

Meeting Minutes of the Subcommittee on Disaster Reduction

06 November 2014, 10:00 a.m. to 12:00 p.m., White House Conference Center Jackson Room

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

Co-chairs

David Applegate (USGS)
Margaret Davidson (NOAA)
Dennis Wenger (NSF)

OSTP Liaison

Tamara Dickinson (OSTP)

Designated Representatives

BLM *Edwin Roberson*
CDC *Mark Keim*
DHS Mary Ellen Hynes
DHS/FEMA *Roy Wright*
DHS/USCG *Robert Thomas*
DOD *Al Johnson*
DOE *Patricia Hoffman*
DOT Sheila Duwadi
EOP/OMB *Michael Clark*
EOP/OSTP *Tamara Dickinson*
EPA Brendan Doyle
Stephen Clark

FERC Marsha Palazzi (T)
HUD *Dana Bres*
NASA *Craig Dobson*
NGA Patricia Allen Aquinas
NGB *TBD*
NIH *Aubrey Miller*
NIST Steve Cauffman
NOAA Margaret Davidson (T)
Christopher Strager (T)
NPS *Marcy Rockman*
NSF Dennis Wenger
OPHS Estella Jones (T)

State Fernando Echavarria
USACE *Steven Cary*
Dimitra Syriopoulou
USAID Sezin Tokar
USDA *TBD*
USFS *Elizabeth Reinhardt*
Carlos Rodriguez-Franco
Matt Rollins
USGS David Applegate
USNRC *Steven West*

Other Attendees

DHS Mitch Erickson (T)
Meredith Lee
DHS/FEMA Douglas Ham
EOP/NSC Eric Letvin
EOP/OSTP Jayne Morrow
Bill Murtagh
EPA Paul Kudaruskas (T)
Eli Walton (T)

NASA David Green
NIH April Bennett (T)
NPS Ann Hitchcock
NSF Gregory Anderson (T)
USACE Andrew Bruzewicz
USFS Jenna Sloan (T)
Jason Steinmetz

USGS Charlie Mandeville
Teresa Stoepler
USNRC Patrick Madden
ISC Paul Domich
STPI Mitch Ambrose (T)
Chris Clavin
SDR Secretariat Bret Schothorst
Barbara Haines -Parmele

Agenda

10:00 Welcome and Introductions
10:05 Report from the Co-chairs and Approval of Minutes
10:20 Update: NIST Disaster Resilience Framework for
Communities
10:40 Briefing: Kilauea Volcano Eruption in Hawaii
11:20 Review: Status of SDR Working Groups and Task
Forces
11:50 Close and Next Actions

Handouts

- November Meeting Agenda
- Draft October Meeting Minutes
- UNISDR Zero Draft of HFA 2+

I. Welcome and Introductions

National Science and Technology Council (NSTC) Subcommittee on Disaster Reduction (SDR) Co-chair David Applegate (USGS) called the November meeting to order at 10:02 a.m. in the Jackson Room of the White House Conference Center (WHCC), and participants introduced themselves.

II. Report from the Co-chairs and Approval of Minutes

The October monthly meeting minutes draft was approved with no changes.

Jayne Morrow (OSTP) briefed the SDR on the NSTC's coordination efforts in response to the ongoing Ebola outbreak. Morrow noted that a high-level Task Force led by OSTP Director John Holdren was stood up within OSTP on October 21, 2014, to look at ways of integrating S&T with current Ebola disaster response mechanisms, including: reducing impacts to first responders and health care workers; developing situational awareness tools and effective public communication procedures; and facilitating recommendations for new technologies that can be utilized in diagnostics and detection evaluation. Eric Letvin from the National Security Council added that his organization has been heavily involved in the response to the crisis and urged agencies to provide information and support to this important effort when called upon. Patricia Allen Aquinas (NGA) also shared the link to her agency's publically available content (including web maps, data services, and geospatial products) as it relates to the Ebola disaster, which can be found by visiting: <https://nga.maps.arcgis.com/home/>.

III. Update: NIST Disaster Resilience Framework for Communities

Applegate introduced Steve Cauffman (NIST), who provided an update to the Subcommittee on NIST's ongoing development of a Disaster Resilience Framework, a Disaster Resilience Standards Panel, and a set of disaster resilience metrics.

