



Strengthening the Japan – U.S. Response to Natural Disasters

Conference Proceedings

Japan – U.S. Sister Cities Natural Disaster Preparedness and Response Exchange

15 – 17 September 2010
City of Seattle Office of Emergency Management
Seattle, Washington



City of Seattle
Office of Emergency Management

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"I believe that Peace Winds America has struck a chord with the public and private sectors that potentially will bring a number of nations to a resilient status."

— Gary Gordon, Business and Emergency Preparedness Manager,
The Boeing Company



Strengthening the Japan – U.S. Response to Natural Disasters

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October 12, 2010

Dear Exchange Participant,

Thank you for attending the 2010 Japan–U.S. Sister Cities Natural Disaster Preparedness and Response Exchange. The Exchange was a great success in bringing together nearly 100 Japanese and U.S. disaster management professionals to analyze lessons learned, share best practices, and explore innovative methods to improve disaster preparedness and response on both sides of the Pacific. The high incidence of natural disasters in the Pacific “Ring of Fire” makes this Japan–U.S. Exchange all the more urgent.

Peace Winds America (PWA) prides itself on building the capacity of disaster managers and strengthening response capabilities through increased collaboration and cooperation among the public, private, and non-profit sectors in order to mitigate the effects of natural disasters in the Asia Pacific. We are grateful to all who have joined this effort, including the following Exchange partners and sponsors: Seattle Office of Emergency Management, Peace Winds Japan, The Asian Disaster Reduction Center, Microsoft, The Boeing Company, Puget Sound Energy, Takeda Pharmaceuticals, and King-5 TV. Their contributions and support were integral to the success of this inaugural conference.

It is important to continue to share information through such events, and we look forward to meeting the challenge of hosting an even better conference in 2011. Your input is valued and the continued feedback from our participants, partners, and sponsors is appreciated as we strive to deepen the topics of discussion and expand the network of participants for future exchanges. We encourage each of you to continue your engagement with Peace Winds America and one another throughout the coming year.

Sincerely,

A handwritten signature in black ink, appearing to read "Charles Aanenson", written in a cursive style.

Dr. Charles Aanenson, CEO

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About Peace Winds America

Exchange presentations are included in the digital version of these proceedings



"The Japan - U.S. relationship is the most important bilateral relationship in the world, bar none."

— Former U.S. Ambassador to Japan Mike Mansfield

Japan – U.S. Sister Cities Natural Disaster Preparedness and Response Exchange

About the Exchange

The inaugural Japan – U.S. Sister Cities Natural Disaster Preparedness and Response Exchange brought together senior Japanese and U.S. disaster management professionals to build capacity, develop connectivity, and increase collaboration. The Exchange is a multi-year program designed to analyze lessons learned, share best practices, and explore innovative methods for the purpose of improving disaster preparedness and response.

Why Japan – U.S.?

The Pacific “Ring of Fire,” one of the most natural disaster-prone regions in the world, is home to millions of people in vibrant cities that drive their national economies. Providing effective disaster preparedness, management, and response capabilities for these cities is critical to public safety, as well as to political and economic stability. As the primary responders to natural disasters throughout the region, and as neighbors sharing borders on the Pacific, Japan and the United States have a special interest in advancing bilateral cooperation and exchange concerning natural disaster preparedness and response.

Why Sister Cities?

As authorities in their communities, city disaster managers and planners form the front line of disaster preparedness and response. For this reason, Peace Winds America and the Seattle Office of Emergency Management have targeted Sister Cities and their prefecture/state counterparts on both sides of the Pacific for participation in the Japan – U.S. Exchange.

Exchange Participants

Sister City Participants:

Seattle – Kobe

San Francisco – Osaka

Honolulu – Hiroshima

State of Washington – Hyogo Prefecture

State of California – Osaka Prefecture

State of Hawaii – Hiroshima Prefecture

Additional Participants:

Japan Cabinet Office for Disaster Management

Japan Ministry of Defense

U.S. Department of Homeland Security

U.S. Federal Emergency Management Agency

Washington National Guard

King County (Washington)

Seattle Office of Emergency Management

Microsoft

The Boeing Company

Puget Sound Energy

Takeda Pharmaceuticals

T-Mobile

Witt Associates

Liberty Mutual Agency

Pacific Northwest Economic Region

WashingtonFIRST

University of Washington

The Asian Disaster Reduction Center

Civic Force

Peace Winds Japan

Peace Winds America

Executive Summary

The Japan – U.S. Sister Cities Natural Disaster Preparedness and Response Exchange was held from September 15-17, 2010 in Seattle, Washington. The event convened nearly 100 participants from the public, private, and non-profit sectors in Japan and the U.S. This inaugural Exchange featured 17 sessions that explored a variety of topics critical to natural disaster planning and response. Topics included: Earthquakes, Flooding, Typhoons/Hurricanes, Pandemic Diseases, Innovative Technologies, Governmental Coordination, Emergency Operations Centers/Disaster Management Centers, Military Assistance, Public Messaging, Transportation, Public–Private Partnerships, Private Sector Emergency Management, and Human Services.

This bilateral exchange of information and “lessons learned” demonstrated that emergency managers from both countries experience many similarities, despite differences in their geography, language, and culture. Participants from Japan and the U.S. both acknowledged facing similar challenges in disaster preparedness and response, particularly in the areas of public messaging, governmental coordination, and general readiness and response mechanisms concerning earthquakes, flooding, and hurricanes/typhoons.

Although emergency managers in both the U.S. and Japan face many of the same hazards, they often took different approaches in dealing with those hazards. Areas of divergence often stem from differences in governmental structure based on historical circumstances. In Japan, the city and prefecture are responsible for disaster preparedness and response. In the U.S., the city and county are responsible; they turn to the state if and when their resources are overwhelmed. In Japan, the police are the responsibility of the prefecture and the national police agency, whereas in the U.S., the police are the responsibility of the city. Fire departments are the responsibility of the cities in both countries. Japan does not have prefectural fire departments; however, the U.S. does have fire departments at the county level.

National support, both regulatory and fiscal, differs between Japan and the U.S. In Japan, national support is centralized at the cabinet level under the prime minister, with the Minister for Disaster Management and Chief Cabinet Secretary functioning as deputies. In the U.S., ten regional Federal Emergency Management Agency (FEMA) offices of the Department of Homeland Security provide regulatory, fiscal, and other resources. In both countries, the military is engaged only after all civil resources are exhausted; however, the Japan Self Defense Forces (JSDF) has recently played a much larger and more frequent role in domestic disaster response than its National Guard counterpart in the U.S.

One notable difference between the two countries was in the area of public-private partnerships. The integral and often extensive involvement of private companies and coalitions in emergency planning in the U.S. does not exist to the same degree between local corporations and their public counterparts in Japan. Likewise, the limited involvement of non-governmental organizations (NGOs) in Japan compared with the robust network of NGOs in the U.S. highlights an area for growth as well as the grounds for certain procedural differences.

While participants from Japan and the U.S. both agreed that disaster preparedness education and training are critical parts of emergency planning, Japan has had significantly more success in educating its citizens due to standardized disaster training programs that begin in grade school. While each country acknowledges the efficacy of large-scale engineering flood-control projects such as water gates, Japan relies more heavily on these “hard” mitigation efforts than does the U.S. A key factor in this slight difference of priority may be related to available budgets, fiscal priorities, and the allocation of resources across government levels.

The Exchange did not intend to establish ready-made solutions, but rather to create an avenue for information exchange, analysis, debate, and future cooperation. It provided the rare opportunity for Japanese and U.S. cities, states, and prefectural counterparts to engage in two-way conversations on the common issues facing both nations in key areas of emergency management. Participants of this Exchange form the pivotal first line of disaster preparedness and response—and that is why it has been a most significant event.

Japan – U.S. Exchange Proceedings

Earthquakes

This session of the conference addressed the experiences and lessons learned from the most significant recent earthquakes in U.S. and Japanese history: the 1995 Great Hanshin-Awaji (Kobe) Earthquake in Hyogo prefecture, the 1989 Loma Prieta Earthquake in San Francisco, and the 2001 Nisqually Earthquake in Seattle. A common feature found among the presenters was the inadequacy of seismic standards for buildings and other public infrastructure. The failure of these cities to establish and enforce rigorous building codes resulted in significant damage to property that otherwise could have been limited. As a result, all three cities took steps to strengthen local and regional building codes during the recovery period following their respective earthquake. In Japan, both the public and private sectors are adhering well to these codes. As witnesses to Kobe's experience, communities throughout the nation heed the fact that earthquakes can strike anywhere—not only in places where forecasters predict the “next” disaster.

Both Kobe and San Francisco shared the experience of extensive community involvement during immediate response efforts after local government responders became overwhelmed. The seemingly natural instinct of a community response highlights the importance of training, educating, and involving local communities, non-governmental organizations (NGOs), and their leaders throughout disaster planning. These steps are especially critical given the difficulty of forecasting earthquakes and the potentially devastating consequences of seismic events.

A standout feature of the session was the Citizens Happiness Index, presented by Director of Kobe City Planning & Coordination Bureau Yuichi Honjo (right). Following the initial response to the Hanshin earthquake, Kobe created the Index to evaluate the effectiveness of long-term recovery projects. The results of this Index, which surveyed hundreds of people during a ten-year period, identified two key elements of an effective recovery that are often absent in disaster planning. In short, local populations highlighted the need for increased social cohesion and community solidarity as significant aspects of effective post-disaster recovery planning in Japan—even more than the need for physical reconstruction of housing and infrastructure.



