

Meeting Minutes of the Subcommittee on Disaster Reduction

7 June 2012, 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*

Daniel Lechefsky

CDC *Mark Keim*

DHS *Bruce Davis*

DHS/FEMA *Sandra Knight*

DHS/USCG *Austin Gould*

DOD *Al Johnson*

DOT *Sheila Duwadi*

EOP/OMB *Grace Hu*

EOP/OSTP *Tamara Dickinson*

EPA *Peter Jutro*

Stephen Clark

FERC *Pamela Romano (T)*

HUD *Dana Bres*

NASA *Craig Dobson*

NGA *Paul Lewis*

NGB *TBD*

NIH *Allen Dearry*

NIST *William Grosshandler*

NOAA *Margaret Davidson*

Laura Furgione

NPS *Marcy Rockman*

NSF *Dennis Wenger*

OPHS *Estella Jones (T)*

State *Nicholas Suntzeff*

Fernando Echavarria

USACE *Steven Cary*

Dimitra Syriopoulou

USAID *Sezin Tokar*

USDA *TBD*

USFS *Elizabeth Reinhardt*

Carlos Rodriguez-Franco

USGS *David Applegate*

USNRC *Brian Sheron*

Other Attendees

DHS *Michael Ciccarello*

Denise Kruse

EOP/OSTP *Cristin Dorgelo*

EPA *Paul Kudarauskas*

NASA *John LaBrecque*

NIST *Marc Levitan*

NOAA *Gerry Bell*

Margaret McCalla

Chris Strager

NSF *Teresa Davies*

Kishor Mehta

State *Sarah Brooks*

USACE *Andrew Bruzewicz*

USNRC *Brett Rini*

USGS *Joseph Stachyra*

Secretariat *Bret Schothorst*

Barbara Haines-Parmele

Agenda

10:00 Welcome and Introductions

10:05 Discussion of Opportunities and Challenges in Disaster
Resilience for Input to an OSTP Grand Challenges Event

10:45 Continued Agency Roundtable Budget Discussion

11:00 Presentation: NOAA's 2012 Hurricane Season Outlook

11:30 Report from the Co-chairs and Approval of Minutes

11:40 Report from the OSTP Liaison

11:55 Close and Next Actions

Handouts

- Agenda
- Draft May Meeting Minutes
- USGEO Call for Members for the 4th
Evaluation of GEOSS Implementation

I. Welcome and Introductions

Subcommittee on Disaster Reduction (SDR) Co-chair David Applegate (USGS) called the meeting to order at 10:01 a.m., and participants introduced themselves.

II. Discussion of Opportunities and Challenges in Disaster Resilience for Input to an OSTP Grand Challenges Event

Tammy Dickinson (OSTP) introduced Cristin Dorgelo (OSTP), who serves as the Assistant Director for Grand Challenges at OSTP. Dorgelo briefed the SDR on the Administration's grand challenge and incentive prize initiatives that recognize commitments and actions by Federal agencies, private companies, philanthropists, universities, and non-profits to set and meet new grand challenges in science and technology. She also issued her own challenge to the SDR and its member agencies to consider opportunities to use these methods to engage with OSTP in upcoming grand challenge and incentive prize events focused on disaster reduction.

In order to increase Federal agency use of grand challenge goal-setting as a tool to drive multi-sector collaboration and scientific and technological breakthroughs, Dorgelo outlined that – as part of the President's broad strategy for American innovation – “The Federal government should ... use high-risk, high-reward policy tools such as ... challenges to solve tough problems.” Dorgelo highlighted a few common attributes of grand challenge goals from an OSTP perspective, which should aim to: provide significant impact in areas of national and global priority; be ambitious yet achievable; offer compelling and intrinsic motivation; maintain an understandable and achievable level of specificity and focus; and harness innovation and advances in science and technology. Formulating grand challenges also can have several societal benefits, specifically to: help solve important economic and societal problems; serve as a guide for high-impact, multi-disciplinary collaborations and public-private partnerships; create the foundation for industries and the jobs of the future; capture public imagination and increase support for public policies that foster science, technology, and innovation; and inspire the next generation of scientists, engineers, and entrepreneurs.

