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The Global Heat Flow Database: a collaborative and fundamental revision process to ensure comprehensible and reliable heat-flow records

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The compilation of global heat-flow data is currently under major revision by the International Heat Flow Commission (IHFC) of the International Association of Seismology and Physics of the Earth's Interior (IASPEI). Heat flow represents a fundamental parameter in thermal studies, e.g., the evolution of hydrocarbons or mineral and geothermal resources. Comparable, comprehensible and reliable heat-flow data are of utmost interest also for geophysical and

geological studies on the global scale. Here, we present the first results of a stepwise revision of the IHFC Global Heat Flow Database based on a researcher driven, collaborative approach. The first step comprises the review and revision of the most recent database structure established in 1976. The revised structure of the Global Heat Flow Database considers the demands and opportunities presented by the evolution of scientific work, digitization and the breakthroughs in database technologies over the past decades. Based on the new structure, the existing dataset will be re-assessed and new data incorporated. By supporting the ideas of FAIR and open data principles, the new database facilitates interoperability with external data services, like DOI and IGSN numbers, and other data resources (e.g., world geological map, world stratigraphic system, and International Ocean Drilling Program data). We give an overview of the new database and introduce the community workflow of global heat-flow data revision.