Meeting Minutes of the Subcommittee on Disaster Reduction

7 October 2010, 10:00 a.m. to 12:00 p.m., White House Conference Center Lincoln Room

Italics indicate absent members. "T" indicate members participating via teleconference.

Officers

David Applegate (USGS), Chair
Margaret Davidson (NOAA), Vice-Chair
Dennis Wenger (NSF), Vice-Chair

NSTC Liaison

Sarah Stewart Johnson (OSTP)

Designated Representatives

BLM *Edwin Roberson*
Daniel Lechefsky
CDC *Mark Keim*
DHS Bruce Davis (T)
DHS/FEMA Stephen Carruth
DHS/USCG *Steven Cohen*
DOD *Al Johnson*
DOE *Patricia Hoffman*
DOT *Kelly Leone*
Sheila Duwadi
Tim Schmidt
EOP/OSTP Sarah Stewart Johnson
EDA *Audrey Clarke*
EPA *Peter Jutro*
Stephen Clark
FERC Pamela Romano (T)
HUD *David Engel*
NASA *Craig Dobson*
NGA *Stephen Homeyer*
Christy Crosiar
NGB *Daniel Bochicchio*
NIH *Allen Dearry*
NIST *William Grosshandler*
NOAA *Margaret Davidson*
Roger Pierce
NSF Dennis Wenger
OPHS Sven Rodenbeck (T)
State *Fernando Echavarria*
Brian Lieke
USACE *Steven Cary*
Dimitra Syriopoulou
USAID *Sezin Tokar*
USDA *TBD*
USFS *Carlos Rodriguez-Franco*
USGS Paula Gori

Other Attendees

DOE Patrick Willging
EPA Marcy Rockman (AAAS)
NGA Ed Laikin
NASA Dalia Kirschbaum
NOAA Nell Codner
Victor Hom
Mary Ann Kutny
Mary Mullusky
NSF Steven McNight
Robert O'Connor
USGS Bill Guertal
Hedy Rossmeissl
Jess Weaver
Secretariat Ross Faith
Barbara Haines-Parmele

Agenda

10:00 Welcome and Introductions
10:05 Strategies for Flood Disaster Reduction
11:55 Approval of September Meeting Minutes
11:00 Report from the Chair
11:15 Report from the Vice-Chairs
11:25 Report from the NSTC Liaison
11:35 HFA North American Workshop
11:55 Close and Next Actions

Handouts

- Agenda
- September Meeting Minutes
- Presentation on NRC Study: Increasing National Resilience to Hazards and Disasters
- Announcement: International Day for Disaster Reduction & Making Cities Resilient Campaign
- Draft Agenda: North American Workshop for HFA Implementation Review
- HFA Mid-Term Review Survey

I. Call to Order and Introductions

Subcommittee on Disaster Reduction (SDR) Chair David Applegate (USGS) called the meeting to order at 10:02 a.m. and the participants introduced themselves.

II. Strategies for Flood Disaster Reduction

Applegate thanked representatives from the U.S. Geological Survey (USGS) and the National Oceanic and Atmospheric Administration (NOAA) for joining the SDR to talk about an interagency collaboration and effort in the area of flood disaster reduction, particularly looking at inundation real-time capabilities. Applegate noted that the topic seemed ripe for bringing agencies around the table to hear about and discuss it. The effort also has linkages with the NSTC Subcommittee on Water Availability and Quality. The presentation was given jointly by Bill Guertal, Director of the USGS Indiana & Kentucky Water Science Centers, and Mary Mullusky, Deputy Chief of the National Weather Service's Hydrologic Services Division.

Bill Guertal began the presentation by noting that he would be giving the group a look at what is, in essence, a grassroots effort that started in a number of the water science centers and is now being brought up through those centers to a regional level, a headquarters level, and then working in conjunction with other partners. The effort ties in very closely to the work of the SDR, particularly in the area of flood hazards, but also coastal inundation. The effort ties in with all six of the Grand Challenges.

Guertal stated that the inundation mapping effort looks at using digital elevation information that is available, particularly lidar data, and referencing that information to stream gauge networks and Weather Service forecast points to create a system of inundation maps that are much more useful to the public.

The effort is very relevant to officials who work on flooding issues at the Nation's water science centers, of which there are approximately 47 across the country. Most states have one. The centers work very closely with local partners and other federal partners in times of flooding. Flooding is a big issue all around the country and for a lot of the Midwest in particular. Many of the deaths that occur come from motorist driving into flooded waters. Guertal noted that he joined the Indiana Water Science Center in 2006. Starting 2008, the state had five major events over a 14 month period.

