Meeting Minutes of the Subcommittee on Disaster Reduction

04 December 2014, 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.

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*
HUD Dana Bres
NASA Craig Dobson
NGA *Patricia Allen Aquinas*
NGB *TBD*
NIH *Aubrey Miller*
NIST Steve Cauffman
NOAA Margaret Davidson (T)
Christopher Strager
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

BLM Ron McCormick (T)
DHS Mitch Erickson (T)
Meredith Lee (T)
Erin Walsh
DHS/FEMA Douglas Ham
EOP/CEQ Samantha Medlock
EOP/NSC Eric Letvin
EOP/NSC Sierra Woodruff
EOP/OSTP Maham Ahmed
EPA Eli Walton (T)
NOAA Lindsey Kraatz
USACE Andrew Bruzewicz
USGS Teresa Stoepler
USNRC Patrick Madden
University of Maryland Gerry Galloway
SDR Secretariat Bret Schothorst
Barbara Haines-Parmele

Agenda

10:00 Welcome and Introductions
10:05 Report from the Co-chairs and Approval of Minutes
10:10 Report from the OSTP Liaison
10:15 Update: NPST Task Force PPD-8 Activity
10:30 Presentation: ASCE Flood Risk Management Report
11:15 Briefing: NASA NISAR Mission
11:55 Close and Next Actions

Handouts

- December Meeting Agenda
- Draft November Meeting Minutes
- Draft Charter for SDR Technology and Innovation for Disaster Preparedness (TIDP) Working Group

I. Welcome and Introductions

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

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

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

SDR International Working Group (IWG) Co-Chair Dennis Wenger (NSF) encouraged participation in the IWG December meeting this afternoon from 1:00 p.m. to 2:30 p.m. in the WHCC Lincoln Room. At Thursday afternoon's meeting, the working group will: 1) receive a briefing from the InterAction Disaster Risk Reduction Working Group on their latest activities pertaining to HFA2+ and the upcoming World Conference on Disaster Risk Reduction (WCDRR); 2) review outcomes from the WCDRR PrepCom2 meeting that occurred November 17-18, 2014 in Geneva, Switzerland; and 3) discuss views and comments on the latest zero draft of HFA2+ (http://www.wcdrr.org/preparatory/viewsandcomments). Materials related to these discussions will be distributed at the meeting and can be obtained by emailing the SDR Secretariat (bret.schothorst@mantech.com).

III. Report from the OSTP Liaison

Samantha Medlock of CEQ provided an update to the Subcommittee on the recently released report from the State, Local, and Tribal Leaders Task Force on Climate Preparedness and Resilience. As part of the Climate Action Plan, President Obama established the Task Force in November 2013 to advise the Administration on how the Federal government can respond to the needs of communities nationwide that are dealing with the impacts of climate change. The Task Force includes governors, mayors, county officials, and Tribal leaders from across the country. Its members met throughout the year and used their first-hand experiences in building climate preparedness and resilience in their communities to inform their recommendations to the Administration. In November 2014, Task Force members presented their recommendations at a White House meeting with Vice President Biden and other senior Administration officials. According to the White House, the Task Force organized its report and recommendations across seven cross-cutting themes: Building resilient communities; improving resilience in the Nation's infrastructure; ensuring resilience of natural resources; preserving human health and supporting resilient populations; supporting climate-smart hazard mitigation and disaster preparedness and recovery; understanding and acting on the economics of resilience; and building capacity. The recommendations offer guidance on how the Federal government should modernize programs and policies to incorporate climate change, incentivize and remove barriers to community resilience, and provide useful, actionable information and tools. The full report can be viewed at: http://www.whitehouse.gov/sites/default/files/docs/task_force_report_0.pdf. Please contact Medlock (Samantha_A_Medlock@ceq.eop.gov) with any questions on the report's recommendations.

