Date of Submission	24.09.2022

IPL Project (IPL-Number) Annual Report Form

Period of activity under report
from 1 January 2020 to 1 September 2022

1. Project Number and Title:

IPL-106-2. International Summer School on Rockslides and Related Phenomena in the Kokomeren River Valley, Tien Shan, Kyrgyzstan

2. Main Project Fields

Select the suitable topics. If no suitable one, you may add new field.

(2) Targeted Landslides: Mechanisms and Impacts

   A. Catastrophic Landslides

(3) Capacity Building

   B. Collating and Disseminating Information/ Knowledge

3. Name of Project Leader Dr. Alexander Strom

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Core members of the Project:

Prof. Kanatbek Abdrakhmatov, Director of Institute of Seismology, National Academy of Sciences, Kyrhyz Republic

4. Objectives

The ICL Summer School on Rockslides and Related Phenomena is aimed to asquint students and young landslide researchers with morphological and structural peculiarities of large-scale rockslides and rock avalanches – the most disastrous slope processes in mountainous regions of the World, and with related phenomena such as rockslide dams and catastrophic outburst floods. Neotectonics of Central Tien Shan and evidence of past earthquakes are demonstrated too.

5. Study Area

The Kokomeren River basin, Central Tien Shan, Kyrgyzstan

6. Project Duration

Annual Kokomeren Summer School had started in 2006 within the frames of the IPL projects $M_{2002}111$ and $M_{2004}126$ and was continued as IPL-106-2 Project. Due to Covid-19 pandemic, we had to cancel 2020 and 2021 field training courses (that is why no reports have been provided). However, in August 2022 we rearranged it and successfully performed the 2022 Summer School.

7. Report

1) Progress in the project (30 lines maximum)

During 16 years of the Kokomeren Summer School about 160 students and young researchers from Argentina, Austria, Belgium, China (including Hong Kong and Chinese Taipei), Czech Republic, France, Germany, Great Britain, Italy, Japan, Kazakhstan, Korea, Kyrgyzstan, New Zealand, Poland, Russia, Slovakia, Slovenia, Switzerland, Spain, Tajikistan, USA and Uzbekistan were acquainted with characteristic geomorphic, lithological and structural features typical of large-scale rockslides, including those producing long-runout rock avalanches and natural dams.

In 2022 10 students and landslide researchers from Great Britain, Slovenia, Japan, India, Russia, Kazakhstan, Uzbekistan and Kyrgyzsatan participated in the 15 days long field training course from August 15 to August 30.

Some of attendees of the previous Summer Schools became interested in detailed research of these phenomena in the Central Asia region and arranged special research projects. In particular, in June 2022 group of researchers from the Dongguk University, Republic of Korea, led by Dr. Jeong-Sik Oh who participated in the 2018 Kokomeren Summer School, visited Kyrgyzstan and worked at several sites in Kokomeren River basin together with Dr. Strom and research students of Prof. Abdrakhmatov studying and dating large rockslides.

Almost every year several previously unknown features were discovered during daily field trips. The 2022 field course was no exception: we found one more, previously unknown long runout rock avalanche close to the Chongsu rock avalanche.

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

We plan to continue the Kokomeren Summer School in 2023 and shortly will submit the announcement of this training course to Landslides Journal. We also plan to prepare a new bilingual (English-Russian) version of the Guidebook with the detailed description not only of the selected features but also of each field trip – coordinates of the access roads and tracks, best observation points, etc.

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

Landslide researchers working both in the Central Asia region and all over the World; emergency experts working on landslide and outburst flood hazard assessment; researchers and practitioners in the fields of paleoseismology and seismic hazard assessment; hydraulic engineers working on dam projects.

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

Data collected during field training courses were used for preparing the new version of the Guidebook with coordinates of the access roads and tracks. They were also used for preparing several publications:

Fan X., Dufresne A., Whiteley J., Yinus A.P., Subramanian S.S., Okeke C.A.U., Pánek T., Hermanns R., Ming P., Strom A., Havenith H-B., Dunning S., Wang G. Tacconi Stefanelli C. 2021. Recent technological and methodological advances for the investigation of landslide dams Earth-Science Reviews. DOI:10.1016/J.EARSCIREV.2021.103646

Fan, X., Dufresne, A., Subramanian, S.S., Strom, A., Hermanns, R., Stefanelli, C.T., Hewitt, K., Yunus, A.P., Dunning, S., Capra, L., Geertsema, M., Miller, B., Casagli, N., Jansen, J.D., Xu, Q., 2020. The formation and impact of landslide dams – State of the art. Earth Sci. Rev. 103-116.

Li L., Lan H., Strom A. 2020. Automatic generation of landslide profile for complementing landslide inventory. Geomatics natural hazards & risk. V. 11. No 1. P. 1000-1030. DOI 10.1080/19475705.2020.1766578.

Strom A. 2020. Traces of catastrophic outburst floods in the Central Asian River valleys. Georisk, No 2, 8–21.

Strom A. 2021. Rock avalanches: basic characteristics and classification criteria. In: Vilímek V, Wang F, Strom A, Sassa K, Bobrowsky PT, Takara K (Eds) Understanding and reducing landslide disaster risk: Volume 5 Catastrophic Landslides and Frontiers of Landslide Science. Springer Nature Switzerland AG, pp 3–23. DOI 10. 1007/978-3- 030- 60319-9_1

Li L., Lan H., Strom A., Macciotta R. 2022. Landslide longitudinal shape: a new concept for complementing landslide aspect ratio. Landslides. DOI 10.1007/s10346-021-01828-w