PURDUE UNIVERSITY | Department of Earth, Atmospheric, and Planetary Sciences

EAPS WEEKLY NEWSLETTER

March 10, 2025

Facebook LinkedIn Instagram Website

EAPS MEETINGS & EVENTS

PURDUE REGISTRAR CALENDARS

EAPS SEMINARS AND EVENTS CALENDAR

EAPS K-12 OUTREACH CALENDAR OF EVENTS

REPORT YOUR OUTREACH AND ENGAGEMENT ACTIVITIES

CONGRATS, KUDOS, COOL STUFF, AND THUMBS UP!

- You are invited to join the public portion of Srilani Wickramasinghe's preliminary exam on **Wednesday, March 12 at 2:00 pm in HAMP 2201.** The title of her talk is, "What do longitudinal isotopic trends reveal about nutrient sources, transport processes, and baseflow generation in the Wabash River watershed?"
  Good luck, Srilani!
- Congrats to Sara Cuevas-Quiñones earns Fulbright as Purdue continues streak as top producer!
- Have fun at LPSC in The Woodlands, TX to thoe who are presenting and/or attending!

NEWS/OPPORTUNITIES AT PURDUE

DEFENSE CIVILIAN TRAINING CORPS - PURDUE UNIVERSITY

Purdue's Defense Civilian Training Corps (DCTC) is a new program that will build civilian careers in the Department of Defense relating to acquisition, digital technologies, critical technologies, science, engineering, and finance and more. The Defense Civilian Training Corps is a scholarship-for-civilian service award.

EAPS GRAD STUDENT RESEARCH OPPORTUNITIES

If you are interested in an EAPS grad research opportunity, click here for more information.

PURDUE ENGINEERING DISTINGUISHED LECTURE SERIES

Tuesday, March 11 – Lecture 1:30 pm to 2:30 pm
Panel at 2:30 to 3:30 pm in ARMS Atrium
Dr. Robert Braun, Head of Space Exploration Sector at John Hopkins Applied Physic Lab.
Dr. Ben Pearce will be serving on the Panel for this seminar.
Click here for more information.

PURDUE ASTRONOMY CLUB OUTREACH EVENT

Friday, March 14th 1:00 to 3:30 AM on the Memorial Lawn
PhysAstro's Purdue Astronomy Club will be up early this Friday Morning checking out the Lunar Eclipse!

EAPS Community Social Hours

On behalf of the EAPS DEI Committee, we are writing to affirm our department's dedication to building an inclusive learning environment where students, postdocs, staff, and faculty from diverse backgrounds and perspectives can succeed. Our department is committed to creating a welcoming and inclusive culture where everyone can thrive as their full authentic selves. We also want to acknowledge that current events happening at the local, state, national, and global level can impact what we're able to bring to our science and work. Going forward, we will be hosting EAPS "Community Social Hours" on **Tuesdays from 1:30–2:30 pm in HAMP 2201** that are open to all to be together, support each other, and build community. Please feel free to stop by and hang

out. You can join us for a cup of coffee or to eat your lunch, chat about what's on your mind, bring your laptop and brainstorm how to make a cool new plot, or come sit with us and just 'be'. You are welcome to invite friends and colleagues from other parts of campus as well. – Dr. Ali M. Bramson and the DEI Committee.

WISP Travel Grant Applications

- Travel Grants have been created to narrow the gender gap for conference participation for soon to be graduates. This grant up to $1,000 is a one-time only award. Please do not apply if you have received a travel grant previously through the College of Science, your department or WISP. Spring travel must occur between May 1, 2025, and January 1, 2026.
- For planning purposes. Fall travel must occur between December 1, 2025, and August 1, 2026 with applications opening in mid-September and due October 31, 2025.
- Prior to applying, please discuss your interest and eligibility with both your Advisor and the Graduate Coordinator/Department Head designee to obtain verbal permission to travel.
- Applications are now available via the Qualtrics link 2025 Spring Travel Grant Application or our website https://www.purdue.edu/science/wisp/graduate/index.html and are **due no later than Friday, March 14, 2025, at 4pm.**

OUTREACH NEWS

If you have not done your STEM Career video yet please set up a time with Steven to record it. It should only take you ~10 minutes to record the video.
Here is a great example from Jonathan Delph
Link to the repository with all of the recorded STEM Career videos: https://purdue.link/STEMrepository
If you or your group has worked with or helped with an activity for K-12 students or teachers, please fill out the departmental outreach activity form.