Innovative Technologies

Several new seismic technologies can help improve earthquake preparedness and response, as discussed by Art Frankel, coordinator of the U.S. Geological Survey's Earthquake Effects and Research program and a scientist at the University of Washington Department of Earth and Space Sciences. It is important to note that academic institutions and “think tanks” often serve as excellent technological resources in natural disaster management. All levels of government in both Japan and the U.S. make use of them.

One tool for improving earthquake preparedness is the National Seismic Hazard Map, which provides seismological information on 450 faults throughout the U.S. The map predicts and records the frequency and severity of earthquakes along different fault lines. Funding for disaster mitigation programs, seismic standards for buildings codes, and insurance company premiums can be targeted and modified for specific areas of vulnerability by knowing the magnitude of ground motions and the likelihood of an earthquake occurring along a particular fault. In addition, a network of Netquake accelerometers has been strategically placed across the U.S. to record and monitor the level of shaking at any given location, which then broadcasts this information to registered users in the event of an earthquake. Within minutes, these accelerometers create "shakemaps" that are disseminated and used to assess likely damage to critical infrastructure, as well as predict future areas of vulnerability.

Other technologies discussed include ROVER (Rapid Observation of Vulnerability and Estimation of Risk) and PAGER (Prompt Assessment of Global Earthquakes for Response). ROVER is a hand-held device that allows users to input and compare data during and after an earthquake. The PAGER compares "shakemaps" with population maps to predict how many people would be affected by an earthquake, as well as estimate fatalities and the potential cost of damages. These seismology devices can assist in earthquake preparedness and response by improving the situational awareness of disaster responders.

Flooding

Floods and landslides caused by typhoons, hurricanes, and heavy rain present a particular difficulty for disaster managers in Japan and the U.S. as rising numbers of people move into high-risk areas as a result of population growth. In Hiroshima, for example, developers have begun to cut into the hillsides for new developments, thereby increasing the instability of the terrain and encouraging erosion, which lead to a greater risk of landslides. In Washington State, along the Green River basin, economic growth has spurred expansion of the cities of Auburn, Kent, Renton and Tukwila. This rapid commercial and residential development has exceeded the existing capabilities for flood protection. Both countries face an urgent need to establish and enforce regulations restricting unsafe commercial and residential development.

Managing populations that are at high risk for floods, and for tsunamis, requires prompt warning systems and effective methods for evacuation. Evacuation routes must be planned thoroughly according to the number of people expected at precise locations at different times of day. Hiroshima Prefecture Crisis Management Division Deputy Director Tsukasa Doi and King County Office of Emergency Management Director Hillman Mitchell both promote the idea of improving disaster readiness awareness among communities in flood-prone areas. Disaster managers in Japan and the U.S. are making these improvements by including high-risk populations in disaster drills, as well as making manuals for evacuation procedures less technical and more reader-friendly. While the governments of Japan and the U.S. both do provide assistance to flood victims, they often recommend that citizens purchase flood insurance to mitigate their financial loss.

Japan's second largest city, Osaka, provides a model for the effective use of technology and infrastructure to control flooding through its system of automated water gates. Osaka was built along numerous rivers and much of this port city is below sea level, making flood control vital to its economic sustainability. In times of natural disaster, both the city and prefecture of Osaka work closely with the Ministry of Land, Infrastructure, and Transportation to ensure adequate flood control.

When flooding occurs, reaching vulnerable populations such as the elderly and disabled presents an additional challenge for both Japan and U.S. disaster managers. To address this issue in Japan, the government communicates directly with selected community leaders who assume responsibility to make sure that disaster warnings reach these vulnerable groups. In the U.S., there is particular need for outreach to large non-English speaking, immigrant communities.

Global climate change is requiring that we improve efforts to forecast weather patterns that contribute to flooding. Vigilant monitoring of rivers and dams is increasingly important. Many incidents of flooding may allow at least some time to give advance warning. As people become more environmentally conscious, they may pay closer attention to weather and other vulnerable conditions that put them at risk for flooding—and take action accordingly.

Typhoons and Hurricanes



Typhoons and hurricanes are among the most well-known natural disaster threats in the Asia Pacific. Mitigating their impact involves both tangible and intangible efforts. Often called “hard” measures, tangible mitigation efforts include building and maintaining protective infrastructure such as storm surge barriers and water gates. “Soft” or intangible measures involve developing evacuation plans and educating the population for proper preparedness.

In Osaka, the way forward for improving hurricane and typhoon mitigation entails maintaining a

balance between both the tangible and intangible elements of preparedness, as explained by Osaka Prefecture Crisis Management Senior Executive Masami Kikuchi and Osaka City Office of Emergency Management Officer Kenji Bo. In addition to its automated water gates, Osaka is equipped with highly effective storm surge barriers. The State of Hawaii, which is at particular risk for tsunamis, does not have the same kind of funding for flood control infrastructure as cited in Japan. The majority of mitigation measures in Hawaii have been “soft,” according to Deputy Director of the Honolulu Emergency Management Department Peter Hirai (above). To some extent, the emphasis on hard versus soft mitigation measures reflects a difference in fiscal priorities.

Given the relative frequency of typhoon and hurricane warnings, a common challenge faced by both Japan and the U.S. is maintaining public vigilance for the serious threats that hurricanes and typhoons pose. As procedures and prudence often call for warning and evacuation orders to be issued even when a storm does not make landfall, there is well-founded fear among disaster managers that the public will begin to disregard instructions and forget the lessons learned from previous disasters. Constant public messaging and communication were cited as the most effective solution for this challenge. Japan has had success in educating the public through a rigorous disaster awareness program that begins in grade school and is reinforced when a disaster strikes through the use of neighborhood public address systems.

Governmental Coordination

Both Japan and the U.S. coordinate emergency response along a tiered structure of government engagement. In Japan, disaster preparedness and response are divided into departments at the city, prefecture, and national levels. In the U.S., emergency response is organized at the city, county, state, and federal level. In both countries the initial response to any natural disaster begins at the city level. Once city resources are overwhelmed these local authorities may request assistance from the next-highest level of government, which subsequently can request assistance from the level of government above it.

A key difference between the two countries is the authority of city-level managers after the county, state, or prefecture is called in. In the U.S., city level officials retain decision-making authority, often directing and coordinating the added resources and personnel provided by the county or state. In contrast, while authority begins at the local level in Japan, control over disaster response and management can be subsequently ceded to the prefecture as it becomes involved in the crisis.

Another difference in governmental structure and coordination lies at the national level. In the U.S., a national response is coordinated by the Federal Emergency Management Agency (FEMA). FEMA is organized along ten geographical regions with managers permanently stationed throughout the country to liaise with state, county, and city counterparts on a continual basis. In Japan, the national response is coordinated by the Central Disaster Management Council which includes the Prime Minister and members of the Cabinet. As defined by the Disaster Countermeasures Basic Act, the mandate of the Council is to handle planning and central coordination with regard to basic policy on disaster risk reduction.

Both countries have faced challenges in inter-governmental coordination in the wake of large-scale disasters. The most recent examples in coordinating a response can be found in the 1995 Great Hanshin-Awaji Earthquake in Kobe, and the 2005 Hurricane Katrina in New Orleans. In Japan, the national government failed to respond swiftly in 1995 because of poor information management, with little information flow between local authorities and the national government. In the case of Hurricane Katrina, federal responders were underprepared, which is often attributed to a shift in focus at the national level away from natural disasters towards anti-terrorism capabilities.

Lessons learned include the need for coordinating emergency management activities across all government departments and jurisdictions (e.g., the U.S. Incident Command System) and the importance of clarifying responsibilities, lines of communication, and chains of command during disaster preparation. Equally important is employing a standardized and centralized information management system that collects data for floods, typhoons/hurricanes, and seismic activity (e.g., the Phoenix Disaster Management System designed by Hyogo Prefecture). In all cases it is essential to maintain flexibility in the event of unexpected catastrophe. Conducting “after disaster reviews” will help improve coordination for the next disaster.



Osaka Prefecture Crisis Management Office Senior Executive Masami Kikuchi (right) and Seattle Deputy Mayor Darryl Smith exchange gifts at the Japan - U.S. Exchange Reception at Seattle City Hall.

“Plans should be written in concrete, but they should be executed in elastic.”

**— Seattle Office of Emergency Management
Director Barb Graff (right)**



Emergency Operations Centers/ Disaster Management Centers

Emergency Operations Centers (EOC) in the U.S. and Disaster Management Centers (DMC) in Japan allow for strong disaster preparedness at the local level.

Seattle Office of Emergency Management Operations Coordinator Laurel Nelson explained that the main job of Seattle’s EOC is to coordinate all of the City’s disparate departments, thereby facilitating a unified response. Nelson described this coordination as attempting to “conduct different departments to play off the same sheet of music.” Designed in 2003, the Seattle EOC is organized by job function—fire, police, human services, planning, logistics, and transportation. When activated, the EOC can accommodate more than 150 emergency responders including representatives from the county and state agencies. In Japan, the DMCs tend to operate independently of other city or prefecture departments. Rather than serving as coordinating entities for the rest of the city, Japanese DMCs focus specifically on creating and executing their own plans for disaster preparedness and response.

Pivotal to disaster management operations is the ability of EOCs/DMCs to make sound and appropriate decisions based on reliable information. The need for accurate information about the status and scope of a natural disaster *once it strikes* remains a critical concern for both countries. In Japan, this issue is addressed in part by designating leaders in local communities who assess conditions and communicate with authorities during an emergency. A notable example of effective information management is the Phoenix Disaster Management System used by government offices, district administration offices, and other key points throughout Hyogo Prefecture. The Phoenix system can obtain information about a disaster from multiple sources and present a clear picture of the level of damage. As a multi-hazard system, Phoenix provides standardized information for water levels in rivers, typhoon monitoring, and even seismic activity. Nevertheless, it bears emphasizing that EOCs/DMCs can only establish priorities and respond effectively if they gather and receive accurate information from disaster sites.

