Science and Scenery for Annual Meeting Attendees in Arizona

The north end of Verde Valley, Arizona, bounded by cliffs of the Mogollon Rim, comprises the abrupt southern edge of the Colorado Plateau. The snowy, eroded edifice of the San Francisco stratovolcano sits conspicuously atop the plateau. Miocene and Pliocene basalt flows from the San Francisco Volcanic field cap the flat-lying Paleozoic rocks of the southwestern Colorado Plateau. Late Miocene and Pliocene limestone and sedimentary rocks onlap the Paleozoic Rocks near the center right and span much of the low-lying area in the foreground. This scenery will be highlighted in the Kirk Bryan Field Trip.

Join us at the Annual Meeting!

https://community.geosociety.org/gsa2019/home
Quaternary Geology & Geomorphology Division
--- Officers and Panel Members – 2018/2019---

Officers – 6 Members, three of whom serve one-year terms: Chair, First Vice-Chair, and Second Vice-Chair; and three of whom serve two-year terms: Secretary, Treasurer, and Communications Coordinator.

Management Board – 9 Members: Division officers and the Chair of the preceding year; also includes the Historian and the Student Representative.

Chair:
Grant Meyer
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PANEL MEMBERS

2017-2019 Panel
Greg Balco
Karen Gran
Joanna Redwine

2018-2020 Panel
Kristin Jaeger
Shannon Mahan
Eric McDonald

GSA Councilor Liaison – Frank Pazzaglia
QG&G Division Liaison – Dominique Olvera

2019 JTPC Representatives:
Grant Meyer; Missy Eppes
Chair’s Message

Just a brief note as the Annual Meeting in Phoenix draws near. We have a variety of exciting technical sessions sponsored by the Quaternary Geology and Geomorphology Division, as listed in this newsletter. Many thanks to both session conveners and those who contributed presentations! A highlight on Tuesday is the co-sponsored Pardee Symposium, *Extreme Impacts of Global Climate Change: Effective Communication for Geoscientists, Educators, Policy Makers, and the Press*, featuring noted speakers on how we can successfully convey information of critical importance in these uncertain times.

The annual Kirk Bryan Field Trip will be led by Phil Pearthree, Kyle House, Joe Cook, and Kelin Whipple on Saturday September 21. Participants will travel from Phoenix to higher elevations and discuss the spectacular landscapes and Quaternary history of the Verde Valley-Sedona area - see the further information in this newsletter.

Thanks also to those conducting the many outstanding short courses of interest to Division members, including on terrestrial LiDAR scanning, structure-from-motion photogrammetry, luminescence geochronology, field safety, quantitative topographic analysis, river sediment budgets, ground-penetrating radar, and several others of broad interest.

And who could forget Tuesday night’s Quaternary Geology and Geomorphology Division Awards Ceremony, 7:00 PM - 11:00 PM at the Phoenix Convention Center, North Ballroom 120D, North Building? Please come celebrate the achievements of your colleagues and enjoy some quality food and beverages with all!

Sincerely,
Grant Meyer

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**Verde River near Clarkdale, Arizona**

The Verde River flows through a canyon bounded by steep bluffs of the Verde Formation north of Clarkdale, Arizona in the northern part of Verde Valley. Cliffs in the background are composed of interstratified limestone, sandstone, and mudstone of the Late Miocene and Pliocene Verde Formation. This is one of the thickest single exposures of the Verde Formation. *This scenery will be highlighted in the Kirk Bryan Field Trip. Space available!*

Photo and caption by P. Kyle House.
2019-2020 Election Results

Quaternary Geology and Geomorphology Division officers and panel members were elected this summer, and they will take office at the 2019 Annual Meeting in Indianapolis. The 2019 QG&G board meeting will take place Sunday, 22 September, 7:00-9:00 PM, Sheraton Phoenix Downtown, North Mountain Room. Congratulations to these incoming board members and panelists:

