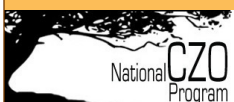




CZO@AGU 2018

December 10-14, 2018
Washington, D.C.



CRITICAL ZONE OBSERVATORIES
studying the zone where rock meets life

funded by NSF



Time of Presentation	Session/Location Information	Presentation Title/Author(s)	Affiliation
Monday, 10 December 2018			
08:00-12:20	H11R: Discharge Predictions of Rainfall: Storm-Driven Diffusive Hydrography and Runoff Modeling Posters Convention Ctr. – Poster Hall A-C	H11R-0681: Unpacking the influence of warming on hydrological partitioning in rain-snow transition zones of the western United States HALE, K.; WLOSTOWSKI, A.N.; BADGER, A.; ANDERSON, S.P.; GODSEY, S.; MOLOTCH, N.P.	Boulder Creek Reynolds Creek
08:00-12:20	EP11D: Tree, Water, Regolith, and Rock: The Role of Roots and Plant Hydraulics in Critical Zone Processes Posters Convention Ctr. – Poster Hall A-C	EP11D-2080: Soil Production Mechanisms: Can Tree Roots Significantly Weaken Rock Through Daily Water Uptake? CLYNE, J.B.; MARSHALL, J.A.	Eel River
08:00-12:20	EP11D: Tree, Water, Regolith and Rock: The Role of Roots and Plant Hydraulics in Critical Zone Processes Posters Convention Ctr. – Poster Hall A-C	EP11D-2089: Time-series measurements of deep soil profile O ₂ , CO ₂ , soil moisture, and aboveground precipitation highlight differential rooting across landuse history treatments at the Calhoun CZO BRECHEISEN, Z.S.; D. DEB. RICHTER, C.W. COOK, P. HEINE, J. AUSTIN	Calhoun
08:00-12:20	EP11D: Tree, Water, Regolith and Rock: The Role of Roots and Plant Hydraulics in Critical Zone Processes Posters Convention Ctr. – Poster Hall A-C	EP11D-2079: Sediment flux rates by tree throw in the Shale Hills Critical Zone Observatory and associated satellite sites in the Appalachian Mountains WHITE, T.S.; DENTON DERE, A.L.; SHARKEY, S.	Shale Hills
08:00-12:20	EP11D: Tree, Water, Regolith, and Rock: The Role of Roots and Plant Hydraulics in Critical Zone Processes Posters Convention Ctr. – Poster Hall A-C	EP11D-2084: Climatic and lithologic controls on critical zone structure and ecosystem productivity in the Sierra Nevada, California, evaluated using geophysical and geochemical measurements CALLAHAN, R.P.; RIEBE, C.S.; HOLBROOK, W.S.; GOULDEN, M.	Southern Sierra
08:00-12:20	EP11D: Tree, Water, Regolith and Rock: The Role of Roots and Plant Hydraulics in Critical Zone Processes Posters Convention Ctr. – Poster Hall A-C	EP11D-2082: The Weathering of Rock to Regolith: Activity of Deep Roots in Bedrock Fractures (Invited) HASENMUELLER, E.A.; GU, X.; WEITZMAN, J.N.; ADAMS, T.S.; STINCHCOMB, G.E.; EISSENSTAT, D.M.; DROHAN, P.J.; BRANTLEY, S.; KAYE, J.P.	Shale Hills
08:00-12:20	B11B: Forest Ecohydrology Under a Changing Climate Posters Convention Ctr. – Poster Hall A-C	B11B-2132: For a mountain forest, subsurface water storage determines drought survival CONKLIN, M.H.; RUNGEE, J.P.; BALES, R.C.	Southern Sierra

Time of Presentation	Session/Location Information	Presentation Title/Author(s)	Affiliation
Monday, 10 December 2018 - Continued			
08:00-12:00	EP11C: Modeling the Critical Zone: Integrating Processes and Data Across Disciplines and Scales I Posters Convention Ctr. – Poster Hall A-C	EP11C-2073: Terrestrial Carbon Storage: Improving Estimates of Net Ecosystem Exchange using Soil Profile Measures of Carbon Dioxide (CO ₂) Flux in a Cold Sage-Steppe Ecosystem HUBER, D.P.; AHO, K.; SEYFRIEND, M.S.; FLERCHINGER, G.N.; LOHSE, K.A.	Reynolds Creek
08:00-12:20	EP11C: Modeling the Critical Zone: Integrating Processes and Data Across Disciplines and Scales I Posters Convention Ctr. – Poster Hall A-C	EP11C-2065: Critical measurements of hydrologic response in a first-order, forested catchment at the Susquehanna Shale Hills Critical Zone Observatory XIAO, D.; SHI, Y.; TANG, Q.; LIN, H.; EISSENSTAT, D.M.; BRANTLEY, S.; LI, L.	Shale Hills
08:00-12:20	EP11C: Modeling the Critical Zone: Integrating Processes and Data Across Disciplines and Scales I Posters Convention Ctr. – Poster Hall A-C	EP11C-2075: The role of land use and rainfall on the characteristic scale unit of specific sediment flux: a catchment approach ABBAN, B.K.; PAPANICOLAOU, T.; GIANNOPOULOS, C.; WILSON, C.G.	IML
08:00-12:20	EP11C: Modeling the Critical Zone: Integrating Processes and Data Across Disciplines and Scales I Posters Convention Ctr. – Poster Hall A-C	EP11C-2077: Understanding Contrasting Concentration-discharge (CQ) Behaviors in a Seasonally Snow-covered Watershed ZHI, W.; LI, L.; KAYE, J.P.; DONG, W.; BROWN, W.; STEEFEL, C.I.; WILLIAMS, K.H.	Shale Hills
08:00-12:20	H11W: Indicators of Plant Water Availability and Stress in Drought-Prone Forests at a Range of Spatial and Temporal Scales Posters Convention Ctr. – Poster Hall A-C	H11W-1784: Lessons from the semi-arid West: drought controls carbon uptake dynamics in mesic Eastern US forests BARNES, M.; NOVICK, K.A.; BRESHEARS, D.D.; MOORE, D.J.P.; SCOTT, R.L.; BIEDERMAN, J.A.; PONCE-CAMPOS, G.E.; MACBEAN, N.	Catalina-Jemez
08:00-12:20	H11W: Indicators of Plant Water Availability and Stress in Drought-Prone Forests at a Range of Spatial and Temporal Scales Posters Convention Ctr. – Poster Hall A-C	H11W-1788: Scaling Evapotranspiration Measurements to Assess Forest Water Availability and Close the Mountain Water Balance RUNGEE, J.P. II; MA, Q.; BALES, R.C.; GOULDEN, M.	Southern Sierra
08:00-12:20	H11W: Indicators of Plant Water Availability and Stress in Drought-Prone Forests at a Range of Spatial and Temporal Scales Posters Convention Ctr. – Poster Hall A-C	H11W-1785: Quantifying groundwater contribution in mediating plant response to drought across various geology and climate conditions TAI, X.; BROOKS, P.D.; ANDEREGG, W.; SPERRY, J.; MACKAY, D.S.; NESBITT, L.	Catalina-Jemez

Time of Presentation	Session/Location Information	Presentation Title/Author(s)	Affiliation
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Monday, 10 December 2018 - Continued

08:00-12:20	H11M: Better Informed than Uncertain: Applications of Information Theory in the Earth Sciences Posters Convention Ctr. – Poster Hall A-C	H11M-1628: Unraveling the Causal Dynamics in Stream Solutes by Using an Information-Theoretic Approach JIANG, P.; KUMAR, P.	IML
08:45-09:00	C11B: Remote Sensing of Seasonal Snow I Convention Ctr. – Salon G	C11B-04: Canopy and terrain interactions on spatial distributions of snowpack in the Sierra Nevada ZHENG, Z.; MA, Q.; JIN, S.; SU, Y.; GUO, Q.; BALES, R.	Southern Sierra
09:45-10:00	H11A: Advances in Ecohydrology of Water-Stressed Environments I Convention Ctr. – Rm. 145A	H11A-08: Comparing the Impact of Hydraulic Redistribution on Co-existing Vegetation Interaction in Semi-arid Upland and Riparian Sites LEE, E.; KUMAR, P.; BARRON-GAFFORD, G.; SCOTT, R.L.	IML Catalina-Jemez
10:20-10:35	H12D: Advancing Catchment Science: Process Understanding and Societal Benefits from Long-Term Observation and Experimentation II Convention Ctr. – Rm. 156	H12D-01: Critical Zone Science Can Put the “earth” in Earth System Models (Invited) FAN, Y.; DIETRICH, W.E.	Eel River Shale Hills
10:33-10:36	H12H: Disturbance Hydrology: Exploring Both Immediate and Long-Term Impacts of Abrupt Changes on Hydrological Processes and Earth Systems eLightning Conv. Ctr. – eLightning Theater II	H12H-05: How do forest fuel treatments affect watershed hydrology during extreme drought? Insight from the southern Sierra Nevada. BART, R.R.; SAFEEQ, M.; WAGENBRENNER, J.; BALES, R.C.	Southern Sierra
10:35-10:50	H12D: Advancing Catchment Science: Process Understanding and Societal Benefits from Long-Term Observation and Experimentation II Convention Ctr. – Rm. 156	H12D-02: Strengthening the biogeosciences in environmental research networks (Invited) RICHTER, D.DEB.	Calhoun
10:50-11:05	H12D: Advancing Catchment Science: Process Understanding and Societal Benefits from Long-Term Observation and Experimentation II Convention Ctr. – Rm. 156	H12D-03: Agricultural Impacts on Deep Critical Zone Processes in the Midwestern United States DENTON DERE, A.L.; MILLER, A.W.; KNAPP, K.L.; PARCHER, S.; BETTIS, E.A.	IML