Upcoming Outreach Opportunities:

April:

- HOPS: April 10th – Thursday Geologic Time Scale/Geo- chronology
- Springfest: Saturday, April 12
- HOPS: April 16th - Wednesday Buffers Lab
- HOPS: April 22nd - Tuesday Buffers Lab
- HOPS: April 23rd - Wednesday Buffers Lab

Ongoing:

- Purdue University Kids STEM Degree
- Science From the Expert

See all of our videos on the Superheroes of Science YouTube channel
https://www.youtube.com/c/SuperheroesofScience

Social sites:
Instagram
Facebook Superheroes of Science
EAPS departmental outreach web page

Tabletop Gaming Night

- Dates: First Friday of each Month (September - May): 5:30-9 pm
- Location: HAMP 2244
- Needs: No "*needs*" here. It's not even an official Dept event. It's just a bunch of us getting together to play board games. Everyone is welcome!

4-H Academy Summer Weather/Meteorology Workshop

- Dates: June 11th, 12th, 13th, 2025
- Reach out to Angie Frost if interested
  - alfrost@purdue.edu

PUBLICATIONS

- **Chen, S.**, **Liu, L.**, Ma, Y., **Zhuang, Q.**, & Shurpali, N. J. (2024). Quantifying global wetland methane emissions with in situ methane flux data and machine learning approaches. Earth's Future, 12, e2023EF004330. **https://doi.org/10.1029/2023EF004330**. **PDF**
- **Liu, L.**, **Zhuang, Q.**, Zhao, D., Wei, J., & Zheng, D. (2024). The fate of deep permafrost carbon in northern high latitudes in the 21st century: A process-based modeling analysis. Earth's Future, 12, e2024EF004996. **https://doi.org/10.1029/2024EF004996.**. **PDF**
- **X. Liu**, **Q. Zhuang**, C. Liao and M. T. Jorgenson 2025, Changes in soil water content and lateral flow exert large effects on soil thermal dynamics across Alaskan landscapes Environ. Res. Lett. 20 024056, **https://doi.org/10.1088/1748-9326/adaa05.**. PDF
- Zhang, Z., Poulter, B., Melton, J. R., Riley, W. J., Allen, G. H., Beerling, D. J., Bousquet, P., Canadell, J. G., Fluet-Chouinard, E., Ciais, P., Gedney, N., Hopcroft, P. O., Ito, A., Jackson, R. B., Jain, A. K., Jensen, K., Joos, F., Kleinen, T., Knox, S. H., Li, T., Li, X., **Liu, X.**, McDonald, K., McNicol, G., Miller, P. A., Müller, J., Patra, P. K., Peng, C., Peng, S., Qin, Z., Riggs, R. M., Saunois, M., Sun, Q., Tian, H., Xu, X., Yao,

Y., Xi, Y., Zhang, W., Zhu, Q., Zhu, Q., and **Zhuang Q.**: Ensemble estimates of global wetland methane emissions over 2000–2020, Biogeosciences, 22, 305–321, **https://doi.org/10.5194/bg-22-305-2025.** PDF

