Web 2.0 helps increase and assure communications through the use of new technologies that leverage the collective intelligence of the public to create more effective and resilient communication mediums or systems. An exploration of these new technologies illustrates the current and potential utility of Web 2.0 in homeland security.

Emergencies and catastrophic events create major adversity for citizens and for entire communities. To enhance response efforts and speed up the recovery process, responders must engage citizens in an effective and interactive information-sharing system to convey information while events are underway and during recovery efforts. The absence of proficient communication will reduce response effectiveness, decrease public trust, and generate stress and anxiety for victims of emergencies and catastrophic events.

New technologies can leverage the collective intelligence of the public to create more effective, resilient communication mediums or systems. Internet-based social networking tools have gained popularity in recent years and show great promise in the application of managing emergencies and information sharing among victims of emergencies and catastrophic events.

For example, The city of Philadelphia’s Office of Emergency Management launched an initiative in January of 2009 to establish a presence on Blogger, Facebook, MySpace, Twitter, YouTube, and LinkedIn. Philadelphia’s Office of Emergency Management is exploring how these Web 2.0 tools can help obtain important information about damaged areas following severe storms. They are also planning to use these Web sites to supplement their traditional communication methods and better understand the community’s needs and concerns (Tierney, 2009). The impact of the social networking tool Twitter was highly significant during the Iranian elections and the subsequent protest of election results in June of 2009. Twitter allowed the unedited, uncensored flow of information out of Iran despite the country’s widespread efforts to suppress information, especially images of protests and riots. For example, a video of a college-age female protestor who was shot and killed by governmental authorities ignited much of the world’s disdain for the Iranian government’s heavy-handed tactics.

Web 2.0 technologies began as entertainment tools catering to wired teens with a desire to share information and network with others. However, governmental organizations are recognizing the effect of Web 2.0 technologies and are quickly embracing these technologies to facilitate and
Web 2.0: Wikis and Mashups and Blogs, Oh My!

improve communications, especially during emergencies.

At least three different Web 2.0 technologies are currently being used by emergency responders and may be essential elements of an organization’s interactive emergency information sharing system. The three technologies are wikis, blogs, and mashups.

**Wikis**

A *wiki* is a Web site that allows visitors to easily add, remove, and edit content. The online encyclopedia *Wikipedia* (www.wikipedia.org) is a well-known and widely used wiki. The word *wiki* literally means *fast* in Hawaiian. Wikis were created when people sought opportunities to collaborate and share information quickly. People also use wikis when they want information from a variety of sources. This can result in a more diverse and possibly richer dialogue. However, one must always be aware that anyone can contribute to a wiki and may inadvertently or even intentionally include false or misleading information.

Wikis were used during large-scale humanitarian efforts such as the Hurricane Katrina response and rescue efforts—they provided situation reports during the initial phases of Katrina, and they remained active and served as a source to connect volunteers and donations with victims of the catastrophic event. This use demonstrated a plausible application for use during other emergencies. Wikis can provide a much quicker, more direct medium for any sized community to aid in mitigation, response, and recovery efforts.

**Blogs**

*Weblogs* (blogs) can provide a valuable communication and feedback medium between governmental organizations and the public, especially during emergencies and catastrophic events. Blogging has gained popularity in recent years and has developed into a commonly used, free-flowing exchange of ideas and ever-changing content. A blog is a platform-based tool that collects and organizes information from multiple contributors related to a specific topic. In its most basic form, a blog is an online, chronological log where visitors can post their responses to a discussion thread on any topic. Many blogs have very active online followings and are logical mechanisms for communication during emergencies.
During emergencies, blogs can provide the public and those managing the emergencies or catastrophic events with real-time information related to hazardous conditions, road closures, property damage, and endless other topics.

**Mashups**

Mashups are a display or overlay (or mashing together) of one data set on top of another. A good everyday example is an online real estate map of homes for sale in a community. As you click on an icon (house), you get a description of the property pulled from a database. Government agencies use mashups for many purposes, such as locating buried water mains or sewer pipes that are not visible from a photograph. During emergencies, mashups provide opportunities to improve users’ understanding of the situation by tagging maps with photographs, annotations, situational status of roads, or evacuation information. These mashups not only aid in response and recovery efforts but can assist in essential documentation for after-action reports as well as aid in future planning. Mashups are particularly valuable during emergencies and catastrophic events that cover wide geographic areas. The U.S. Forest Service has used mashups very effectively in both everyday business practice and emergency response.

The benefits of using Web 2.0 technologies to enhance interactive, collaborative information sharing and increase contextual knowledge during emergencies and catastrophic events are undeniable. Institutions at every level should develop clearly defined, widely understood policies and processes to take advantage of interactive information sharing technologies. Although the potential benefits of Web 2.0 are not fully understood at this time, any mechanism that increases the quality and quantity of communication during emergencies and catastrophic events warrants further study and investment.

**Reference**