Tammy Dickinson (OSTP) briefly reviewed the draft charter for the new Technology and Innovation for Disaster Preparedness (TIDP) Working Group that will be stood up under the SDR. The purpose of this interagency working group is to bring together departments and agencies to develop best practices when engaging technologists, entrepreneurs, stakeholders and other public officials to cultivate a technology and innovation community that can assist before, during, and after a disaster. Comments on the draft charter and suggestions for Co-chairs and group membership should be sent to the SDR Executive Secretary (Bret.Schothorst@ManTech.com) by Friday, December 19. According to Meredith Lee (DHS S&T), the disasters.data.gov portal is set to beta-launch to the public within the next week. If SDR members and Federal colleagues have not yet done so, please visit the site at your earliest convenience and send any feedback to disastertech@ostp.gov. Thanks to everyone for their months of input and help with highlighting new open data sets, curating the White House Innovation for Disaster Response and Recovery Demo Day apps and tools that will be showcased on the site, and formulating Challenge

Statements. To access the content that will be live on the site, go to https://uat-datagov.reisys.com/disasters/ and type in username: datagov with password: 250K-1yr (note that the password may need to be entered twice).

IV. Update: NPST Task Force PPD-8 Activity

Dickinson briefly noted that the National Preparedness Science and Technology (NPST) Task Force held its kickoff meeting on Friday, November 21, 2014. The NPST Task Force was convened to address the S&T requirements of the five mission areas of Presidential Policy Directive 8 on National Preparedness (prevention, protection, mitigation, response, and recovery) and act as an interagency conduit to more fully integrate S&T into all facets of national preparedness across Federal departments and agencies under PPD-8. At the group's initial meeting, the Task Force was shown a pilot assessment of how science and technology investments support operational elements of PPD-8 derived from the work of the SDR's Wildland Fire Science and Technology Task Force. This example highlighted the work being done to develop a catalog of existing Federal S&T capabilities for wildland fire that support the PPD-8 mission areas, which includes an inventory identifying Federal S&T programs that focus on both producing and using S&T. With regards to other hazards and threats, the Task Force has initially broken them down into sub-groups centered on six key areas: Meteorological (Drought, Extreme Cold/Heat, Flood, Hurricane, Tornado, Wildland Fire); Geologic (Earthquake, Tsunami, Volcanic Eruption); Space (Space Weather, Near-Earth Objects); Chemical (Spills, Terrorism Attack, Food Contamination); Nuclear/Radiological (Nuclear Terrorism Attack, Radiological Terrorism Attack, Radiological Substance Release); and Biological (Human Pandemic, Animal Disease Outbreak, Bio Food Contamination, Biological Terrorism Attack). The SDR is requesting subject matter experts and volunteers to help steer the assessment of the sub-group of geologic hazards (earthquake, tsunami, and volcanic eruption). Dickinson asked SDR members to please send along names and email addresses of those interested in participating in this activity to Maham Ahmed (Maham_Ahmed@ostp.eop.gov) by Friday, December 19.

V. Presentation: ASCE Flood Risk Management Report

Applegate introduced Gerry Galloway of the University of Maryland, who provided a presentation to the SDR on the recently released report, *Flood Risk Management – Call for a National Strategy,* produced by the American Society of Civil Engineers (ASCE).

Galloway began his presentation by highlighting some previous flood reports that ASCE initiated in response to Hurricane Katrina in 2005, the Midwest flooding of 2008, and the Mississippi and Missouri River flood in 2011. In response to these disasters, ASCE created the Task Committee on Flood Safety Policies and Practices in 2011 and charged it with investigating whether the lessons learned from failures during these flood disasters have been incorporated in the planning, design, construction and management of engineering water resource projects for the future. The Task Committee also provided a basis for influencing needed change in public policy and engineering practice related to flood safety and flood management. Several key questions regarding these events were addressed by the group, including: Have lessons been learned, or merely observed? Have lessons been incorporated into public policy? Have lessons influenced engineering practice? If we know what we need to do, why aren't we doing it?

In response to these charges, the Task Committee laid out a five-step plan of action:

- Review past findings and recommendations;
- Gather information on progress made and challenges identified (e.g., study 11 flood-prone areas in the U.S. and abroad, interview local and national experts, etc.);
- Identify compelling topics in flood safety;
- Convene a summit to chart a path forward; and
- Prepare a final report.