Time of Presentation	Session/Location Information	Presentation Title/Author(s)	Affiliation
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Monday, 10 December 2018 - Continued

10:50-11:05	H12E: Aquatic Ecosystem Responses to Human Disturbances and Management: A Comparative Discussion of Inland and Coastal Ecosystems and Their Contributing Watersheds I Convention Ctr. – Rm. 101	H12E-03: Understanding Hydrobiogeochemical Controls of Nutrient Export Using Process-based Watershed Modeling LI, L.; ZHI, W.; DUFFY, C.; BHATT, G.	Shale Hills
11:20-11:35	EP12B: Sediment Dynamics Across Landscapes I Convention Ctr. – Rm. 147A	EP12B-05: From scallops to flatirons: Planview patterns in layered landscapes GLADE, R.; ANDERSON, R.S.	Boulder Creek
12:05-12:20	H12D: Advancing Catchment Science: Process Understanding and Societal Benefits from Long-Term Observation and Experimentation II Convention Ctr. – Rm. 156	H12D-08: Linking biogeochemical and geomorphic processes to further our understanding of organic matter dynamics in the critical zone (Invited) BERHE, A.A.	Southern Sierra
13:40-18:00	H13H: Advances in Understanding Land–Atmosphere Interactions in a Changing Environment III Posters Convention Ctr. – Poster Hall A-C	H13H-1819: Impact of Heterogeneity of Land-Cover on Land-Atmosphere Fluxes at an Intensively Managed Landscape RODRIGUEZ, L.C.H.; KUMAR, P.	IML
13:40-18:00	H13J: Advancing Catchment Science: Process Understanding and Societal Benefits from Long-Term Observation and Experimentation III Posters Convention Ctr. – Poster Hall A-C	H13J-1859: Evolution of Energy, Water and Carbon Cycles due to Land-Use Change at Calhoun Critical Zone TANG, Y.; WANG, J.	Calhoun
13:40-18:00	H13J: Advancing Catchment Science: Process Understanding and Societal Benefits from Long-Term Observation and Experimentation III Posters Convention Ctr. – Poster Hall A-C	H13J-1860: Defining the Importance of Upland Landscapes Using Critical Zone and Other Similar Observatories BRANTLEY, S.L.; EISSENSTAT, D.M.; DIBIASE, R.A.; DAVIS, K.J.; KAYE J.P.; KAYE, M.	Shale Hills
13:40-18:00	H13J: Advancing Catchment Science: Process Understanding and Societal Benefits from Long-Term Observation and Experimentation III Posters Convention Ctr. – Poster Hall A-C	H13J-1862: Tracing deep biogeochemical impacts in the intensively managed desert region of Arequipa, Peru SCHULZE, D.G.; FILLEY, T.R.; CORNEJO, H.G.P.; JAFVERT, C.T.; SALAS, D.; STOTT, D.E.; GONZALEZ, J.M.; FOSTER, E.; BRECHEISEN, Z.S.; RAMSON, J.; GARCIA, V.R.; BOLIVAR, J.A.L.; CARDENAS, P.R.Y.A.; CACERES, J.P.; SOTO, M.; NEIRA, K.	IML

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Monday, 10 December 2018 - Continued

13:40-18:00	H13J: Advancing Catchment Science: Process Understanding and Societal Benefits from Long-Term Observation and Experimentation III Posters Convention Ctr. – Poster Hall A-C	H13J-1861: Land use and lithology controls on export of nitrate and other solutes from headwaters to HUC10 watersheds WAYMAN, C.R.; RUSSO, T.A.; DUNCAN, J.M.; LI, L.; FORSYTHE, B.; HOAGLAND, B.; BRANTLEY, S.	Shale Hills
13:40-18:00	H13J: Advancing Catchment Science: Process Understanding and Societal Benefits from Long-Term Observation and Experimentation III Posters Convention Ctr. – Poster Hall A-C	H13J-2093: Hydrologic Control of Catchment-Scale Dissolved Organic Carbon (DOC) Dynamics WEN, H.; LI, L.; PERDRIAL, J.N.; ABBOTT, B., ADLER, T.; BERNAL, S.; DUPAS, R.; GODSEY, S.; HALE, R.L.; HARPOLD, A.; RIZZO, D.M.; STERLE, G.; UNDERWOOD, K.	Shale Hills
13:40-18:00	H13J: Advancing Catchment Science: Process Understanding and Societal Benefits from Long-Term Observation and Experimentation III Posters Convention Ctr. – Poster Hall A-C	H13J-1858: Weathering in the Deep Critical Zone: Mineralogical Controls on Aqueous Geochemistry in the Deep Subsurface KEIFER, V.C.; MORAVEC, B.G.; ROOT, R.; AMISTADI, M.K.; CHOROVER, J.	Catalina-Jemez
13:40-18:00	H13J: Advancing Catchment Science: Process Understanding and Societal Benefits from Long-Term Observation and Experimentation III Posters Convention Ctr. – Poster Hall A-C	H13J-1876: An improved and practical approach for estimating catchment-scale response functions through power spectral analysis DWIVEDI, R.; MEIXNER, T.; MCINTOSH, J.C.; FERRE, T.P.A.; EASTOE, C.J.; CASTRO, C.L.; WRIGHT, W.E.; NIU, G.-Y.; MINOR, R.L.; KNOWLES, J.F.; BARRON-GAFFORD, G.; ABRAMSON, N.; MITRA, B.; STANLEY, M.; CHOROVER, J.	Catalina-Jemez
13:40-18:00	ED13E: Undergraduate Earth, Atmospheric, Ocean, and Space Science Research and Outreach Posters Convention Ctr. – Poster Hall A-C	ED13E-0792: Coupling Hydrologic Processes and Geochemical Weathering Patterns in a Fully Controlled Basaltic Soil Lysimeter HITZELBERGER, M.; WANG, Y.; DONTSOVA, K.; HUNT, E.; CHOROVER, J.; TROCH, P.A.	Catalina-Jemez
13:40-18:00	B13H: Modeling the Why, Where, and When of Regional Forest Decline Posters Convention Ctr. – Poster Hall A-C	B13H-2228: Overwhelming Heat Waves: Climate Envelope Development for Pinus edulis Seedlings WILSON, L.A.; LAW, D.; FIELD, J.P.; BRESHEARS, D.D.; BARRON-GAFFORD, G.	Catalina-Jemez

Time of Presentation	Session/Location Information	Presentation Title/Author(s)	Affiliation
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Monday, 10 December 2018 - Continued

13:40-18:00	B13H: Modeling the Why, Where, and When of Regional Forest Decline Posters Convention Ctr. – Poster Hall A-C	B13H-2235: Potential impacts of climate change on tree mortality risk: Do plant hydraulic traits matter? KUMAR, M.; Y. LIU; A. PAROLARI; C.-W. HUANG; G.G. KATUL; A.M. PORPORATO	Calhoun
13:40-18:00	H13G: Advances in Ecohydrology of Water-Stressed Environments III Posters Convention Ctr. – Poster Hall A-C	H13G-1794: Desertification pathways induced by grass invasion into shrublands: The ecophysiological context RAVI, S.; LAW, D.; BARRON-GAFFORD, G.; HUXMAN, T.E.; BRESHEARS, D.D.; CAPLAN, J.	Catalina-Jemez
13:40-18:00	H13N: Hydrochronology: Advances in Tracer Methods and Modeling of Residence Times in Hydrology II Posters Convention Ctr. – Poster Hall A-C	H13N-1959: Hydrochronology and storage selection of a headwater catchment and major rivers in the Sierra Nevada, California VISSER, A.; THAW, M.; BIBBY, R.K.; DEINHART, A.; CONKLIN, M.H.; VAN DER VELDE, Y.	Southern Sierra
14:40-14:45	H13C: Ecohydrologic General Contributions I Convention Ctr. – Rm. 145A	H13C-05: How do evapotranspiration-driven discharge fluctuations alter reach-scale ecosystem function? WARD, A.S.; HARMAN, C.J.; SCHMADEL, N.M.; KURZ, M.J.; BLAEN, P.; WONDZELL, S.M.; DRUMMOND, J.D.; HANNAH, D.M.; KNAPP, J.L.; KRAUSE, S.; LI, A.; ROCA, E.M.; MILLER, M.; MILNER, A.; NEIL, K.; PLONT, S.; ROCHE, K.R.; PACKMAN, A.I.; WISNOSKI, N.; ZARNETSKE, J.P.	IML
14:55–15:10	B13C: Past, Present, and Future of Water-Limited Ecosystems: Local Trends to Global Impacts II Convention Ctr. – Rm. 149AB	B13C-06: Drivers, Interactions, and Timescales for Carbon and Water Fluxes in semiarid ecosystems SAMUELS-CROW, K.E.; OGLE, K.; LITVAK, M.E.	Catalina-Jemez
17:30-17:45	H14D: Characterizing Spatial and Temporal Variability of Hydrological and Biogeochemical Processes Across Scales I Convention Ctr. – Rm. 146B	H14D-07: Hydrologic regulation of vadose zone oxygen dynamics in fractured bedrock SCHMIDT, L.; TUNE, A.K.; WANG, J.J.; DRUHAN, J.L.; REMPE, D.M.	Eel River

