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The implementation of FloodCat platform in Marche Region (Italy) for building the regional database of flood losses and damage

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In order to reach the outcome of the Sendai Framework for Disaster Risk Reduction 2015-2030, comparable and robust disaster damage and loss data, systematically collected, are an essential element.
The Directive 2007/60/CE on the assessment and management of flood risks highlights the need to have a national catalogue on past flood events and associated impact to human health, environment, cultural heritage and economic activity.
In order to establish a national catalogue on Floods in Italy, the National Civil Protection Department has developed a web GIS platform called FloodCat. Regions are in charge of populating it with recent and historical losses data.
The database consists of three tabs: event, phenomenon and damage; each one has different information fields. The damage data are classified into categories and sub-categories.
Here it is reported the implementation of FloodCat in Marche Region. The first difficulty encountered was the retrieval of historical data owned by different public services. The main data sources are: the flood event reports of the regional civil protection, the georeferred flooded areas delimited by the basin authority, the damage data collected following the civil protection ordinances after national emergency declaration, data collected by the regional agriculture service following the state of natural calamity. These last two sources provide statistics regarding the economic cost of damages as the estimate allows to have access to public national funds. This information is relevant for FloodCat as disaster databases usually lack on economic loss data.
A focused methodology was defined in order to make a homogeneous insertion of these data. The data population was manually made as it was difficult to find similarities between the fields of FloodCat's tabs and the available data, previously collected. It was also difficult to find the exact damage geo-localization. Standard Operating Procedures for the information flow in case of emergencies was hypothesized and constructed to optimize data collection from different sources for the national platform requirement.
For Marche Region, more than ten ordinances were adopted in case of severe weather, starting from 2002. The ordinances were inserted on FloodCat together with the Event Reports relating to the same event as they provide complementary data. Moreover more than 30 Report of minor Events were inserted. The meteorological event affecting the region is correlated to the Unit of Management and phenomena to basin or sub-basin, damage to municipality. The statistics over regional flood data showed which are, for the studied period, the most affected municipalities in terms of economic losses on civil buildings, public interest buildings, damage to the population, cultural heritage and landscape, protected areas and environment, agriculture and livestock, industrial installations, communication and transport infrastructure, technological and service infrastructure, hydraulic works and tourist-recreational structure/infrastructure. Temporal histograms shows which are the years, the flood events and the river basins with the highest economic losses. Spatial distribution maps were produced showing the most impacted areas. Once set and regularly populated, this loss/damage database can drive interventions for risk mitigation and decision making processes at national level.