

CSDMS 2021 Annual Meeting: *Changing Landscapes and Seascapes: Modeling for Discovery, Decision-making and Communication*
May 17-21, 2021

******All times provided in Mountain Daylight Time**

Monday, May 17, 2021 - Joining link: <https://cuboulder.zoom.us/j/92397228064>

Time	What	Presenter	Topic
3:00PM	Opening Town Hall	Brad Murray, Duke U & Greg Tucker, CSDMS Exec. Director	<i>CSDMS Updates and Community's Future Needs</i>
4:00 PM	Awards Ceremony	Greg Tucker, CSDMS Exec. Director	<i>Lifetime Achievement and Syvitski Student Modeler Awards</i>
5:00PM	Social Hour	via Wonder	https://www.wonder.me/r?id=2ea8181c-7fd0-4395-bf18-1e5355de4775

Tuesday, May 18, 2021 - Joining link: <https://cuboulder.zoom.us/j/92397228064>

Time	What	Presenter	Topic
9:00AM	Welcome	Greg Tucker, CSDMS Exec. Director	Welcome and Introduction
9:05 AM	Plenary Keynote	Jacky Austermann, Lamont-Doherty Earth Observatory	<i>Integrating Numerical Models with Co-production to Understand Sea Level Change and Its Impact Around Greenland</i>
9:25AM	Plenary Keynote	Aleja Ortiz, Colby College	<i>Atolls & Ecogeomorphology: Investigating Feedbacks Between Physical, Anthropogenic, & Ecological Processes under Changing Climates via Remote Sensing, Computational Modeling, & Fieldwork</i>
9:45AM	Plenary Keynote	Tristan Salles, University of Sydney	<i>A geomorphic perspective on Quaternary biogeographic connectivities across South East Asia</i>
10:05AM	Plenary Keynote	Allison Pfeiffer, Western Washington University	<i>Modeling Bed Material Abrasion at the Basin Scale: Why the Classic Approach Fails Us</i>
10:25AM	Plenary Keynote	Arye Janoff, U.S. House of Rep Transportation & Infrastructure Subcom.	<i>From Coastal Retreat to Seaward Growth: Emergent Behaviors from Paired Community Beach Nourishment Choices</i>
10:45AM	Break		
11:00AM - 1:00PM	Clinic 1.1 (Breakout Room 1)	Allen Lee, CoMSES Net and Mark Piper, CSDMS IF	<i>Git Good with FAIR Enough Practices for Scientific Software Development</i>
	Clinic 1.2 (Breakout Room 2)	Nicole Gasparini, Tulane University	<i>Do the Work: Building a more Equitable Research Unit</i>
	Clinic 1.3 (Breakout Room 3)	Doug Edmonds, University of Indiana and Sam Roy, Planet Labs	<i>An Introduction to using Google Earth Engine</i>
	Clinic 1.4 (Breakout Room 4)	Scott Peckham, University of Colorado, Boulder	<i>Component-based Hydrologic Modeling: Getting Started with the TopoFlow 3.6 Python Package</i>
	Clinic 1.5 (Breakout Room 5)	Chris Jenkins, University of Colorado, Boulder, AI/ML Initiative	<i>Training Datasets for Modeling with AI across the Deep-Ocean Seafloor</i>
1:00PM	Break		
1:30PM - 3:00PM	GroupMeeting/Poster Previews (Breakout Room 6)	Coastal and Marine Working Groups, Ecosystem Dynamics, Chesapeake,	Poster Previews <u>Byongsuk Chun</u> - <i>Modeling the Lafourche Delta network in the Mississippi Delta Complex</i>