Military Assistance

Military participation in disaster response takes a supportive role in both Japan and the U.S. In both countries, national military resources are only called upon as a “last resort” after all other resources at the city, county, state/prefecture, and federal civilian levels have been exhausted. Once engaged, the military offers a unique set of resources, including highly sophisticated technology for decontamination, trained military personal, and a variety of dual purpose vehicles and aircraft. Presentations by Colonel Michael Healey of the Washington State National Guard and Deputy Director of the Japan Ministry of Defense Disaster Management Policy Office Hideiro Oizumi highlighted the variations found between the two countries and their domestic military response.

For example, in the case of a domestic emergency, the militaries of both countries immediately begin to gather and process information. The Japan Self Defense Forces (JSDF) intervenes after a request from the prefecture is approved by the Ministry of Defense. In the U.S., the National Guard intervenes if requested by the governor of the affected state. Once engaged in disaster response, the National Guard will work closely with local authorities and NGOs to provide assistance and support where needed. Currently, the JSDF does not actively engage with NGOs during response efforts.

Militaries can provide trained personnel and quick delivery of vital resources, including equipment, logistics, and transportation that can greatly facilitate disaster management. Best practices focus on establishing and maintaining a clear chain of command between militaries and the states or prefectures they assist. In addition, increased coordination between militaries, NGOs, and the private sector will significantly enhance the beneficial impact of military assistance.

Public Messaging

Both Japan and U.S. disaster managers use multiple platforms to educate and warn the public in the case of an impending natural disaster. Common methods include outdoor sirens, mobile public announcement vehicles, opt-in alert programs for e-mail and cell phone, as well as traditional storm warnings via television and radio. Freeway signs and the use of social media, such as Facebook and Twitter, also are common in the U.S. public messaging system. Japan has developed exemplary disaster education programs, which begin in grade school. Each of the 47 prefectures in Japan has its own disaster prevention center that is frequently visited by children and adults. A key part of community awareness training is teaching people to immediately turn on the television for information, warnings, and evacuation procedures in the event of a disaster. In many areas, neighborhood public address systems are in place to provide emergency information when needed.

Despite the variety of forms of communication, both the U.S. and Japan cite public education and warning as a key challenge in their preparedness and response plans. In the U.S., the Federal Communication Commission (FCC) is requiring wireless carriers to develop by 2012 the capability to send automatic public alert text messages to every cell phone in the country. While many alert-capable handsets are already on the market, the infrastructure to operate such a system is still being built, according to T-Mobile National Emergency Management Senior Manager Karen Schreiner.

In addition to simply “getting the word out,” another common problem is getting the message to vulnerable and minority communities. Kenji Bo with the Osaka City Disaster Prevention Planning Office of Emergency Management explained how Japan utilizes local community leaders to overcome this challenge. In Osaka, these leaders carry the responsibility of communicating with their resident vulnerable populations and helping such persons evacuate when necessary. This particularly applies to Japan’s large elderly population. In San Francisco, the challenge of public messaging is communicating with the area’s diverse non-English speaking populations, which include speakers of over 112 languages. Other efforts to reach non-English speakers include San Francisco’s outdoor siren system that broadcasts warnings in Cantonese and Spanish, targeting these large non-English speaking communities.

Cities are advised to create specific outreach plans to reach vulnerable communities and use multiple platforms for public messaging. Other best practices include providing call centers to address the public’s questions and concerns during a pandemic or other long-term crisis, as well as building and maintaining good relationships with members of the media. To bring about effective vigilance, cities are cautioned against over-use, as well as under-use, of public warnings.

Transportation Infrastructure



Managing transportation infrastructure following an emergency is a complex, yet critical piece of emergency response. Disruptions to local or regional transportation become an immediate hindrance for disaster response capabilities. Functional transportation infrastructure is essential to the sustainability and recovery of the local economy. Therefore, restoring transportation in the aftermath of a disaster is important to allow for an efficient disaster response as well as mitigate major negative economic impacts.

For example, following the 1995 Great Hanshin-Awaji Earthquake, Kobe experienced severe damage to its transportation infrastructure, including 500 km of railroads, 32 bridges, a major highway, and its thriving port, which served as the center of economic activity. The widespread destruction of this transportation infrastructure seriously impeded response efforts and hurt the Hyogo economy—so much that, to this day, the Kobe port has not recovered to pre-earthquake levels of trade, despite transportation recovery efforts that began immediately following the earthquake.

Transportation expert William Lokey of Witt Associates explained that a successful plan to mitigate transportation in the event of a disaster requires four key elements. First, officials need good information management. Second, all transportation stakeholders need a pre-established organizational structure with defined roles and responsibilities. Third, stakeholders also require established plans, policies, and procedures for prioritizing requests and delegating tasks in the event of a disaster. Finally, transportation specialists need to develop good relationships with local emergency managers. Identifying alternative routes beforehand and reducing the use of roads by increasing public transportation are additional elements of a comprehensive mitigation strategy.

An example of successful transportation crisis mitigation was presented by San Francisco Emergency Management Department Exercise Planner Jill Raycroft. Following the 1989 Loma Prieta Earthquake, the damaged Bay Bridge was repaired within three days, during which time officials offered alternative routes by adding more ferries to reduce congestion on the Golden Gate Bridge, the only other major bridge across the bay. Lessons learned include the importance of planning alternative routes ahead of time, using various transportation infrastructure disaster scenarios, and identifying who will implement the plan, including the private sector.

Pandemic Diseases

Unlike other natural disasters, pandemic diseases are much less confined to a specific geographic area or locale. Nor does an outbreak take place as a single event, but rather often unfolds as a long, unpredictable process that may last weeks or months. To properly respond to a major health crisis such as pandemic disease, Japanese and U.S. city managers cited the need to collaborate closely

with other government departments and community organizations, such as hospitals and pharmacies, in attempt to mitigate and control the effects of crises.

One challenge in this cross-jurisdiction collaboration was the inconsistency of policy and procedure between neighboring jurisdictions, as described by Carina Eisenboss, Program Manager of the Advanced Practice Center of Seattle & King County Public Health. During King County's response to the H1N1 flu pandemic in Spring 2010, the differences in policies at the national, state, and local levels caused great confusion among the community and prompted criticism of the city and county government response. Questions arose as to which agency is in charge during a pandemic disease response and what is the correct information when health advisories from different agencies conflict. As a result, current plans for pandemic response in the U.S. focus on improving coordination among local health departments and the state departments of health.

Another major challenge posed by the long duration of a pandemic disease response involves managing public expectations. Effective public messaging and a good relationship with the press are essential to managing these expectations, which may determine the level of public cooperation with long-term efforts. During the H1N1 response, King County encountered this challenge directly when government officials, from the White House to the Centers for Disease Control, heightened the level of public concern in urging people to get vaccinated—and then under-delivered supplies of the H1N1 vaccination. Media "hype" posed similar challenges for Japan during the outbreak of both avian flu and SARS, according to Kobe's Planning and Coordination Bureau Director Yuichi Honjo.

To deal with these public relations issues, in both cases, Japanese and U.S. officials set up respective call centers to respond to the public's questions and concerns. This practice proved to be an effective and popular way to address public relations challenges during a health crisis. In managing any kind of pandemic disease it is imperative that governments, healthcare professionals, and the media pay careful attention to the source and validation of information disseminated to the public.

Human Services Collaboration

Human services needs such as immediate food, water, medical services, and temporary housing are often integrated into a short-term, overall disaster response. Within the cities of San Francisco, Honolulu, and Seattle, these needs are often met by close collaboration among the government, private sector, and non-profit/non-governmental organizations (NGOs). The cities of Osaka, Hiroshima, and Kobe rely upon the government, Self-Defense Forces, community volunteers, and willing citizens to meet these needs. The active U.S. NGO community does not have a counterpart in Japan for numerous reasons, but one significant reason is that human services needs generally have been met by the government. In the case of long-term needs, as the U.S. discovered during Hurricane Katrina in 2005, some natural disasters require a more robust, long-term response. Such a response may deplete the immediate resources of governments, NGOs, and the private sector, and require a more flexible and even more coordinated response.



**Peace Winds America CEO
Dr. Charles Aanenson addresses
Exchange participants.**

Though the event itself only lasted a few days, the aftermath of Hurricane Katrina created a refugee population that required care lasting several months. During his tenure at the Office of Emergency Management (OEM) in Austin, Texas, Deputy Director of the Seattle OEM Ken Neafcy was directly involved with managing this refugee population in Austin, which reached over 6,000 people. Overcoming the logistical problems associated with managing such a large refugee population required collaboration on every level of government, as well as with NGOs, private companies, and the local community. As Neafcy described, an important aspect of providing human services to the refugee population is to treat them as guests, rather than victims, by ensuring that they feel welcome and are treated with hospitality and respect. Emphasis should be placed on transitioning individuals from temporary to permanent and sustainable housing, jobs, and communities as soon as possible. Another lesson learned was the need to address mental health in addition to physical well-being, as well as maintaining a conscious sensitivity to any cultural differences that might arise.

A major challenge in Japan is the lack of a substantial NGO community and civic groups that could share the burden of providing human services in the event of a large-scale disaster. As explained by the CEO of Peace Winds Japan and Civic Force Kensuke Onishi (right), governments in Japan still do not collaborate enough with the private sector and civic groups during both disaster preparation and response. While Japanese NGOs such as Civic Force work to bridge this gap, the general lack of connectivity between government entities, including the military, and NGOs remains an area for development and growth.



