Meeting Minutes of the Subcommittee on Disaster Reduction

09 January 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 *Grace Hu*
EOP/OSTP Tamara Dickinson
EPA Peter Jutro
Stephen Clark
FERC *Marsha Palazzi*
HUD *Dana Bres*
NASA Craig Dobson
NGA *Paul Lewis*
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 (T)
USAID *Sezin Tokar*
USDA *TBD*
USFS Elizabeth Reinhardt
Carlos Rodriguez-Franco
USGS David Applegate
USNRC Steven West (T)

Other Attendees

BLM Louis Brueggeman
Nancy Dean
DHS Vanessa Burnett
Bruce Davis (T)
Mitch Erickson (T)
Meredith Lee (T)
DHS/FEMA David Trissell
DOI Jim Douglas (T)
Jenna Sloan
EOP/CEQ Alice Ewen
EOP/NSS Eric Letvin
EOP/OSTP Jeff Glick
EPA Brendan Doyle
Keely Maxwell
NIST Marc Levitan
Alexander Maranghides
Jiann Yang
NOAA Nell Codner
NSF Kishor Mehta
Thomas Torgersen (T)
USACE Andy Bruzewicz
USDA Glenn Bethel
USDA Everett Hinkley (T)
USGS Kiza Gates
Anne Kinsinger
Kris Ludwig
Matt Rollins (T)
STPI Chris Clavin (T)
Seth Jonas
Ellory Matzner
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
10:20 Presentation: NIST Joplin Tornado Investigation Report
11:00 Discussion: Charter for Working Group on Wildfire Science
11:55 Close and Next Actions

Handouts

- January Meeting Agenda
- Draft December Meeting Minutes
- Draft Charter for Wildland Fire Science and Technology Working Group

I. Welcome and Introductions

National Science and Technology Council (NSTC) Subcommittee on Disaster Reduction (SDR) Co-chair David Applegate (USGS) called the January meeting to order at 10:01 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 December monthly meeting minutes were approved with no changes.

Co-chair Dennis Wenger (NSF) began our January meeting on a somber note by giving a heartfelt tribute of William A. (Bill) Anderson, who recently and tragically passed away due to an injury sustained while biking in Hawaii with his wife and friends. As Wenger so eloquently stated, Bill was a role model and inspiration to many in the disaster research community, and he will be dearly missed.

In the report from the Co-chairs, Applegate mentioned the invitation from OSTP to participate in the second annual "Safety Datapalooza" that will take place on Tuesday, January 14 from 9:00 a.m. to 4:00 p.m. ET in the Jefferson Auditorium at the U.S. Department of Agriculture in Washington, DC. Please RSVP to safetydata@ostp.gov as soon as possible to attend. He also noted that the deadline has been extended to submit session proposals to the Natural Hazards Center's 39th Annual Natural Hazards Research and Applications Workshop, which will be held Sunday, June 22 through Wednesday, June 25, 2014 at the Omni Interlocken Hotel in Broomfield, Colorado. Please send in your suggestions by Sunday, January 12 via the following link: http://goo.gl/XCA0h4.

Wenger also reminded members that the SDR International Working Group (IWG) meets on the same day as the full Subcommittee from 1:00 p.m. to 2:30 p.m. in the WHCC Lincoln Room. At the working group's January meeting, the IWG will spend the majority of the meeting conducting an in-depth review of the UNISDR *Proposed Elements for Consideration in the Post-2015 Framework for Disaster Risk Reduction* document that arose from its advisory committees meeting this past Thanksgiving.

III. Report from the OSTP Liaison

In the report from the OSTP Liaison, Tammy Dickinson (OSTP) stated that her office will be hosting a "We the Geeks: Polar Vortex and Extreme Weather" Google Hangout on Friday, January 10, at 2:00 p.m. ET, which will convene leading meteorologists, climate scientists, and weather experts to discuss why temperatures dipped to such frigid lows this week, how weather experts turn raw data into useful forecasts, and what we know about extreme weather events in the context of a changing climate. To watch a two-minute video by Dr. John Holdren, Assistant to the President for Science and Technology and Director of the White House Office of Science and Technology Policy, explaining the recent blast of Arctic air known as the "Polar Vortex" or to find out more information on the event, please visit: http://goo.gl/81U28D.

