

The University of Arizona
Department of
Hydrology & Atmospheric Sciences
Presents
El Día del Agua y la Atmósfera
March 28, 2023
“Looking Back & Moving Forward”



"Snow in the Catalinas"
An unusual sight for these saguaros
By Jordann Bredecke

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General Theme

This has been a challenging year for HAS and we look forward to gathering the community together. This year, when we come together for the annual El Día event, we want to take the opportunity to reflect, connect, and imagine. As such, this year's theme will be "Looking Back and Moving Forward." It is going to be a more interactive and inclusive event through which we want to consider the past, present, and future of Hydrology and Atmospheric Sciences as a connected field and department. The event will host a combination of research presentation and collaborative discussions.

In the afternoon, a World Café will be held to bring attendees together to discuss and generate ideas about the unique roles that our department can have in future efforts such as machine learning in combined hydrologic-atmospheric sciences, advancing DEI across the natural sciences, and more. This will essentially form a simple, effective, and flexible format for hosting large group dialogue thereby helping to shape and identify the future nexus of the hydrologic and atmospheric sciences, industry, and scientific leaders across a diverse set of backgrounds.

Message from the El Día Planning Committee

On behalf of the students at the University of Arizona Department of Hydrology and Atmospheric Sciences (HAS), we welcome you to our Annual Student Research Symposium, El Día del Agua y la Atmósfera 2023. El Día is one of the five symposia held during Earth Week. This year, a dedicated committee of HAS students - with essential support from staff and faculty - have managed and organized the event. El Día is a great opportunity for students with background and interest in hydrology and atmospheric sciences to present their research, and get to know peers, prospective students, faculty members, alumni, and working professionals in the fields of hydrology, atmospheric sciences, and other disciplines.

The success of El Día is made possible through the continued support of our sponsors, the efforts of students, faculty and staff members, the School of Earth and Environmental Sciences, and the College of Science.

Enjoy the symposium and thank you for participating in El Día del Agua y la Atmósfera 2023! We hope to see you next year!

~ 2023 El Día Planning Committee

El Día del Agua y la Atmósfera 2023 Planning Committee



Ty Ferré
Distinguished Professor
Hydrology
EDDAA Advisor



Erma Santander
Executive Assistant
Project Coordinator



David Morales
Co-Chair



Lauren Cutler
Co-Chair



Anik Das
Committee
Member



Stella Heflin
Committee
Member



Abigail Kahler
Committee Member,
EarthWeek Rep.



Gillian Noonan
Committee
Member



Danielle Tadych
Committee
Member



Yuan-Heng Wang
Committee
Member



Hydrology & Atmospheric Sciences
Student Research Symposium

El Día del Agua y la Atmósfera Agenda

- 8:00** Registration & Continental Breakfast - Courtyard
- 8:40** Welcome, Opening Remarks and Remembrance: Christopher Castro, Ty Ferre, David Morales, and Lauren Cutler. Moment of Silence for Jetal Agnihotri, Rodrigo Delgado and Thomas Meixner - S107 Lecture Hall
- 9:00** HWRS Alumni Speaker: Hale Barter ~ S107 Lecture Hall
- 9:30** ATMO Alumni Speaker: E. Philip Krider ~ S107 Lecture Hall
- 10:00** Oral Session One ~ S107 Lecture Hall
- 11:00** Poster Session One & Coffee Break ~ Courtyard
- 12:00** Lunch ~ Served on the 1st Floor ~ Dining Areas: S215, S225, S107 & Courtyard
- 13:30** Oral Session Two ~ S107 Lecture Hall
- 14:45** Poster Session Two & Coffee Break ~ Courtyard
- 15:45** Oral Session Three ~ S107 Lecture Hall
- 16:45** World/Global Café ~ S215 and S225
- 18:00** Closing Statements & Presentations of Awards ~ S107 Lecture Hall
- 19:00** El Día Reception, Frog & Firkin, 874 E. University Boulevard

In Memory of

This year has been a particularly difficult for our HAS community. In August we lost Jetal Agnihotri, in September we lost Rodrigo Delgado, and in October we lost Thomas Meixner. We feel these three losses very deeply and the spirits of Jetal, Rodrgio, and Tom are with us during El Día.

