

Meeting Minutes of the Subcommittee on Disaster Reduction

2 March 2017, 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)

Jack Meszaros (OSTP)

Designated Representatives

ASPR Darrin Donato

BLM Georgette Fogle (T)

CDC Mollie Mahany

DHS Erin Walsh

DHS/FEMA *Roy Wright*

DHS/USCG Jim Small (T)

DOD *Al Johnson*

DOE *Patricia Hoffman*

DOT Sheila Duwadi

EOP/OMB *Michael Clark*

EOP/OSTP Jack Meszaros

EPA *Greg Sayles*

FERC *Marsha Palazzi*

HUD Dana Bres

NASA Craig Dobson

NGA *Kerri Dugan*

NGB Steve Mason

NIH *Aubrey Miller*

NIST Steve Cauffman

NOAA *Margaret Davidson*

Mary Erickson

NPS Marcy Rockman

NSF Greg Anderson (T)

State Fernando Echavarria

USACE Tony Niles

USAID Sezin Tokar

USCB *Laura Furgione*

USDA *TBD*

USFS *Matt Rollins*

Carlos Rodriguez-Franco

USGS David Applegate

USNRC *Edwin Hackett*

USPHS *Estella Jones*

Other Attendees

Cal OES Dan Bout (T)

CDC Renee Funk

DHS Kara Buckley

Mitch Erickson (T)

DHS/FEMA Nick Shufro

Kathleen Smith (T)

EOP/NSC Amy Rosenband

EPA Keely Maxwell

NASA Miguel Roman

NGB Sherrie McCandless

NIH April Bennett

NOAA Paula Davidson

Kerry Sawyer (T)

USCB Rob Sienkiewicz

USDA Glenn Bethel (T)

USGS Jonathan Godt (T)

Kris Ludwig (T)

USPHS Tracy MacGill (T)

STPI Rob Rozansky

SDR Secretariat

Bret Schothorst

Barbara Haines Parmele (T)

Agenda

10:00 Welcome, Introductions, and Approval of Minutes

10:05 Co-chairs Report

10:20 Briefing: Mitigation Framework Leadership Group
(MitFLG) Activities

10:45 Roundtable: Agency S&T Activities for California
Severe Weather Events

11:55 Close and Next Actions

Handouts

- March Meeting Agenda
- Draft February Meeting Minutes

I. Welcome and Introductions

National Science and Technology Council (NSTC) Subcommittee on Disaster Reduction (SDR) Co-chair David Applegate (USGS) called the March meeting to order at 10:00 a.m. in the White House Conference Center Lincoln Room, and participants introduced themselves.

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

The draft of the minutes for the February monthly meeting was approved with no changes.

April Bennett (NIH) mentioned that the National Institute of Environmental Health Sciences will host its “Annual Federal Interagency Disaster Research Meeting” on Friday, March 10, in Bethesda, MD, which will explore Federal efforts for enhancing our collective ability to conduct timely health research in response to disasters and other time-critical situations. More information is available at <http://dr2.nlm.nih.gov/>. She asked that any questions and RSVP be directed to Betsy Eagin Galluzzo (betsy.eagin@nih.gov) by March 6.

Applegate passed along that the National Academy of Sciences will host a workshop on Monday, March 27, in Washington, DC, titled, “A Century of Wildland Fire Research: Contributions to Long-Term Approaches for Wildland Fire Management.” A draft agenda for the event can be found at: <https://goo.gl/stKyfX>. To register, please visit: <https://goo.gl/egmKoj>. Applegate noted that live video webcast information will be provided closer to the event.

SDR Co-chair Jack Meszaros (OSTP) provided an update on the White House transition, noting that her office is still in the process of reorganizing around the priorities and needs of the new Administration. She added that OSTP has been landing new team members with a heavy focus on technology issues. She added that the SDR charters for the full Subcommittee and its task forces and working groups expire this month. The NSTC has directed its bodies to continue to operate under its charters until there is leadership in place that can recommend either re-chartering or sunseting.

Sezin Tokar from USAID and Mollie Mahany from CDC, Co-chairs of the SDR International Disaster Risk Reduction (IDRR) Working Group, updated members on the agenda for the next working group meeting that afternoon, including a discussion of final details of U.S. participation in the upcoming UN Office for Disaster Risk Reduction (UNISDR) Regional and Global Platform Meetings. The Regional Platform Meeting (RP17) will take place next week in Montreal, Quebec, March 7-9 (<http://www.eird.org/rp17/>), while the Global Platform Meeting (GP17) will occur May 24-26, in Cancun, Mexico (<http://www.unisdr.org/conferences/2017/globalplatform/en>). Please reach out to the SDR Secretariat (bret.schothorst@mantech.com) to be connected with activities of the IDRR Working Group.