Chair……………………………… M-C (Missy) Eppes
First Vice Chair……………………………… Julie Brigham-Grette
Second Vice Chair……………………………… Karl Wegmann
Treasurer…………………………………………….. Scott Burns
Communications Coordinator………………….. Nicholas Sutfin

2019-2021 Panel
Andrew Cyr
Brad Johnson
Sarah Schanz

Appointments
Historian…………………………………….. Thom Davis
Student Representative…………………..John Kemper

Continuing Positions
Secretary ………………………………………. Sarah Lewis

QG&G Members Elected GSA Fellows in 2019

- Robert S. Anderson (University of Colorado)
- Suzanne P. Anderson (University of Colorado)
- Margaret E. Berry (U.S. Geological Survey)
- Karen B. Gran (University of Minnesota Duluth)
- Robert B. Jacobson (U.S. Geological Survey)
- Allan James (University of South Carolina)
- Michael R. Kaplan (Columbia University)
- J. Steven Kite (West Virginia University)
- Sarah L. Lewis (Oregon Department of Geology & Mineral Industries)
- Joseph Licciardi (University of New Hampshire)
- Shannon Mahan (U.S. Geological Survey)
- Eric McDonald (Desert Research Institute)
- Jeffrey S. Munroe (Middlebury College)
- Gerald Osborn (University of Calgary)
- Sara L. Rathburn (Colorado State University)
- Maureen E. Raymo (Columbia University)
- Brad S. Singer (University of Wisconsin Madison)
- George Thomas Stone
- Glenn David Thackray (Idaho State University)
- Woody B. Thompson (Maine Geological Survey)
- Jeffrey M. Trop (Bucknell University)
- Alan D. Wanamaker Jr. (Iowa State University)
- Rich Wittecar (Old Dominion University)
QG&G Annual Awards Presentation

Tuesday, 24 September, 7:00-11:00 PM
Phoenix Convention Center, North Ballroom 120D


Distinguished Career Award: Allan Ashworth, North Dakota State University

Farouk El-Baz Award: Steven Forman, Baylor University

Gladys W. Cole Memorial Research Grant from GSA: Glenn Thackray, Idaho State University, for the proposal Stream capture, glacier capture, and the Big Lost River Flood(s), east-central Idaho.

J. Hoover Mackin (PhD) Award: Joel Gombiner, University of Washington, for the proposal Tephrochronology of enigmatic Moses Coulee megafloods. Advisor: John Stone.


Marie Morisawa Award (for promising female graduate student): Tess Walther, University of Maine, for the proposal Reconstruction of Koettlitz Glacier in the McMurdo Sound Region, Antarctica During the Last Glacial Maximum and Termination. Advisor: Brenda Hall.

Peter J. Birkeland Award (for soil geomorphology): Evan Thaler, University of Massachusetts Amherst, for the proposal A scalable remote sensing method for estimating topsoil loss in the Piedmont region of the eastern U.S. Advisor: Isaac Larsen.


Robert K. Fahnestock Memorial Award from GSA: Ian Armstrong, Indiana University Bloomington, for the proposal Rock strength controls on knickpoint migration rates. Advisor: Bruce Douglas.


The Quaternary Geology and Geomorphology Division management board thanks the following people for their help in evaluating this year’s award applications for the Farouk El Baz and division student awards: Dennis Dahms, David Dethier, Yehouda Enzel, Andrew Goudie, Karen Gran, Judy Haschenburger, Crystal Huscroft, Brad Johnson, Harry Jol, , Matt Jungers, Nick Lancaster, Jeff Monroe, Will Ouimet, Lyman Persico, Drew Phillips, Eric Portenga, Dorothy Sack, Noah Snyder, Amanda Schmidt, Nicholas Sutfin, Arnaud Temme, Lisa Tranel, and Brent Ward.
GSA Annual Meeting
-- Guide to QG&G Events --

Award Lectures

**Kirk Bryan Award Lecture**, K. Cook
Fluvial Response to Coseismic Perturbation - Insights into Bedrock Erosion from the Formation and Evolution of the Daan River Gorge
Tuesday, 24 September 2019: 9:30AM, Room 222BC, North Building
In session: 161: T3. Fluvial Responses to Perturbations at Varying Spatial and Temporal Scales I