Time of Presentation	Session/Location Information	Presentation Title/Author(s)	Affiliation
Tuesday, 11 December 2018			
08:00-12:20	A21I: Dust in a Changing Climate: From Small-Scale Insights to Large-Scale Understanding III Posters Convention Ctr. – Poster Hall A-C	A21I-0119: Quantifying atmospheric dust deposition to the Colorado Front Range HEINDEL, R.C.; HINCKLEY, E.S.; MURPHY, S.F.; REPERT, D.A.; ANDERSON, S.P.	Boulder Creek
08:00-12:20	A21I: Dust in a Changing Climate: From Small-Scale Insights to Large-Scale Understanding III Posters Convention Ctr. – Poster Hall A-C	A21I-2819: Chemical Characterization of African Dust Events in the Caribbean Region SANTOS-FIGUEROA, G.; AVILÉS-PIÑEIRO, G.M.; MAYOL-BRACERO, O.L.	Luquillo
08:00-12:20	EP21D: Sediment Dynamics Across Landscapes Posters Convention Ctr. – Poster Hall A-C	EP21D-2292: A Global and Spatially Distributed Model of Suspended Sediment Yield at 30 Arc Second Resolution PRESCOTT, A.; PELLETIER, J.D.	Catalina-Jemez
08:00-12:20	EP21D: Sediment Dynamics Across Landscapes Posters Convention Ctr. – Poster Hall A-C	EP21D-2271: Stratigraphic control of landscape response to base-level fall, Young Womans Creek, Pennsylvania, USA DIBIASE, R.A.; DENN, A.; BIERMAN, P.R.; KIRBY, E.; WEST, N.; HIDY, A.	Shale Hills
08:00-12:20	EP21D: Sediment Dynamics Across Landscapes Posters Convention Ctr. – Poster Hall A-C	EP21D-2273: Chaotic chasms: Canyon evolution governed by autogenic channel-hillslope feedbacks SHOBE, C.M.; GLADE, R.; TUCKER, G.E.; ANDERSON, R.S.	Boulder Creek
08:00-12:20	B41K: Nutrient–Carbon Cycle Interactions in Terrestrial Ecosystems Posters Convention Ctr. – Poster Hall A-C	B41K-2866: Measuring the Effects of Long-term Nitrogen Fertilization on Soil Carbon Cycling in Two Tropical Forests VAUGHAN, E.; MCDOWELL, W.H.; CUSACK, D.F.; MARIN-SPIOTTA, E.	Luquillo
08:00-12:20	B21I: Beyond Ecosystem Boundaries: Integrating Terrestrial and Aquatic Processes to Advance Catchment Biogeoscience I Posters Convention Ctr. – Poster Hall A-C	B21I-2439: Tree-driven redistribution of mineral nutrients in a temperate forested shale catchment SOPER, F.; CHAMBERLAIN, S.; DERRY, L.A.; SPARKS, J.P.	Shale Hills
08:00-12:20	H21K: Characterizing Spatial and Temporal Variability of Hydrological and Biogeochemical Processes Across Scales II Posters Convention Ctr. – Poster Hall A-C	H21K-1804: Effects of slope aspect and gradient on soil climate in a forested catchment revealed by high-frequency monitoring data from a sensor network TAO, W.; GUO, L.; WANG, Q.; LIN, H.	Shale Hills

Time of Presentation	Session/Location Information	Presentation Title/Author(s)	Affiliation
Tuesday, 11 December 2018 - Continued			
08:00-12:00	H21K: Characterizing Spatial and Temporal Variability of Hydrological and Biogeochemical Processes Across Scales II Posters Convention Ctr. – Poster Hall A-C	H21K-1820: Long-term Estimates of Inland Riverine Sediment and Particulate Organic Carbon (POC) fluxes from Reynolds Creek Experimental Watershed, Idaho USA GOSSNER, K.; PIERSON, F.B.; CRAM, Z.; MCCORKLE, E.P.; MURRAY, E.M.; SEYFRIED, M.S.; GODSEY, S.; AHO, K.; LOHSE, K.A.	Reynolds Creek
08:04-08:07	B21G: High-Resolution Dendrochronology: Extracting the Mechanism Behind Plant–Atmosphere Interactions eLightning Conv. Ctr. – eLightning Theater I	B21G-02: Comparison of Intra-Annual Tree-Ring $\Delta^{13}C$ in Live and Dead Ponderosa Pine Following the 2012-2015 “California Drought” to Assess Differences in Physiological Response to Climate Variability and Drought Stress KEEN, R.; VOELKER, S.; STILL, C.J.; DAWSON, T.	Southern Sierra
08:15-08:30	H21B: Centennial Session: 100 Years of Progress in Hydrologic Science I Convention Ctr. – Rm. 146B	H21B-02: Looking Forward: What Can Information Flow Tell Us About Process and Model Dynamics? KUMAR, P.; GOODWELL, A.E.; JIANG, P.	IML
08:16-08:19	B21F: Estimating Critical Biogeochemical Processes Across the Soil–Plant–Atmosphere Continuum Using Cutting-Edge Techniques I eLightning Conv. Ctr. – eLightning Theater I	B21F-06: Evaluating a Microbial Functional Group-based Model to Explain Greenhouse Gas Productions and Consumptions from Puerto Rican Tropical Forest Soils SHI, D.; MAYES, M.A.; O’CONNEL, C.; XU, X.; SILVER, W.L. LÓPEZ-LLOREDA, C.; YUDKIN, B.; QUINN, R.; ZHENG, J.; BRENNER, J.; PHILLIPS, J.R.; GONZALEZ, G.; NEWMAN, B.D.	Luquillo
08:18-08:24	ED21B: The Up-Goer Five Challenge: Tell Us About the Hard Things You Do in Ten Hundred Words I Marriott Marquis – Marquis 1-2	ED21B-02: Reading rocks and ground that once were cold but now are not DEL VECCHIO, J.	Shale Hills
08:45-09:00	H21B: Centennial Session: 100 Years of Progress in Hydrologic Science I Convention Ctr. – Rm. 146B	H21B-04: Animating ‘green stuff’ in hydrologic models: where we are and what is next TAGUE, C.	Southern Sierra
09:00-09:15	H21F: Post wildfire Hydrologic, Geomorphic, and Biogeochemical Responses I Convention Ctr. – Rm. 145B	H21F-05: Using a concentration-discharge framework to improve post-wildfire water quality interpretation and prediction MURPHY, S.F.; MCCLESKEY, R.B.; MARTIN, D.A.; WRITER, J.H.; EBEL, B.A.	Boulder Creek

Time of Presentation	Session/Location Information	Presentation Title/Author(s)	Affiliation
Tuesday, 11 December 2018 - Continued			
09:15-09:30	H21A: Advances in Quantifying Impacts and Extents of Land Use/Land Cover Change on Hydrology II Convention Ctr. – Rm. 154AB	H21A-06: Multi-disciplinary insights in to the effects of vegetation change on hydrologic partitioning (Invited) BROOKS, P.D.; BARNARD, H.R.; BIEDERMAN, J.A.; HARPOLD, A.; SINGHA, K.; SWETNAM, T.L.; TAI, X.	Boulder Creek Catalina-Jemez
10:35-10:50	B22B: Agricultural Systems: Links Between Hydrology and Biogeochemical Cycling II Convention Ctr. – Rm. 149AB	B22B-02: The Importance of Soil Moisture and Soil Organic Carbon on Yield Gaps WILSON, C.G.; FREUDENBERG, V.B.; ABBAN, B.K.; GHANEEIZAD, S.M.; PAPANICOLAOU, T.	IML
10:35-10:50	H22H: Stable Isotopes in the Critical Zone: Methods, Applications, and Process Interpretations I Convention Ctr. – Rm. 145B	H22H-02: Trees use deep rock moisture, yet the xylem of their stable isotopes do not fully record this moisture source OSHUN, J.; REMPE, D.M.; HAHM, W.J.; DONALDSON, A.M.; DAWSON, T.E.; FUNG, I.Y.; DIETRICH, W.E.	Eel River
10:50-11:05	H22H: Stable Isotopes in the Critical Zone: Methods, Applications, and Process Interpretations I Convention Ctr. – Rm.145B	H22H-03: Stable isotopes in oaks reveal progressive unexpected shift toward isotopically lighter rock moisture source during summer dry out of the critical zone HAHM, W.J.; DEITRICH, W.E.; DAWSON, T.E.; REMPE, D.M.; DRALLE, D.	Eel River
10:51-10:54	PA22C: Communication of Science: Practice, Research, and Reflection II eLightning Conv. Ctr. – eLightning Theater I	PA22C-11: Words carry power: the importance of bringing the term and concept of Earth's critical zone more directly into the public eye and into K-16 education GILMORE, M.E.; CONKLIN, M.H.	Southern Sierra
11:05-11:20	EP22A: The Role and Relevance of Thresholds, Event Variability, and Disturbances Across Landscapes II Convention Ctr. – Rm. 147A	EP22A-04: Variable thresholds in rivers: Causes and effects (Invited) SHOBE, C.M.; TUCKER, G.E.; ROSSI, M.	Boulder Creek
11:12-11:15	PA22C: Communication of Science: Practice, Research, and Reflection II eLightning Conv. Ctr. – eLightning Theater I	PA22C-18: Why the history of geoscience is relevant in the Anthropocene: The case of G.K. Gilbert RICHTER, D. deB	Calhoun