Dickinson noted that she will be participating in a panel at the upcoming American Meteorological Society Annual Meeting on Thursday, February 6, which will focus on the Hurricane Sandy Rebuilding Strategy from an S&T standpoint. As she would like to highlight Federal agency S&T programs or policies that have supported rebuilding progress since the disaster, Dickinson asked SDR members to put forward examples of their agency S&T activities that she can bring up during the discussion. Please submit ideas to Dickinson (Tamara_L_Dickinson@ostp.eop.gov) by Friday, January 17.

For information, she also briefly discussed the ongoing efforts of OSTP and CEQ to ramp up a climate data toolkit initiative, as outlined in the President's Climate Action Plan. She stated that this project would make a good briefing to the SDR in the coming months as it gets ready to roll out to the public.

IV. Presentation: NIST Joplin Tornado Investigation Report

Applegate introduced Marc Levitan, who is head of the R&D program under the National Windstorm Impact Reduction Program (NWIRP) at NIST. Levitan is an active member of the SDR's Windstorm Working Group, which is charged with drafting the NWIRP biennial report to Congress. Levitan briefed the SDR on his agency's investigation and study report on the catastrophic tornado that struck Joplin, Missouri in 2011. Levitan noted that, to his knowledge, this effort is the most in-depth study of a single tornado event that's ever been conducted.

To open his presentation, Levitan provided some background information on the tornado itself, highlighting that the EF-5 cyclone touched down at 5:34 p.m. Central Daylight Time on Sunday, May 22, 2011, and stayed on the ground for about 22 miles (6 miles within city of Joplin) and for a total of nearly 15 minutes. The official warning time for the storm was 17 minutes, which bested the current average warning lead-time for tornados of 14 minutes. The tornado had estimated maximum wind speeds of over 200 mph, which significantly damaged or destroyed nearly 8,000 buildings and affected about 41 percent of Joplin's population (20,820 of 50,1753). Levitan stated that it ranks as the costliest and deadliest tornado on record in the U.S., with almost $1.8 billion in residential and commercial insured losses, 161 fatalities, and more than 1,000 injuries.

Levitan outlined that the primary goals of the study were to investigate the wind environment and technical conditions associated with the storm and assess the performance of emergency communications systems, critical infrastructure, and lifelines. NIST also developed a series of findings and recommendations that will serve as the basis for improvements to these critical functions in the face of future disasters, including: improvements to requirements for design and construction of buildings; designated safe areas and lifeline facilities in tornado–prone regions; improvements to guidance for tornado warning systems and emergency response procedures; revisions to building, fire, and emergency communications codes, standards, and practices; and improvements to public safety.

According to Levitan, the main objectives of the Joplin tornado investigation were to: 1) determine the tornado hazard characteristics and associated wind fields in the context of historical data; 2) determine the response of residential, commercial, and critical buildings, including the performance of designated safe areas; 3) determine the performance of lifelines as it relates to the continuity of operations of residential, commercial, and critical buildings; 4) determine the pattern, location, and cause of fatalities and injuries, and associated emergency communications and public response; and 5) identify, as specifically as possible, areas in current building, fire, and emergency communications codes, standards, and practices that warrant revision.

Levitan then reviewed several selected findings from the study, the first of which were centered on the tornado hazard's characteristics. He noted:

- *F1*: Current National Weather Service radar technology is incapable of determining tornado occurrence and intensity at heights above ground that are relevant to structural engineering design. The closest radar to Joplin was 60 miles away.
- *F3*: NIST estimated the maximum wind speeds in the Joplin tornado to be 175 mph, with an upper bound of 210 mph. Existing indirect methods have considerable uncertainty in estimating wind speeds for structural design.
- *F7*: The Enhanced Fujita (EF) Scale lacks adequate damage indicators (DIs) and corresponding degrees of damage (DODs) for distinguishing among the most intense tornado events. The lack of DIs and DODs and overall nature of the EF Scale results in subjective, non-quantitative assessment of tornado damage.

