Abstracts for posters and talks are published in volume 26, supplement 1 of *Applied Geochemistry*, the official journal of IAGC. A few late-breaking abstracts, noted below, are not in the special issue; these abstracts are found at the end of this program.

**Poster Session 1: Friday, June 3-Saturday, June 4**

Set up posters Friday morning, June 3, between 7:00 and 8:00 am at your numbered board. Tacks are provided. Remove posters at end of day, Saturday, June 4. Boards measure 4 ft (1.2 m) tall by 8 ft (2.4 m) wide.

**Rivers as Landscape Integrators posters**

1. **Fushun Wang and 7 others**: Disrupting the riverine DIC cycling by series hydropower exploitation in karst area

2. **Zhifang Xu, Jianpeng Ji, and Chao Shi**, Water geochemistry of the Chaohu Lake basin rivers, China: Chemical weathering and anthropogenic inputs

3. **Eydis S. Eiriksldottir, Sigurdur R. Gislason and Eric H. Oelkers**: Does runoff or temperature control chemical weathering rates?

4. **Laura Trippelt, Karin M. Kettenring, Carson A. Smith**: Eight years of silica sequestration by *Phragmites australis* in a fluvial environment *(Late-breaking abstract)*

5. **Cong-Qiang Liu, Zhi-Qi Zhao, Qilian Wang, and Bo Gao**: Isotope compositions of dissolved lithium in the rivers Jinshajiang, Lancangjiang, and Nujiang: Implications for weathering in Qinghai-Tibet Plateau

6. **Robert F. Stallard**: Weathering, landscape, and carbon in four paired research watersheds in eastern Puerto Rico

7. **Sheila F. Murphy and Jeffrey H. Writer**: Evaluating the effects of wildfire on stream processes in a Colorado Front Range watershed

8. **Diana L. Karwan, Rolf Aalto, Anthony K. Aufdenkampe, J. Denis Newbold, and James E. Pizzuto**: Characterization and source determination of stream suspended particulate material in White Clay Creek

9. **R. Delunel, P. van der Beek, J. Carcailllet, and D. Boulès**: Intra-catchment variability and significance of catchment-averaged denudation rates from $^{10}$Be concentrations in stream sediments: a $^{10}$Be budget of the Etages catchment, French Western Alps *(Late-breaking abstract)*

**Critical Zone Processes posters**
10. Miriam Dühnforth, Robert S. Anderson, Dylan J. Ward, and Alex Blum: Punctuated incision of streams bounding the Colorado Front Range from measurements of meteoric and in situ $^{10}$Be (Late-breaking abstract)

11. A. Dosseto, Heather Buss and P.O. Suresh: The delicate balance between soil production and erosion, and its role on landscape evolution


13. A. Joshua West, Kevin Burton, Rachael James, Mike Bickle, and Albert Galy: Chemical weathering at La Selva Biological Preserve, Costa Rica, and implications for the role of erosion and material supply in determining weathering rates of volcanic rocks (Late-breaking abstract)

14. Barbara S. Jessup, W. Jesse Hahm, Scott N. Miller, James W. Kirchner, and Clifford S. Riebe: Landscape response to tipping points in granite weathering: The case of stepped topography in the Southern Sierra Critical Zone Observatory

15. Nicole West, Eric Kirby, Paul Bierman, and Dylan Rood: Preliminary estimates of regolith generation and mobility in the Susquehanna Shale Hills Critical Zone Observatory, PA, using meteoric $^{10}$Be


17. Guðrún Gísladóttir, Egill Erlendsson, and Rattan Lal: Soil evidence for historical human induced land degradation in West Iceland

18. Elizabeth M. Herndon and S.L. Brantley: Movement of manganese contamination through the Critical Zone

19. Jesica U. Navarrete, Marian Viveros, Joanne T. Ellzey, and David M. Borrok: Copper isotope fractionation by desert shrubs

