



FALL MEETING

Washington, D.C. | 10-14 Dec 2018

NH22B: The 2018 Mw 7.5 Sulawesi Indonesia earthquake: tsunamigenic potential of strike slip faults I

On September 28, 2018 at 6:03 pm local time (10:03 am UTC) a magnitude 7.5 earthquake ruptured ~80 km north of Palu along the Minahasa peninsula of Sulawesi, Indonesia. The subsequent tsunami struck nearby coasts, resulting in severe damage to infrastructure and a death toll of more than one thousand victims. This event clearly shows that strike-slip earthquakes of this magnitude have the potential to cause damaging tsunamis, at least locally, as result of coseismic displacement, tsunamigenic landslides, and/or local amplifying conditions. Whatever the mechanism, this tsunami has been an important wake up call and emphasizes the need to better understand the tsunami hazard to all coastlines and not only those along major subduction zones. This event serves as a reminder of the importance of continuously updating tsunami forecasting tools, infrastructure, and standard operation procedures, as well as the need for improved community awareness and preparedness. We invite abstracts dealing with analysis and observations of this earthquake and tsunami, including its source and impact, past events in the region, and related earthquake and tsunami risk reduction measures.

Tuesday, 11 December 2018

10:20 - 12:20

📍 *Walter E Washington Convention Center - 151B*

Primary Convener

Stefano Lorito

National Institute of Geophysics and Volcanology

Conveners

Jessica Pilarczyk

University of Southern Mississippi

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National Centers for Environmental Information

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World Meteorological Organization

Jessica Pilarczyk

University of Southern Mississippi

OSPA Liaison

Stefano Lorito

National Institute of Geophysics and Volcanology

Papers

- 10:20 **NH22B-01** The 2018 Mw 7.5 Sulawesi Indonesia earthquake: the immediate response of the InaTEWS Warning Centre at BMKG and related operational issues
Thomas L Hoffmann
Thomas L Hoffmann¹, Bahmat Triyono Sr.², A Weniza², Nova Heryandoko², Gatut Daniarsyad¹, A Karyono¹, A Daryono¹, Muhamad Sadly², A Dwikorita², Joern Lauterjung¹ and Harald Spahn¹, (1)Helmholtz Centre Potsdam GFZ German Research Centre for Geosciences, Potsdam, Germany, (2)Indonesian Agency for Meteorology, Climatology and Geophysics, Jakarta, Indonesia, (3)Indonesian Agency for Meteorology, Climatology and Geophysics BMKG, Jakarta, Indonesia, (4)Freelance Advisor, Berlin, Germany
- 10:35 **NH22B-02** Early and persistent supershear rupture of the 2018 Mw 7.5 Palu earthquake
Lingsen Meng
 (Invited)
Lingsen Meng, University of California Los Angeles, Los Angeles, CA, United States, Han Bao, University of California, Los Angeles, Dept. of Earth, Planetary and Space Sciences, Los Angeles, United States, Jean-Paul Ampuero, Géoazur - Université Nice Sophia Antipolis, Valbonne, France, Eric Jameson Fielding, Jet Propulsion Lab Caltech, Pasadena, CA, United States and Cunren Liang, California Institute of Technology, Pasadena, CA, United States
- 10:50 **NH22B-03** Surface ruptures of the 29 September 2018 earthquake (Mw7.4) on the Palukoro major strike-slip fault in Central Sulawesi, Indonesia
Danny Hilman Natawidjaja
Danny Hilman Natawidjaja¹, Mudrik Rahmawan Daryono², Astyka Pamumpuni³, Endra Gunawan⁴, Sri Hidayati⁵, Mashyur Irsyam⁶, S Supartoyo⁷ and Lutfi Faizal¹, (1)Indonesian Institute of Sciences, Bandung, Indonesia, (2)Indonesian Institute of Sciences (LIPI), Bandung, Indonesia, (3)Bandung Institute of Technology, Geology, Bandung, Indonesia, (4)Bandung Institute of Technology, Geodesy, Bandung, Indonesia, (5)Geological Agency of Indonesia, Center for Volcanology and Geological Hazard Mitigation, Bandung, Indonesia, (6)Bandung Institute of Technology, Civil Engineering, Bandung, Indonesia, (7)Ministry of Public Work and Housing, Research Center for Housing, Bandung, Indonesia

11:05 **NH22B-04** Field survey of the 28 September 2018 Sulawesi tsunami

Hermann M Fritz
(Invited)