Regarding the report's building performance findings, Levitan stated that national model building codes, standards, and practices seek to achieve life safety for the hazards considered in design; however, tornado

hazards are not considered in the design of buildings currently, except for safety–related structures in nuclear power plants, storm shelters, and safe rooms. Like most other municipalities in tornado–prone areas and the contemporaneous model building codes, the city of Joplin did not mandate the construction of shelters or safe rooms in residential or non–residential facilities. Additionally, the city did not own or operate any public storm shelters. Levitan underscored that the lack of public shelters and requirements for safe rooms meant that many residents, particularly those who were living in multi–family residential buildings or older nursing homes, did not have access to such sheltering options during the tornado. He highlighted the following findings to this end in the study:

- *F8*: Buildings are not designed to withstand tornado hazards (extreme wind speeds and wind-borne debris). Most buildings in the damaged area of Joplin were subjected to wind speeds close to or above the non-tornadic wind design requirements of applicable building codes.
- *F9*: Regardless of construction type, buildings were not able to provide life-safety protection. Of the 161 fatalities, 135, or 83.8 percent, were related to building failure (slightly more than half in residential buildings, the rest in non-residential buildings).
- *F10*: Engineered buildings that had redundant lateral load capacity or that did not depend on roof bracing (steel and concrete moment frames) withstood the tornado without collapse. Structures that had reinforced concrete or composite concrete-steel roof also withstood the tornado without collapse, but buildings that relied on bracing from a less robust roof system (such as box–type system (BTS) buildings with light steel roof decks) were prone to structural collapse.
- *F16*: All NIST–surveyed engineered buildings that did not collapse, as well as engineered buildings that collapsed, sustained significant damage to the envelopes and interiors due to the combination of wind pressure, impacts by wind–borne debris, and water intrusion.
- *F17*: The failure of building envelopes at St. John's Regional Medical Center, which led to loss of protection and subsequent extensive damage to building interiors, was the primary cause for the complete loss of functionality of this critical facility despite the robust structural system that withstood the tornado without structural collapse.

Levitan then covered selected findings on shelters, safe rooms, and other designated refuge areas. He outlined:

- *F20*: Joplin residents had limited access to underground or tornado–resistant shelters. There were no community shelters or safe rooms in the city of Joplin or in Jasper County at the time. About 82 percent of the homes in Joplin did not have basements, and only a few non–residential buildings had underground locations.
- *F21*: Most high-occupancy commercial and critical facilities surveyed by NIST had designated refuge areas for tornadoes; however, many of these areas suffered severe damage and yielded no positive outcomes with respect to loss of life. The locations of these areas were not always based solely on structural considerations. There are currently no standards, requirements, or guidelines for designating refuge areas in commercial or critical buildings.

Regarding selected findings from the report on fatalities and emergency communications, Levitan stated:

- *F28*: The Missouri State Police attributed 161 deaths and the city of Joplin attributed more than 1,000 injuries to the tornado, which affected an area with an estimated population of 20,820.
- *F29*: Of the 161 deaths resulting from this tornado, 155 (96 percent) were caused by impact–related factors (i.e., multiple blunt force trauma to the body). Others were caused by stress–induced heart attacks, pneumonia, or lightning.
- *F30/31*: There was evidence of high false–alarm rates among the storm–based tornado warnings officially issued for Joplin, but despite public perception, no evidence was found of high false–alarm rates for Joplin's outdoor siren system.