The effort fits the missions of both the USGS and National Weather Service quite well and also offers great collaborative opportunities with other agencies, such as the U.S. Army Corps of Engineers and FEMA, for issues involving science, water resources, hydrology, geospatial data information, and mapping. Guertal noted that the focus of the presentation and the inundation mapping effort is in essence on real-time information, defined as information gathered at the stream level and transmitted generally within the hour to the Weather Service.

Guertal showed a slide of an inundation map of the lower Mississippi River that was created in 1887 noting that flooding in general has clearly been an issue for a long time. However, recent technology changes have allowed the water centers and others to put this information on laptops and desktops and to do a lot more than was possible five or ten years ago. Plus the availability of additional lidar data and other information enable the water centers to generate more powerful analysis. A primary interest and purpose is to provide flooding and inundation information in a format that is more useful to the public. The USGS, Weather Service, and others are really trying to build a system that helps in mitigating and minimizing the impacts of those floods and informs decision making leading to more resilient communities. The National Hydrologic Warning Council advises that advance warning often reduces disaster costs from floods by giving people time to move cars to higher ground and inventory and valuables off the ground floor. Essentially, the idea behind the effort is to link inundation libraries to systems that allow emergency managers, homeowners, and the general public to make much better use of the data that is already being collected.

Mary Mullusky stated that the National Weather Service's mission is to provide weather, water, and climate forecasts and warnings for the United States for the protection of life and property and to enhance the economy. In a collaborative effort using USGS stream flow data, the Weather Service provides river and steam flow and stage forecasts using hydrology models for over 4,000 locations throughout the United States. Long range, 30-90 day forecasts are also available for about half of the points on the national map. Approximately 90 percent of forecast points rely on USGS gauge locations and the rest are USACE, privately owned, or local government-owned gauges.

For over 40 years the Weather Service has been using a scale of minor, moderate, and major flooding to communicate impact level. 122 weather forecast offices around the country are working with their local communities to determine what a minor, moderate, and major impact would be to the infrastructure and lifelines in individual communities, each with unique layouts and vulnerabilities. During a precipitation event, the Weather Service can then determine whether to issue a minor, moderate or major flood warning for a local community based on the predetermined information of the location of roads, structures, etc. In short, the warnings are impact-based, related to the local area, and very different than something like the Saffer-Simpson Scale, which is based on a certain wind category. The Weather Service has looked into river variables that could be used throughout the U.S. to try to create something like a Saffer-Simpson Scale and what it keeps coming back to is that there is not one simple water variable that effectively communicates impact. Five feet of flooding on the Potomac is very different than five feet of flooding in a slot canyon in Utah. So the Weather Service has been using these impact scales, and they seem to make sense to its customers.

The Weather Service has conducted three customer satisfaction surveys on a biennial basis on the flooding impact forecasts and warnings it provides. It has held user forums with state and local officials in North Carolina. It has also conducted a survey of emergency managers throughout the U.S. and through local and regional user outreach continues to seek feedback on how effective the minor-moderate-major severity scale concept is. Partners and users of the Weather Service have responded that they are familiar with, find useful, and do not want to change the existing flood severity categories, but they have also explained that it would be very beneficial to have these categories represented spatially on inundation maps.

The Weather Service has therefore been looking into different ways of communicating the flood impact information spatially. One of the first attempts to do that was to use the 100 and 500 year FEMA flood insurance maps, but basically these products are not suited for effectively relaying severity of impacts. Essentially, the emergency managers are concerned with lower frequency flooding scenarios and therefore need spatial products at different contour intervals. The Weather Service also has a hard time communicating that 100 and 500 year idea. Explaining why two 500 year storms have occurred in the last year presents a difficult communication challenge.

So the next thing that the Weather Service did was map the flood severity categories. In survey results, these maps were rated the highest of all the Weather Service's flood tools in terms of effectively communicating risk to the emergency managers. So the Weather Service is moving forward on inundation mapping and has been experimenting with different approaches, including dynamic inundation maps, which have been developed for the Red River of the North around Fargo and other areas by employing high resolution elevation data, complex hydraulics and hydrology.

