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Decision Support System for a Pilot Flash Flood Early Warning System in Central Chile

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Abstract : Flash floods, together with landslides, are a common natural threat for people living in mountainous regions and foothills. One way to deal with this constant menace is the use of Early Warning Systems, which have become a very important mitigation strategy for natural disasters. In this work, we present our proposal for a pilot Flash Flood Early Warning System for Santiago, Chile, the first stage of a more ambitious project that in a future stage shall also include early warning of landslides. To give a context for our approach, we first analyze three existing Flash Flood Early Warning Systems, focusing on their general architectures. We then present our proposed system, with main focus on the decision support system, a system that integrates empirical models and fuzzy expert systems to achieve reliable risk estimations.

Keywords : decision support systems, early warning systems, flash flood, natural hazard
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