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Making use of the Internet to manage emergency services information

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MAKING USE OF THE INTERNET

TO MANAGE EMERGENCY SERVICES INFORMATION

A Project Report

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In Partial Fulfillment

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Master of Library and Information Science

by

Laurie L. Putnam

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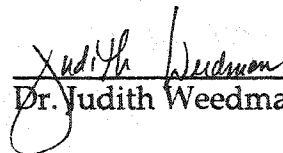
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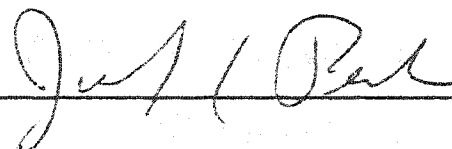
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ABSTRACT

MAKING USE OF THE INTERNET

TO MANAGE EMERGENCY SERVICES INFORMATION

by Laurie L. Putnam

The emergence of the Internet has had a significant impact on how information is managed and delivered before, during, and after all sorts of emergencies, from tornados to terrorist attacks. Research on this subject reveals that the Internet both enhances and complicates emergency communications, changing the way emergency responders access information, coordinate with one another, and communicate with the public. Yet many emergency services organizations are not fully prepared to manage Internet opportunities and issues.

Merging concepts from a variety of disciplines, this project defines a set of Internet preparedness standards for emergency services organizations, then provides resources for improving an organization's ability to meet those standards. Benchmarks, recommendations, and resources are based on reviews of publicly available emergency management information and interviews with working practitioners in the field of emergency services, who affirmed the need for both standards and training.

Contents

Introduction

Access to reliable information is essential for emergency managers, whether they're facing tornados or terrorist attacks. How well information is managed before, during, and after a disaster can have a direct influence on how well the actual crisis is managed.

In recent years, the growth of the Internet has had a tremendous impact on how emergency information is managed and delivered among practitioners as well as the public. In 1991 there were 4.4 million Internet users worldwide; in 2002, there were an estimated 655 million (ITU, 2002). Today, says the U.S. National Research Council, "How the Internet does and can respond to a disaster is of great interest to relief agencies and other crisis responders, governments, national security entities, businesses, and the general public" (U.S. NRC, 2002b). The advent of the Internet has fundamentally changed the way emergency services personnel access information, coordinate with one another, and communicate with their constituencies. Many researchers believe that the Internet has the potential to become an "information lifeline" in emergency situations (Shinoda et al., 1996). Yet the Internet can also increase the complexity of public information programs, extend the social effects of a disaster beyond the physically affected area, and enable people outside the disaster area to affect local relief operations, for better or for worse.

Consequently, the Internet requires fundamental changes in the way emergency services personnel do their jobs. Online information management skills have become important for those who manage information-intensive operations that serve an Internet-savvy public. Currently, however, many emergency services professionals are not adequately prepared to take advantage of the Internet in their daily activities or to manage the flow of online information in a crisis. Internet opportunities and potential complications are not emphasized in emergency management and communications training programs, and information literacy skills are not well integrated into existing curricula. A number of studies have looked at how the public uses the Internet during disasters, but little research has studied the issues from the disaster manager's perspective or the public information officer's point of view. There is no common set of standards for Internet preparedness in the emergency management field.

Literature review

This project's examination of the literature across several disciplines, including emergency services and information science, indicates that the use of the Internet by emergency services practitioners has not yet received a great deal of attention. While the field of emergency management has been around for a long time, the Internet did not become a significant factor for emergency managers until the 1990s. Related studies and educational programs are still developing.

The Internet and emergency services

When the Internet started to become established as a communications medium for businesses and the public, researchers began to offer broad overviews of how online technologies could support emergency managers with advantages such as easier access to information; speedy, low-cost e-mail communications; and distance education (Gruntfest and Weber, 1998; Fischer, 1998). "The primary role of the Internet is based on the importance of broader, more open, and free communication," noted Gruntfest and Weber (1998, p. 67). They pointed out, however, that, "Technology for technology's sake does not necessarily mean improved decision making or reduced losses." With cautious optimism, they surveyed Web sites that provided emergency services information and noted potential concerns about content reliability and information overload, concluding that further research was needed to monitor the Internet and promote its benefits.

Other researchers began to look more closely at the problematic issues involved with Internet use for emergency services, including infrastructure limitations, governmental restrictions, inadequate plans, questionable or excessive information, and fragile technologies. Both Quarantelli (1997) and the Pan American Health Organization (1996, 1998) found that such barriers were preventing emergency managers from taking advantage of the Internet's potential in many parts of the world. Discussion emerging at such conferences as the 1997 "Harnessing the Internet for Disasters and Epidemics" addressed the

growing importance of the Internet and called for further study, funding, and action to address related technological, cultural, economic, and political issues associated with Internet use in emergency services—particularly in developing countries, where disasters and epidemics are most common and often have the most devastating impact.

Other studies have focused on how the Internet was used during specific disasters (Zincir-Heywood & Heywood, 2000; Bachman, 1996; Rainie et al., 2002). During the 1999 Turkish earthquake, Zincir-Heywood and Heywood found that the Internet became "the medium of choice" for communications about the status and needs of the affected region (2000, Introduction, ¶ 2). After the 2001 attacks on New York's World Trade Center, Rainie et al. (2002) observed that the Web became "dominated by reactions to September 11 events," not only from the media but also from businesses, government organizations, and members of the public (p. 5). Bachman studied the use of the Internet in active war zones in eastern Europe in the early 1990s, finding that extreme technical difficulties were overcome so that Internet connections could be used to aid communications and conflict resolution. With great hope, Bachman proposed to strive not only for an Internet that will function amidst wartime destruction, but for a network that can serve humanity "by helping to create an infrastructure that will go one step further and actively aid the prevention of war" (1996, Introduction, ¶ 1).

After the September 11 attacks in New York, a flurry of studies reviewed how the public used the Internet during and after the event (Rainie & Kalsnes, 2001; Rainie et al., 2002; UCLA, 2001, 2002; Wiggins, 2001). Sixty percent of Americans now have Internet access (NUA, 2002), and members of the American public are prolific Internet users during disasters. Wiggins (2001) examined how the September 11 events affected the use of Google, the leading Internet search engine, and how Google's creators modified the site to accommodate an overwhelming public desire for disaster-related information. Detailed studies by the Pew Internet & American Life Project (2001, 2002) and the UCLA Center for Communication Policy (2001, 2002) examined how members of the public—inside and outside the U.S.—used the Internet as a source of information about the disaster's effects and the subsequent response operations, as a way to communicate with and obtain news of friends and relatives, and to broadcast their own views or display memorials. Archivists at the U.S. Library of Congress, the Internet Archive, and WebArchivist.org (2002) collaborated to assemble a selection of sites related to the World Trade Center attacks, cataloging the sites' sources and recording their uses, from advocacy and expression to assistance and information provision.

Turning toward the technical performance of the Internet, other researchers have evaluated the functioning of Internet infrastructures and applications during disasters (U.S. National Research Council, 1999–2002; Tada et al., 2000; Shinoda et al., 1996). During a series of Internet-based disaster drills conducted in Japan

in the late 1990s, Tada et al. (2000) and Shinoda et al. (1996) evaluated the performance of mobile "I am alive" databases, which allow people in a disaster area to use Web-based applications to register their safety and make contact with people outside the affected area. Although the technology showed gradual improvement over the course of the drills, the Japanese system still suffered from technical difficulties and had not been tested in an actual emergency. In the U.S. a decade later, a real emergency tested the Internet after New York's terrorist attacks. In 2002 the National Research Council's Computer Science and Telecommunications Board conducted a workshop, "The Internet under Crisis Conditions," that brought together experts to evaluate the performance of the Internet after the terrorist attacks and identify areas of strength and vulnerability. Although the study team found that "the Internet, taken as a whole, was not significantly affected" (U.S. NRC, 2002a, p. 2), the report called for better contingency plans to address potential operational issues and suggested that "the Internet could be better leveraged in future crises" (p. 9).

Other specialized studies have contributed to this interdisciplinary body of knowledge by evaluating particular aspects of the Internet without necessarily focusing on emergency services. For example, UCLA's annual *Internet Report* (1999–2002) tracks and evaluates general patterns of Internet use. In another example of contributory work, Freedom House's long-running *Annual Survey of Press Freedom* recently added measurements of freedom—and governmental restriction—related to the Internet in countries around the world (Sussman, 2001,

2002). Degrees of freedom and restriction can become highly relevant when the Internet is needed for emergency communications.

Additional contributing studies have looked at operational uses of the Internet in nonprofit organizations, raising issues relevant to nonprofits that provide emergency services (Johnson, 1999; Bennett & Kottasz, 2000; Boeder, 2002; Spencer, 2002). In separate reports, Johnson, Boeder, and Spencer looked at how nonprofit organizations used—or failed to use—the Internet for ongoing activities like communication, fundraising, and community building. All had similar findings: The Internet offers potential benefits for nonprofits, but that potential is largely untapped. As Johnson put it, "While some individuals and companies have been quick to capitalize on this medium, nonprofit organizations have been slower on the uptake" (1999, abstract, ¶ 1). Lack of technical, financial, and human resources is the primary difficulty.

The Internet and emergency services education

Although a need for Internet awareness is now apparent, formal emergency services training programs are not yet filling the need. A recent study by Darlington (2001) found a problematic gap in emergency management training: Agency-based programs tend to focus on practical, skills-based training in the traditional areas of mitigation, planning, response, recovery, and reconstruction, with little emphasis on theoretical frameworks or critical thinking skills.[1] Academic programs tend to lean in the opposite direction, focusing on theory

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and failing to close the gap between concept and application. Rather than being holistic, says Darlington, educational programs amount to "a reactionary mix of courses that have been assembled to respond to specific laws aimed at specific hazards and specific responses" (p. 11).

Yet this is a field where theory and application must come together. The management of emergencies is becoming more complex—in the types of disasters faced as well as the scope of their impact and the diversity of the people affected. "Emergency managers are now faced with problems they have seldom before confronted," says Darlington (2001, p. 11). "They are expected to understand complex physical and social systems, conduct sophisticated outcomes analyses, and offer long-term solutions to recurring problems." To address these complexities, education must promote a "deeper and more comprehensive understanding than that demonstrated when managers parrot facts, resort to empty slogans, or accept information without critical thought," says Darlington (p. 11). Crisis managers need to develop a broad, interdisciplinary skillset that will help them assess and apply information that is often sketchy or questionable. Because "disaster management is, by its very nature, an information-hungry activity" (Granger, 2000, p. 24), information literacy must be a part of that skillset.

Preliminary reviews of existing educational materials show that aspects of the Internet are touched on in emergency management training programs, but

Internet considerations have not been fully integrated into the curriculum. The need for technology courses has been recognized: FEMA recently sponsored the development of a college-level course on "Technology and Emergency Management," which includes a discussion of Internet technologies. But the Internet does not appear to be covered in standard emergency planning programs, and the topic is only lightly addressed in public information officer training programs. The California Specialized Training Institute (CSTI), which provides statewide emergency management education, trains information officers with four levels of courses on "crisis communications and the media." Although the second course in the series includes a segment on "surfing the 'net," there seems to be little emphasis on the uses and complications of the Internet or on information literacy issues that relate to emergency management. Catalog descriptions of FEMA's information officer courses do not mention the Internet. FEMA's courses, like CSTI's, tend to focus on dealing with the media, the traditional intermediaries between agencies and the public. Yet today, when so many members of the public can collect and distribute information directly through the Internet, the professional media are often circumvented.

The need for Internet preparedness standards
From the wide variety of contributing studies, it is clear that the Internet is affecting many aspects of emergency services, from the social to the technological. The Internet offers potential opportunities and creates new complications, particularly when the public goes online in the midst of an

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emergency. Yet the profession has not kept pace with the development of the Internet in any deliberate or consistent way, either by promoting specific studies on the Internet's impact on emergency management, by integrating the Internet into emergency services training programs, or by establishing a common set of standards for Internet preparedness. There is an apparent lack of focused and current educational programs, standards, and guidelines that specifically address Internet use by emergency managers, emergency information officers, and emergency services organizations to improve the management of emergency services information before, during, and after disasters.

Helpful publications do address certain aspects of the Internet. For example, Internet technology and access standards are addressed in *Technology Literacy Benchmarks for Nonprofit Organizations* from the Benton Foundation, an organization that "seeks to articulate a public interest vision for the digital age and to demonstrate the value of communications for solving social problems" (Benton Foundation, 2003). Tobin and Tobin's *Emergency Planning on the Internet* (1998) provides a basic introduction to Internet use and catalogs a broad range of Web sites that offer information for emergency managers. Yet, because Internet content is constantly changing, the book's usefulness is limited by the fixity of its print format: Its 1997 inventory of Web sites is no longer current or complete, and the inventory is not available or updated online. The text does not delve deeply into literacy issues such as content evaluation, or social issues such as managing public information in an online world.

The project

Merging concepts from a variety of disciplines, this project defines a set of
Internet preparedness standards for emergency services organizations, then
provides resources for improving an organization's ability to meet those
standards. Specifically, the project delivers a toolkit that identifies benchmarks,
recommendations, and resources that agencies can use to measure and enhance
their organizational readiness, technology readiness, staff and volunteer
readiness, and public information program readiness.

This project is based on the assumptions that:

- How well information is managed before, during, and after a disaster can
  have a direct influence on how well an actual crisis is managed.
- Emergency management training has not kept pace with rapid developments
  in information technologies over the past decade.
- The Internet can be better utilized to support emergency information services
  if crisis managers better understand how to research, evaluate, and share
  online information. Additionally, crisis managers need to be prepared for
  the ways in which the public's online activity will affect emergency services
  work.
- Benchmarks can be used to help improve awareness and raise the level of
  Internet preparedness within emergency services organizations.

Deliverables

This project delivers a toolkit to help emergency services organizations assess and improve their Internet preparedness. The initial *Internet Preparedness Toolkit*, a written document, is being delivered electronically as a PDF file that can be posted or linked to appropriate emergency management Web sites.

Target audience

The toolkit is written for agencies that work to mitigate, prepare for, and respond to natural and human-made disasters. Governmental agencies include city, county, state, and federal offices of emergency services; nongovernmental organizations include the Red Cross, the Salvation Army, and other nonprofits active in disaster services. Individual users might include emergency managers, who are responsible for disaster preparation and response, and public information officers, who are responsible for public outreach and for communicating with the media and the public during disaster operations. Users are likely to be time-pressured practitioners who are well versed in their professional specialties, such as emergency planning or media relations, but may not be highly sophisticated Internet users or online researchers. (For a detailed profile of the typical U.S. emergency manager, see Blanchard, 2002.)