**Distinguished Career Award Lecture**, A. Ashworth
Climate of the Western Olympic Peninsula, NW U.S.A., during the latter part of MIS 2 (Last Glacial Maximum)
Sunday, 22 September 2019: 9:10AM, Room 221AB, North Building
In session: 3: T12. Cordilleran Ice Sheet through the Quaternary: Chronology, Paleoenvironments, and Implications

**Farouk El-Baz Award for Desert Research Lecture**, S. Forman
Fourth Dimensional Understanding of Late Pleistocene Eolian Depositional Environments for the Monahans Dune Field, Texas USA
Monday, 23 September 2019: 9:10AM, Room 221AB, North Building
In session: 76: T2. Geomorphology and Climate Change in Hot Deserts

**Gladys W. Cole Memorial Research Award**, G. Thackray
Glacier Capture Driven by Active Normal Fault Processes in the Lost River Range, Idaho
Sunday, 22 September 2019: 3:45PM, Room 224A, North Building
In session: 54: T14. Advances in Alpine Glacier Studies through Process and Chronology: In Honor of Gerald Osborn for His Career and Contributions to the Field

Presentations By Student Award Winners

J. Gombiner (J. Hoover Mackin Award)
Enigmatic Moses Coulee Megafloods
Sunday, 22 September 2019: 8:40AM, Room 221AB, North Building
In Session: 3: T12. Cordilleran Ice Sheet through the Quaternary: Chronology, Paleoenvironments, and Implications

J. Kemper (Stanley A. Schumm Award)
Floodplain Forest Establishment and Legacy Sediment within the Yampa River Basin, Northern Colorado
Sunday, 22 September 2019: 3:35PM, Room 221AB, North Building
In session: 53: T6. Ecologic, Hydrologic, and Geomorphic Connections in Alluvial River Systems

Z. Robert (Arthur D. Howard Award)
Impacts of Rapid Climate Warming on the Frequency and Spatial Distribution of Landslides in a Subarctic Mountain Range, Denali National Park and Preserve, Alaska
Monday, 23 September 2019: Booth No. 70, Poster Hall AB North Building
In session: 105: D9. Recent Advances in Geomorphology (Posters)

T. Walther (Marie Morisawa Award)
Reconstruction of Koettlitz Glacier, Southern Mcmurdo Sound, Antarctica, during the Last Glacial Maximum and Termination
Tuesday, 23 September 2019: 4:00PM, Room 221AB, North Building
In session: 210: D35. Glacial Geology and Anthropocene Sedimentology
Awards Presentation
Tuesday, 24 September, 7:00-11:00 PM, Phoenix Convention Center, North Ballroom 120D

Pardee Session

P5. Extreme Impacts of Global Climate Change: Effective Communication for Geoscientists, Educators, Policy Makers, and the Press
Tuesday PM, 24 September 1:30 PM - 5:30 PM
Phoenix Convention Center - North Ballroom 120D, North Building

Division Sponsored Technical and Discipline Sessions

Sunday

Sunday AM, 22 September 8:00 AM - 12:00 PM
T12. Cordilleran Ice Sheet through the Quaternary: Chronology, Paleoenvironments, and Implications
Phoenix Convention Center - Room 221AB, North Building
T5. Geomorphic and Hydrologic Processes in Post-Wildfire Environments: Drivers, Impacts, and Hazards
Phoenix Convention Center - Room 224A, North Building
T51. Shaping the Landscape: The Interaction between Fractures, Erosion, and Plate Tectonics
Phoenix Convention Center - Room 231ABC, North Building

Sunday PM, 22 September 1:30 PM - 5:30 PM
T6. Ecologic, Hydrologic, and Geomorphic Connections in Alluvial River Systems
Phoenix Convention Center - Room 221AB, North Building
T14. Advances in Alpine Glacier Studies through Process and Chronology: In Honor of Gerald Osborn for His Career and Contributions to the Field
Phoenix Convention Center - Room 224A, North Building
T70. New Advances in Using Near-Surface Geophysics to Solve Geological Problems
Phoenix Convention Center - Room 224B, North Building