Private Sector Emergency Management

Often called “Emergency Continuity Plans” or “Business Continuity Plans,” many U.S. companies have their own internal procedures for minimizing the damaging effects of different types of disasters. In this session, Puget Sound Energy Operations Continuity Manager Mary Robinson and Microsoft Global Security Senior Director Denise Reubens presented how their companies manage disaster situations. While the specifics of each company plan are tailored to meet internal needs, several common themes include IT security, infrastructure, and coordination with local government entities.

Puget Sound Energy (PSE) serves nearly two million customers throughout Washington State and the greater Northwest. The company annually writes a Corporate Emergency Response Plan and distributes it to all government agencies and partners. By sharing information with public authorities in advance, companies can more effectively and efficiently respond to disaster situations both internally and externally. This ability to collaborate and respond is critical for a company to recover and bring some normality to the people who rely on their services.

Microsoft operates three Global Security Operations Centers to handle a variety of emergency situations. Located in Redmond, WA, Reading, UK and Hyderabad, India, these centers follow identical plans, policies, and procedures as well as organizational structures. This standardization enables each center to immediately assume the duties and operations of another in the event of a major catastrophe.



Denise Reubens explains Microsoft's emergency contingency plans.

Public-Private Partnerships

Public-private partnerships are a component of disaster planning that is relatively unique to the U.S. Motivation for the development of public-private partnerships lies in mutual interests. Eighty percent of critical infrastructure in the U.S. is owned and operated by private companies. In addition, private companies and government agencies often make up significant portions of the local population. For example, The Boeing Company employs over 60,000 residents from the greater Seattle area.

Given this clear interdependence, public and private entities have begun to collaborate in a variety of areas including disaster preparedness and response. Despite the common interest in joint cooperation, building a public-private partnership takes patience, work, and a mutual trust that is developed over a long period of time.

According to T-Mobile National Emergency Management Senior Manager Karen Schreiner, private companies need an assurance that their resources will be used efficiently and effectively by public authorities. On the other hand, public disaster managers also need the assurance that private companies will work with them in times of emergency and adhere to established priorities and roles of responsibility. Toward this end, Boeing Business and Emergency Preparedness Manager Gary Gordon introduced the King County Regional Disasters Plan. This plan represents the first attempt to bring together a large number of government and private actors. The plan includes 36 cities, 21 fire districts, 6 NGOs, 12 private companies, 21 hospitals, 15 school districts, 9 media agencies, and 25 water municipalities. As a result of this initiative, King County has established plans, policies, and procedures for sharing resources, delegating tasks, reimbursing private sector contributions, and taking other mitigating actions during an emergency.

A second model of public-private collaboration is reflected in the work of Pacific Northwest Economic Region (PNWER). PNWER, a government-mandated NGO comprised of private and public sector members, addresses regional economic issues including disaster preparedness and response. A similar example of group cooperation includes WashingtonFIRST, a coalition of financial institutions in Washington State aligned to improve understanding of systemic risks to the financial sector through financial industry resilience, security, and teamwork. All of the above-mentioned examples reinforce the importance of developing interdisciplinary relationships between government emergency managers, the private sector, and critical industries such as transportation, power, banking, and communications.

"Government cannot solve the challenges of a disaster with a government-centric approach. It takes the whole team." — U.S. FEMA Administrator Craig Fugate

Conclusion: Best Practices



Earthquakes, Flooding, and Typhoons/Hurricanes

- Establish adequate seismic standards for buildings and other public infrastructure, and enforce rigorous commercial and residential building codes, beyond the expected magnitude of disaster.
- Establish and enforce regulations restricting unsafe development in flood-prone areas.
- Use seismology devices (e.g., Netquake accelerometers, ROVER, and PAGER), hazard maps, and other scientific tools to improve situational awareness during a disaster.
- Make use of technological resources that academic institutions and “think tanks” often provide concerning natural disaster management.
- Make use of innovative technology and infrastructure, such as protective storm surge barriers and automated water gates, to control flooding.
- Incorporate both “hard” (tangible) and “soft” (intangible) measures for typhoon/hurricane, tsunami, and flood protection—and maintain a balance between the two.
- Improve disaster readiness awareness among communities at high risk for floods, tsunamis, and hurricanes/typhoons by including them in disaster drills.
- Further develop prompt warning systems and effective methods for evacuation, as well as making manuals for evacuation procedures less technical and more reader-friendly.
- Improve efforts to forecast weather patterns that contribute to flooding, and increase vigilance in monitoring rivers and dams.

Governmental Coordination, Military Assistance and Emergency Operations Centers/Disaster Management Centers

- Coordinate emergency management activities across all government departments and jurisdictions (e.g., U.S. Incident Command System).
- Clarify responsibilities, lines of communication, and chains of command during preparation.
- Employ a standardized and centralized information management system that collects data for floods, typhoons/hurricanes, and seismic activity (e.g., Phoenix Disaster Management System designed by Hyogo Prefecture).
- Maintain flexibility in the event of unexpected, and even expected, catastrophe.
- Maintain a good exchange of information between local authorities and the national government.

- Establish and maintain a clear chain of command between militaries and the states or prefectures they assist, to facilitate the quick delivery of vital resources—including equipment, logistics, and transportation—and trained personnel for disaster management.
- Increase coordination between militaries, NGOs, and the private sector to significantly enhance the beneficial impact of military assistance.
- Develop a solid method for validation of information coming into the emergency operations/disaster management centers so they can establish priorities and respond effectively (e.g., the use of designated community leaders selected by the Japan disaster/crisis management centers to assess conditions at disaster sites and communicate with authorities).
- Conduct “after disaster reviews” to help improve coordination for the next disaster.

Public Messaging

- Use frequent public messaging to ensure that the public will not disregard instructions and forget the lessons learned from previous disasters.
- Create specific outreach plans to reach vulnerable communities, such as the elderly, disabled, and immigrant communities.
- Use multiple platforms to educate and warn the public in the case of an impending natural disaster (e.g., neighborhood public address systems, outdoor sirens, mobile public announcement vehicles, opt-in alert programs for e-mail and cell phone, freeway signs, warnings via television and radio, and social media such as Facebook and Twitter).
- Ensure that the different levels of government have the same message.
- Establish comprehensive disaster education and training programs in local schools and through community disaster-prevention education centers.
- Provide call centers to assist with the public’s questions and concerns during a pandemic or other long-term crisis.
- Build and maintain a good relationship with members of the media.
- Ensure continuity of emergency employees (e.g., through electronic message boards where employees can leave password-protected messages for their families, while continuing to work).
- Alert the communities and individuals of their required and/or optional insurance needs in case of natural disaster.

Transportation Infrastructure

- Reduce the use of roads by increasing public transportation, as part of a comprehensive disaster mitigation strategy.
- Identify alternative transportation routes during disaster planning, using various transportation infrastructure disaster scenarios and identifying those who will implement the plan.
- Involve the private sector in disaster planning and response.
- Establish and maintain a good information management system.
- Create a pre-established organizational structure with defined roles and responsibilities for all transportation stakeholders.
- Establish plans, policies, and procedures for transportation stakeholders, in order to prioritize requests and delegate tasks in the event of a disaster.
- Ensure that transportation specialists develop good relationships with local emergency managers.
- Restore functional transportation infrastructure in the aftermath of a disaster as soon as possible to allow for efficient disaster response, to mitigate major negative economic impacts, and for recovery of the local economy.

Pandemic Diseases

- Collaborate closely with other government departments and community organizations, such as hospitals and pharmacies, in attempt to mitigate and control the effects of crises.
- Ensure consistency in policy and procedure between neighboring jurisdictions, and in policies at the national, state/prefecture, and local levels.
- Manage public expectations through effective public messaging and a good relationship with the press to garner public cooperation throughout long-term efforts.
- Ensure that governments, healthcare professionals, and the media pay careful attention to the source and validation of information disseminated to the public.
- Set up call centers to respond to the public's questions and concerns during a health crisis.

Human Services and Government-NGO Coordination

- Involve potential responders/care-givers in disaster preparedness in order to determine capabilities and resources available for disaster response.
- Educate and involve local communities, non-governmental organizations (NGOs), and their leaders in disaster planning and drills/trainings—particularly communities that are at high risk.
- Determine strategies/tactics, chains of command, and roles and responsibilities during preparedness efforts—and follow these during times of disaster.
- Plan a more flexible and even more coordinated response for lasting disasters that require a more robust, long-term response as they may deplete the immediate resources of governments, NGOs, and the private sector.
- Use all available resources (NGOs, volunteers, and the private sector) in disaster planning/response.
- Establish clear lines of communication between local government responders and local communities (e.g., through a designated community leader and/or a coalition of government-NGO partnerships).
- Ensure that vulnerable and refugee populations, which may require long-term care, are treated with hospitality and respect.
- Collaborate at every level of government—as well as with NGOs, private companies, and the local community—to overcome the logistical problems associated with managing a large refugee population.
- Begin to work on transitioning individuals from temporary to permanent housing immediately after securing temporary services.
- Involve the victim as much as possible in the response.
- Address mental health needs in addition to the physical well-being of disaster victims.
- Maintain a conscious sensitivity to any cultural differences that might arise.
- Focus on restoring social cohesion and community solidarity in addition to rebuilding local infrastructure (e.g., as indicated by the Citizen's Happiness Index).
- Encourage NGOs to cooperate with other NGOs.