- *F32*: Joplin residents interviewed after the tornado believed that there had been a high number of false alarms in Joplin from official tornado warnings and the city's outdoor siren system prior to 2011, even though the siren activation rate was once per year (on average).
- *F38*: Functioning as an alerting system only, the outdoor sirens prompted many Joplin residents and visitors to seek further information on May 22, 2011. The multiplicity of information sources, and the conflicting information provided by those sources, added to the public's confusion about the true hazard as additional information was sought.
- *F39*: Across the country, there is no standard method for sounding outdoor public siren systems, which has led to variations in siren usage, activation procedures, and sounding patterns among U.S. communities. Also, there are no nationally accepted standard protocols for the issuance of an all–clear alert following a warning.

Levitan also reviewed findings in the study on the public's response to the event, noting:
- *F43*: Responses to the approaching tornado among members of the public, in many cases, were delayed or incomplete.
- *F44*: Two main factors were found to have contributed to that delayed response – a lack of awareness and an inability to perceive personal risk.
- *F45*: The main factor that convinced individuals to take shelter was the receipt of high-intensity cues, including hearing or seeing the tornado approaching or witnessing others' urgency related to taking protection.
- *F46*: No fatalities occurred in demolished, detached homes in which people took refuge in basements. Additionally, NIST found no evidence that any of those killed were located underground during the tornado.

Levitan closed his presentation by briefly covering the report's recommendations that will serve to improve many critical functions for future tornados:
- *R1*: NIST recommends that a capacity be developed and deployed that can measure and characterize actual near–surface tornadic wind fields for use in the engineering design of buildings and infrastructure. This would require enhancement and widespread deployment of advanced technologies, including weather radar.
- *R2*: NIST recommends that information gathered and generated from tornado events (such as the Joplin tornado) should be stored in publicly available and easily accessible databases to aid in the improvement of tornado hazard characterization.
- *R3*: NIST recommends that tornado hazard maps for use in the engineering design of buildings and infrastructure be developed considering spatially based estimates of the tornado hazard instead of point–based estimates.
- *R4*: NIST recommends that new DIs be developed for the EF tornado intensity scale to better distinguish between the most intense tornado events. Methodologies used in the development of new DIs and associated DODs should be, to the extent possible, scientific in nature and quantifiable. As new information becomes available, a committee comprised of public and private entities should be formed with the ability to propose, accept, and implement changes to the EF Scale. The improved EF Scale should be adopted by the NWS.
- *R5*: NIST recommends that nationally accepted performance–based standards for tornado–resistant design for buildings and infrastructure be developed in model codes and adopted in local regulations to ensure the resiliency of communities to tornado hazards. The standards should encompass tornado hazard characterization, performance objectives, and evaluation tools. The standards shall require that critical buildings and infrastructure such as hospitals and emergency operations centers are designed so as to remain operational in the event of a tornado.

