

Your abstract has been submitted for the AGU Fall Meeting 2018. You will receive an email confirmation.

Click **HERE** to print this page now.

- This page indicates that you have completed your abstract submission and an email confirmation will be sent to you.
- **If you do not receive an email confirmation**, please contact agu@confex.com to ensure your abstract was submitted and to have a confirmation email sent to you.
- This confirmation does not guarantee that your abstract was accepted and only confirms that your abstract will be submitted for consideration by the Program Committee.
- In this system, there is no **'Draft'** option. Once the abstract is submitted, you may review, edit or withdraw your abstract until the deadline of **1 August 2018 23:59 EDT/03:59 +1 GMT**.
- **Do not withdraw a paid abstract submission if edits are needed or to begin a new submission. You may make any edits to your abstract until the submission deadline.**
- **Abstract fees are nonrefundable.**
- Once submitted, your abstract will need to be withdrawn if you no longer wish to have it considered by the Program Committee.
- Consider making your submission citable and more discoverable by adding it to the Earth and Space Science Open Archive (ESSOAr). [ESSOAr](#) is free to post and view content. Please read our [submission guide](#) and [FAQ](#) for more information.

Field Survey on the Coastal Impacts of the September 28, 2018 Palu, Indonesia Tsunami

Ahmet C Yalciner¹, Rahman S Hidayat², Semeidi Husrin³, Alessandro Annunziato⁴, Gozde Guney Dogan⁵, Andrey Zaytsev⁶, Rachid Omira⁷, Chiara Proietti⁴, Pamela Probst⁴, Maria Ausilia Paparo⁸, Martin Wronna⁹, Pavel Pronin¹⁰, Adel Giniyatullin¹⁰, Purna Putra¹¹, Widjo Kongko¹², Dwi Hartanto¹³, Efim N Pelinovsky¹⁴, Gian Ginanjar¹³ and UNESCO International Tsunami Survey Team (ITST November 05-11 2018), (1)Middle East Technical University, Ankara, Turkey, (2)Directorate of Infrastructures for Shipping, Fishery, and Tourism, Coordinating Ministry for Maritime Affairs - Republic of Indonesia, Jakarta Pusat, Indonesia, (3)The Marine Research Centre, Ministry of Marine Affairs and Fisheries (KKP) - Indonesia, Jakarta, Indonesia, (4)European Commission Joint Research Centre, Ispra Vey, Italy, (5)Middle East Technical University, Civil Engineering, Ankara, Turkey, (6)Special Research Bureau, Far Eastern Branch of Automation of Sciences, Yuzhno Sakhalinsk, Russia, (7)IPMA, Lisboa, Portugal, (8)University of Bologna, Bologna, Italy, (9)Instituto Dom Luíz, FCUL, Universidade de Lisboa and Instituto do Mar e da Atmosfera, Lisboa, Portugal, (10)Nizhny Novgorod State Technical University, n. a. R. E. Alekseev, Nizhny Novgorod, Russia, (11)Indonesian Institute of Sciences (LIPI), Research Center for Geo-technology (Geotek), Bandung, Indonesia, (12)BPPT-BPDP, Yogyakarta, Indonesia, (13)Indonesian Agency for Meteorology, Climatology and Geophysics, Jakarta, Indonesia, (14)Inst Applied Physics, Nizhny Novgorod, Russia

Abstract Text:

The September 28, 2018 Palu Mw7.5 Earthquake in Sulawesi Island in Indonesia triggered an unexpected tsunami that caused damage and loss of lives in the region. A field survey by the UNESCO International Survey Team has been performed between November 07 and 11, 2018 covering the entire coast of Western Palu Bay up to Tanjung Karang cape and the Eastern Palu bay coast up to the earthquake epicenter region. The survey aimed at understanding and document the tsunami effects and also the tsunami generation mechanisms through measuring and observing the tsunami effects. The survey also attempted to understand the uncertainties of the event from source-to-coast and, therefore, contribute to a better characterization of the tsunami and its impact, and provide information to enable enhancement of tsunami disaster risk management practices.

