

IPL Project Annual Report Form 2016

30 March 2016 to 31 December 2016

1. Project Title (IPL-210)

“Massive landsliding in Serbia following Cyclone Tamara in May 2014”

2. Main Project Fields

(1) Technology Development

B. Hazard Mapping, Vulnerability and Risk Assessment

(2) Targeted Landslides: Mechanisms and Impacts

A. Catastrophic Landslides

3. Name of Project leader Biljana Abolmasov, PhD

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Core members of the Project - Names/Affiliations: (4 individuals maximum)

Miloš Marjanović, PhD, Assistant Professor, University of Belgrade, Faculty of Mining and Geology

Uroš Djurić, PhD student, researcher, University of Belgrade, Faculty of Civil engineering

Jelka Krušić, PhD student, researcher, University of Belgrade, Faculty of Mining and Geology

Katarina Andrejev, PhD student, researcher, University of Belgrade, Faculty of Mining and Geology

4. Objectives: (5 lines maximum)

The project attempts to accomplish that the May 2014 extreme landsliding event was preconditioned by soil saturation, caused by a high precipitation yield, within several weeks to the event. All relevant data, including historic/current rainfall, landslide records, aftermath reports, and environmental features datasets, have to be analyzed for characterizing the extreme nature of the event and identifying key environmental controls of landslide occurrences.

5. Study Area: (2 lines maximum)

The study area is Western and Central part of the Republic of Serbia - territory affected by Cyclone

Tamara during May 2014.

6. Project Duration (1 line maximum)

Project duration - March 2016 - ongoing

7. Report

1) Progress in the project: (30 lines maximum)

Project IPL 210 – “Massive landsliding in Serbia following Cyclone Tamara in May 2014” was approved in March 2016. Collecting, review and harmonization of landslides data were conducted nine months afterwards, as per the Project Plan. Different type of movement and type of material involved were registered during extensive field campaign and satellite data analysis. A total number of 1888 field map different type of movement were certified by supervisor (1539 slides, 78 flows, 48 falls, 1 topple, 23 complex, 138 flows/ slides, 55 falls/slides and 6 falls/flows). According to the material involved 925 type of movement were formed from debris, 894 from earth, 20 from rock, 33 from mixed and 16 from artificial material. The simple analysis performed based on landslide distribution by municipalities shows that the highest number of landslide occurrences were recorded in the Western part of Serbia. The results from satellite image data analysis were submitted as a Recent Landslides manuscript to the Landslides Journal. All activities were conducted according to the Project Plan.

2) Planned future activities or Statement of completion of the Project (15 lines maximum)

The project aims to summarizing and analyzing collected landslide information from the May 2014 sequence. First research results from the IPL 210 Project after six months of project conduct are presented in the papers (see references). The analysis, correlation and synthesis of large volume of data are currently being performed. Following the Project activities next steps will be focused on analyzing: (1) the trigger/landslide relation in affordable time span (past 15 years) and May 2014 event and (2) relating the landslide mechanisms and magnitudes versus the trigger and its aftermath.

3) Beneficiaries of Project for Science, Education and/or Society (15 lines maximum)

- a. Direct beneficiaries will be local communities – municipalities affected by landslide occurrences during May 2014 event
- b. Local and regional authorities – housing sector, infrastructure authorities, Civil protection units and land/use sectors within affected areas

4) Results: (15 line maximum, e.g. publications)

The list of publications in the frame work the project is as follows:

- Abolmasov B., Marjanović M., Đurić U., Krušić J., Andrejev K. (2017). IPL Project 210 -

Massive landsliding in Serbia following Cyclone Tamara in May 2014. Proceeding of 4th World Landslide Forum, 29 May-02 June 2017, Vol 1, in press.

- Andrejev K, Krušić J., Marjanović M., Đurić U., Abolmasov B. (2017). Landslides risk assessment for the City of Valjevo. Proceeding of 4th World Landslide Forum, 29 May-02 June 2017, Vol 3, in press.
- Marjanović M., Abolmasov B. (2015). Evidencija i prostorna analiza klizišta zabeleženih u maju 2014. Časopis Izgradnja 69 (5-6). pp 129-134. ISBN 0350-5421. UDC 551.435.627(497.11) (on Serbian).
- Marjanović M., Abolmasov B., Đurić Uroš, Bogdanović S., Krautblatter M. (2015). Landslide events in Serbia in May 2014: An overview. Abstract book - 2nd Regional Symposium on Landslides in the Adriatic-Balkan Region - 2nd ReSyLAB 2015, Eds: Abolmasov B., Marjanović M., Đurić U., University of Belgrade, Faculty of Mining and Geology, Belgrade, Serbia, 157-157, ISBN 978-86-7352-324-8. <http://resylab2015.rgf.rs/>

Note:

- 1) If you will change items 1)-6) from the proposal, please write the revised content **in red**.
- 2) Please fill and submit this form by 30 March 2017 to [ICL Network <icl-network@iclhq.org>](mailto:icl-network@iclhq.org)