Public-Private Partnerships

- Encourage private companies and business associations to develop “business continuity plans” (internal emergency management plans) to ensure economic security, and to coordinate these plans with government interests and resources.
- Encourage the development of relationships between city and prefectural government emergency managers and critical industries (i.e., transportation, power, communications, and banking), as well as those companies with high numbers of employees.
- Encourage the critical industries to develop “external” emergency management plans and to coordinate these with city, county, and prefecture plans.
- Create legal and financial agreements so that partners are fully aware of collaborative emergency assistance policies and procedures before disaster strikes.
- Develop and implement disaster simulations/training exercises to practice collaborative emergency response, and to evaluate current public-private partnerships and agreements.
- Build public-private partnerships and relationships anchored on mutual trust, which may require considerable time to develop.
- Encourage private companies to support the work of the NGO community and of volunteers.

To request a digital copy of these proceedings, including presentations, please contact Peace Winds America at info@peacewindsamerica.org or (206) 432-3712.

"Information exchange and sharing between countries are common, but the Sister Cities Exchange provides a rare opportunity for cross dialogue between cities and prefecture counterparts. I think this is a very meaningful event."



— Asian Disaster Reduction Center Executive Director Atsushi Koresawa (presenting above)

Disaster Management: Governmental Coordination

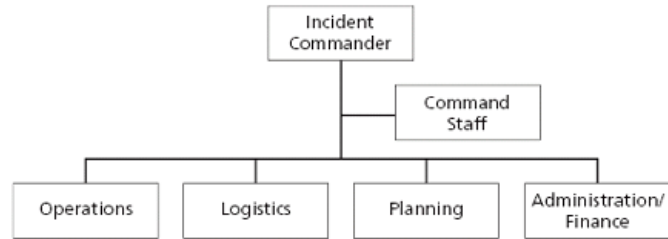


Strengthening the Japan – U.S. Response to Natural Disasters

Japan and the U.S. both prepare and respond to natural disasters at multiple levels of government. Functioning in a tiered system of interaction and response, Japan’s emergency operations are two-tiered—at the city and prefecture levels—in addition to the national level. The U.S. system is comprised of jurisdictions at three tiers—the city, county, and state—as well as the national level, which is divided into ten regions.

In both countries disaster response begins at the city level, then as city resources become overwhelmed the next highest level of government becomes involved. This common chain of command highlights the ever-present need for **inter-governmental coordination**.

Following recent difficulties with coordinating this hierarchy during a large-scale disaster, the U.S. implemented a standardized plan for response coordination called the Incident Command System (ICS). This uniform approach helps eliminate confusion and defines pre-designated roles and responsibilities across jurisdictions.



U.S. Incident Command System (ICS)

Disaster managers agree that a strong information management system is essential to inter-governmental coordination. Hyogo Prefecture has implemented a comprehensive information management system (i.e., the Phoenix Disaster Management System) that collects and reports earthquake, typhoon, and flood data throughout the Hyogo Prefecture. Each Japan prefecture and municipality develops its own disaster management plan based on mitigation policies developed at the national level.

In addition to coordinating activities among disaster management agencies at the city, county, state/prefecture, and national levels, it is also important to coordinate *among* government departments *within* each level of jurisdiction. In the U.S., this **intra-departmental coordination** is part of day-to-day operations, as demonstrated by the Seattle Emergency Operations Center (EOC). The Seattle EOC itself is organized along city departmental lines. As a result, all city-level fire, police, human services, transportation, and other departments regularly plan and train together as a matter of policy and practice. In Japan, this coordination adopts a different structure. Police services, for example, are under the jurisdiction of the prefecture at all times; fire services are under the jurisdiction of the municipalities. These clear jurisdictions often aid disaster management, and at the same time they may lead to perceived self-sufficiency, resulting in less information-sharing and coordination.

An area of governmental coordination that requires special attention in both Japan and the U.S. is **civil-military cooperation and collaboration**. In both countries, the national military can be called in as a last resort to assist local authorities in the event of a major disaster. The Japanese Self Defense Force (JSDF) intervenes after a request from the prefecture is approved by the Ministry of Defense. In the U.S., the state governor requests the National Guard to deploy. The JSDF and U.S. National Guard have their own internal operating procedures and legal codes, making advance coordination and information exchange all the more important.

While it can be difficult to directly adopt best practices of governmental coordination due to political, bureaucratic, and structural differences, the U.S. and Japan can still remind each other of areas that might require additional collaboration or suggest models for approaching the common challenges of cross-jurisdictional coordination.

Public messaging and warning concerning natural disasters are common needs on both sides of the Pacific. Both Japan and the U.S. have developed a diversity of methods to educate the public as a critical component of emergency planning. Japan has had particular success training and educating the public through rigorous disaster awareness programs that begin in grade school. The U.S. recently has embraced social media as a new avenue for disaster-related communication. Despite these efforts, an ongoing challenge for emergency managers in both countries is determining how, when, and where to convey important messages. A variety of best practices and enduring challenges is listed below:

Best Practices

- Involve communities, particularly those at high risk, in disaster trainings.
- Create specific outreach plans to reach vulnerable communities.
- Make written messaging less technical and more reader-friendly.
- Establish standardized disaster education and training programs in local schools.
- Use multiple platforms for public messaging, including: outdoor sirens, mobile public announcement vehicles, opt-in alert programs for e-mail and cell phone, freeway signs, storm warnings via television and radio, and social media such as Facebook and Twitter.
- Conduct constant testing and maintenance of speakers, emergency warning systems, and other public messaging infrastructure.
- Set up call centers to respond to the public's questions and concerns during a pandemic or other long-term crisis.
- Ensure continuity of emergency employees (e.g., electronic message boards where government employees can leave password-protected messages for their families, while continuing to work).
- Inform communities and individuals as to their required and/or optional insurance needs in case of natural disaster.

Enduring Challenges

- Reaching vulnerable populations such as the elderly, the disabled, and immigrant communities.
- Maintaining vigilance for natural disaster preparedness among the public.
- Encouraging or persuading citizens to adhere to evacuation requests and other instructions.
- Gaining support and participation from non-emergency entities, such as schools, community centers, civic groups, and the private sector.
- Building and maintaining positive relations with members of the media.
- Encouraging the media to accurately inform communities, avoiding message exaggeration.
- Targeting "focused" messages to a particular community or geographical area.
- Warning communities in the event of rapid disasters such as flash floods.

Perhaps the most significant goal of effective public messaging is to manage public expectations during a time of crisis. As evidenced during the H1N1 and SARS pandemics, managing expectations is essential to gaining public cooperation and support. Ensuring this cooperation can be critical to public safety and quick resolution of the crisis at hand. A failure to meet public expectations can also negatively impact the perceived success of a given response or recovery effort. This, in turn, can adversely affect subsequent response and recovery efforts.

Disaster Management: Public-Private Partnerships



*Strengthening the Japan – U.S.
Response to Natural Disasters*

In disaster management, a public-private partnership is an established agreement or ongoing relationship between a government agency and a private company that defines roles, responsibilities, and available resources in the event of a disaster. These partnerships are more common in the U.S. than in Japan. In the U.S., eighty percent of critical infrastructure is owned and operated by private companies and the public relies heavily on privately-owned services such as banking, transportation, and telecommunications—before, during, and after a natural disaster strikes. Given the integrated nature of this critical infrastructure, comprehensive disaster resilience can be reached best through an integrated partnership between the government and private sector.

The benefits of public-private partnerships include the exchange of information critical to disaster response; establishing clear lines of responsibility and authority in advance of a disaster; and creating standardized emergency response plans and priorities across critical sectors such as telecommunications, transportation, and power. For businesses, these partnerships provide an added benefit of strengthening their own economic resiliency and business continuity plans. The most important step to creating a public-private partnership is acknowledging the interdependent relationship between public agencies that prepare and respond to disasters and the private entities that control and affect critical pieces of local infrastructure.

In the U.S., some public-private partnerships are initiated through government mandates. A key example of this is embodied in the Pacific Northwest Economic Region (PNWER). A statutory non-profit organization, PNWER was mandated by state (U.S.) and provincial (Canadian) authorities to bring together and strengthen the public and private sectors of the economically interdependent Pacific Northwest. PNWER recognizes that disaster preparedness and response is critical to the region's economy. The organization hosts 14 different working groups that focus on issues related to security, including the Northwest Alliance for Cyber Security, Bi-National Energy Planning, Cross-Border Livestock Health, and Security & Disaster Resilience.

WashingtonFIRST (WAFirst) is a voluntary coalition of financial and insurance institutions that seeks to foster effective public/private communication and enhance economic resilience within the community. Working with its public counterparts, WAFirst has gained a voting seat on the King County Emergency Management Advisory Council. This participation facilitates the exchange of information and helps each side understand the unique needs of the public and private sectors in the event of a disaster.

Perhaps the most common mode of public-private collaboration in the U.S. takes the form of direct bilateral engagement between specific private companies and designated public counterparts. The culmination of this engagement typically takes the form of a Memorandum of Understanding (MOU), which outlines the precise responsibilities, roles, chains of command, and methods of communication between the company and the government agency in the event of a disaster. The Boeing Company offers a prime example of this direct partnership between a company and various local authorities. In addition to designing its internal business continuity plans, Boeing participated in creating three different public-private plans to address disaster management: The King County Hazardous Material Response Providers Group; the Emergency Immunization Program with Seattle King County Public Health; and the King County Regional Disaster Plan—all formed through the creation of MOUs between King County and Boeing. Each agreement represents collaboration in a specific area of disaster management and reflects the long, slow task of building trust.