The toolkit is geared toward emergency services personnel based in North America, a region with a diverse, multicultural, largely Internet-savvy population. This project requires a regional focus because of the broad scope

of the Internet, the differences in technological and political issues in different areas, and the importance of local relationships in preparing for emergencies and providing emergency services. The North American toolkit will serve as a regional model that can be modified as needed and reproduced for use in other parts of the world. At the same time, the toolkit considers how Internet technologies blur the lines that traditionally defined local regions—areas that, in the age of the Internet, can no longer be clearly defined or confined by lines of physical geography.

Intended use

The toolkit serves as a standalone resource that can be read as a whole or reviewed in parts, then referred to as needed during the emergency services information planning process. It is meant to be viewed as a reference guide that can bookmarked on the Internet or stored in a file for later use.

The toolkit could also be used to supplement the existing training programs and materials offered by organizations like CSTI, which provides emergency management and information management training for public agencies. Used in conjunction with lectures and exercises, the toolkit could be incorporated as a module of the either an emergency planning curriculum or an advanced public information officer training course.

Dependencies and limitations

There are limitations in the scope, content, and potential use of the toolkit. Although this project's review of existing emergency services research and educational materials was broad and representative, it was not exhaustive. Because this project addresses an issue of global interest, one that is influenced by a number of different academic disciplines and practiced by a number of different types of organizations worldwide, it is possible that relevant studies and localized programs have been missed. However, it seems clear that the toolkit represents a unique and needed program for its targeted North American audience.

At the same time, the content of the toolkit is limited by its focus on North American service providers. Content addresses the needs of this specific audience in an attempt to produce a focused program that can serve as a model for other audiences or regions and be modified as needed. Because North America is a diverse region whose residents have ties to nations around the world, the toolkit addresses some international and cultural issues. But it does not cover all Internet-related issues that might be of interest to other audiences in other parts of the world.

Finally, the toolkit is limited by the fact that there is no substitute for hands-on training and experience when it comes to Internet use. It is highly recommend that the toolkit be used in conjunction with a hands-on, instructor-led training

seminar. The toolkit is not meant to replace any existing specialized training in emergency planning, technology, or communications; rather, it is meant to add a layer of knowledge about the Internet that will familiarize the audience with information management issues that have emerged along with the Internet. These are issues emergency managers and information officers will need to consider as they go about their jobs, because the Internet can affect their ability to do their jobs well.

Editorial approach

Rather than presenting a narrative that must be read front to back, the writing and design approach allows the toolkit to be used as a quick reference guide. Each chapter is relatively self-contained, enabling readers to approach the toolkit at various points of entry. Elements such as checklists and worksheets enable users to skim the material and use the toolkit as a workbook or planning tool. The tone of the toolkit is meant to be:

- *Informative,* incorporating actual examples of how the Internet has affected the dissemination of emergency information.
- *Practical,* providing checklists and other tools that allow immediate application.
- *Thought provoking,* raising questions and issues that users will remember and consider when they return to their day-to-day work activities.

Implementation

Methodology

This project included a thorough analysis of existing research, documentation, and training. The *Internet Preparedness Toolkit* is based on this research and written to fill identified gaps in the available literature and training.

Information collection. The information collection step extended a preliminary literature review with thorough research on existing academic and professional training programs and models, identification of educational gaps and needs, and determination of specific deliverable content. This work was conducted by examining and analyzing existing documentation of the project topic, including materials from FEMA, CSTI, and a wide variety of emergency management, communications, and training publications and Web sites. Additional information on audience analysis, relevant political structures, and other situational factors was obtained through interaction with the professional emergency services community. Several members of the Santa Clara Valley Chapter of the American Red Cross provided input.

Evaluation. Preliminary drafts of the toolkit were evaluated through reviews by several community partners who are active practitioners in the field of emergency services. Reviewers who critiqued the content and usefulness of the toolkit included the American Red Cross, Santa Clara Valley Chapter's chief

community services officer, public information officer, and associate director of disaster services.

No special facilities or equipment were required to conduct this project.

Partners

Local American Red Cross officials generously supported the development of this project by providing input and reviewing drafts, and they have indicated that they plan to make use of the final toolkit for training and emergency planning purposes. To enhance future editions of the toolkit and determine the best ways to distribute the toolkit to the professional community, additional partnerships with local, state, and federal Offices of Emergency Services, as well as organizations such as the Northern California Collaborative for Disaster Mitigation, are being explored.

Budget

This project was completed without incurring expenses.

Conclusions

This project was implemented according to the proposed plan, delivering a work product that promises to serve as a useful tool for its target audience. The only significant deviation from the original plan was a broadening of the target

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audience from California-based emergency management practitioners to North American practitioners. This change was made because, over the course of the project's development, it became clear that:

- Practitioners throughout North America, and particularly across the U.S., had much in common. They would be able to take advantage of many of the same guidelines and resources, and there was little benefit in limiting the audience to California readers. On the other hand, broadening the scope of the toolkit beyond California would make the toolkit useful to many people who were not part of the original target audience.

- At the same time, local partnerships were clearly still critical. While the toolkit cites general resources useful to readers across North America, it also emphasizes the importance of developing relationships with a variety of local organizations and exploring remote, Internet-based partnerships.

Direct feedback from practitioners evaluating the *Internet Preparedness Toolkit* has been positive. "I found it to be a very worthwhile and useful tool," noted Rex Painter, chief community services officer at the Santa Clara Valley Chapter of the American Red Cross. "The information is very helpful for an agency with limited resources trying to find a starting point in Internet preparedness. It provides direction without being overwhelming to the novice. I believe we will be using the toolkit in our future assessments and development." (Rex C. Painter, personal communication, March 21, 2003.)

Painter and his colleagues noted, however, that the toolkit was most likely to be used if it could be delivered in conjunction with a consulting session or training seminar. Lack of time and human resources were listed as critical issues, especially for volunteer-based organizations, and the Red Cross reviewers recommended the development of a "getting started" workshop or consulting service. Such support could help time-constrained practitioners quickly learn basic Internet preparedness concepts from a knowledgeable instructor, and at the same time begin to build partnerships with professional colleagues.

The toolkit appears to fill a gap in the set of tools and training previously available to emergency services practitioners. While existing training tends to focus on specific aspects of the Internet, such as technology planning or online searching, the toolkit uses a multidisciplinary approach. Merging concepts and practices from information technology, communications, library and information science, and public administration, the toolkit provides a holistic look at preparing an organization for the implications of the Internet. Further, by posing a set of provocative questions and guidelines rather than a set of rigid requirements, and by encouraging exploration and critical thinking rather than delivering simple answers, the toolkit supports the movement "from content to process" advocated by Darlington (2001) for emergency management training. "It is more important than ever to switch from an emphasis on rote learning, which is quickly outdated, to an emphasis on the processes of thinking, learning, and questioning," says Darlington. "This switch from content to process is

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required by the massive changes in what emergency managers need to know and need to be able to do when they leave the classroom if they are to succeed at a time when the only certainty is the rapidly accelerating rate of change" (p. 11).

Finally, the toolkit embeds information literacy concepts and skills into a context that is relevant to the audience, where new skills can immediately be applied to day-to-day work practices. While information literacy is commonly discussed and practiced in school and academic settings, its concepts and applications have not been extensively studied or applied in adult work environments. This project takes a step toward demonstrating applications of information literacy in a specific work setting.

Suggestions for further research and development

Toolkit applications and extensions

The *Internet Preparedness Toolkit* could be developed and extended in a number of ways. For example, to keep the toolkit current and relevant and to make it available to as many practitioners as possible, it would be useful to:

- Develop a Web-based version of the toolkit (or, minimally, the toolkit's Resources sections) that could be updated on a regular basis. Links to new, localized, and specialized online resources could be provided. Longer term, the toolkit could be developed into an online tool that allows users to

complete the toolkit's worksheets in an interactive manner. With such a tool, users could more easily evaluate their organization's strengths and weakness, rate the importance of each standard for their organization, and then generate a report that ranks potential priorities and lists related resources.

- Modify the toolkit for use by emergency services practitioners in other parts of the world. In other countries, language requirements, professional practices, governmental regulations, and local resources may affect the guidance provided.

- Investigate opportunities to use the toolkit as a model for promoting Internet preparedness in other types of organizations and work environments. For example, a specialized toolkit could be useful for large businesses that must be prepared to respond to emergencies, protecting their employees and ensuring business continuity.

- Explore opportunities to use the toolkit's Staff and Volunteer Readiness chapter, which focuses on information literacy skills and concepts, as a model for incorporating information literacy into adult work settings. Although specific examples would need to be modified, the concepts and skills discussed in this chapter could be applied to a wide variety of work environments and fields of endeavor.

- Develop an Internet preparedness workshop to educate practitioners about the topic and to give them a head start on evaluating their organization and improving its preparedness. An instructor-led, hands-on session would offer practitioners a live group setting to share experiences, ask questions, and

practice online searching skills. Instructors could localize the toolkit's content and examples to meet the needs of seminar participants.

- Explore opportunities to integrate Internet preparedness and information literacy concepts and skills into the existing emergency management curriculum. Elements of Internet preparedness could be incorporated into a variety of existing courses and programs, from emergency planning to public information management.

Further research

Further research can used to pursue and test theories of Internet preparedness. For example, studies could:

- Assess the value of Internet preparedness in tangible ways. Researchers could use the toolkit to measure levels of Internet preparedness in a variety of emergency services organizations. Using established measures of performance for emergency services, researchers could then evaluate the correlation between organizational performance and Internet preparedness. How closely does an organization's level of Internet preparedness relate to the quality of its service delivery? Are there measurable advantages to high levels of Internet preparedness? Are there measurable effects of poor Internet preparedness?

- Assess the value of information literacy in the work environment, and evaluate the best methods of teaching information literacy concepts and skills to adult workers. To what degree and in what ways can information literacy

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skills improve productivity and work quality? What are the best ways to enhance awareness of information literacy concepts and teach information literacy skills to adult professionals? The topic of information literacy has not received a great deal of attention outside of academic environments, and the toolkit's Staff and Volunteer Readiness section could serve as a tool for evaluating teaching methods and skill development in a focused work environment.

Notes

1. The commonly accepted phases of emergency management include:

   - *Mitigation*: The long-view stage, prior to the anticipation of an actual disaster, when action is taken to mitigate the scope or severity of a disaster's impact. Actions might include precautionary measures like bolting a house to its foundation so it might better withstand an earthquake.

   - *Preparedness*: The phase prior to the anticipation of an actual disaster when action is taken to plan and prepare for emergency response and recovery. Actions might include developing response plans and back-up systems, establishing mutual aid agreements among agencies, and stocking first aid kits.

   - *Response*: The phase during or immediately following a disaster when action is taken to respond to the emergency. Actions might include providing emergency medical services, sheltering victims, or conducting search-and-rescue operations.

   - *Recovery*: The phase following an emergency when action is taken to recover from the effects of a disaster. Actions might include restoring utility services or providing loans for the rebuilding of homes.

References

Bachman, E. (1996). Digital communication via the Internet in a war zone: Conflict resolution and the Internet. *Proceedings* of the Internet Society's iNet 1996 conference. Retrieved March 24, 2003, from http://www.isoc.org/inet96/proceedings/h2/h2_2.htm.

Bennett, R. & Kottasz, R. (2000). Emergency fund-raising for disaster relief. *Disaster Prevention and Management, 9* (5), 352–359.

The Benton Foundation Web site. Retrieved March 24, 2003, from http://www.benton.org/.

Blanchard, B.W. (2002). FEMA Emergency Management Institute Higher Education Project. Retrieved March 24, 2003, from http://training.fema.gov/EMIWeb/edu/.

Boeder, P. (2002, July). Non-profits on e: How non-profit organizations are using the Internet for communication, fundraising, and community building. *First Monday, 7* (7). Retrieved March 24, 2003, from http://www.firstmonday.org/issues/issue7_7/boeder/index.html.

Darlington, J. D. (2001). The profession of emergency management: Educational opportunities and gaps. Retrieved March 24, 2003, from http://166.112.200.141/emi/edu/highpapers.htm.

Fischer III, H.W. (1998). The role of the new information technologies in emergency mitigation, planning, response and recovery. *Disaster Prevention and Management, 7* (1), 28–37.

Granger, K. (2000). An information infrastructure for disaster management in Pacific island countries. *Australian Journal of Emergency Management, 15* (1), 20–32. Retrieved March 24, 2003, from http://www.ema.gov.au/.

Gruntfest, E. & Weber, M. (1998, March). Internet and emergency management: Prospects for the future. *International Journal of Mass Emergencies and Disasters, 16* (1), 55–72.

International Telecommunications Union (ITU). (2002). Key indicators of world telecommunications. Retrieved March 24, 2003, from http://www.itu.int/ITU-D/ict/statistics/.

Johnson, M. (1999, February). Non-profit organisations and the Internet. *First Monday, 4* (2). Retrieved March 24, 2003, from http://www.firstmonday.org/issues/issue4_2/mjohnson/index.html.

NUA Internet Surveys. (2002). How many online? Retrieved March 24, 2003, from http://www.nua.com/surveys/how_many_online/index.html.

Pan American Health Organization (PAHO). (1998, January). Crisis management on the Internet: A snapshot of progress in the region. *Disasters: Preparedness and Mitigation in the Americas, 71,* 1, 7. Retrieved March 24, 2003, from http://www.paho.org/english/ped/ped198e.pdf.

Pan American Health Organization (PAHO). (1996, January). The Internet: Tending to the basics. *Disasters: Preparedness and Mitigation in the Americas, 65,* 1, 7. Retrieved March 24, 2003, from http://www.paho.org/english/ped/ped196e.pdf.

Quarantelli, E.L. (1997). Problematical aspects of the information/communication revolution for disaster planning and research: Ten non-technical issues and questions. *Disaster Prevention and Management,* 6 (2), 94–106.

Rainie, R., Fox, S., Madden, M., Schneider, S., Foot, K., Halavais, A., Massanari, A., Larsen, E., Siegl, E., & Dougherty, M. (2002). One year later: September 11 and the Internet. Washington, D.C.: Pew Internet & American Life Project. Retrieved March 24, 2003, from http://www.pewinternet.org/reports/toc.asp?Report=69.

Rainie, L. & Kalsnes, B. (2001). The commons of the tragedy: How the Internet was used by millions after the terror attacks to grieve, console, share news, and debate the country's response. Washington, D.C.: Pew Internet & American Life Project. Retrieved March 24, 2003, from http://www.pewinternet.org/reports/toc.asp?Report=46.