In that vein, we are introducing a new award called “The Tom Mexiner Award.” This award will go to a student / students who have embodied the community spirit of El Día, something that was very important to Tom Mexiner. Whenever you see or hear someone do or say something that you think embodies the spirit of El Día - offers a constructive comment, asks a thoughtful question, adds humor to the day - you can nominate them using the QR code located by the memorial candles. We will announce the winner/winners during the award ceremony. This award has been generously sponsored by the Salt River Project this year.

Special Thanks to Our Sponsors

Legacy Awards

Errol L. Montgomery & Associates, Inc.
E. Philip Krider
Hargis + Associates, Inc.

Corporate Awards

Arizona Hydrological Society
Geosystems Analysis, Inc.
Matrix New World Engineering
Peter Mock Groundwater Consulting, Inc.
Pima County Flood Control District
Pima County Department of Environmental Quality
Salt River Project
Tucson Water

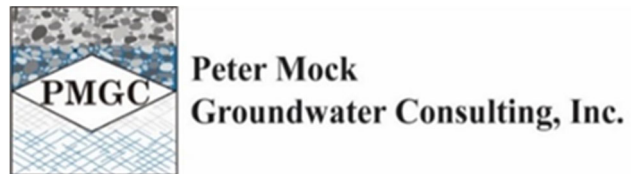
Event Sponsors

Michael Block
Michael Carpenter
Geo-Logic Associates
USGS Arizona Water Science Center

Grants

University of Arizona
University of Arizona Graduate & Professional
Student Council Grant (GPSC)

2023 El Día Sponsors



Awards and Prizes ~ Legacy Sponsors

Thank you to our legacy sponsors for their sponsorships of our major prizes and awards. You have our most profound gratitude for your continued loyalty and support. Students are recognized for their superior achievement in oral and poster presentations by juried committees.

Montgomery Prize

Most Outstanding Oral Presentation In Hydrology
Certificate and Award of \$2,500

Philip E. Krider Award

*Most Outstanding Oral Presentation
In Atmospheric Sciences*
Certificate and Award of \$2,500

Hargis Awards

Best Technical Presentation via Visual Communication
First Place Poster, Certificate and Award of \$1,000
Second Place Poster, Certificate and Award of \$400

Benjamin M. Herman Award

Best Oral Presentation In Atmospheric Sciences
Certificate and Award of \$1,000

HAS Awards of Excellence

Best Oral and Poster
Certificate and Award of \$400 for each award

Donald R. Davis Undergraduate Distinction Award

Outstanding Undergraduate Award (Academic or Research)
Certificate and Award of \$400

Eugene S. Simpson Undergraduate Poster Award

*Best Undergraduate Poster in Hydrogeology,
Subsurface Hydrology, or Groundwater*
Certificate and Award of \$400

Awards and Prizes ~ Corporate Sponsors

Thank you to our corporate sponsors who have pledged their contribution. We appreciate your support, Students are recognized for their superior achievement in oral and poster presentations by juried committees.

Arizona Hydrological Society
Best Hydrology Oral Presentation
Certificate and Award \$1,000

Pima County Flood Control Best Poster Award
Outstanding Poster Presentation
Certificate and Award of \$500

Salt River Project Best Poster Award
Outstanding Poster Presentation
Certificate and Award of \$500

Stanley N. Davis Poster Award
Outstanding Poster in Hydrology
Sponsored by Peter Mock Groundwater Consulting, Inc.
Certificate and Award of \$500

Matrix New World Engineering Best Oral Award
Outstanding Oral Presentation
Certificate and Award of \$500

