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GEOFRAME: a state-of-art system for doing hydrology and geomorphology by computer.

R. Rigon (1), A. Antonello (2), S. Franceschi (2)

(1) Universita' di Trento, Dipartimento di Ingegneria Civile ed Ambientale/ CUDAM, (2) Hydrologis S.r.l.

The GEOFRAME project has the overall ambition of providing an open source methodological framework to support the ex-ante analysis of geo-hydrological processes, and to give a comprehensive and modern extensible educational and research tool. This framework: provides quantitative and qualitative tools and databases for integrated evaluation of hydrological and geomorphological systems at multiple scales and for varying time horizons; constitutes a software architecture that allows reusability of model and database components and knowledge, also ensuring transparency of models and procedures developed. As a service to researchers GEOFRAME provides: a desktop environment (actually a rich client platform) where to test new ideas and models, provided that standard tools are already present; a system for the visualization of models and data analysis; a set of tools for statistical analysis; a connection to the OpenMI modeling framework; a set of standard tools for models' initialization. GEOFRAME is completely open source, letting researchers to access the code, reusing part of it, implementing seamless new features and models.