CAPTURING HURRICANE KATRINA DATA FOR ANALYSIS AND LESSONS-LEARNED RESEARCH

William H. Cooke III, David Shaw

OVERVIEW
The use of geospatial information is not part of the strategy-oriented DHS National Incident Management System or the underlying procedure-oriented Incident Command System. The objective of this project is to create a national resource for conducting “lessons-learned” research on the effective application of geospatial information technologies to disaster management in the aftermath of Hurricane Katrina. This “national” resource will provide a forum for the geospatial community and the emergency management community to define best-practices and the role of geospatial information in disaster preparation, response, and recovery. Research initiatives on the applications of geospatial information technologies for disaster management can be facilitated through the development of a national repository of data, procedures and products developed or generated during the search, rescue and recovery stages following Hurricane Katrina. The virtual research center would also maintain ancillary resources (e.g., discussion forum, relevant bibliographic citations) to assist research efforts. This resource will be used by MSU scientists and will also be available for other researchers nationally, to access data, geospatial analysis procedures and the social context under which the technologies were employed during the weeks following landfall of Hurricane Katrina. Knowledge gained through this project will assist the Department of Homeland Security in understanding the intricacies of the deployment of geospatial information technologies at local, state and federal levels during natural and terrorist-induced disasters, and in enhancing preparedness for future natural and willful disasters.

CONCEPT
Optimal implementation of geospatial data of varying type, availability and resolution necessary for disaster preparedness planning and response depends on many factors. The figure below illustrates the relationships between infrastructure, human factors, and data needs on a continuum from vulnerability to resilience. The continuum figure helps guide the prioritization of data acquisition necessary for maximizing resiliency. Temporal update cycles, potential human impacts, appropriate planning levels and GIS/RS data resolution (temporal, spatial, and spectral) are viewed contextually and serve as a planning and decision prioritization guide.

GEOSPATIAL DATA

RESEARCH TEAM

William H. Cooke III, Ph.D., GRI, MSU
Dallas Brown, B.A. 1, SSRC, MSU
Scott Loomis, Ph.D., GRI, MSU
Joel Lawhead, NVision Solutions, Inc.
David Shaw, Ph.D., Director GRI, MSU

Bathinding Bhandari, Ph.D., GIST, ORNL
Mark Eurelle, GIST, ORNL
Avery Lawlor, Wiss, Janney, Elstner

David Shaw, Ph.D., Director GRI, MSU
William H. Cooke III, Ph.D., GRI, MSU
Scott Loomis, Ph.D., GRI, MSU
Rebecca Pilar, M.S., GRI, MSU
David R. Parrish, M.S., GRI, MSU

Poster Design: Kate Grala, GRI, MSU

DISSEMINATION OF RESEARCH PRODUCTS

Data and procedures that proved to be successful in delivering requested information products to first responders and similar clientele will be identified and steps will be taken to determine if improvements can be made in obtaining similar data and increasing efficiency in data management. A review of readily accessible public and/or commercial databases that have required temporal and geographic accuracy of spatial element placement will be examined. Not only will data currency, temporal resolution, and spatial accuracy be included with the review, but identification of modeling techniques, processes and methods will be conducted with particular emphasis on identifying specific information needs gaps.

WEBSITE