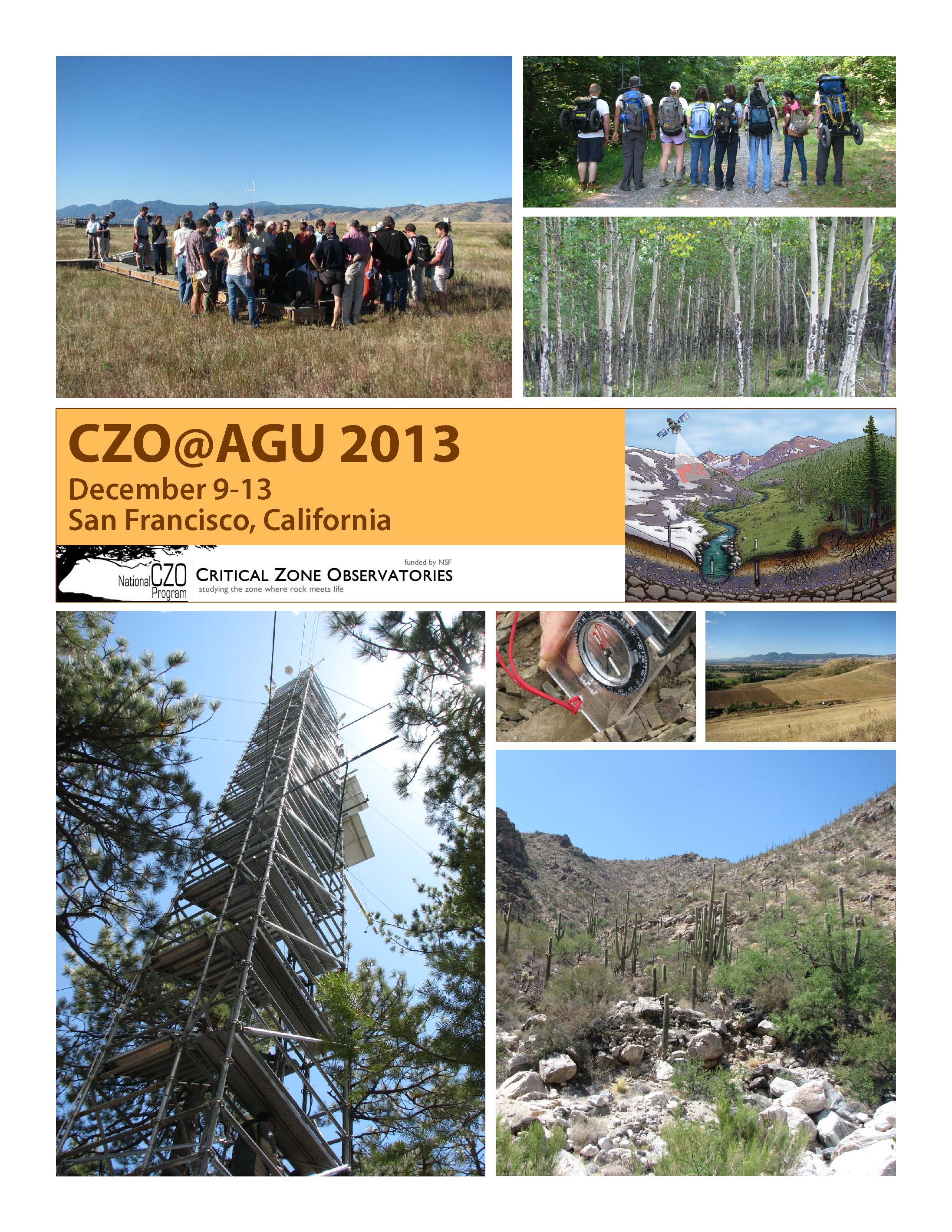
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**AGU Critical Zone Observatory Agenda, Dec. 9-13, 2013**

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| **Date/Time of Presentation** | **Location/Session Info** | **Presentation Title/Author(s)** | | **Affiliation** |
| **MONDAY, DECEMBER 9** | | | | |
| 8:00-12:20 PM | Hall A-C (Moscone South) A11B. Biological Aerosols: Characterization, Identification, Environmental Impacts Posters [SWIRLS\_DA] | A11B-0022. Measurements of Fluorescent Bioaerosol Particles in the Colorado Front Range A.E. Perring; J.B. Emerson; N. Fierer; J.P. Schwarz; D.W. Fahey | | Boulder Creek |
| 8:00-12:20 PM | Hall A-C (Moscone South) B11B. **Geomicrobiology of Fe and Mn I Posters** | B11B-0375. Temporal and spatial variability of Fe and Mn in Perched groundwater flowing through weathered argillite underlying a steep forested hillslope H. Kim; J.K. Bishop | | Eel River |
| 8:00-12:20 PM | Hall A-C (Moscone South) **B11C. Linking Geomorphology to Biogeochemistry and Nutrient Cycles I Posters [SWIRL\_GS]** | B11C-0385. Isotopic “fingerprinting” of distinct water reservoirs in the critical zone and their exploitation by different tree species J. Oshun; W.E. Dietrich; T.E. Dawson; D.M. Rempe; I. Y. Fung | | Eel River |
| 8:00-12:20 PM | Hall A-C (Moscone South) **B11C. Linking Geomorphology to Biogeochemistry and Nutrient Cycles I Posters [SWIRL\_GS]** | B11C-0387. A landscape-scale assessment of nutrient limitation in the tropical forests of Luquillo, Puerto Rico C.A. Sullivan, S.T. Goldsmith; S. Porder | | Luquillo |
| 8:00-12:20 PM | Hall A-C (Moscone South) GC11B. Creating Policy-Relevant Resource Management Science under Climate Change I Posters | GC11B-0990. Impacts of forest thinning and climate change on transpiration and runoff rates in Sierra Nevada mixed-conifer headwater catchments P.C. Saksa; R.L. Ray; R.C. Bales; M.H. Conklin | | Southern Sierra |
| 8:00-12:20 PM | Hall A-C (Moscone South) H11A. Budyko Hypothesis Revisited: Advances, Challenges and Opportunities Posters | H11A-1153. The impact of multiscale rainfall forcing on biogeochemistry and biodiversity analyzed within the framework of Budyko’s hydrologic partitioning **(Invited)** A.M. Porporato; X. Feng | | Calhoun Forest |
| 8:00-12:20 PM | Hall A-C (Moscone South) H11B. Forests and the Hydrological Regime: After All These Years What Can We Tell Policy-Makers About How Changing Tree Cover Influences Runoff? I Posters | H11B-1165. Timber harvest effect on soil moisture in the southern Sierra Nevada: Is there a measurable impact? M.W. Meadows; R.C. Bales; M.H. Conklin; M. Goulden; P.C. Hartsough; J.W. Hopmans; C.T. Hunsaker; R.G. Lucas; A.I. Malazian | | Southern Sierra |
| 8:00-12:20 PM | Hall A-C (Moscone South) H11C. Hydrologic Discovery Through Physical Analysis and Analytical Techniques Posters | H11C-1167. Hydrologic discovery through controlled experimentation, data analysis, and numerical and analytical modeling at the Landscape Evolution Observatory **(Invited)** P.A. Troch; A. Gevaert; Y. Smith; G. Niu; L. Nakolan; E. Kyzivat | | Jemez River Basin/Santa Catalina Mts. |
| 8:00-12:20 PM | Hall A-C (Moscone South) **H11I. H11I. Saturated and Unsaturated Flow in Structurally Variable Pathways Posters [SWIRL\_GS]** | H11I-1256. Flow Paths Inside a Hillslope **(Invited)** W.E. Dietrich; D.M. Rempe; J. Oshun; R. Salve | | Eel River |
| 8:15-8:30 AM | 3014 (Moscone West) C11C. Remote Sensing of the Cryosphere I: Surface Mass Balance | C11C-02. The Airborne Snow Observatory: Fusion of imaging spectrometer and scanning lidar for studies of mountain snow cover **(Invited)** T.H. Painter, K. Andreadis; D.F. Berisford; C.E. Goodale; A.F. Hart; C. Heneghan; J.S. Deems; F. Gehrke; D.G. Marks; C.A. Mattmann; B.J. McGurk; P. Ramirez; F.C. Seidel; M. Skiles; A. Trangsrud; A.H. Winstral; P. Kirchner; P.A. Zimdars; R. Yaghoobi; M. Boustani; S.Khudikyan; M. Richardson; R. Atwater; J. Horn; D. Goods; R. Verma; J.W. Boardman | | Reynolds Creek |
| 8:15-8:30 AM | 2003 (Moscone West) EP11A. Thresholds in Soil Response to Global Change I [SWIRL\_GS] | EP11A-01. Soil Response to Global Change: Soil Process Domains and Pedogenic Thresholds **(Invited)** O. Chadwick; M.G. Kramer; J. Chorover | | Jemez River Basin/Santa Catalina Mts. |
| 8:45-9:00 AM | 2000 (Moscone West) B11K. Vulnerability, Disturbance Impacts, and Responses I | B11K-04. Hydrologic Vulnerability of Western US Rangelands in the Wake of Woodland Encroachment and Increasing Wildfire Activity C. J. Williams; F.B. Pierson; O.Z. Al-Hamdan; P.R. Kormas | | Reynolds Creek |
| 8:45-9:00 AM | 2003 (Moscone West) EP11A. Thresholds in Soil Response to Global Change I [SWIRL\_GS] | EP11A-04. Developing approaches to hindcast and earthcast climate controls on solute fluxes during shale weathering in the Critical Zone  P.L. Sullivan; Y. Godderis; Y. Shi; J. Schott; C. Duffy; S.L. Brantley | | Susquehanna |
| 9:00-9:15 AM | 2003 (Moscone West) EP11A. Thresholds in Soil Response to Global Change I [SWIRL\_GS] | EP11A-05. A systems approach to understanding subarctic critical zone changes in a warming climate **(Invited)** V.I. Rich; C.K. McCalley; B.J. Woodcroft; E. Kim; S.B. Hodgkins; M.M. Tfaily; R.A. Wehr; T. Logan; R. Jones; R. Mondav; G. Hurst; N. Verberkmoes; C. Li; S.E. Frolking; P.M. Crill; J. Chanton; S.R. Saleska; G.W. Tyson | | Jemez River Basin/Santa Catalina Mts. |