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- Fred-Velez, K., **S.L. Pérez Cortés**, **A.M. Bramson**, T.R. Hudgins (2025) Mapping of Potential Mass Wasting on Enceladus. Icarus, 430, 116471, doi:10.1016/j.icarus.2025.116471. https://doi.org/10.1016/j.icarus.2025.116471
- Morgan, G.A., N.E. Putzig, D.M.H. Baker, A. Pathare, C.M. Dundas, M. Russell, M.R. Perry, M. Chojnacki, H.G. Sizemore, **A.M. Bramson**, E.I. Petersen, S. Nerozzi, R.H. Hoover, Z. Bain (2025) Refined Mapping of Subsurface Water Ice on Mars to Support Future Missions. Planetary Science Journal, 6, 29, doi:10.3847/PSJ/ad9b24. https://doi.org/10.3847/PSJ/ad9b24
- F.A. Rivera-Adorno, L. Azzarello, M.A. Robinson, Z. C. J. Decker, R.A. Washenfelder,5 K. Hayden, A. Franchin, C. D. Holmes, C.J. Young, C.D. Fredrickson, B. Palm, C. Schmidt, A. Soja, E. Gargulinski, S. S. Brown, A.M. Middlebrook, **A. Laskin**. Aircraft Measurements from a U. S. Western Wildfire Demonstrating Day and Night Differences in Chemical Composition and Optical Properties of Biomass Burning Aerosols and their Atmospheric Evolution. *ACS Earth and Space Chemistry,* 9, 64-75, (2025). https://doi.org/10.1021/acsearthspacechem.4c00215
- Zhang, O., & **Schmitt, D. R.** (2025). An optimized 2D/3DFinite-difference Seismic Wave Propagator Using Rotated Staggered Grid for Complex Elastic Anisotropic Structures. Computers & Geosciences, 105850. https://doi.org/https://doi.org/10.1016/j.cageo.2024.105850
- Marder, E., Gallen, S.F., Lifton, N.A., Rittenour, T.M., 2025,The Colorado Rocky Mountains awaken: Understanding topographic rejuvenation in postorogenic mountain belts: GSA Today, v. 35, p. 4– 11, https://doi.org/10.1130/GSATG598A.1.
- **A. Laskin**, C.P. West, A.P.S. Hettiyadura. Molecular Insights into the Composition, Sources, and Aging of Atmospheric Brown Carbon. *Chemical Society Reviews*, 54, 1583–1612, (2025). https://doi.org/10.1039/D3CS00609C
- **Kling, A. M.,** Greer, J., **Thompson, M. S.,** Heck, P. R., Isheim, D., & Seidman, D. N. (2025). Nanoscale reservoirs store solar wind-derived water on the lunar surface. *Earth and Planetary Science Letters*, 651, 119178. https://doi.org/10.1016/j.epsl.2024.119178
- Mijjum, M., Andrews, B., McCoy, T. Corrigan, C., Caffee, M.W., and Tremblay, M. M., 2025, Using micro-computed tomography (µCT) to determine subsample-specific cosmogenic noble gas production rates of enstatite (E) chondrites. *Meteoritics and Planetary Science*, p. 1-22. doi: 10.1111/maps.143091
- Parth Hasabnis, Enhedelihai Alex Nilot, Yunyue Elita Li, Introducing USED: Urban Seismic Event Detection, Computers & Geosciences, Volume 196, 2025, 105815, ISSN 0098-3004, https://doi.org/10.1016/j.cageo.2024.105815. (https://www.sciencedirect.com/science/article/pii/S009830042400298X)
- Pascuzzo, A.C., **A.M. Bramson**, P. Becerra, J.F. Mustard (2025), Development and evolution of icy layer outcrops on Mars' north polar ice cap: Observations of vertical and lateral variability. Journal of Geophysical Research: Planets, 130, e2024JE008377, https://doi.org/10.1029/2024JE008377.
- **Bramson, A.M.**, A.C. Pascuzzo, P. Becerra, J.F. Mustard (2025), Development and evolution of icy layer outcrops on Mars' north polar ice cap: A sublimation-based framework. Journal of Geophysical Research: Planets, 130, e2024JE008360, https://doi.org/10.1029/2024JE008360.
- Vermeuel, M. P., Millet, D. B., Farmer, D. K., Ganzeveld, L. N., Visser, A. J., Alwe, H. D., et al. (2024). A vertically resolved canopy improves chemical transport model predictions of ozone deposition to north temperate forests. *Journal of Geophysical Research: Atmospheres*, 129, e2024JD042092. https://doi.org/10.1029/2024JD042092

MEETINGS/EXPOS/ OPPORTUNITIES OUTSIDE OF PURDUE

41st Int. Conf. on Radar Meteorology

Abstract submissions now open!

