World Academy of Science, Engineering and Technology
International Journal of Environmental and Ecological Engineering
Vol:9, No:03, 2015

Design of Real Time Early Response Systems for Natural Disaster Management Based on Automation and Control Technologies

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Abstract : A new concept of response system is proposed for filling the gap that exists in reducing vulnerability during immediate response to natural disasters. Real Time Early Response Systems (RTERSs) incorporate real time information as feedback data for closing control loop and for generating real time situation assessment. A review of the state of the art works that fit the concept of RTERS is presented, and it is found that they are mainly focused on manmade disasters. At the same time, in response phase of natural disaster management many works are involved in creating early warning systems, but just few efforts have been put on deciding what to do once an alarm is activated. In this context a RTERS arises as a useful tool for supporting people in their decision making process during natural disasters after an event is detected, and also as an innovative context for applying well-known automation technologies and automatic control concepts and tools.

Keywords : disaster management, emergency response system, natural disasters, real time
Conference Title : ICDEM 2015 : International Conference on Disaster and Emergency Management
Conference Location : Prague, Czechia
Conference Dates : March 23-24, 2015