Tucson Water Outstanding Poster Award
Excellence in Technical Communication in Poster Format
Certificate and Award of \$500

GeoSystem Analysis, Inc., Award
Best Applied Hydrogeology Oral Presentation
Certificate and Award of \$500

Pima County Department of Environmental Quality
Best Oral and Poster Awards
Outstanding Oral and Poster Presentations
Certificate and Award of \$200 for each award

The Montgomery Prize

We would like to thank Errol L. Montgomery & Associates, Inc., a

LEGACY SPONSOR

for their support. For many years, Montgomery & Associates has sponsored the premier cash award, *The Montgomery Prize*, for the Best Oral Presentation at our annual student research symposium.

This “best of the best” prize is made in addition to the departmental Awards of Excellence for best oral and best paper presentations and is presented to the winner by a representative from Montgomery & Associates. The award symbolizes the company’s commitment to encouraging and rewarding excellence in oral presentation of hydrologic research. Montgomery & Associates offers similar awards during annual events at the University of Arizona and Northern Arizona University Geology Departments.



Errol L. Montgomery & Associates, Inc., founded by HWRS Alumnus Errol L. Montgomery, is a water resource consulting group with more than 25 years of experience addressing groundwater availability, sustainability, and quality issues for municipal, industrial, mining, and governmental clients. Professional services include:

- Groundwater exploration and development
- Contaminant assessment and remediation
- Artificial groundwater recharge
- Assured and Adequate Water Supply demonstrations
- Hydrologic monitoring
- Satellite image analysis
- Groundwater flow and solute transport modeling

The firm’s principal office is located in Tucson, Arizona, and branch offices are maintained in Scottsdale, Arizona, Lima, Perú, and in Santiago de Chile.

The Hargis Awards

We would like to thank Hargis + Associates, Inc., a

LEGACY SPONSOR

For many years, Hargis + Associates has sponsored two generous cash awards, The Hargis Awards, for the First and Second Place Best Poster Presentations at our annual student research symposium.

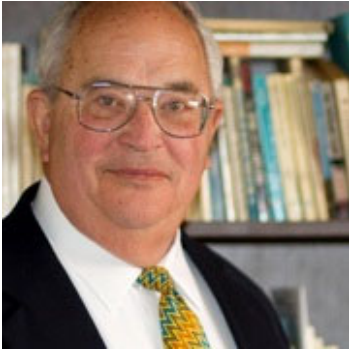
The Hargis Awards are made in recognition of the need for excellence in technical communication and serve as an incentive for participating students to demonstrate excellence in writing, visual presentation, and oral communication skills in support of their research projects. Evaluation of these awards is performed by a panel selected by HWR alumnus Dr. David Hargis, President and CEO. Fellow UA alumnus Dr. Leo Leonhart, Principal Hydrogeologist and Chief Technical Director, annually presents these awards.

Hargis + Associates is an environmental consulting firm specializing in hydrogeology and engineering. Headquartered in San Diego, the company has offices in Sacramento, California and Tucson and Mesa, Arizona. At Hargis + Associates, our mission is to provide proactive: Expert advice and solutions to our clients with integrity and outstanding service. We deliver this mission with an unparalleled level of quality and service, inspired by collaboration and employee-ownership. For 40 years, the outcome has been practical and workable solutions, resulting in long-term client relationships. Learn more about us at www.Hargis.com.



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ENGINEERING • HYDROGEOLOGY

E. Philip Krider Award Most Outstanding Oral Presentation In Atmospheric Sciences



Dr. E. Philip Krider is known worldwide for his work on lightning and thunderstorm electricity and writings on Benjamin Franklin's electrical experiments. He led the group that developed the first gated, wideband magnetic direction-finders that are now the basis of the U.S. Na-

tional Lightning Detection Network. Dr. Krider is a Fellow of the American Geophysical Union and the American Meteorological Society and a former Co-Chief Editor and Editor of the *Journal of the Atmospheric Sciences*; he is also past President of the International Commission on Atmospheric Electricity.