Paula Gori (USGS) asked whether the severity scale takes land use and land use change into consideration. Mullusky answered that local emergency managers work with Weather Service forecast offices to decide what would constitute a minor, moderate, or major flood given the buildings, roads, residences, and vulnerable infrastructure in a particular area. The Weather Service is constantly working to update those as land use changes and facilities are moved. The goal of the hydrologist in each weather

forecast office is to work with those emergency managers, local officials, to identify when they want to be warned about what. So the impacts are constantly changing.

Dynamic inundation mapping is beneficial for places with complex hydrology, with levies and bridges, mild slopes or coastal areas, requiring advanced hydraulic and hydrologic modeling. Dynamic mapping has been tested on an experimental, pilot basis in Indianapolis, the Susquehanna Basin, Florida, and the Red River of the North. The Red River of the North effort has been very successful so far because of very good collaboration, which is also where the real challenge lies. The models have to be constantly fed to realize the real-time, dynamic capability and utility. The process is labor- and resource-intensive and computationally exhaustive. Right now teams are looking for other areas with complicated hydrology to roll out other dynamic mapping projects. In areas with less complex hydrology, static inundation maps, when linked to forecasts, can provide very useful and cost effective information for emergency managers in those areas.

Dennis Wenger (NSF) asked how often the dynamic maps are updated to account for land use change in a given local area. Steve Carruth (FEMA) asked a follow-on question of whether the mapping teams were partnered with FEMA to receive high-resolution elevation, permeability, and other information as FEMA produces it. Victor Hom (NWS) stated that the teams could benefit from detailed flood insurance information updates as a matter of routine procedure, so that when FEMA updates its flood insurance studies, the inundation mapping teams would be able to update the lidar data and digital elevation model with land use change information.

Carruth applauded the outreach effort to the emergency management community and also suggested engaging with floodplain managers and community planners who make decisions on land use, and therefore mitigation and prevention issues. Mullusky stated that customer satisfaction surveys had also been distributed to the flood management community, and the feedback indicated that these groups were also quite interested in the inundation mapping tools. The effort has also been presented and garnered interest at meetings of the Association of State Floodplain Managers (ASFPM) and similar forums.

Mullusky explained the static inundation mapping process in more detail. The static inundation maps are appropriate for areas with simpler hydrology. They deliver good pre-planning information about where evacuation routes could be located and the areas about which a community should be concerned. The static maps are focused on the specific points where the USGS gauges are located, and the ability to link the static maps to the forecasts has been developed for 56 locations throughout the U.S. The maps involve expanded USGS hydrology and hydraulics information, FEMA high-resolution data, and Weather Service forecasts. Essentially, the application allows users to link spatial images of minor, moderate and major impact contours to Weather Service forecasts to project flooding impacts in their communities.

Guertal laid out what he thought would be some of the more exciting areas for the expansion science. The USGS is interested in advancing the modeling, technology, and mapping tools. Fundamentally, the most important aspect of this effort is to link together the core group of interagency people and programs that work on these issues in order to develop powerful flood mapping analysis and ultimately a national risk monitoring program that aims to reduce losses through more effective communication of hazard and risk. Strong links could be established to the FEMA risk map program and to USACE efforts.

The success of these inundation mapping projects in the places where they have been installed has piqued interest from state and emergency managers in other communities. So part of what the USGS and Weather Service are working on now is standardizing processes to provide a universal, or at least similar, type of product across the country. Standardizing the process would help lower costs. The Weather Service and USGS are working on different styles of dynamic applications but are heading in the same direction. Coupling the static map libraries with the Weather Service forecasts creates service oriented architecture, not unlike that used by Orbitz or Travelocity, whereby information from the FEMA HAZUS

program and other data can be mined to produce powerful, real-time, actionable information, like letting someone know, for example, that if a forecast holds true he or she can expect to see a water entering their living room in 14 hours.

A dynamic inundation mapping project has been run in downtown Indianapolis, which has very complex hydrology with several low head dams and constriction points along the White River. The teams looking to select locations to pilot test the dynamic inundation maps felt that if they could make the project work in a place with complex hydrology, like Indianapolis, they could make it work in other places. Some of the western USGS water centers had done similar work a few years ago, and when the teams consulted these centers, their advice also was to pick a complex location. Guertal stated that the teams have been very happy with the Indianapolis location.