20. Gemma M. Byrne and 6 others: Understanding the fate of iron in a modern temperate estuary: Leirárvogur, Iceland

21. Florian Kobierska and 7 others: Climate change effects on snow melt and discharge of a partly glacierized watershed in central Switzerland (SoilTrec Critical Zone Observatory)

22. Anna Benčoková Jakub Hruška, and Pavel Krám: Modeling of anticipated climate change impact on biogeochemical cycles of acidified headwater catchment

23. Lixin Jin and Susan Brantley: Soil chemistry and shale weathering on a hillslope influenced by convergent hydrologic flow regime at the Susquehanna/Shale Hills Critical Zone Observatory

24. B.W. Goodfellow, G.E. Hilley, and M.S. Schulz: Vadose zone controls on weathering intensity and depth: Observations from grussic saprolites
25. **Abigail Langston, Greg Tucker, R.S. Anderson, and S.P. Anderson**: Exploring links between vadose zone hydrology and chemical weathering in the Boulder Creek Critical Zone Observatory

26. **Pascale Louvat, J. Gaillardet, G. Paris and C. Dessert**: Boron isotope ratios of surface waters in Guadeloupe, Lesser Antilles

27. **Sétareh Rad, Olivier Cerdan, Karine Rivé and Gilles Grandjean**: Age of river basins in Guadeloupe impacting chemical weathering rates and land use

28. **Rebecca Lybrand, Craig Rasmussen, A. Jardine, P. Troch, and J. Chorover**: The effects of climate and landscape position on chemical denudation and mineral transformation in the Santa Catalina Mountain Critical Zone Observatory

29. **Daniel Moraetis, Fotini Stamati, Manolis Kotronakis, Tasoula Fraggia, and Nikolaos Nikolaidis**: Identification of hydrologic and geochemical pathways using high frequency sampling, REE aqueous sampling and soil characterization at Koiliaris Critical Zone Observatory

30. **JC Maréchal, J Riotte, C. Lagane, S. Subramanian, C. Kumar, L. Ruiz, S. Audry, V. Murari, and JJ Braun**: Chemical groundwater outputs from a small drainage watershed: Mule Hole, South India


32. **M. Anna Nowicki and Michael A. Velbel**: Preliminary quantification of a shape model for etch pits formed during natural weathering of olivine

33. **Michael A. Velbel**: Microdenticles on naturally weathered hornblende  *(Late-breaking abstract)*

34. **S.A. Parry, M. E. Hodson, E. H. Oelkers, and S. J. Kemp**: Is silt the most influential soil grain size fraction?

35. **Milena Kercheva, Sveta Rousseva, Emil Dimitrov, Martin Nenov, and Toma Shishkov**: Soil aggregation estimates in CZO-Fuchsenbigl

36. **M.B. Goldhaber, C. Mills, C.A. Stricker, and J. M. Morrison**: The role of Critical Zone processes in the evolution of the prairie pothole region wetlands

37. **JoAnn M. Holloway, Martin B. Goldhaber, and Christopher T. Mills**: Carbon and nitrogen biogeochemistry of a prairie pothole wetland, Stutsman County, North Dakota, USA

38. **Christopher T. Mills and 7 others**: Using stable isotopes to understand hydrochemical processes in and around a prairie pothole wetland in the northern Great Plains, USA

39. **Steven A. Banwart and 20 others**: Critical zone ecosystem services: more than skin deep  *(Late-breaking abstract)*

40. **Nikolaus J. Kuhn**: Connecting the cycles: impact of sediment, carbon and nutrient erosion on GHG emissions
41. **Jeroen P. van Leeuwen, Lia Hemerik, Jaap Bloem, and Peter C. de Ruiter**: Food webs and ecosystem services during soil transformations

42. **Marjorie Schulz and 6 others**: Seasonal dynamics of CO₂ profiles across a soil chronosequence, Santa Cruz, California


44. **Amy Lyttle, Kyungsoo Yoo, Cindy Hale, Anthony Aufdenkampe, Stephen Sebestyen**: Carbon-mineral interactions along an earthworm invasion gradient at a sugar maple forest in northern Minnesota

