

EARLY WARNING AND CRISIS MANAGEMENT GEOGRAPHIC INFORMATION RESEARCH AGENDA

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The paper intends to give overview of present day research agenda in early warning (EW) and crises management (CM) developed in Working Group on Cartography on EW and CM in ICA and as well as in ISDE (International Society for Digital Earth) with special interest to the research processes and needs of Europe.

ICA Working Group on Cartography on Early Warning and Crisis Management was created as a result of ICA activities in the area. For a number of years the ICA has developed a focus on Early Warning and Crisis/Disaster/Risk management. ICA Working Group on Cartography on Early Warning and Crisis Management first elaborated the role of cartography and GIScience to be actively involved in this area.

The aims of the ICA Working Group on Cartography on EW and CM are to:

- Provide leadership in the development of concepts, ontologisation and standardization of early warning for hazard, risk and vulnerability mapping and cartographic modelling.
- Promote the cartographic use of remotely sensed and other geospatial data and various analysis techniques for early warning and crisis management by organizing conferences, seminars and workshops.
- Investigate psychological condition of end user given by their personal character and situation and psychological condition of rescued persons.
- Promote capacity building and quality mapping, and cartographic modelling including modern technology for early warning and crisis management through topic related publications.
- Participate and contribute to global initiatives in early warning and crisis management for instance through the maintenance of a website.
- Promote hazard, risk and vulnerability mapping for crisis management and communication.
- Develop mechanisms and networks for exchange of information among stakeholders on crisis management and early warning.

The start of 2008 saw the beginning of a number of seminars organized by or with direct contributions from the ICA Working Group: *The Early Warning and disaster/crises management* conference was held in January in Borovets, Bulgaria and a *Workshop on Cartography in Early Warning and Crises Management and Round Table* at AutoCarto 8, in September in Shepherdstown, West Virginia, USA, which addressed natural anthropogenic disasters; current global, regional and local initiatives in early warning and crises management; paradigms of action; exchange of best practices for activities in the field; avoidance of shortcuts in crises situations; sharing and standardizing of data on material reserves and potential human provisions; the interconnection between current OGC/ISO activities and crises management.

The main activity of the Working Group in 2009 was conducting a Joint Symposium with the JBGIS Gi4DM - *Cartography and Geoinformatics for Early Warning and Emergency Management* - held in January in Prague, Czech Republic. The symposium topics were organized under the themes of: frameworks and tools; technologies and infrastructures; citizens in early warning and emergency management; e-government and e-governance; and cartographic and geoinformatic applications.

The new seminar in Nessebar will be devoted to the possibilities of further development of cartography, geoinformatics and other GI disciplines in EW and CM and paper will address them especially with attention to the new formed EU idea about Digital Europe and Digital countries. Both Symposiums in Bulgaria, 2008 and 2010 are organized under the auspices of his excellences Mr. Martin Klepetko, the ambassador of the Czech Republic for Bulgaria.

Key words: new trends in cartography, adaptive and context based cartography, Digital Earth, INSPIRE, GMES