



United Nations
Educational, Scientific and
Cultural Organization



Intergovernmental
Oceanographic
Commission

IOC/UNESCO SYMPOSIUM

Advances in Tsunami Warning to Enhance Community Responses

Programme

12 – 14 February 2018



Federal Ministry
of Education
and Research



UNESCO, Paris
February 2018
English only

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Acknowledgement

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Ministry of Education and Research, Germany.

The lunch time side event on Tuesday 13 February 2018 is co-sponsored with the
Climate Risk and Early Warning Systems (CREWS) programme.

Background

The Assembly of the Intergovernmental Oceanographic Commission of UNESCO decided at its 29th session (21-29 June 2017, Paris) to *conduct a symposium on enhancing existing operational tsunami forecasting to further develop warning products and enhancing timely, accurate, reliable and effective decision-making and community response, involving experts from monitoring networks, seismology, tsunami forecast modelling and warning centres, maritime authorities, and national and local emergency management authorities with advice on product requirements.*

Tsunamis are "short-fused" hazards that can impact coastal communities within minutes, and at best only hours. This requires extremely rapid threat assessment and warning of communities, which is both technically and practically challenging.

Recognising the needs of emergency responders and at-risk coastal communities for even more timely and accurate tsunami warnings than currently available, the Symposium will address the following issues:

- 1) Bring emergency responders and users of tsunami warnings together with scientists and warning authorities to exchange information on requirements and possible solutions.
- 2) Review latest and potential new technologies and procedures for estimating tsunami threat and test their suitability and feasibility for providing more timely and accurate warnings.
- 3) Consider ways of estimating uncertainties associated with threat assessments and optimal ways of conveying to decision-makers.
- 4) Examine ways of utilising enhanced tsunami threat information in making decisions with regards to emergency responses.
- 5) Provide information on the latest technologies for disseminating tsunami warning information to responders and communities.
- 6) Formulate roadmaps for developing and implementing new technologies, procedures and their application in enabling more effective and inclusive community responses to tsunami threats.

The structure of the Symposium consists of plenary sessions, panel discussions within each session and poster sessions. Invited presentation from experts in relevant fields are expected to guide panel discussions.

The two poster sessions cover topics such as:

- Tsunami impacts and responses
- Tsunami hazard and risk assessment
- Tsunami forecasting tools and systems
- Sea level and seismic observing technologies
- Warning protocols
- Communication technologies
- Awareness and preparedness initiatives and resources
- Maritime community, ports and harbours preparedness
- Structural (building) design for tsunami
- World Tsunami Awareness Day

The book of poster abstracts can be downloaded from the web site of the symposium - <http://www.ioc-unesco.org/tsunami-symposium>.

08.15-08.45: Registration

Session 1: Opening

08.45-09.15 Welcome by Vladimir Ryabinin, Executive Secretary of IOC

09.15-10.15 **Keynotes:**

- François Schindelé, Development of global tsunami warning and mitigation systems
- Rick Bailey, Challenges for further development of tsunami warning and mitigation systems

10.15-10.30 Workshop Format (David Coetzee)

- Aim and Approach
- Timetable

10.30-11.00 Coffee Break

Session 2: Requirements - Lessons Learned from Past Tsunamis

11.00-12.30 **Keynotes:**

- Satoshi Harada, System and response improvements since the 2011 Tōhoku Tsunami
- Charles McCreery, What information can tsunami warning centres currently provide?
- David Coetzee, What information is required for appropriate community response?

12.30-14.00 Lunch

14.00-15.30

- Amir Yahav, Public alerting systems
- Ardito Kodijat, Using Social Media for public alerting
- Yuelong Miao, Using traditional media in public alerting
- Andrés Ibaceta, Public alerting protocols and procedures

15.30-16.00 Coffee Break

16.00-17.30 **Panel Discussion:** Successes and Challenges – Sharing lessons learned by countries impacted by tsunami events

- What are the requirements for effective community response?
- What has worked?
- What are the limitations of the current systems that should be addressed?

