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The Rock Glacier Inventories and Kinematics (RGIK) Action Group: status and future directions

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Rock glaciers are ubiquitous debris landforms associated with periglacial slopes and derived from the past or present creep of mountain permafrost. Since the late 1990s, there has been an increasing interest in their dynamics and evolution in the face of climate change, which highlighted a general acceleration and growing occurrences of rock glacier destabilization and degradation. Changes of rock glacier creep and its evolution can affect: sediment transfer rates along mountain slopes, landscape evolution, localized hazard situations and hydrologic regime. Despite this high societal relevance, rock glacier kinematics remains poorly observed and their inventorying process has been uncoordinated worldwide, making their global assessment and comparison difficult. In this context, the International Permafrost Association (IPA) supported the creation of an Action Group dedicated to Rock Glacier Inventories and Kinematics (RGIK), which specifically aims to (1) coordinate the definition of standard guidelines for global inventorying and mapping rock glaciers, including information on their activity rate, and (2) promote rock glacier velocities (RGV) as a new associated product to the Essential Climate Variable (ECV) permafrost in the frame of the Global Climate Observation System (GCOS). This contribution summarizes the major achievements of the RGIK Action Group since its start in 2018, with an emphasis on definitions, guidelines for rock glacier inventories and further recommendations for kinematic characterization. This presentation is a community effort of the RGIK Action Group.