The Geological Society of Washington

*founded 1893*

Speaker **BLURBS**

Meeting No. 1581 (09/28/2022)

**Susan Anenberg**,Milken Institute School of Public Health, George Washington University

*"Climate change, air pollution, and public health: Bridging science to policy"*

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. This talk will address recent advances in estimating the health burden from air pollution and climate change, and how this research can inform policy choices.

**Valentina Aquila**, Department of Environmental Science, American University

*"The impacts of volcanic eruptions on Earth’s climate"*

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. 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. This talk will provide an overview of the main impacts of volcanic eruptions on the climate, and will present 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.

**David Applegate**, USGS

*“The Role of the U.S. Geological Survey in a Time of Converging Crises”*

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. We seek 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.