| 9:45-10:00 AM | 2003 (Moscone West) EP11A. Thresholds in Soil Response to Global Change I [SWIRL\_GS] | EP11A-08. Forest-snow interactions at Critical Zone Observatories of the Western U.S. **(Invited)** N.P. Molotch; A.A. Harpold | | Boulder Creek |
| 10:20-10:35 AM | 3016 (Moscone West) H12D. Eco-hydrology in a Changing Environment II | H12D-01. Deciphering and modeling interconnections in ecohydrology: The role of scale, thresholds and stochastic storage processes M.S. Bartlett; J.J. McDonnell: A.M. Porporato | | Calhoun Forest |
| 12:05-12:30 PM | 2020 (Moscone West) **N12A. IN12A. Data Curation, Credibility, Preservation Implementation, and Data Rescue to Enable Multi-source Science II** | N12A-08. Changing the Curation Equation: A Data Lifecycle Approach to Lowering Costs and Increasing Value J. Myers; M. Hedstrom; B.A. Plale, P. Kumar; R. McDonald; R. Kooper; Luigi Marini; I. Kouper; K. Chandrasekar | | Intensively Managed Landscape CZO |
| 1:40-6:00 PM | Hall A-C (Moscone South) B13G. Soil Erosion, Transport and Deposition and Their Control Over Biogeochemical Cycling of Essential Elements I Posters | B13G-0604. Using stable isotopes to determine sources of eroded carbon in low-order Sierra Nevada catchments E.P. McCorkle; A. Berhe; C.T. Hunsaker; M.L. Fogel; S.C. Hart | | Southern Sierra |
| 1:40-6:00 PM | Hall A-C (Moscone South) EP13C. Thresholds in Soil Response to Global Change II Posters | EP13C-0876. Depth and Topographic Controls on Soil Gas Concentrations and Fluxes in a Small Temperate Watershed E.A. Hasenmueller; L. Jin; L.A. Smith; M.W. Kaye; H. Lin; S.L. Brantley; J.P. Kaye | | Susquehanna |
| 1:40-6:00 PM | Hall A-C (Moscone South) EP13C. Thresholds in Soil Response to Global Change II Posters | EP13C-0877. Examining the Physical Drivers of Photosynthetic Temperature Sensitivity Within a Sub-alpine Mixed Conifer Forest  J. Yang; G. Barron-Gafford; R. Minor; M. Heard | | Jemez River Basin/Santa Catalina Mts. |
| 1:40-6:00 PM | Hall A-C (Moscone South) EP13C. Thresholds in Soil Response to Global Change II Posters | EP13C-0879. Precipitation pulse dynamics of carbon sequestration and efflux in highly weatherable soils G. Barron-Gafford; R. Minor; J.L. Van Haren; K. Dontsova; P.A. Troch | | Jemez River Basin/Santa Catalina Mts. |
| 1:40-6:00 PM | Hall A-C (Moscone South) EP13C. Thresholds in Soil Response to Global Change II Posters | EP13C. 0881. Snowmelt and rain in a marginal snowpack watershed: Amount and duration of water input controls runoff S.P. Anderson; N. Rock | | Boulder Creek |
| 1:40-6:00 PM | Hall A-C (Moscone South) EP13C. Thresholds in Soil Response to Global Change II Posters | EP13C-0884. Coevolution of topography, soils, and vegetation in upland landscapes: Using cinder cones to elucidate ecohydrogeomorphic feedback mechanisms L. McGuire; J.D. Pelletier; C. Rasmussen | | Jemez River Basin/Santa Catalina Mts. |
| 1:40-6:00 PM | Hall A-C (Moscone South) B13G. Soil Erosion, Transport and Deposition and Their Control Over Biogeochemical Cycling of Essential Elements I Posters | G13G-0594. Boreal forest soil erosion and soil-atmosphere carbon exchange S.A. Billings, J.W. Harden; J. O’Donnell; C.A. Sierra | | Calhoun Forest |
| 1:40-6:00 PM | Hall A-C (Moscone South) H13J. Using LIDAR Data Sets to Improve Ecohydrological Observations Posters | H13J-1497. Quantifying spatial distribution of snow depths errors from LiDAR using Random Forests W.Tinkham; A.M. Smith; H. Marshall; T.E. Link, J.J. Falkowski; A.H. Winstral | | Reynolds Creek |
| 1:40-6:00 PM | Hall A-C (Moscone South) **H13J. Using LiDAR Data Sets To Improve Ecohydrological Observations Posters** | H13J-1501. Scaling characteristics of topographic depressions P.V. Le; P. Kumar | | Intensively Managed Landscape CZO |
| 1:40-6:00 PM | Hall A-C (Moscone South) H13J. Using LIDAR Data Sets to Improve Ecohydrological Observations Posters | H13J-1507. Estimating forest snow accumulation with LIDAR derived canopy metrics, southern Sierra Nevada, California P. Kirchner; R.C. Bales; T.H. Painter | | Southern Sierra |
| 1:55-2:10 PM | 2003 (Moscone West) B13L. Linking Geomorphology to Biogeochemistry and Nutrient Cycles II [SWIRL\_GS] | B13L-02. Bedrock composition limits mountain ecosystem productivity and landscape evolution **(Invited)** C.S. Riebe; W. Hahm; C. Lukens | | Southern Sierra |
| 2:10-2:25 PM | 2000 (Moscone West) B13J. Biogeodynamics and Earth System Sciences II | B13J-03. Soil modulation of ecosystem responses to climate forcing across the Desert Southwest C. Shepard; C. Rasmussen; M.G. Schaap; M. Crimmins; W.J. Van Leeuwen | | Jemez River Basin/Santa Catalina Mts. |
| 4:00-4:15 PM | 3009 (Moscone West) H14D. Measurement and Modeling of Root-Zone Processes Influencing Water, Carbon and Nitrogen Cycles at Various Scales II [SWIRL\_GS] | H14D-01. Scaling root processes based on plant functional traits **(Invited)** D.M. Eissenstat; M.l. McCormack; K. Gaines; T. Adams | | Susquehanna |
| 4:15-4:25 PM | 3002 (Moscone West) PA14A. Hydraulic Fracturing: Knowns, Unknowns, and Communication to the Public I [SWIRL\_CU] (Virtual Option) | PA14A-02. Water Resource Impacts During Unconventional Shale Gas Development: The Pennsylvania Experience S.L. Brantley; D. Yoxtheimer; S. Arjmand; P. Grieve; R. Vidic; J.D. Abad; C.A. Simon; J. Pollak | | Susquehanna |
| 5:15-5:30 PM | 3005 (Moscone West) C14B. Remote Sensing of the Cryosphere III: Microwave Applications | C14B-06. Characterizing vegetation transmissivity via spatial and temporal variations in multi-resolution passive microwave measurements at Ka band **(Invited)** B.J. Vanderjagt; M.T. Durand; N.P. Molotch, S.A. Margulis; E.J. Kim | | Boulder Creek |