The 41st International Conference on Radar Meteorology is organized by the AMS Committee on Radar Meteorology and hosted by the American Meteorological Society. The organizers are soliciting oral and poster presentations on a variety of topics.

August 25 – 29, 2025 in Toronto, Canada & Online

Please submit your abstract online at https://ams.confex.com/ams/41Radar/cfp.cgi by **3 April 2025 at 5:00 PM Eastern**. An abstract fee of $120 is required at the time of submission. Please note that some abstracts may not be accepted, depending on program constraints, relevance, and merit of subject matter. In such cases, the abstract fee will be refunded. Authors may indicate their preference for an oral or poster presentation during abstract submission. Oral presentation slots are limited—authors may only request one oral submission, but are welcome to present multiple posters. Authors of accepted presentations will be notified via email by late May 2025.

Volunteer students are needed for registration and audio/visual support during the conference. Student volunteers are required to be in attendance the entire conference, and be available to work at least a full day from Monday through Friday (with a training on Sunday). For volunteering, the student will get their registration fee waived and $40.00 per day for food allowance. This program is a first come, first served basis. A limited number of students will be needed for the conference. Those students interested should please contact Jessica Hanley for details.

Northern Illinois Field Methods in Environmental Geosciences Summer Course

The Department of Earth, Atmosphere and Environment at Northern Illinois University will be offering our Field Methods in Environmental Geosciences course (EAE 477, 5 credits) this summer from **May 19 – June 18, 2025**. Our environmental field camp is designed to train students in field methods and integrative problem-solving preparing students for careers in the environmental geosciences sector. The course covers topics such as field methods in hydrogeology, surface water and vadose-zone hydrology, water quality analysis, environmental surface geophysics, site evaluation and techniques, and regional landscape history and environmental change.

We accept undergraduate and graduate students. Students must have taken a hydrogeology course before enrolling in this field course. For more information please go to our website or contact Megan Brown.

NIU also offers OSHA's Hazardous Waste Operations & Emergency Response (HAZWOPER) training through a 1 credit course, EAE 408, which will be offered **May 12 – 16, 2025**. The 40-hour HAZWOPER Training is required for many environmental geoscience jobs and is a great addition to any resume. Housing is also available on campus during this course. For more information, please visit to our website: go.niu.edu/HAZWOPER.

Accepting Applications for Office of Science Graduate Student Research Awards

The U.S. Department of Energy's (DOE) Office of Science is pleased to announce that the Office of Science Graduate Student Research (SCGSR) program is now accepting applications for the 2025 solicitation 1 cycle. Applications are due on Wednesday, **May 7, 2025, at 5:00 p.m. ET**.

SCGSR application assistance workshops will be held **on March 6, 2025, 2:00 p.m.–3:30 p.m. ET and April 10, 2025, 2:00 p.m.–4:30 p.m. ET.** The first workshop will provide a general overview of the program and the application requirements. It will also include a time for attendees to discuss their potential research topics and their alignment with the SCGSR priority areas with managers of each participating program office; register here. The second workshop will guide attendees through the application process, answer general questions, provide guidance on proposal writing, and feature discussions with scientists and former awardees; register here. SCGSR is open to U.S. Ph.D. students in qualified graduate programs at accredited U.S. academic institutions, who are conducting their graduate thesis research in targeted areas relevant to DOE's Office of Science. More information on the SCGSR program can be found by visiting the SCGSR program website, by emailing the SCGSR team, or by attending the program's virtual office hours which will be held every Friday 3:00–4:00 p.m. ET starting on March 7, 2025, via this Zoom link.