Shinoda, Y., Baba, T., Tada, N., Kato, A., & Murai, J. (1996). Forethought and hindsight: Experiences from the first Internet disaster drill. *Proceedings* of the Internet Society's iNet 1996 conference. Retrieved March 24, 2003, from http://www.isoc.org/inet96/proceedings/h2/h2_1.htm.

Spencer, T. (2002, August). The potential of the Internet for non-profit organizations. *First Monday, 7* (8). Retrieved March 24, 2003, from http://www.firstmonday.org/issues/issue7_8/spencer/index.html.

Sussman, L.R. (2002). The press: Marksman and target in the war on terrorism. In *The Annual Survey of Press Freedom 2002*. New York: Freedom House. Retrieved March 24, 2003, from http://www.freedomhouse.org/research/pressurvey.htm.

Sussman, L.R. (2001). The Internet in flux. In *How Free? The Web & the Press: The Annual Survey of Press Freedom*. New York: Freedom House. Retrieved March 24, 2003, from http://www.freedomhouse.org/research/pressurvey.htm.

Tada, N., Izawa, Y., Kimoto, M., Maruyama, T., Ohno, H., & Nakayama, M. (2000). IAA system ('I Am Alive'): The experiences of the Internet disaster drills. *Proceedings* of the Internet Society's iNet 2000 conference. Retrieved March 24, 2003, from http://www.isoc.org/inet2000/cdproceedings/8l/8l_3.htm.

Tobin, R. & Tobin, R. (1998). *Emergency planning on the Internet*. Rockville, MD: Government Institutes, Inc.

University of California, Los Angeles, Center for Communication Policy. (2002, February 7). Study by UCLA Internet Project shows e-mail transformed personal communication after September 11 attacks. Retrieved March 24, 2003, from http://www.ccp.ucla.edu/.

University of California, Los Angeles, Center for Communication Policy. (2001). *The UCLA Internet Report 2001: Surveying the Digital Future*. Los Angeles, CA: UC Regents. Retrieved March 24, 2003, from http://www.ccp.ucla.edu/pages/newsTopics.asp?Id=32.

U.S. Library of Congress, Internet Archive, & WebArchivist.org. (2002). The September 11 Web archive. Retrieved March 24, 2003, from http://september11.archive.org/.

U.S. National Research Council (NRC). (1999). *Summary of a workshop on information technology research for crisis management*. Washington, D.C.: National Academy Press. Retrieved March 24, 2003, from http://books.nap.edu/html/itr_crisis_mgmt/.

U.S. National Research Council (NRC). (2002a). *The Internet under crisis conditions: Learning from September 11*. Retrieved March 24, 2003, from http://www7.nationalacademies.org/cstb/pub_internet911.html.

U.S. National Research Council (NRC). (2002b). Workshop on the Internet under crisis conditions. Retrieved March 24, 2003, from http://www7.nationalacademies.org/cstb/project_crisisconditions.html.
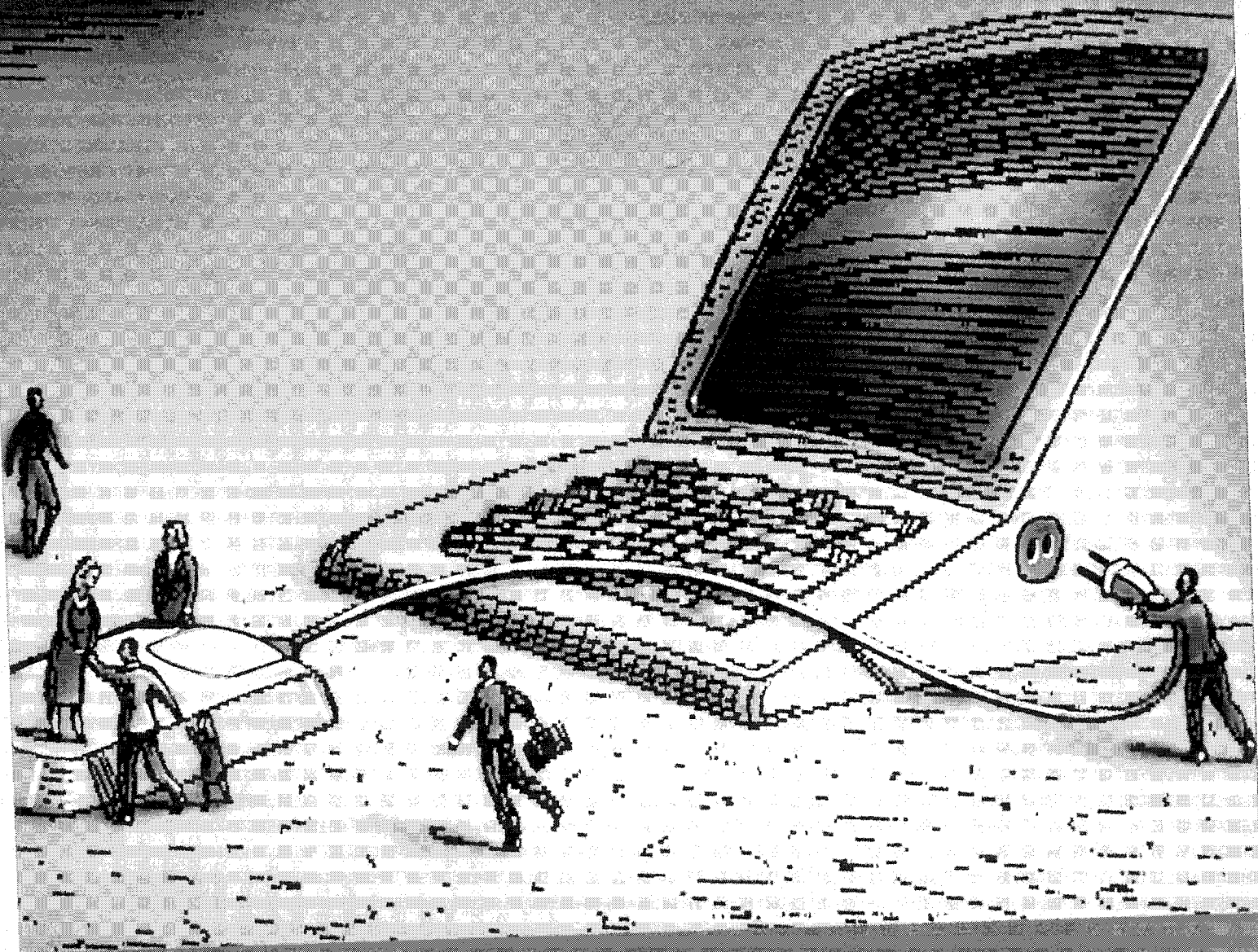
Wiggins, R.W. (2001, October). The effects of September 11 on the leading
    search engine. *First Monday, 6* (10). Retrieved March 24, 2003, from
    http://www.firstmonday.org/issues/issue6_10/wiggins/index.html.

Zincir-Heywood, A. & Heywood, M.I. (2000). In the wake of the Turkish
    earthquake: Turkish Internet. *Proceedings* of the Internet Society's iNet 2000
    conference. Retrieved September 17, 2002, from
    http://www.isoc.org/inet2000/cdproceedings/8l/8l_2.htm.

Appendix: Final work product

the **internet** **preparedness** toolkit

STANDARDS AND RESOURCES FOR EMERGENCY SERVICES ORGANIZATIONS

By Laurie L. Putnam

the **internet preparedness** toolkit

STANDARDS AND RESOURCES FOR EMERGENCY SERVICES ORGANIZATIONS

By **Laurie L. Putnam**

Contents

You know the drill. As soon as the earth quakes, a fire breaks out, or a truckful of hazardous materials tips over, your phone begins to ring. You find out what happened: Where? When? How many people are in the vicinity? Do we need to evacuate?

Information is your lifeline, whether you're facing a tornado or a terrorist attack. How well information is managed—before, during, and after a disaster—can directly affect your ability to manage the incident. In the old days, you relied on telephones and ham radios for emergency communications, and you depended on the media to distribute public information. You still do. But now you also have the Internet.

The recent growth of the Internet has had a remarkable influence on the ways we access and deliver all kinds of information. In 1991 there were 4.4 million Internet users around the world, according to the International Telecommunications Union. By 2002, that number had jumped to nearly 600 million.

Most of your community is probably online. More than 60 percent of Americans have Internet access, and more than 40 percent have been online for more than three years, according to "Counting on the Internet," a 2002 report by the Pew Internet & American Life Project. "The Internet has become a mainstream information tool," say the Pew researchers. "Its popularity and dependability have raised all Americans' expectations about the information and services available online." Often the Internet is the first place people go when they're looking for news or they need information about a government service.

In the world of emergency management, the advent of the Internet has fundamentally changed the way workers find information, coordinate with one another, and communicate with the public. Now, as you develop emergency plans, you can bring maps and policy guidelines right to your desktop. As you promote preparedness, you can post educational materials on your Web site or e-mail information to your community. In an emergency, you can use the Internet to coordinate logistics, collect data, and distribute updates across time zones and through mutual aid systems. ⇢

IN 1991 there were 4.4 million Internet users around the world

BY 2002 that number had jumped to nearly 600 million

SOURCE:
International Telecommunications Union

> **Internet preparedness means understanding the Internet and how people use it, putting the technology to work for you, and anticipating what might go wrong in a crisis.**

Yet the Internet can also complicate a crisis. With more ways to communicate, your public information programs can become more complex and far reaching. With the rapid delivery of online news, the social effects of a disaster can reach far beyond the physically affected region. With much of the world online, people outside the local area can affect response and relief operations, for better or for worse. And then there's always the chance your own Internet service will vanish when the power goes out and the phone lines go down.

What does all this mean to you? If your job is information intensive and your community is online, it means you need to be prepared for the Internet.

Internet preparedness means understanding the Internet and how people use it, putting the technology to work for you, and anticipating what might go wrong in a crisis. The Internet will affect your organization as a whole, your technology systems, your staff and volunteers, and your public information programs. Is your organization already applying the Internet to its day-to-day operations, so you won't have to figure out new technologies in the middle of a crisis? Are your technology systems well equipped to support your emergency activities? Do your people have the skills they need to work with the Internet, to find useful information and use online applications? Is your team prepared to manage the flow of online public information?

This toolkit defines a set of Internet preparedness standards for emergency services organizations, and gives you a way to apply those standards to your own organization. By working your way through the toolkit, you can evaluate your agency's level of Internet preparedness, determine your strengths and weaknesses, and develop an action plan based on your needs and priorities.

You can look at your plans, your services, and your infrastructure through an Internet filter, and get a new perspective on your own preparedness. ■

The Internet in action: **September 11**

The Internet's impact rippled through events surrounding the September 11, 2001, terrorist attacks on New York's World Trade Center. Online opportunities developed, and Internet issues emerged.

"The issues that have emerged from the September 11 terrorist attacks vividly illustrate that the Internet serves the best and worst of humanity," said the *UCLA Internet Report 2001*. "Terrorists may have used the Internet to communicate and plan their attacks, but online services aided the recovery and created a network of outreach that brought the world closer together in an unprecedented outpouring of support."

After the World Trade Center attacks, the Internet was used for emergency communications by officials and citizens in the U.S. and around the world. E-mail connected distant friends and family: More than 100 million people—nearly 60 percent of American e-mail users—received or sent e-mail messages of emotional support, expressions of concern for others, or questions about victims of the attacks, according to a study by the UCLA Center for Communication Policy. Nearly a quarter of American Internet users received e-mail messages of support or sympathy from outside the U.S.

Ultimately the Web became "dominated by reactions to September 11 events," and more than two-thirds of U.S. Internet users went online to obtain information related to the terror attacks or their aftermath, according to the Pew Internet & American Life Project. In the following weeks and months, disaster-related transactions went online: Charity Web sites collected credit card donations over the Web, and the U.S. Federal Bureau of Investigation solicited reports of terrorist activity through interactive online forms. Commemorative sites and images appeared, and collections of resources were posted by government agencies and media outlets, libraries and research organizations. People used the Internet to react, respond, and report. "Do-it-yourself journalism has been a staple of Internet activity for years," according to Pew reports, "and the terrorist attacks gave new prominence to the phenomenon." The Internet became a populist medium for news, expression, and action. ■

> "The issues that have emerged from the September 11 terrorist attacks vividly illustrate that the Internet serves the best and worst of humanity."
>
> *UCLA Internet Report 2001*

Internet statistics and trends

"Counting on the Internet: Most Expect to Find Key Information Online, Most Find the Information they Seek, Many Now Turn to the Internet First," by John B. Horrigan and Lee Rainie. From the Pew Internet & American Life Project, Washington, D.C. (2002). Available at http://www.pewinternet.org/reports/toc.asp?Report=80.

CyberAtlas keeps tabs on Internet trends and statistics, including the number of Internet users in countries around the world. Available at http://www.cyberatlas.internet.com/.

The International Telecommunications Union's "Key Indicators of World Telecommunications" tracks numbers of phone lines, Internet servers and users, and other worldwide telecommunications statistics. Available at http://www.itu.int/.

The annual *UCLA Internet Report* from the University of California, Los Angeles, Center for Communication Policy studies how the Internet and its users affect society. Available at http://www.ccp.ucla.edu/.

Internet use in emergencies

"By Choice or by Chance: How the Internet Is Used to Prepare for, Manage, and Share Information about Emergencies," by Laurie Putnam. In *First Monday*, vol. 7, no. 11 (November 2002). Available at http://www.firstmonday.dk/issues/issue7_11/putnam/index.html.

"The Commons of the Tragedy: How the Internet Was Used by Millions after the Terror Attacks to Grieve, Console, Share News, and Debate the Country's Response," by Lee Rainie and Bente Kalsnes. Washington, D.C.: Pew Internet & American Life Project (2001). Available at http://www.pewinternet.org/reports/toc.asp?Report=46.

The Internet Archive Wayback Machine from the U.S. Library of Congress, the Internet Archive, and WebArchivist.org is available at http://www.archive.org/. The September 11 Collection is at http://web.archive.org/collections/sep11.html.

The Internet under Crisis Conditions: Learning from September 11,
by the U.S. National Research Council. Washington, D.C.: The
National Academies Press (2002). Available at
http://www7.nationalacademies.org/cstb/pub_internet911.html.

"One Year Later: September 11 and the Internet," by Lee Rainie,
Susannah Fox, Mary Madden, Steven Schneider, Karen Foot,
Alex Halavais, Adrienne Massanari, Elena Larsen, Erica Siegl, and
Meghan Dougherty. Washington, D.C.: Pew Internet & American
Life Project (2002). Available at
http://www.pewinternet.org/reports/toc.asp?Report=69.

