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

EAPS WEEKLY NEWSLETTER

July 07, 2025

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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!

- *The weekly newsletter will return on August 25th.*
- *The EAPS front office is currently operating remotely as flood remediation efforts are underway.*
- Congratulations to Chris Rapp for having his first first-authored paper. Read more: https://acp.copernicus.org/articles/25/5519/2025/
- Robin Tanamachi had an interview that aired on a radio station in the United Arab Emirates about storm research and storm chasing. Click here to listen!
- Congratulations to Dr. Stephanie Menten, Dr. Moe Mijjum, and Dr. James McFadden on a successful PhD defense!
- There is **NO Crater Café this week.** We will have Media training – dos and don'ts — next week on **July 16th**, led by Roger Wiens and David Siple in **HAMP 2201**.
- You're invited to the M.S. defense of Addison Curtis. The title of Addison's thesis is: *The exhumation response to Siletzia collision and associated tectonic reorganization recorded in the thermal histories of Eocene plutons in the North Cascades, WA.* The public portion of Addison's defense at **10:30 am ET on Tuesday, July 8, in HAMP 2201**. If you are unable to attend in person, please join us on Zoom: https://purdue-edu.zoom.us/j/95864540217.
- You're invited to the M.S. defense of Nicholas Karahalios. The title of Nicholas's thesis is: *Characterization of West Virginia Bedrock using Geophysical Logging Techniques.* Please join us for the public portion of Addison's defense at **9:00 am ET on Wednesday, July 9 in HAMP 2201**. If you are unable to attend in person, please join us on Zoom: https://purdue-edu.zoom.us/j/3734700638?pwd=SVBYUWJFMExhcVpKK0xTMVpvWUtvUT09

NEWS/OPPORTUNITIES AT PURDUE

EAPS SEMINAR

No more EAPS Dept. Colloquium until fall of 2025. Happy summer break!

EAPS GRAD STUDENT RESEARCH OPPORTUNITIES

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

ClimART COMPETITION FOR PURDUE EAPS (and COLLABORATORS)

ClimART is a friendly climate and art competition for Purdue EAPS (and collaborators). This event celebrates both the art within your research and the science-inspired art you create for fun! We believe art is a powerful way to say "Hey, this is me" even on paper.
Event coming **September 2025 — exact date TBA**.

FEDERAL FUNDING UPDATES

This site provides important information and updates from federal agencies that impact the Purdue University research enterprise.
https://government-transition.research.purdue.edu/

UNIVERSITY OF SCOUTING - GEOLOGY/OCEANOGRAPHY MERIT BADGE

On **Saturday, 6 December**, Scouting America (formerly Boy Scouts of America) will host a University of Scouting event on Purdue's campus. They are looking for volunteers who can teach the geology or oceanography merit badges (see attached). Courses can run 9am-12pm or 1-4pm. If you are interested, please reach out to Byron Haverstick, Chief Operating Officer of the Sagamore Council, at Byron.haverstick@scouting.org. He will work with you on supplies, pre-work from the scouts, background checks, etc.

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.

OUTREACH NEWS

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.

Game night is the third Friday of each month.
Time: 6:00 PM to 9:00 PM.
Location: HAMP 2244

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

PUBLICATIONS

- **Tremblay, M.M.**, Fayon, A.K., **Guo, H.**, Zeitler, P.K., and Idleman, B.D., 2025, Deformation modulates helium diffusion behaviour in apatite. Geochemical Perspective Letters. doi: 10.7185/geochemlet.2523
- **Mijjum, M.**, and **Tremblay, M.M.**, 2025, Helium Diffusion Kinetics in Enstatite, Kamacite, and Albite, With Implications for the Cosmic Ray Exposure Ages of Enstatite (E) Chondrites. ACS Earth and Space Chemistry. doi: 10.1021/acsearthspacechem.5c00112
- S.A. Connell, D.M. Applin, E.A. Cloutis, J.T. Poitras, D.T. Dixon, S.A. Mertzman, P. Mann, C. Royer, T. Fornaro, A. Broz, R.C. Wiens, "Spectral reflectance (0.35–2.50 µm) properties of minerals and organic-bearing compounds exposed to current Martian surface conditions", https://doi.org/10.1016/j.icarus.2025.116712.
- Rapp, C. N., Wolf, M. J., Zhang, Y., Zawadowicz, M. A., Dooley, K., Biller, S. J., … Cziczo, D. J. (2025, June 4). "Ice-nucleating properties of glassy organic and organosulfate aerosol." *Atmospheric Chemistry and Physics*, *25*(11), 5519–5536. https://doi.org/10.5194/acp-25-5519-2025
- Hongcheng Guo, Marissa M. Tremblay, Peter K. Zeitler, Bruce D. Idleman, Annia K. Fayon, 2025. Systematics of helium diffusion sinks in apatite demonstrated by 4He/3He degassing experiments and modeling, Geochimica et Cosmochimica Acta, https://doi.org/10.1016/j.gca.2025.05.036.
- **Guo, H.**, **Tremblay, M.M.**, Zeitler, P.K., Idleman, B.D., and Fayon, A.K., 2025, Systematics of helium diffusion sinks in apatite demonstrated by 4He/3He degassing experiments and modeling, *Geochimica et Cosmochimica Acta.* https://doi.org/10.1016/j.gca.2025.05.036
- **Yuan, Y.**, **Zhuang, Q.**, Zhao, B., & Shurpali, N. (2025). Impacts of permafrost degradation on N2O emissions from natural terrestrial ecosystems in northern high latitudes: A process-based biogeochemistry model analysis. Global Biogeochemical Cycles, 39, e2024GB008439. https://doi.org/10.1029/2024GB008439
- Andersen, J.L., Lifton, N.A., Linge, H., Stuart, F., Olsen, J., Pedersen, V.K., in press, Ice-burial history and early Holocene thinning of the Scandinavian Ice Sheet at Gaustatoppen, southern Norway, Quaternary Science Reviews.
- Kelley, S., Doughty, A.M., Lifton, N., Pendleton, S., O'Brien, C., Warren, G., in press, Reconstructing the late Pleistocene glacial history of the Cairngorm Mountains, Scotland, using paired cosmogenic 10Be and 14C, Journal of Quaternary Science.
- Ćuk, M., Anand, K. P., & Minton, D. A. (2025). Two possible orbital histories of Phobos. *The Planetary Science Journal*, *6*(4), 89. https://doi.org/10.3847/psj/adc1ba
- **S Wakita**, **B C Johnson**, J M Soderblom, J K Steckloff, **A V Johnson**, C D Neish, J Shah, P Corlies (2025) Impacts Into Titan's Methane- Clathrate Crust as a Source of Atmospheric Methane. *JGR Planets*, 130, 4. https://doi.org/10.1029/2024JE008624

