Report of Regional Working Group on Tsunami Warning and Mitigation System in the South China Sea Region (SCS-WG)

ICG/PTWS Steering Committee Meeting

Honolulu, USA
29 June – 1 July 2016

H Y Mok
Progress

• Tsunami hazard assessment
• Seismic and sea level monitoring capability
• Development of plan to produce/adapt public education materials
• Establishment of the South China Sea Tsunami Advisory Centre
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Scientific meeting of experts for coordinated scenario analysis of future tsunami events and hazard mitigation schemes for the South China Sea region
• 16-18 November 2015, Xiamen, China
• 21 invited experts attended

ICG/PTWS-SCS-WG/V
• 2-4 March 2016, Manila, Philippines
• China, Indonesia, Philippines, Thailand, Vietnam, NWPTAC, UNESCO
Scientific meeting of experts

• Is the Manila Trench the only structure capable of producing a South China Sea wide tsunami?

• What is a comprehensive list of possible tsunami sources in the South China Sea region (local, regional, distant)?

• Are any sources outside the region a potential hazard for the South China Sea region?

• How large an earthquake can be produced by the Manila Trench and other potential sources within the South China Sea region?

• What is the return period for Manila Trench and other main source events?
Presentations

• Paleoseismology and historic events in the South China Sea region and Philippines Trench;

• Seismic studies and potential tsunamigenic sources in the South China Sea region; and

• Technical/Scientific development of tsunami modelling for the South China Sea region, including key parameters.
Discussions

• Earthquake based scenarios – key parameters and geometry of the faults (led by Dr Ishmael Narag);

• Land-slide tsunami potential – coastal areas to be prioritized for local preparedness (led by Dr Ken Gledhill); and

• Tsunami modelling – datasets inventory for topography and bathymetry, priority gaps (led by Dr Philip Liu)
MAJOR CONCLUSIONS AND RECOMMENDATIONS

• The meeting resulted in a better understanding of the tsunami hazard and risk in the South China Sea region
• To form a small group of relevant seismologists among the invited experts to work out an agreed sets of earthquake source parameters for the regional tsunami sources including the Manila Trench.
• To coordinate on a regional level by a group of experts to be identified to conduct a search for tsunami deposits along the shores of the South China Sea and to look at historical literatures to find ancient records of tsunamis.
• To identify potential landslides regions that may generate localized tsunamis, such as by examining pertinent databases.
• The tsunami modelling region for the South China Sea region should be different from and larger than the warning region to cover features outside the domain and sources outside the domain.
• To develop a baseline bathymetric database for the modelling region, to be derived from publicly available data, where available, for all tsunami modellers to use.
• All models should be validated with established benchmark procedures.
• To look at operational capability gaps in Member States and find ways of filling them.
• To ask NOAA/PMEL to integrate regional earthquake sources at Negros, Cotabato, Sulawesi, Sulu and Molucca into ComMIT/MOST
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Seismic and sea level monitoring capability

Progress
• An inventory of seismic and sea level monitoring stations in the South China Sea Region was built based on contributions from PTWC, IOC Secretariat and China

Actions
• To establish a network of seismic and sea level operators, with contact points identified by each of the Member States to coordinate the completion of the list of seismic and sea level monitoring stations available for tsunami monitoring in the South China Sea, and to work towards enhancement of coverage and performance of these networks
• To identify the gaps and discuss the prioritization of additional seismic and sea level stations in the Region
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SCSTAC website (scstac.org)

- Design of SCSTAC website is on-going and expected to open for TT-member comments in Aug 2016
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Thank You