Dr. Krider received his MS in Physics (1964) and PhD in Physics (1969) from the University of Arizona. Dr. Krider joined the faculty at The University of Arizona in 1971 and retired in 2009. His research has focused primarily on the physics of lightning detection and protection, and related problems in atmospheric electricity. Dr. Krider is the author or co-author of more than 130 reviewed publications, and holds 8 patents.

Benjamin M. Herman

Oral Presentation Awards



Benjamin M. Herman was the first PhD student in the newly founded Department of Meteorology at the University of Arizona and went on to become Professor and Chair of the Department of Atmospheric Sciences. He excelled in classroom instruction particularly in teaching atmospheric radiation, remote sensing, and physical meteorology. As a result of his previous experience as an US Air Force meteorological officer, he loved to challenge the Departments students in Synoptic Meteorology.

Ben's research career was at a time when large-scale electronic computers became available at the University of Arizona and precise radiation sensing instruments were being developed for Earth orbiting satellites. He was a noted researcher, developing and applying the first numerical techniques to calculate scattering, emission and absorption of radiation in Earth and planetary atmospheres. Ben was recognized as an international leader in applying these techniques to quantitatively interpret satellite measurements, mentoring his many collaborating students to develop successful careers with NASA, NOAA, and other agencies.

He authored or co-authored over 80 publications in peer reviewed literature, many of which are still cited today. His papers on aerosol size and optical depth, as well as two of his papers on the use of GPS measurements to determine H₂O vapor profiles have each been cited over 400 times.

Ben retired in 2005 as a Professor Emeritus, after 45 years of service. In 2006, NASA and DOI bestowed Ben and others with the William T. Pecora Award for satellite techniques to infer O₃ and SO₂. He also received the Distinguished Public Service Medal by NASA. Ben was a Fellow of the American Meteorological Society.

Donald R. Davis

Undergraduate Distinction Award



Donald R. Davis joined the UA Department of Hydrology and Water Resources in 1972 and was one of the most senior members of the faculty at the time of his death in February 2009. His primary research focus was decision making under hydrologic and other uncertainties, and his basic approach utilized Bayesian decision theory in a general system setting. During the last decade of his life, even though the halcyon days of funded research were behind him, Don was still actively engaged in independent statistical studies with individuals both inside and outside the university. He continued to serve on MS and PHD exams and to advise masters and especially doctoral students who were majoring or minoring in Hydrology with the statistical aspects of their research projects. He was an active faculty examiner for the doctoral qualifying examinations in surface hydrology and water resources. Don served as the Undergraduate Coordinator and was the primary advisor to undergraduates with a major or minor in Environmental Hydrology and Water Resources. He taught the year-long Senior Capstone and Senior Honors Thesis courses and, when the department was part of the College of Engineering, was a rotating instructor for the COE's freshman course, Engineering 102. With Gary Woodard, he designed and oversaw the Master of Engineering degree program in Water Resources Engineering and helped that fledgling program get off the ground. Upon his death, he left an endowment to the Department of Hydrology and Water Resources specifically for undergraduates whom he especially supported and encouraged.

The evaluation for the Davis Undergraduate Distinction Award is made by a committee appointed by the department and recognizes an outstanding undergraduate who demonstrates excellence in writing, speaking, or technical communication or provides outstanding service through volunteerism or extracurricular activities that benefit the department or the profession.

Don will be remembered not only for his academic and advising contributions, but also for his love of the undergraduate program he nurtured.

Eugene S. Simpson Undergraduate Poster Award



Eugene S. Simpson began his professional career with the U.S. Geological Survey in 1946 where he was involved with problems of migration and dispersion of radioactive wastes that might accidentally or operationally be discharged into groundwater. In 1963, he was hired by Dr. John W. Harshbarger as a member of HWR's inaugural faculty, and he continued to pursue his research interests in aquifer mechanics, the migration of pollutants in groundwater, and the application of environmental tracers to problems of groundwater circulation. Simpson served as HWR Department Head from 1974-75 and 1979-81.

