President Larry Meinert called the meeting to order at 20:03 EST.

Attendance
There were 53 attendees.

Minutes
The meeting began with the approval of the minutes from the previous meeting (1572nd). The minutes of the 1572nd meeting had been posted online and a Minute’s Minute was read aloud at the 1573rd meeting. No corrections were noted, and the minutes were accepted.

New Members and Guests
Two guests were introduced: Kris McCandless (Virginia Dept. of Environmental Quality) and Bob Kieckhefer (Retired, Now in San Francisco).

One new member introduced himself on chat: Kris McCandless (Virginia Dept. of Environmental Quality).

Announcements
1. Larry Meinert explained that new email security procedures impeded efforts to broadcast the meeting’s switch to a virtual format and to share the Zoom link with participants. For many servers, emails that contain links now go directly to spam folders; for reasons unknown, many members did not receive the announcement at all. Larry confirmed that the next meeting on February 2nd will also be virtual, as scheduled and that the format for the following meeting on February 23rd, currently set as in-person at the Cosmos Club, will be determined closer to the date. Larry said that every effort will be made to ensure that announcements get out as soon as possible and that the GSW website remains a reliable source for up-to-date information.

2. Kori Newman displayed the dates of regional science fairs for 2022 along with her contact information. All fairs will be virtual. Judging will involve viewing entrants’ YouTube videos. For those who would like to judge, email Kori. Kori also announced that she is looking for a replacement either now or next year in her longstanding role as Public Service/Science Fair Committee Chair. Larry Meinert added his thanks for Kori’s spectacular job over the years and said that no one person could possibly do this job as well “which is a plea to stay on forever.” This volunteer position is but one of several that Kori holds. She continues to be the president of the Potomac Geophysical Society and as GSW’s 1st Vice President she is in line to be president in 2023.

Informal Communication
There was no informal communication.

Obituaries
No obituaries were announced.

Formal Program
The formal program commenced at 20:12 EST and consisted of three speakers:
Nico Kueter (Carnegie Earth and Planets Laboratory), Mariah Baker, (Smithsonian National Air and Space Museum) and Jonathan Arthur (American Geosciences Institute).

Nico Kueter presented “Tracing the Origin of Indonesia’s Alluvial Diamonds.” Nico opened by laying out the history of Indonesia’s alluvial diamond deposits of Kalimantan. They are among the oldest worked diamond mines, going back as far as 1000 A.D. Kueter noted that the origin of Kalimantan and SE-Asian diamonds is
curious since they are in a non-cratonic setting, unusual for diamonds. The apparent lack of kimberlites or kimberlite indicator minerals, the proximity to ultramafic bodies, and the unusual alluvial association with detrital gold, platinum, tektites and agates has resulted in numerous speculations about the primary origin of Kalimantan diamonds. Nico shared his methods for investigating the geological history of these diamonds. They involve examining diamond surface features and the zircon provenance of diamond-associated sediments in Southeast Kalimantan. Based on this combined approach, Nico proposed a classical primary kimberlitic origin followed by extended episodes of tectonic displacement of primary kimberlitic and secondary placer deposits, which were later reworked during the local orogenic episodes that formed the SE-Asian continental core. Talk Length: 22’09”

A question was asked by: George Helz (UMD). Several enthusiastic comments were posted in chat.

Mariah Baker presented “Orbital and In Situ Assessment of the Aeolian Environment at Glen Torridon, Mars.” Mariah shared images of Glen Torridon, where the Mars Science Laboratory (MSL) Curiosity rover spent a full martian year in exploration. This approximately 500-km-wide, clay-rich trough is situated along the northwest flank of Aeolis Mons in Gale crater. Mariah said that data acquired from MSL, in conjunction with orbital images acquired from the High-Resolution Imager Science Experiment (HiRISE) camera, suggest that the trough has likely served as a long-term conduit for sand transport, possibly undergoing successive cycles of net accumulation and deflation. She noted that along its traverse in Glen Torridon, MSL encountered a diversity of erosional and depositional features, including multiple generations of bedform, implying a long and varied aeolian history. She pointed out that the contrast between active ripples exhibiting low-cohesion and low-albedo and coarse-grained bedforms exhibiting high-cohesion and high-albedo imply a significant change in local environmental conditions over time. Small-scale abrasion features in Glen Torridon mudstones indicating sand transport towards approximately southwest need to be reconciled with those in nearby sandstones which imply strong transport in the opposite direction. Modern wind indicators such as impact ripple migration, erosion of drill piles, and soil wind tails suggest the potential influence of a seasonally-forced, bimodal wind regime with dominant northerly and easterly components. These observations are broadly consistent with atmospheric models which predict enhanced potential for aeolian activity during local spring and summer when regional winds from the north interact with katabatic winds flowing down Aeolis Mons from the east. Mariah concluded by stating that while some local-scale discrepancies exist between model predictions and field evidence of contemporary flow patterns, data generally support the interpretation that sediment in Glen Torridon is currently being blown towards the west/southwest as part of broader intracratere transport pathways. She closed with a GIF of a Glen Torridon dust devil. Talk Length: 23’18”

Questions were asked by: George Helz (UMD), Nico Kueter (Carnegie EPL), Bill Burton (USGS-Emeritus) and Mong-Han Huang (UMD).

Jonathan Arthur presented “Scanning the Geoscience Horizon — a View from AGI.” Jon explained how the geosciences are in flux, as societies and associations consider their future, academic programs explore new paradigms and student enrollments decline. He also discussed the effects of the perceived energy transition, such as professional lane-shifting and retirements. Jon said that AGI is working with the geoscience federation to keep its collective eye on the ball, while at the same time, rebuilding its capacity to represent and serve the geoscience community by providing collaborative leadership and information to connect Earth, science, and people. As AGI's new executive director, Jon shared news of AGI's impactful projects, as well as a glimpse into the future of the geosciences. Talk Length: 22’15”

Questions were asked by: Liz Cottrell (NMNH), Mong-Han Huang (UMD) and Ester Sztein (NAS) and led to an extended discussion with Jon about diversity in the geosciences.
President Meinert announced that the next meeting, on February 2nd is virtual. Speakers for Feb. 2 will be: Dr. Jaime Barnes (University of Texas at Austin), Dr. Brent Goehring (Tulane University) and Dr. Miquela Ingalls (Penn State University). The following meeting, on Feb 23rd is scheduled to be in-person at the Cosmos Club. COVID developments may force this meeting to be virtual. He then adjourned the 1573rd meeting at 21:57 EST.

Respectfully submitted,

Beth Doyle