| 5:45-6:00 PM | 3003 (Moscone West) GC14A. Creating Policy-Relevant Resource Management Science Under Climate Change II | GC14A-08. Record-setting forest stress in the Rocky Mountains caused by low snowfall and high potential evapotranspiration, consistent with expected future conditions **(Invited)** N. Molotch; E. Trujillo; L. Lestak | | Boulder Creek |
| 5:45-6:00 PM | 3022 (Moscone West) H14C. Forests and the Hydrological Regime: After All These Years What Can We Tell Policy-Makers About How Changing Tree Cover Influences Runoff? II | H14C-08. Compensatory vapor loss and biogeochemical attenuation along flowpaths mute the water resources impacts of insect-induced forest mortality J.A. Biederman; P.D. Brooks; A.A. Harpold; D.J. Gochis; B.E. Ewers; D.E. Reed; E.D. Gutmann | | Jemez River Basin/Santa Catalina Mts./ Boulder Creek |
| 6:15-7:15 PM | 304 (Moscone South) TH15D. Critical Zone Observatories | TH15D-01. Critical Zone Science and Observatories S.L. Brantley; T.S. White; S.P. Anderson; R.C. Bales; J. Chorover; W.H. McDowell | | Susquehanna/ Southern Sierra/Jemez River Basin/ Santa Catalina Mts. |
| **TUESDAY DECEMBER 10** | | | | |
| 8:00-12:20 PM | Hall A-C (Moscone South) GC21C. Climate Change and Wildfire; Drivers, Interactions and Consequences I Posters | GC21C-0847. Modeling wildfire and hydrologic response to global climate change using the Landlab modeling environment J.M. Adams; N.M. Gasparini; G.E. Tucker; E. Istanbulluoglu; E. Hutton; D.E. Hobley; S. Nudurupati | | Boulder Creek |
| 8:00-12:20 PM | Hall A-C (Moscone South) **H21D. Anomalous Transport: Experimental and Mathematical Studies Posters** | H21D-1083. Anomalous diffusion for bed load transport with a physically-based model N. Fan, A. Singh, E. Foufoula-Georgiou; B. Wu | | Intensively Managed Landscape CZO |
| 8:00-12:20 PM | Hall A-C (Moscone South) H21F. Eco-hydrology in a Changing Environment V Posters | H21F-1115. An ecohydrological model to quantify the risk of drought-induced forest mortality events across climate regimes A. Parolari; G.G. Katul; A.M. Porporato | | Calhoun Forest |
| 8:00-12:20 PM | Hall A-C (Moscone South) H21F. Eco-hydrology in a Changing Environment V. Posters | H21F-1125. Conifer encroachment and hydrology: Altered above and below ground hydrologic fluxes in western juniper (Juniperus occidentalis) R.J. Niemeyer; T.E. Link; R. Heinse; M.S. Seyfried | | Reynolds Creek |
| 8:15-8:30 AM | 2004 (Moscone West) B21H. Soil Erosion, Transport and Deposition and Their Control over Biogeochemical Cycling of Essential Elements II | B21H-02. Mineral-organic matter associations in eroding hillslopes: findings from headwater catchments in the Southern Sierra Nevada **(Invited)** A. Berhe; E. Stacy; E.P. McCorkle; D.W. Johnson; C.T. Hunsaker; S.C. Hart | | Southern Sierra |
| 8:30-8:45 AM | 3022 (Moscone West) **H21K. Assessing Land Use Change Effects on Hydrological Processes and Feedbacks II** | H21K-03. Assessing Resilience of Intensively Managed Landscapes Through Feedbacks A.E. Goodwell; P. Kumar | | Intensively Managed Landscape CZO |
| 9:00-9:15 AM | 2004 (Moscone West) B21H. Soil Erosion, Transport and Deposition and Their Control over Biogeochemical Cycling of Essential Elements II | B21H-05. Linking geomorphology, weathering and cation availability in the Luquillo Mountains of Puerto Rico **(Invited)** S. Porder; A.H. Johnson; H. Xing; G.Y. Brocard; S.T. Goldsmith | | Luquillo |
| 9:15-9:30 AM | 2004 (Moscone West) B21H. Soil Erosion, Transport and Deposition and Their Control over Biogeochemical Cycling of Essential Elements II | B21H-06. Considerations of erosion and storage of carbon, focusing on tropical landscapes in Puerto Rico and Panama **(Invited)** R. F. Stallard | | Luquillo |
| 10:20-10:35 AM | 2004 (Moscone West) B22D. Soil Change and Soil Organic Matter Dynamics in the Anthropocene I [SWIRL\_GS] | B22D-01. Interactive effects of temperature and exo-enzyme age on substrate decay vary between C- and N-acquiring enzymes **(Invited)** S.A. Billings; K. Min; Y. Chen; M. Sellers; F. Ballantyne; C. Lehmeier | | Calhoun Forest |
| 10:20-10:35 AM | 3022 (Moscone West) G22A. 4D Topography: Detecting Changes to the Earth’s Surface with Multi-temporal, High-Resolution Topographic Data I | G22A-01. Spatially-explicit techniques for earth surface characterization using multi-source and multi-temporal laser scanning data **(Invited)** N.F. Glenn; R. Shrestha; L. Spaete; J.M. Wheaton; A.T. Hudak, P. Bailey | | Reynolds Creek |
| 10:45-11:10 AM | 2010 (Moscone West) **EP22B. Path-Dependence and Hysteresis in Earth-Surface Dynamics I [SWIRL\_CU]** | EP22B-02. Isotopic hysteresis in detrital cosmogenic nuclide-derived denudation rate studies **(Invited)** J. Willenbring, N.M. Gasparini; B.T. Crosby; G.Y. Brocard; P. Belmont | | Intensively Managed Landscape CZO |
| 1:40-6:00 PM | Hall A-C (Moscone South) A23E. Aerosol, Tropical Cyclones, Volcanic Emissions, Measurements, Data and SASKTRAN Posters | A23E-0307. Low and Mid Level Tropical Atmosphere Characterization during African Dust Outbreaks Using Particle Size Distribution Data Retrieved from ICE-T and PRADACS Field Studies O. Martinez-Sanchez; O.L. Mayol-Bracero; P. Sepulveda-Vallejo; A. Heymsfield | | Luquillo |