"Problematical Aspects of the Information/Communication Revolution
for Disaster Planning and Research: Ten Non-Technical Issues and
Questions," by E.L. Quarantelli. In *Disaster Prevention and Management,*
vol. 6, no. 2 (1997), pp. 94–106.

"Study by UCLA Internet Project Shows E-Mail Transformed Personal
Communication after September 11 Attacks," by the University of
California, Los Angeles, Center for Communication Policy. Los Angeles,
CA: UC Regents (2002). Available at http://www.ccp.ucla.edu/.

How to use this toolkit
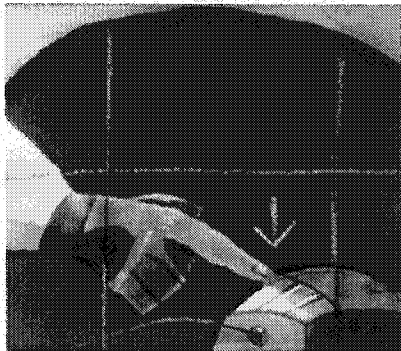
This toolkit will help emergency services organizations assess and improve their own Internet preparedness. It identifies a set of standards you can use to determine whether you're ready to take advantage of the opportunities—and manage the complications —the Internet brings. Each chapter suggests tips for enhancing your readiness and provides resources for further information and assistance.

Topics include:

- ⟶ Organizational readiness
- ⟶ Technology readiness
- ⟶ Staff and volunteer readiness
- ⟶ Public information program readiness

This toolkit is meant for organizations that mitigate, prepare for, and respond to natural and human-made disasters.

This is not a technical manual or a how-to guide: It won't teach you how to build a Web site or turn you into an expert Internet searcher. It isn't meant to replace specialized training in emergency planning, computer systems, or communications. But it will offer you a new perspective on the issues and opportunities that have emerged along with the Internet. And it will give you ways to begin managing the problems and exploring the possibilities.

Is this toolkit for you?

This toolkit is meant for organizations that mitigate, prepare for, and respond to natural and human-made disasters. It will be useful for governmental agencies, such as city, county, state, and federal offices of emergency services; and nongovernmental organizations, such as the Red Cross, the Salvation Army, and other nonprofits active in disaster services. Content will be relevant for agency leaders, for emergency planners and managers, for technology managers, and for public information officers. Portions of the toolkit will affect staff and volunteers across the organization.

The standards and resources in this toolkit are focused on the needs of U.S. agencies, but the general concepts and many of the resources will be useful for organizations in other parts of the world.

How do you use it?

This toolkit will be most useful if you write all over it. It's meant to be a workbook, a planning tool, a starting point.

You'll probably have the best results if you work through the toolkit with a core team that includes your emergency services leader, your technology expert, and your public information officer. Together you can decide which elements are most important to your organization, what you're already doing well, and where you need to improve. Eventually you'll need to involve your other leaders as well as your staff and key volunteers; the Internet will affect everyone.

You can work through the toolkit all at once, or you can take it a chapter at a time, focusing on the areas most relevant to your organization.

Rank your readiness

Each chapter includes a set of standards for Internet preparedness. For each standard, rank the strength or weakness of your organization today. Consider how well and how fully your organization achieves each standard.

✓ A *strong* ranking means your organization fully meets the standard: "We do this as well and consistently."

✓ A *moderate* ranking means your organization partially meets the standard: "We sometimes do this," or, "Some of us do this, but not all of us," or, "We do this, but not as well as we'd like to."

✓ A *weak* ranking means your organization doesn't meet the standard: "We don't do this at all," or, "We really don't do this well."

If you like, note the reasons why you selected certain rankings. It may be helpful to look back on your notes when you develop your action plan.

When you're finished, turn to the worksheets on page 47.

Our staff and volunteers know how to find information on the Web.

It's easy to get lost on the Internet, where there are multitudes of Web sites on every imaginable topic. And it's easy to spend a lot of time surfing around without finding the information you really need. When your people go online, do they know how to find what they're looking for? Can they find it efficiently, or do they hesitate to try because they aren't sure where to start? Do they get frustrated when they put a simple query into a search engine and get thousands of hits?

Our people know how to assess their own information needs and define a research question.

Before you begin a search for information, it's important to be clear about what you're looking for. Take a moment to frame your question in specific terms. Exactly what do you want to find out? Is your question specific enough that you'll be able to recognize the answer when you find it? Just how much and what kind of information do you need? A broad overview? An in-depth historical survey? An up-to-the-minute news report? Think about what a "good" answer would look like.

	WEAK		MODERATE		STRONG
	○	○	✓	○	○

Our people understand the range of information resources available, and they can identify the best resources to meet their needs.

Once you've defined your information needs, consider the best source for information. There's a lot of content on the Web, but all the answers aren't locked into your favorite search engine. Along with the Internet, think about print publications, other organizations, and individual people who might help you draw the straightest line from your question to an answer. Your answer could be found with a phone call to an expert, in a database at your local library. Are you and your people comfortable getting around in a multifaceted world of information?

	○	✓	○	○	○

Acknowledge your strengths

Now look back through each chapter and identify your greatest strengths—the items for which you ranked your readiness as "moderate" to "strong." Note these items on the Internet Preparedness Strengths worksheet on page 47, and take a moment to acknowledge the things you're doing well. Consider whether each item will continue to be important to your organization in the future. It's important to recognize your strengths, and to make sure you don't let them slide when you start to focus more attention on areas of improvement.

Build an action plan

Look back through each chapter and identify your weak areas—the items for which you ranked your readiness below "moderate." List these items on the Internet Preparedness Action Plan on page 48. Then prioritize each one, high, medium, or low priority, according to its importance to your organization. (If an item isn't particularly important to your organization, it probably doesn't matter if you're weak in that area.) Then take another look at your highest priorities, the objectives you plan to act on within the next six months or so, and make sure someone has responsibility for making those things happen.

You now have an outline for an action plan to improve your Internet preparedness. You have a set of objectives and priorities you can integrate with your organization's strategic plan and build into your department plans. Check the Tips and Resources sections for more information and ideas. And be sure to review your action plan at least once a year.

By working your way through this toolkit, you can evaluate your agency's level of preparedness, determine your strengths and weaknesses, and develop an action plan based on your needs and priorities.
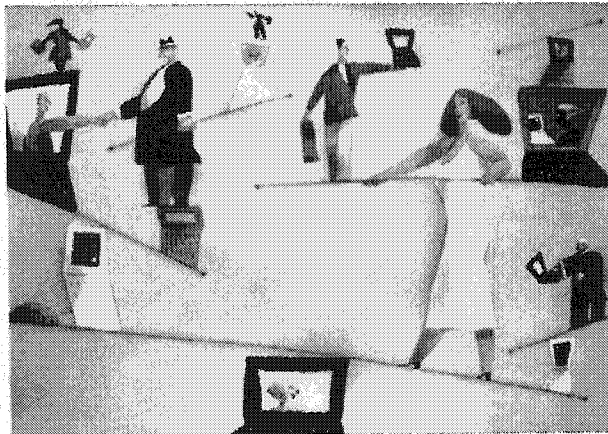
A note about resources

All Web links listed in this toolkit were verified in June 2003.

Resources were selected based on their authority, reliability, and currency; how well established the Web sites appeared to be; the sites' anticipated longevity; and the content's usefulness to emergency services organizations around the U.S. (In a few cases, regional examples are cited as useful models.) Most resources are free. Of course, these factors are subject to change, and it's important to evaluate each resource based on your own organization's current needs.

Note, too, that the resource lists in this toolkit are far from comprehensive: There are many, many useful resources on the Web as well as in your local library. The Web sites, articles, and books listed here simply provide a starting point—one that will lead you toward more specialized resources, more international resources, and more localized resources that can help you enhance your Internet preparedness.

Organizational readiness

Is your organization prepared to apply the Internet to its day-to-day operations?

The Internet will affect your organization as a whole, so your whole organization must be ready for the Internet. Support for Internet preparedness needs to start at the top, with well-informed leaders, adequate planning and resource commitments, and an ability to apply the Internet to your day-to-day activities. If you aren't able to make use of the Internet on a "normal" workday, it will be a real struggle to get your team online in the middle of a crisis.

The following organizational readiness standards will help you determine whether your agency is prepared to apply the Internet to its ongoing operations. Has your organization built Internet preparedness strategies into its strategic plan and assigned responsibility for related objectives? Have your leaders demonstrated a commitment to Internet preparedness by providing funding and promoting partnerships with appropriate agencies? Does your organization apply the Internet to routine activities, like fundraising and volunteerism? Such activities might become more complex than usual, and even problematic, during an emergency.

If your organizational readiness is strong, you can use these standards to identify areas to watch or improve. You'll need to monitor your readiness level to make sure it stays high as your organization evolves. Update your plans on a regular basis, and keep cultivating leadership support.

If your organizational readiness needs work, you can use these standards to identify needs. The standards can give you an outline for discussions with your executive team. Together you can review the gaps in your readiness, identify specific goals, and set priorities for action.

## Our leaders have defined strategic objectives for Internet preparedness.

Most agencies have a high-level strategic plan that establishes a vision for the organization and lays out a roadmap for the coming years. Are your leaders considering Internet preparedness as they develop strategic goals for the organization? Documenting plans can demonstrate a commitment to preparedness by formalizing objectives that will flow through all departments in the organization.

	WEAK		MODERATE		STRONG

⋯⟩ **Our Internet preparedness objectives are integrated with our organizational strategies and goals.**   ○ ○ ○ ○ ○

Your organization's top-level goals might include increasing your response capacity, creating strategies to address potential terrorist attacks, or reallocating resources toward different services. Have you considered how the Internet and related tools, such as e-mail and Web sites, might enhance or hinder your ability to meet each goal? Internet preparedness objectives need to support high-level plans.

⋯⟩ **Our Internet preparedness objectives address organizational, technology, staff and volunteer, and public information program readiness.**   ○ ○ ○ ○ ○

You'll need to meet the Internet's basic technical requirements, but the Internet is about more than technology. Internet preparedness also means considering how the Internet will affect your organization, your people, and your public service programs. Different objectives may need to be set in each of these areas. Have you considered all the angles?

⋯⟩ **Our organization has identified the people who will be responsible for meeting specific Internet preparedness objectives.**   ○ ○ ○ ○ ○

Objectives have a way of foundering if no one is directly responsible for making them happen. Have you identified individuals who have agreed to take responsibility for meeting specific Internet preparedness objectives?

⋯⟩ **Our Internet preparedness objectives are realistic and measurable.**   ○ ○ ○ ○ ○

To succeed, objectives need to be specific and reasonable. You'll need to allocate appropriate resources, and set target dates for reaching milestones. Have your objectives been deemed achievable by the people responsible for making them happen?

	WEAK		MODERATE		STRONG

→ Our Internet preparedness objectives are formally reviewed and updated on a regular basis. ○ ○ ○ ○ ○

Things change, especially in the emergency business. Do you review and update your objectives on a regular basis—at least twice a year—to see if they're being affected by changes inside your organization, in the external environment, or in the evolution of the Internet and its users?
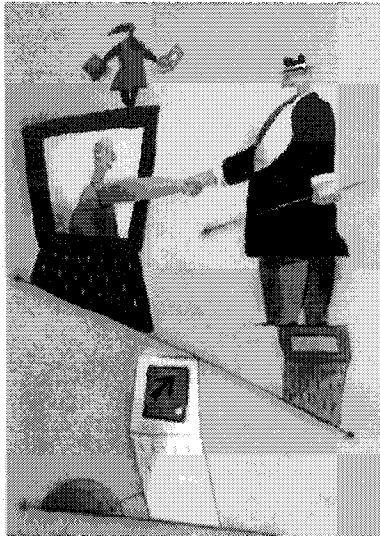
The goal of Internet preparedness is well understood and supported by our leaders.

As with other organizational goals, Internet preparedness is most likely to succeed if it flows downward from higher levels of authority—the places where strategic decisions are made and critical funds are allocated. It'll be a lot easier to build Internet preparedness into your activities if your leaders understand the concepts and support the goals. If there are weak spots in your support base or you sense a low level of commitment, you may need to start educating those with influence.

	WEAK		MODERATE		STRONG

→ Our organization has committed the resources needed to meet our Internet preparedness objectives. ○ ○ ○ ○ ○

Objectives often come with a price tag: They take funding as well as human effort. Has your organization assessed and assigned the resources needed to meet your Internet preparedness objectives? Is there a realistic strategy for developing needed funds and/or human resources?

→ Our organization monitors relevant developments in the use of the Internet and incorporates this knowledge into our planning and activities. ○ ○ ○ ○ ○

The capabilities and content of the Internet are evolving; government regulations are changing; the edges of the digital divide are eroding. Do your leaders see the Internet as a new variable that needs to be watched? Have they assigned staff people to monitor important developments and keep them informed?

···⟩ **Our organization understands the value of partnerships in Internet preparedness.**

The Internet isn't something anyone or any organization can handle alone. You'll need strong, reliable partners who can support you with expertise in both technology and content, and you'll need strong connections with your agency network or government infrastructure. Do your leaders actively seek out and develop mutually beneficial relationships with other organizations? With related government agencies? Internet preparedness is an exercise in extended team building.

Our organization uses the Internet to support our ongoing activities.

The public Internet can be a useful tool for ongoing research, for professional communications with people outside your organization, and for coordination with other agencies. Your private intranet can be useful for internal communications and operational support. Is your organization making use of these tools for its ongoing work? If you aren't ready for daily Internet activity, you won't be ready for crisis activity.

···⟩ **The Internet's capabilities and complications are addressed in our emergency plans, programs, and services.**

Your emergency plans, programs, and services are probably well developed and documented. But the Internet may not have been a major consideration back when they were created. Try reviewing your plans and programs with the Internet in mind. How might the Internet enhance or hinder your ability to implement your plans?

···⟩ **Our organization has developed a system for organizing and managing our Internet and intranet resources.**

Does your organization make it easy for people to access and share information? Web sites and intranets can be valuable resources when people need quick access to specific information. But if the sites aren't well organized, the search for information can be time consuming and frustrating. Has your organization identified an Internet librarian and developed a system for organizing and managing your online resources?

→ Our organization uses the Internet to support ongoing research work.
○   ○   ○   ○   ○

The Internet can provide quick access to facts and figures, records and reports, news, sample emergency plans, and other information that was previously harder to find or took longer to obtain. Is your organization making use of Internet resources to research and develop your emergency plans and procedures?