45. **Kathryn Resner, Kyungsoo Yoo, Cindy Hale, Anthony Aufdenkampe, Alex Blum, Stephen Sebestyen**: Elemental and mineralogical changes in soils due to bioturbation along an earthworm invasion chronosequence in northern Minnesota

46. **A.M. Tye and M.A. Ellis**: The generation of soil over sandstones in a periglacial environment

47. **Jörg Völkel, Juliane Huber and Matthias Leopold**: Significance of slope sediments layering on physical characteristics and interflow within the Critical Zone – Examples from the Colorado Front Range, USA

48. **Matthias Leopold, Jörg Völkel, David Dethier, Juliane Huber, and Markus Steffens**: Characteristics of a paleosol and its implication for the Critical Zone development, Rocky Mountain Front Range of Colorado, USA.

49. **Mark Torres and Robert Gaines**: Paleosol geochemistry of the late Paleocene Goler formation of southern California

50. **Lin Ma, Lixin Jin, and Susan Brantley**: Geochemical behaviors of different element groups during shale weathering at the Susquehanna/Shale Hills Critical Zone Observatory

51. **Carleton R. Bern and Art White**: A model for assessing, quantifying, and correcting for index element mobility in weathering studies

52. **Jean M. Morrison, Martin B. Goldhaber, Karl J. Ellefsen, and Christopher T. Mills**: Cluster analysis of a regional-scale soil geochemical dataset in northern California

53. **Xianzeng Niu, K.A. Lehnert, J. Williams, and S.L. Brantley**: CZChemDB and EarthChem: Advancing management and access of Critical Zone geochemical data

**Poster Session 2: Sunday, June 5-Tuesday June 7**

Set up posters Sunday morning, June 5, between 7:00 and 8:00 am at your numbered board. Tacks are provided. Leave posters up through end of meeting Tuesday, June 7. Boards measure 4 ft (1.2 m) tall by 8 ft (2.4 m) wide.
Organic Contaminants posters
1. Fotini E. Stamati, Nikolaos P. Nikolaidis, Danae Venieri, Eleftheria Psillakis, and Nicolas Kalogerakis: Dissolved organic nitrogen as an indicator of livestock impacts on soil biochemical quality


Microbial Geochemistry posters

4. Lisa E. Mayhew, Tom M. McCollom, Sam Webb, and Alexis S. Templeton: The effect of methanogenesis on the geochemistry of low-temperature water-Fe0-basalt reactions


6. Anita Zumsteg, Stefano M. Bernasconi, Josef Zeyer and Beat Frey: Microbial community and activity shifts after soil transplantation in a glacier forefield

Environmental Geochemistry posters
7. Harry Langford, Andy Hodson, and Steve Banwart: Using FTIR spectroscopy to characterise the soil mineralogy and geochemistry of cryoconite from Aldegondabreen, Svalbard

8. Rachel S. Gabor, Nina Russell, and Diane M. McKnight: An analysis of the chemical character of dissolved organic matter and soluble soil organic matter within the same catchment (Late-breaking abstract)


10. J. Delgado, R. Juncosa, H. Hernández, I. Falcón, and A. Vázquez: Comparative Hydrochemistry of five nested catchments located in the upper part of the Barcés River watershed (A Coruña, NW Spain)


12. Si-Liang Li, Cong-Qiang Liu, Sivaji Patra, Fushun Wang, Baoli Wang, and Fujun Yue: Using dual isotopic approach to trace sources and mixing of sulphate in Changjiang Estuary, China