Sunday POSTERS, 22 September 9:00 AM - 6:30 PM
Phoenix Convention Center - Hall AB, North Building
T13. Applications of High-Resolution Topographic Data to Geologic Hazards (Posters)
T70. New Advances in Using Near-Surface Geophysics to Solve Geological Problems (Posters)
T86. Inverting Source from Sink: Decoding Sedimentary Records of Climate, Erosion, and Vegetation (Posters)
Late Breaking Session: Ten-Million Years of Deformation along the Eastern California Shear Zone: Context and Characterization of the July 2019 Mw7.1 Ridgecrest Earthquake (Posters)

Monday

Monday AM, 23 September 8:00 AM - 12:00 PM
T2. Geomorphology and Climate Change in Hot Deserts
Phoenix Convention Center - Room 221AB, North Building
Phoenix Convention Center - Room 225AB, North Building
Monday PM, 23 September 1:30 PM - 5:30 PM
T1. Grand Canyon, Colorado Plateau, and Rocky Mountain Debates and Their Global Reverberations, 150 Years after Powell I
Phoenix Convention Center - Room 221AB, North Building

T16. Building Bridges between Modern and Deep-Time Critical Zones
Phoenix Convention Center - Room 222BC, North Building

T126. Geoarchaeological Insights into Paleoenvironmental Reconstruction and Cultural Dynamics
Phoenix Convention Center - Room 125AB, North Building

T160. Landslide Inventories, Hazard Assessments, and Risk Reduction
Phoenix Convention Center - Room 224A, North Building

T200. Education and Outreach in the 21st Century: Using Imagery and Social Media to Engage Students and the Public
Phoenix Convention Center - Room 101AB, West Building

Monday POSTERS, 23 September 9:00 AM - 6:30 PM
Phoenix Convention Center - Hall AB, North Building

T2. Geomorphology and Climate Change in Hot Deserts (Posters)
T14. Advances in Alpine Glacier Studies through Process and Chronology: In Honor of Gerald Osborn for His Career and Contributions to the Field (Posters)
T15. Soil Forming Processes and Quaternary Landscape History (Posters)
D9. Recent Advances in Geomorphology (Posters)
D27. Recent Advances in Quaternary Geology (Posters)
T126. Geoarchaeological Insights into Paleoenvironmental Reconstruction and Cultural Dynamics (Posters)

Tuesday

Tuesday AM, 24 September 8:00 AM - 12:00 PM
T1. Grand Canyon, Colorado Plateau, and Rocky Mountain Debates and Their Global Reverberations, 150 Years after Powell II
Phoenix Convention Center - Room 221AB, North Building

T3. Fluvial Responses to Perturbations at Varying Spatial and Temporal Scales I
Phoenix Convention Center - Room 222BC, North Building

T13. Applications of High-Resolution Topographic Data to Geologic Hazards
Phoenix Convention Center - Room 224A, North Building

T61. Fossil Magnetism and Paleopoles; Tectonics, Stratigraphy, Geochronology, and Geomorphology; Geoscience Challenges and Education: A Celebration of John Geissman’s Career
Phoenix Convention Center - Room 229B, North Building

Tuesday PM, 24 September 1:30 PM - 5:30 PM
T3. Fluvial Responses to Perturbations at Varying Spatial and Temporal Scales II
Phoenix Convention Center - Room 222BC, North Building

D35. Glacial Geology and Anthropocene Sedimentology
Phoenix Convention Center - Room 221AB, North Building

T86. Inverting Source from Sink: Decoding Sedimentary Records of Climate, Erosion, and Vegetation
Phoenix Convention Center - Room 132ABC, North Building

T162. Environmental and Engineering Geology Division
Phoenix Convention Center - Room 224A, North Building