According to Cauffman, NIST recently held the third in a series of workshops on October 27-28, 2014, in Norman, Oklahoma, where a 50 percent draft of the Disaster Resilience Framework was released: http://www.nist.gov/el/building_materials/resilience/upload/Disaster_Resilience_Framework_50-Draft_102014.pdf. The primary focus of the third workshop was on interdependencies of physical infrastructure, specifically with regards to the social systems that depend on physical infrastructure to function. Cauffman stated that NIST has worked closely with the Office of Infrastructure Protection at DHS to solicit comments on the 50 percent draft, and added that SDR members that have comments on the draft should reach out to Cauffman (stephen.cauffman@nist.gov) directly. Cauffman noted that the group plans to have a 100 percent draft of the framework in advance of its next workshop, which will be held February 18-19, 2015, at the Hilton Del Mar in Del Mar, California. More information can be found at: http://www.nist.gov/el/building_materials/resilience/disresworkshp.cfm.

Cauffman also announced that NIST recently partnered with nine Disaster Resilience Fellows – who are experts in fields ranging from community resilience planning, electrical power infrastructure, emergency planning and response, societal dimensions of disasters, and transportation and water infrastructure – to further its ongoing effort to draft the Disaster Resilience Framework for U.S. communities. According to NIST's website, the new Disaster Resilience Fellows were chosen to complement the knowledge and skill sets of agency researchers developing the framework to help communities prepare for hazardous events and to restore vital functions quickly if disruptive incidents occur. The fellows also will assist NIST in establishing a Disaster Resistance Standards Panel. With initial funding from NIST, this independent body will be responsible for updating the framework and identifying new priorities for standards development and other actions that will help communities to better prevent natural and human-caused hazards from becoming disasters.

In response to a question from Applegate regarding the linkage of this group's development of a set of disaster resilience metrics and the Climate Action Plan call for national-level community hazard and climate resilience indicators, Cauffman noted that the two efforts have overlapped by way of four related workstream groups that resulted from a recent White House roundtable held with insurers as part of the President's Climate Action Plan. NIST is leading one of the workstreams centered on the development, adoption, and enforcement of enhanced building codes to promote community resilience.

Cauffman also added in response to a question from Mary Ellen Hynes (DHS S&T) that NIST recently announced a Federal Funding Opportunity to create a Community Resilience Center of Excellence (COE). The center will be dedicated to collaborative, interdisciplinary research aimed at developing tools and standardized methods that will enhance the ability of localities to reduce the impact of disasters and to speed recovery in their aftermath. Cauffman noted that the Community Resilience COE will focus on tools to support community disaster resilience, specifically on developing: 1) integrated, systems-based computational models to assess community infrastructure resilience and guide community-level resilience investment decisions; 2) a data management infrastructure and architecture schemes for collecting data on resilience; and 3) pilot studies, tools, and best practices to improve the collection of disaster and resilience data. The proposed center has an initial award of \$4 million a year for five years with an option to extend the budget for an additional five-year operating period. Cauffman stated that NIST is in the process of reviewing proposals from the competition, with a final selection slated for late 2014 or early 2015.

Regarding related COEs, Margaret Davidson (NOAA) offered to link Cauffman and his NIST colleagues with points of contact at the DHS S&T Coastal Hazards COE that performs research and develops education programs to enhance the nation's ability to safeguard populations, properties, and economies from coastal hazards. DHS established the center – which is co-led by the University of North Carolina at Chapel Hill and Jackson State University – in 2008 in response to Hurricane Katrina, and it is the only DHS COE solely dedicated to the study of natural disasters. Cauffman was appreciative of this offer, as the two COEs might have areas of overlap for potential collaboration.

Dennis Wenger (NSF) mentioned that his agency is releasing a related solicitation next week focused on Critical Infrastructure Systems and Processes (CRISP). The goals of the CRISP solicitation are to: 1) foster an interdisciplinary research community that discovers new knowledge for the design and operation of infrastructures as processes and services; 2) enhance the understanding and design of interdependent critical infrastructure systems and processes that provide essential goods and services despite disruptions and failures from any cause, natural, technological, or malicious; and 3) to create the knowledge for innovation in interdependent critical infrastructure systems to advance society with new goods and services. Visit http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=504971&org=NSF&from_org=NSF for more information on this opportunity.

