TOWS Inter-ICG Task Team

on Hazard Assessment Related to Highest Potential Tsunami Source Areas
Original TERMS OF REFERENCE (2011)

The Inter-ICG Task Team on Tsunami Potential Assessment, taking into account the progress achieved by relevant working groups within the ICGs, shall:

(i) develop a comprehensive list of active subduction zones and other seismotectonic zones around the globe having potential of generating great tsunamigenic earthquakes (~8.0 to 9.0);

(ii) develop a comprehensive list of « tsunami earthquake » zones (slow earthquakes capable of generating large tsunamis in comparison to their magnitude);

(iii) explore mechanisms to enhance our knowledge about the potentially tsunamigenic areas as per items (i) and (ii) provide a report to TOWS-WG in advance of its 5th Meeting in 2012.

The representatives to the Inter-ICG Task Team on Tsunami Potential Assessment shall be nominated by their respective ICG Chairpersons, and appointed by the IOC Chair, who will also appoint the chair of the task team. The IUGG Tsunami Commission will be invited to nominate two appointed members to this Task Team.
Members

- PTWS  Sergio Barrientos (Chile)
- PTWS  Laura Wallace (New Zealand)
- CARIBE-EWS  Frank Audemard (Venezuela)
- CARIBE-EWS  Alberto Lopez
- NEAMTWS  Maria Ana Baptista (Portugal)
- NEAMTWS  Helene Hebert (France)
- IOTWS  Phil Cummins (Australia)
- IUGG TC  Emile Okal (USA)
- IUGG TC  Kenji Satake (Japan)  [Chair]
First meeting (September 2013, Gocek)

• Laura Wallace - Faulted Earth Subduction Characterization Project
• Phil Cummins – Probabilistic tsunami hazard assessment of Indian Ocean nations
• Discussion on the format of report
Second meeting (October 2014, Rhodes)

Okal: Tsunami Earthquakes: the Persisting Challenge

Gusiakov: Tsunami hazard assessment and maximum credible earthquake size in Kuril-Kamchatka region

Satake: Approaches to estimate maximum earthquake

López: Tsunami hazard assessment pertaining to Northern Hispaniola, Caribbean

Yalciner: a brief overview of earthquake hazards in the Mediterranean

Discussion and Recommendation
Our tasks

i. Summarize current knowledge on "tsunami earthquakes".

ii. Review how maximum credible earthquake size and likelihood have been incorporated

iii. Discuss how different approaches can be harmonised

iv. Work towards a consensus on best practices for tsunami hazard assessments
Recommendation

1. to provide guidance to the four regional tsunami ICGs on how to calculate seismic hazard risks, including a possibility of “tsunami earthquake” and maximum credible magnitude, based on Global Earthquake Model (GEM) Faulted Earth Subduction Characterisation Project and also based on the earthquake parameters used in the UNISDR Global Assessment Report 2015 – GAR 2015 which some of the Task team members have also been involved in the compilation.
Recommendation

2. to move along with the proposed workshop on developing best practices for hazard assessment. Convene the workshop in the margins of the next IUGG meeting in Prague July 2015 where the IUGG Tsunami Commission will also convene.
The IOC/UNESCO workshop on Tsunami Earthquake and Maximum Earthquake Size for Tsunami Warning and Hazard Assessments

Room 221

June 30 afternoon (14:00-)

July 1 morning and afternoon
Provisionary Agenda  30 June 13:30-

1. Introduction (background) of Task Team  (Aarup/Satake)

2. Report of past activities     Satake

3. Subduction-zone earthquakes  (Thorne Lay)

4. Inputs from each ICG representative on what they expect

    PTWS,  CARIBE-EWS, NEAMTWS,  IOTWS
A GLOBAL SURGE OF GREAT EARTHQUAKES
AND THEIR TSUNAMI

Thorne Lay, University of California Santa Cruz
ARCHITECTURE OF NEAMTWS AND TSUNAMIS IN THE REGION

Prof. Dr. Ahmet Cevdet YALCINER

(UNESCO NEAMTWS ICG Chair)

http://yalciner.ce.metu.edu.tr/
yalciner@metu.edu.tr

June 30, 2015
CARIBE EWS
Considerations to TOWS Task Team
Highest Potential Tsunami Source Areas Workshop

Christa von Hillebrandt-Andrade
Chair CARIBE EWS
June 30, 2015
Prague - IUGG
Provisionary Agenda  1st July

Morning  9:00 – 12:00

5. Presentations
   Paula Dunbar   NOAA tsunami database
   John Schneider  GEM project
   Fin Lovholt   Global Tsunami Model
   William Power   Tsunami earthquakes in New Zealand

Afternoon
6. Discussion on the Task Team output
7. Summary
NOAA/NCEI-WDS Integrated Tsunami Database: Data for improved forecasts, warnings, research, and hazard assessments

Paula Dunbar

Kelly Stroker, George Mungov, Aaron Sweeney

1NOAA National Centers for Environmental Information (NCEI), Boulder, United States
2Cooperative Institute for Research in Environmental Sciences (CIRES), University of Colorado, Boulder, United States,
Global Tsunami Model (GTM) – initial ideas and outcome of first scoping meeting

F. Løvholt

On behalf of the GTM network initiative

IOC – TOWS meeting, IUGG, Prague 01.07.2015
Report from WG

• Database exists to provide comprehensive list of tsunamis in the past
  NOAA, Ruissan, Euro-Mediterranean Catalog
• Recent case studies demonstrated complexity and variability, as well as importance of other
  types of tsunami sources (outer-rise,
    Lay’s review
• “Tsunami earthquake” can happen any subduction zones (including NEAM/CARIBE)
  Okal’s review on “tsunami earthquakes”
  Power’s study for NZ, Gusiakov for Russia
• Ongoing attempts such as GEM to estimate the maximum size
  GEM list, Mmax max provides better guidance for tsunami threat assessment
  but it does not include other source than subduction-zone earthquakes
• Tsunami hazard assessment should include consideration of probability and uncertainty
  (including “tsunami earthquakes”. Probabilistic tsunami hazard (and risk) assessments, such
  as the ones foreseen by the proposed GTM initiative, is one way to do it
    GTM
    harmonization of GEM and GTM
• Closer interaction between scientists and disaster managers need to take place in order for
  integrated disaster risk reduction. Development of tsunami hazard/risk guidelines such as
  the IOTWS should be considered to extend to other ICGs
    IOTWS guideline 2009