Several Federal agencies currently are engaged in grand challenges to tackle pressing national and global issues. As examples, Dorgelo noted DOE's launch of a series of environmentally-focused grand challenges for clean energy to: 1) make solar energy cost competitive with other forms of energy by 2020; and 2) make electric vehicles as affordable and convenient to own as gas-powered vehicles by 2020. She also emphasized USAID's grand challenge efforts for sustainable development to: 1) increase access to primary healthcare for pregnant women and newborns by at least 50 percent; and 2) have a majority of students in low-income countries leave primary school with basic reading skills.

Besides grand challenges, incentive prizes also can serve to spur science and technology research partnerships and innovation. According to Dorgelo, offering an incentive prize has many advantages similar in scope to setting a grand challenge, including to: shine a spotlight on a problem or opportunity; target an ambitious goal without predicting which team or approach is most likely to succeed; reach beyond usual suspects to tap top talent; stimulate private sector investment many times greater than the prize purse; bring out-of-discipline perspectives to bear; inspire risk-taking by offering a level playing field; and establish clear target metrics and validation protocols. She then reiterated the role that Federal agencies can play in using incentive prizes to address difficult issues by stressing the broad authority laid out in the America COMPETES Reauthorization Act. The congressional legislation states that, “Each head of an agency, or the heads of multiple agencies in cooperation, may carry out a program to award prizes competitively to stimulate innovation that has the potential to advance the mission of the respective agency.” Prizes set forth by agencies using only Federal dollars are regulated to \$50 million or less without further authorization from Congress; however, Dorgelo noted that additional government procurement processes and private sector funding agreements can be utilized in conjunction with this gift

authority to supplement the amount of a prize award, if needed. Federal agencies should begin the process of securing additional funding partnerships far in advance of publicly announcing a grand challenge or prize incentive to avoid any potential hang-ups with the application of these mechanisms because the legal interpretation of this guidance can vary from agency to agency.

Six types of incentive prizes are utilized presently by Federal agencies to reward results and breakthroughs in science and technology research: 1) exemplar (recognition); 2) point-solution; 3) exposition; 4) participation; 5) network; and 6) market stimulation. When considering a prize design, Dorgelo noted that Federal agencies should start by asking the following questions:

- What problem, gap, or market failure will be addressed?
- Why a prize instead of another form of R&D or engagement?
- Who do you hope to mobilize to compete?

Agencies should also consider the following aspects when planning an incentive prize competition:

- Target audiences;
- Potential partners;
- Available data sets;
- Metrics, judging, and evaluation;
- Size of prize purse;
- Non-monetary incentives;
- Estimated operating funding;
- Milestones, stages, and timelines; and
- Key risks.

Several examples of recent public-private prize competitions were showcased by Dorgelo, including: a prize competition to recognize community colleges with outstanding academic and workforce outcomes in both absolute performance and improvements over time; an international space applications prize incentive for solutions to challenges related to space exploration and social need; a vehicle stopper prize competition for a system that could safely stop uncooperative fleeing vehicles without harm; and an oil cleanup prize incentive to improve the standard oil recovery rate during an environmental disaster.

To close her presentation, Dorgelo issued her own challenge to the SDR and its member agencies to consider opportunities to use these methods to address a critical need or advance science or technology objectives in disaster- and hazard-related programs. She suggested that the Subcommittee consider three points when setting grand challenges and offering prize incentives: 1) develop audacious grand challenge goals that could be achieved in 10-15 years with sufficient cross-sector collaboration; 2) identify technology gaps that could be filled through the use of incentive prizes to engage and encourage private sector participation; and 3) ensure grand challenges and incentive prize competitions are specific and compelling enough to engage and maintain interest over the course of a long period of time. If SDR members are interested in the prospect of using these techniques but need further guidance, Dorgelo noted that NASA has utilized prize incentives in the past and has offered full lifecycle support to other Federal agencies to design and run similar competitions.

