Large Sample Hydrology : Building an international sample of watersheds to improve consistency and robustness of model evaluation

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This poster introduces the aims of the Large Sample Hydrology working group (LSH-WG) of the new IAHS Panta Rhei decade (2013-2022). The aim of the LSH-WG is to promote large sample hydrology, as discussed by Gupta et al. (2014) and to invite the community to collaborate on building and sharing a comprehensive and representative world-wide sample of watershed datasets.

By doing so, LSH will allow the community to work towards 'hydrological consistency' (Martinez and Gupta, 2011) as a basis for hydrologic model development and evaluation, thereby increasing robustness of the model evaluation process. Classical model evaluation metrics based on 'robust statistics' are needed, but clearly not sufficient: multi-criteria assessments based on multiple hydrological signatures can help to better characterize hydrological functioning. Further, large-sample data sets can greatly facilitate: (i) improved understanding through rigorous testing and comparison of competing model hypothesis and structures, (ii) improved robustness of generalizations through statistical analyses that minimize the influence of outliers and case-specific studies, (iii) classification, regionalization and model transfer across a broad diversity of hydrometeorological contexts, and (iv) estimation of predictive uncertainties at a location and across locations (Mathevet et al., 2006; Andréassian et al., 2009; Gupta et al., 2014)

References

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