**Disaster Management:
Government-NGO
Collaboration**



*Strengthening the Japan - U.S.
Response to Natural Disasters*

In the U.S., public collaboration with the civic community is often well established through a robust industry of non-governmental organizations (NGOs), which strive to meet humanitarian needs during everyday life. In the event of a disaster, local governments rely heavily on the services of these NGOs as they often meet the human service needs better, faster, and cheaper than can the government. This existing network of NGOs enables disaster managers to plan and coordinate public-civic collaboration in advance of an unexpected disaster. Just as with public-private partnerships, disaster managers also sign Memoranda of Understanding (MOUs) with non-profit organizations.

Government-NGO collaboration remains an area of growth and development in the U.S. For example, during the 2001 Nisqually earthquake in Washington State, many NGOs that were normally tasked with providing human services to the homeless and other vulnerable populations were unable to provide those services because the organizations themselves were unprepared for this natural disaster. As a result, the City of Seattle and surrounding counties focused additional resources on addressing emergency management within the non-profit community, as well as providing additional disaster training and education for local NGOs.

In Japan, government agencies generally do not perceive a strong need to partner with local NGOs, although numerous established NGOs (e.g., Civic Force) offer a natural place to begin a community partnership. Governments would reduce costs and increase services by collaborating with NGOs that can readily assess and meet community needs during disaster preparedness and response. Disaster managers in Hiroshima and Osaka cities communicate directly with individual community leaders, who then communicate with vulnerable populations within the larger community. The cities recruit volunteers to assist in times of disaster. In Osaka alone, over 8,100 people have registered to participate in disaster training, while the local government maintains contact with 332 identified community leaders.

Depending on their function and expertise, the civil and non-governmental communities can provide a variety of services during a disaster including food assistance, temporary shelter, transition services, medical care, mental health counseling, and general civic coordination. As shown during large-scale disasters in both Japan and the U.S., local communities will turn out and participate in response and recovery following a disaster. With advance planning, collaboration, and training, the "formal" and "informal" community responses can be even more efficient and effective.

AGENDA

Japan-U.S. Sister Cities Natural Disaster Preparedness and Response Exchange

15 – 17 September 2010

Seattle Office of Emergency Management • 105 - 5th Avenue South • Seattle, WA 98104

Day 1 – Wednesday, 15th September

08:30 Morning Coffee

09:00 (1) **Welcome: Introduction and Review of Program, Agenda and Goals of the Exchange**
Ms. Barb Graff, Director Seattle Office of Emergency Management and Dr. Chuck Aanenson, Peace Winds America

09:30 (2) **Earthquake Experience — Overview of Responses & Lessons Learned**

Presentations followed by Q&A (Plenary) Facilitated by Barb Graff, Seattle EMD Director

- **Japan: 30 minutes on Great Hanshin-Awaji Earthquake, 1995**
Hyogo Deputy Director Katsunori Ishida and Kobe Advisor Yuniji Honjo
- **US: 30 minutes on Loma Prieta Earthquake, 1989**
San Francisco City EMD Exercise Planner Jill Raycroft
- **US: 30 minutes on Nisqually Earthquake, 2001**
Seattle Office of Emergency Management Erika Lund

11:00 Lunch Break

11:15 (3) **Innovative Technologies — Working Lunch**
University of Washington Department of Earth and Space Sciences/U.S. Geological Survey Senior Scientist and Coordinator of Earthquakes Effect & Research Art Frankel

12:15 (4) **Governmental Coordination**

Part I: Presentations (Plenary) Facilitated by Seattle EMD Director Barb Graff

- **US: 15 minute overview on the US system for emergency management**
FEMA Region 10 Federal Preparedness Coordinator and Director National Preparedness Division, Patrick Massey
- **Japan: 15 minute overview on the Japanese system for emergency management**
Japan Cabinet Member Atsushi Koresawa, presently seconded to the Asian Disaster Reduction Center

Part II: Group Discussion in three small groups (45+ minutes)

Describe an actual situation where all levels of government worked together to solve an issue (housing, evacuation, transportation restoration, resource prioritization)

Additional Questions for Facilitators:

- ***Share the most positive experience you had working with another level of government during a disaster activation/response.***

- *Discuss how your agency (emergency management office) works directly with other response departments dealing with command and control at the incident site.*

Part III: Report out to Plenary (20 minutes)

Each group reports key findings/comments for Summary.

13:50 Coffee Break

14:00 (5) Emergency Operation Centers (EOC)

Part I: Presentations (Plenary) Facilitated by Seattle OEM Deputy Director Ken Neafcy

- **US: 10 minute presentation on a US EOC**
Seattle OEM Operations Coordinator Laurel Nelson
- **Japan: 10 minute overview on an EOC**
Hyogo Prefecture Deputy Director Katsunori

Part II: Group Discussion in three small groups (30+ minutes)

Describe how your EOC organizational structure (layout, people) contributes to issues like, coordination, information sharing, prioritization and policy issues.

Additional Questions for Facilitators:

- *Share how your EOC is organized*
- *Describe how your EOC tools and systems help manage those same issues*

Part III: Report out to Plenary (20 minutes)

Facilitated by Ken Neafcy

Each group reports key findings/comments for Summary.

15:15 **Militaries assisting preparedness and response**

Japan Ministry of Defense Disaster Management Policy Office Deputy Director Hideiro Oizumi and Officer Yushi Matsumoto

16:00 (6) End of Day One

Day 2 – Thursday, 16th September

08:45 (7) Opening Remarks: Review from Wednesday 's discussions (with coffee)

09:00 (8) Flooding Experiences — Overview of Response & Lessons Learned

Presentations followed by Q&A (Plenary) Facilitated by Seattle OEM

- **Japan: 30 minutes on Hiroshima City and Prefecture, 1999 and 2010**
Hiroshima Prefecture Crisis Mgt Division Asst Director Tsukasa Doi
- **US: 30 minutes on Green River, King County, Washington, 2009**
King County EMD -- TBD

10:00 (9) Public Messaging & Warning

Part I: Presentations (Plenary)

- **US: 10 minute overview on public information or public warning in the US**
Honolulu City/County Police Dept. Captain and Civil Defense Coordinator Terrence Kong
- **Japan: 10 minute overview how Japan handles public information or public warning**
Osaka City Disaster Prevention Plan Office of Emergency Management Advisor Kenji Bo

Part II: Group Discussion in three+ small groups (35+ minutes)

Share the most positive experience when your public messaging was effectively coordinated at all levels of government and successfully guided public action (saved lives, assisted the response, helped the public recover).

Additional Questions for Facilitators:

- *Who made decision message needed to be sent? How did the message get crafted? What was the process for communicating the message to the public (including tools)?*
- *NOTE: those agencies that deal with tsunamis, make sure to address and share experience on warning systems and their effectiveness.*

Part III: Report out to Plenary (20 minutes)

Facilitated by San Francisco DEM Vicki Hennessy

Each group reports key findings/comments for Summary

11:15 Lunch Break

11:30 (10) Private Sector — Working Lunch
Puget Sound Energy Operations Continuity Manager Mary Robinson;
Microsoft Global Security Senior Director Denise Reubens

12:30 (11) Transportation Infrastructure

Part I: Presentations (Plenary) Facilitated by Seattle OEM Lawrence Ichehorn

- **US: 10 minute overview on how transportation is managed during disasters in the US**
Disaster Professional William Lockey of Witt Associates
- **Japan: 10 minute overview on how transportation is managed during disasters in Japan**
City of Kobe Planning and Coordination Advisor/Kobe Institute of Urban Research
Executive Director Yuichi Honjo

Part 2: Group Discussion in three+ small groups

Describe an emergency where your government successfully responded to an issue impacting transportation systems.

Additional Questions for Facilitators:

- *How did you work with your region to sand/barricade your roadways? How did you coordinate bridge damage assessment and emergency repairs?*

Part 3: Report out to Plenary (25 minutes)

Facilitated by Seattle OEM Eichhorn

Each group reports key findings/comments for Summary

14:15 Coffee Break

14:30 (12) Pandemic Diseases Response (H1N1, SARS)

Part I: Presentations (Plenary) Facilitator: San Francisco City and County, Citywide Post-Disaster Resilience and Recovery Initiative Project Manager Heidi Sieck

- **US: 10 minute overview on the H1N1 response in the US during spring 2010 outbreak
King County Preparedness Section APC Program Manager Carina Elsenboss**
- **Japan: 10 minute overview on H1N1 or SARS response in Japan
Kobe City Planning and Coordination Bureau Advisor Honjo**

Part II: Group Discussion in three small groups (40 minutes)

Describe the best thing your jurisdiction did during the H1N1 flu breakout.

Additional Questions for Facilitators:

- *Did you have an effective means for collecting and evaluating information?*
- *What information did you collect?*
- *Did you coordinate messaging with other governments?*
- *Describe how emergency management coordinated with public health agencies.*

Part III: Report out to Plenary (20 minutes)

Facilitated by San Francisco Project Manager Heidi Sieck
Each group reports key findings/comments for Summary.

16:15 (13) End of Day Two: See you at the Reception.

18:30 RECEPTION: Seattle City Hall - Bertha Landes Room - 600 Fourth Ave, Seattle, WA 98104

Day 3 – Friday, 17th September

08:45 (14) Opening Remarks: Review from Thursday's discussions (with Coffee)

09:00 (15) Typhoon and Hurricane — Experiences & Overview of Response
& Lessons Learned

Presentations followed by Q&A (Plenary)

Facilitated by Honolulu EMD Deputy Director Peter Hirai

- **Japan: 30 minutes on Typhoons
Osaka City Kenji Bo and Osaka Prefecture Masami Kikuchi**
- **US: 30 minutes on Hurricanes
Honolulu EMD Deputy Director Peter Hirai**

10:00 (16) Human Services Collaboration & Lessons Learned

Part I: Presentations (Plenary)

- **US: 10 minute overview on the delivery of human services during an actual disaster, e.g., hurricane response in the US
Seattle OEM Deputy Director Ken Neafcy**
- **Japan: 10 minute overview on the delivery of human services during an actual disaster, e.g., typhoon/ hurricane response in Japan
Peace Winds Japan Executive Director Kensuke Onishi**

Part II: Group Discussion in three small groups (40 minutes)

Describe a positive experience where different levels of government worked together on human services issues that impacted your region and not just a city.