- *R6*: NIST recommends the development of risk-consistent, performance–based tornado design methodologies to ensure that all building components and systems meet the same performance objectives when subjected to tornado hazards.
- *R7*: NIST recommends that: 1) model building codes for new buildings require that tornado shelters be designed in accordance with the International Code Council (ICC) 500 standard; 2) model building codes develop and adopt a tornado shelter standard specific for existing buildings; and 3) tornado shelters be installed in new and existing multi-family residential buildings, mercantile buildings, and buildings with assembly occupancies located in tornado hazard areas identified in the performance-based standards required by Recommendation 5.
- *R8*: NIST recommends the development and implementation of uniform national guidelines that enable communities to create the safest and most effective public sheltering strategies. The guidelines should address planning for, siting, designing, installing, and operating public tornado shelters within the community.
- *R9*: NIST recommends that uniform guidelines be developed and implemented nationwide for conducting tornado risk assessments and designating best available tornado refuge areas as an interim measure within buildings until permanent measures fully consistent with Recommendations 5 and 7 are implemented.
- *R10*: NIST recommends that aggregate, gravel, or stone be prohibited as roof surfacing material or roof ballast for buildings of any height in tornado–prone areas.
- *R11*: NIST recommends that enclosures for egress systems (e.g., elevators, exits) of critical facilities in tornado–prone areas be designed to maintain their functional integrity when subjected to tornado hazards.
- *R12*: NIST recommends that owners and operators of existing critical facilities in tornado–prone areas perform tornado vulnerability assessments and take steps to ensure the functionality of: 1) backup power supplies (harden the protection of emergency backup power, as region–wide losses of power due to damage to power transmission infrastructure occur frequently in tornadoes); 2) vertical movement within the building (elevator equipment and shaft enclosures); and 3) means of egress illumination (battery–powered lighting in addition to backup power) in a tornado event.
- *R13*: NIST recommends the development of national codes and standards and uniform guidance for clear, consistent, and accurate emergency communications, encompassing alerts and warnings, to ensure safe, effective, and timely responses among individuals, organizations, and communities in the path of storms having the potential to create tornadoes. NIST also recommends that emergency managers, the NWS, and the media develop a joint plan and take steps to ensure that accurate and consistent emergency alert and warning information is communicated in a timely manner to enhance the situational awareness of community residents, visitors, and emergency responders affected by an event.
- *R14*: NIST recommends that the full range of current and next generation emergency communication "push" technologies (e.g., GPS-based mobile alerts and warnings, reverse 9-1-1, outdoor siren systems with voice communication, and NOAA weather radios) be widely deployed and utilized, to maximize each individual's opportunity to receive emergency information and respond safely, effectively, and in a timely fashion.
- *R15*: NIST recommends research studies to identify the factors that will significantly enhance public perception of personal risk and how such knowledge can be better used to rapidly and effectively respond during tornadic events.
- *R16*: NIST recommends that tornado threat information be provided to emergency managers, policy officials, and the media on a spatially resolved real-time basis by frequently updating gridded probabilistic hazard information that is merged with other GIS information to supplement the currently deployed binary warn/no warn system.

As the draft tornado report is still being finalized, Levitan welcomed comments from SDR members and offered the agencies a chance to participate and take a lead role in implementing the study's findings and recommendations. Steve Cauffman (NIST) added that as part of NIST's charge, his agency will work on the implementing changes to Federal policies based on the study. As part of the discussion, Chris Strager (NOAA) highlighted that the NOAA Weather-Ready Nation initiative is looking at many of the same issues raised in the study, including more effective ways to get tornado warning messages across to the public and changes to the EF Scale for assessing tornado damage and intensity.

Please contact Levitan (marc.levitan@nist.gov) if interested in this opportunity. More information on the investigation and the draft report is available at: http://goo.gl/K8iKaH.

V. Discussion: Charter for Working Group on Wildfire Science

Applegate kicked off an interagency review of a draft charter for the SDR Wildland Fire Science and Technology Working Group, noting that the working group will provide an excellent opportunity for wildfire managers as well as those involved with wildfire R&D to develop enhanced S&T coordination mechanisms across the various agencies that have an interest in this arena. Additionally, Applegate stated that the group will focus on how to best knit those shared objectives together so that the science R&D agenda drives towards the needs of the fire management standpoint. The working group also may focus some of its efforts on analyzing the progress of implementation actions identified in the SDR *Grand Challenges for Disaster Reduction Wildland Fire Implementation Plan*.

To start the discussion, Applegate introduced Jim Douglas, Director of the Office of Wildland Fire at DOI. Douglas provided initial context behind the formation of the group, covering its primary objectives as well as outlining its general direction. According to Douglas, the idea of the SDR Wildland Fire Science and Technology Working Group arose from a wildfire briefing that he and Tom Harbour (USFS) gave back in November 2013 to various White House EOP entities (e.g., OSTP, CEQ, OMB, and NSS) and other Federal agencies. At that meeting, Douglas conveyed a longstanding concern that the wildland fire agencies within the Federal government need to do a better job of articulating broad program needs and requirements and more efficiently matching up those requirements against entities that are capable of addressing them. Douglas noted that while the Joint Fire Science Program (JFSP) has a critical role of S&T coordination by funding scientific research on wildland fires and distributing the results to help policymakers, fire managers, and practitioners make sound decisions, coordination deficiencies still exist. With increasingly limited Federal resources available for fire science research support, Douglas underscored that it makes the most sense to focus efforts on the highest priority research areas and limiting the amount of program duplication.