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		Carbonates and Biogenics Focus Research Groups	<p><u>Michael Itzkin</u> - <i>Modeling interannual dune growth and recovery on a developed barrier island</i></p> <p><u>Giulio Mariotti</u> - <i>Self-organization of coastal barrier systems during the Holocene</i></p> <p><u>Derrick Vaughn</u> - <i>Global incised valley filling during the Holocene sea-level highstand - implications for carbon burial</i></p> <p><u>Lawrence Vulis</u> - <i>Climate and process signatures on lake and wetland patterns in arctic river deltas</i></p> <p><u>Kim de Mutsert</u> - <i>End-to-End Modeling Reveals Species-Specific Effects of Large-Scale Coastal Restoration on Living Resources Facing Climate Change</i></p>
	Group Meeting/Poster Previews (Breakout Room 7)	Terrestrial and Cyber Working Groups	<p>Poster Previews</p> <p><u>Rachel Glade</u> - <i>Arctic soil patterns analogous to fluid instabilities</i></p> <p><u>Risa Madoff</u> - <i>Variations of Regional Erosion Rates Since LGM Mapped Through Time and Space</i></p> <p><u>Manish Pandey</u> - <i>Landscape Evolution of a megafan at the foothill of the Vindhyan ranges in Ganga Foreland Basin</i></p> <p><u>Ethan Pierce</u> - <i>Modeling the controls on till equilibrium line position beneath a synthetic outlet glacier</i></p> <p><u>Sarah Schanz</u> - <i>Coupling glacial and fluvial erosion models to simulate sediment dynamics</i></p>
3:00PM	Break		
3:30PM - 5:30PM	Extended Poster Session	All Day 1 Poster Preview Presenters	<p>Breakout Room 8: Byongsuk Chun - <i>Modeling the Lafourche Delta network in the Mississippi Delta Complex</i></p> <p>Breakout Room 9: Michael Itzkin - <i>Modeling interannual dune growth and recovery on a developed barrier island</i></p> <p>Breakout Room 10: Giulio Mariotti - <i>Self-organization of coastal barrier systems during the Holocene</i></p> <p>Breakout Room 11: Derrick Vaughn - <i>Global incised valley filling during the Holocene sea-level highstand - implications for carbon burial</i></p>

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			<p>Breakout Room 12: Lawrence Vulis - <i>Climate and process signatures on lake and wetland patterns in arctic river deltas</i></p> <p>Breakout Room 13: Kim de Mutsert - <i>End-to-End Modeling Reveals Species-Specific Effects of Large-Scale Coastal Restoration on Living Resources Facing Climate Change</i></p> <p>Breakout Room 14: Rachel Glade - <i>Arctic soil patterns analogous to fluid instabilities</i></p> <p>Breakout Room 15: Risa Madoff - <i>Variations of Regional Erosion Rates Since LGM Mapped Through Time and Space</i></p> <p>Breakout Room 16: Manish Pandey - <i>Landscape Evolution of a megafan at the foothill of the Vindhyan ranges in Ganga Foreland Basin</i></p> <p>Breakout Room 17: Ethan Pierce - <i>Modeling the controls on till equilibrium line position beneath a synthetic outlet glacier</i></p> <p>Breakout Room 18: Sarah Schanz - <i>Coupling glacial and fluvial erosion models to simulate sediment dynamics</i></p>
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Wednesday, May 19, 2021 - Joining link: <https://cuboulder.zoom.us/j/92397228064>

Time	What	Presenter	Topic
9:00AM	Welcome	Albert Kettner, CSDMS IF	Welcome and Introduction
9:05 AM	Plenary Keynote	Fred Ogden, NOAA-NWS Office of Water Prediction	<i>Next Generation Water Resources Modeling Framework: Opportunities for Community Involvement</i>
9:25AM	Plenary Keynote	Talea Mayo, Emory University	<i>Climate Change Impacts on Hurricane Storm Surge Risk</i>
9:45AM	Plenary Keynote	Rob Lempert, RAND Corp.	<i>Good Decisions Without Good Predictions: Decision Making Under Deep Uncertainty</i>
10:05AM	Plenary Keynote	Sondoss El Sawah, University of New South Wales, Canberra	<i>Eight Grand Challenges in Socio-environmental Systems Modelling</i>
10:25AM	Break		
11:00AM - 1:00PM	Clinic 2.1 (Breakout Room 1)	Wei Wu, University of Southern Mississippi	<i>Introduction to R Programming and R Applications in Landscape Ecology</i>