- **Laferriere, K.L., A.M. Bramson, A. Gleason (2025)** Quantities of Ballistically Hopping Water Molecules on the Moon: Consistent With Exospheric Hydration Observations. *JGR-Planets*, 130, 4, e2024JE008628**.** **https://doi.org/10.1029/2024JE008628**
- **Petrini, E.Z.** and **M.M. Sori** (2025), Layered remnant deposits in Hellas Planitia, Mars as the remains of ancient ice mounds, Icarus, 116604. https://doi.org/10.1016/j.icarus.2025.116604
- **Liu, X**., Griffin, A., Komurcu, M., & **Huber, M**. (2025). Importance of longwave radiative forcing by icy clouds in maintaining miocene high-latitude warmth. *Geophysical Research Letters*, 52, e2024GL111831. https://doi.org/10.1029/2024GL111831
- **Vannier H**, Redfield S, Wood B E, Mueller H R, Linsky J L, Frisch P (2025). Mapping the Local Interstellar Medium: Using Hubble to Look Back at the ISM Along the Sun's Historical Trajectory. The Astrophysical Journal, 981, 2, doi:10.3847/1538-4357/adb033
- **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**

MEETINGS/EXPOS/ OPPORTUNITIES OUTSIDE OF PURDUE

SEG 2025–2026 Distinguished Instructor Short Course

What if seismic tools could make our cities smarter, safer, and more sustainable?
They can — and Dr. Yunyue Elita Li is here to show you how.
Launching at **IMAGE '25** the SEG 2025–2026 Distinguished Instructor Short Course will equip geoscientists, engineers, and decision-makers with seismic methods tailor-made for urban environments.
Learn to: Assess risk in dense urban areas
Improve decision-making with seismic data
Integrate geophysics into engineering practice
Use seismic techniques for minimal-impact monitoring.
The tour is kicking off in **Aug '25** and will last until **Aug '26**.
Save the date and learn more here:
https://go.seg.org/3Ec9C8d

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 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.

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.

RECRUITMENT FOR CoCoRaHS

The Community Collaborative Rain, Hail, and Snow Network (CoCoRaHS) is looking for more weather observers throughout Indiana and beyond.

By participating in CoCoRaHS, farmers contribute valuable data that supports better agricultural decisions, weather-related products, and faster recovery during severe weather events.

The application for U.S. participants is at https://www.cocorahs.org/application.aspx

87TH ANNUAL MEETING OF THE METEORITICAL SOCIETY (METSOC)

July 14-18, 2025
Perth, Western Australia
Meeting info

41ST INTERNATIONAL CONFERENCE ON RADAR METEOROLOGY
August 25-29, 2025
Toronto, Ontario, Canada / Virtual
Meeting info

NWA 50TH ANNUAL MEETING
September 6-10, 2025
Huntsville, AL
Meeting info

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

AMERICAN GEOPHYSICAL UNION (AGU) 2025
December 15-19, 2025
New Orleans, LA
Meeting info

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

106TH AMS ANNUAL MEETING
January 25-29, 2026
Houston, TX / Virtual
Meeting info

POSITIONS AVAILABLE- CAREER OPPORTUNITIES

- **Two tenure-track jobs in atmospheric and planetary science** – Hampton University
- **Assistant Professor of Meteorology-Aviation –** Tenure-Track University of Oklahoma, Norman, OK
- **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.