Moderator: *Laura Kong – Ardito Kodijat*

Panelists: *Öcal Necmioğlu – Andres Ibaceta – Satoshi Harada – Michael Angove*

17.30-18.00 Close of Panel Discussion

18.00-20.00 **Reception and Poster Session 1**

Session 3: Making a Difference – Enhancing Detection, Warning and Community Response to Tsunami Threats

09.00-10.40 **Science and technology**

- Luis Rivera, Earthquake generation and rupture process monitoring for improved tsunami risk assessment and warning
- Ken Gledhill, Enhancing warning lead times through advances in seismic (including Strong Motion) and GNSS analysis
- Diego Arcas, Tsunami detection from in-water observation networks
- Giovanni Occhipinti, Tsunami detection from remote sensing
- Diego Arcas, Improving Tsunami threat characterization through enhanced monitoring and forecasting

10.40-11.15 Coffee Break

11.15-12.30

- Audrey Gailler, Forecasting tsunami inundation and impacts for planning community response
- Stefano Lorito, Conveying uncertainties associated with tsunami warnings and forecasts
- Frédéric Dondin, Warning for non-seismic tsunamis
- Miroslav Ondras, The benefits of Multi-Hazard Early Warning Systems (MHEWS)

12.30-14.00 Lunch

Side event organised in collaboration with the Climate Risk and Early Warning Systems (CREWS) programme: Review of Lessons Learnt on Early Warning Systems following the Caribbean 2017 Hurricane Season

14.00-15.40 **Enhancing Detection, Warning and Community Response to Tsunami Threats - Continued**

- Harkunti P. Rahayu, Tsunami education and awareness in communities
- Alison Brome, Raising awareness in countries and regions with limited tsunami awareness
- Christa v. Hillebrandt Andrade, Preparedness and recognition programmes
- Andrés Ibaceta, Evacuation planning and mapping
- Laura Kong, Preparedness for maritime community and tsunami planning for ports and harbours

15.40-16.10 Coffee Break

16.10-17.30 **Panel Discussion:** Are Tsunami Warning Systems enhancing appropriate and effective community response?

- Are emergency responders' needs being addressed?
- Are there other or further scientific advances required?
- How to deal with uncertainties in risk management and decision making??

Moderator: *Hélène Hébert – Harald Spahn*

Panelists: *Stefano Tinti – Amir Yahav – Sarah-Jayne McCurrach – Yuelong Miao*

17.30-18.30 **Poster Session 2**

Session 4: Sub-Regional Systems and Near-Field Issues and Challenges

09.00-10.00

- Dwikorita Karnawati, The Indonesia National Tsunami Warning System: Developments and Achievements
- Patricio Carrasco, The Chile National Tsunami Warning Center: Recent Enhancements
- Gerassimos Papadopoulos, The July 2017 Kos-Bodrum Tsunami: Near-Field Tsunami Warning Issues

10.00-10.30 **Panel Discussion:** How to enhance efficiency and speed of Tsunami Warning Systems?

10.30-11.00 Coffee Break

11.00-12.00 **Panel Discussion:** How to enhance efficiency and speed of Tsunami Warning Systems? (Continued)

Moderator: *Rick Bailey – Alison Brome*

Panelists: *Harkunti Rahayu – Christa von Hillebrandt-Andrade – Patricio Carrasco – Marzia Santini*

Session 5: Closing

12.00-12.25 Summary of Sessions and Recommendations (David Coetzee)

12.25-12.45 Towards a Roadmap for Future Development of the Global Tsunami Warning System: Goals and Aspirations (François Schindelé)

12.45-13.00 Wrap Up

13.00 **End of Symposium**

UNESCO Facilities

+ Meeting Location

UNESCO Headquarters

Room XI

7, place de Fontenoy

75352 Paris

Tel: +33 (0)1 45 68 10 00

Metro stations: Ségur (line 10) or Ecole Militaire (line 8) or Cambronne (line 6)

+ WiFi Internet Access

In order to use your wireless device (portable computer, PDA) and connect to free Internet access during the breaks, please do the following:

- Enable Wifi connectivity (see your device manual)
- Connect to the network (SSID): HQ-AIR-PUB
- When requested provide the following:
 - a. User ID: hq-air
 - b. Password: uneswifi

+ Cafeterias and restaurants

Conference bar and cafe

The Conference Bar is located in Fontenoy building, in the basement of the Conference Building. The café is located at the 7th floor in Fontenoy Building. Both serve coffee, tea, drinks, cakes, and sandwiches all day.

Cafeteria

7th floor of the Fontenoy Building

Opening hours: Monday to Saturday, 11.45 am.-2.30 pm.

Restaurant

The Lowendal Restaurant on the 7th floor of the Fontenoy Building is open for lunch from Monday to Saturday, 11.45 am-2.30 pm. Reservations – tel.: 81600.

+ Bank

A cash dispenser is at your disposal 24 hours a day at the main entry of the Fontenoy Building.

A stylized illustration of a wave, rendered in shades of blue and white, located in the bottom-left corner of the page. The wave is depicted with a white crest and a dark blue base, set against a light blue background.

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