| 1:40-6:00 PM | Hall A-C (Moscone South) B23D. Dynamics of Global Forests Under a Changing Climate II Posters | B23D-0585. Interactions between cold and water limitation along a climate gradient produce sharp thresholds in ecosystem type, carbon balance, and water cycling A.E. Kelly; M. Goulden; A.W. Fellows | | Southern Sierra |
| 1:40-6:00 PM | Hall A-C (Moscone South) H23C. Eco-hydrology in a Changing Environment VI Posters | H23C-1273. Simulating the Dependence of Aspen on Redistributed Snow B. Soderquist; K. Kavanagh; T.E. Link; M.S. Seyfried; A.H. Winstral | | Reynolds Creek |
| 1:40-6:00 PM | Hall A-C (Moscone South) H23C. Eco-hydrology in a Changing Environment VI Posters | H23C-1279. Coupled soil respiration and transpiration dynamics from tree-scale to catchment scale in dry Rocky Mountain pine forests and the role of snowpack E. Berryman; H.R. Bernard; P.D. Brooks; H. Adams; M.A. Burnes; W. Wilson; C.M. Stielstra | | Jemez River Basin/ Santa Catalina Mts./Boulder Creek |
| 1:40-6:00 PM | Hall A-C (Moscone South) H23F. Hydropedology: Synergistic Integration of Soil Science and Hydrology in the Critical Zone I Posters [SWIRL\_GS] | H23F-1330. Temporal and Spatial Patterns of Preferential Flow Occurrence in the Shale Hills Catchment: From the Hillslopes to the Catchment Scales H. Liu; H. Lin | | Susquehanna |
| 1:40-6:00 PM | Hall A-C (Moscone South) H23F. Hydropedology: Synergistic Integration of Soil Science and Hydrology in the Critical Zone I Posters [SWIRL\_GS] | H23F-1331. Temporal stability of soil matric potential in the Shale Hills Critical Zone Observatory H. Yu; H. Lin; W. Berger; P. Yang | | Susquehanna |
| 1:40-6:00 PM | Hall A-C (Moscone South) H23F. Hydropedology: Synergistic Integration of Soil Science and Hydrology in the Critical Zone I Posters [SWIRL\_GS] | H23F-1332. Resolving the High Resolution Soil Moisture Pattern at the Shale Hills Watershed Using a Land Surface Hydrologic Model Y. Shi; D.C. Baldwin; K.J. Davis; X. Yu; C. Duffy; H. Lin | | Susquehanna |
| 1:40-6:00 PM | Hall A-C (Moscone South) H23F. Hydropedology: Synergistic Integration of Soil Science and Hydrology in the Critical Zone I Posters [SWIRL\_GS] | H23F-1333. A framework for improving the predictions of ecohydrologic responses to climate change in Sierra Critical Zone Observatory watersheds K. Son; C. Tague | | Southern Sierra |
| 1:40-6:00 PM | Hall A-C (Moscone South) H23F. Hydropedology: Synergistic Integration of Soil Science and Hydrology in the Critical Zone I Posters [SWIRL\_GS] | H23F-1340. Transport and Transformation of Dissolved Organic Matter in Soil Interstitial Water Across Forested, Montane Hillslopes M.A. Burns; D.M. McKnight; R.S. Gabor; P.D. Brooks; H.R. Barnard | | Jemez River Basin/Santa Catalina Mts./Boulder Creek |
| 1:40-6:00 PM | Hall A-C (Moscone South) H23F. Hydropedology: Synergistic Integration of Soil Science and Hydrology in the Critical Zone I Posters [SWIRL\_GS] | H23F-1349. Soil Temperature Variability in Complex Terrain measured using Distributed a Fiber-Optic Distributed Temperature Sensing M.S. Seyfried; T. E. Link | | Reynolds Creek |
| 1:40-6:00 PM | Hall A-C (Moscone South) NH23A. Landslide Triggering and Runout Mechanics: Physical, Hydrological, and Geotechnical Approaches II Posters [SWIRL\_GS] | NH23A-1522. Effect of DEM resolution on rainfall-triggered landslide modeling within a triangulated network-based model. A case study in the Luquillo Forest, Puerto Rico E. Arnone; Y.G. Dialynas; L.V. Noto; R.L. Bras | | Luquillo |
| 1:55-2:10 PM | 3018 (Moscone West) **H23I. Advances in Spatial Scaling of Hydrological and Biogeochemical Processes II** | H23102. Quantifying the imprint of geologic controls on river network topology and scaling in hydrologic response **(Invited)** M. Danesh Yazdi; A. Longjas; S. Zanardo; E. Foufoula-Georgiou | | Intensively Managed Landscape CZO |
| 3:25-3:40 PM | 2008 (Moscone West) EP23B. The Imprint of Past Climate Change on Landscapes I | EP23B-08. Strath terraces on the western High Plains indicate climatically-driven variations in sediment supply from source basins in the Colorado Front Range M.A. Foster; M. Dühnforth: R.S. Anderson | | Boulder Creek |
| **WEDNESDAY DECEMBER 11** | | | | |
| 8:00-12:20 PM | Hall A-C (Moscone South) **B31C. Soil Change and Soil Organic Matter Dynamics in the Anthropocene IV Posters [SWIRL\_GS]** | B31C-0413. Threshold Level of Harvested Litter Input for Carbon Sequestration by Bioenergy Crops D. Woo; J. Quijano; P. Kumar; S. Chaoka | | Intensively Managed Landscape CZO |
| 8:00-12:20 PM | Hall A-C (Moscone South) B31E. Urban Areas and Global Change I Posters [SWIRL\_US] | B31E-0442. Tradeoffs of modifications of storm water managements systems for nitrogen loss pathways in semi-arid ecosystems K.A. Lohse; E.L. Gallo; P.D. Brooks; T. Meixner; J.C. McIntosh | | Jemez River Basin/Santa Catalina Mts. |
| 8:00-12:20 PM | Hall A-C (Moscone South) H31H. Water Resources and Water Quality under Changing Climate and Land Use IV Posters | H31H-1314. Catchment Scale Streamflow Response to Climate Variability in the Rain-Snow Transition Zone of California’s Sierra Nevada Mountains S.M. Jepsen; S. Coles; T.C. Harmon | | Southern Sierra |
| 8:15 – 8:30 AM | 2010 (Moscone West)  EP31D. Connecting Natural Landscapes to Experimental and Numerical Models of Earth and Planetary Surface Evolution I | EP31D-02. Creative Computing with Landlab: Open-Source Python Software for Building and Exploring 2D Models of Earth-Surface Dynamics G.E. Tucker; D.E. Hobley; N.M. Gasparini; E. Hutton; E. Istanbulluoglu; S Nudurupati; J. M. Adams | | Boulder Creek |
