# The 2024 Collectors Tour: A Case Study in Field-Based Geoscience Communication

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## ABSTRACT

As The "2024 Collectors Tour" was a field-based science communication initiative that employed narrative structure, place-based explanation, and methodological transparency to bring Critical Zone science alive for a non-specialist audience. The Collectors Tour consists of a 21-episode video series produced during an 18-day, 4,500-km field campaign to empty mineral dust collectors deployed across Utah, Nevada, and Idaho in the southwestern United States. This work was part of the DUST^2 project, funded by the US National Science Foundation to investigate the role of mineral dust erosion, transport, and deposition in the geoecological functioning of Earth surface environments (i.e. the "Critical Zone). Each video of the Collectors Tour was anchored to the location where a specific dust collector is deployed, and used that location to introduce concepts related to mineral dust, soil formation, snow hydrology, climate variability, ecosystem function, and human influence. In this way, the Collectors Tour embedded scientific explanation directly within active fieldwork, inviting viewers to observe how geoscience knowledge is generated in real settings. The strategy of multiple sequential videos, produced and distributed in rapid succession, emphasized authenticity, continuity across episodes, and visual engagement with landscapes, transforming the routine annual campaign to service the dust collectors into a coherent outreach narrative. The Collectors Tour also reflected lessons learned from long-term communication efforts, including the value of consistency, the power of storytelling grounded in genuine field practice, and the importance of acknowledging collaboration, logistics, and uncertainty. To date the videos have received more than 2600 total views, making this a broadly successful and lasting science outreach success. As a case study, the Collectors Tour offers a replicable model for integrating science communication into ongoing field research and contributes to broader discussions on effective strategies for communicating science to diverse audiences.


## GOAL and APPROACH

The biannual loop to visit the passive dust samplers (Figure 1) I maintain in Utah, Nevada, and Idaho is an odyssey ready-made for story telling (Figure 2). In the fall of 2024, I came up with the idea of creating short videos for each of them to demonstrate what it's like getting to these wild and remote places, how beautiful these open landscapes are, and how exactly these dust collectors contribute to the objectives of the DUST^2 project (Figure 3).

Over 18 days spanning September 28 through October 15 I visited all 20 of the dust collectors working completely solo and unsupported. I recorded video of the drives and hikes to each of the collector locations using a DJI Mini 3 Pro drone. I carried a GoPro Hero 4 camera to record scenes while hiking. At each collector, I set up a tripod and recorded an impromptu monolog (~5 minutes long) using an iPhone 14 and a Lark wireless microphone (Figure 4). This raw content was then sent back to Andrew Cassel, the science communication specialist with DUST^2, who created a movie for each collector. These were posted as quickly as possible to the CZ-Net/DUST^2 YouTube page and shared widely though the DUST^2 Mastodon account.

***Figure 1:*** *Photograph of the DUST-4 collector on the north side of the Uinta Mountains near the Utah-Wyoming border on October 9, 2024.*

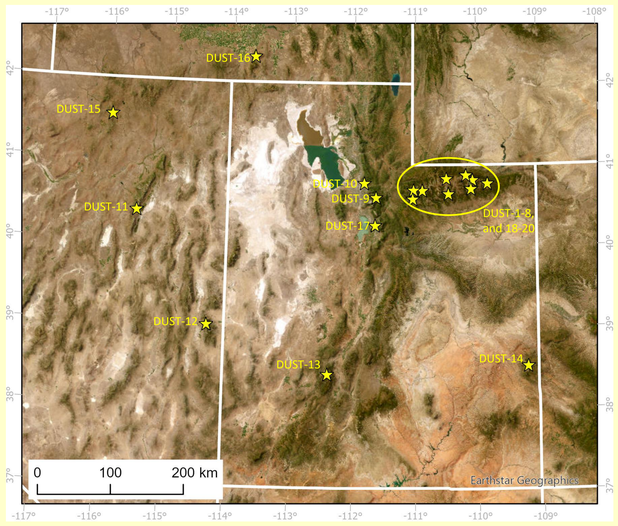
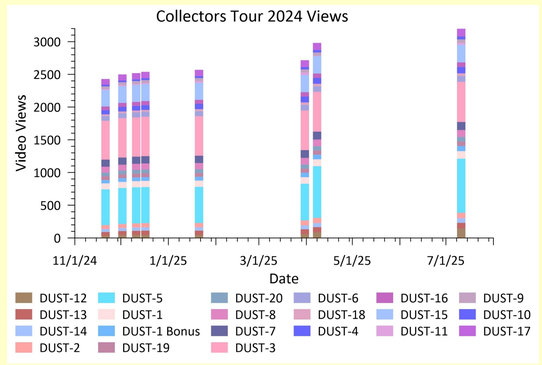


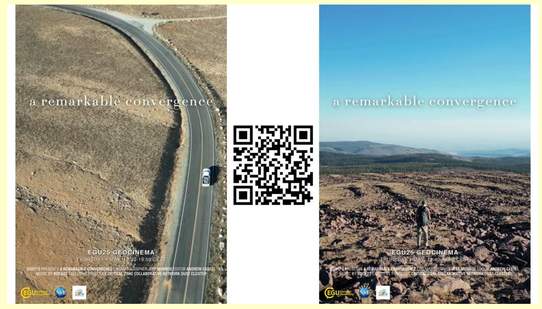

***Figure 2:*** *Map of the study area showing the locations of the 20 dust collectors. 1-8, and 18-20: Uinta Mountains, 9: Wasatch Mountains, 10: Salt Lake City, 11: Ruby Mountains, 12: South Snake Range, 13: Tushar Mountains, 14: La Sal Mountains, 15: Independence Range, 16: Albion Range, 17: Provo.*

***Figure 3:*** *Screenshots of the 21 videos comprising the 2024 Collectors Tour. The last video (DUST-17) is at the top, the starting video (DUST-12) is at the bottom right. The central part of each video is a monolog I recorded in a single take sitting next to each dust collector. These cover topics (listed in green) ranging from how the collectors work, to the role of mineral dust in mountain soil formation, and other impacts of dust deposition.*


***Figure 4:*** *Photograph of the equipment I carried in the field each day to capture the video and photos needed to create the Collectors Tour videos. Although I have considerable experience as a drone pilot, I have never explicitly collected content for video creation, and I certainly never recorded monologs facing the camera in the field. It was a fun challenge that added yet another dimension to my fieldwork.*






## A Remarkable Convergence

Footage from the Collectors Tour was compiled in a short movie titled "*A Remarkable Convergence*." The intent was to document the effort and the rewards associated with such a long stretch of solo fieldwork. The film begins with an audio clip of me saying "It's a pretty simple life living in the field, which is one reason I really like it." At the end, my voice returns to excitedly explain how fortunate I feel to have spent nearly 3 weeks wandering these spectacular landscapes as part of my work, describing that as a "remarkable convergence." The film screened as part of the GeoCinema at the 2025 EGU Conference and is available on YouTube.


## ACKNOWLEDGMENTS

This work was a component of the DUST^2 Critical Zone Thematic Cluster, supported by NSF EAR-2012082 to J. Munroe. A manuscript presenting the tour is in review at *Geoscience Communication*:
https://egusphere.copernicus.org/preprints/2026/egusphere-2026-1586/