Matt Rollins, the USGS Wildland Fire Science Coordinator, added that there have been numerous discussions over the past year between fire science providers and fire management organizations about how to accelerate the awareness, understanding, and adoption of fire science by national-level fire managers, responders, and policymakers. Rollins highlighted that one of the main recommendations made during the recent five-year program review of the JFSP was that activities need to be initiated to further the implementation of effective dialogue (i.e., knowledge exchange) between fire policy leaders and fire science providers. According to Rollins, the primary issue is that fire management leadership is unaware of the most current relevant science, and fire science organizations are largely unacquainted with the requirements for science from fire agency decision-makers. This enhanced exchange will serve to formalize the sharing and adoption of tactical and strategic science planning and decision-making tools within the wildland fire community.

Rollins then gave a quick walk-through of the draft charter for the SDR Wildland Fire Science and Technology Working Group. Per the charter's language, the establishment of the working group is intended to support the need for increased coordination and cooperation between the Federal agencies

with wildland fire response and management responsibilities and the Federal organizations with wildfire science functions as well as support national overarching goals as defined in the *National Cohesive Wildland Fire Management Strategy*. Rollins stated that the group will be co-chaired by a representative from a wildland fire management, response, and/or recovery agency and a representative from a science and/or technology organization. The outcome of the working group will be to jointly author a document with the Federal wildland fire management and wildland fire S&T organizations that identifies opportunities and mechanisms for increased coordination and cooperation to support the development, access, and application of S&T in wildland fire management, response, and recovery. Another main focus of the group will be to ensure that Federal wildfire S&T organizations convey consistent information, data products, applications, and equipment to be used by wildland fire managers, responders, and policymakers. Rollins noted that a formal process in the JFSP exists to link fire science experts with fire managers and practitioners at the regional and local levels – known as the Knowledge Exchange Consortia – but gaps and challenges remain in coordination efforts at the national level.

In response to a question from Dickinson regarding whether the working group intends to produce a publicly available report or a Federal government-only document, Applegate, Rollins, and Douglas all voiced that a publicly available document might be the most useful. Anne Kinsinger (USGS) and working group members Jenna Sloan (DOI Office of Wildland Fire) and Carlos Rodriguez-Franco (USFS) cautioned that the group should consider initially restricting the report to Federal government-only, high-level responsibilities and requirements to maintain a sharp focus, while keeping the option in play of broadening its scope to include state, local, and tribal entities and the academic community at a later time. Dickinson also warned that if the working group plans to include non-governmental individuals and entities in its membership, it must be sure to operate within the Federal Advisory Committee Act – or FACA – guidelines that govern public-private interactions.

Douglas mentioned that when the working group assesses the progress of the short-, mid-, and long-term goals laid out in the SDR *Grand Challenges for Disaster Reduction Wildland Fire Implementation Plan*, an important part of the exercise will be to ensure that updated grand challenges are put in place that align with the current needs and requirements of the wildland fire community. Applegate agreed, adding that the group might consider establishing a fire science research baseline that could bring to light gaps in S&T capabilities across the agencies, which would in turn help to: 1) provide a snapshot of the current state of play; 2) identify new objectives; and 3) inform what a future *Grand Challenges* document might look like. Peter Jutro (EPA) suggested that the working group also consider incorporating references to wildfire morbidity into the draft charter's purpose and scope to make certain health and environmental effects of wildland fire are captured. In response to Jutro's comment, Sloan, Douglas, and Kinsinger emphasized that health and environmental effects of wildfires were included in the draft charter by way of the overarching goals as defined in the *National Cohesive Wildland Fire Management Strategy*, but they noted that the working group focused on keeping the charter more broad on paper to avoid having a long laundry list of core functions.