| 9:30-9:45 AM | 2004 (Moscone West) B31G. Data-Model Integration for Improving Biogeochemistry-Climate Feedbacks in Earth System Models with Explicit Microbial Mechanism I [SWIRL\_GS] | B31G-07. Modeling physiological responses of soil microbes to drought **(Invited)** S. Manzoni, G.G. Katul; A.M. Porporato; S.M. Schaeffer; J. Schimel | | Calhoun Forest |
| 10:20-10:35 AM | 2010 (Moscone West) EP32B. Connecting Natural Landscapes to Experimental and Numerical Models of Earth and Planetary Surface Evolution II | EP32B-01. A backwards-in-time Lagrangian framework for extraction of meander bend dynamics: Use in meander classification, process diagnostics, and model comparison J. Schwenk; S. Lanzoni; E. Foufoula-Georgiou | | Intensively Managed Landscape CZO |
| 10:20-10:40 AM | 3020 (Moscone West) H32D. Hydropedology: Synergistic Integration of Soil Science and Hydrology in the Critical Zone III [SWIRL\_GS] | H32D-01. Consequences in Change in Vegetation Cover for the Critical Zone: Example Implications for Hydropedology **(Invited)** D.D. Breshears; S.R. Archer; M. Bojóquerez Ochoa; J.P. Field; T.E. Huxman; D.J. Law; C. Logie; E.D. Renoso; J.C. Villegas; J.J. Whicker | | Jemez River Basin/Santa Catalina Mts. |
| 10:40-10:55 AM | 3020 (Moscone West) H32D. Hydropedology: Synergistic Integration of Soil Science and Hydrology in the Critical Zone III [SWIRL\_GS] | H32D-02. Coupled dynamics of soil formation and erosion in natural and agricultural ecosystems N.F. Pelak; S. Manzoni, J. Wang; R.L. Bras; A.M. Porporato | | Calhoun Forest |
| 10:55-11:10 AM | 3020 (Moscone West) H32D. Hydropedology: Synergistic Integration of Soil Science and Hydrology in the Critical Zone III [SWIRL\_GS] | H32D-03. Opportunities for improved integration of Soil Science and Catchment Hydrologic Modeling B.B. Mirus; B.A. Ebel | | Boulder Creek |
| 11:05-11:20 AM | 2010 (Moscone West) EP32B. Connecting Natural Landscapes to Experimental and Numerical Models of Earth and Planetary Surface Evolution II | EP32B-04. Probability-Based Model of Sediment Transport During Extreme Flood Events in Mountain Catchments M.C. Perignon; G.E. Tucker | | Boulder Creek |
| 11:35-11:50 AM | 2003 (Moscone West) **EP32A. Biophysical Interactions in Rivers: Restoration and Management II** | EP32A-06. Coupling Ecology and River Dynamics Using a Simplified Interaction Model A. Longjas; J. A. Czuba; J. Schwenk; M. Danesh Yazdi; A. Hansen; E. Foufoula-Georgiou | | Intensively Managed Landscape CZO |
| 11:35-11:50 AM | 309 (Moscone South) NH32A. Mechanisms, Vulnerability, Hazard, and Risk: From Shallow to Deep Seated Slope Deformation II | NH32A-06. A probabilistic approach for shallow rainfall-triggered landslide modeling at basin scale. A case study in the Luquillo Forest, Puerto Rico Y.G. Dialynas; E. Arnone; L.V. Noto; R.L. Bras | | Luquillo |
| 1:40 - 6:00 PM | Hall A-C (Moscone South) B33C. Data-Model Integration for Improving Biogeochemistry-Climate Feedbacks in Earth System Models With Explicit Microbial Mechanisms II Posters [SWIRL\_GS] | B33C-0496. Modeling the “Birch Effect” Using a Microbial Enzyme Based Soil Organic Carbon Decomposition and Gas Transport Model G. Niu; X. Zhang; G. Barron-Gafford; M. Pavao-Zuckerman | | Jemez River Basin/Santa Catalina Mts. |
| 1:40 - 6:00 PM | Hall A-C (Moscone South) B33D. Ecological Disturbance: Observing and Predicting the Impacts of Landscape Disturbances I Posters | B33D-0509. Pre- and Post-Fire Infiltration Rates in a Montane Mixed Conifer Ecosystem E.S. Kopp; M.A. Pohlmann; C.A. Jones; J. Chorover; M.G. Schaap | | Jemez River Basin/Santa Catalina Mts. |
| 1:40 - 6:00 PM | Hall A-C (Moscone South) B33E. Impacts of Extreme Climate Events and Disturbances on Carbon Dynamics II Posters | B33E-0531. Do fire disturbances account for missing C in snow dominated headwater catchments in NM? J.N. Perdrial; P.D. Brooks; T. Swetnam; K.A. Lohse; C. Rasmussen; A.A. Harpold; M.E. Litvak; P.D. Broxton; B. Mitra; K. Condon; D.M. Huckle; A. Vazquez; R.A. Lybrand; M. Holleran; C.A. Orem; T. Meixner; J. Chorover | | Jemez River Basin/Santa Catalina Mts. |
| 1:40 - 6:00 PM | Hall A-C (Moscone South) B33J. Postmortem: 2012 Drought – Terrestrial Ecosystems Posters | B33J-0597. Linking Topographic, Hydrologic, Climatic, and Ecologic Processes in Semi-arid Forests: An Investigation of Aboveground Growth Dynamics H.R. Adams; A.K. Loomis; H.R. Barnard | | Boulder Creek |
| 1:40 - 6:00 PM | Hall A-C (Moscone South) EP33A. Connecting Natural Landscapes to Experimental and Numerical Models of Earth and Planetary Surface Evolution III Posters | EP33A-0858. A New Hydrologic-Morphodynamic Model for Regolith Formation and Landscape Evolution Y. Zhang; R.L. Slingerland; C. Duffy | | Susquehanna |
| 1:40 - 6:00 PM | Hall A-C (Moscone South) EP33A. Connecting Natural Landscapes to Experimental and Numerical Models of Earth and Planetary Surface Evolution III Posters | EP33A-0863. Modeling post-wildfire fluvial incision and terrace formation F.K. Rengers; G.E. Tucker | | Boulder Creek |
| 1:40 - 6:00 PM | Hall A-C (Moscone South) EP33A. Connecting Natural Landscapes to Experimental and Numerical Models of Earth and Planetary Surface Evolution III Posters | EP33A-0864. Evaluating the capability of the enhanced Rangeland Hydrology and Erosion Model (RHEM) for modeling the soil erosion impact of disturbance on rangelands O.Z. Al-Hamdan; M. Hernandez; B. Pierson, M. Nearing, C.J. Williams, J.J. Stone, J. Boll, M. Weltz | | Reynolds Creek |
