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ICT-infrastructures for hydrometeorology science and natural disaster societal impact assessment: the DRIHMS project

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Hydrometeorological science has made strong progress over the last decade at the European and worldwide level: new modeling tools, post processing methodologies and observational data and corresponding ICT (Information and Communication Technology) technologies are available.
Recent European efforts in developing a platform for e-Science, such as EGEE (Enabling Grids for E-sciencE), SEEGRID-SCI (South East Europe GRID e-Infrastructure for regional e-Science), and the German C3-Grid, have demonstrated their abilities to provide an ideal basis for the sharing of complex hydrometeorological data sets and tools. Despite these early initiatives, however, the awareness of the potential of the Grid technology as a catalyst for future hydrometeorological research is still low and both the adoption and the exploitation have astonishingly been slow, not only within individual EC member states, but also on a European scale.
With this background in mind and the fact that European ICT-infrastructures are in the progress of transferring to a sustainable and permanent service utility as underlined by the European Grid Initiative (EGI) and the Partnership for Advanced Computing in Europe (PRACE), the Distributed Research Infrastructure for Hydro-Meteorology Study (DRIHMS, co-Founded by the EC under the 7th Framework Programme) project has been initiated. The goal of DRIHMS is the promotion of the Grids in particular and e-Infrastructures in general within the European hydrometeorological research (HMR) community through the diffusion of a Grid platform for e-collaboration in this earth science sector: the idea is to further boost European research excellence and competitiveness in the fields of hydrometeorological research and Grid research by bridging the gaps between these two scientific communities. Furthermore the project is intended to transfer the results to areas beyond the strict hydrometeorology science as a support for the assessment of the effects of extreme hydrometeorological events on society and for the development of the tools improving the adaptation and resilience of society to the challenges of climate change.
This paper will be devoted to provide an overview of DRIHMS ideas and to present the results of the DRIHMS HMR and ICT surveys.