Hermann M Fritz¹, Costas Synolakis², Nikos Kalligeris³, Vassilijs Skanavis², Fajar Santoso⁷, Mohammad Rizal⁷, Gegar Sapta Prasetya⁷, Yibin Liu⁷ and Philip L-F. Liu⁷, (1)Georgia Institute of Technology Main Campus, Atlanta, GA, United States, (2)University of Southern California, Los Angeles, CA, United States, (3)University of California, Los Angeles, Los Angeles, CA, United States, (4)Tadulako University, Department of Agrotechnology, Palu, Indonesia, (5)Tsunami Research Foundation Indonesia, Indonesian Tsunami Scientific Community, Jakarta Selatan, Indonesia, (6)Georgia Institute of Technology Main Campus, School of Civil and Environmental Engineering, Atlanta, GA, United States, (7)National University of Singapore, Department of Civil and Environmental Engineering, Singapore, Singapore

11:20 **NH22B-05** International Post-Tsunami Survey for Tsunami Palu-Donggala (ITST-Palu)

Laura S L Kong

Laura S L Kong¹, Ardito Kodijat², Sachi Suzuki², Sriwivasa Kumar³, Ridwan Djamaludin⁴, Sadjuga⁹, Hermann M Fritz¹, Gegar Sapta Prasetya⁷, Costas Synolakis² and Ahmet Cevdet Yalçiner⁸, (1)UNESCO IOC - NOAA, International Tsunami Information Center, Honolulu, HI, United States, (2)UNESCO Intergovernmental Oceanographic Commission, Indian Ocean Tsunami Information Centre, Jakarta, Indonesia, (3)UNESCO Intergovernmental Oceanographic Commission, Secretariat for the Indian Ocean Tsunami Warning and Mitigation System (IOTWMS), Perth, Australia, (4)Coordinating Ministry for Maritime Affairs (CMMA), Jakarta, Indonesia, (5)Ministry for Research, Technology, and Higher Education (MORTHE), Jakarta, Indonesia, (6)Georgia Institute of Technology, School of Civil and Environmental Engineering, Atlanta, United States, (7)Ikatan Ahli Tsunami Indonesia - IATSI, Indonesian Tsunami Scientific Community, Jakarta, Indonesia, (8)University of Southern California, Los Angeles, CA, United States, (9)Middle East Technical University, Ankara, Turkey

11:35 **NH22B-06** Seafloor Deformation Analysis of Bay of Palu after the 28 September 2018 Mw 7.4 Palu-Donggala Earthquake

Udrekh Udrekh

Udrekh Udrekh¹, Mgrina C Frederik², Nugroho Hananto³, Ramadhar Adhitama⁴, Shahab Sahabuddin⁵, Asrafil Asrafil⁵, Muhamad Irfan⁵, Omar Moefti⁵, Bondan F Riyalda⁸ and Dimas B Putra⁸, (1)Badan Pengkajian dan Penerapan Teknologi, PTRRB-TPSA, DKI Jakarta, Indonesia, (2)Badan Pengkajian dan Penerapan Teknologi, PTPSW-TPSA, DKI Jakarta, Indonesia, (3)Indonesian Institute of Sciences, Bandung, Indonesia, (4)Trisakti University, Geologi, DKI Jakarta, Indonesia, (5)Hasanuddin University, Geologi, Makassar, Indonesia, (6)Tadulako University, Geologi, Palu, Indonesia, (7)Badan Pengkajian dan Penerapan Teknologi, BSTK - TPSA, DKI Jakarta, Indonesia, (8)Badan Pengkajian dan Penerapan Teknologi, BPSK-TPSA, DKI Jakarta, Indonesia, (9)Badan Pengkajian dan Penerapan Teknologi, BPSK - TPSA, DKI Jakarta, Indonesia

11:50 **NH22B-07** Simulation of 2018 Tsunami along the Coastal Areas in the Palu Bay

Ap Van Dongeren

Ap Van Dongeren¹, Deepak Vatvani¹ and Maarten Van Ormondt², (1)Deltares, Delft, Netherlands, (2)Deltares, Netherlands

12:05 **NH22B-08** Observations from joint EEFIT and TDMRC survey mission

David Robinson

David Robinson, University College London, Civil, Environmental and Geomatic Engineering, London, United Kingdom, Alison Raby, Plymouth University, School of Engineering (Faculty of Science and Engineering), Plymouth, United Kingdom and Tiziana Rossetto, University College London, London, United Kingdom

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