To close the discussion, Dickinson covered the potential membership and next steps for the SDR Wildland Fire Science and Technology Working Group. She noted that it will be critical to bring agencies to the table that focus their efforts on the technology and innovation aspects of wildfire in addition to the ones that are more science based, because in some instances those divisions or departments within Federal agencies may be separated. Regarding some next steps for the group, Dickinson added that another meeting of the key players from the White House EOP organizations and the Federal agencies should take place sometime in February to finalize the charter and kick-off its first activities. As the group is currently seeking participation from the SDR member agencies and their input on the draft charter, please send any comments on the document or requests for involvement in the working group to the SDR Secretariat (bret.schothorst@mantech.com) by Friday, January 24, 2014.

VI. Adjournment

Applegate adjourned the SDR January meeting at 11:56 a.m.

VII. Future Meetings

SDR meetings in 2013 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:

2014

- ✓ Thursday, February 6
- ✓ Thursday, March 6
- ✓ Thursday, April 3
- ✓ Thursday, May 1
- ✓ Thursday, June 5
- ✓ Thursday, July 10
- ✓ Thursday, August 7
- ✓ Thursday, September 4
- ✓ Thursday, October 2
- ✓ Thursday, November 6
- ✓ Thursday, December 4

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

X. Summary of January Actions

Action	Lead	By When
Contact the SDR Secretariat (bret.schothorst@mantech.com), copying SDR Co-chair David Applegate (applegate@usgs.gov) and OSTP Liaison Tammy Dickinson (Tamara_L_Dickinson@ostp.eop.gov), to participate in an interagency SDR working group on wildfire science and technology requirements.	SDR Members	ASAP
Reach out to Marc Levitan (marc.levitan@nist.gov) to participate in implementing the findings and recommendations from the NIST investigation and study of the Joplin tornado.	SDR Members	ASAP

Please consider supporting the work of the SDR and its Secretariat through a contribution from your agency. Let Co-chair David Applegate (applegate@usgs.gov) know if you need an Agency- or Department-specific request letter.	SDR Members	Standing
Email SDR Secretariat (bret.schothorst@mantech.com) and OSTP Liaison Tammy Dickinson (Tamara_L_Dickinson@ostp.eop.gov) if willing to pilot an assessment of the progress of the short-, mid-, and long-term goals outlined in the SDR *Grand Challenges for Disaster Reduction* hazard implementation plans.	SDR Members	Standing
Contact Susan Ruffo (Susan_L_Ruffo@ceq.eop.gov) copying the OSTP Liaison Tammy Dickinson (Tamara_L_Dickinson@ostp.eop.gov) and SDR Secretariat (bret.schothorst@mantech.com) with ideas of how the SDR member agencies can get involved with follow-on activities associated with the President's *Climate Action Plan*.	SDR Members and Federal Colleagues	Standing
Contact the SDR Secretariat (bret.schothorst@mantech.com) and OSTP Liaison Tammy Dickinson (tdickinson@ostp.eop.gov) with ideas or suggestions for a path forward of how the SDR can address the issue of Federal geospatial and remote sensing data interoperability and availability identified in our post-Sandy S&T lessons learned white paper.	SDR Members	Standing
Send brief write-ups outlining the impacts that budget sequestration cuts are having on your agency's disaster reduction S&T activities in FY 2013 as well as an outlook of the President's FY 2014 budget request to the SDR Secretariat (bret.schothorst@mantech.com) copying our OSTP Liaison (tdickinson@ostp.eop.gov).	SDR Members	Standing
Contact Co-chair Dennis Wenger (dwenger@nsf.gov) if your agency is able to provide funding support to the University of Colorado Boulder's Natural Hazards Center.	SDR Members and Federal Colleagues	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