The survey methodology consists of several steps by following The UNESCO International Tsunami Survey Team (ITST) Post –Tsunami Survey Field Guide 2nd Edition, 2014 (http://itic.iocunesco.org/images/stories/itst_tsunami_survey/survey_documents/field_survey_guide/ITST_FieldSurveyGuide_229456E.pdf) during the survey.

The team collected tsunami hydrodynamic data such as arrival time, direction of incoming wave, shape of the first wave, number of waves, runup height, flow depth, inundation height and the inundation limit from tsunami left traces and eyewitness interviews. The survey findings show that the generation mechanism of

the tsunami is not only due to the co-seismic deformation but also coastal subsidence and/or subaerial/submarine landslides are possible secondary sources. The main impact of the tsunami is observed along the coasts of the Palu Bay located tens of kilometers away from the earthquake epicenter area (0.1781S 119.8401E, USGS). Several collapses of coastal sectors and/or landslides were observed in the western and eastern coasts especially in the river mouth areas that also present the tsunami highly-impacted locations. The tsunami impact is low after Tanjung Karang location of Donggala tip region on the western side of the bay. Small or no tsunami observations were reported at North after Towaja region on the eastern side of the bay. Most tsunami energy focus was observed inside narrow bays with very localized effects. The tsunami propagated along the rivers inland and on the low-lying zones with high damage on the coastal settlements. The results of measurements and observations on tsunami nearshore amplitude, flow characteristics, flow depth and damage findings are presented and discussed for the further studies on the event.

ACKNOWLEDGEMENTS

Authors thanks Indonesian authorities BMKG, BPPT, MORTHE, CMMA, MMAF, LIPI, Indonesian Institution of Science, IATSI, Ikatan Ahli Tsunami Indonesia (Indonesian Tsunami Scientific Community). The authors acknowledge the supporters of survey; METU, and Yuksel Project International Co., Turkish Chamber of Civil Engineers, Turkey; Prof. Tinti from Department of Physics and Astronomy, University of Bologna, Italy; Prof. Maria Ana Baptista from University of Lisbon; European Commission Joint Research Centre (EC JRC), Disaster and Risk Management Unit Ispra, Italy; Portuguese Institute for Sea and Atmosphere, Lisbon, Dom Luiz Institute, Faculty of science, University of Lisbon, Portugal; Special Research Bureau for Automation of Marine Researches, and Nizhny Novgorod State Technical University n.a. R.E. Alekseev, Russia; Austrian Embassy in Jakarta, Fundação de Ciencia e Tecnologia (FCT), Kneissl Touristik GmbH. Furthermore, Laura Kong from UNESCO ITIC and Ardito Kodijat from UNESCO IOTIC are also acknowledged for their cooperation and onsite contributions.

Session Selection:

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

Submitter's E-mail Address:

yalciner@metu.edu.tr

Abstract Title:

Field Survey on the Coastal Impacts of the September 28, 2018 Palu, Indonesia Tsunami

Requested Presentation Type:

Assigned by Program Committee (oral or Poster)

Previously Published?:

No

AGU On-Demand:

Yes

Comments to Program Committee:

The study is based on the survey performed in November, 04-12 2018 in the earthquake and tsunami area. The data obtained from the survey is valuable to be discussed by the oral presentation. We prefer to present it oral.

Abstract Payment:

Paid (agu-fm18-476694-6450-3678-3481-3341)

For non-students only: I do not want to be involved in OSPA or the mentoring program.