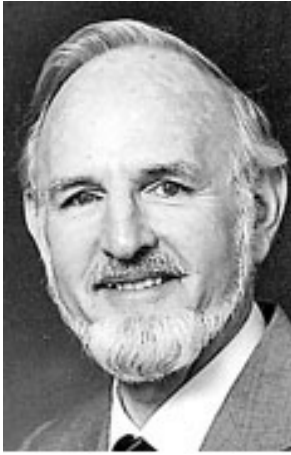
After his retirement in 1985, he remained active in the profession, serving the U.S. Chapter of the International Association of Hydrogeologists as Secretary-Treasurer from 1984-89 and as President from 1989-92. During his tenure as President, he became the Founding Editor and first Editor-in-Chief of the IAH journal, *Applied Hydrogeology*, which later became *Hydrogeology Journal* (Springer), the official journal of the IAH. The Geological Society of America Hydrogeology Division honored him with the Distinguished Service Award in 1992, and the International Association of Hydrogeologists elected him an Honorary Member in 1993.

Following retirement, he resided in Tucson until his death at the age of 78 in December 1995. At that time, the Eugene S. Simpson Endowment was established to provide financial support for undergraduate and graduate students, especially those studying hydrogeology and subsurface hydrology.

In March 2012, the inaugural Eugene S. Simpson Undergraduate Poster award was made for the best undergraduate poster with priority given to hydrogeology, subsurface hydrology, or groundwater content, Simpson's areas of expertise. Evaluation for the award is made by a committee appointed by the department.

The department would like to thank the family, friends, and former students of Eugene S. Simpson for their continued support and contributions to this endowment fund.

Stanley N. Davis Poster Presentation Awards



Dr. Davis was internationally recognized expert in the study of ground water. Dr. Davis also served on the faculty of Stanford University, the University of Chile, the University of Missouri--Columbia, and Indiana University--Bloomington. Additionally, over his career, he was a consultant for the United States Bureau of Reclamation, the Kansas and Missouri geological surveys, the Arctic Institute of North America, Princeton University, and the University Oriente and the University de los Andes, both of Venezuela. He also was the recipient of multiple honors throughout his career, in 1989 he was presented with the O.E. Meinzer Award by the Geological Society of America, and in 1996 he was made a Fellow of the American Geophysical Union. Over the course of his career, Dr. Davis was author or coauthor of more than 100 scholarly publications, and coauthor of the seminal textbook "Hydrogeology" with Dr. Roger DeWiest. From 1943-1946, Dr. Davis served in the U.S. Army during World War II in the Pacific Theater.

~ NOTES ~

Alumni Speaker ~ HWRS History ENR2 Room S107 ~ 9:00 am



Hale Barter earned a Bachelor of Science in hydrology in 1988 and a Master of Science in hydrology in 1995, both from the University of Arizona. He is a groundwater hydrologist and president of Montgomery & Associates (M&A), a water resources consulting firm founded and headquartered in Tucson, with 130 employees in offices across the west and in South America. Hale has been with M&A since 1994 and has been in groundwater consulting since 1988. For much of his career he served as leader of M&A's hydrologic modeling team, providing oversight of design and implementation of a wide range of mining, municipal, and environmental models. He also managed hydrogeologic investigations with substantial focus on feasibility and permitting for mining and for many of the largest recharge projects in Arizona. Hale serves on the HAS Advisory Board and M&A is a long-time supporter of the department sponsoring the El Dia Montgomery Prize and annual Montgomery Scholarships starting in 2024.