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Tuesday, 11 December 2018 - Continued

11:20-11:35	H22E: Frontiers in Surface Water Quality Measurements, Modeling, and Management II Convention Ctr. – Rm. 145A	H22E-05: Development and Application of Percentile-Range Indexed Mapping and Evaluation (PRIME) Tool for Long Term Ecological Assessment DESSU, S.B.; PRICE, R.; WYMORE, A.; KOMINOSKI, J.S.; DAVIS, S.E.; MCDOWELL, W.H.; GAISER, E.	Luquillo
11:50-12:05	H22H: Stable Isotopes in the Critical Zone: Methods, Applications, and Process Interpretations I Convention Ctr. – Rm. 145B	H22H-07: Forest Nutrient Supply and Uptake Depth Depends on Erosion Rate as Disclosed by Metal Isotopes VON BLANCKENBERG, F.; SCHUESSLER, J.A.; UHLIG, D.	Southern Sierra
12:05-12:20	H22H: Stable Isotopes in the Critical Zone: Methods, Applications, and Process Interpretations I Convention Ctr. – Rm: 145B	H22H-08: Extreme Li and Mg Isotope Fractionation During Tropical Weathering: From Dust to Minerals (and Everything in Between) LARA, M.C.; SCHUESSLER, J.A.; BUSS, H.L.; HENEHAN, M.J.; MCDOWELL, W.H.	Luquillo
13:40-18:00	B23K: Seeing Is Believing: Advances in Understanding of Root–Rhizosphere Dynamics Posters Convention Ctr. – Poster Hall A-C	B23K-2680: Coupled Modeling of Active Root Zone and Nutrient Cycling Processes ROQUE-MALO, S.; KUMAR, P.	IML
13:40-18:00	B23G: Soil Carbon Change and Persistence in the Anthropocene Posters Convention Ctr. – Poster Hall A-C	B23G-2585: Changes in Fluorescence Characteristics As a Function of Substrate Quality and Microbial Activity: Testing a Conceptual Model LANDSMAN-GERJOI, M.; LANCELLOTTI, B.; SEYBOLD, E.C.; PERDRIAL, J.N.; ADAIR, C.; SCHROTH, A.	Reynolds Creek
13:40-18:00	H23K: Groundwater–Surface Water Interactions: Identifying and Integrating Physical, Biological, and Chemical Patterns and Processes Across Systems and Scales V Posters Convention Ctr. – Poster Hall A-C	H23K-2093: Strange (stream)bed fellows: How does feature-scale hyporheic exchange depend on neighboring features? HERZOG, S.; WARD, A.S.	IML

Time of Presentation	Session/Location Information	Presentation Title/Author(s)	Affiliation
Tuesday, 11 December 2018 - Continued			
13:40-18:00	H23K: Groundwater–Surface Water Interactions: Identifying and Integrating Physical, Biological, and Chemical Patterns and Processes Across Systems and Scales V Posters Convention Ctr. – Poster Hall A-C	H23K-2082: How much does stream-groundwater exchange influence whole-stream metabolism in a small mountain stream? JENKINS, E.E.; GOOSEFF, M.N.	Boulder Creek
13:40-18:00	H23L: Post wildfire Hydrologic, Geomorphic, and Biogeochemical Responses II Posters Convention Ctr. – Poster Hall A-C	H23L-2120: Impact of Wildfire on Solute Fluxes in Forested Catchments, Jemez River Basin, New Mexico, USA. SANCHEZ, R.A.; MEIXNER, T.; MCINTOSH, J.C.; CHOROVER, J.	Catalina-Jemez
13:40-18:00	H23L: Post wildfire Hydrologic, Geomorphic, and Biogeochemical Responses II Posters Convention Ctr. – Poster Hall A-C	H23L-2123: Post-Fire Variability in Aeolian Deposition in the Northern Great Basin ROEHNER, C.; PIERCE, J.L.; GLENN, N.; PIERSON F.B.; YAGER, E.; FREUTEL, W.; CIZINA, M.	Reynolds Creek
13:40-18:00	PP23D: Terrestrial Hydroclimate Variability in the Americas: Assessing Causes and Impacts using Proxies and Models Convention Ctr. – Poster Hall A-C	PP23D-1524: Disentangling local and regional climatic controls on vegetation and the flood pulse in the Pantanal, the world's largest tropical wetland IVORY, S.; MCGLUE, M.M.; SPERA, S.A.; SILVA, A.; BERGIER, I.	Shale Hills
13:40-18:00	B23H: Interdisciplinary Investigations on Interactions Between Microbes, Nutrients, and Minerals in Terrestrial Ecosystems: Experimental Studies, Field Work, and Modeling Analysis I Posters Convention Ctr. – Poster Hall A-C	B23H-2625: Co-precipitation of calcite and sulfur at depth signifies biotic activity at the onset of weathering in crystalline rocks from temperate climates MARCON, V.; WANG, H.; LI, L.; BRANTLEY, S.	Shale Hills
13:40-18:00	H23H: Coupled Dynamics of Physical, Biological, Geomorphic, Hydrologic, and Chemical Processes in the Hyporheic Zone over a Range of Spatial and Temporal Scales II Posters Convention Ctr. – Poster Hall A-C	H23H-1984: Point Source Nutrient Effects on Metabolic Activity and Reactive Solute Transport in an Urban Stream KURZ, M.; LEDFORD, S.H.; WARD, A.S.; TORAN, L.	IML

Time of Presentation	Session/Location Information	Presentation Title/Author(s)	Affiliation
Tuesday, 11 December 2018 - Continued			
13:40-18:00	H23N: Role of New Data Sets and Analysis Methods to Advance Hydrological Process Understanding at the Catchment Scale Posters Convention Ctr. – Poster Hall A-C	H23N-2146: Constraining annual water balance estimates with spatial calibration of evapotranspiration SOHRABI, M.; SAFEEQ, M.; CONKLIN, M.; KNIFFIN, M.	Southern Sierra
13:40-18:00	H23N: Role of New Data Sets and Analysis Methods to Advance Hydrological Process Understanding at the Catchment Scale Posters Convention Ctr. – Poster Hall A-C	H23N-2149: Hydrologic Storage and Partitioning Across the CZO Network WLOSTOWSKI, A.N.; HARMAN, C.; MOLOTCH, N.P.	Cross-CZO
13:40-18:00	EP23G: The Role and Relevance of Thresholds, Event Variability, and Disturbances Across Landscapes Posters Convention Ctr. – Poster Hall A-C	EP23G-2410: Runoff and erosion thresholds dictated by the balance between stochastic rainfall statistics and Critical Zone architecture ROSSI, M.W.; ANDERSON, R.S.; ANDERSON, S.P.; TUCKER, G.E.	Boulder Creek
15:10-15:25	B23A: Advances in Soil Respiration Research II Convention Ctr. – Rm. 150B	B23A-07: A microbial-based soil organic carbon decomposition model coupled with Noah-MP: development and test in semiarid grassland ZHANG, X.; NIU, G.Y.	Catalina-Jemez
16:00-16:15	T24C: The Giants of Tectonophysics Marriott Marquis – Liberty N-P	T24C-01: G.K. Gilbert: A Life in Science for the Commonstock (Invited) RICHTER, D. DEB.	Calhoun
17:15-17:30	B24B: Forest Response to Extreme Events Using Remote Sensing I Convention Ctr. – Rm. 147B	B24B-06: Vegetation water use responses to forest fires in the Sierra Nevada, California using remote sensing MA, Q.; BALES, R.C.; RUNGEE, J.P.; GOULDEN, M.	Southern Sierra

Wednesday, 12 December 2018

08:00-12:20	H31L: Runoff Generation Processes: Integrating Observations and Processes over Variable Scales II Posters Convention Ctr. – Poster Hall A-C	H31L-2104: Linking hydrologic flowpaths and catchment structure in the foothills/montane regions of the Colorado Front Range BUKOSKI, I.; BARNARD, H.R.; MURPHY, S.F.	Boulder Creek
08:00-12:20	H31L: Runoff Generation Processes: Integrating Observations and Processes over Variable Scales II Posters Convention Ctr. – Poster Hall A-C	H31L-2095: Terrain and subsurface influences on runoff generation and storage dynamics in a steep, deep, highly weathered landscape MALLARD, J.M.; MCGLYNN, B.L.; RICHTER, D.DEB.	Calhoun

