Improving interoperability and user-friendliness of the French Snow Avalanches Information systems

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Snow avalanches are rapid mass movements that put humans and material assets at risk with dramatic consequences. Risk reduction is reduced through structural and nonstructural measures such as zoning control but also through preventive information. In France, the official information system dedicated to snow avalanches consists of two different devices.

On one hand, The Permanent Avalanche Survey (Enquête Permanente sur les Avalanches, EPA) and the Localization Map of Avalanche Phenomena (Carte de Localisation des Phénomènes d'Avalanches, CLPA) provide information about historic chronicles and maximum extents of avalanches, respectively. For more than a century, avalanche field data have been collected throughout French mountain areas only as paper documents. Nowadays, geographical and textual data continue to be collected and analyzed through complex databases. All this information is used either by the population, experts and local authorities responsible and is an essential part of most hazard and risk expert assessments and maps.

On the other hand, the Sensitive Avalanche Paths Survey (Sites Sensibles Avalanches, SSA) proposes a classification of avalanche sites according to their susceptibility to risk.

Traceability of information collection processes and data quality assessment are recent and new requirements. This paper presents the overall characteristics and architecture of this global information system, recently updated to permit online data input by observers through webbased interfaces and to manage the network of operational observers. The design principles now provide full interoperability between its different components while other features such as webmapping applications are still under development.