Alumni Spaker ~ ATMO History ENR2 Room S107 ~ 9:30 am



Dr. E. Philip Krider was a professor and former Head/Director of the Department of Atmospheric Sciences/Institute of Atmospheric Physics at the University of Arizona (UArizona). His pioneering research on lightning and atmospheric electricity has earned him national and international prominence. Dr. Krider led the team that developed the lightning sensing technique that is now being used in the U.S. National Lightning Detection Network and by similar networks in more than 40 foreign countries. He conducted research at the NASA Kennedy Space Center for many years and has chaired the NASA/Air Force/FAA advisory panel that ensures lightning safety during spaceflight operations. In 1976, Dr. Krider co-founded a successful Tucson company, Lightning Location and Protection, Inc. (now a division of Vaisala), and he is a noted historian of 18th century science.

Oral Session 1: 10:00 ~ S107

- 10:00 **Lin Ji** ~ Machine Learning Approach to Geomorphometry-Extreme Flood Links In The Lower Colorado River Basin
- 10:15 **Hannah Haugen** ~ Machine Learning Analysis Of Baseflow Recession Patterns Across Conus Climates
- 10:30 **Hector Leopoldo Venegas Quinones** ~ Estimating Groundwater Levels From Satellite Data And Machine Learning: A Novel Approach For Water Management
- 10:45 **Yuan-Heng Wang** ~ Comparison Of Physics-Informed Mass-Conserving Perceptron Against Data-Driven Neural Network And Physical-Conceptual Models In Modeling The Hydrologic Systems

Oral Session 2: 13:30 ~ S107

- 13:30 **Lourdes Mendoza-Fierro** ~Evaluation Of Extreme Precipitation Forecasts Using Convective-Permitting Modeling To Improve Streamflow Simulations In Tarapacá Region, Chile
- 13:45 **Xiaojian Zheng** ~ On The Journey Of Understanding The Boundary Layer Aerosols, Clouds, Precipitation And The Earth'S Radiation Budget
- 14:00 **Kayla McCauley** ~ Coupling Of Marine Boundary Layer Clouds To The Surface And Relationships With Aerosol Properties From Activate

Oral Session 2: 13:30 ~ S107 (Continued)

- 14:15 **Yike Xu** ~ Evaluating Airborne High Spectral Resolution Lidar Retrievals Of Mixed Layer Heights Using Dropsonde Data From The Activate Campaign Over The Northwest Atlantic Ocean
- 14:30 **Charles Andrew Hoopes** ~ An Analysis Of Changes With Time Of The Mjo And Its Modulation By The Qbo: 1974-2021

Oral Session 3: 15:45 ~ S107

- 15:45 **Mohammad A. Farmani** ~ Higher Frozen Soil Permeability Represented In A Hydrological Model Improves Spring Streamflow Prediction From River Basin To Continental Scales
- 16:00 **Dalia Portillo** ~ A Lens Into The Past: Using Hec-Ras To Visualize Probable Paleoflood Conditions In Osuga Valles, Mars
- 16:15 **Danielle Tadych** ~ Exploring Groundwater Drought Response Through The Lens Of Groundwater Regulation And Surface Water Availability In Arizona
- 16:30 **Sidian Chen** ~ Pore-Scale Modeling Of Pfas Transport In Water-Unsaturated Soils: Air--Water Interfacial Adsorption And Mass-Transfer Processes In Thin Water Films On Soil Grain Surfaces

Poster Session One

11:00 - Courtyard

Lauren Porter / St. Cyril of Alexandria Catholic School ~The Impact Of Climate Change On Tucson'S Monsoon Season. P#13

Cassidy Soloff ~ Characterization Of Atmospheric Variables Across The Northwest Atlantic: Analysis Of Transit Flights During The Nasa Activate Mission. P#14

Ryan Russell ~ Investigating The Use Of Field Lysimeter Data In A Mathematical Model Simulating The Fate And Transport Of Per- And Polfluoralkyl (Pfas) Substances In The Vadose Zone. P#15

Sabrina Wilson ~ Biochar Effect On Water And Carbon Fluxes Between Cropland And Atmosphere: A Sensitivity Analysis Using The Community Land Model. P#16