Chris Strager (NOAA) brought up NOAA's Weather-Ready Nation campaign and its overarching objective of increasing national resilience to weather hazards as a potential example of a grand challenge and wondered how the initiative might fit into OSTP's overall grand challenge strategy. Dorgelo noted that the Weather-Ready Nation initiative might be too broadly defined to be considered a grand challenge in and of itself but encouraged Strager to consider a more specific, tangible goal within the umbrella project – like the improved precision of weather forecasts and more effective communication of risk to local authorities – to serve as a 10-15 year grand challenge that's progress can be explicitly measured.

As the use of grand challenges and incentive prizes was a relatively new idea for many SDR members, Allen Dearry (NIH) offered his own experiences with Federal incentive prize competitions as a testimony to how the process succeeds in attracting and bringing together out-of-the-box, unconventional ideas to solve problems. According to Dearry, HHS and EPA recently announced a joint nationwide challenge called “My Air, My Health” that offers incentive prize awards for the invention of personal, portable sensors that measure air pollution and a person’s physiological response to environmental pollutants. The challenge has generated a great deal of private sector and commercial application interest that normally would not have been brought to the discussion table through standard Federal grants and procurement practices. Dearry was hopeful that these mechanisms could be used by the SDR in the future to address disaster-related issues such as increasing community resiliency to hazards.

Dickinson wrapped up the conversation by asking the SDR agencies if a small group of members would be interested in forming a task force or working group to formulate one or more grand challenge goals for the SDR to address related to disasters and hazards. Dorgelo offered to assist in the process as needed by briefing Federal agency leadership or providing White House-level guidance on the authority outlined in the America COMPETES Reauthorization Act. If SDR members are interested in engaging in this brainstorming effort, please reach out to the SDR’s OSTP Liaison (tdickinson@ostp.eop.gov) with a copy to the SDR Secretariat (bret.schothorst@mantech.com).

III. Agency Roundtable Budget Discussion

Continued from the SDR’s March and May meetings, Dickinson led a follow-up agency roundtable budget discussion focused on the challenges and opportunities of the President’s FY 2013 budget for the Federal disaster reduction S&T portfolio, both concerning programs within SDR agencies themselves and the impact on interagency work. The sole SDR agency that participated in this conversation at the meeting was NASA. Additional agencies were encouraged to send their budget outlook write-ups to Dickinson in order to provide OSTP with insight into any major changes in hazard-related S&T spending in agency budgets for the coming fiscal year.

IV. Presentation: NOAA’s 2012 Hurricane Season Outlook

Applegate introduced Gerry Bell (NOAA/NWS), who serves as the lead Atlantic hurricane seasonal forecaster at the NOAA Climate Prediction Center (CPC) in Camp Springs, Maryland. Bell’s extensive research into the climate factors controlling seasonal hurricane activity led to the establishment of NOAA’s seasonal Atlantic hurricane outlooks in 1998. Since that time, he has been the lead author of the Atlantic hurricane outlooks and the lead scientist of NOAA’s Long-range Hurricane Outlook Team.

NOAA issues seasonal hurricane outlooks for the Atlantic, the central Pacific, and the eastern Pacific Oceans in late May of every year, with the Atlantic outlook updated again in early August. While NOAA’s hurricane outlooks are probabilistic and intended to indicate the expected overall seasonal activity, they are not a seasonal hurricane landfall prediction and do not imply specific levels of activity for any particular location. According to Bell, with a 70 percent likelihood of occurrence, the 2012 Atlantic outlook predicts near-normal hurricane activity (9-15 named storms, 4-8 hurricanes, 1-3 major hurricanes), while the 2012 central Pacific outlook anticipates below-normal hurricane activity (2-4 tropical cyclones) and the 2012 eastern Pacific outlook predicts near-normal hurricane activity (12-18 named storms, 5-9 hurricanes, 2-5 major hurricanes). Historically, the U.S. Atlantic and Gulf coasts have equal probabilities – around 60 percent – of a hurricane making landfall during a near-normal Atlantic hurricane season.