| 1:40 - 6:00 PM | Hall A-C (Moscone South) EP33B. Exploring the Interplay Between Solid Earth Tectonics and Surface Processes from Mountains to the Sea I Posters | EP33B-0900. Slow erosional response of a steep wet tropical mountain to a pulse of rock uplift in the Luquillo Critical Zone Observatory, Puerto Rico G.Y. Brocard; J. Willenbring; F.N. Scatena | | Luquillo |
| 1:40 - 6:00 PM | Hall A-C (Moscone South) **G33A. 4D Topography: Detecting Changes to the Earth's Surface With Multi-temporal, High-Resolution Topographic Data II Posters** | G33A-0979. Quantifying geomorphic change and characterizing uncertainty in repeat aerial lidar over an enormous area: Blue Earth County, MN K.R. Schaffrath; P. Belmont; J.M. Wheaton | | Intensively Managed Landscape CZO |
| 1:40 - 6:00 PM | Hall A-C (Moscone South) H33A. Advances in Ecohydraulics and Biogeomorphology: Coupling System Processes Posters [SWIRL\_CU] | H33A-1329. Modeling the gopher meadow eco-geomorphic system on montane hillslopes E.W. Winchell; D.F. Doak; R.S. Anderson | | Boulder Creek |
| 1:40 - 6:00 PM | Hall A-C (Moscone South) H33D. Cracking the Conundrum of Soil Measurement: Strategies and instruments Posters [SWIRL\_CU.GS] | H33D-1385. Inference of Hydrologic Parameters and Profile Storage from Limited Subsurface Sensor Arrays D.G. Chandler; J.P. McNamara; M.S. Seyfried | | Reynolds Creek |
| 1:40 – 1:55 PM | 3011 (Moscone West) H33L. Pore Structure, Fluid Flow, and Mass Transport in Porous Media II [SWIRL\_CM] | H33L-01. Water-Organic-Rock Reactions Recorded in Pores in Shales from the Marcellus and Rose Hill Formations **(Invited)** S.L. Brantley; L. Jin; G. Rother; D.R. Cole; X. Gu; V.N. Balashov | | Susquehanna |
| 1:55-2:10 PM | 2003 (Moscone West) **EP33E. Fluvial Sediment Budgets: Can We Do Better? I [SWIRL\_CU]** | EP33E-02. Better budgeting by redundancy, context, and coupling of coarse and fine sediment dynamics **(Invited)** P. Belmont | | Intensively Managed Landscape CZO |
| 4:45-5:00 PM | 2007 (Moscone West) EP34A. Climatic and Glaciological Significance of Glacial Landforms and Landscape Evolution I | EP34A-04. The effect of interannual variability on the moraine record: A new perspective on paleoclimate estimation in glacial landscapes L.S. Anderson; G. Roe; R.S. Anderson | | Boulder Creek |
| **THURSDAY, DECEMBER 12** | | | | |
| 8:00-12:20 PM | Hall A-C (Moscone South) A41G. Mineral Dust Aerosols: From Small- Scale Insights to Large-Scale Understanding I Posters [SWIRL\_DA] | A41G-0160. Impact of Long-Range Transported African Dust Events on Cloud Chemistry at a Caribbean Tropical Montane Cloud Forest C.J. Valle-Diaz; E. Torres-Delgado; T. Lee; J.L. Collett; L.A. Cuadra-Rodriguez; K.A. Prather; O. L. Mayol-Bracero | | Luquillo |
| 8:00-12:20 PM | Hall A-C (Moscone South) C41B. Advances in Monitoring, Measuring, and Modeling of Snow, Snow-Vegetation and Avalanche Processes I Posters | C41B-0608. Patterns of snowcover energetics over different land cover and topographic position with variations in climate D.G. Marks; M.L. Reba; A.H. Winstral; M. Kumar; T.E. Link | | Reynolds Creek |
| 8:00-12:20 PM | Hall A-C (Moscone South) C41B. Advances in Monitoring, Measuring, and Modeling of Snow, Snow-Vegetation and Avalanche Processes I Posters | C41B-0626. Identifying process controls on the timing of daily streamflow peak from snow dominated watersheds X. Chen; M. Kumar | | Reynolds Creek |
| 8:00-12:20 PM | Hall A-C (Moscone South) C41B. Advances in Monitoring, Measuring, and Modeling of Snow, Snow-Vegetation and Avalanche Processes I Posters | C41B-0630. Developing a robust wireless sensor network structure for environmental sensing Z. Zhang; C. Oroza; S.D. Glaser; R.C. Bales; M.H. Conklin | | Southern Sierra |
| 8:00-12:20 PM | Hall A-C (Moscone South) C41B. Advances in Monitoring, Measuring, and Modeling of Snow, Snow-Vegetation and Avalanche Processes I Posters | C41B-0633. Combining remotely-sensed snow water equivalent with in-sit measurements to produce a real-time SWE product D. Schneider; N.P. Molotch | | Boulder Creek |
| 8:15-8:30 AM | 3022 (Moscone West) **H41L. Biophysical Functions and Process Dynamics in Soil I** | H41L-02. Critical Zone Ecohydrology as a Link Between Below- and Above-Ground Processes **(Invited)** P. Kumar | | Intensively Managed Landscape CZO |
| 9:00 - 9:15 AM | 2006 (Moscone West) B41F. Ecological Disturbance: Observing and Predicting the Impacts of Landscape Disturbance II | B41F-05. Fluid Chemistry Dynamics Before and After Fire in the Jemez River Basin Critical Zone Observatory  J. Chorover; J.N. Perdrial; J.P. Field, J.D. Pelletier; M.A. Pohlmann; M.V. Losleben; K. Lasharr; M. Amistadi; P.D. Brooks; J.C. McIntosh; T. Meixner; R. Gallery; V.I. Rich; C. Rasmussen; M.G. Schaap; D.D. Breshears | | Jemez River Basin/Santa Catalina Mts. |
| 9:00 - 9:15 AM | 3022 (Moscone West) H41L. Biophysical Functions and Process Dynamics in Soil I | H41L-05. The Catchment Isoscape: Theory and Experimental Evidence for the Isotopic Age of Water in a Critical Zone Observatory **(Invited)** C. Duffy; E. Thomas; P.L. Sullivan; G. Bhatt; X.Yu | | Susquehanna |
| 11:20-11:50 AM | 102 (Moscone South) U42A. Hydrometeorological Research at the Computational Frontier: Data-Intensive Prediction and Social Impact Assessment of Natural Disasters (Virtual Options) | U42A-03. A call for a community strategy to the “Essential Terrestrial Variables” necessary for catchment modeling anywhere in the US **(Invited)** C. Duffy; L.N. Leonard | | Susquehanna |