13. Emily Seldomridge and Karen Prestegaard: Is denitrification kinetically-limited or transport-limited in tidal freshwater marshes?
15. Christopher A. Gorski, Michael Sander, Michael Aeschbacher, and Thomas B. Hofstetter: Assessing the redox properties of iron-bearing clay minerals using homogeneous electrocatalysis
17. Michelle Barger and Carla Koretsky: The influence of citric acid, EDTA, and fulvic acid on U(VI) sorption onto kaolinite
18. Seon-young Kim and Carla Koretsky: Influence of NaCl and CaCl₂ on lake sediment biogeochemistry
19. Andrew MacLeod, Ryan Sibert, Christine Snyder and Carla M. Koretsky: Eutrophication and salinization of urban and rural kettle lakes in Kalamazoo and Barry Counties, Michigan, USA
20. Mark R. Noll: Phosphorus cycling in a managed lake ecosystem: Seasonal and longer term trends
21. Zhi-Qi Zhao, Cong-Qiang Liu, Wei Zhang, and Qi-Lian Wang: Historical lead pollution in the central region of Guizhou province, China: A record of lead stable isotopes of lake sediments
22. K.M. Campbell and 14 others: Composition, stability, and measurement of reduced uranium phases for groundwater bioremediation at Old Rifle, CO
23. Martina Vítková, Vojtěch Ettler, Jiri Hyks, Thomas Astrup, and Bohdan Kríbek: Leaching of metals from copper smelter flue dust (Mufulira, Zambian Copperbelt)
24. Kathryn Tindale, Pritesh Patel, and Dirk Wallschläger: Colloidal arsenic composition from abandoned gold mine tailing leachates in Nova Scotia, Canada
27. Yun-Chao Lang, Cong-Qiang Liu, Si-Liang Li, Zhi-Qi Zhao and Zhi-Hua Zhou: Tracing natural and anthropogenic sources of dissolved sulfate in a karst region by using major ion chemistry and stable sulfur isotope
28. Hu Ding, Yun-Chao Lang, and Cong-Qiang Liu: The impact of land use and land cover changes on solute dynamics in seepage water of soil from karst hillslopes of Southwest China
29. Utra Mankasingh, Poon-Chung Choi, and Vala Ragnarsdottir: Biochar application in a tropical, agricultural region: a plot scale study in Tamil Nadu, India
30. Muhammad Ibrahim, Muhammad Yamin, Ghulam Sarwar, Alia Anayat, Fareeha Habib, Sami Ulla and Saif-ur-Rehman: Tillage and farm manure affect root growth and nutrient uptake of wheat and rice under semi-arid conditions


32. Inge C. Regelink, Liping Weng and Willem H. van Riemsdijk: The contribution of organic and mineral colloidal nanoparticles to element transport in a podzol soil

33. O.M. Saether, G. Åberg and E. Steinnes: Lead isotope distribution in podzolic soil profiles on different types of bedrock in glaciated terrain (Oslo, Norway)

34. David B. Smith, William F. Cannon, Laurel G. Woodruff: A national-scale geochemical and mineralogical survey of soils of the conterminous United States

Global Geochemical Cycles posters

35. Darcy Dan Li, Abraham Lerman, and Fred T. Mackenzie: Human perturbations on the global biogeochemical cycles of coupled Si-C and responses of terrestrial processes and the coastal ocean

36. K.V. Ragnarsdottir and H.U. Sverdrup and D. Koca: Challenging the planetary boundaries I: Basic principles of an integrated model for phosphorous supply dynamics and global population size

37. Nils Moosdorf, Jens Hartmann and Ronny Lauerwald: Compatibility of space and time for modeling fluvial HCO$_3^-$ fluxes – a comparison

38. Jens Hartmann and Nils Moosdorf: Coupling spatial geochemical and lithological information to distinguish silicate and non-silicate chemical weathering fluxes

39. Jason R. Price and Bridget Shadler: Carbon dynamics at Coweeta hydrologic laboratory, North Carolina, USA: Atmospheric CO$_2$ consumption by chemical weathering and seasonal CO$_2$ exchange across the stream-atmosphere interface (Late-breaking abstract)

40. Susanne Arens and Axel Kleidon: Eco-hydrological versus supply-limited weathering regimes and the potential for biotic enhancement of weathering at the global scale


42. Elizabeth M. Griffith, Adina Paytan, Anton Eisenhauer, Thomas D. Bullen, and Ellen Thomas: Stable seawater calcium isotope ratios over the Eocene-Oligocene Transition (Late-breaking abstract)