ABSTRACT

Spatial Data Infrastructure: Improving fit-for-purpose objectives for spatial data management in emergency and disaster planning. - James Sweeney, BA MRUP MSc

Disasters happen. They can be man-made, biological or environmental, ranging from a mass flooding event, or an earthquake, to a terrorist attack. When they occur, there are national, community and non-profit organisations established to handle the response effort, and provide relief to affected communities. A vital tool in the arsenal of these organisations in coordinating this effort is data (whether it's real-time or historic). Having access to the right data enables responding organisations to see past trends, establish common operational pictures in times of disaster, and to develop predicative models to plan for the future. In emergency management, the context of this data is a crucial characteristic, specifically where is the incident, what is the existing situation prior to disaster (population, infrastructure etc…), and what are the resources available for a response effort (Hospital beds. Ambulances etc…). In this regard the spatial component of the data becomes the chief characteristic of the data itself.

Presently, much debate occurs around the content of data, and how it should/can be used. Little academic research is afforded to the practicalities of creating a place/infrastructure to store and effectively disseminate this data for emergency management. This dissertation will provide an assessment of the unique characteristics influencing a disaster situation that would conflict with traditional storage methods, and propose technical solutions to bridge this knowledge gap. The argument presented in the study is that while development should be guided by the principles of health provision and emergency management, the development process of an implemented system must be cross-disciplinary and tailored.

Keywords

Spatial Data Infrastructures, Data Frameworks, Crisis Management, Decision Support Systems, Interoperability, Data Standardisation.