→ Our organization uses the Internet to support ongoing preparedness and training activities.
○   ○   ○   ○   ○

A key advantage of the Internet is its ability to let people conduct business remotely, communicating quickly and cheaply across distances. Agencies like FEMA are now using the Internet to conduct online disaster drills. Universities are developing Internet-based "distance education" programs that allow learners to participate in courses or workshops without traveling to a different physical location. Conferences can even be held online, and supporting materials are often posted on the Web for others to access. Is your organization taking advantage of online training and collaboration opportunities?

→ Our organization subscribes to relevant online newsletters, current awareness services, and distribution lists.
○   ○   ○   ○   ○

Another key advantage of the Internet is its ability to connect people with related interests and deliver news on topics of interest. The Internet can help you keep current and keep in touch. Online services will send e-mail newsletters to your desktop, include you in distribution lists for messages of interest, or allow you to participate in online discussions. Has your organization explored the information services that might be useful to people on your team? Do you have subscriptions to selected services, ones that provide valuable information without filling your mailbox with advertising?

→ Our organization uses the Internet to support ongoing staffing activities.
○   ○   ○   ○   ○

Many organizations find the Internet can be a useful tool for human resources activities like staff and volunteer recruitment, basic orientation and training, and volunteer scheduling. Does your organization make use of the Internet for these types of ongoing activities?

	WEAK		MODERATE		STRONG

→ **Our organization has established a disaster volunteerism plan that addresses potential Internet issues.**   ○ ○ ○ ○ ○

During a crisis, new volunteers may contact you through the Internet; they may even volunteer Internet-based services, such as Web site programming. Does your organization have a plan for handling unsolicited volunteers during a crisis? Do you know what kinds of support you will need and accept? Can you respond to—and reach out to—potential volunteers through the Internet?

→ **Our organization uses the Internet to support ongoing fundraising activities.**   ○ ○ ○ ○ ○

Many organizations find the Internet can be a useful tool for fundraising activities like researching grant opportunities, collecting online donations, and delivering e-mail newsletters to donors. Does your organization make use of the Internet for these types of ongoing activities?

→ **Our organization has established a disaster fundraising plan that addresses potential Internet issues.**   ○ ○ ○ ○ ○

During a crisis, donations may flood in through the Internet, directly or through third parties. Potential donors, wanting to help the relief effort, may become frustrated if they aren't able to act quickly with an online donation. Does your organization have a plan for handling online donations? Are you prepared for sudden changes in donor patterns after an emergency?

tips

Don't try to do it all alone. Identify a partner—perhaps an expert staff person or volunteer, a colleague in another organization, or a consultant—who can help your organization develop Internet strategies. Talk with other agencies, especially public service organizations about the same size as yours, to see how they've handled Internet issues. Another group may have developed a plan you can use as a model, and others may have already made mistakes you can learn from.

Tap into the resources of your parent organization. If your organization is part of a larger entity—perhaps a state or national government agency, or a national or international relief agency—look to those entities for support. They might have established systems you can tap into, and they may be able to help with planning or funding.

Start small.   Don't let yourself get overwhelmed. Start by setting priorities, initiating your Internet preparedness program, and then building momentum over time. If your organization isn't Internet ready, cultural changes will be needed, and those changes won't happen overnight.

Build internal support.   Try inviting outside experts to speak to your board of directors or to lead a discussion with your management or staff. This is a good way to generate internal interest and ideas while broadening your perspective on what's happening outside of your organization. You might encourage a reluctant board or management team to test the online waters by signing up for a free e-mail newsletter, such as "Food for Thought" or "Board Cafe" from CompassPoint Nonprofit Services (http://www.compasspoint.org).

resources

Emergency planning and general research   **FEMA,** the U.S. Federal Emergency Management Agency (http://www.fema.gov/), offers a wealth of resources for emergency planning, research, and training. Check the Emergency Contacts Directory (http://www.fema.gov/fema/statedr.shtm) for a link to your state emergency management agency.

GEMS, FEMA's Global Emergency Management System (http://www.fema.gov/gems/), is a good starting point for online research in emergency services. GEMS is a directory of links to online emergency management resources, prescreened by FEMA and organized by topic.

For general reference information and noncommercial Internet directories, try the **Internet Public Library** (http://www.ipl.org/), a service of the University of Michigan, or the **Librarian's Index to the Internet** (http://www.lii.org/), from the Library of California.

WebClipper (http://www.handsnet.org/) is a customized information service that tracks news, research, funding notices, legislative and policy analyses, and model program descriptions on issues you select. Then it delivers updates to you by e-mail or on a personalized Web page. From HandsNet, an agency dedicated to bringing human services organizations online.

For more disaster-specific research and information sources, see the **Staff and Volunteer Readiness** resources on page 33.

Fundraising and volunteerism

Network for Good's **Nonprofit Resources**
(http://www.networkforgood.org/npo/) include a wealth of information
about online fundraising and volunteer recruitment. A special focus on
crisis relief (http://www.networkforgood.org/crisis_relief/) gives this site
particular value for emergency services organizations. Network for Good
is a nonprofit collaborative that helps organizations increase capacity,
reach new audiences, and build Internet strategies.

NVOAD, National Voluntary Organizations Active in Disaster
(http://www.nvoad.org/), promotes collaboration among volunteer response
agencies. The national site includes links to member organizations and to
state and local VOAD groups.

VolunteerMatch (http://www.volunteermatch.org/) provides a nationwide
system for bringing together volunteers and service organizations. From
Impact Online, a nonprofit organization committed to the development of
public-interest Internet applications.

Partnership building

**"Partnerships in Preparedness: Exemplary Practices in Emergency
Preparedness"** (http://www.fema.gov/library/partnrprep.shtm)
showcases proven partnerships among organizations in the public,
private, and nonprofit sectors. From FEMA, the U.S. Federal Emergency
Management Agency.

Strategic Communications in the Digital Age: Partnerships
(http://www.benton.org/publibrary/toolkits/partnerships.html) provides
a broad collection of resources for building effective partnerships across
organizations. From the Benton Foundation, an organization that promotes
a public-interest vision of the digital age.

Strategic planning and management

CompassPoint Nonprofit Services (http://www.compasspoint.org/) is an excellent general resource for information, consulting services, and training on strategic planning, technology, communications, and other topics. Online resources are useful for organizations everywhere. California-based programs include information technology consulting services and workshops on raising money online.

HandsNet (http://www.handsnet.org/training.htm) offers information consulting and knowledge management services to help human services organizations learn to take advantage of online technologies.

Strategic Communications in the Digital Age: Evaluation (http://www.benton.org/publibrary/toolkits/evaluation.html) provides a variety of tools for evaluating the effectiveness of an organization's technology and communications programs. From the Benton Foundation.

Strategic Communications in the Digital Age: Funding (http://www.benton.org/publibrary/toolkits/funding.html) provides nonprofits with information on finding funding for technology and communications programs. From the Benton Foundation.

"Ten Guidelines for Making the Net Work for Organizations" (http://www.makingthenetwork.org/toolbox/tools/ten.htm), by Terry Grunwald, offers simple guidelines to help organizations understand and use online technology effectively. From Making the Net Work, a UK agency that helps bring community organizations online.

Technology readiness
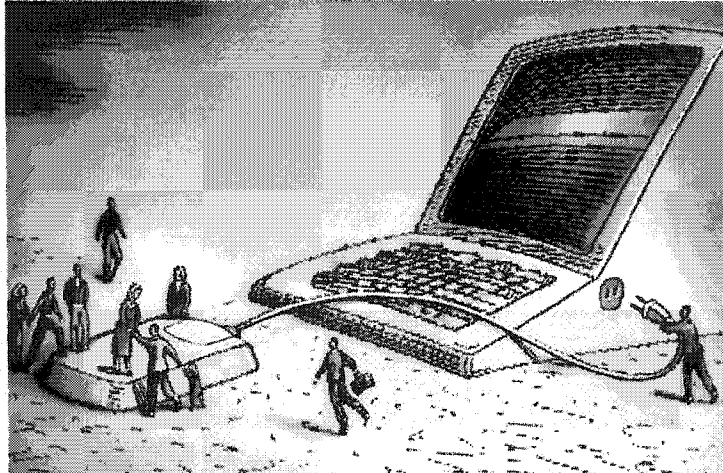
Do you have the technology systems you need to apply the Internet to your emergency services activities?

To take full advantage of the Internet, you'll need an infrastructure of hardware, software, training, and support. And, of course, you'll need a technology plan. Today computing systems are as critical to most work environments as telephone systems, and managing computer technology can be a daunting task. If you don't have expert technical staff available, start by identifying a capable partner. You'll need to consider day-to-day operations as well as the back-up plans you'll need when the power goes out or your Web site gets hit with a flood of disaster news seekers. You won't want your computer systems going down in the middle of a disaster operation.

The following technology readiness standards will help you determine whether your organization has the technical systems you need to apply the Internet to your emergency services activities. Has your organization developed a thorough technology plan? Do you have adequate technology tools and structures in place? Are your people well trained and supported?

If your technology readiness is strong, you can use these standards to identify areas to watch or improve. You'll need to monitor changes in technology, update plans, and upgrade equipment on a regular basis. And you'll need to set up and train new people as they join the organization.

If your technology readiness needs work, you can use these standards to identify needs. The standards can give you an outline for discussions with your technology experts, whether they're internal staff people or external partners. Together you can evaluate the gaps in your readiness, identify specific goals, and set priorities for action.
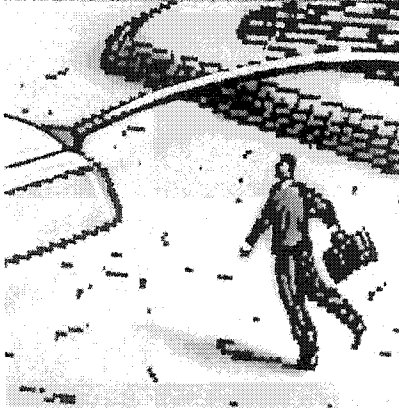
Our organization has a clear and achievable technology plan.

Technology planning can be at least as difficult as strategic planning: Not only do you need to have a vision of your organization's future needs, but you also need to have specialized technical expertise. Has your organization recognized the need for a formal plan to make sure your computer systems are fully functional—and will remain functional in an emergency?

	WEAK		MODERATE		STRONG

··⟩ **Our technology plan identifies the technical tools we expect to need over the next two to three years.**

    ○   ○   ○   ○   ○

A technology plan identifies the systems you'll need to achieve your organizational and program objectives. Is your plan documented? Does it cover equipment, applications, Internet access, and back-up systems? Does it consider your current needs as well as the needs you might have during a crisis? How about the needs you might have two or three years from now?

··⟩ **Our technology plan identifies the training and technical support we need to make use of our technology systems.**

    ○   ○   ○   ○   ○

Buying a computer is one thing; learning to use and maintain it is another. Does your technology plan account for the initial training your staff will need to use new or upgraded systems? How about training for new staff members who join the team later? Does your plan provide for the user support and equipment maintenance you'll need on an ongoing basis?

··⟩ **Our technology plan includes a strategy for managing unsolicited donations of hardware and software.**

    ○   ○   ○   ○   ○

Nonprofit and public service organizations often receive unsolicited donations of computer equipment and software. The result can be a pile of mismatched and incompatible pieces you're unprepared to use or maintain. Do you have a plan for gracefully managing such donations? Have you determined what you might need and accept, and what you're better off redirecting? Have you identified a local computer recycling center or an alternative organization you can refer donors to when they offer equipment you can't use?

··⟩ **Our organization has committed the budget needed to implement our technology plan.**

    ○   ○   ○   ○   ○

Your plan isn't realistic if it isn't funded. Has your organization identified the funding needed to implement the plan? Alternatively, have your leaders established a reasonable fund development strategy?

	WEAK		MODERATE		STRONG

‑› Our organization has identified someone who will be responsible for managing the technology plan.   ○ ○ ○ ○ ○

Someone will need to be accountable for developing, documenting, and implementing the plan. Your planning team will need to include individuals who understand your organization and its programs as well as individuals with technology expertise. Does someone in your organization have the time and the expertise to develop and manage a technology plan? If not, have you identified a reliable, knowledgeable partner to help?

‑› Our technology plan is formally reviewed and updated on a regular basis.   ○ ○ ○ ○ ○

Technology will keep changing, and it's hard to keep up. Your computer systems may need to be replaced every three years or so, and in three years all kinds of new equipment and applications will be available. Do you review and update your plan on a regular basis—at least twice a year? Your plan will be affected by ongoing adjustments in your organizational goals and staffing plans as well as changes in technology.
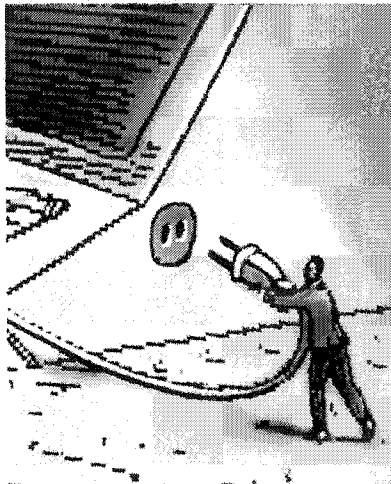
Our organization has adequate Internet access, applications, equipment, and back-up systems.

Your Internet systems are there to help you get your job done more quickly and efficiently, just like your telephone systems. Preparing your Internet systems requires thinking about how your team will use the Internet and what kinds of tools and applications they'll need. Do your current systems adequately support their work? If not, changes and upgrades will need to be built into your technology plan.

	WEAK		MODERATE		STRONG

‑› Our organization has an Internet connection that matches our work requirements.   ○ ○ ○ ○ ○

There are a variety of ways you can access the Internet. Some are more reliable than others, some give you speedier access, and some offer more bandwidth, which lets your users download bigger files faster. Costs will vary. Does your system provide the kind of access that's appropriate for the number of users in your organization and the kind of work they do? Does it leave you room to grow? If your users often get disconnected, or if they get frustrated by the amount of time they spend downloading files, it may be time to reevaluate whether your connection is adequate.

→ **All staff members who need to use the Internet have a desktop computer system, browser software, and Internet access.**   ○ ○ ○ ○ ○

Do the workers in your organization who need it have the hardware, software, and connectivity to access the Internet? If some workers don't need to use the Internet on a regular basis, do you have one or more centrally located systems that can be shared by more than one user?

→ **All staff members have their own e-mail accounts.**   ○ ○ ○ ○ ○

In most work environments today, e-mail is considered a basic communication system. All workers who need their own telephone numbers probably need their own e-mail accounts as well. Do your staff people all have e-mail? How about key volunteers who regularly represent your organization?

