Open Seventeen – HydroHub Challenges

Global Hydrometry Support Facility (WMO HydroHub)

Global forecasting of rainfall-induced landslides

Challenge Proposal #12

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The forecasting of rainfall-induced landslides is a challenging task that – using classical deterministic and probabilistic methods – cannot be performed on a global scale. The problem depends on precipitation intensity and duration, the specific topography, land cover, soil type and soil layering, and other local properties that are hard to measure and implement in classic landslide analysis methods.

We expect to improve the predictability of rainfall-induced landslides using Artificial Intelligence (AI). This will be done by training a global forecasting model on historical landslide datasets, with data and information derived from physics-based models, Earth Observation, and other relevant sources of freely available data, e.g. from crowd-sourcing projects or social-media analyses, to uncover underlying patterns.

We challenge you to develop such a global model using data-driven techniques in the realm of AI and demonstrate that it improves the current methods for forecasting rainfall-induced landslides.

In your work, you will be supported by a team of experts from Deltares who are working in forecasting water-related hazards and have more than 10 years of experience in Earth Observation, Geotechnical Engineering and Data driven solutions.

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