Time of Presentation	Session/Location Information	Presentation Title/Author(s)	Affiliation
Wednesday, 12 December 2018 - Continued			
08:00-12:20	GC31E: Multisectoral Modeling and Management of Climate Change Impacts Posters Convention Ctr. – Poster Hall A-C	GC31E-1302: A review of state-of-the-art models used to analyze sediment connectivity at reservoirs PIERCE, S.A.; PAPANICOLAOU, T.; ABBAN, B.K.	IML
08:00-12:20	T31E: Geospatial Artificial Intelligence: Machine Learning in Earth Sciences Posters Convention Ctr. – Poster Hall A-C	T31E-0374: Assign Points to Existing Clusters: An algorithm for labeling clustered point cloud datasets for predicting physical variables HENDRYX, S.M.; BARRON-GAFFORD, G.; SWETNAM, T.L.	Catalina-Jemez
08:00-12:20	H31G: Applications in Snow Hydrology: Linking Seasonal Snow to Natural Processes and Society II Posters Convention Ctr. – Poster Hall A-C	H31G-1966: Hydrogeomorphic controls on sediment characteristics in the southern Sierra Nevada SAFEEQ, M.; HUNSAKER, C.T.; WAGENBRENNER, J.	Southern Sierra
08:00-12:20	B31N: Sun-Induced Chlorophyll Fluorescence as a Proxy of Photosynthesis: Measurements, Modeling, and Applications from Field, Airborne, and Satellite Platforms Posters Convention Ctr. – Poster Hall A-C	B31N-2694: Quantifying plant physiological response to water stress with high-frequency, near-surface observations of chlorophyll fluorescence and photochemical reflectivity YAN, D.; SCOTT, R.L.; BIEDERMAN, J.A.; BARRON-GAFFORD, G.; YANG, X.; MOORE, D.J.P.; DANNENBERG, M.P.; WANG, X.; KNOWLES, J.F.; YANG, J.; SMITH, W.K.	Catalina-Jemez
08:00-12:20	NS31C: Geophysical Methods for Groundwater Evaluation and Management III Posters Convention Ctr. – Poster Hall A-C	Conveyers: LANE, J.W.; KNIGHT, R.J.; DAY-LEWIS, F.D.; FERRE, T.P.A.	Catalina-Jemez
10:20-10:50	U32A: Foundation to Frontiers in Earth and Planetary Processes Since 1877: Geology of the Henry Mountains Convention Ctr. – Rm. 202A	U32A-01: Reflections on the legacy of Grove Karl Gilbert, 1843-1918: Harnessing the natural experiments of the American West in the service of science (Invited) ANDERSON, R.S.	Boulder Creek
11:20-11:35	EP32B: Time, Space, and Hydrologic Influences on Sediment and Nutrient Dynamics: From Sources to Delivery I Convention Ctr. – Rm. 145B	EP32B-05: The Anatomy of a Storm Pulse: An Example from the Clear Creek, IA Site of the Intensively Managed Landscape – Critical Zone Observatory BLAIR, N.E.; WARD, A.S.; BETTIS, E.A.; PAPANICOLAOU, T.; WILSON, C.G.	IML

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Wednesday, 12 December 2018 - Continued

13:40-13:55	B33B: Soil Carbon Change and Persistence in the Anthropocene III Convention Ctr. – Rm. 150A	B33B-01: Carbon isotopes reveal signals of the Anthropocene in soil carbon pools deep within the critical zone BILLINGS, S.A., Z.S. BRECHEISEN, A. CHERKINSKY, C.W. COOK, C. LEHMEIER, D. DEB. RICHTER	Calhoun
13:40–15:40	NS33A: Geophysical Methods for Groundwater Evaluation and Management I Marriot Marquis – Marquis 12-13	Conveyers: LANE, J.W.; KNIGHT, R.J.; DAY-LEWIS, F.D.; FERRE, T.P.A.	Catalina-Jemez
13:40–18:00	B33O: The Role of Microbes in Terrestrial Biogeochemical Cycles: Linking Responses to Ecosystem Processes and Environmental Change Posters Convention Ctr. – Poster Hall A-C	Conveyers: FAIRBANKS, D.; GEBHARDT, M.; ESPINOSA, N.J.; GALLERY, R.E.	Catalina-Jemez
13:40–18:00	B33O: The Role of Microbes in Terrestrial Biogeochemical Cycles: Linking Responses to Ecosystem Processes and Environmental Change Posters Convention Ctr. – Poster Hall A-C	B33O-2893: Community Level Physiological Profiling: Microbial Responses to Experimental Warming in Semiarid Soils EAGLE, V.A.; ESPINOSA, N.J.; GALLERY, R.E.	Catalina-Jemez
13:40-18:00	B33K: Novel Methods of Connecting Ecosystem Structure to Function with Remote Sensing Posters Convention Ctr. – Poster Hall A-C	B33K-2822: The Relative Sensitivity of Forest Productivity to Landscape Position vs. Microtopography GHASEMIAN, S.; KASTENS, J. S.A. BILLINGS	Calhoun
13:40-18:00	EP33C: Time, Space, and Hydrologic Influences on Sediment and Nutrient Dynamics: From Sources to Delivery Posters Convention Ctr. – Poster Hall A-C	EP33C-2423: Hysteresis and response to storm events in a tropical landscape: Luquillo Mountains, Puerto Rico WYMORE, A.; LEON, M.; SHANLEY, J.B.; MCDOWELL, W.H.	Luquillo
13:40-18:00	EP33C: Time, Space, and Hydrologic Influences on Sediment and Nutrient Dynamics: From Sources to Delivery Posters Convention Ctr. – Poster Hall A-C	EP33C-2417: Assessment of Predictability of Erosion in Intensively Managed Agroecosystems: Implications for sediment transport GIANNOPOULOS, C.; PAPANICOLAOU, T.; ABBAN, B.K.; WILSON, C.G.	IML

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Wednesday, 12 December 2018 - Continued

13:40-18:00	H33K: Integrative Approaches Toward Large-Scale Water and Energy Cycle Investigations Posters Convention Ctr. – Poster Hall A-C	H33K-2233: Litter Layer Controls on Ecosystem Hydrologic and Thermal Partitioning WANG, K.; KUMAR, P.	IML
13:40-18:00	B33G: Agricultural Systems: Links Between Hydrology and Biogeochemical Cycling III Posters Convention Ctr. – Poster Hall A-C	B33G-2764: How Changes in Management Impact Size Distribution and Stability of Soil Aggregates WACHA, K.; HATFIELD, J.; CAMBARDELLA, C.; PAPANICOLAOU, T.; HUANG, C.H.; DOLD, C.	IML
13:40-18:00	B33G: Agricultural Systems: Links Between Hydrology and Biogeochemical Cycling III Posters Convention Ctr. – Poster Hall A-C	B33G-2761: Development of a Next Generation Spatially Distributed Agroecosystem Model SHI, Y.; KEMANIAN, A.; WHITE, C.; MONTES, F.	Shale Hills
13:40-18:00	B33G: Agricultural Systems: Links Between Hydrology and Biogeochemical Cycling III Posters Convention Ctr. – Poster Hall A-C	B33G-2755: Quantification of Field Scale Denitrification by Stable Isotope Analysis of NO ₃ - and H ₂ O from Tile Drain Runoff WILKINS, B.P.; WOO, D.K.; KUMAR, P.; KEEFER, D.A.; KEEFER, L.L.; FISHER, M.; LI, J.; HODSON, T.O.; WELP, L.; MICHALSKI, G.	IML
13:40-18:00	H33N: Modeling Hydrological Processes and Changes Under a Changing Environment III Posters Convention Ctr. – Poster Hall A-C	H33N-2262: Predicting Future Flood Risk in an Agrarian Watershed in Northwest Tennessee BHUIYAN, M.N.M.; KALYANAPU, A.; PAPANICOLAOU, T.; GHANEEIZAD, S.M.; ABBAN, B.K.; WILSON, C.G.	IML
14:08-14:11	PA33B: Quantifying the Value of Earth Science Information by Identifying How It Changes Societal Outcomes eLightning Conv. Ctr. – eLightning Theater II	PA33B-10: Synergistic data analytics and physical modeling for improved understanding of vegetation dynamics under climatological stress: a key uncertainty in ecosystem management LIU, Y.; KUMAR, M.; KATUL, G.G.; PAROLARI, A.; PORPORTO, A.M.; HUANG, C.W.; KONINGS, A.	Calhoun
14:50-15:00	EP33A: From Granular Physics to Geomorphology: Scaling Surface Processes Beyond the Continuum I Convention Ctr. – Rm. 147A	EP33A-07: A stochastic cellular model of hillslope morphology and evolution TUCKER, G.E.; MCCOY, S.W.; HOBLEY, D.E.J.	Boulder Creek
15:30-15:40	EP33A: From Granular Physics to Geomorphology: Scaling Surface Processes Beyond the Continuum I Convention Ctr. – Rm. 147A	EP33A-11: Particle Resting Times: Modeling the Role of Turbulence WYSSMANN, M.; PAPANICOLAOU, T.	IML