→ **All staff members are connected to our intranet and any information systems maintained by our agency, our parent organization, and cooperative agencies.**   ○ ○ ○ ○ ○

Many large organizations—and smaller organizations that are connected to larger agencies—use intranets to share internal news, store internal information, and house internal applications. Does everyone who needs it have access to appropriate intranet sites and applications? In California, for example, special online applications might include the Response Information Management System (RIMS) and the Standardized Emergency Management System (SEMS).

→ **Staff members who work remotely can securely access their e-mail accounts, the Internet, and needed internal systems.**   ○ ○ ○ ○ ○

Laptops and special software improve our mobility, freeing people to work from places outside of the main office. Remote access can be critical if your on-call workers need to be accessible from home or your people travel on emergency assignments. Do the workers who need mobility have laptops and secure remote access to your networks? Do you need to maintain "floating" laptop systems that can be checked out by people who need to connect from the field while they're on assignment?

→ **Our technology systems are well protected from viruses, hackers, and other external risks.**   ○ ○ ○ ○ ○

When so much of your business depends on functional computer systems, network security is critical. Every user will need up-to-date virus protection software. And if your organization has a continuously open Internet connection, you'll need a "firewall," a way of protecting your internal systems from damage that comes from outside the system, intentionally or accidentally. Is your security system adequate?

⟶ **Our technology systems include adequate emergency back-up systems.**

〇 〇 〇 〇 〇

If your computer system crashed right now, what would you do? If your work depends on reliable access to computer data and communications, then your individual files and network systems need to be backed up daily, automatically. Are they? How would a local emergency affect your system? Have you established a contingency plan that would allow your organization to operate from an alternative location if necessary?
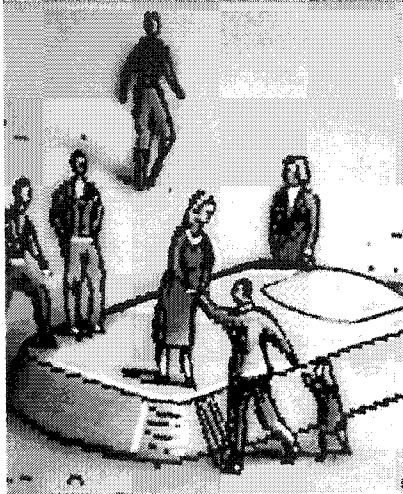
Our organization's Internet users are well trained and supported.

Technology alone won't get the job done. If your people don't know how to make full use of their systems, your expensive infrastructure will be wasted. Have you provided for adequate training and support for your staff and key volunteers? If you don't have training and support resources in-house, have you identified partners to help you? Training and mentoring may be provided by experts on your staff, by volunteers, by partner organizations, or by a combination of these sources.

WEAK   MODERATE   STRONG

⟶ **Our organization has defined Internet competencies and developed a plan to bring our people to the minimum skill level.**

〇 〇 〇 〇 〇

Some people will need higher-level skills than others, depending on their jobs. But everyone will need a minimum competency level that's appropriate for your organization. Competencies might include having a basic understanding of Internet concepts and functions; knowing how to use a Web browser, to access relevant Web sites, and to save the URLs of frequently accessed sites; and being able to send, receive, and organize e-mail and to handle e-mail file attachments.

⟶ **Our staff receives adequate training in the use of our Internet systems and applications.**

〇 〇 〇 〇 〇

Different people will need different levels of training, depending on their interest and expertise as well as their job functions. Have all your staff and key volunteers had some basic orientation to the systems they will need to use? Is advanced training available for those who want and need it? Have you established a way for new people to be trained as they join the organization? Do you assign mentors to those who need extra assistance?

	WEAK		MODERATE		STRONG

-‣ Our organization has adequate technical support to maintain our Internet systems and support users.   ○ ○ ○ ○ ○

Even after people are trained, questions will come up and problems will develop. Don't expect everyone to be comfortable troubleshooting their own systems, and do make sure you have experts available to help. Is prompt, knowledgeable technical support accessible to your people when they need it? How about after hours? During emergencies? For people who work from home or travel on assignment?

-‣ Our users and system administrators have access to documentation on how to use and manage our Internet systems.   ○ ○ ○ ○ ○

Today standardized system documentation may come in the form of a "Help" button or a manufacturer's Web site. Do your users and system administrators have easy access to the documentation they need? Have you clearly documented any applications and procedures that are unique to your organization?

tips

Try to evaluate your internal capabilities objectively. If you don't have the expertise in-house, don't try to plan your technical infrastructure without help. You could make some expensive mistakes and lose a lot of time. Find a capable partner, someone whose job is to understand technology and keep up with its constant changes, so you can focus on your own job.

Expect technology to keep changing. Technology planning isn't something you do once and then check off your list of things to do. You'll need ongoing maintenance, upgrades, and training. Plan for change, and budget for change.

Technology news   The online newsletter **Tech News** (http://www.uwnyc.org/technews/)
contains timely articles useful for any nonprofit or human service
organization working to apply technology more effectively. Published
bimonthly by the United Way of New York City.

Technology partnerships   **CompassPoint Nonprofit Services** (http://www.compasspoint.org/)
offers a range of customized information technology consulting services.
California-based CompassPoint will work with nonprofits to develop a
technology infrastructure, organize information functions, and manage
systems with effective policies, training, and support.

NPower (http://www.npower.org/) is a nationwide network of
organizations that help nonprofits better serve their communities through
technology. Services include low-cost to no-cost technology consulting,
training, and matching of volunteers who can provide technology plan-
ning, implementation, and support. Visit NPower's site for tools, resources,
and links to affiliate organizations in your area.

**Technology planning
and guidance**   **The Activist Toolkit** (http://www.onenw.org/bin/page.cfm/secid/5)
from ONE/Northwest provides many useful articles related to technology
planning and implementation. Topics range from hardware and software
to connectivity to virus protection and security. The toolkit's e-mail section
offers a number of articles on using e-mail effectively and efficiently; see
"Sending Effective E-mail: Ten Helpful Hints" for an excellent set of
tips. Although ONE/Northwest is focused on supporting conservation
groups, the site's clear, straightforward resources are applicable to many
organizational environments.

Network for Good's **Nonprofit Resources: Technology**
(http://www.networkforgood.org/npo/technology/) is a clearinghouse for
resources on working with technology. In a friendly question-and-answer
format, you can investigate "Technology planning. Where do I start?" or
"How do I get technology training and support?" Network for Good is a
nonprofit collaborative that helps organizations increase capacity, reach
new audiences, and build Internet strategies.

Strategic Communications in the Digital Age: Planning
(http://www.benton.org/publibrary/toolkits/planning.html) includes a variety
of technology assessment and planning tools. From the Benton Foundation,
an organization that promotes a public-interest vision of the digital age.

TechSoup (http://www.techsoup.org/) provides a comprehensive source of
technology information for nonprofit organizations. The site offers tools and
information resources, a free newsletter, message boards, and DiscountTech,
a source for donated and discounted technology products. Technology
planning resources include how-to articles, worksheets, an online forum,
and profiles of nonprofits that have done technology planning. Training
resources include a needs-assessment worksheet, articles on various aspects
of training, online courses, and links to training providers.

Staff and volunteer readiness
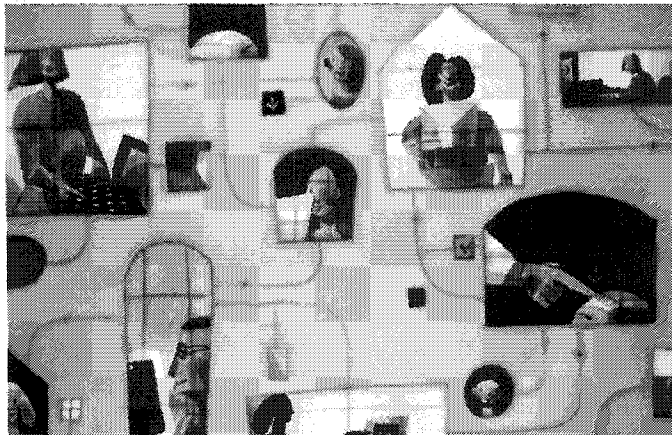
Are your people prepared to find and make use of online resources?

The Internet offers a new way for your staff and volunteers to access and distribute information. E-mail can provide a convenient way to communicate, and the Web can bring a world of information to your desktop. But both e-mail and the Web can be overwhelming, even for experts. Even if your people are already computer literate, they'll need new skills—*information literacy* skills—to make the most of the Internet. They'll need to be able to evaluate their need for information, find what they need, assess what they find, and use what's most useful in legal and appropriate ways.

The following staff and volunteer readiness standards will help you determine whether your people are prepared to take advantage of all the Internet has to offer. Are your staff and volunteers comfortable using the Web sites and online resources that can help them do their jobs more effectively? Do they know how to find, evaluate, and use online information? If not, your organization probably isn't getting the full value of the Internet, and the Internet could be getting in the way of your service delivery. Your people may not be able to act as quickly as they need to in the next crisis.

If your staff and volunteer readiness is strong, you can use these standards to identify areas to watch or improve. Make sure your readiness level stays high as your organization evolves, new people join your team, and new online resources become available. Build human back-up systems so you'll be ready when people with specialized skills move on.

If your staff and volunteer readiness needs work, you can use these standards to identify needs. The standards can give you an outline for discussions with your human resources or training department: Together you can review the gaps in your readiness, identify specific goals, and set priorities for action.
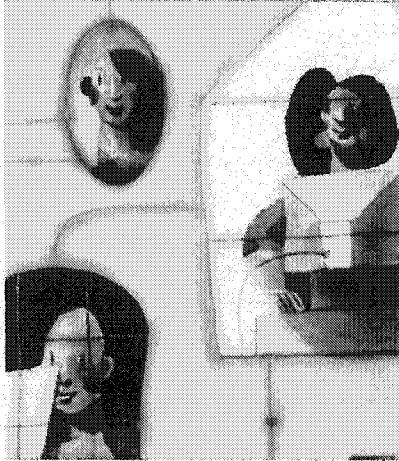
Our staff and volunteers are familiar with relevant Web sites and online resources.

Today there is a great deal of information available online—from free, publicly accessible information, to fee-based information resources and services, to applications restricted to people who are members of specific organizations or agencies. Has your organization identified the Internet tools and information sources your people will need to work effectively? Do your people use those resources on a regular basis? If not, why not?

	WEAK		MODERATE		STRONG

--> **Our team has identified a core set of Web sites that are relevant to our work.**   ○ ○ ○ ○ ○

You can't possibly be familiar with every Web site related to emergency services; don't even try. But do spend some time becoming familiar with the sites that are most useful for your work. Do work with your team to identify the important and frequently used sites, and make sure those critical links are saved as "favorites" or "bookmarks" on everyone's Web browser.

--> **Our people know how to access and use online applications for emergency management.**   ○ ○ ○ ○ ○

Depending on your organization's service area and role in the emergency services system, your people may need access to specialized online tools. In California, for example, tools include the Response Information Management System (RIMS) and the Standardized Emergency Management System (SEMS). Have primary users and back-up people been trained in these systems? Do they have any special permissions or passwords they need to access the systems?

--> **Our people are familiar with online sources of information about the types of disasters anticipated in our area.**   ○ ○ ○ ○ ○

A great deal of information is available to support preparation for and response to specific types of disasters; online you'll find everything from weather-tracking sites to earthquake-measurement gauges. Have you identified the Internet resources that will improve your ability to manage the kinds of disasters most likely to occur in your region?

	WEAK		MODERATE		STRONG

⋯⟩ Our team regularly monitors the Web sites of collaborating agencies to stay current with their activities.   ○ ○ ○ ○ ○

Does someone on your team check Web sites from related organizations on a regular basis? This can be a good way to keep up with new information and activities. Key sites might include those from government agencies such as the Federal Emergency Management Agency (FEMA) and your state and local Offices of Emergency Services; the American Red Cross; and your organization's parent agency, affiliates, and partners.

⋯⟩ Our people are familiar with the online information services our organization subscribes to.   ○ ○ ○ ○ ○

Your organization may subscribe to useful online newsletters, current awareness services, or e-mail distribution lists. Are your staff and volunteers aware of the information? Do they have easy access to it? Have you developed mechanisms for sharing the information and keeping everyone informed of important news? Does everyone know how to subscribe to appropriate online newsletters and information services on their own?

⋯⟩ Our people are familiar with online professional development opportunities.   ○ ○ ○ ○ ○

Your organization may hold memberships to professional emergency services associations, or may be connected to universities, government agencies, or other organizations that use the Internet for online courses, workshops, drills, or conferences that allow learners to participate without incurring travel expenses. Are your staff and key volunteers familiar with the online training opportunities available? Do they incorporate online activities into their individual development plans?

Our staff and volunteers know how to find information on the Web.

It's easy to get lost on the Internet, where there are multitudes of Web sites on every imaginable topic. And it's easy to spend a lot of time surfing around without finding the information you really need. When your people go online, do they know how to find what they're looking for? Can they find it efficiently, or do they hesitate to try because they aren't sure where to start? Do they get frustrated when they put a simple query into a search engine and get thousands of hits?

	WEAK		MODERATE		STRONG

--→ **Our people know how to assess their own information needs and define a research question.** ○ ○ ○ ○ ○

Before you begin a search for information, it's important to be clear about what you're looking for. Take a moment to frame your question in specific terms. Exactly what do you want to find out? Is your question specific enough that you'll be able to recognize the answer when you find it? Just how much and what kind of information do you need? A broad overview? An in-depth historical survey? An up-to-the-minute news report? Think about what a "good" answer would look like.

--→ **Our people understand the range of information resources available, and they can identify the best resources to meet their needs.** ○ ○ ○ ○ ○

Once you've defined your information needs, consider the best source for that information. There's a lot of content on the Web, but all the answers aren't locked into your favorite search engine. Along with the Internet, think about print publications, other organizations, and individual people who might help you draw the straightest line from your question to an answer. Your answer could be found with a phone call to an expert, in a record or report at your local Office of Emergency Services, or in a book or a database at your local library. Are you and your people comfortable moving around in a multifaceted world of information?

⋯⟩ Our people know how to conduct a basic Web search.   ○   ○   ○   ○   ○

If you've defined your question and determined that the Web is likely to be a good information source, there are different ways to go about finding the content you need. You may have favorite reference sites bookmarked on your browser. You may choose to use an online subject catalog, like Yahoo, that groups sites according to their topic areas, or you may a use search engine, like Google. Do your people understand the different ways to track down online information? This is an area where a little training can save people a lot of time and frustration.