First Presenting Author

Presenting Author

Ahmet C Yalciner

Primary Email: yalciner@metu.edu.tr

Phone: ARRAY(0xf416848)

Affiliation(s):

Middle East Technical University
Ankara 06800 (Turkey)

Second Author

Rahman S Hidayat

Primary Email: hrahmanew@gmail.com

Affiliation(s):

Directorate of Infrastructures for Shipping, Fishery, and Tourism, Coordinating Ministry for Maritime Affairs - Republic of Indonesia
Jakarta Pusat (Indonesia)

Third Author

Semeidi Husrin

Primary Email: semeidi@gmail.com

Affiliation(s):

The Marine Research Centre, Ministry of Marine Affairs and Fisheries (KKP) - Indonesia
Jakarta (Indonesia)

Fourth Author

Alessandro Annunziato

Primary Email: alessandro.annunziato@ec.europa.eu

Affiliation(s):

European Commission Joint Research Centre
Ispra Vey I 21020 (Italy)

Fifth Author

Gozde Guney Dogan

Primary Email: gguneydogan@gmail.com

Affiliation(s):

Middle East Technical University
Civil Engineering
Ankara 06800 (Turkey)

Sixth Author

Andrey Zaytsev

Primary Email: aizaytsev@mail.ru

Affiliation(s):

Special Research Bureau, Far Eastern Branch of Automation of Sciences
Yuzhno Sakhalinsk (Russia)

Seventh Author

Rachid Omira

Primary Email: omirarachid10@yahoo.fr

Affiliation(s):

IPMA
Lisboa (Portugal)

Eighth Author

Chiara Proietti

Primary Email: Chiara.PROIETTI@ec.europa.eu

Affiliation(s):

European Commission Joint Research Centre
Ispra Vey I 21020 (Italy)

Ninth Author

Pamela Probst

Primary Email: Pamela.PROBST@ec.europa.eu

Affiliation(s):

European Commission Joint Research Centre
Ispra Vey I 21020 (Italy)

Tenth Author

Maria Ausilia Paparo

Primary Email: mariaausilia.paparo2@unibo.it

Affiliation(s):

University of Bologna
Bologna (Italy)

Eleventh Author

Martin Wronna

Primary Email: martinwronna@gmail.com

Affiliation(s):

Instituto Dom Luíz, FCUL, Universidade de Lisboa and Instituto do Mar e da
Atmosfera
Lisboa 1749-077 (Portugal)

Twelfth Author

Pavel Pronin

Primary Email: pavel.pronin2010@yandex.ru

Affiliation(s):

Nizhny Novgorod State Technical University
n. a. R. E. Alekseev
Nizhny Novgorod (Russia)

Thirteenth Author

Adel Giniyatullin

Primary Email: adel.giniyatullin@gmail.com

Affiliation(s):

Nizhny Novgorod State Technical University
n. a. R. E. Alekseev
Nizhny Novgorod (Russia)

Fourteenth Author

Purna Putra

Primary Email: purna.putra@gmail.com

Affiliation(s):

Indonesian Institute of Sciences (LIPI)
Research Center for Geo-technology (Geotek)
Bandung (Indonesia)

Fifteenth Author

Widjo Kongko

Primary Email: widjo.kongko@bppt.go.id

Affiliation(s):

BPPT-BPDP
Yogyakarta 55281 (Indonesia)

Seventeenth Author

Dwi Hartanto

Primary Email: dwi.hartanto@bmkg.go.id

Affiliation(s):

Indonesian Agency for Meteorology, Climatology and Geophysics
Jakarta (Indonesia)

Eighteenth Author

Efim N Pelinovsky

Primary Email: pelinovsky@hydro.appl.sci-nnov.ru

Affiliation(s):

Inst Applied Physics
Nizhny Novgorod 603950 (Russia)

Eighteenth Author

Gian Ginanjar

Primary Email: gian.ginanjar@bmkg.go.id

Affiliation(s):

Indonesian Agency for Meteorology, Climatology and Geophysics
Jakarta (Indonesia)

If necessary, you can make changes to your abstract submission

- You may access your submission to make any edits or submit another abstract by clicking [here](#).
- Your Abstract ID# is: 476694.
- Any changes that you make will be reflected instantly in what is seen by the reviewers.
- After the abstract proposal is submitted, you are not required to go through all submission steps to make edits. For example, click the "Authors" step in the Abstract Submission Control Panel to edit the Authors and then click save or submit.
- When you have completed your submission, you may close this browser window or submit another abstract [Abstract Viewer](#).

[Tell us what you think of the abstract submission process](#)