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Wednesday, 12 December 2018 - Continued			
16:00–18:00	NS34A: Geophysical Methods for Groundwater Evaluation and Management II Marriot Marquis – Marquis 12-13	NS34A: Geophysical Methods for Groundwater Evaluation and Management II LANE, J.W., KNIGHT, R.J., DAY-LEWIS, F.D., FERRE, T.P.A.	Catalina-Jemez
16:15-16:30	B34A: Integrated Understanding of Climate, Carbon, Nutrient Cycles, Human Activities, and Their Interactions in Terrestrial Ecosystems I Convention Ctr. – Rm. 149AB	B34A-02: Continental-scale consequences of tree die-offs in North America (Invited) SWANN, A.L.S.; LAGUE, M.M.; GARCIA, E.; FIELD, J.P.; BRESHEARS, D.D.; MOORE, D.J.P.; SALESKA, S.R.; STARK, S.C.; VILLEGAS, J.C.; LAW, D.; MINOR, D.	Catalina-Jemez
16:45-17:00	GC34A: Fingerprinting the Anthropocene: Observing and Understanding Social Change Across Earth's Landscapes I Convention Ctr. – Salon B	GC34A-04: Anthropogenic Drivers and the Reconstruction of Historical Forest Cover Change in the South Carolina Piedmont ca. 1790-1940 NELSON, D.R.; COUGHLAN, M.R.; M. LONNEMAN, M.	Calhoun
17:15-17:30	EP34A: From Granular Physics to Geomorphology: Scaling Surface Processes Beyond the Continuum II Convention Ctr. – Rm. 147A	EP34A-10: Granular physics of soil production and creep (Invited) HARRISON, E.J.; FERDOWSI, B.; WILLENBRING, J.K.	Luquillo
17:45-18:00	H34E: Groundwater–Surface Water Interactions: Identifying and Integrating Physical, Biological, and Chemical Patterns and Processes Across Systems and Scales IV Convention Ctr. – Rm. 146B	H34E-08: Spatial and temporal relationships between hydrologic forcing, geologic setting, and river corridor exchange in a mountain stream network WARD, A.S.; HERZOG, S.; WONDZELL, S.M.; SCHMADEL, N.M.; BLAEN, P.; DRUMMOND, J.D.; HANNAH, D.M.; HARMAN, C.J.; KNAPP, J.L.; KRAUSE, S.; KURZ, M.J.; LI, A.; ROCA, E.M.; MILLER, M.; MILNER, A.; NEIL, K.; PLONT, S.; ROCHE, K.R.; PACKMAN, A.I.; WISNOSKI, N.; ZARNETSKE, J.P.	IML

Thursday, 13 December 2018

08:00-12:20	EP41B: From Granular Physics to Geomorphology: Scaling Surface Processes Beyond the Continuum Posters Convention Ctr. – Poster Hall A-C	EP41B-2659: Clustering of Particles: Comparison of Granular Effects to Turbulent Effects KYRIAKOPOULOS, T.; PAPANICOLAOU, T.; WYSSMAN, M.	IML
08:00-12:20	EP41B: From Granular Physics to Geomorphology: Scaling Surface Processes Beyond the Continuum Posters – Poster Hall A-C	EP41B-2668: River channel lowering by upstream migration of bedrock steps HURST, A.A.; ANDERSON, R.S.	Boulder Creek

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Thursday, 13 December 2018 - Continued

08:00-12:20	NG41B: Nonlinear Statistical, Mathematical, and Computational Physics in Complex System Science: Theoretical Advances and Geophysical Applications Posters Convention Ctr. – Poster Hall A-C	NG41B-0942: Discerning the Thermodynamic Basis of Emergent Vegetation and Ecosystem Evolution RICHARDSON, M.; KUMAR, P.	IML
08:00-12:20	B41K: Nutrient–Carbon Cycle Interactions in Terrestrial Ecosystems Posters Convention Ctr. – Poster Hall A-C	B41K-2866: Measuring the Effects of Long-term Nitrogen Fertilization on Soil Carbon Cycling in Two Tropical Forests VAUGHAN, E.; MCDOWELL, W.H.; CUSACK, D.F.; MARIN-SPIOTTA, E.	Luquillo
08:00-12:20	B41K: Nutrient–Carbon Cycle Interactions in Terrestrial Ecosystems Posters Convention Ctr. – Poster Hall A-C	B41K-2856: Biomass Partitioning to Absorptive Roots in the Context of Multiple Resource Limitation EISSENSTAT, D.M.; ORR, A.S.; SZINK, I.; NAITHANI, K.J.; KAYE, J.P.; ADAMS, T.S.	Shale Hills
08:00-12:20	B41K: Nutrient–Carbon Cycle Interactions in Terrestrial Ecosystems Posters Convention Ctr. – Poster Hall A-C	B41K-0855: Ecohydrological controls on iron redox fluctuations CALABRESE, S.; PORPORATO, A.M.	Calhoun
08:00-12:20	B41K: Nutrient–Carbon Cycle Interactions in Terrestrial Ecosystems Posters Convention Ctr. – Poster Hall A-C	B41K-2870: Tree carbon investments and soil phosphorus dividends: How do rooting systems maximize P acquisition while being thrifty with their carbon? HAUSER, E.; RICHTER, D. DEB.; BILLINGS, S.A.	Calhoun
08:00-12:20	B41H: The Global Methane Cycle Posters Convention Ctr. – Poster Hall A-C	B41H-2807: Controls on greenhouse gas production in streams across a land use gradient HERREID, A.; WYMORE, A.; VARNER, R.K.; MCDOWELL, W.H.	Luquillo
08:00-12:00	H41J: Advances in Subsurface Characterization Using Innovative Methods of Geophysics and Hydrogeology II Posters Convention Ctr. – Poster Hall A-C	H41J-2198: Exploring the Mitigation Potentials of Geophysical features on the Subsurface Flow Dominated by the Surface Hydrometeorological Conditions CHEN, C.; FLORES, A.N.; AGUAYO, M.	Reynolds Creek
08:00-12:20	H41O: Preferential Flows in Fractured Porous Media, Soils, and Rock–Soil Interfaces II Posters Convention Ctr. – Poster Hall A-C	H41O-2310: Comparing preferential flow between two catchments with contrasting lithologies TANG, Q.; DUNCAN, J.M.; XIAO, D.; LI, L.; GUO, L.; LIN, H.; EISSENSTAT, D.M.	Shale Hills

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Thursday, 13 December 2018 - Continued

08:00-12:20	NS41B: Near-Surface Geophysics in the Critical Zone Posters Convention Ctr. – Poster Hall A-C	NS41B-0816: Constraints on Ridge-to-Valley Critical Zone Structure from the Susquehanna Shale Hills Critical Zone Observatory LUTZ, K.; ACCARDO, N.J.; NYBLADE, A.; BRANTLEY, S.	Shale Hills
08:00-12:20	NS41B: Near-Surface Geophysics in the Critical Zone Posters Convention Ctr. – Poster Hall A-C	NS41B-0819: Characterizing the subsurface of the Critical Zone in the Garner Run Catchment at the Susquehanna Shale Hills Critical Zone Observatory using Electrical Resistivity DONALDSON, Y.Y.; CAMBEIRO, J.; POPE, G.; O'NEILL, P.; MOUNT, G.; KEATING, K.; BRANTLEY, S.; NYQUIST, J.	Shale Hills
08:00-12:20	NS41B: Near-Surface Geophysics in the Critical Zone Posters Convention Ctr. – Poster Hall A-C	NS41B-0817: Constraints on Valley Structure from Two Seismic Refraction Lines in the Susquehanna Shale Hills Critical Zone Observatory RENZAGLIA, J.; ACCARDO, N.J.; NYBLADE, A.; BRANTLEY, S.	Shale Hills
08:00-12:20	NS41B: Near-Surface Geophysics in the Critical Zone Posters Convention Ctr. – Poster Hall A-C	NS41B-0821: Near-surface geophysical methods at multiple scales of measurement to understand variation in erosion rates and water storage in the Luquillo CZO, Puerto Rico. COMAS, X.; BROCARD, G.Y.; HARRISON, E.J.; SIRIANNI, M.; CORNETT, C.; VECCHIO, M.;	Luquillo
08:00-12:20	NS41B: Near-Surface Geophysics in the Critical Zone Posters Convention Ctr. – Poster Hall A-C	NS41B-0818: Imaging the critical zone structure using seismic refraction in Garner Run at the Susquehanna Shale Hills Critical Zone Observatory CAMBEIRO, J.; TARZONA, A.; DONALDSON, Y.Y.; POPE, G.; O'NEILL, P.; HAYES, J.L.;	Shale Hills
08:00-12:20	NS41B: Near-Surface Geophysics in the Critical Zone Posters Convention Ctr. – Poster Hall A-C	NS41B-0820: Near-surface Geophysical Characterization of Cole Farms in the Susquehanna Shale Hills Critical Zone Observatory, Pennsylvania, USA. MOUNT, G.; HAYES, J.L.; SILVERHART, P.; WAYMAN, C.R.; DEL VECCHIO, J.; DIBIASE, R.A.; BRANTLEY, S.L.	Shale Hills