Our staff and volunteers know how to evaluate the information they find on the Web.

Anyone with the right equipment and skills can put up a Web site and publish information—anyone from an official government agency to your teenaged next-door neighbor. So when you use the Web as a resource, it's important to know how to evaluate what you're looking at. When you give an unfamiliar site the initial once-over, you're probably looking first to see if the site includes information relevant to your research. But beyond that, can you tell if the information is credible?

WEAK   MODERATE   STRONG

⋯⟩ Our people check the sources of Web sites and online information.   ○   ○   ○   ○   ○

The source of a Web site can be an important key to the site's credibility. If you're looking at a site for the first time, check to see where the information is coming from. Is the site sponsored by an official government agency, a reputable university, an organization you know and trust, or a group you've never heard of? Is the site recommended by other credible authorities? If you can't tell right off, look for an "About" button; this is often where a site's owners will tell you who they are and what they do. If you can't tell where the content is coming from, question it.

⋯⟩ Our people check the currency of Web sites and online information.   ○   ○   ○   ○   ○

Another key to the value of information on a site will be currency. The most useful Web sites are frequently updated, and they'll tell you when they were last updated. Before you depend on a site's information, make sure you know when the information was created—and keep in mind that publication dates may change from page to page and from document to document on the same site. If you don't check for a publication date, you may find yourself working with old data.

⤳ Our people know how to assess the accuracy and value of Web sites and online information.

Besides the source and currency of content, there are other factors to consider when you evaluate the quality and usefulness of a Web site. Can you rely on the accuracy of the information? If you aren't sure whether the information is trustworthy, check a second source.

Also consider whether the objectives and biases of the site's publisher will affect the usefulness of the information to you. Is the publisher focused on the issues of a specific geographic region? Is the publisher a commercial company whose primary interest is to sell you something? Is the publisher affiliated with a political or special-interest group bent on convincing you to see a certain perspective? Does the site present facts or opinions?

Our staff and volunteers understand how to use online information responsibly.

Once you've found the information you're looking for, what will you do with it? Most of us learned in school decades ago that copying someone else's paper was considered plagiarism, and that we had to include a bibliography of sources at the end of our reports. Do your people apply those same concepts in the workplace, where it's incredibly easy to cut and paste text and graphics from other people's documents and Web sites? Misusing online information is unethical, and it can get you into legal trouble.

WEAK   MODERATE   STRONG

○   ○   ○   ○   ○

⤳ Our people understand basic copyright concepts.

As a rule of thumb, the person or organization who created the document owns the document. This is true even if the document is online rather than printed, and even if you don't see a copyright symbol. Usually it's OK to quote short passages if you cite the source, but you'll need permission if you want to copy long passages or reproduce an entire document. Linking to another site is usually OK, but copying text or graphics from another site and pasting them onto your site isn't OK. If you aren't sure whether you need permission, ask the original author.

	WEAK		MODERATE		STRONG

→ Our people understand the importance of citing the sources of information they refer to.   ○ ○ ○ ○ ○

Whenever you refer to information that's not considered common knowledge, it's a good idea to cite your source. Citing sources will give you and your data more credibility, especially if you're quoting facts and figures that change frequently or can be measured in different ways. If you're quoting a person you interviewed, include the person's name and affiliation as well as the interview date. If you're quoting from a publication, include the author's name, the document title, the publication name (even if it's a Web site) and date, and the publisher's name.

→ Our people are aware of their role in representing the organization when they participate in the online world.   ○ ○ ○ ○ ○

The Internet enables rapid and widespread distribution of information. And once information is released on the Internet, it's difficult, if not impossible, to pull it back. An angry e-mail message, an offhand bulletin board posting, or a venture into online gambling during work hours could have heavy personal and organizational consequences. Do your people understand the need for extra care with their Internet communications, especially if they're official representatives of your organization?

tips

Get to know your search engine a little better. A simple way to improve your searching skills is to read the directions on your favorite search engine. Look for an "Advanced Search" button or a "Help" button on your search engine's home page. There you're likely to find information about how the site works, and tips on how to refine your search to get better results.

Identify your team's top searchers. Does your organization have a librarian? Is there a power searcher on your team? Consider asking that person to become your lead researcher, to mentor less experienced people, or to help with training. Everyone will need to learn the basics, but don't expect everyone to become equally expert.

Partner with an information expert. If no one on your team has the right expertise, consider finding an appropriate partner to help with training or to provide research support for your staff. Potential partners might include information experts from your parent agency's library or information resource center, or staff from your local public library.

Emergency management information

You'll want to be familiar with sites from major disaster relief news outlets and consortia. One key site is **AlertNet** (http://www.alertnet.org/), a news and resource site for nongovernmental relief organizations, sponsored by the Reuters Foundation. Another is **ReliefWeb** (http://www.reliefweb.int/) from the United Nations.

There are many disaster-oriented sites that cover specific types of emergencies, weather and geological conditions, and other topics of interest. "Metasites" serve as directories, collecting and organizing links to other sites. For one extensive set of disaster links, see the **CBS News Disaster Links** page (http://www.cbsnews.com/digitaldan/disaster/disasters.shtml).

Professional associations can be invaluable sources of ideas and information as well as opportunities for collaboration and training. Online you'll find **EIIP**, the Emergency Information Infrastructure Partnership (http://www.emforum.org/); **IAEM**, the International Association of Emergency Managers (http://www.iaem.com/); and **NEMA**, the National Emergency Management Association (http://www.nemaweb.org/).

Government emergency management agencies will be critical collaboration points and sources of regional information. On every office Web browser, save links to **FEMA**, the U.S. Federal Emergency Management Agency (http://www.fema.gov/), and your state, local, and city Offices of Emergency Services. FEMA provides a directory of **state OES agencies** at http://www.fema.gov/fema/statedr.shtm. Your area may also have a consortium of government agencies, like Northern California's **Association of Bay Area Governments** (http://www.abag.org/), that compiles and analyzes regional community information.

Online discussion groups bring together emergency services specialists in virtual forums. For a general e-mail list on emergency management, visit http://groups.yahoo.com/group/emergency-management/. You can find groups that focus on various emergency services specialties by searching the "Groups" segment of your favorite directory or search engine. Beware, though: Online discussion groups can be very active, quickly filling up your e-mailbox.

Regional emergency information services can also be extremely useful. A model example is the **Pacific Disaster Center** (http://www.pdc.org/), which aims to provide timely information products and services for emergency managers in and around the Pacific and Indian Ocean regions. Ask around to see if there's a similar service in your area.

You'll want to be familiar with sites from major disaster relief organizations and your agency partners. Get to know sites from the **American National Red Cross** (http://www.redcross.org/), your local Red Cross chapter (see http://www.redcross.org/where/chapts.html for a directory), the **International Committee of the Red Cross** and its Family News Network (http://www.icrc.org/), and the **International Federation of Red Cross and Red Crescent Societies** (http://www.ifrc.org/). **NVOAD**, National Voluntary Organizations Active in Disaster (http://www.nvoad.org/), provides links to its dozens of member organizations.

For more general research and information sources, see the **Organizational Readiness** resources on page 15.

Finding, evaluating, and using online information

For a good set of introductory guides to searching and using the Web, see the **Internet Tutorials** (http://library.albany.edu/internet/) from the University at Albany libraries. For a more advanced tutorial, try **Finding Information on the Internet** (http://www.lib.berkeley.edu/TeachingLib/Guides/Internet/FindInfo.html) from the University of California, Berkeley.

Your local public library will also be a good resource. Many public libraries offer free Internet workshops and online services, including reference and research help. A directory of state libraries is available from the U.S. **Library of Congress** (http://www.loc.gov/global/library/statelib.html).

There are many good publications about Internet use. For a basic introduction, try *Researching Online for Dummies*, by Reva Basch and Mary Ellen Bates (New York, IDG Books Worldwide, 2000).

Public information program readiness
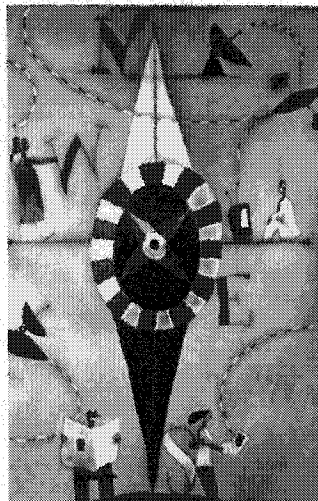
Are you prepared to manage and deliver public information in the age of the Internet?

The Internet has changed the way the public accesses news and information, and that means public information officers must do their jobs differently. Before, during, and after a crisis, the Internet offers new ways for your organization to provide information to the public. But the Internet can also create new complications: When members of the general public can both access and post information on the Internet, information flows become much harder for officials to manage. You may need to develop new kinds of partnerships you didn't need before.

The following public information readiness standards will help you determine whether your programs are aligned with the current state of Internet communications. Does your public information plan show an understanding of how the Internet can and will be used, by your organization and by your public? Does your plan address both media and public relations, recognizing that the media won't always be an intermediary between your agency and your community? If you aren't prepared for the Internet, you may not be able to reach your community as quickly and completely as you need to. And you may lose track—or lose control—of information your organization needs to manage.

If your public information program readiness is strong, you can use these standards to identify areas to watch or improve. Make sure your readiness level stays high as your community evolves, your organization changes, and your partnerships develop. You'll need to cultivate relationships with media representatives, community leaders, and partner agencies on an ongoing basis.

If your public information program readiness needs work, you can use these standards to identify needs. The standards can give you an outline for discussions with your leaders and communications staff. Together you can review the gaps in your readiness, identify specific goals, and set priorities for action.
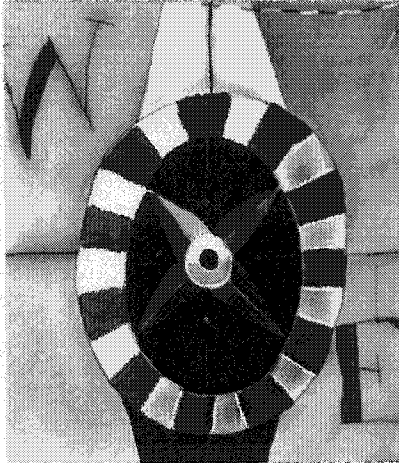
Our organization has a public information plan that addresses the use of the Internet.

Your organization may already have a communications plan that identifies your objectives and the vehicles you'll use to reach your audiences. If you have such a plan, does it address the use of the Internet as a system for external communications? Does it consider potential opportunities as well as potential complications? Researching and documenting your plan will help you understand your audience and formalize your objectives.

	WEAK		MODERATE		STRONG

⋯⋗ **Our public information plan is integrated with our organizational objectives, our emergency services, and our technology plan.**   ○ ○ ○ ○ ○

Your public information objectives might include things like educating your community about disaster preparedness or providing public updates on your organization's activities. Have you considered how the Internet might enhance or hinder your ability to meet each goal? Do your communications objectives support your organizational and program goals? Does your technology plan support your communications objectives?

⋯⋗ **Our public information plan addresses the use of the Internet before, during, and after emergencies.**   ○ ○ ○ ○ ○

Like other communications vehicles, the Internet can be used both proactively and reactively. Internet preparedness can help you anticipate what might happen and improve your ability to act quickly when you need to. Does your plan consider the use of the Internet as a public communications system at all stages of emergency management, from preparedness education to crisis communications to disaster recovery activities? Have you considered common crisis issues, such as communicating donation guidelines and volunteer needs?

⋯⋗ **Our public information plan addresses the Internet as one of several communications vehicles.**   ○ ○ ○ ○ ○

Your communications plan probably addresses a variety of audiences, from the public to the media, from partner agencies to government and community leaders. The Internet will help you reach some of your audiences some of the time, but it won't deliver all of your messages effectively and it won't reach all of your audiences equally. You'll still need to keep print and broadcast communications in the mix. Does your communications plan integrate different communications media, including the Internet?

	WEAK		MODERATE		STRONG

→ Our public information plan addresses the ways our audiences use the Internet.   ○ ○ ○ ○ ○

Each community has its own unique characteristics. Are you familiar with the demographics of your community—the languages spoken, the cultural characteristics, age and geographic concentrations, and levels of technical sophistication that will affect your communication strategies? Do you have a good understanding of how your local public, your key partners, and local media already use the Internet? Their online activity can affect your work.

→ Our public information plan recognizes the global nature of the Internet.   ○ ○ ○ ○ ○

The Internet blurs geographic lines: E-mail quickly crosses borders, online news travels faster than ever before, and your local Web site can be viewed from all over the world. That means that your local disaster can be felt in other places far away, and international disasters can affect your local community, especially in multicultural regions where people have strong connections with other countries. Does your Internet plan consider potential international concerns?

→ Our organization has identified someone who will be responsible for our public information program.   ○ ○ ○ ○ ○

Someone will need to be accountable for developing, documenting, and implementing your plan. Your public information team will need to be well coordinated with your technology team and your emergency services program team. And you'll need to have plenty of back-up public information officers trained and ready for deployment. Has your organization identified specific people who will be responsible for setting and meeting public information objectives?

→ Our public information plan is formally reviewed and updated on a regular basis.   ○ ○ ○ ○ ○

Your plan will need to be updated as the use of the Internet evolves, your community changes, and your organization develops. Have you documented your plan? Do you review and update your plan on a regular basis—at least twice a year—to make sure it's still current?
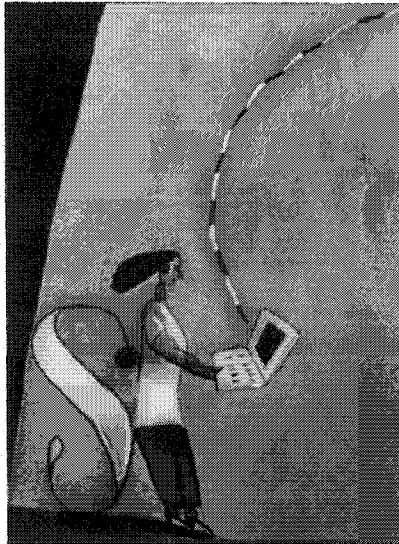
Our organization has a Web site that serves the public before, during, and after emergencies.

Your organization probably has some sort of Web presence, whether it's a complex, interactive site or simply a few pages of text that describe your programs and services. Does your core content include information about your organization, appropriate preparedness materials, and links to related information and services? Are you prepared to provide the kind of news the public will need during an emergency? How about follow-up information after a disaster, or information about distant disasters your local community might want to find out about?