Tuesday POSTERS, 24 September 9:00 AM - 6:30 PM
Phoenix Convention Center - Hall AB, North Building

T4. Eolian Processes and Landscape Evolution (Posters)
T49. The Paradox Basin Revealed (Posters)
T162. Environmental and Engineering Geology Division (Posters)

**Wednesday**

**Wednesday AM, 25 September 8:00 AM - 12:00 PM**

T4. Eolian Processes and Landscape Evolution  
Phoenix Convention Center - Room 221AB, North Building

T9. Tectonic and Climatic Disruption of Hydrological Systems as a Driver for Evolution of Biota and Ecosystems  
Phoenix Convention Center - Room 224A, North Building

T198. Extreme Impacts of Global Climate Change: Effective Communication for Geoscientists, Educators, Policy Makers, and the Press  
Phoenix Convention Center, Room 101AB, West Building

**Wednesday PM, 25 September 1:30 PM - 5:30 PM**

T15. Soil Forming Processes and Quaternary Landscape History  
Phoenix Convention Center - Room 221AB, North Building

**Wednesday POSTERS, 25 September 9:00 AM - 6:30 PM**

Phoenix Convention Center - Hall AB, North Building

T1. Grand Canyon, Colorado Plateau, and Rocky Mountain Debates and Their Global Reverberations, 150 Years after Powell (Posters)

T3. Fluvial Responses to Perturbations at Varying Spatial and Temporal Scales (Posters)

**Field Trips**

Saturday, 21 September 2019

421. A River is Born: Highlights of the Geologic Evolution of the Colorado River Extensional Corridor and its River: A Field Trip Honoring the Life and legacy of Warren Hamilton  
Wednesday 25 September – Saturday 28 September, 2019

**Short Courses**

502. Everything You Wanted to Know about Luminescence Geochronology—Mysteries of the “Illuminati” Revealed  
Friday, 20 September 2019

509. Introduction to Drones (sUAS) in the Geosciences  
Saturday, 21 September 2019

513. Advances in Quantifying Sediment Budgets for River Systems  
Saturday, 21 September 2019
Just a quick note to let you know that Dave Montgomery and I, working with a team from Macmillan Learning (Freeman), have finished an extensive revision of our textbook, *Key Concepts in Geomorphology*. Building on our community-based, NSF-supported approach to developing the original edition, this revision was driven by community input as well as the suggestions of expert reviewers. We’ve retained many of the original figures, added two chapters, improved the quality and geographic coverage of photographs, and written Case Studies for each chapter that show the relevance of Geomorphology to current events. The second edition will be available December 2019 so it can be used for classes in Spring 2020. You can page through an advance copy at Phoenix GSA by coming to our poster about the book (we will be there Monday evening, at booth #69), the Macmillan/Freeman booth (#506), or the QGG Tuesday evening gathering at the convention center, North Ballroom 120. You can request sample chapters from Freeman by emailing Leah Christians, Marketing Manager for the Geosciences Program at Macmillan (leah.christians@macmillan.com). Please feel free to contact Dave (bigdirt@uw.edu) or me (pbierman@uvm.edu) if you have any questions. Hope to see you at GSA! - Paul Bierman

A Note from the Communications Coordinator

It has been my honor to edit the newsletter for the past 4 years of its 60 year run. After this edition, I’ll be handing off editorial duties to your newly elected Communications Coordinator, Nicholas Sutfin. I will continue contributing posts on our division Facebook page: https://www.facebook.com/GSAQGG/. If you are interested in contributing to the division’s social media presence or other communications projects, please contact Nicholas Sutfin or I. Thanks for reading! – Anne Jefferson

Looking Ahead…

Kirk Bryan Award nomination due: 1 February 2020
Gladys W. Cole Memorial Research Award due: 1 February 2020
Student Awards and Research Grants due: 1 February 2020
Distinguished Career Award nominations due: 1 April 2020
Farouk El-Baz Award nominations due: 1 April 2020

Keep Up to Date with Your Division and Community: http://community.geosociety.org/qggdivision/
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