| 1:40 - 6:00 PM | Hall A-C (Moscone South) B43C. Remote Sensing of Vegetation for Monitoring Ecosystem Functioning I Posters | B43C-0503. Modeling dynamics of western juniper under climate change in a semiarid ecosystem R. Shrestha; N.F. Glenn; A.N. Flores | | Reynolds Creek |
| 1:40 - 6:00 PM | Hall A-C (Moscone South) H43B. Impacts of Climatic and Environmental Change on Stream Carbon Loadings Posters | H43B-1445. A cross-site comparison of factors controlling streamwater carbon flux in western North American catchments **(Invited)** P.D. Brooks; J.A. Biederman; K. Condon; J. Chorover; J.C. McIntosh; T. Meixner; J.N. Perdrial | | Jemez River Basin/Santa Catalina Mts. |
| 1:40 - 6:00 PM | Hall A-C (Moscone South) H43D. Multi-scale interactions and Structures in Soil-Vegetation-Atmosphere-Systems: Monitoring, Modeling and Data Assimilation II Posters [SWIRL\_GS] | H43D-1489. Measurement and Modeling of Vertical Temperature, Humidity and Wind Profiles Through Aspen Stands in a Mountain Basin G. N. Flerchinger; D.G. Marks; M.L. Reba; T. E. Link | | Reynolds Creek |
| 1:40 - 6:00 PM | Hall A-C (Moscone South) H43H. Transformative Measurements to Understand the Geosphere: Zip-Ties, Arduinos, Novel Sensors, and Twitter Posters | H43H-1576. PARduino: A Simple Device Measuring and Logging Photosynthetically Active Radiation H.R. Barnard; M.C. Findley | | Boulder Creek |
| 1:40 - 6:00 PM | Hall A-C (Moscone South) **H43I. Utilizing Precipitation Data Sets and Quantifying Associated Uncertainties in Hydrometeorological and Climate Impact Applications II Posters** | H43I-1584. Impact on watershed resilience due to variation of precipitation H. Kaur; P. Kumar | | Intensively Managed Landscape CZO |
| 1:40 – 1:55 PM | 3018 (Moscone West) H43K. Downstream Connectivity of Headwater Resources II | H43K-01. Montane meadows and hydrologic connections between forests and streams in the Sierra Nevada, California R.G. Lucas; M.H. Conklin | | Southern Sierra |
| 2:25 - 2:40 PM | 3014 (Moscone West) **H43L. Hydrogeophysical Characterization of the Critical Zone I [SWIRL\_GS]** | H43L-04. Monitoring Moisture Dynamics in Weathered, Fractured Bedrock D.M. Rempe; R. Salve; J. Oshum, W.E. Dietrich | | Eel River |
| 2:55 - 3:10 PM | 3005 (Moscone West) C43E. Modeling of the Cryosphere: Energy and Mass Balance of Snow, Ice and Permafrost II | C43E-06. Evaluating the distributed hydrologic impacts of snow model configurations in a mountainous watershed **(Invited)** M. Kumar; D.G. Marks; J. Dozier; M.L. Reba, A.H. Winstral | | Reynolds Creek |
| 3:10 - 3:25 PM | 3005 (Moscone West) C43E. Modeling of the Cryosphere: Energy and Mass Balance of Snow, Ice and Permafrost II | C43E-07. Melt Energetics of 25-years of Distributed, Physically Based Snowcover Simulations in a Small Headwater Semiarid Mountain Catchment **(Invited)** M. L. Reba; D.G. Marks; A.H. Winstral; M. Kumar | | Reynolds Creek |
| 3:10 - 3:25 PM | 3014 (Moscone West) H43L. Hydrogeophysical Characterization of the Critical Zone I [SWIRL\_GS] | H43L-07. Cross-CZO Contrasts: Aspect Controls and Critical Zone Architecture B.A. Clarke; E. Kirby; D.W. Burbank; N. West | | Susquehanna |
| 3:25 - 3:40 PM | 3014 (Moscone West) H43L. Hydrogeophysical Characterization of the Critical Zone I [SWIRL\_GS] | H43L-08. Geologic controls on fracture distributions within the Shale Hills Critical Zone Observatory K. Singha; B.A. Clarke; P.L. Sullivan; P.B. Chattopadhyay; S.L. Brantley | | Susquehanna |
| 4:15 - 4:30 PM | 3018 (Moscone West) H44B. From Catchment Hydrological Structure to Catchment Biogeochemical Response II | H44B-02. Using Hydrologic Response Functions and Transit Time Distributions to Investigate Dynamic Catchment Behavior **(Invited)**  I. Heidbuechel; P.A. Troch | | Jemez River Basin/Santa Catalina Mts. |
| **FRIDAY, DECEMBER 13** | | | | |
| 8:00-12:20 PM | Hall A-C (Moscone South) H51A. Biophysical Functions and Process Dynamics in Soil II - Posters | | H51A-1174. Understanding the Hydrological Controls on the Water Chemistry at the Watershed Scale Using an Integrated Hydro-Thermo-Geochemical Model PIHM-RT C. Bao; L. Li; Y. Shi; C. Qiao; P.L. Sullivan; S.L. Brantley; C. Duffy | Susquehanna |
| 8:00-12:20 PM | Hall A-C (Moscone South) H51B. CZ-tope: Using Multiple Isotopes to Understand Watersheds I Posters | | H51B-1186. Quantifying the signature of the industrial revolution from Pb and Cd isotopes in the Susquehanna Shale Hills Critical Zone Observatory L. Ma; E. Herndon; L. Jin; D. Sanchez; S.L. Brantley | Susquehanna |
| 8:00-12:20 PM | Hall A-C (Moscone South) H51B. CZ-tope: Using Multiple Isotopes to Understand Watersheds I Posters | | H51B-1188. Cosmogenic 10Be in quartz and magnetite: Using the same nuclide in multiple minerals to quantify differential weathering  H.E. Rogers; C.S. Riebe; D.E. Granger | Southern Sierra |
| 8:00-12:20 PM | Hall A-C (Moscone South) H51B. CZ-tope: Using Multiple Isotopes to Understand Watersheds I Posters | | H51B-1190. Boron isotopes at the Shale Hills critical zone observatory J. Noireaux; P. L. Sullivan; P. Louvat; J. Gaillardet; S.L. Brantley | Susquehanna |
| 8:00-12:20 PM | Hall A-C (Moscone South) H51B. CZ-tope: Using Multiple Isotopes to Understand Watersheds I Posters | | H51B-1194. Weathering and solute transport to the Salar de Atacama, northern Chile S.A. Hynek; L.A. Munk, D.F. Boutt | PSU Post-Doc – unrelated to SSH CZO work |