Applegate also reminded SDR members to mark calendars for the Natural Hazards Center 42nd Annual Natural Hazards Workshop, July 9-12, in Broomfield, CO. The event’s website with more information is at: <https://hazards.colorado.edu/workshop/2017>.

III. Briefing: Mitigation Framework Leadership Group (MitFLG) Activities

Applegate introduced Nick Shufro, the Assistant Administrator for Risk Management at the Federal Insurance & Mitigation Administration (FIMA) with FEMA, who discussed the recent activities of the FEMA-led Mitigation Framework Leadership Group (MitFLG).

According to Shufro’s presentation and by way of background, the MitFLG provides a coordinating structure for mitigation across the Federal government to encourage risk management and long-term resilience in national planning, decision making, and development. In 2017, the MitFLG is focused on the following priorities: 1) Developing a National Mitigation Investment Strategy (NMIS) in response to

a GAO post-Sandy recommendation (issued in GAO 15-515; the Co-chairs for this effort are Angela Gladwell, FEMA, and Mike Callahan, DOT); and 2) Hosting a joint MitFLG-Recovery Support Function Leadership Group (RSFLG) Disaster Operations Subcommittee to advance resilience in the disaster recovery process including a flagship Resilient Recovery Planning Pilot Project under Louisiana DR 4277 (Severe Storms and Flooding, August 2016; the Co-chairs for this effort are Eric Letvin, FEMA, and Sandy Eslinger, NOAA).

Regarding the NMIS, Shufro noted that the U.S. Government Accountability Office (GAO) recommended hazard mitigation as a strategy to help limit the nation's fiscal exposure and recommended that the MitFLG establish an investment strategy to identify, prioritize, and implement Federal investments in disaster resilience. NMIS recommendations are intended to increase the effectiveness of existing Federal programs in reducing disaster losses and increasing resilience, and to incentivize significantly greater State, local, tribal, territorial (SLTT) and private sector responsibility and contributions to long-term risk reduction.

He added that recommendations will provide guidance to Federal agencies and departments, as well as SLTT entities and the private sector, to consider in making resource allocation decisions regarding the use of existing programs. Beginning in July 2017 through May 2018, the MitFLG will conduct research and stakeholder engagement across a wide range of citizens, organizations, and businesses to ground-truth the viability of proposed strategies, pilot recommendations, and develop Federal governmental action plans – with the goal to begin implementing the strategy in 2019.

Shufro also mentioned that the MitFLG and RSFLG are currently standing up a Joint Disaster Operations Subcommittee to advance resilience in the disaster recovery process across the interagency. Shufro highlighted that the Subcommittee will present a set of recommendations to improve the delivery of resilience through community recovery, focusing on the improved timing of mitigation delivery, improved risk communication and improved incentives. Its recommendations will be informed by piloting a resilient recovery planning approach in Louisiana under DR 4277.

The State-led pilot is currently in development and will focus on integrating resilience into the long-term recovery planning process with Louisiana communities that often lack access to the training and technical assistance needed to successfully integrate mitigation into the recovery planning process. He underscored that the pilot is in the scoping stage, and the local Joint Field Office is working in concert with the State to come up with a shared approach that will help determine timeline goals for 2017.

Shufro closed his presentation by mentioning a recent FIMA-wide learning session on financing for resilience that covered the novel public assistance disaster deductible concept. The issue at hand is that there is minimal incentive for states to increase investments in risk reduction because FEMA assumes 75 percent of public assistance disaster costs. Under the deductible alternative concept, states would pay a standard base deductible – adjusted for each State's risk and fiscal capacity – for credits to incentivize risk reduction investments and apply towards costs. Examples of potential credits include: dedicated funding for emergency response and recovery; expenditures for Non-Stafford Act response and recovery; expenditures for mitigation activities; insurance coverage for public facilities and infrastructure; building code effectiveness grade schedules; tax incentive programs; and expenditures on state emergency management programs.

Please reach out to Shufro (nick.shufro@fema.dhs.gov) with any questions on these MitFLG activities.

IV. Roundtable: Agency S&T Activities for California Severe Weather Events

Applegate led a roundtable discussion on the status of the severe weather events hitting California and the ongoing threat at the Oroville Dam.

The discussion gave various agencies an opportunity to talk about the S&T resources and capabilities that were brought to bear for response and recovery, by what process were they mobilized (e.g., did a State agency request? Did a Federal agency offer?), how they were used, and share any lessons learned with OSTP. OSTP was also interested in hearing from agencies about what important research questions need to be answered related to these events, and the data needs and priorities associated with those. Agencies that participated both in-person and on the phone included: NOAA/NWS, the California Governor's Office of Emergency Services (Cal OES), U.S. Army Corps of Engineers, DHS, USGS, and NASA.