WESTERN KENTUCKY UNIVERSITY SEEKING FOUR M.S. GRAD STUDENTS

The Department of Earth, Environmental, and Atmospheric Sciences (EEAS) at Western Kentucky University (WKU) is inviting applications for four M.S.-level graduate students to start **August 2025**.
Students will work as a part of the state-wide CLIMBS (https://kynsfepscor.uky.edu/climbs/) initiative, a 5-year, $20 million National Science Foundation EPSCoR grant to advance research in climate resilience for Kentucky. The successful applicants will be expected to contribute to one of the following projects: (a) Identification and analysis of the synoptic-scale atmospheric environments associated with high-impact weather; (b) Dynamical downscaling of future 21st century climate projections for the Mid-South region of the U.S.; (3) Comprehensive assessment of historical state-wide weather and climate-related threats and hazards; and (4) An historical, wide-ranging study of casualties associated with high-impact weather and climate events.
These positions include a 12-month stipend and tuition. Applicants should have a B.S. degree in the atmospheric, environmental, or geographic sciences, or a closely related discipline. Prior experience in computer programming (e.g., Python, FORTRAN, NCL, Linux shell scripting) is necessary, and experience in application to climatic processes, numerical weather simulation, and/or AI-driven data analytics is preferred.
Interested candidates are encouraged to contact Dr. Jerry Brotzge (<Jerald.brotzge@wku.edu>) for more information.

MASTER OF ARTS IN TEACHING EARTH SCIENCE RESIDENCY PROGRAM

The Master of Arts in Teaching Earth Science Residency Program in the Richard Gilder Graduate School at the American Museum of Natural History in New York City is **looking for graduates with Earth and space science backgrounds** (geology, mineralogy, paleontology, oceanography, astronomy, environmental geology, and more) who want to make a difference in the world of STEM education. This teaching fellowship combines coursework, mentoring, and real-world experience to prepare Earth and space science graduates for **rewarding careers as culturally responsive middle and high school teachers.**
All degree candidates will receive **free tuition, books, and a $40,000 stipend** towards the cost of living. In return, candidates commit to teaching in a high-needs school for three years.
With a sole focus on preparing new Earth science teachers, the program is a full-time, 15-month Master's degree program that takes place at the Museum and in urban partner schools. We seek a student body with a passion for social justice and diverse life and career experiences.
We are currently accepting applicants for the class that will begin in June 2025. Prospective students are encouraged to attend an Information Session or to contact us for more information.
You can also visit the program website to learn more and/or join our mailing list (make sure to click MAT for Earth Science Grads). For questions, you can contact the program office directly at mat@amnh.org or (212) 313-7464.

INTERNSHIP OPPORTUNITIES FOR GRADS AND UNDERGRADS - NRO

National Reconnaissance Office (NRO) is currently accepting undergrad and graduate student intern applications for summer 2025. This is what EAPS Alumna Mariah Romero had to say about this program:
"Last summer I supervised three interns that had broad backgrounds (environmental sciences, political science, and earth sciences). I strongly encourage EAPS grads and undergrads to apply. The NRO is interested in individuals from all STEM fields. The intern application is super quick, students just need to fill out the portal and upload their resume/CV and transcript. The 'Apply Now' button is buried under a lot of text and is at the very bottom, left side of the webpage."
Additional links about NRO:
https://www.nro.gov/
https://www.nro.gov/Careers/Student-Programs/Student-Opportunities/#cadreintern

UCAR STUDENT OPPORTUNITIES WEBSITE

Check the opportunities website for opportunities at UCAR.

POST-DOC OPPORTUNITY - AIR FORCE SCIENCE & TECHNOLOGY FELLOWSHIPS

The National Academies of Sciences, Engineering, and Medicine administers postdoctoral and senior research awards at the U.S. Air Force Research Laboratory (AFRL), the U.S. Air Force Institute of Technology (AFIT), and the U.S. Air Force Academy (USAFA) under the Air Force Science & Technology Fellowship Program (AF STFP).