Additional Questions for Facilitators:

- Describe your experience in resource requesting that involve interacting with military, non-governmental organizations (NGOs), and private sector.
- How does your government distribute emergency supplies (food, water, tarps) to victims following a hurricane or other disasters (PODS – Points of Distribution System)?
- What are some of the approaches that work best in large-scale evacuations that precede a hurricane?
- What are some of the approaches that work best in sheltering large number of evacuees? (fires, floods, etc.)

Part III: Report out to Plenary (20 minutes)

Facilitated by Honolulu EMD Deputy Director Peter Hirai

Each group reports key findings/comments for Summary

11:30 Lunch Break

11:40 (17) Public-Private Partnerships—Working Lunch

The Boeing Company Enterprise Disaster Preparedness Deputy Chief Gary Gordon; T-Mobile Emergency/Security Specialist Karen Schreiner & Crisis Manager Jerry VanderWier

12:30 (18) Public Partnerships Panel

Facilitator: Pacific Northwest Economic Region Deputy Director Brandon Hardenbrook Panelists: Symetra Financial Business Continuity and “Washington First” and Chair Julie Friedman; Liberty Mutual Agency Markets Manager Ronald Kamps; and Seattle Office of Emergency Management Operations Coordinator Laurel Nelson

14:00 (19) Lessons Learned, What We’ve Done Well, What We Could Do Better

Break into JP group, US group, and one JP-US group to discuss—45 minutes,

Facilitators: San Francisco EMD Director Vicki Hennessey; Civic Force CEO Ken Onishi

14:45 Coffee Break

15:00 (20) Reports to Plenary

Facilitated by San Francisco EMD Vicki Hennessey

Each group reporting with Q&A.

15:30 (21) Next Steps: Japan and U.S. -- “Connectivity, Capacity, Coordination and Collaboration” in Natural Disaster Preparedness and Response

Facilitators: Cabinet Member Koresawa, Seattle OEM Deputy Director Ken Neafcy, PWA CEO Aanenson

16:00 (22) End of Day Three

Keep in touch, *tomodachi/friend*, strengthening the Japan-U.S. partnership

18:30 Seattle Mariners vs Texas Rangers (Safeco Field) Game start: 19:10

Exchange Participants

First Name	Last Name	Title	Affiliation
Charles	Aanenson	Chief Executive Officer	Peace Winds America
Melissa	Bennett	Program Manager	Microsoft
Tamra	Biasco	Earthquake Program Manager	FEMA
Susan	Blalock	Development Officer	Peace Winds America
Kenji	Bo	Officer, Office of Emergency Management	Osaka City Government
Daniel	Bretzke	Senior Planning & Development Specialist	Fleet and Facilities Department, Real Estate Services Division, City of Seattle
John	Buswell	Bridge Engineer	Seattle Department of Transportation
Bob	Chandler		City of Seattle
Steven	Charvat	Emergency Management Director	University of Washington
Candace	Chin	Waste Management Coordinator	Chinatown International District Business Improvement Area
Rebecca	Clark	Grants & Compliance Coordinator	Bellevue Fire Department
Troy	Clement	Facilities Manager	Takeda Pharmaceuticals - San Francisco
Charles	Cordova	Captain, Seattle Fire Department	City of Seattle
Chris	Cummins	Director, Young Professionals	Japan America Society
Tamara	Doherty		Department of Homeland Security
Tsukasa	Doi	Deputy Director of Project Coordination	Hiroshima Crisis Management Department
Jan	Drago	King County Councilmember	Metropolitan King County Council
Lawrence	Eichhorn	Emergency Management Coordinator	Seattle Office of Emergency Management
Carina	Elsenboss	APC Program Manager	King County Preparedness Section
Benjamin	Erickson	Culture and Education Coordinator	Hyogo Business & Cultural Center
Joe	Fithian	Security and Safety Manager	Seattle Public Library
Art	Frankel	US Geological Survey Senior Scientist and Coordinator of Earthquakes Effect and Research	University of Washington Department of Earth and Space Sciences/ U.S. Geological Survey
Julie	Friedman	Manager, Symetra Financial Business Continuity and "Washington First"	Symetra Financial
Naoki	Fujiwara	Liaison Officer, International Relations Department, Office of the Mayor	City of Osaka
Aki	Fukui		
Debbie	Goetz	Emergency Preparedness Training Specialist	City of Seattle
Gary	Gordon	Deputy Chief, Enterprise Disaster Preparedness	The Boeing Company
Barb	Graff	Director, Office of Emergency Management	City of Seattle, Police Department
Brandon	Hardenbrook	Deputy Director	Pacific Northwest Economic Region
Roy	Harrington	Emergency Management Coordinator	King County Metro
Gail	Harris	Emergency Management Coordinator	City of Shoreline
Rolland	Harvest	Deputy Fire Chief, Honolulu Fire Department	City of Honolulu
J. Michael	Healey		U.S. Army, National Guard
Vicki	Hennessy	Executive Director, Department of Emergency Management	Emergency Communications & Emergency Services, City of San Francisco
Peter	Hirai	Deputy Director, Department of Emergency Management	City of Honolulu
Joanne	Ho	Economist and Statistician	University of Washington
Eric	Holdeman	Principal	Eric Holdeman & Associates
Eric	Holdeman	Director, Port Security	Port of Tacoma
Yuichi	Honjo	Executive Director and Director of Research	City of Kobe/ Kobe Institute of Urban Research
Kevin	Ichikawa	Secretary	Peace Winds America Board of Directors (Central Japan Railway)
Katsunori	Ishida	Deputy Director, Disaster Management Policy Office	Hyogo Prefectural Government
Akiko	Iwamoto	Editor, Soy Source	Press
Lisa	Javier	Internet Content Producer	KING-5 TV
Stacey	Jehlik	Treasurer	Seattle-Kobe Sister City Association
Darryl	Johnson	Ambassador of the United States of America (Ret.)	
Ronald	Kamps	Manager	Liberty Mutual Agency Markets
Sam	Kaplan	Vice President	Trade Development Alliance of Greater Seattle

Exchange Participants

Masami	Kikuchi	Senior Executive Staff	Crisis Management Office, Osaka Prefectural Government
Ginn	Kitaoka	Executive Director	Hyogo Business & Cultural Center
Nancy	Kodani-Lee	Administrative Staff Assistant, Office of Emergency Management	City of Seattle
Jerry	Koenig	Emergency Management Strategic Advisor	City of Seattle
Terence	Kong	Civil Defense Coordinator, Honolulu Police Department	City of Honolulu
Atsushi	Koresawa	Executive Director	Asian Disaster Reduction Center (ADRC)
Izumi	Kuroiwa	President, Interpreter/Translator	LINCOM International Corp
Bill	Lokey	Program Director	James Lee Witt Associates
Erika	Lund	Recovery Coordinator, Recovery Management	Seattle Office of Emergency Management
Phyllis	Mann	Director	Kitsap County Department of Emergency Management
Dominic	Marzano	Assistant Chief	Kent Fire Department, City of Kent
Corey	Mason	National Account Manager	Freeman Audio Visual Solutions
Patrick	Massey	Federal Preparedness Coordinator, FEMA Region 10 / Director of National Preparedness Division	FEMA
Yushi	Matsumoto	Official, Defense Operations Division,	Bureau of Operational Policy, Japanese Ministry of Defense
Rodney	Maxie		City of Seattle
T.J.	McDonald	Applications Coordinator	Seattle Office of Emergency Management
Pegi	McEvoy	Manager, Safety and Security Department	Seattle Public Schools
Marie	Menard	Assistant Director	Kobe Trade Information Office
Hillman	Mitchell	Director	King County Office of Emergency Management
Toshihiko	Nakamura	Director	Kobe Trade Information Office
Kenneth	Neafcy	Deputy Director, Office of Emergency Management	City of Seattle, Police Department
Deborah	Needham	Emergency Management Director	Renton Office of Emergency Management
Laurel	Nelson	Operations Coordinator, Office of Emergency Management	City of Seattle, Police Department
Diane	Newman		City of Seattle
Hidehori	Oizumi	Deputy Director, Disaster Management Policy Office, Defense Operations Division	Bureau of Operational Policy, Japan Ministry of Defense
Kensuke	Onishi	Executive Director	Civic Force/ Peace Winds Japan
Keith	Orton	Chief International Specialist, Office of Intergovernmental Relations	City of Seattle
Vernon	Owens	Emergency Preparedness Coordinator	City of Bellevue, Emergency Preparedness Division
Susan	Pelaez	Director of Preparedness and Community Engagement	Seattle Red Cross
John	Pennington	Director	Snohomish County Emergency Management
Patti	Petesich	Seattle Parks and Recreation Emergency Management	City of Seattle
Aaron	Pickus	Assistant Communications Director, Mayor Mike McGinn's Office	City of Seattle
Jill	Raycroft	Exercise Planner, Department of Emergency Management	City of San Francisco
Ed	Reed		City of Kent
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Nagase	Rika	Chief Operating Officer	Peace Winds Japan
Bruce	Robb, Jr.	Attorney	
Mary	Robinson	Manager, Operations Continuity	Puget Sound Energy
Dori	Ruschmeier	Director, Continuity & Safety Solutions	T-Mobile Crisis Management
Dan	Sacks	Environmental Project Manager	US Army Corps of Engineers, Seattle District
Akemi	Sagawa	President	Kamy International LLC
Hiroshi	Saitou	Manager, Crisis Management Division, Fire Services Bureau	Crisis Management Department, Fire Services Bureau
Yuki	Saks		
Patrick	Schmitt	Project Officer	Peace Winds America
Karen	Schreiner	Management	T-Mobile
Pascal	Schuback	Emergency Management Program Coordinator	King County Emergency Coordination Center