IV. Briefing: Kilauea Volcano Eruption in Hawaii

Applegate introduced Charlie Mandeville (USGS), who briefed the SDR on the slow-moving but inexorable lava flow encroaching on residential areas from the eruption of the Pu'u O'o vent of the Kilauea volcano in Hawaii. Mandeville stated that President Obama issued a major disaster declaration earlier in the week and ordered Federal aid to supplement state and local recovery efforts and implement emergency protective measures. The lava flow path is threatening to destroy a vital access road that could isolate the rural town of Pahoa on Hawaii's Big Island.

To begin his presentation, Mandeville provided some regional context as to why the Hawaiian Islands, which are the exposed peaks of a great undersea mountain range known as the Hawaiian-Emperor seamount chain, are volcanic and how they originated. These islands and submerged seamounts were formed when the Pacific Plate of the Earth's crust moved over a hot spot of underlying magma that resulted in volcanic activity, which is known as hot spot volcanism. Mandeville noted that island

formation through volcanic activity has been occurring over this hot spot for at least 80 million years. Kilauea volcano is the youngest and southeastern most of the volcanoes on the Big Island of Hawaii, and its current eruption dates back more than 30 years – making it one of the longest-lived volcano eruptions in the world. Providing more background on the volcano, Mandeville stated that the Kilauea’s summit caldera has a pit crater within it known as Halema’uma’u. The volcano also has linear features known as rift zones on its southwest and eastern sides that radiate away from the structure, and its magma chambers are interconnected between the summit caldera and the short-lived magma chambers within it. Mandeville added that geologists can monitor lava levels in the summit caldera in order to tell when lava is being drained from the system somewhere on the volcano’s flank down slope, as is happening with this current eruption from the Pu’u O’o vent.

Currently, the lava flow is encroaching on Hawaii State Route 130 and Pahoa Village Road, which is the main thoroughfare to the village. Mandeville outlined that the rate of the flow varies widely, which can range from 100 meters per day to a fraction of that speed or even stalling. Mandeville noted that the USGS Hawaiian Volcano Observatory (HVO), in conjunction with state and local scientists and emergency managers, is currently using in situ monitoring, helicopter and satellite remote sensing imagery, and boots-on-the-ground information to track and forecast the most probable path that the lava flow will take. HVO staff also routinely participates in public outreach town hall meetings in Pahoa to keep the village’s citizens up-to-date on the latest information and recommend mitigation measures to safeguard the community’s lifelines and infrastructure. Mandeville underscored that over the past several decades, HVO has built community trust as the authoritative voice on volcanic activity in the area. Applegate added that there are societal and cultural challenges with lava diversion tactics in Hawaii, stating that the tenets of Hawaiian religion and mythology advocate for lava flows to be left alone.

In response to a question from Brendan Doyle (EPA) on whether sulfur dioxide emissions from the eruption plume are contributing to vog formation over Hawaii, Mandeville noted that between 5,000 to 50,000 tons of sulfur dioxide a day are being released by the eruption. The release of the gas is measured locally by spectrometers, UV camera systems, and remote, satellite-based instrumentation. This presents a long-term environmental health issue for Hawaii’s citizens and can also have an adverse effect on livestock and agriculture. Wenger then inquired about the short- and long-term forecasts of damage to the community and how its citizens have responded to those estimates. Mandeville stated that Pahoa residents have been made acutely aware of what disaster assistance they are entitled to from their state and local governments, and in talking to civil defense authorities and the emergency management community, Pahoans have realized that they are able to make their decisions with the best scientific information available.

Chris Clavin (STPI) asked how authorities will know when the event is coming to a close and when response efforts can be ratcheted down. Mandeville stated that the threat diminishes greatly when the lava effusion rate has come to a complete stop, which is informed by instrument measurements coming from the summit of the volcano. The measurements can predict in real-time when lava supplies are waning and when the flow front can be expected to stall. Raising the possibility of cascading impacts related to volcanoes, Hynes wondered if the underwater expulsion of lava can be big enough to cause large waves. Mandeville stated that such an event would be of low probability, but there is the potential for entire flanks of old seamount volcanoes to collapse from seismic activity, which could lead to submarine landslides that may be tsunamigenic in nature. Please reach out to Mandeville (cmandeville@usgs.gov) for additional questions on his presentation.

