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SIREN: a citizen science project for the recovery of the Italian hydrological data

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As part of the SIREN project (Saving Italian hydrological measurements), a citizen science initiative hosted on the Zooniverse platform (<https://www.zooniverse.org/projects/siren-project/siren-project>), thousands of volunteers are contributing to the digitization of the hydrological yearbooks produced in the past by the Italian National Hydrological and Mareographic Service. These yearbooks represent an invaluable repository of hydrological data but remain difficult to access due to their paper-based format. Moreover, the quality of these old books is deteriorating due to ageing, with fading ink and handwritten corrections that make the digitization with optical character recognition software challenging.

The involvement of citizens in the project serves a dual purpose: their participation enables a reliable interpretation and digitization of these historical data in a shorter time frame, while simultaneously raising public awareness of environmental issues such as hydrological risk and water resource management.

To better understand the profiles of the volunteers engaged so far and to broaden the project's reach to a wider segment of the population, an anonymous survey was conducted in recent months.

Initial data analysis reveals a diverse range of participants. One group consists of users with technical or scientific backgrounds in line with the project topic. Another group is motivated by the opportunity to contribute to a public utility initiative, putting into practice their skills and previous knowledge. The survey has also provided valuable insights into the participants' interests, their motivations for contributing, and their understanding of the project's significance.

Since students from high schools and universities seemed to be underrepresented, several workshops and dissemination events were planned to increase the scientific impact among youth. These activities were performed as part of the IMPETUS Accelerator, a seven-month structured programme that aims at maximising the scientific, social, economic, democratic, and environmental impacts towards the Sustainable Development Goals and the Green Deal targets.

This collaborative effort highlights the potential of citizen science to bridge gaps in hydrological data accessibility and awareness, fostering a community of engaged individuals committed to preserving and utilizing this invaluable historical resource.

Thanks to this initiative, for the first time, a complete dataset of daily discharge measurements will

be available for the Italian territory.