40. Integrating georeferenced information for Situational Awareness in Hydrogeological Emergencies: Case Study in Verbano-Cusio-Ossola area

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At the end of August 2025, a wave of severe weather hit the Verbano-Cusio-Ossola area, creating significant inconveniences. During the event, numerous hydrogeological disorder events occurred, resulting in precautionary evacuations of people and in partial isolation of some localities. The levels of the Toce River's drainage network and the remarks of the firefighters involved in the assessment operations were constantly monitored by the VCO Fire Brigade Operations Room using a specific GIS asset. In the late afternoon of August 29, when the situation seemed to be improving, a further hydrogeological instability occurred in the Municipality of Varzo, with mud, water, and debris, some of considerable size, pouring into the streets. The firefighters' response to the emergency was also prepared thanks to the detailed collection of georeferenced information that populated the GIS asset. An Advanced Command Post was established to coordinate the firefighting teams and those of other agencies and volunteers, and the rescue operations were supported by a firefighter drone crew that flown for a post-event mapping; this product was used to assess the changes caused by the event and to manage the strategy of activities implemented.