V. Review: Status of SDR Working Groups and Task Forces

Applegate led a review of current and future Working Groups and Task Forces charted under the SDR.

Sezin Tokar (USAID) and Dennis Wenger (NSF) mentioned that at Thursday afternoon's SDR International Working Group (IWG) meeting, the working group will: 1) discuss the upcoming World Conference on Disaster Risk Reduction (WCDRR) second preparatory committee process meeting (PrepCom2) scheduled for November 17-18, 2014 in Geneva, Switzerland (<http://www.wcdrr.org/preparatory/prepcom2>); and 2) discuss IWG agency comments on the zero draft of HFA2+ (attached) that was recently released by UNISDR, specifically with regards to global targets and indicators to measure and assess progress. Tokar and Wenger requested agency feedback on the HFA2+ zero draft, which should be provided by the SDR Secretariat (bret.schothorst@mantech.com) by Friday, November 14.

The SDR National Preparedness Science and Technology (NPST) Task Force finalized its charter and will hold its kickoff meeting on Friday, November 21, in the WHCC Lincoln Room. The group will be focused on: 1) assessing the current status of Federal S&T investments across the five PPD-8 mission areas (prevention, protection, mitigation, response, and recovery); 2) designing a structured process for use by departments and agencies to identify and prioritize efforts between the Federal interagency S&T community and the national preparedness community for S&T program planning under PPD-8; 3) developing recommendations for formal protocols required to conduct joint, interagency post-event science and technology evaluation and assessment; and 4) developing recommendations for a process for projecting future science and technology needs in support of national preparedness requirements. Please contact Chris Clavin of STPI (cclavin@ida.org) for more information on this activity.

Bill Murtagh of OSTP reported that the newly established SDR Space Weather Operations, Research, and Mitigation (SWORM) Task Force held its kickoff meeting on Wednesday, November 5, 2014, which was widely attended by departments and agencies. The primary goal of the Task Force is to define, coordinate, and oversee goals and programmatic priorities of Federal science and technology activities related to space weather and create a National Space Weather Strategy that will articulate strategic goals for improving forecasting, impact evaluation, and enhancing national preparedness to a severe space weather event. Murtagh noted that the charter for the group is nearly finalized and will be brought before the SDR Co-chairs for signature within the next few weeks. SDR representatives that would like to engage in the SWORM Task Force should contact Murtagh (William_J_Murtagh@ostp.eop.gov).

Meredith Lee (DHS S&T) announced that The Feast, DHS S&T, FEMA, Intel, and the global design firm IDEO hosted the first "Civic Hardware Hackathon for Disaster Preparedness" on Friday and Saturday, October 10-11, 2014, at Pioneer Works in the Red Hook neighborhood of Brooklyn, New York. The event targeted technologists and entrepreneurs working on disaster resilience projects and government and private sector leaders fostering and accelerating innovation. It was supported by partners and participants including The Rockefeller Foundation, American Red Cross, New York City Office of Emergency Management, The Red Hook Initiative, Do Good Bus, and more. A summary blog post of the event can be viewed at: <http://www.whitehouse.gov/blog/2014/11/07/hardware-hacking-disaster-response-red-hook-brooklyn>.

Lee also provided an update on the disasters.data.gov portal, which is planned to go live in December 2014 with the Innovator Challenge statement "How might we reduce fatalities from flooding?" that will leverage sensors, crowd sourcing, and open data. If SDR agencies are interested in contributing to the Challenge Statements or providing feedback and beta-testing the site, please contact Lee and the team at disastertech@ostp.gov. Also, if any disaster-related data sets are available from SDR departments and agencies, please email leads to disastertech@ostp.gov. This activity is planned to be part of a proposed SDR working group on Open Data and Technology Innovation for Disasters.

The SDR Wildland Fire S&T Task Force (WFSTTF) had its most recent meeting on October 17, 2014, at which Task Force representatives laid out a series of action items and associated deadlines in order to

complete the five functions laid out in its charter. A draft final report identifying opportunities and mechanisms for increased Federal coordination and cooperation to support the development, access, and application of S&T before, during, and after wildfires is due to the SDR in January 2015 for agency concurrence. To engage in this activity, please contact the SDR Secretariat (bret.schothorst@mantech.com).

