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Mapping the legacy of mountain glaciations

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Geomorphological mapping is a well-established method in glacial research, supplying crucial data for a wide range of process-oriented studies and palaeoglaciological reconstructions. In the latter case, it provides the essential geomorphological basis for establishing glacial chronologies. Recent decades have seen significant developments in remote sensing and Geographical Information Systems (GIS), with a plethora of high-quality remotely-sensed datasets now available for glacial geomorphological mapping. Most recently, the emergence of unmanned aerial vehicle (UAV) technology has allowed sub-decimetre-scale imagery to be obtained. Given the increasing abundance of mapping methods available, approaches are needed to assimilate glacial-geomorphological data effectively. Here, we provide an idealised framework for mapping the "legacy" (geomorphological imprints) of mountain glaciations, synthesised from a broader review of mapping approaches across a range of glacial environments (Chandler et al., 2018). This framework emphasises the importance of using multiple mapping approaches, which should ideally include considerable field mapping. We also offer general recommendations for best practice that will aid accuracy assessment, comparison, and integration of geomorphological data. Our approach and recommendations should help ensure robust interpretations of glacial landforms and overall glacier systems, which is crucial to using the geomorphological imprints of mountain glaciations for subsequent palaeoglaciological and palaeoclimatic reconstructions.

Reference: Chandler BMP. et al. 2018. Glacial geomorphological mapping: A review of approaches and frameworks for best practice. *Earth-Science Reviews* **185**(C): 806–846.