Bell then reviewed the ripe atmospheric elements for hurricanes to form in the Atlantic basin. This inter-related set of weather conditions has strong links to tropical climate factors, and Bell noted that NOAA’s CPC has an extensive monitoring program to assess and predict these conditions and the associated

climate factors in order to provide more accurate hurricane seasonal outlooks. Among the common factors are:

- Warm water temperatures ;
- Pre-existing weather disturbances;
- Reduced wind shear; and
- Low surface pressure.

Bell's presentation also covered the science behind NOAA's seasonal hurricane outlooks by highlighting that the Atlantic Ocean's hurricane activity reflects inter-related atmospheric and oceanic conditions that are linked to two main tropical climate factors: 1) Atlantic Multi-Decadal Oscillation; and 2) El Niño. The Atlantic Multi-Decadal Oscillation factor produces several key ingredients of a high-activity era for Atlantic hurricanes, including warmer waters, reduced wind shear, and favorable winds that strengthen cloud systems coming from Africa. This pattern favors a stronger 2012 Atlantic hurricane season; however, a competing factor for the strength of the 2012 Atlantic hurricane season outlook is the possible development of the Pacific Ocean phenomenon known as El Niño. Bell highlighted that the presence of El Niño would result in more wind shear and fewer hurricanes in the Atlantic coastal areas and less wind shear and more hurricanes in the Pacific coastal areas. To close his briefing, Bell noted that hurricane impacts are not just coastal events, however. Non-coastal hurricane impacts can be tremendous and can affect inland areas with several types of additional hazards, including: heavy rains, flooding, strong winds, and tornadoes. Bell stated that inland flooding is now the leading cause of death during a hurricane event and that inland areas should be just as prepared for hurricanes as coastal areas. If SDR members have questions about NOAA's 2012 outlook or about the upcoming hurricane season in general, please contact Bell (gerry.bell@noaa.gov).

V. Report from the Co-Chairs and Approval of Minutes

The May meeting minutes were approved with no changes.

Applegate mentioned that the U.S. Group on Earth Observations (USGEO) is asking Federal agencies to identify possible candidates to comprise an evaluation team to respond to the GEO Secretariat's call for a 4th evaluation of the Global Earth Observation System of Systems (GEOSS) implementation. This evaluation will assess GEOSS progress towards strategic targets for the three societal benefit areas of disasters, health, and energy and will take place from September 2012 to May 2013. SDR members who would like to get involved in the evaluation process should contact the SDR Secretariat (bret.schothorst@mantech.com).

Wenger reminded members that the SDR's International Working Group (IWG) will meet the first Thursday of every month from 1:00 p.m. to 2:30 p.m. in the WHCC's Lincoln Room. At the working group's June meeting, the IWG will primarily discuss the SDR's role as the U.S. National Platform for the UN International Strategy for Disaster Reduction, as well as review the working group's final side event agenda for a panel discussion – focused on disaster risk reduction (DRR) and chiefly coordinated by Fernando Echavarría (State) and Allison Reed (NOAA) – at the Rio +20 UN Conference U.S. Center. The discussion, titled “International Partnerships: Indispensable Tools for Disaster Risk Reduction and Sustainable Development,” will highlight U.S. government and non-government DRR activities from many IWG member agencies and their international partners. SDR members who would like to get involved with the IWG should contact the SDR Secretariat (bret.schothorst@mantech.com).

Wenger also encouraged SDR agencies to provide funding support to the University of Colorado-Boulder's Natural Hazards Center, if possible. Please contact Dennis (dwenger@nsf.gov) for more information if you are interested in contributing to this fundraising effort.