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Thursday, 13 December 2018 - Continued			
08:00-12:20	ED41C: Beyond the Numbers: Strategies for More Inclusive Practices Across the Geological Sciences I Posters Convention Ctr. – Poster Hall A-C	ED41C-1124: Using a Near Surface Geophysics and Critical Zone Science Field Experience to Broaden the Participation of Underrepresented Minorities in the Geosciences KEATING, K.; MOUNT, G.; NYQUIST, J.; HAYES, J.L.; GATES, A.E.; BRANTLEY, S.; O'CONNELL, K.; IVERSON, E.A.R.	Shale Hills
08:00-12:00	B43M: Plant–Soil Interactions Under Global Warming: Learning Mechanisms from Multiyear Field Experiments and Natural Gradients Posters Convention Ctr. – Poster Hall A-C	B43M-3011: Plant-Soil interactions under Global Warming: Learning Mechanisms from Multiyear Field Experiments and Natural Gradients. SEYFRIED, M.S.; HUBER, D.P.; LOHSE, K.A.; AHO, K.	Reynolds Creek
08:15-08:30	B41D: Comparative Organic Geochemistry of Soils and Aquatic Sediments: A New View in the 21st Century I Convention Ctr. – Rm. 150A	B41D-02: Influence of past soil erosion and burial on the reactivity of deep soil carbon FILLEY, T.R.; HALL, S.J.; HOU, T.; PLANTE, A.F.; WEINTRAUB, M.N.	IML
08:30-08:45	C41B: Modeling of the Cryosphere: Seasonal Snow I Convention Ctr. – Salon G	C41B-03: Marked spatial variability in the sensitivity of simulated snow cover evolution to precipitation phase method selection (Invited) JENNINGS, K.S.; MOLOTCH, N.P.	Boulder Creek
08:45-09:00	C41B: Modeling of the Cryosphere: Seasonal Snow I Convention Ctr. – Salon G	C41B-04: New approaches to address scaling issues of water flow through snow WEBB, R.; FEND, M.; JENNINGS, K.S.; WIGMORE, O.; ERICKSON, T.; WILLIAMS, M.W.; MOLOTCH, N.P.	Boulder Creek
10:20-12:20	H22H: Stable Isotopes in the Critical Zone: Methods, Applications, and Process Interpretations I Convention Ctr. – Rm. 145B	Conveners: ORLOWSKI, N.; SPRINGER, M.; DAWSON, T.E.; GOOD, S.P.	Eel River
10:20–12:20	B42D: The Role of Microbes in Terrestrial Biogeochemical Cycles: Linking Responses to Ecosystem Processes and Environmental Change I Convention Ctr. – Rm. 150A	Conveyers: FAIRBANKS, D.; GEBHARDT, M.; ESPINOSA, N.J.; GALLERY, R.E.	Catalina-Jemez

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Thursday, 13 December 2018 - Continued			
11:20-11:35	B42D: The Role of Microbes in Terrestrial Biogeochemical Cycles: Linking Responses to Ecosystem Processes and Environmental Change I Convention Ctr. – Rm. 150A	B42D-05: Soil biogeochemistry and microbial community recovery post-wildfire in a mixed conifer forest in northern New Mexico FAIRBANKS, D.; MUSCARELLA, C.R.; MURPHY, M.A.; CHOROVER, J.; RICH, V.I.; GALLERY, R.E.	Catalina-Jemez
11:20-11:35	H42H: Statistical Characterization and Probabilistic Modeling of Precipitation Variability and Extremes Across Multiple Scales I Convention Ctr. – Rm: 145B	H42H-05: It's raining bits: Trends in the information content of daily rainfall persistence across the U.S. GOODWELL, A.E.; KUMAR, P.	IML
12:30-13:30	TH43A: Critical Zone Observatories: Platforms for Collaborative Science Marriott Marquis – Independence A-C	Presenters: KUMAR, P.; DIETRICH, W.E.	National
13:40-13:55	NS43A: Near-Surface Geophysics in the Critical Zone I Marriott Marquis – Marquis 12-13	NS43A-01: Examining diel patterns of soil and sap flow from the single-tree to hillslope scale (Invited) SINGHA, K.; HARMON, R.E.; VOYTEK, E.; BARNARD, H.R.	Boulder Creek
13:40-18:00	H43C: Advances in Watershed Modeling: Hydrologic/Nutrient Processes, Conservation Management, and Model Integration Posters Convention Ctr. – Poster Hall A-C	H43C-2405: Upscaling Hydrological Dynamics at the Watershed Scale WEN, H.; LI, L.; BRANTLEY, S.	Shale Hills
13:40-18:00	NS43C: Unoccupied Airborne Systems: Advances and Applications for Hydrology and Geophysics Posters Convention Ctr. – Poster Hall A-C	NS43C-0853: Identification of Tile Drain Networks using Thermal and RGB Data from Unmanned Aircraft TYLER, S.; KRATT, C.B.; WOO, D.K.; JOHNSON, K.B.; HAAGSMA, M.; SLADEK, C.; KUMAR, P.; SELKER, J.S.	IML
13:40-18:00	H23P: Stable Isotopes in the Critical Zone: Methods, Applications, and Process Interpretations II Posters Convention Ctr. – Poster Hall A-C	Conveners: ORLOWSKI, N.; SPRINGER, M.; DAWSON, T.E.; GOOD, S.P.	Eel River

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Thursday, 13 December 2018 - Continued			
13:55-14:10	EP43A: Aeolian Research at the Interface of Sedimentary, Atmospheric, and Biological Processes I Convention Ctr. – Rm. 145B	EP43A-02: The growth of Aeolian snow features KOCHANOSKI, K.; TUCKER, G.E.; ANDERSON, R.S.	Boulder Creek
14:15-14:30	B43A: Nutrient–Carbon Cycle Interactions in Terrestrial Ecosystems I Convention Ctr. – Rm. 150B	B43A-03: Coupling of soil carbon, organic phosphorus, and amorphous minerals along wet tropical forest rainfall gradient LIN, Y.; GROSS, A.; SILVER, W.L.	Luquillo
14:40-14:55	NS43A: Near-Surface Geophysics in the Critical Zone I Marriott Marquis – Marquis 12-13	NS43A-05: Chemical vs physical influences on weathering at the Susquehanna Shale Hills Critical Zone: Preliminary Results from a 3D seismic imaging experiment (Invited) ACCARDO, N.J.; NYBLADE, A.; GU, X.; MOUNT, G.; BRANTLEY, S.	Shale Hills
14:55-15:10	NS43A: Near-Surface Geophysics in the Critical Zone I Marriott Marquis – Marquis 12-13	NS43A-06: Mapping geochemistry onto geophysics to understand the architecture of shale weathering in the shallow subsurface GU, X.; MAVKO, G.; ACCARDO, N.J.; NYBLADE, A.; BRANTLEY, S.L.	Shale Hills
17:00-18:00	EP44A: The Sharp Lecture Marriott Marquis – Marquis 6	EP44A-01: From ice to trees, surprising insights into past and present processes that sculpt our Earth MARSHALL, J.A.	Boulder Creek Eel River

Friday, 14 December 2018

08:00-12:20	IN51B: Enabling Cloud Applications for Earth Science Data Posters Convention Ctr. – Poster Hall A-C	IN51B-0581: Dendra: A Real-time Cloud-based Time-series Curation System BODE, C.A.; BAXTER, W.; DEITRICH, W.E.; FENWICK, B.; NORRIS, J.M.; SMITH, J.S.	Eel River
08:00-12:20	IN51C: Enabling Transparency and Reproducibility in Geoscience Through Practical Provenance and Cloud-Based Workflows Posters Convention Ctr. – Poster Hall A-C	IN51C-0594: Operational data provenance and cybersecurity for anticipatory disaster planning BANDARAGODA, C.; LEON, M.; LENHARDT, C.; PHUONG, J.; HORSBURGH, J.S.; SPACKMAN, A.; Collaborative RAPID Team	Luquillo
08:00-12:20	ED011: Building Stronger Communities in Academia for Effective Education and Outreach Convention Ctr. – Poster Hall A-C	ED51E-0706: CUAHSI Virtual University: An inter-institutional framework for graduate education applied to the hydrologic sciences LOHEIDE, S.P.; CIRUZZI, D.M.; LOWRY, C.; TAGUE, C.; MICHAEL, H.M.; HYNDMAN, D.W.; TYLER, S.; THOMPSON, M.; TRAN, E.	Southern Sierra

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Friday, 14 December 2018 - Continued