Mary Erickson with the National Weather Service (NWS) kicked things off with a follow up to her February briefing on the storms impacting California and the West Coast in late January. At the outset, she underscored NWS improvements in accuracy and lead-time for the precipitation forecasts for these events. An extended wet period in mid-February resulted in multiple "atmospheric river" events that brought record precipitation, dangerous flooding, landslides, and damaging winds to California (more information on the "atmospheric river" phenomenon is available at: <https://www.esrl.noaa.gov/psd/atmrivers/> and <http://cw3e.ucsd.edu/?cat=12>).

Since October 1, it's been by far the wettest year-to-date in California's northern Sierra, according to data from the California Department of Water Resources (DWR). Erickson outlined that Northern Sierra precipitation has been more than double the average in the 2016-17 wet season, and it's at least 20 inches ahead of the pace of the two previous record wet seasons – 1997-98 and 1982-83. The six-month period ending February 12 was the wettest such period on record in Sacramento, at nearly 25 inches of precipitation. Record daily rainfall was also reported across southern California. Long Beach, Santa Barbara, Sandberg, Santa Maria, and Lancaster all received more rainfall than any other February 17 in history, with most sites doubling or tripling their old records. Death Valley also recorded record rainfall on February 18.

Dan Bout joined the meeting from Cal OES with some important perspectives at the State level. The cost to repair California's storm and flood-damaged roads, dams, and other critical infrastructure from these historic events could top \$1 billion, according to an assessment by the California Governor's office issued in a statement on February 24. Bout noted that his agency plays a coordination role on behalf of other State entities during disasters (in terms of allocating assets based on need, priority, and capability), similar to what FEMA does with its Federal partners at the national level.

According to Bout, one of the coordination areas that needs a closer look during extreme events is how the State agencies integrate their collaborative relationships with Federal partners into the common operating procedures of Cal OES. Occasionally, a disconnect, or "stovepipe phenomenon," exists that prevents information and resources from being shared between agencies during an emergency because those connections have not been made known in advance. In addition, and regarding S&T to support disasters, he noted that many S&T capabilities provided by Federal entities, while valuable, are often times difficult to use at the field level. More tools are needed that can easily and quickly interpret raw data and information for usable on-the-fly local emergency management operations.

Regarding a timeline of his agency's support to the Oroville Dam situation, Tony Niles from the U.S. Army Corps of Engineers (USACE) highlighted that after almost 10 days of rainfall, damage was observed on February 7 in the main spillway, and erosion was observed shortly thereafter in the emergency spillway. On February 8, the State of California requested technical assistance from the USACE Sacramento District Office to address structural damage and preserve the continued operation of the dam, including emergency rock repairs at main and emergency spillways.

Niles stated that the President signed an emergency declaration for protective measures and Federal assistance to the dam on February 14. The USACE Sacramento District Office is providing dam safety, dredging, geotechnical, and landslide expertise to the dam to augment existing California DWR personnel. Niles noted that the target reservoir level of 851 feet was achieved, leading to reservoir releases being suspended on February 27 to relieve high water and levee saturation downstream. USACE is coordinating reservoir operators at multiple USACE-operated dams across the state to optimize releases to minimize peak flood flows and mitigate downstream impact. He added that his agency is also working with collaborators in government and academia on a variety of S&T projects in support of response and recovery objectives.

Kara Buckley from the DHS Office of Cyber and Infrastructure Analysis, Prioritization and Modeling Division joined the meeting to discuss modeled failure scenarios for the Oroville Dam threat based on coordination between the DHS Office of Infrastructure Protection and Office of Cyber and Infrastructure Analysis, FEMA Region 9, and Cal OES. The potential scenarios she covered were: 1) Catastrophic (complete) dam failure; 2) 30-foot vertical breach in the emergency spillway, resulting in an approximate peak discharge flow of 500 KCFS (Thousands of Cubic Feet Per Second); 3) 30-foot vertical breach in the emergency spillway (500 KCFS discharge) combined with high discharge from the Feather and Sacramento Rivers; 4) Wet and fair weather scenarios for 30-foot breach using LIDAR and levee data provided by the California DWR for a more accurate representation of the topography; and 5) 50-foot breach of the emergency spillway (assumes additional erosion beyond the concrete wall).

Applegate noted USGS activities in support of the severe weather events, including conducting over 1,000 storm-related measurements at over 360 locations. 49 USGS gages exceeded NWS flood stage, of which 25 were above flood stage for 5 or more days, and 220 USGS gages had top 10 peak flows (with 88 of these gages having over 40 years of record). Coordination with other agencies included conducting rating verifications during releases from multiple dams operated by the U.S. Bureau of Reclamation, Turlock Irrigation District, Alameda County Water District, and the USACE. USGS also coordinated activities and shared resources with the California DWR on the Feather River below the Oroville Dam and Sacramento River and conducted rating verifications for DWR during releases from Friant Dam to inform concerns about levee failures.