The SDR Windstorm Working Group held its most recent quarterly meeting on Monday, July 14, 2014. At the meeting, WWG members discussed ideas for its next iteration of the National Windstorm Impact Reduction Program (NWIRP) biennial report to Congress for fiscal years 2013 and 2014. NIST also provided a briefing on its recently released report, “*Technical Investigation of the May 22, 2011, Tornado in Joplin, Missouri.*” To engage in this activity or to attend its upcoming winter meeting in the December/January timeframe, please contact the SDR Secretariat (bret.schothorst@mantech.com).

VI. Adjournment

Applegate adjourned the SDR November meeting at 12:01 p.m.

VII. Future Meetings

Upcoming SDR meetings in 2014 and 2015 will be held from 10:00 a.m. to 12:00 p.m. on the dates listed below in the Lincoln Room of the White House Conference Center unless otherwise noted:

2014

- ✓ Thursday, December 4

2015

- ✓ Thursday, January 8*
- ✓ Thursday, February 5
- ✓ Thursday, March 5
- ✓ Thursday, April 2
- ✓ Thursday, May 7
- ✓ Thursday, June 4
- ✓ Thursday, July 9*
- ✓ Thursday, August 6**
- ✓ Thursday, September 3
- ✓ Thursday, October 1
- ✓ Thursday, November 5
- ✓ Thursday, December 3

* January and July meetings shifted to a location to be determined on the second Thursday of the month to avoid proximity to holidays.

** August meeting subject to cancellation.

VIII. 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 the SDR Secretariat Bret Schothorst (bret.schothorst@mantech.com).

IX. Contact Information

SDR Leadership

David Applegate	Co-chair	703-648-6600	applegate@usgs.gov
Margaret Davidson	Co-chair	843-740-1220	margaret.davidson@noaa.gov

Dennis Wenger	Co-chair	703-292-8606	dwenger@nsf.gov
Tamara Dickinson	OSTP Liaison	202-456-6105	tdickinson@ostp.eop.gov

Secretariat

Bret Schothorst	703-388-0312	bret.schothorst@mantech.com
Barbara Haines-Parmelee	703-388-0309	barbara.haines-parmelee@mantech.com

X. Summary of November Actions

Action	Lead	By When
Send agency feedback on the World Conference on Disaster Risk Reduction (WCDRR) HFA2+ zero draft to the SDR International Working Group Secretariat (bret.schothorst@mantech.com).	SDR Members	Friday, November 14
Reach out to Chris Clavin (cclavin@ida.org) and Bill Murtagh (William_J_Murtagh@ostp.eop.gov), respectively, for more information on the National Preparedness Science and Technology (NPST) Task Force and the Space Weather Operations, Research, and Mitigation (SWORM) Task Force.	SDR Members and Federal Colleagues	ASAP
Contact Meredith Lee (disastertech@ostp.gov) if interested in contributing Challenge Statements or providing feedback and beta-testing the new disasters.data.gov portal. Also, if any disaster-related data sets are available from SDR departments and agencies, please email leads to disastertech@ostp.gov.	SDR Members and Federal Colleagues	ASAP
Email Steve Cauffman (stephen.cauffman@nist.gov) with comments on the 50 percent draft of NIST's Disaster Resilience Framework or to attend the fourth NIST disaster resilience workshop on February 18-19, 2015, in San Diego, California.	SDR Members and Federal Colleagues	ASAP
Contact the SDR Secretariat (bret.schothorst@mantech.com) to participate in the SDR Wildland Fire Science and Technology Task Force or the SDR Windstorm Working Group.	SDR Members	Standing
Please consider supporting the work of the SDR and its Secretariat through a contribution from your agency. Let SDR Co-chair David Applegate (applegate@usgs.gov) know if you need an Agency- or Department-specific request letter.	SDR Members	Standing
Contact OSTP Liaison Tammy Dickinson (tdickinson@ostp.eop.gov) if it would be helpful for OSTP to issue a letter to your agency or department requesting new (or re-affirmed) designation of official representatives. Ideas for other entities that should be represented on the SDR are also welcome.	SDR Members	Standing