Zoey Reed-Spitzer ~ Rural Groundwater – Improved Understanding Of Climate, Economic And Regulatory Effects. P#17

Marleigh Nicholas ~The Arizona Streamgage Catalog (Azstreamcat): A Comprehensive Compilation Of Locations And Metadata For Streamgages Throughout Arizona. P#18

Nandita Parekh ~ Getting The Dirt On Urban Garden Contamination: Environmental Monitoring In The University Of Arizona Community Garden. P#19

Stephanie Serrano ~ Targeted And Total Pfas Measurements In Arizona Rainwater From National Atmospheric Deposition Program Samples. P#20

Starlivia Kaska ~ Storage-Discharge Relationships In Saturated And Unsaturated Zones In The Landscape Evolution Observatory At Biosphere 2 Near Tucson, Arizona. P#21

Poster Session One (Continued)

11:00 - Courtyard

Dylan Girone ~ Do Models Established In The 1980S Accurately Predict Flowering For Five Sonoran Plant Species Under Current Conditions Of Drought And Warmer Average Temperatures? P#22

Samuel Dahl ~ The Influence Of Mid-Latitude Troughs On The Predictability Of Rapidly Intensifying (Ri) Hurricanes In The Gulf Of Mexico. P#24

Dallin Cook ~ Comparing Accuracy Of The Onset And Texas Electronic Tipping Bucket Rain Gauges. P#25

Jake Smith ~ An Analytical Modeling Framework For Determining Site-Specific Soil Screening Levels For Pfas. P#26

Jeffrey Switzer ~ Influence Of Seasonal Precipitation Amounts On Stream Water Source Contributions. P#27

Poster Session Two

14:45 - Courtyard

Hassan Saleem ~ A Mathematical Model For Multi-Component Pfas Solute Transport In Unsaturated. P#2

Seyed Mohammad Amin Mirrezaei ~ Investigating The Relative Importance Of Voc And Nox Emissions On Observed Ozone Exceedances In Arizona. P#3

Jianwen Du ~ Reactive Transport Modeling Of Basalt Weathering And Early Soil Formation Within A Highly-Controlled, Sloping Lysimeter. P#4

Poster Session Two (Continued)

14:45 - Courtyard

Luis De la Fuente ~ Catchment Regionalization Through The Eyes Of Hydrolstm. P#5

Wenqian Zhang ~ Anomalous Adsorption Of Pfas At The Air–Water Interface Of Thin Water Films In Water-Unsaturated Porous Media. P#6

Abigail Kahler ~ Tailoring Hydrologic Modeling For Improved Water Resources Decision Support: An Approach To Ensemble Modeling. P#7

David Morales ~ Exploring The Application Of Good Neighbor Agreements As Legal Mech. P#8

Kevin Dyer ~ Green Infrastructure And Its Effects On Flood Mitigation In The Greater Tucson, Arizona Metro. P#9

Mica Jarocki ~ Optimizing Vadose Zone Flow Forecasting Using Water Content And Pressure Head Data. P#10

Benjamin D West ~ Implementing Reservoir Operations In Parflow, A Fully Integrated Physical Hydrology Model. P#11

Gillian Noonan ~ Numerical Investigation Of Mining-Induced, Hydromechanically-Coupled Responses For A Nevada Mine Site. P#12

World/Global Café

16:45 - 18:00

ENR2 S215 and S225

The World (Global) Café method is essentially a “simple, effective, and flexible format for hosting large group dialogue.” By breaking down a broad and subjective topic—such as “the Future of HAS” —into smaller, thematic concepts, a rich and informative conversation is able to take place that incorporates ideas from a multitude of voices, experiences, and perspectives. Specific to our El Día del Agua y la Atmósfera event, we propose a World (Global) Café activity that examines possible forward-looking topics relevant to the How, the What, and the Why we research as an interdisciplinary department.