Applegate added that the USGS additionally provided geospatial and remote sensing imagery coordination through the Hazards Data Distribution System (HDDS), strengthened seismic monitoring near the Oroville Dam site, and worked with State and Federal partners to assess landslide and debris flow impacts on property and infrastructure throughout the state. The USGS ARkStorm scenario of catastrophic atmospheric river events was used by State and local entities to inform disaster planning and response (more available here: <https://pubs.usgs.gov/of/2010/1312/>).

Miguel Roman from NASA concluded the roundtable briefings and noted that for these severe weather events, NASA used multiple sensors, models, and maps to answer critical questions, mobilize resources to assist saving lives and protecting property, and support both FEMA and the California DWR. Integrated Multi-satellitE Retrievals (IMERG) from his agency's Global Precipitation Measurement Mission was used by the Global Flood Monitoring System to detect potential flooding conditions and estimate intensity near the Oroville Dam. This system also used the GEOS-5 model forecast to estimate streamflow within the affected areas, which was valuable for improving situational awareness of floods. This capability can be applied anywhere globally, especially where conventional data and methods are not available.

He added that NASA's global landslide "nowcast" model provided situational awareness of landslide hazards in the affected areas for a wide range of users. The model uses IMERG near real-time data to generate a global susceptibility map to identify locations with landslide potential. NASA landslide

susceptibility, hazard, and rainfall data are available globally in near real-time and have been used by international and domestic organizations, such as the World Bank, World Food Programme, Pacific Disaster Center, FEMA, and the USACE.

V. Adjournment

Applegate adjourned the SDR March meeting at 12:02 p.m. and noted that the group’s next meeting will be held on Thursday, April 6, 2017, in the White House Conference Center Lincoln Room.

VI. SDR 2017 Meeting Calendar

SDR meetings in 2017 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:

2017

- ✓ Thursday, January 5
- ✓ Thursday, February 2
- ✓ Thursday, March 2
- ✓ Thursday, April 6
- ✓ Thursday, May 4
- ✓ Thursday, June 1
- ✓ Thursday, July 13*
- ✓ Thursday, August 3**
- ✓ Thursday, September 7
- ✓ Thursday, October 5
- ✓ Thursday, November 2
- ✓ Thursday, December 7

* July meeting shifted to the second Thursday of the month to avoid proximity to the Independence Day Federal holiday.

** August meeting subject to cancellation.

VII. 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@mantech.com).

VIII. Contact Information

SDR Leadership

David Applegate	Co-chair	703-648-6600	applegate@usgs.gov
Jack Meszaros	Co-chair	202-456-6020	Jacqueline_R_Meszaros@ostp.eop.gov

Executive Secretariat

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

IX. Summary of March Actions

Action	Lead	By When
Note that the next SDR meeting will be held on Thursday, April 6 in the White House Conference Center Lincoln Room.	SDR Members	For Information

Mark calendars for the Natural Hazards Center 42 nd Annual Natural Hazards Workshop, July 9-12, in Broomfield, CO, at https://hazards.colorado.edu/workshop/2017 .	SDR Members and Federal Colleagues	For Information
RSVP to Betsy Eagin Galluzzo (betsy.eagin@nih.gov) by March 6 for the NIH NIEHS “Annual Federal Interagency Disaster Research Meeting” on Friday, March 10.	SDR Members and Federal Colleagues	Monday, March 6
Register at https://goo.gl/egmKoj for the National Academy of Sciences Monday, March 27 workshop “A Century of Wildland Fire Research: Contributions to Long-Term Approaches for Wildland Fire Management.”	SDR Members	ASAP
Reach out to the SDR Secretariat (bret.schothorst@mantech.com) to be connected with the activities of the SDR IDRR Working Group.	SDR Members	Standing
Contact Nick Shufro (nick.shufro@fema.dhs.gov) for more information on the activities of the FEMA-led MitFLG.	SDR Members	Standing
Send additional disaster-related priorities from your agency for consideration in the new Administration to the SDR Secretariat (Bret.Schothorst@ManTech.com) on a rolling basis.	SDR Members	Standing
Send Dave Applegate an email (applegate@usgs.gov) if you are interested in contributing to the work of the SDR and would like additional documentation or an agency-specific letter.	SDR Members	Standing
Email the SDR Secretariat (bret.schothorst@mantech.com) to suggest external DRR stakeholder groups to invite to present at quarterly SDR meetings on behalf of the U.S. National Platform for UNISDR.	SDR Members	Standing