08:00-12:00	GC51E: The Role of Fire in the Earth System: Understanding Drivers, Feedbacks, and Interactions with the Land, Atmosphere, and Society Posters Convention Ctr. – Poster Hall A-C	GC51E-0819: Temporal variation in soil carbon cycling in response to wildfire in the Reynolds Creek Critical Zone Observatory, Idaho, USA LOHSE, K.A.; PATTON, N.R.; RENNER, C.; ROZIN, A.G.; THOMAS, J.; FINNEY, B.; MACNEILLE, R.B.; GOSSNER, K.; VAN ORSDEL, Z.; HILL, S.; FACER, J.A.; DURFEE, C.; AHO, K.; SEYFRIED, M.S.; PIERSON, F.B.	Reynolds Creek
08:00-08:12	B51C: Tropical Forests Under a Changing Environment I Convention Ctr. – Rm. 147B	B51C-01: Warming effects on litter decomposition and carbon cycling in a tropical forest ROE, S.A.; LAWRENCE, D.; WOOD, T.E.; REED, S.; CAVALERI, M.A.; ALONSO-RODRÍGUEZ, A.M.; GONZALEZ, G.	Luquillo
08:30-08:45	B51B: New Insights to Soil Structure and Function: Bridging Plant, Microbe, and Mineral Constituents Using Experimentation and Multiscale Modeling I Convention Ctr. – Rm. 150A	B51B-03: Short-range-ordered (SRO) iron minerals are dynamic, emergent representations of recent environmental conditions in soils THOMPSON, A.	Luquillo Calhoun
08:31-08:34	EP51B: Evaluating the Influence of Geomorphology on Carbon Cycling II eLightning Conv. Ctr. – eLightning Theater II	EP51B-11: 3-D Modeling of the Co-evolution of Landscape and Soil Organic Carbon YAN, Q.; KUMAR, P.; LE, P.; FILLEY, T.R.; WOO, D.K.; HOU, T.	IML
08:34-08:37	EP51B: Evaluating the Influence of Geomorphology on Carbon Cycling II eLightning Conv. Ctr. – eLightning Theater II	EP51B-12: Factors affecting the spatial variability of soil organic carbon in glaciated and intensively managed landscapes ZHOU, S.; PAPANICOLAOU, T.; WILSON, C.G.; GIANNOPOULOS, C.	IML
08:48-09:00	B51C: Tropical Forests Under a Changing Environment I Convention Ctr. – Rm. 147B	B51C-05: Stronger Hurricanes Triple Tree Mortality and Alter Composition and Biomass Dynamics In A Tropical Forest URIARTE, M.; ZIMMERMAN, J.K.	Luquillo
09:00-09:12	B51C: Tropical Forests Under a Changing Environment I Convention Ctr. – Rm. 147B	B51C-06: Landscape-scale variability in tropical forest turnover: lessons from lidar for vegetation demographic models MARTINUZZI, S.; MORTON, D.C.; KELLER, M.; URIARTE, M.; COOK, B.	Luquillo

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Friday, 14 December 2018 - Continued

09:12-09:24	B51C: Tropical Forests Under a Changing Environment I Convention Ctr. – Rm. 147B	B51C-07: Hurricane defoliation effects on water cycle processes in the Luquillo Experimental Forest, Puerto Rico SCHOLL, M.A.; TORRES-SANCHEZ, A.; VAN BEUSEKOM, A.V.; SHANLEY, J.B.; BASSIOUNI, M.; GONZÁLEZ, G.	Luquillo
09:24-09:36	B51C: Tropical Forests Under a Changing Environment I Convention Ctr. – Rm. 147B	B51C-08: Aquatic Sensors Provide New Insights into the Aquatic-Terrestrial Linkages that Govern Watershed Response to Major Hurricanes in a Tropical Montane Forest MCDOWELL, W.H.; LÓPEZ-LLOREDA, C.; POTTER, J.	Luquillo
09:30-09:45	B51B: New Insights to Soil Structure and Function: Bridging Plant, Microbe, and Mineral Constituents Using Experimentation and Multiscale Modeling I Convention Ctr. – Rm. 150A	B51B-07: Soil organic matter-mineral associations as a microbial substrate selection engine (Invited) PLANTE, A.F.; COWARD, E.K.; KIMA, S.; OHNO, T.	Luquillo
09:36-09:48	B51C: Tropical Forests Under a Changing Environment I Convention Ctr. – Rm. 147B	B51C-09: Spatial and Temporal Variability of Soil Pore Water Chemistry and Stable Isotopes at Tropical Three Hillslopes: El Yunque National Forest, Puerto Rico NEWMAN, B.D.; KOGER, J.; ALONSO-RODRÍGUEZ, A.M.; LÓPEZ-LLOREDA, C.; MAYES, M.A.; PERKINS, G.; WOOD, T.E.; XU, C.	Luquillo
09:48-10:00	B51C: Tropical Forests Under a Changing Environment I Convention Ctr. – Rm. 147B	B51C-10: Understanding Tropical Forest Abiotic Response to an Experimental Hurricane Manipulation and an Actual Hurricane using Field and Satellite Data VAN BEUSEKOM, A.; GONZÁLEZ, G.; STANKAVICH, S.; RAMIREZ, A.; ZIMMERMAN, J.K.	Luquillo
10:20-10:35	C52B: Observing, Modeling, Diagnosing, and Predicting Hydrological and Earth System Change in Cold Regions II Convention Ctr. – Salon G	C52B-01: Energy balance changes drive differential response to simulated warming in an alpine and subalpine snowpack JENNINGS, K.S.; MOLOTCH, N.P.	Boulder Creek

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Friday, 14 December 2018 - Continued

10:50-11:05	B52A: Plant–Soil Interactions Under Global Warming: Learning Mechanisms from Multiyear Field Experiments and Natural Gradients I Convention Ctr. – Rm. 150A	B52A-03: Effects of increased temperature on C cycling of a wet tropical forest: Initial results from a novel field warming experiment in Puerto Rico WOOD, T.E.; CARTER, K.; ALONSO-RODRÍGUEZ, A.M.; REED, S.; CAVALERI, M.A.	Luquillo
13:40-18:00	H53H: A Second Generation of Isotopic, Trace Element, and Noble Gas Tracers of Hydrologic Processes Posters Convention Ctr. – Poster Hall A-C	Conveners: DRUHAN, J.L.; REMPE, D.M.	Eel River
13:40-18:00	H53N: Legacy Effects of Land Use on Water Quality, Watershed Processes, and Ecosystem Function: Implications for Science and Policy Posters Convention Ctr. – Poster Hall A-C	H53N-1775: Investigating climate change versus land use controls on hillslope erosion and valley sedimentation at the Cole Farm study watershed, central Pennsylvania SILVERHART, P.; DIBIASE, R.A.	Shale Hills
13:40-18:00	H53J: Advancing Toward a National Soil Moisture Network Posters Convention Ctr. – Poster Hall A-C	H53J-1721: Soil Moisture Sensor Network Advances the Monitoring and Understanding of Catchment Hydrology: Case Studies from the Shale Hills CZO GUO, L.; LIN, H.	Shale Hills
13:40-18:00	B53J: Tropical Forests Under a Changing Environment III Posters Convention Ctr. – Poster Hall A-C	B53J-2184: Exploring the drivers that affect nitrate in soil solution at Luquillo Experimental Forest, Puerto Rico ZHOU, Q.; MCDOWELL, W.H.; WYMORE, A	Luquillo
13:40-18:00	B53J: Tropical Forests Under a Changing Environment III Posters Convention Ctr. – Poster Hall A-C	B53J-2183: Dissolved greenhouse gases in streams and their response to Hurricanes Irma and María in a tropical forest in Puerto Rico LÓPEZ-LLOREDA, C.; MCDOWELL, W.H.; POTTER, J.	Luquillo
13:40-18:00	B53J: Tropical Forests Under a Changing Environment III Posters Convention Ctr. – Poster Hall A-C	B53J-2200: Warmer temperature affects the capacity of fine-root production to recover after a hurricane event in a tropical rain forest in Puerto Rico YAFFAR, D.; NORBY, R.J.; WOOD, T.E.; REED, S.; CAVALERI, M.A.	Luquillo
13:40-18:00	H53H: A Second Generation of Isotopic, Trace Element, and Noble Gas Tracers of Hydrologic Processes Posters Convention Ctr. – Poster Hall A-C	H53H-1686: Extrapolating Catchment Scale Processes from Stable Isotopes Across a Mountain Range THAW, M.; VISSER, A.; CONKLIN, M.H.	Southern Sierra

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Friday, 14 December 2018 - Continued

13:40–18:00	EP53F: Signatures of Climate Change in Surface Processes Posters Convention Ctr. – Poster Hall A-C	EP53F-1981: Signatures of obliquity and eccentricity in soil chronosequences SHEPARD, C.; PELLETIER, J.D.; SCHAAP, M.G.; RASMUSSEN, C.	Catalina-Jemez
15:10-15:25	ED53B: Building Stronger Communities in Academia for Effective Education & Outreach II Marriott Marquis – Marquis 1-2	ED53B-07: Bringing high school students into the world of field-based environmental research: eight years of partnership in the San Joaquin Valley and Sierra Nevada GILMORE, M.E.; STACY, E.M.; MEADOWS, M.; SULLIVAN, L.; CONKLIN, M.H.	Southern Sierra