



MONITOR II: Sensors

SENSORS INTEGRATION AND SPATIAL DATA INFRASTRUCTURES

Monitoring networks are important for managing all types of hazards as they can measure the spatial and temporal variability of parameters related to the physical causes and the physical effects of natural hazards. Advanced data processing algorithms and event management systems ensure that maximum benefit is derived from sensor networks, and are part of the implementation of contingency plans.

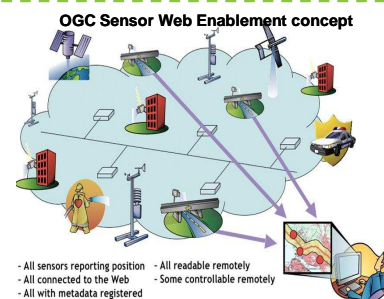


Multi-Hazard Mitigation Plan – City of Bartlesville
(<http://www.cityofbartlesville.org/>)

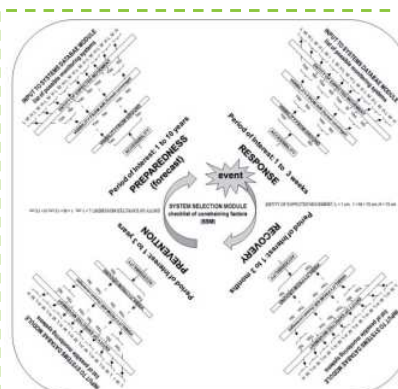
MONITOR II deals with sensors in different phases of risk management:

- Prevention (plan sensor networks and integrate sensor information for hazard screening and hazard mapping);
- Preparation (implement sensor networks and integrate sensors);
- Warning/Intervention (observe processes and provide warnings; sensor planning, ad-hoc sensor networks and mobile sensors);
- Recovery (re-design sensor networks for long term surveillance).

MONITOR II considers the Sensor Web Enablement (SWE) activities of the Open Geospatial Consortium (OGC) as the key source of standards for the integration of sensors data into spatial data infrastructures. The SWE-OGC provides data formats for encoding: Observations & Measurements (O&M), Sensor Metadata (SML), Sensor Observation Services (SOS), Sensor Alert Services (SAS) and Sensor Planning Services (SPS).



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The right monitoring tool for your purpose
(Moni-tool, SEE Monitor project)



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SENSORS REQUIREMENTS, ACCESSIBILITY AND MANAGEMENT

Prior to MONITOR II, a number of EU funded Integrated Projects has dealt with sensor data integration and accessibility (e.g. SANY - Sensors Anywhere <http://sany-ip.eu>; OSIRIS - Open architecture for Smart and Interoperable networks In Risk management based on In-situ Sensors www.osiris-fp6.eu).

MONITOR II, in accordance with these projects, has identified as main user requirements the combination of multiple data sources at decision centers, the integration into a user's information system of multi sourced data, the management of a crisis through an integrated system providing data fusion capabilities, the quality of data and the interoperability of sensors, the access to monitoring data through a web-GIS tool to take full advantage of ancillary information, the possibility to manage feedback from the field during an emergency and update data accordingly.

MONITOR II, building upon the knowledge base regarding sensors characteristics, their usability for different hazard types and in hazard management conditions, gathered during the parent project MONITOR, aims at providing a set of sensor management tools fully integrated into a Continuous Situation Awareness (CSA) prototype system, that is going to be the final deliverable of the project.

