

# + Emergency Management Workspace – Working Smarter

## The Issue

Making good decisions about emergency actions requires having accurate and timely information that is easily accessible and understandable. Technologies can extend a decision maker's desktop computer into a sophisticated electronic workspace that provides a better understanding of emergencies as they happen, including the resources and people available for response and the hazards in the field.

## RENCI Projects

Under an integrated program called the Emergency Management Workspace, RENCI brings together disparate information sources and people at various sites, allowing managers to more quickly assess critical information and to more confidently determine what actions to take to address problems.

Since most disasters are weather-driven, timely information from the National Weather Service is critical so that emergency personnel alerted to potentially dangerous events. The RENCI developed NC-FIRST web portal brings together information from hundred of weather sources in a format that is easy to understand and customizable to a county emergency manager's location. Data on the NC-FIRST portal is organized by the type of hazard and maps, satellite data and warnings are localized and easy to read. Since it was introduced in 2006, NC-FIRST has been deployed in most county Emergency Operation Centers and many 911 call centers.

RENCI addresses the challenges of person-to-person communications among emergency responders with desktop conferencing software. Prior to RENCI, emergency personnel used email, phone and fax or face-to-face to collaborate and disseminate information. Communications lacked timeliness and the ability to show pictures or maps. Often reaching key staff in the field was impossible. A RENCI-deployed desktop conferencing system means critical information can be communicated face-to-face in real time as needed, even when emergency staff are miles apart. NC emergency managers now hold routine meeting via videoconference to save thousands of travel dollars and countless hours of travel time.

A third challenge of emergency response is situational awareness—knowing what is happening in the field, where critical resources are located, and where help is most needed. RENCI's automated vehicle and resource tracking project uses the existing wireless communication infrastructure and mapping systems to track resources in the field through cell phones and laptops. It links to databases so emergency managers can learn what people and physical resources are available for response and where they are located.

Another project, called the Big Board, gives emergency operation center staff a detailed map of an emergency scene and allows them to layer information onto the map relevant to certain locations. An intersection might include an overlay with video showing traffic in real time. A first aid station might include a note that lists phone numbers for back-up first aid crews. Real-time weather information, the location of police and fire units and other information can be embedded into the map. The information in this virtual world is available for simultaneous viewing by personnel at different locations on projection systems, desktops and even cell phones. Big Board sessions can also be recorded and played back later to access how an emergency was handled.

## The Expertise

RENCI brought together experts in many fields, including meteorologists, mitigation planners and emergency responders to create workflows that manage information and emergency events. RENCI software designers and programmers, teamed with visualization programmers and other technologists, created an architecture that integrates a variety of software tools and services that use the Internet. The visualization team investigated a number of platforms to determine what would work best for emergency managers who needed to see, manipulate and understand data and collaborate with their colleagues. RENCI technologists also created an infrastructure to collect and send information using GPS-enabled cell phones.

## The Partners

North Carolina Division of Emergency Management  
North Carolina Emergency Management Association  
National Weather Service  
40-50 county emergency managers and their staff members.

## The Impact

The Emergency Management Workspace accumulates and integrates critical information needed for planning and responding to disasters across the state. Before this project, information collection and dissemination was inefficient and too often did not happen at all. Now, managers are defining procedures and information needs in a much smarter way that will enable more timely and accurate decisions to protect life and property. Further, counties that had little or no access to up-to-date weather data now have a system for accessing information so they can use it in decision-making. All of these RENCI-developed solutions have saved time and effort that was previously required to track down and decipher information, communicate with colleagues, identify critical situations and deploy response and rescue teams.