Seeking highly qualified candidates who are U.S. citizens and hold, or anticipate earning, a doctorate in a variety of fields of science or engineering.
Application deadline dates (four annual review cycles): February 1, May 1, August 1, November 1
Awardees have the opportunity to:

- Conduct independent research in an area compatible with the interests of the Air Force laboratories
- Devote full-time effort to research and publication
- Access the excellent and often unique Air Force research facilities
- Collaborate with leading scientists and engineers
- Awardee benefits:
- Base stipend starting at $76,542; may be higher based on experience
- Health insurance (including dental/vision), relocation benefits, and a professional travel allowance

Applicants should contact prospective AFRL, AFIT and USAFA Research Adviser(s) at the lab(s) prior to the application deadline to discuss their research interests and funding opportunities.
For detailed program information, to search for AFRL, AFIT, and USAFA Research Opportunities, and to contact prospective Research Adviser(s), visit www.nas.edu/afstfp.

AWG BRUNTON AWARD AND BRUNTON FIELD PROJECT AWARD
The AWG Brunton Award and Brunton Field Project Award promote the future of field mapping and data acquisition for the upcoming generation of people whose gender identity has been historically underrepresented in the geosciences. Applicants should have a passion for and exceptional experience with field work, including internships, field camp, coursework with a field-based research component, or research. The AWG Brunton Award has been active for >20 years and provides Brunton compasses to 1–2 awardees each year. The AWG Brunton Field Project Award started in 2022 and awards a Brunton compass and up to $1000 to support field activities to each of 1–2 awardees each year. Learn more here. Deadline for entry is Dec. 15th of each year.

56th LUNAR PLANETARY SCIENCE CONFERENCE
March 10-14, 2025
The Woodlands, Texas / Virtual
Meeting info

LUNAR SURFACE SCIENCE WORKSHOP
April 9-10, 2025
Virtual
Meeting info

8TH INTERNATIONAL PLANETARY DUNES WORKSHOP
May 19-22, 2025
Sardina, Italy / Virtual
Meeting info

87TH ANNUAL MEETING OF THE METEORITICAL SOCIETY (METSOC)
July 14-18, 2025
Perth, Western Australia
Meeting info

WORKSHOP ON BENNU AND RYUGU: SAMPLES FROM THE EARLY SOLAR SYSTEM
October 7-9, 2025
Houston, TX / Virtual
Meeting info

SECOND WORKSHOP ON ICES IN THE SOLAR SYSTEM
January 5-7, 2026
Montreal, Canada

POSITIONS AVAILABLE- CAREER OPPORTUNITIES

- **Postdoctoral Fellow - Atmospheric Observations** – University of Puerto Rico
  Postdoctoral Fellow - Interdisciplinary Climate Science – University of Puerto Rico
    - Interested candidates email:
        - Dii Email Dr. Héctor Jiménez (hectorj.jimenez@upr.edu) and Dr. Rosimar Rios-Berrios (rberrios@ucar.edu)
- **Assistant Professor of Meteorology-Aviation** – Tenure-Track University of Oklahoma, Norman, OK

- **Open Rank Professor, Atmospheric Sciences, Tenure Track** – University of North Dakota
- **Future Faculty in the Physical Sciences (FFPS) Fellowship** – Princeton
- **Multiple Positions with Enviroforensics**
- **Meteorology and Atmospheric Science – multiple positions from various companies**
- **AGI Geoscience Job Center – multiple positions**
- **Gradient Corp – multiple opportunities.** contact Qian Zhang
- **National Weather Service – multiple opportunities**

NEWSLETTER INFO

IMPORTANT NOTICE ABOUT THIS NEWSLETTER

This newsletter is used as the primary information source for current and upcoming events, announcements, awards, grant opportunities, and other happenings in our department and around campus. Active links to additional information will be provided as needed. Material for inclusion in the newsletter should be submitted to David Siple **by 5:00pm on Thursday of each week for inclusion in the Monday issue.**

For answers to common technology questions and the latest updates from the EAPS Technology Support staff, click here. As an additional resource for information about departmental events, seminars, etc., see our departmental calendar.