Several partners have been involved on the Indianapolis project, including DHS and the Indianapolis Museum of Art. The partnerships were formed through the local chapter of the Silver Jackets, a USACE initiative that now includes chapters in many states. Chapters of the Silver Jackets bring together local emergency managers with their state and federal partners to work collaboratively for reducing disaster losses, similar to the SDR, but at the local level. Guertal noted that this pilot project has helped to galvanize the Indiana chapter of the Silver Jackets.

The use of HAZUS information and census level data for buildings and structures allows emergency managers to determine if flooding will threaten sensitive infrastructure and community assets, like hazardous waste storage stations, nursing homes, and schools. Determinations also can be made as to the number of people who have to be evacuated, which in turn provides detailed estimates of the number of beds that will be needed for evacuees. Use of the current census data also allows "on the fly" cost estimates of damage to structures.

The USGS webpage http://water.usgs.gov/osw/flood_inundation/ shows the inundation mapping projects that are being conducted around the country, including locations in Georgia, Illinois, and Indiana. Also, the USGS and EPA were able to apply technology from these efforts to create similar maps for Michigan's Kalamazoo River so when the next flooding event occurs in that area, officials will know where leftover contamination from the July 2010 oil spill will flow and therefore where to send clean-up teams.

Carruth asked whether local emergency managers are able to run the dynamic inundation mapping applications themselves. Guertal replied that they could and that tools are actually fairly straightforward to use. Anybody with minimal GIS experience can work with the applications, but those with level two proficiency can use the census data to generate significantly more detailed information, including for example insight into where on the road to set barricades and which spots have to be plugged to prevent sewer problems for hospitals.

Guertal stated that there is also a current project in southern Indiana, which was hit hard in the 2008 floods. The USGS is working with USACE and the Weather Service to debug a top model program so it can be applied to the complex hydrology of the area.

Mullusky stated that one of indicators of success for both the static and dynamic inundation maps is that once the emergency managers worked with the maps, they have in many cases have come back to the Weather Service to change the minor, moderate, and major impact thresholds for their local communities or request to be alerted earlier or more appropriate times. Mullusky lauded the maps as a powerful tool for reducing flood damage but also stated that there is a need to more effectively partner with FEMA and USACE on the effort.

Mullusky stated that if the mapping teams were to work with FEMA during the flood insurance studies, only a nominal three to six percent increase ($5,000-$10,000) would be need to add the other threshold frequencies needed for the inundation maps. However, the cost would double if done afterwards. Mullusky also stated that if the thresholds are built into the study, any time FEMA may have to re-run numbers for the flood insurance study, the threshold numbers would be automatically re-calculated as well, which in turn would take care of some of the maintenance issues.

NOAA is leading an effort to enhance collaboration among more than 25 federal agencies involved in water issues. The effort is being coordinated through the Integrated Water Resources Science and Services (IWRSS) consortium, which has been charged with a three-fold goal:

- Integrate information and streamline access
  - Share technology, information, models, best practices
  - Develop system interoperablity and data synchronization
  - Create a Common Operating Picture
- Increase Accuracy and Timeliness of Water Information
- Provide new Summit-to-Sea High Resolution Water Resources Information and Forecasts

The need for integrated information and streamlined access was incredibly evident during the Nashville flood in May. Officials are currently dependent on phone lines for communication. If the relevant data had been synchronized and the systems had been interoperable, communications and response during the event would have been vastly improved because all parties would have been working from the same information and visual images. In turn, meeting that goal would help with providing the information in an accurate and timely fashion.

The third goal of IWRSS is to provide summit-to-sea high resolution water resources information and forecasts. There are large parts of the country for which flooding and other types of valuable forecasts are not yet provided. As the challenge of meeting the Nation's water needs is growing, there is a need to work together to provide information to the agricultural sector and emergency managers as well as to water suppliers. The IWRSS is intended to be a framework for working collaboratively across the water agencies to begin addressing these broader needs. With these challenges in mind, NOAA, USGS, and USACE have drafted a memorandum of understanding on the IWRSS effort, and participation is expected to grow with the hope that all 25 agencies involved in water issues will engage. Teams are being formed to look into system interoperability, data synchronization, and national inundation mapping services. Moving forward, there is a need to establish a consistent framework for determining which locations need dynamic inundation mapping and which can have their needs met with the static variant.

In summary, Mullusky stated that the inundation maps coupled with the real-time observations and forecasts constitute powerful tools for emergency managers and flood loss reduction. Inundation mapping and IWRSS are steps in the right direction to meet the *Grand Challenges for Disaster Reduction*.