"What direction is research going in and how can people collaborate on these things?" "What are the most pressing issues coming down the pike?" Possible topic examples include frontiers in modeling (integrated/coupled models); advancing DEI in HAS; dealing with a changing climate; "how can HAS contributed to the policy decisions of the future; machine learning and our global water supply; transboundary issues and diplomacy?" These will be used to guide breakout group dialogues concerning future research, collaboration, and community-building in our Department and beyond.

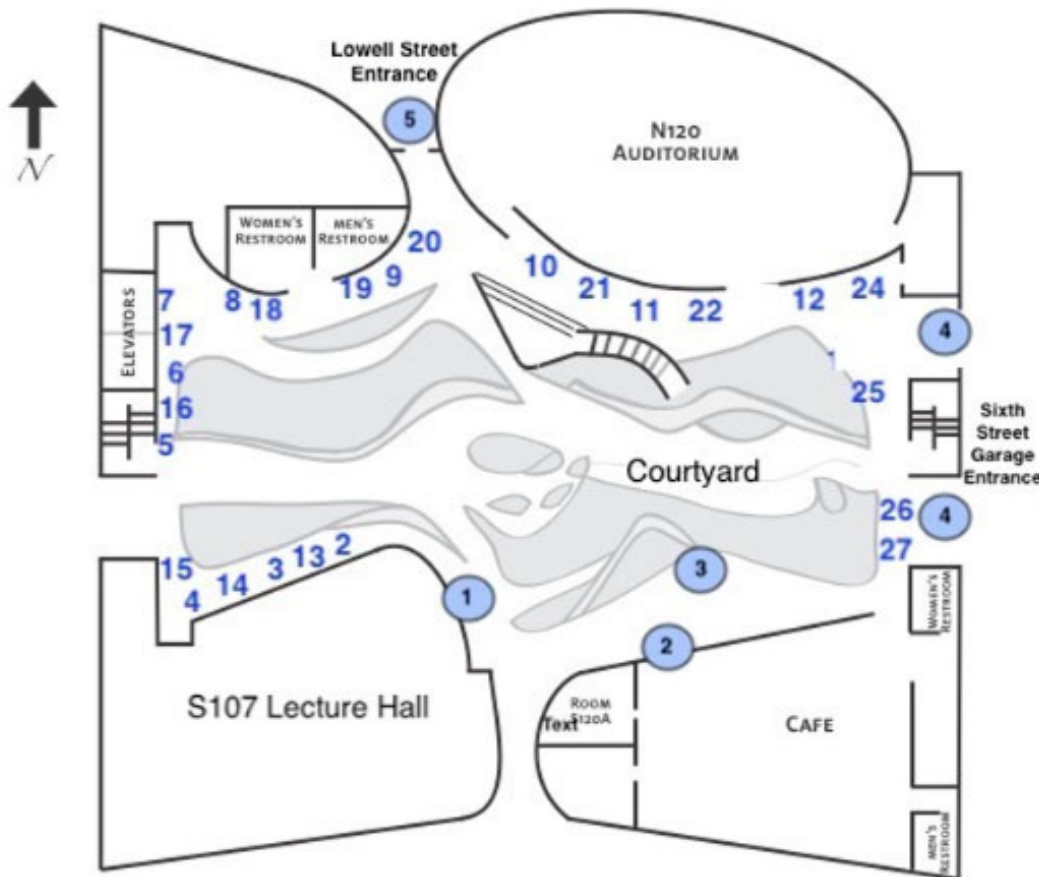
By taking the World (Global) Café approach, we hope to provide a space to encourage attendees to become active participants who help shape and identify the future of the nexus of the hydrologic and atmospheric sciences.



Hydrology & Atmospheric Sciences
Student Research Symposium



<https://eldia-web.github.io/index.html>



Event Floor Plan

1. Registration
2. Breakfast / Lunch Table
3. HASSA Table
4. Sixth Street Garage Entrance