

Draft Minutes for the 1581st meeting of the Geological Society of Washington

September 28, 2022

John Wesley Powell Auditorium, Cosmos Club, Washington, D.C.

President Meinert called the meeting to order at 20:08 EDT.

Attendance

There were 87 attendees, 46 in-person and 41 online.

Minutes

The meeting began with the approval of the minutes from the previous meeting (1580th). The minutes of the 1580th meeting had been posted online and a Minute's Minute was read aloud at the 1581st meeting. No corrections were noted, and the minutes were accepted.

New Members and Guests

No new members were announced.

Sixteen guests were introduced: Madison Sanders (STR), Ryan Kramer (NASA Goddard), Steve Simon (Climate Prediction Center), Carsten Oertel (MITRE), Anastassios Dardas (MITRE), Jessica Whitaker (USGS Denver), Gabriel Hendricks (MITRE), Chris Moses (USGS), Liz Roberts (MITRE), Maggie Walden (USGS Denver), __Taler (NASA JPL), Joshua Elliott (DARPA), Jennifer Wang (DARPA), Melissa Hendrix (Washington D.C.), Claire Hendrix (Washington D.C.) and Caroline Kenney (PVCC).

Announcements

- 1) Larry Meinert unofficially announced that next month's Bradley Lecture will be delivered by Nobel Prize-winning physicist John Mather. Mather, senior project scientist for the James Webb Space Telescope, has promised to share spectacular images. The Bradley Lecture will be at AGU on October 19th.
- 2) Mong-Han Huang announced two talks this week at the University of Maryland, College Park campus. Dr. Susan L. Brantley, professor of geosciences at the Pennsylvania State University, will deliver both as part of the Department of Geology Helz Distinguished Lecture series. The first is on Monday, October 3 at the ESJ Learning and Teaching Center at 4:30 p.m. in room JS0224. Dr. Brantley will then deliver a talk of general interest on Thursday, October 6, at 6 p.m. in the ESJ Center, room 1212. President Meinert pointed out that this lecture series is named after GSW's very own George and Roz Helz. A rousing round of applause followed.

Informal Communication

There was no informal communication.

Obituaries

There were no obituaries.

Formal Program

The formal program commenced at 20:23 EDT and consisted of three speakers: Susan Anenberg (Milken Institute School of Public Health, George Washington University), Valentina Aquila (Department of Environmental Science, American University) and David Applegate (United States Geological Survey).

Susan Anenberg presented "Climate Change, Air Pollution, and Public Health: Bridging Science to Policy." Anenberg's talk addressed recent advances in estimating the health burden from air pollution and climate

change, and how this research can inform policy choices. She pointed out that climate change and air pollution interact in several ways, and are among the leading causes of premature death worldwide. Novel geospatial datasets of environmental indicators make it possible to track the burden of environmental pollution with complete geographical coverage and high spatial resolutions. *Talk Length: 18'40"*

Questions were asked by: Ved Lekić (UMD), Mong-Han Huang (UMD), Joseph Kanney (NRC) and Larry Meinert (Economic Geology & CSM).

Valentina Aquila presented "The Impacts of Volcanic Eruptions on Earth's Climate." Aquila gave an overview of the main impacts of volcanic eruptions on the climate, and presented the concept of solar geoengineering, i.e., the idea of mimicking volcanoes to counteract global warming with *ad-hoc* injections of aerosol in the stratosphere. Large volcanic eruptions can spew teragrams of sulfur dioxide and sulfate aerosol into the stratosphere. There, they increase the Earth's albedo for years after the eruption, modifying the global climate. The last eruption large enough to change the global climate was Mt. Pinatubo, Philippines, in 1991, which decreased the global mean temperature by about half a degree Celsius during the following year and brought stratospheric ozone concentrations to an unprecedented low. She pointed out that smaller eruptions such as the one of Nabro in 2011 or Calbuco in 2015 have, one by one, a much smaller climate impact than Pinatubo, but their frequency make them a fundamental player in the radiative balance of our planet. *Talk Length: 20'46"*

Questions were asked by: Mong-Han Huang (UMD), Jessica Whitaker (USGS), Steve Simon (Climate Prediction Center), Joe Kanney (NRC), Janine Andrys (NMNH) and Larry Meinert (Economic Geology & CSM).

David Applegate presented "The Role of the U.S. Geological Survey in a Time of Converging Crises" Applegate reported that since its founding, the U.S. Geological Survey (USGS) has been dedicated to delivering science to inform decisions on some of the most consequential issues facing our nation. That was the case in 1879 when the order of the day was to characterize the resources of an expanding nation. It is very much the case today when a growing population requires safe and abundant water resources, critical minerals for our energy future, healthy ecosystems that foster our quality of life and fulfill our stewardship responsibilities, and disaster-resilient communities prepared to thrive despite the natural hazards we face in a warming world. Relying on a talented, dedicated workforce and a wide array of partnerships, the USGS combines foundational mapping, monitoring, remote sensing, and sampling of our changing Earth systems with the technical expertise to analyze, model and interpret these data. Applegate said that the Survey seeks to deliver real-time situational awareness, long-term assessments, and other scientific information in ways that are relevant, meaningful, and useful to those who need it most, when they need it most. *Talk Length: 22'35"*

Questions were asked by: Liz Cottrell (NMNH), Ved Lekić (UMD), Mong-Han Huang (UMD), Carl-Henry Geschwind (Independent Researcher), Brooks Hanson (AGU), Ester Szein (NAS), and Jonathan Tucker (NAS).

President Meinert adjourned the 1581st meeting at 22:07 EDT.

Respectfully submitted,

Beth Doyle