Dimitra Syriopoulou (USACE) stated that USACE is developing an emergency response science and technology "playbook" and a live shot of environmental and geotechnical resources.

Bruce Davis (DHS) asked to what extent aerial photography or satellite imagery taken after the flood crest is being incorporated into inundation mapping. Mullusky answered that this type of imagery is used for the mapping efforts as a verification and validation tool and for forecasting flooding caused by river ice. Guertal stated that for the 2008 floods, the Indiana Water Science Center was able to gain access through the International Charter for Space and Major Disasters to quite a bit of imagery that proved very helpful at the local level for calibration after the event. This imagery was acquired in time to be useful. In the case of the very large events, particularly those involving flooding on the Upper Mississippi, when there is often a 3-5 day lead time to anticipate the flow volumes and impacts downriver, those images have

been very beneficial for positioning field teams. The imagery has also been helpful in showing impacted areas where equipment may not have been functioning properly. Unfortunately, during many of the flooding events cloud cover obscures a lot of the satellite imagery, so the tendency is to rely local flights and in situ observations. Applegate noted that NASA's UAVSAR platform hosts an all-weather, interferometric imaging capability and suggested that there might be an opportunity for collaboration with that system.

Applegate noted that the International Charter for Space and Major Disasters was meeting this week at the American Institute of Architects building. One of the issues being brought up is to see if it is possible to expand the definition of what will fall within the charter and therefore expand how the imagery can be used for scientific purposes. There will be a presentation made to the Charter showing several different examples where defining life safety a little more broadly could expand use for science while not infringing on the research restriction. Mullusky noted that imagery used for ice-flooding issues seems to be in line with that.

Wenger noted that the inundation maps seem to be targeted towards emergency and floodplain managers but asked if the public would have access to this information. He added that while there may not be anything wrong with providing the information directly to the public, the sequence of communicating risk and warning might be made more complicated in circumstances where residents begin taking action before authorities have come to collective decisions. Guertal responded that the issue is one of the questions to be looked at, particularly as it relates to some of the dynamic applications. There is still some debate about the form in which the information can be released since some of it is census data involving privacy issues. Mullusky added that the static inundation maps for 56 locations, which contain non-sensitive information, are available to the public on the NWS Advanced Hydrologic Prediction Service (AHPS) website (http://www.weather.gov/ahps/).

Paula Gori (USGS) asked how the mapping efforts had been funded for the individual communities. Mullusky stated that the Weather Service partners with local communities to provide inundation mapping services but the communities need to be able to support the effort with some level of funding. Guertal explained that funding on the USGS side usually involves multiple partners. In one case in Indiana, FEMA supported the actual post-event flood studies that provided some of the information needed to produce the static maps. Local partners also stepped to the table to provide funding for a component of that. Funds were also provided by USACE through its local community component independent of the effort, but those involved were able to work with the local state Department of Homeland Security to successfully apply the funds to the project. Guertal added that there is no one model and often the funding issue depends on how the local communities want to use the funds that are available to them and how flexible and creative they are in doing so. In some cases, sewer districts are providing funds because they want the information.

Syriopoulou stated that USACE has programs that are funded by Congress for civil work at the local level for flood protection. Guertal added that the nice thing about the USACE program and others is that a financial match is not always necessary. In some cases, a city or state has lidar data and is willing to use that as an in-kind match, which may free up other funds.

Marcy Rockman (EPA/AAAS) asked whether there is any risk education component built into the inundation mapping effort or that might be added at a later date to educate the public about past events and the potential for future impacts.

Mullusky stated that the customer satisfaction surveys she had mentioned earlier are also being used to evaluate how effective the tools are in communicating hazard, risk, and impacts. Overall, effectively communicating with the public is a huge challenge, so those involved are continuing to explore different approaches and have partnered with the Acterna Corporation to try to figure out what is the best way to

communicate this information. The Weather Service contracted Acterna to survey emergency managers about the information they need but did not tell the company about the inundation mapping efforts. The independent survey results showed that the emergency managers felt that access to flooding and inundation information linked to forecasts would help them do their jobs better. The results have therefore validated that the dynamic and static inundation mapping effort is on the right track.

Guertal stated that an educational component could be developed for the project in Indianapolis, where the 1913 flood is the record that residents are conditioned by. The data has already been run through a model to show the extent of the flooding in 1913, and that could be rolled out for the public to see as part of an education and preparedness effort. Some work along these lines has already been done with the Indianapolis Museum of Art.