The findings of the summit, titled *Building a Framework for Flood Risk Management: Goals, Roles and Responsibilities, Resources, and Systems*, concluded that: limited progress has been made in flood risk management, but more must be done; flood safety continues to receive scant attention; nationally, there is no sound analysis of the potential risks from flooding; flood infrastructure (mainly dams and levees) are in poor condition with no plans for improvement; climate change and population growth stress an already difficult situation; there is a lack of emphasis on non-structural, sustainable solutions; past land use decisions have created flood issues with no plan for how address these and those that are arising; and there is no common (national) vision on how to move ahead to reduce flood risk.

According to Galloway, the group's final report piggybacked on the summit's findings and outlined several recommendations to move aggressively forward to address the challenges of flood risk management, including: 1) develop a 21st century national program for flood management; 2) address funding of infrastructure maintenance and renewal and non-structural flood risk management activities; 3) balance non-structural and structural flood mitigation at all levels of government; 4) consider, in planning mitigation, both long-term and short term impacts (e.g., climate change, population, and infrastructure renewal); 5) develop Federal guidelines that include public safety and ecosystem values in decision-making and provide incentives to include ecosystem benefits; and 6) ensure a coordinated communications campaign on flood risk (including creation of a coalition of NGOs). Galloway added that S&T and R&D is needed in the areas of structure assessment (rapid levee assessment methodologies, efficient and low cost structure monitoring, etc.), new non-structural approaches, validation and enhancement of nature-based approaches to flood risk management, effective risk communication methodologies, and integrated data utilization across all sectors. The full report can be downloaded at no cost at: http://ascelibrary.org/doi/book/10.1061/9780784478585.

Brendan Doyle (EPA) made a comment in regards to the public's lack of trust in the government to protect its citizens against floods, citing focus group research studies conducted in Louisiana post-Hurricane Katrina by Tulane University and Louisiana State University. Doyle noted that risk communication strategies hinge on public trust and can be severely hampered if that relationship doesn't exist. Galloway agreed with Doyle's comment, noting that he's seen the lack of trust firsthand while serving on Louisiana Governor Bobby Jindal's Advisory Commission on Coastal Protection, Restoration, and Conservation. Steve Cauffman (NIST) noted that in response to these unsuccessful risk communication methods, NOAA and the National Weather Service changed the way they report and communicate the risks associated with storm surge after Hurricane Katrina. SDR Co-chair Margaret Davidson (NOAA) added that there is clear cognitive dissonance between hazard risk communicators and public recipients and stressed that there needs to be heightened focus on more effective risk communication strategies. Wenger added that he would be hard-pressed to find an area that needs more transformation with regards to disaster risk reduction than risk communication, given the significant technological changes in communication that have occurred over the past two decades.

With regards to sharing the risks associated with hazards such as flooding, Dana Bres (HUD) suggested that communities look at ways to take the risk away from homeowners by collectivizing insurance. He noted that Resources for the Future has looked at the feasibility of community-based flood insurance models, where all residents that live in a specific risk area (i.e. zip code) get flood insurance as part of their property tax bill. This method ensures that the whole community is insured, increases its ability to bounce back in the event of a disaster, and encourages seamless re-development in the recovery phase. Medlock added that it's important to look at innovative approaches to dealing with flooding and other climate risks because events unfold in such unique and diverse landscapes across the U.S. and the local issues, options, resources that can be brought to bear can vary drastically from one disaster to another.

Please reach out to Galloway (gegallo@umd.edu) with questions about his presentation.

VI. Briefing: NASA NISAR Mission

Applegate introduced Craig Dobson (NASA), who briefed the Subcommittee on the NASA- Indian Space Research Organization (ISRO) Synthetic Aperture Radar (NISAR) mission. NISAR is a joint mission between NASA and the ISRO, and an International Agreement was signed in late September 2014 to formalize its development process.

