Early Warning System in Landslide Risk Areas

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In Puerto Rico, geological threats are not taken care of in the context of prevention and disaster management. The purpose of this investigation is to study, design and develop an early warning method composed of a landslide detecting system that has an alarm which alerts citizens in high risk landslide zones. The hypothesis was: It is possible to design and develop an early warning detection method composed of a landslide detecting system that automatically alerts citizens in order to protect their lives in a landslide event. A simple, low cost system was designed, which was composed of a wireless net of mobile sensors connected to receptors that propagate the landslide signal to the siren to alert about the event. A prototype was prepared to test the system of sensors and observations were done. It was evidenced that the sensors were capable of detecting any slight movement activating the siren. Results evidenced that the developed early warning system can detect and alert about landslide events. Therefore, the hypothesis was accepted. These sensors can be distributed in a wide area of a mountain to detect any landslide. As soon as one sensor is activated a signal is transmitted to the siren alerting people of the landslide. This system is really important for drivers in roads that are on the border of mountains at risk of a landslide. For future investigations, a Disaster Management Community Plan will be developed to minimize risks for residents in high risks landslide areas in Puerto Rico.

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