

GLOFs in the WOS: bibliometrics, geographies and global trends of research of glacial lake outburst floods (Web of Science, 1979-2016)

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Research of glacial lake outburst floods (GLOFs) - specific low frequency, high magnitude floods originating in glacial lakes, including jokulhlaups - is well justified in the context of glacier ice loss and glacial lake evolution in glacierised areas all over the world. Increasing GLOF research activities, which are documented by the increasing number of published research items, have been observed in the past few decades; however, a comprehensive insight into the GLOF research community, its global bibliometrics, geographies and trends in research is missing. To fill this gap, a set of 892 GLOF research items published in the Web of Science database covering the period 1979-2016 was analysed. General bibliometric characteristics, citations and references were analysed, revealing a certain change in the publishing paradigm over time. A significant exponential increase in the number of GLOF research items published in the WOS database is revealed, with > 50% of the research items being published since 2008. While 1,885 researchers from more than 750 institutions in 45 countries have contributed to 892 of the analysed GLOF research items, a relatively small number of 90 leading researchers (4.8% of all) have published 5+ items each and have together contributed to almost half (48.9%) of all of the GLOF research items. Furthermore, the global geographies of research on GLOFs were studied, focusing on: (i) where GLOFs are studied; (ii) who studies GLOFs; (iii) the export of research on GLOFs; and (iv) international collaboration. Eleven hotspots of GLOF occurrence and research have been identified, of which five are located in developing regions. The export of research especially to these five hotspots has been documented. It was shown that researchers from the UK, the USA, Canada, Germany and Switzerland are the most active in exporting GLOF research worldwide and also in international cooperation. The trend of larger involvement of local researchers is observed among recent studies in hotspots of GLOFs located in developing countries, e.g., Central Asia or Central Andes.

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