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	Clinic 2.2 (Breakout Room 2)	Rebecca Batchelor, CIRES, CU, Boulder, Anne Gold, CU, Boulder, Diana Acero-Allard, GeoLatinas	<i>Inclusive Mentoring</i>
	Clinic 2.3 (Breakout Room 3)	Moira Zellner, Northeastern University & Rob Lempert, RAND Corp.	<i>Decision Framing</i>
	Clinic 2.4 (Breakout Room 4)	Tian Gan and Eric Hutton, CSDMS IF	<i>CSDMS@HydroShare: find, access, operate and couple data-model integration tools for reproducible research</i>
	Clinic 2.5 (Breakout Room 5)	Benoit Bovy, GFZ/Independent Software Engineer	<i>Building Interactive Dashboards for Earth Surface Processes Modeling with Python and Jupyter</i>
1:00PM	Break		
1:30PM - 3:00PM	GroupMeeting/Poster Previews (Breakout Room 6)	Hydrology, Critical Zone and Ecosystem Dynamics Focus Research Groups	Poster Previews <u>Rachel Bosch</u> - <i>DKARST.py: modeling abrasional wear of scalloped bedrock in caves</i> <u>Matt Rossi</u> - <i>Coupling an Agent-Based Model of forest dynamics and soil production to sediment transport models in Landlab</i> <u>Alex Lipp</u> - <i>Predicting Fluvial Sediment Geochemistry: Forward and Inverse Approaches</i> <u>Sarah Lundell</u> - <i>Skill of a debris flow model at different temporal resolutions in the Matilija Creek watershed</i> <u>Sagy Cohen</u> - <i>Bedload flux modeling in large global rivers: controlling parameters and model sensitivity</i>
	GroupMeeting/Poster Previews (Breakout Room 7)	Marine and Coastal Working Groups	Poster Previews <u>Travis Clow</u> - <i>Is it accelerating? Long term coastal cliff retreat in Del Mar, CA revealed from shore platform ¹⁰Be concentrations and numerical modeling</i> <u>Norjmaa Khosbaatar</u> - <i>The role of organic sediment dynamics on paleo-sea level reconstruction from fluvio-deltaic stratigraphy: Insights from a geometric model</i> <u>Bentley Meyer</u> - <i>Analyzing motu morphometrics on coral atolls in the context of local wave climate</i> <u>Jaap Nienhuis</u> - <i>Seasonality of wave, tide, and river-driven sediment fluxes and its impact on delta morphology</i> <u>Andrew Moodie</u> - <i>Does faulting-induced subsidence drive distributary network reorganization?</i> <u>Charles Shobe</u> - <i>Inversion of marine stratigraphy for optimal seascape evolution model structure and parameters</i>