Exchange Participants

Mark	Sheppard	Systems Coordinator, Communications & Information Systems Management, Office of Emergency Management	City of Seattle
Shigeki	Shinke	Assistant Director, Crisis Management Division, Fire Services Bureau	City of Hiroshima
Heidi	Sieck	Project Manager, Citywide Post-Disaster Resilience and Recovery Initiative	City and County of San Francisco, General Services Agency
John	Simpson		Seattle Red Cross
Denise	Smith	Administrative Specialist II, Office of Emergency Management	City of Seattle
Mike	Steward	Director of Sales	Executive Hotels & Resorts
Andrew	Taylor	Publisher, Soy Source	Press
Linda	Taylor-Manning		City of Seattle
Roxanne	Thomas		City of Seattle, Seattle Department of Transportation
Debra	Ticknor	Readiness Manager	Seattle Red Cross
Grant	Tietje	Plans, Exercise and Training Coordinator, Office of Emergency Management	City of Seattle
Jerry	VanderWier	Crisis Manager, Continuity & Safety Solutions	T-Mobile Crisis Management
Andy	Wappler	Vice President, Corporate Affairs	Puget Sound Energy
Jill	Watson	Emergency Management Planner	Human Services Department, City of Seattle
Rebekah	Weston	Project Manager	KPFF Consulting Engineers
Vicki	Wills	Information Technology Manager	City of Seattle
Maya	Winkelstein	Project Officer	Peace Winds America
Jody	Woodcock	Program Manager Pierce County Emergency Management	Pierce County
Tsering	Yuthok	International Program Coordinator	City of Seattle, Office of Intergovernmental Relations
Karin	Zaugg Black	Communications Director	Seattle's Office of Economic Development



City of Seattle Emergency Operations Center



Project Overview

Total Complex: 60,333 square feet

EOC: 14,290 s.f.

Fire Station 10: 26,730 s.f.

Fire Alarm Center: 12,520 s.f.

Electrical/Mechanical Support Spaces: 6,793 s.f.

Art Budget: \$425,000

Total Project Cost: \$44.3 million

Architects: Weinstein A|U Architects + Urban Designers

Associate Architect: Ross Drulis Cusenbery (CA)

Contractor: Hoffman Construction Company

Technology

The EOC is equipped with state-of-the-art systems including: internet, satellite phones, video-teleconferencing, 800 MHz and short-wave/amateur radio, 130 work stations, 27 LCD flat screens, and two 7' x 9' projection screens.

Seismic Design Criteria

The facility is built to the "essential facility" standard, a 1.5 seismic safety factor—capable of withstanding an earthquake load 50% higher than most buildings. Use of concrete and steel, window systems, equipment specifications and critical building systems are all designed to accommodate ground movement.

Generator: A 1,000-kilowatt unit provides back-up power for all heat and electrical systems. Two 3,000-gallon diesel tanks store enough fuel to run 72 hours at full capacity.

Uninterruptible Power

Supply (UPS): The UPS provides continuous power to all systems until the generator system takes over.



Emergency Operations Center (EOC)

In 2003, Seattle voters passed the \$167 million Fire and Emergency Response Levy to upgrade fire stations and improve emergency response. The new EOC is part of the largest project in the Fire Levy, giving Seattle the means to mobilize an effective city-wide response and coordinate with regional partners during a major disaster.

The EOC is the city's command center for coordinated leadership and direction. Senior staff and supporting partner representatives determine how to best provide services to the community when urgent demands outweigh critical resources. During an activation, the EOC can accommodate more than 150 emergency responders. Emergency management staff provide on-going work in mitigation, planning, preparedness and recovery.



The EOC is located within walking distance of city executives and external partnering agencies with offices in City Hall, the Justice Center and Seattle Municipal Tower.

Address

Office of Emergency Management

105 5th Ave. S., Suite 300

Seattle, WA 98104



www.seattle.gov/emergency
206-233-5076



About Peace Winds Japan

Peace Winds Japan (PWJ) is a non-governmental organization (NGO) dedicated to the support of people in distress, threatened by conflict, poverty, or other turmoil. With its headquarters in Japan, PWJ has been active in various parts of the world.

The basic concept of PWJ has been "to provide necessary support to people in need" since its establishment in 1996. Beyond national boundaries, PWJ has carried out support activities for refugees who fled their countries, domestic refugees who suffer in their own countries, disaster victims and poverty-stricken people, regardless of their ethnic background, political stance, religion or faith.



Support activities of PWJ are roughly two-fold: one is emergency humanitarian relief, aiming to secure the safety of lives and to provide the basic necessities; the other is assistance for restoration and development of ravaged areas, aiming at retrieval of self-sustaining livelihood. Furthermore, in Japan, PWJ is performing advocacy activities which include generating awareness and betterment of understanding among general citizens of the situations in which PWJ works.

PWJ's activities are made possible by funds that consist of membership fees and donations from individuals and business entities as well as subsidies from government institutions, international organizations and various foundations, added to the revenues earned through our income-earning programs. PWJ continues to seek ways and means for the most efficient and effective use of such funds for support.

PWJ hopes, as a member of civil society, to contribute to realization of public benefits and, ultimately, world peace.

Daini-Miyachu Bldg. 7F 3-8-37, Minamiaoyama, Minato-ku
Tokyo, Japan 107-0062
Telephone: +81-3-6438-9401



Strengthening the Japan - U.S. Response to Natural Disasters

Who we are

Peace Winds America is a disaster preparedness, response and recovery organization. Peace Winds America (PWA) advocates for increased collaboration between governments, militaries, NGOs, and the private sector to prepare for and respond to natural disasters in the Asia Pacific, with the Japan-U.S. relationship as the cornerstone of humanitarian assistance in the region. While Japanese and U.S. government agencies, militaries, NGOs, and businesses all possess strong humanitarian capabilities, improved collaboration is necessary to provide effective natural disaster readiness, relief, and recovery in the region. Supported by an outstanding board of directors from the political, academic, military, NGO, and business communities in the U.S. and Japan, PWA is a catalyst that combines these elements into a well-coordinated team that is up to the challenge posed by the disaster-prone Pacific "Ring of Fire."

Board of Directors

Rep. Jim McDermott, Chair
US Congress – Washington

Amb. Shunji Yanai, Vice Chair
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Dr. Michael Green, Vice Chair
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Yoshiyuki Kasai
Japan Central Railway

Kensuke Onishi
Peace Winds Japan

Gen. Noboru Yamaguchi
National Defense Academy

Dr. Charles Aanenson
Peace Winds America

Disaster Preparedness – Capacities and Collaboration

PWA has several programs designed to increase disaster preparedness capacities and collaboration among governments, militaries, NGOs, and the private sector:

- **Civil-Military Disaster Initiative:** A disaster readiness and response Initiative designed and delivered jointly to government, NGO, private sector and military professionals to enhance capacities, connectivity and collaboration.
- **Natural Disaster Preparedness Exchanges--Asia-Pacific Sister Cities:** A Program of city and prefecture/state emergency managers, NGOs, businesses/industries and military personnel to share lessons learned and improve the readiness plans of Sister Cities in Asia-Pacific nations.
- **Public-Private Partnerships Program:** PWA advocates for strong disaster management agreements between public and private sectors. As disasters affect both business and government resilience, PWA works toward building partnerships that minimize costs and maximize the resources available during an emergency.

Disaster Response and Recovery – Connection and Coordination

- PWA raises funds that are distributed directly to accountable NGOs responding to disasters within the Asia-Pacific "Ring of Fire." PWA connect donors and resources in the U.S. with the people most affected by natural and environmental disaster, using locally-based NGOs with the expertise to respond to disasters and the motivation to help their communities recover over the long term.
- **Pacific Partnership:** PWA has partnered with the civil-military humanitarian missions of the U.S. Pacific Fleet, increasing the participation of Japanese government agencies, Self Defense Forces, and NGOs to build Japan-U.S. relationships while providing coordinated medical and engineering assistance.

Our Partners

Peace Winds America works with all levels of civilian governments (from city emergency management offices to cabinet-level departments and ministries) and the militaries of the U.S., Japan and other countries. We are increasing partnerships with the private sector to ensure economic resilience and strengthen disaster preparedness/response. We work closely with NGOs and community action groups through direct funding and training programs. We also work with Japan Platform, an umbrella organization that coordinates the good work of Japanese emergency relief NGOs; with our sister organization, Peace Winds Japan, a groundbreaking disaster response organization active across the globe; and with the Asian Disaster Reduction Center.

For more information or to make a tax-deductible donation, please visit: www.peacewindsamerica.org.



“Greater readiness is the foundation for effective disaster response. We cannot control nature, but preparation and cooperation can keep a natural disaster from becoming a humanitarian crisis.”

— U.S. Congressman Jim McDermott, Board Chairman, Peace Winds America

**Support Peace Winds America
by visiting www.peacewindsamerica.org/support
or calling (206) 432-3712**