

## Abstract

### [LINK TO PAPER](#)

#### **Collaborative Emergency Management With Multimodal GIS**

**Track:** EMS, Fire, Disaster Management

**Author(s):** Sven Fuhrmann, Isaac Brewer, Alan MacEachren, Guoray Cai, Rajeev Sharma, Hongmei Wang, Levent Bolelli, Benyah Shaparenko, Ingmar Rauschert

In emergency situations GIS tools are used to support decision-making. Emergency management is a collaborative effort requiring coordination among federal, state, and local specialists in planning, logistics, operations, etc. Thus, GIS should provide access to geospatial information quickly and support collaborative work between domain experts. However, conventional GIS technology is not suited for multi-user access. In order to overcome these limitations, a new interface paradigm for GIS needs to be established. The research reported in this paper attempts to overcome unimodal mouse and keyboard controlled GIS by designing a multimodal multi-user GIS interface, utilizing ArcIMS.

#### **Sven Fuhrmann**

GeoVISTA Center  
Department of Geography  
302 Walker Building  
Penn State University  
University Park , PA 16802  
USA

**Phone:** 814-865-3472

**Fax:** 814-863-7943

**E-mail:** [fuhrmann@psu.edu](mailto:fuhrmann@psu.edu)

#### **Isaac Brewer**

GeoVISTA Center  
Department of Geography  
302 Walker Building  
Penn State University  
University Park 16802  
USA

**Phone:** 814-865-7432

**Fax:** 814-863-7943

**E-mail:** [isaacbrewer@psu.edu](mailto:isaacbrewer@psu.edu)

#### **Alan MacEachren**

GeoVISTA Center  
Department of Geography  
302 Walker Building  
Penn State University  
University Park 16802  
USA

**Phone:** 814-865-3433  
**Fax:** 814-863-7943  
**E-mail:** [maceachren@psu.edu](mailto:maceachren@psu.edu)

**Guoray Cai**  
Penn State University  
Department of Geography  
302 Walker  
University Park , PA 16802

**Rajeev Sharma**  
Penn State University  
302 Walker  
University Park , PA 16802

**Hongmei Wang**  
Penn State University

University Park , PA 16802 **E-mail:** [hongmeiw@psu.edu](mailto:hongmeiw@psu.edu)

**Levent Bolelli**  
Penn State University

University Park , PA 16802 **E-mail:** [bolelli@psu.edu](mailto:bolelli@psu.edu)

**Benyah Shaparenko**  
Penn State University

University Park , PA 16802

**Ingmar Rauschert**  
Penn State University

University Park , PA 16802 **E-mail:** [rauschei@psu.edu](mailto:rauschei@psu.edu)