Applegate noted that inundation maps and libraries had been a powerful tool for those focused on tsunami inundation warnings and asked if there had been any interaction with those folks. Victor Hom (NWS) stated that they were working very closely with the Weather Service's Marine Forecast Service, as well as Jen Rhoades, the NOAA/NWS Tsunami Program Manager, who has presented to the SDR before, Margaret Davidson of NOAA's Coastal Services Center, and Mary Erickson of NOAA's Office of Coastal Survey. He noted that there is an opportunity to tie the riverine, estuary, and coastal issues together. The SDR has set up a working group on coastal inundation and there may be an opportunity for collaboration between the marine and riverine inundation modeling communities.

Applegate thanked the presenters, noting that the effort appeared to be a terrific interagency collaboration.

III. Approval of September Meeting Minutes

The September Meeting Minutes were approved with no changes.

IV. Report from the Chair

Applegate reported that a kick-off meeting was held on Wednesday, September 29th for the National Research Council's new study on "Increasing National Resilience to Hazards and Disasters." In the offing for about a year and now underway, the study is being funded by many of the SDR agencies. The National Academy of Science's Committee on Science, Engineering, and Public Policy (COSEPUP) is leading the effort and has assembled an impressive group to take on this challenging topic. The meeting was an opportunity for agencies to weigh in on what type of product they would like to see come out of this effort and how they would like to see things tackled by the group. The group's chair, Susan Cutter (University of South Carolina), emphasized repeatedly that their goal is to come up with actionable recommendations and guidance. Until a permanent website is created, all of the presentations that were made at the meeting by the agencies and other information in this open process will be hosted at http://www8.nationalacademies.org/cp/projectview.aspx?key=49259. The group has set preliminary dates for future meetings, which will likely be held outside the Washington, DC area in order to gather input from other parts of the country. The tentative dates for 2011 are January 19-21, March 7-9, and May 24-26.

October 13th is International Disaster Reduction Day, and Applegate encouraged involvement from agencies in associated activities.

Applegate noted that he had participated on Tuesday, October 5th in a global dialogue at the World Bank looking at post-disaster needs assessments and how they are evolving as a tool. The interesting piece is how the tools can be transitioned from assessing the immediate socio-economic impacts to providing guidance for meeting needs in ways that actually make communities more resilient. The World Bank report is titled "Natural Hazards: Unnatural Disasters: the economics of effective prevent." The UN International Strategy for Disaster Reduction is a co-author. Sezin Tokar (USAID) has indicated that she would pass along the report once it is officially release.

At the request of the Office of Science and Technology Policy (OSTP), the SDR has provided a one-pager that suggests other groups and entities to which the ad hoc Coastal Inundation Working Group could be linked. A green light to formalize the group is expected from OSTP in the next month, after which the SDR will be reaching out to the Joint Subcommittee on Ocean Science and Technology (JSOST) and other groups as appropriate.

Lastly, over the past two days there has been a JSOST-sponsored workshop in St. Petersburg, Florida focused on the Deepwater Horizon long-term science issues, and the SDR may be tapped once more to provide a roll up of agency science and technology activities related to the spill.

V. Report from the Vice-Chairs

Dennis Wenger (NSF) stated that on October 26th the National Academies Disaster Roundtable will be holding a meeting devoted to sustainable design and green construction from an architectural perspective. Perhaps this is not the first time, but very rarely have architects been involved with the Roundtable.

In January the Roundtable will hold a meeting on the Haiti Earthquake, given the one year anniversary of the event. There has been discussion that the meeting might be held in Port-au-Prince, but no decision had been made. There may even be two sessions, one in Washington, DC, and one in Port-au-Prince.

Nell Codner stated that the San Francisco Bay Conservation and Development Commission had an architectural contest last year in which it asked locals and international designers to create redevelopment plans for San Francisco under a flood scenario. Wenger believed that this effort was being incorporated into the October 26th roundtable discussion.

Gori noted that she was involved with the committee that is putting on the October 26th roundtable with MIT and a professor there, Jim Wilcox. A group of architects and planners throughout the country is also involved.