| 8:00-12:20 PM | Hall A-C (Moscone South) H51F. Hydrogeophysical Characterization of the Critical Zone II Posters [SWIRL\_GS] | | H51F-1266. Soil temperature and water dynamics on contrasting aspects in the rain-snow transition zone T.E. Link; M.S. Seyfried; S. Bryden; J.P. McNamara; P.Z. Klos | Reynolds Creek |
| 8:00-12:20 PM | Hall A-C (Moscone South) H51K. Large-Scale Field Experimentation and Networks I Posters | | H51K-1347. Investigating Snowmelt Infiltration Dynamics in the Western U.S. Using the SNOTEL Network A.A. Harpold; N.P. Molotch | Boulder Creek |
| 8:00-8:15 AM | 3018 (Moscone West) H51T. Taking the Riverine Pulse: Monitoring and Research Through the Lens of Continuous Water Quality Data I | | H51T-01. Exploring the forgotten hypothesis of the river continuum concept: Tracking dissolved organic matter downstream in the modern era of continuous in-situ measurements D.M. McKnight | Boulder Creek |
| 8:15-9:30 AM | 3007 Moscone West C51D. Advances in Monitoring, Measuring, and Modeling of Snow, Snow-Vegetation and Avalanche Processes II | | C51D-02. Successes and challenges on the road to an operational mass and energy balance snow model **(Invited)** A.H. Winstral; D.G. Marks | Reynolds Creek |
| 9:15 - 9:30 AM | 3007 (Moscone West) C51D. Advances in Monitoring, Measuring, and Modeling of Snow, Snow-Vegetation and Avalanche Processes II | | C51D-06. Non-linear Feedbacks Between Forest Mortality and Climate Change: Implications for Snow Cover, Water Resources, and Ecosystem Recovery in Western North America **(Invited)** P.D. Brooks; A.A. Harpold; J.A. Biederman; D.J. Gochis; M.E. Litvak; B.E. Ewers; P.D. Broxton; D.E. Reed | Jemez River Basin/Santa Catalina Mts. |
| 10:40-11:00 AM | 3012 (Moscone West) A52D. Mineral Dust Aerosols: From Small-Scale to Large-Scale Understanding III [SWIRL\_DA] | | A52D-02. The Saharan Aerosol Long-range Transport and Aerosol-Cloud-Interaction Experiment SALTRACE 2013 – Overview and Early Results (Invited) B. Weinzierl; A. Ansmann; O. Reitebuch; V. Freudenthaler; T. Muller; K. Kandler; D. Althausen; R. Busen; M. Dollner; A. Dornbrack; D.A. Farrell; S. Gross; K. Keimerl; A. Klepel; T.B. Kristensen; O.L. Mayol-Bracero; A. Minikin; D. Prescod; J.M. Prospero; S. Rahm; M. Rapp; D.N. Sauer; a. Schaefler; C. Toledano; M. Vaughan; M. Wiegner | Luquillo |
| 11:20-11:35 AM | 2003 (Moscone West) EP52A. Influence of Climate and Climate Variability on Landscape Form and Function I | | EP52A-05. Evidence for climatic and topographic control of the size and flux of eroded sediment across a steep mountain catchment C. Lukens; C.S. Riebe; LS. Sklar: D.L. Shuster | Southern Sierra |
| 1:40-6:00 PM | A-C (Moscone South) B53A. Beyond Changes in Mean Climate: The Impacts of Climate Variabilities on Terrestrial Ecosystems III Posters | | B53A-0420. Temperature-driven seasonal and diel variation in soil respiration in a moist subtropical forest in Puerto Rico O. Gutierrez del Arroyo; T.E. Wood; A.E. Lugo | Luquillo |
| 1:40-6:00 PM | A-C (Moscone South) **EP53B. From Grains to Landscapes: Understanding the Links Between Surface Topography, Fluid Mechanics, and Sediment Transport III Posters [SWIRL\_CU]** | | EP53B-0824. Mapping bathymetry in a large meandering river above and below a significant sediment input S.A. Kelly; P. Belmont | Intensively Managed Landscape CZO |
| 12:05-12:20 PM | 2003 (Moscone West) **EP52A. Influence of Climate and Climate Variability on Landscape Form and Function I** | | EP52A-08. Landscape re-organization under changing climatic forcing A. Singh; L. Reinhardt; E. Foufoula-Georgiou | Intensively Managed Landscape CZO |
| 1:40 – 1:55 PM | 3018 (Moscone West) H531. Chemical, Isotopic, and Chronologic Tracers to Understand the Fate and Transport of Nutrients in Watersheds II | | H531-01. Insights on Biogeochemistry from the Triple Isotope System of Nitrate **(Invited)** T. Meixner; G.M. Michalski; N. Dejwahk; K.M. Riha; K.A. Lohse; E.L. Gallo; J.C. McIntosh; P.D. Brooks | Jemez River Basin/Santa Catalina Mts. |
| 1:55 - 2:10 PM | 3020 (Moscone West) H53L. Large-Scale Field Experimentation and Networks II | | H53L-02. The strength of strategically placed in situ networks: The Critical Zone Observatory Program **(Invited)** R.C. Bales; P.D. Brooks; N.P. Molotch | Southern Sierra/ Jemez River Basin/ Santa Catalina Mts. /Boulder Creek |
| 2:25 - 2:40 PM | 2006 (Moscone West) B53D. Linking Microbial Communities and Biogeochemistry to Ecosystem Processes and Environmental Change II | | B53D-04. Characteristics of microbial volatile organic compound flux rates from soil and plant litter C.M. Gray; N. Fierer | Boulder Creek |
| 2:55-3:10 PM | 2003 (Moscone West) **EP53E. Numerical Modeling of River Fluxes Under Changing Environmental Conditions II** | | EP53E. Vulnerability assessment to flux amplification in river basins: A dynamic network approach and impact decomposition J.A. Czuba; E. Foufoula-Georgiou | Intensively Managed Landscape CZO |
| 4:30 - 4:45 PM | 3018 (Moscone West) H54A. CZ-tope: Using Multiple Isotopes to Understand Watersheds II | | H54A-03. Going Steady: Using multiple isotopes to test the steady-state assumption at the Susquehanna Shale Hills Critical Zone Observatory **(Invited)** N. West; E. Kirby; L. Ma; P.R. Bierman | Susquehanna |
| 5:00 - 5:15 PM | 3018 (Moscone West) H54A. CZ-tope: Using Multiple Isotopes to Understand Watersheds II | | H54A-05. Using C and S isotopes to elucidate carbonic versus sulfuric acid reaction pathways during shale weathering in the Susquehanna Shale Hills Critical Zone Observatory L. Jin; N. Orgrinc; T. Yesavage; E.A. Hasenmueller; L. Ma, J.P. Kaye; S. Brantley | Susquehanna |