



IPA Action Group Rock glacier inventories and kinematics

Puigcerdà Commitment



Local field trip, EUCOP6, 21.06.2023

www.rqik.org

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Puigcerdà (Spain), EUCOP6, 17th June 2023

The *Puigcerdà Commitment* defines the objectives of the *Rock Glacier Inventories and Kinematics (RGIK)* initiative and lays the foundation for the transition from a temporary Action Group to a sustainable structure.

1. Overall motivation

Rock glaciers are debris landforms generated by the former or current creep of frozen ground (permafrost). They are found in mountain ranges all over the Earth. Their occurrence and surface displacement rate can be observed using a variety of techniques, including airborne and spaceborne remote sensing. The evolution of rock glacier velocity (permafrost creep rate) depends mainly on permafrost temperature. At regional scales, it can be used as a climate change indicator for mountain permafrost, where direct temperature measurements are scarce or even completely lacking. However, standards for inventorying and monitoring rock glaciers are required to generate compatible products that are usable and openly accessible on a global scale.

2. *RGIK* IPA Action Group background

The *Rock Glacier Inventories and Kinematics (RGIK)* Action Group was launched in 2018, with the support of the International Permafrost Association (IPA). The main objective of the *RGIK* IPA Action Group was to sustain the first steps towards the development of a network dedicated to Rock Glacier Inventories (RoGI) and to promote the integration of Rock Glacier Velocity (RGV) as a new associated product to the Essential Climate Variable (ECV) Permafrost to monitor the evolution of mountain permafrost on a global scale.

Three tasks were defined during the first meeting of the *RGIK* IPA Action Group, which drove its activities and outcomes. The first task was the definition of widely accepted standard guidelines for inventorying (mapping) rock glaciers, including indications of their activity rate. The main outcomes of this task were the compilation of RoGI baseline concepts and practical guidelines documents.

The second task was the generation of RGV time series in a climate-oriented perspective to contribute to the ECV Permafrost. The main outcome of this task was the acceptance of RGV as a new associated product to the ECV permafrost and the compilation of the related baseline concepts and practical guidelines documents.

The third task was the operational development of a database/web platform for rock glacier data. This task was set aside to give priority to the first two tasks, and only preliminary designs based on the RoGI and RGV guidelines were compiled. A first GIS-based tool to implement the RoGI guidelines was developed and made openly available.

In addition to the concrete outcomes of the defined tasks, the *RGIK* IPA Action Group federated a large group of researchers who collaborated in the framework of workshops, seminars, webinars and community-documents.

The *RGIK* IPA Action Group will formally end in June 2023 and the transition toward a sustainable structure will begin. The following sections define the general objective (3), the main fields of action (4) and the future governance structure (5) of *RGIK*.



3. General objective

The general objective of *RGIK* is to **coordinate the compilation and dissemination of standardized rock glacier inventory (RoGI) and rock glacier velocity (RGV) products on a global scale from a climate-oriented perspective.**

4. Main fields of action

In order to achieve the general objective of *RGIK*, the following specific fields of action will be addressed:

- Network consolidation: define and implement a governance structure and establish formal rules, roles and working principles.
- Guidelines: implement the existing RoGI and RGV standards and refine the guidelines where necessary.
- RoGI and RGV products: coordinate and encourage the global compilation of standardized RoGI and RGV products.
- Data management: develop and establish a *RGIK* data management procedure.
- Communicational and educational outreach: promote the international use of *RGIK* guidelines and products as climate indicator, as well as communicate the results to the community.

The specific fields of action were identified based on the experience and the outcomes of the *RGIK* IPA Action Group (2018-2023). In all fields, the previous work of the *RGIK* IPA Action Group serves as a basis and will be complemented, extended and/or adapted.

5. Governance structure

The governance structure of *RGIK* consists of:

- The Executive Committee, which conducts the day-to-day tasks, proposes new activities and implements the strategic and scientific recommendations of the Advisory Board, communicates and coordinates with related international organizations (e.g. IPA, GTN-P, GCOS).
- The Advisory Board, which is composed of representatives from different institutions, regions and backgrounds, and provides strategic advice and scientific expertise to the Executive Committee.

The establishment of regional council(s) and thematic working group(s) is foreseen. These will be discussed with the Advisory Board and implemented by the Executive Committee at a later stage.

A General Assembly of all *RGIK* members (i.e. subscribers to the *RGIK* IPA Action Group mailing list) will be held before the end of 2023 to elect the Executive Committee for a duration to be defined in the *RGIK* terms of reference, which will be compiled at a later stage.

6. Support

The following people approve and support the content of the *Puigcerdà Commitment*.



Signees (alphabetic order, updated on 15.07.2023):

AGZIOU Julia, France	LICHTENEGGER Matthias, Switzerland
AMSCHWAND Dominik, Switzerland	LIU Lin, China
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