including WMO, IHO and IMO.

The group strongly encouraged the Inter-ICG Task Team on Hazard Assessment Related to Highest Potential Tsunami Area to meet as soon as possible.

The group agreed that the work on ‘Outreach and Communications Plan for the IOC Tsunami Programme’ should be implemented by the Group under the leadership of the Chair of ICG/IOTWS.

The group requested that routine reporting on how the IOC tsunami alert list server is performing should be provided to the Group and that the Task Team on Tsunami Watch Operation will review what information goes on the list server and report to the Group.





The group recommended the IOC Assembly:

- To extend the TOWS–WG for a further inter–sessional period, with the same mandate and membership;
- To consider establishing the Inter–ICG Task Teams on Disaster Management and Preparedness and on Tsunami Watch Operations on a more regular basis with their revised TORs and propose composition;
- To grant additional time for the TOWS–WG to develop Terms of Reference for the studies of data gap analysis and the conduct of these studies by the ICGs.



TOWS-VI, UNESCO, Feb. 21-22, 2013



# Tsunami Symposium in Tokyo, Feb 2012

Japan –UNESCO/UNU Symposium on The Great East Japan Tsunami on 11 March 2011 and Tsunami Warning Systems: Policy Perspectives

Date : 16–17 February 2012

Venue : United Nations University, Tokyo, Japan

Participants : ~ 300

**Welcoming** remarks by His Imperial Highness Crown Prince,

Opening by Ms Irina Bokova, Director General of UNESCO

Opening address by Dr Konrad Osterwalder, Rector of UNU

Closing remarks by Mr Koichiro Matsuura, former Director General of UNESCO

# Tsunami Symposium in Tokyo, Feb 2012

Session 1: What happened during the Tsunami of 11 March 2011? What was unexpected? What is a new strategy to prepare for the unexpected?

Session 2: Run away from the Tsunami! Why do some people not evacuate? Education in schools and communities.

Session 3: Towards the improvement of standard operational procedure (SOP) of Tsunami warning centers. What is an understandable and effective Tsunami warning?

Session 4: What is the role of Mass Media: Global media collaboration in response to natural hazards and preparedness?

Session 5: Strengthening international cooperation: Role of international organizations





## Lessons from Session 5 :

IOC/UNESCO with partner organizations must continue to lead the coordination of global tsunami warning systems. Important elements of this coordination include:

- Ensuring the robust, efficient and effective performance, and global coverage of end-to-end, interoperable warning systems for coastal hazards, operated by mandated national agencies, requires intergovernmental coordination in norm- and standards- setting.
- Continuing to raise awareness about the tsunami threat and to advocate why nations need to invest in warning systems.
- Facilitating the exchange and sharing of information on all facets of end-to-end tsunami warning systems, from tsunami detection to community education response
- Continuing to provide for networking and stimulation of education and multi-disciplinary science and enabling research in support of tsunami warning systems and mitigation efforts.
- Facilitating the provision of data and information to all countries.



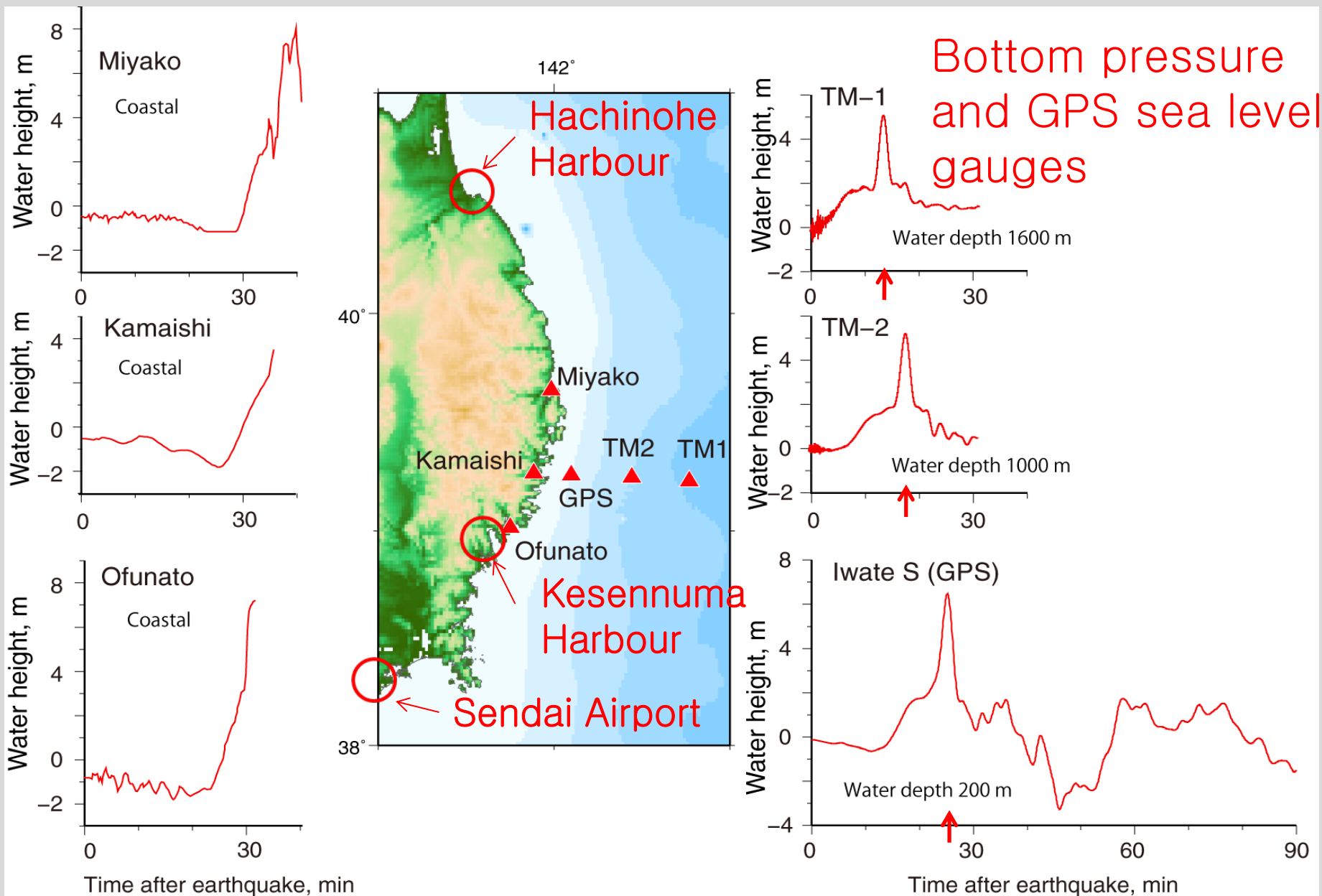
Tsunamis hit Japan with lost of some lives for the last 100 years

