



HDRFS participants gathered for the 2025 HDRFS Annual Meeting held in Reno, April 6-8, 2025. (Credit: Scotty Strachan)

Last April, approximately 80 researchers, students, and collaborators from the Nevada NSF EPSCoR RII-Track 1 Harnessing the Data Revolution for Fire Science (HDRFS) project gathered at the University of Nevada, Reno (UNR) for the 2025 Annual Meeting. At the meeting, the panel presentations brought together the different components to discuss relevant topics necessary to advance the research, such as data management, field set-up, and mapping to modeling capabilities. Additionally, the meeting hosted a student poster session along with a graduate student workshop. For many, the highlight of the meeting was the field trip to the Red Rock Road 2 (RRR2) site, showcasing the infrastructure created for the field burns. Not only was the meeting successful in providing attendees with a first-hand look at the collaborative research efforts but also allowed participants time to network and plan for next year's activities.

STUDENTS SHARE HDRFS RESEARCH HIGHLIGHTS

Dozens of students and early career researchers came together during this year's meeting to present work spanning the HDRFS program's five research components. Several posters touched on methods for making technologies like artificial intelligence and LiDAR accessible to people or research groups with smaller budgets, while other students presented their findings from field research spanning at least three states. Lastly, students associated with the Education and Workforce Development component shared updates on the group's efforts to expand HDRFS findings into new spaces.



Students presented their work during a networking and poster session at the 2025 HDRFS Annual Meeting. (Credit: Mayara Cueto-Diaz)



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Neil Lareau demoed his mobile LiDAR machine during the field site visit. (Credit: Mayara Cueto-Diaz)

HDRFS TEAM VISITS PROJECT SITE OUTSIDE RENO

This year's in-person gathering gave attendees the chance to tour the program's field site along Red Rock Road outside Reno. What was once a vacant swathe of sagebrush desert has now transformed into a research hub where HDRFS scientists will soon carry out dozens of experiments supported by technological infrastructure developed by the CII team. Visitors learned about upcoming projects and received updates on those currently underway, including the deployment of a 4,000 pound mobile flux chamber, a truck-mounted LiDAR system for imaging smoke plumes, and an upcoming series on controlled burns planned for the site.

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Q&A WITH VERA SAMBUROVA:

HDRFS RESEARCHERS TRAVEL TO STUDY LOS ANGELES WILDFIRES

Earlier this year, a series of destructive wildfires tore through communities in the Los Angeles metropolitan area. The largest two, the Eaton Fire and the Palisades Fire, have so far been linked to at least 30 deaths and the destruction of roughly 16,000 structures, making them some of the most deadly and costly blazes in the state's history. Vera Samburova, an organic analytical chemist at the Desert Research Institute, Reno, and a member of the fire emissions and their atmospheric aging component, traveled as part of a team to Los Angeles in late February to collect dust, ash, and soil from the area to better understand how these urban fires differ from those that burn in wilderness.



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Q&A WITH MOJTABA SADEGH:

ARTIFICIAL INTELLIGENCE COMES TO WILDFIRE PREDICTION

Artificial intelligence excels at teasing meaningful conclusions out of strings of messy, seemingly incompatible data. Mojtaba Sadegh, a civil engineer at Boise State University in Idaho and the keynote speaker at this year's meeting, says that this fact makes AI-powered tools an essential resource in bridging wildfire science and big data, particularly as the direct human exposure to wildfires across the United States has more than doubled over the last two decades. In this Q&A, Sadegh discusses his recent work creating predictive tools that help wildlife managers improve their efficiency and effectiveness.

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