Wenger stated that over the past month and one-half NSF has held two relevant workshops. The first was with regard to the Chile Earthquake, the RAPID Awards, and also the reconnaissance work that was done through the Earthquake Engineering Research Institute's (EERI's) Learning for Earthquakes Program and the Geotechnical Extreme Events Reconnaissance (GEER) Association. The second, held this past week, was a two day workshop on the Haiti Earthquake. Thirty-five RAPID awardees made presentations on their findings. Wenger stated that one of the reasons he was bringing up Haiti is that recovery there is not progressing as quickly as it should, which was also why he waited to hold this NSF workshop on the findings of the 35 RAPID awards. Now that the findings from the studies on Haiti and Chile have been presented, they will potentially serve as the basis for a major NSF solicitation for grant proposals to perform comparative analyses of the Haiti and Chile earthquakes, including a focus on recovery. NSF's RAPID program is a good vehicle for getting researchers into the field quickly to gather ephemeral data but not for studying disaster recovery, so there is still a lot of social science research looking at recovery that needs to be done.

VI. Report from the NSTC Liaison

No report from the NSTC Liaison was given.

VII. HFA North American Workshop

In the SDR's role as the U.S. National Platform for the UN's International Strategy for Disaster Reduction (ISDR), and at the ISDR's request, the SDR will host an all day workshop on November 3 at the National Science Foundation in place of the subcommittee's regularly scheduled meeting. The ISDR has been holding workshops in different regions of the world this year to look at whether progress is being achieved on implementing the Hyogo Framework for Action, which is the UN's 10 year plan for global disaster risk reduction. The plan was launched in 2005, so now five years in they are conducting a

mid-term review. The North American regional workshop will include representatives from the U.S., Canada, and Mexico. Canada and Mexico have both agreed to send delegations and Applegate encouraged participation from all the SDR member agencies. Essentially, the workshop is being used as a replacement for the November SDR meeting because the ISDR wants the morning session to focus on how each country is doing with meeting disaster risk reduction goals of the Hyogo Framework and that is a question that falls squarely in the wheelhouse of all the SDR agencies. The morning session is a set piece exercise that the ISDR has been doing in every region, but in the afternoon participants will have an opportunity to discuss possibilities for collaboration with Canada and Mexico regarding cross-borders topics and issues farther afield, including reconstruction in Haiti. SDR members are encouraged to send their comments on the agenda to the SDR Secretariat (ross.faith@mantech.com).

Also, the ISDR has asked every country to provide input for its assessment report on disaster risk reduction, which will be rolled out in the spring ahead of the Global Platform meeting. As SDR activities do not represent the sum total of what is being done with regard to disaster risk reduction in the U.S., examples and thoughts from agencies would be very much appreciated so the U.S. input will be more comprehensive.

VIII. Adjournment

The meeting adjourned at 11:25 p.m.

IX. Future Meetings

The SDR meets on the first Thursday of every month from 10 a.m. to 12 p.m. unless otherwise noted.

*Note: The SDR's 2010 meetings are scheduled to be held at the White House Conference Center.

November 4, 2010 December 2, 2010

X. Agenda Items and Other Communications with the Subcommittee

Please send proposed agenda items and any other items intended for distribution to the full Subcommittee to Ross Faith (ross.faith@mantech.com).

XI. Contact Information

SDR Leadership

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XII. Summary of October Actions

Action	Lead	By When
RSVP for November 3rd North American Workshop to (ross.faith@mantech.com).	SDR Members	October 15
Send comments on draft agenda for November 3rd North American Workshop to (ross.faith@mantech.com).	SDR Members	October 15

Action	Lead	By When
Send comments on U.S. interim response to HFA Survey to (ross.faith@mantech.com).	SDR Members	November 19
Let Andrea Donnellan (andrea.donnellan@jpl.nasa.gov) know if you are attending the ASPRS/CaGIS conference in Orlando and are interested in serving on a NASA workshop panel.	SDR Members	ASAP
Let Ross (ross.faith@mantech.com) know if you are interested in participating in an ad hoc SDR International Working Group.	SDR Members	Standing
Send Sezin Tokar (stokar@usaid.gov) your ".gov" e-mail address to receive USG-only updates from USAID on global disaster response activities.	SDR Members	Standing
Contact Ross (ross.faith@mantech.com) to receive copies of the Grand Challenges for Disaster Reduction Implementation Plan packets or CD.	SDR Members	Standing
Let Dave (applegate@usgs.gov) or Ross (ross.faith@mantech.com) know how you use the implementation plans, including when you link to the plans from your agency websites. Send Ross or Dave additional distribution suggestions, including relevant contact information.	SDR Members	Standing