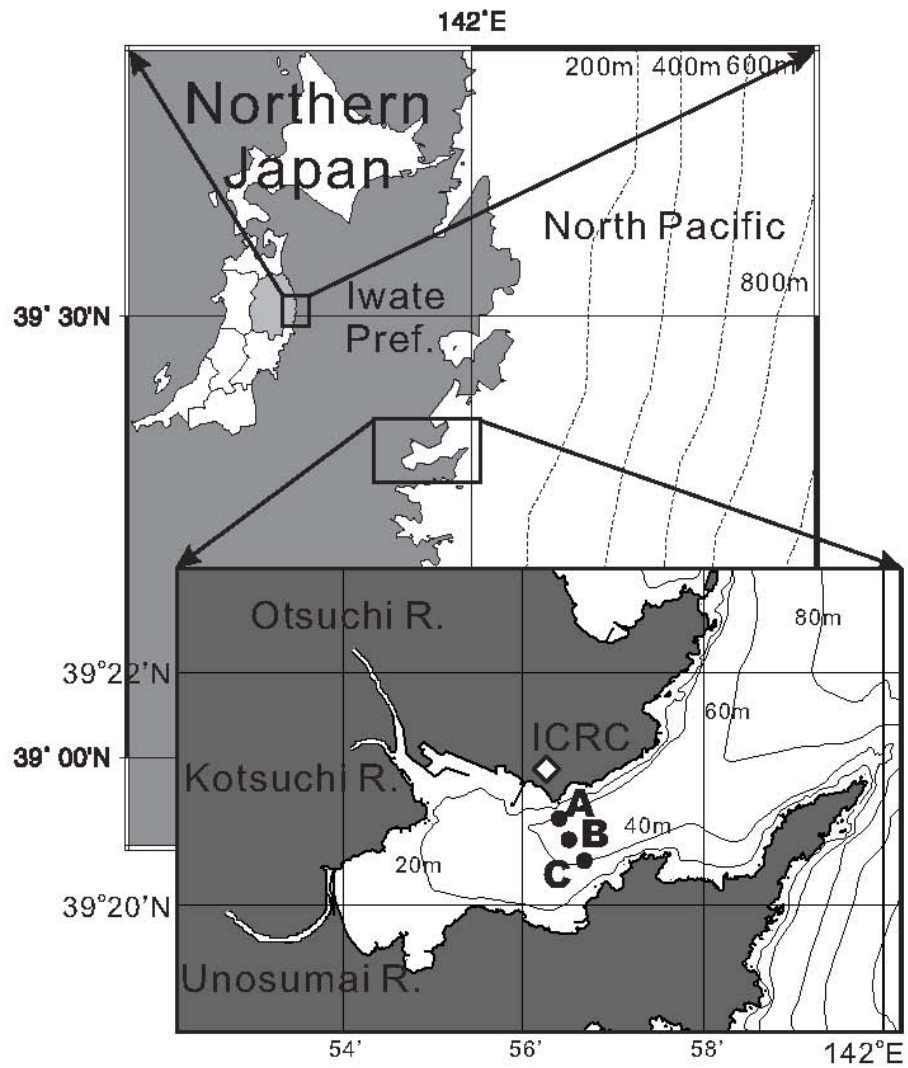
- 1923 Kanto EQ
- 1940 Shakotan EQ (Japan Sea)
- 1944 Tonankai (Southeastern trough) EQ
- 1946 Nankai (Southern trough) EQ
- 1952 Tokachi EQ
- 1960 Chile EQ tsunami
- 1983 Central Japan Sea EQ
- 1993 Southwest Hokkaido EQ
- 2011 Great east Japan EQ

After the 3.11 tsunami in 2011, Japanese society and people seem to accept a certain level of inconveniences and some economical disadvantages with evacuating activities upon the tsunami warnings.



# Observed Tsunami Wave Height









Main building of ICRC in Otsuchi Town before and after the tsunami on Mar 11



The second highest tsunami waves were hitting the main building of ICRC.  
(photo taken by Prof. Otake, the Director of the ICRC)





Downtown of Otsuchi on Mar 21,  
10 days after the disaster

The skeleton of the apartment where  
Michida used to live until April 2010.



## In conclusion,

- IOC plays continuously a leading role in intergovernmental coordination towards harmonized system of warning and mitigation for tsunami and other sea-level related hazards, based on its function and long history since 1960s, and through close collaboration with other international bodies.





Thank you