Evolved from the radar-only portion of the earlier DESDynI mission concept as directed by OMB, Dobson stated that NISAR is now in formulation (Phase A) and is expected to move towards implementation (Phase B) in the spring of 2015, with a tentative earliest launch date set between 2020 and 2022. The satellite will be designed to observe and take measurements of some of Earth's most complex processes, including ecosystem disturbances, ice-sheet collapses, and natural hazards such as earthquakes, tsunamis, volcanoes, and landslides. It will be the first multi-frequency synthetic aperture radar (SAR) to fly in space as a free-flyer and is heavily science-driven, with high-level requirements to meet science objectives for Earth surface dynamics including those of the solid earth, cryosphere, and terrestrial ecosystems.

Regarding key capabilities for NISAR, Dobson outlined that the satellite will have features such as:

- 12-day exact repeatable orbits and instrument pointing at 5-10 m resolution;
- Swath width greater than 240 km sufficient to cover ground-track spacing at equator;
- Polarimetric synthetic aperture radar with "industry-standard" performance parameters valid over the full swath;
- All imaging within the instrument boresight pointed 37 degrees off-nadir and +/- 90 degrees off the body-fixed velocity vector;
- Orbit reconstruction to cm-scale accuracy for efficient interferometric processing and calibration;
- Sufficient duty cycle and mission resources to strobe Earth's land and ice on ascending and descending orbits each repeat cycle; and
- 24-hour turnaround on urgent retargeting and 5-hour latency for data designated as pressing.

Because this is a joint mission, Dobson noted that both NASA and the ISRO are providing flight system and satellite components for the endeavor. The ISRO is supplying the spacecraft bus (ISRO I3K Heritage Bus) with several modifications, including structure, power switches, and reaction wheels, as well as the launch vehicle (Geosynchronous Satellite Launch Vehicle Mark-II). They are also contributing the S-band SAR, S-band SAR electronics, and S-band feed RF aperture. The NASA Jet Propulsion Laboratory (JPL) is providing the L-band SAR, L-band SAR electronics, L-band feed RF aperture, radar instrument structure, radar antenna boom, and radar antenna reflector. In addition, JPL is making available the engineering payload for the mission, which consists of a payload communication subsystem (Ka-band high rate transmitter), the GPS payload (GPS receiver), a solid state recorder, payload data subsystem, and power distribution unit.

Regarding the key driving requirements for urgent observation demonstration, Dobson stated that the primary goals of the mission are to: produce and update onboard observation tables within 24 hours to produce new observations to support disaster response; complete the downlink of urgent response L-band SAR data through the ground network to JPL with a mean latency over the mission duration of less than three hours from the time the corresponding data was acquired; and make the L-band Level 1 product available for urgent response with a mean latency over the mission duration of less than two hours from receipt at JPL. Dobson underlined that these capabilities will enable the rapid characterization and assessment of natural and human-induced disasters globally and will provide critical situational awareness of the hazard to the response and recovery efforts.

Please email Dobson (craig.dobson@nasa.gov) with questions on his briefing.

VII. Adjournment

Applegate adjourned the SDR December meeting at 12:06 p.m.

As a reminder, Applegate noted that the next SDR meeting will be held on Thursday, January 8, 2015, in Room 430ABC of the White House Eisenhower Executive Office Building (EEOB). The temporal change is to avoid proximity to the New Year's Day Federal holiday and the physical change is due to White House Conference Center renovations.

More information on the January meeting's details will be circulated by the SDR Secretariat by the end of the month.

VIII. Future Meetings

Upcoming SDR meetings in 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:

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 EEOB Room 430ABC on the second Thursday of the month to avoid proximity to holidays and due to WHCC renovations.

** August meeting subject to cancellation.

IX. 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).

X. 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-Parmele	703-388-0309	barbara.haines-parmele@mantech.com

XI. Summary of December Actions

Action	Lead	By When
Provide comments on the draft charter for the Technology and Innovation for Disaster Preparedness (TIDP) Working Group along with suggestions for Co-chairs and group membership to the SDR Secretariat (Bret.Schothorst@ManTech.com).	SDR Members	Friday, December 19
Contact Maham Ahmed (Maham_Ahmed@ostp.eop.gov) to nominate subject matter experts and volunteers to help steer the assessment of the sub-grouping of geologic hazards (earthquake, tsunami, and volcanic eruption) under the SDR's National Preparedness Science and Technology (NPST) Task Force.	SDR Members	Friday, December 19
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
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