VI. Report from the OSTP Liaison

As this September marks FEMA’s ninth annual sponsorship of National Preparedness Month, Dickinson discussed the prospect of organizing a resiliency event focused on Federal interagency programs, partnerships, and collaborations centered on disaster and community resilience to coincide with the occasion. As a means to begin conversations on the opportunity, she highlighted a white paper drafted by Terry Davies (NSF) that outlines a few options for hosting a multi-agency hazards event – possibly in an area at risk of a catastrophic disaster. For example, Dickinson noted that the event could entail a press conference or a scientific briefing and some exhibits that showcase new advances in disaster-related research and technology. In addition, the event would demonstrate the importance of research in disaster prediction, mitigation, recovery, resilience, prevention, and response and highlight the urgency for action. If interested in brainstorming suggestions or ideas for an event, please contact Dickinson (tdickinson@ostp.eop.gov) with a copy to the SDR Secretariat (bret.schothorst@mantech.com).

VII. Adjournment

The meeting adjourned at 11:59 a.m.

VIII. Future Meetings

SDR meetings 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.

2012

Thursday, January 5	Thursday, May 3	Thursday, September 6
Thursday, February 2	Thursday, June 7	Thursday, October 4
Thursday, March 1	*Thursday, July 12	Thursday, November 1
Thursday, April 5	**Thursday, August 2	Thursday, December 6

*We are shifting the July meeting to the second Thursday of the month to avoid proximity to the July 4th Federal holiday.

**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 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-Parmelee	703-388-0309	barbara.haines-parmelee@mantech.com

XI. Summary of June Actions

Action	Lead	By When
Email Tammy Dickinson (tdickinson@ostp.eop.gov) to participate in a small working group or task force to discuss a disaster reduction- or community resilience-focused grand challenge or incentive prize.	SDR Members and Federal Colleagues	ASAP
Send the SDR Secretariat (bret.schothorst@mantech.com) an email if interested in participating in the fourth evaluation of the Global Earth Observation System of Systems (GEOSS) implementation that will assess GEOSS progress towards strategic targets for the three societal benefit areas of disasters, health, and energy.	SDR Members and Federal Colleagues	ASAP
Contact Tammy Dickinson (tdickinson@ostp.eop.gov) to help organize a resiliency event focused on showcasing Federal interagency programs, partnerships, and collaborations by submitting suggestions or ideas centered on either disaster or community resilience.	SDR Members and Federal Colleagues	ASAP
Contact the Secretariat (bret.schothorst@mantech.com) to contribute to the planning process of an upcoming Wilson Center workshop September 13-14, 2012 focused on the use of social media, crowdsourcing, and related technologies for the disaster management process, either by co-sponsoring the workshop, volunteering time, or suggesting panel speakers and topics of discussion for the event.	SDR Members and Federal Colleagues	ASAP
Send Tammy Dickinson (tdickinson@ostp.eop.gov) a brief write-up highlighting any major changes in hazard-related, disaster reduction S&T spending for your agency in the President's FY 2013 budget.	SDR Members	Standing
Please consider supporting the work of the SDR and its Secretariat through a contribution from your agency. Let Dave (applegate@usgs.gov) know if you need an agency-specific request letter.	SDR Members	Standing
Contact Tammy Dickinson (tdickinson@ostp.eop.gov) to pass along issues, concerns, and information from your agency to the White House Office of Science and Technology Policy.	SDR Members	Standing
Contact Tammy Dickinson (tdickinson@ostp.eop.gov) if it would be helpful for OSTP to issue a letter to your Department requesting new (or re-affirmed) designation of representatives. Ideas for other entities that should be represented on the SDR are also welcome.	SDR Members	Standing
Contact 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 the Secretariat (bret.schothorst@mantech.com) if you are interested in participating in the SDR Coastal Inundation Working Group.	SDR Members and Federal Colleagues	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 and Federal Colleagues	Standing
Contact Bret (bret.schothorst@mantech.com) to receive copies of the Grand Challenges for Disaster Reduction Implementation Plan packets or CD.	SDR Members	Standing