	WEAK		MODERATE		STRONG

--> **Our organization's Web site is well integrated with our communications strategy.**
    ○   ○   ○   ○   ○

Your Web site will need to be addressed as one component of your public communications program. Consider your communications objectives and how your Web site might help you meet those objectives. In what areas can the distance-spanning immediacy of the Web work in your favor? In what ways can the Web's potential technical difficulties, access issues, and other limitations work against you? It may work best to have multiple systems for delivering critical information.

--> **Our Web site content strategy anticipates issues that commonly arise in emergencies.**
    ○   ○   ○   ○   ○

Each disaster is different, but certain issues are common in a crisis. It's likely, for example, that the public will come forward with donations of time, money, and goods, whether or not donations have been requested. Has your organization documented your policies on donations and volunteerism? Have you developed templates for informative Web pages you can modify and post quickly?

--> **We make sure the information posted on our Web site up-to-date and accurate.**
    ○   ○   ○   ○   ○

If the information on your Web site is out-of-date or inaccurate, you'll quickly lose credibility. Make sure the content you post is current, correct, and useful to your target audience. Develop a schedule for reviewing and updating each element of your site, depending on how often the information is likely to change. If you don't have the resources to keep rapidly changing information updated, it may be best to find a different way to deliver that information.

⇢ Our organization has the skills we need to maintain and enhance
our Web site's content and functionality.

        ○   ○   ○   ○   ○

Maintaining a Web site is an ongoing task. Does your team have the skillset
and the time to keep up your site? Do you need to recruit supporting
partners or volunteers? If you don't have the right resources, you might
want to keep your site simple, with long-lasting content, until you can
secure the people or funding you need to enhance the site.

⇢ Our organization has the back-up systems we need to keep our
Web site functioning during emergencies.

        ○   ○   ○   ○   ○

If you plan to use your Web site to deliver information during emergencies,
you'll need contingency plans for people as well as systems. Do you have
a back-up system that will keep the site running if your server crashes?
What will you do if a disaster hits close to home and you need to operate
from another location? What if your main Web programmer is on vacation
when the next earthquake hits?

Our organization has a strategy for managing media relations via the Internet.

Traditionally the media—newspapers and magazines, radio and
television stations—have been the *de facto* means of distributing
information to the masses. Although Internet communications
often bypass the media now, reporters with established news
distribution systems are still critical to your public information
programs. Members of the media use the Internet themselves to
conduct research and distribute news. Does your media relations
strategy address Internet factors?

⇢ Our public information team is familiar with the local media
and with their national and international affiliations.

        ○   ○   ○   ○   ○

You may already know your local reporters, but do you know if your
local stations and newspapers are part of large media conglomerates?
Media outlets are interconnected and international, just like the Internet.
That means local stories can go around the world very quickly, and stories
from around the world can generate local media interest, especially in
multicultural communities. It's useful to know something about your local
media's national and international affiliations, the potential extent of their
reach, and their potential reporting objectives and biases.

	WEAK		MODERATE		STRONG

→ Our public information team is familiar with how the local media use the Internet.   ○   ○   ○   ○   ○

You can work with your local media more effectively if you know how they're using the Internet. Do they use their Web sites to supplement their print or broadcast materials with interim updates or deeper content? (Can you provide frequent updates and/or in-depth materials they can post on their Web sites or link to on your Web site?) Do your local reporters do background research online before they call for an interview? (Do you provide useful background information on your Web site?) When do they welcome e-mail press releases, and when do they prefer phone calls?

→ Our public information team regularly monitors key media Web sites to stay current with their online activities and policies.   ○   ○   ○   ○   ○

You can learn a great deal just by reviewing and monitoring media Web sites. Are you familiar with the kinds of information you can find on your local media sites? Do they post contact information? Editorial policies? News archives? Community resources? You can also monitor news aggregators like Google News for stories that affect your agency and perspectives on how an event is being covered by different media outlets around the world.
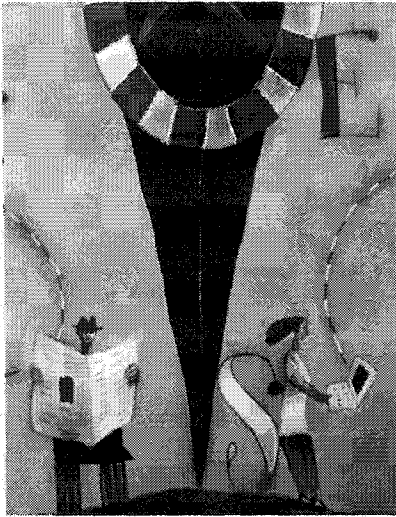
Our organization has a strategy for managing public information via the Internet.

Today the Internet is giving the public access to more information sources than ever, from formal, filtered media sites to grass-roots message boards and chat rooms. And members of the public can now broadly distribute information themselves. That means there are more ways for you to reach the public directly, but managing the flow of information can become a more complex task, one that might require partnerships with other information providers. Does your public information strategy address Internet factors?

	WEAK		MODERATE		STRONG

···> **Our organization uses the Internet as one of several vehicles for providing agency information to the public.**   ○ ○ ○ ○ ○

The Internet can be a powerful means of communication, but it's just one component in an integrated communications program. E-mail can be viewed as an active means of pushing out information, while the Web can be considered a passive means of communication because people have to seek out and find your Web site. Have you reviewed your public information plan to see how the Internet can complement and support your other communications efforts? Are there areas where the Internet might even replace or reduce your reliance on another vehicle? For example, an e-mail newsletter might reduce the number of printed newsletters you have to reproduce and mail to donors or volunteers.

···> **Our public information plan includes a strategy for staying connected with the online community.**   ○ ○ ○ ○ ○

The public will probably want to be able to reach you by e-mail. Do you have a general e-mail address, such as *info@youragencyname.com*, displayed on your Web site and publicized in your printed materials? Does someone monitor that mailbox and respond quickly to e-mail messages from the public?

Members of the public will also use the Internet to talk about disasters—and perhaps about your agency. Do you monitor the pulse of your online community by regularly reviewing commentary on Web sites, bulletin boards, and other online forums that relate to your organization? Do you have a policy indicating whether agency representatives should become involved in such discussions?

⤳ Our public information plan includes a strategy for addressing rumors and misinformation distributed over the Internet.

○ ○ ○ ○ ○

Rumors and misinformation are not uncommon in emergency situations, when people are hungry for news and eager to share what they learn. Some rumors are harmless; others can be damaging and even dangerous. Tracking down the truth can require time-consuming and labor-intensive research. Do you have a strategy for determining the kinds of rumors and misinformation you would want to research and dispel? Have you considered identifying a qualified, credible partner who can help address rumors?

⤳ Our team partners with other organizations that provide Internet-based public information in emergency situations.

○ ○ ○ ○ ○

It's likely that multiple organizations provide community information about topics that relate to your organization. Do you and your emergency services partners have a coordinated strategy for public information dissemination? Are you familiar with the other information providers in your community and how they use the Internet? For example, there may be universities or agencies that furnish "I am alive" databases. There may be a primary public broadcaster who can serve as an Internet focal point for your community. There may be a public library that provides the in-depth political, historical, and scientific information the public will want to help them cope with a crisis. Have you established relationships with those organizations? It may be worthwhile to formalize partnerships with memoranda of understanding (MOUs).

Match the message to the medium. Get to know your audience, consider your message, and then select the best medium for your communications. The Internet will fulfill some community needs, but not others. The Internet may be capable of delivering information quickly, but it isn't always the best way to deliver urgent news: You can't be sure the receiver will get or read your e-mail message immediately, or bother to look for your Web site. Some of your donors may prefer to receive an e-mail newsletter rather than a printed newsletter. Other donors may not have e-mail, or you may not have their addresses.

Develop partnerships for public information. Think about all the other organizations that will be providing public information during a disaster. Will your activities overlap? Because of the global nature of the Internet, those information providers may not even be in your neighborhood. How can you work together? Can you start now to establish MOUs with organizations that may come forward to provide community information services during the next emergency? Build partnerships into your plans.

Develop partnerships for research. If you need help identifying resources, work with an information partner. Reference librarians find, filter, and organize all sorts of information, whether it's on the Web, in a database, or in a book. Does your parent agency have a library or information resource center? Does your region have a consortium of local governments or nonprofits that can help with research and information services? If you aren't sure where to start, try your local public library.

Communications planning

Your state, county, and city Web sites may provide demographic information that will help you form a profile of your community. In some areas, consortia of government organizations compile census data, issue projections, and offer other information services; Northern California's **Association of Bay Area Governments** (http://www.abag.org/) is an excellent example. If you aren't sure where to start in your area, contact your local reference librarian.

Strategic Communications in the Digital Age: Think it Through (http://www.benton.org/publibrary/toolkits/thinkthru.html) includes a variety of resources that address communications planning, audience targeting, message shaping, media selection, and evaluation. From the Benton Foundation, an organization that promotes a public-interest vision of the digital age.

Media relations

To keep a finger on the pulse of world news, try **CNN.com**, (http://www.cnn.com/), the Web outlet for CNN's worldwide, 24-hour news network. For a compilation of news from thousands of different online sources with different perspectives, try **Google News** (http://news.google.com/). For a directory of online newspapers from around the world, visit the Reading Room at the **Internet Public Library** (http://www.ipl.org/div/news/).

MediaChannel.org's **Media Access Toolkit** (http://www.mediachannel.org/getinvolved/access.shtml) offers information on preparing press releases, tips on working with reporters, and links to databases of media contacts. MediaChannel.org is a national public-interest group that watches and reports on media issues.

NetAction's **"Tips for Effective Online Media"** (http://www.netaction.org/notes/notes64.html#tips) offers advice on how to prepare press releases for e-mail distribution. NetAction is a national nonprofit organization that promotes use of the Internet for citizen action campaigns and educates the public, policymakers, and the media about technology policy issues.

Public information "Are You Ready for E-Mail Publishing?" by Martin B. Schneiderman (http://www.foundationnews.org/CME/article.cfm?ID=1007) offers tips on using e-mail newsletters to distribute information in a timely and cost-effective way. From the Council on Foundations, a national association of grantmaking organizations.

You'll want to be familiar with the disaster public information sites your community may be watching. See, for example, the public-oriented **Disaster Relief: Worldwide Disaster Aid** (http://www.disasterrelief.org/), cosponsored by CNN and the American Red Cross.

Consider a public information partnership with **your local public library**. In a disaster situation, your library may provide Web links to community resources; recommendations for in-depth historical, scientific, and political information related to the disaster; and other resources and programs. For an example of how a public library acts to provide information in a disaster situation, see the New York Public Library's **NYPL Responds: Meeting Community Needs in the Wake of Tragedy** (http://www.nypl.org/branch/response.html), a site that continues to evolve based on community needs.

Internet rumor managers can be helpful. There are a number of sites run by researchers who verify or disprove common rumors that fly through the Internet. You may want to be familiar with the authoritative researchers so you can work with them if hazardous misinformation begins to travel online. For one example of a hoax-and-scam research site, see **Purportal** (http://www.purportal.com/) from E-Scribe.

Web site strategies For a broad set of clear and informative articles on planning and building Web sites, try the Web resources section of ONE/Northwest's **Activist Toolkit** (http://www.onenw.org/bin/page.cfm/secid/page.cfm?secid=29).

Web site building requires specialized skills. If you need help, line up a technology partner. A good starting point is **NPower** (http://www.npower.org/), a nationwide network of organizations that help nonprofits take advantage of technology. Your area may also have a local organization that provides technology services for public agencies; one example is Northern California's **Association of Bay Area Governments** (http://www.abag.org/), which offers Web site development and hosting services for local agencies.

For an introduction to Web site management, check **"Planning a Web Site: Navigating the Maze of Opportunities,"** by Terry Grunwald (http://www.makingthenetwork.org/toolbox/tools/webguide.htm). Grunwald offers advice on many aspects of Web planning, including defining your audience and understanding cost and staffing factors. From Making the Net Work, a UK agency that helps bring community organizations online.

Web site planning and development instruction is available from many sources, from community colleges to library books. For training at your desktop, check the Internet and Web development programs from **SmarterOrg** (http://www.smarterorg.com/), which offers online learning programs for the nonprofit community.

You may want to prepare volunteer and donation policy statements so they'll be ready for quick updating and loading on your Web site in emergencies. For a sample, see **"When Disaster Strikes: Donated Goods and Volunteers May Be Needed"** (http://www.nvoad.org/disaster.php) from FEMA and NVOAD.

worksheet 1 Internet preparedness strengths

Date

Things we're doing well	Importance *Will this area continue to be important to us over the next year?*	Owner *Who is leading this effort?*
Organizational readiness		
Technology readiness		
Staff and volunteer readiness		
Public information program readiness		

worksheet 2 Internet preparedness action plan

Date

Organizational readiness **Standard**	**Priority** *High?* *Medium?* *Low?*	**Timeframe** *Target* *completion date?*	**Owner** *Who will lead* *this effort?*
Our leaders have defined strategic objectives for Internet preparedness. *Actions for improvement:*			
The goal of Internet preparedness is well understood and supported by our leaders. *Actions for improvement:*			
Our organization uses the Internet to support our ongoing activities. *Actions for improvement:*			

Date

Technology readiness **Standard**	**Priority** *High?* *Medium?* *Low?*	**Timeframe** *Target* *completion date?*	**Owner** *Who will lead* *this effort?*
Our organization has a clear and achievable technology plan. *Actions for improvement:*			
Our organization has adequate Internet access, applications, equipment, and back-up systems. *Actions for improvement:*			
Our organization's Internet users are well trained and supported. *Actions for improvement:*			

Date

Staff and volunteer readiness **Standard**	**Priority** *High?* *Medium?* *Low?*	**Timeframe** *Target* *completion date?*	**Owner** *Who will lead* *this effort?*
Our staff and volunteers are familiar with relevant Web sites and online resources. *Actions for improvement:*			
Our staff and volunteers know how to find information on the Web. *Actions for improvement:*			
Our staff and volunteers know how to evaluate the information they find on the Web. *Actions for improvement:*			
Our staff and volunteers understand how to use online information responsibly. *Actions for improvement:*			

Date

Public information program readiness Standard	Priority High? Medium? Low?	Timeframe Target completion date?	Owner Who will lead this effort?
Our organization has a public information plan that addresses the use of the Internet. *Actions for improvement:*			
Our organization has a Web site that serves the public before, during, and after emergencies. *Actions for improvement:*			
Our organization has a strategy for managing media relations via the Internet. *Actions for improvement:*			
Our organization has a strategy for managing public information via the Internet. *Actions for improvement:*			