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			<u>Thomas Chen</u> - <i>Modeling sea ice motion using various artificial intelligence approaches</i>
	Group Meeting/Poster Previews (Breakout Room 8)	Terrestrial and EKT Working Groups, Geodynamics Focus Research Group	Poster Previews <u>Nicolas Whiteman</u> - <i>Smoothed Particle Hydrodynamics at the coastal interface of Earth, ocean, and ice</i> <u>Phaedra Upton</u> - <i>Evolution of complex 4D plate boundary transition zone in central New Zealand illuminated by its topographic fabric</i>
	Group Meeting/Poster Previews (Breakout Room 9)	Human Dimensions Focus Research Group	Poster Previews <u>Joel Johnson</u> - <i>Mapping Localized subsidence of Lagos, Nigeria with Sentinel-1A/B Satellite Coverage</i> <u>Kelsea Best</u> - <i>Pattern-oriented modeling to test frameworks of environmental migration decisions in Bangladesh</i> <u>Kelly Monteleone</u> - <i>Underwater Archaeological Surveys in Shakan Bay, SE Alaska</i>
3:00PM	Break		
3:30PM - 5:30PM	Extended Posters Session	All Day 2 Poster Preview Presenters	Breakout Room 10: Rachel Bosch - <i>DKARST.py: modeling abrasional wear of scalloped bedrock in caves</i> Breakout Room 19: Matt Rossi - <i>Coupling an Agent-Based Model of forest dynamics and soil production to sediment transport models in Landlab</i> Breakout Room 20: Alex Lipp - <i>Predicting Fluvial Sediment Geochemistry: Forward and Inverse Approaches</i> Breakout Room 23: Sarah Lundell - <i>Skill of a debris flow model at different temporal resolutions in the Matilija Creek watershed</i> Breakout Room 24: Sagy Cohen - <i>Bedload flux modeling in large global rivers: controlling parameters and model sensitivity</i> Breakout Room 11: Travis Clow - <i>Is it accelerating? Long term coastal cliff retreat in Del Mar, CA revealed from shore platform ¹⁰Be concentrations and numerical modeling</i>

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		<p>Breakout Room 12: Norjmaa Khosbaatar - <i>The role of organic sediment dynamics on paleo-sea level reconstruction from fluvio-deltaic stratigraphy: Insights from a geometric model</i></p> <p>Breakout Room 13: Bentley Meyer - <i>Analyzing motu morphometrics on coral atolls in the context of local wave climate</i></p> <p>Breakout Room 14: Jaap Nienhuis - <i>Seasonality of wave, tide, and river-driven sediment fluxes and its impact on delta morphology</i></p> <p>Breakout Room 17: Andrew Moodie - <i>Does faulting-induced subsidence drive distributary network reorganization?</i></p> <p>Breakout Room 18: Charles Shobe - <i>Inversion of marine stratigraphy for optimal seascape evolution model structure and parameters</i></p> <p>Breakout Room 25: Thomas Chen - <i>Modeling sea ice motion using various artificial intelligence approaches</i></p> <p>Breakout Room 15: Nicolas Whiteman - <i>Smoothed Particle Hydrodynamics at the coastal interface of Earth, ocean, and ice</i></p> <p>Breakout Room 21: Phaedra Upton - <i>Evolution of complex 4D plate boundary transition zone in central New Zealand illuminated by its topographic fabric</i></p> <p>Breakout Room 16: Joel Johnson - <i>Mapping Localized subsidence of Lagos, Nigeria with Sentinel-1A/B Satellite Coverage</i></p> <p>Breakout Room 22: Kelsea Best - <i>Pattern-oriented modeling to test frameworks of environmental migration decisions in Bangladesh</i></p> <p>Breakout Room 26: Kelly Monteleone - <i>Underwater Archaeological Surveys in Shakan Bay, SE Alaska</i></p>
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Thursday, May 20, 2021 - Joining link: <https://cuboulder.zoom.us/j/92397228064>

Time	What	Presenter	Topic
8:00AM	Social/Coffee Hour	via Wonder: https://www.wonder.me/r?id=2ea8181c-7fd0-4395-bf18-1e5355de4775	<i>Open social hour</i>
9:00AM	Welcome	Irina Overeem, CSDMS Deputy Director	Welcome and Introduction
9:05 AM	Plenary Keynote	Fernando Perez, University of California, Berkeley	<i>Jupyter Technology</i>
9:25AM	Plenary Keynote	Kerry Callaghan, LDEO, Columbia University	<i>Coupled Groundwater and Dynamic Lake Modeling using the Water-Table Model (WTM)</i>
9:45AM	Plenary Keynote	Paola Passalacqua, The University of Texas, Austin	<i>Grid or Subgrid? Analysis of River systems under Change at the Intersection of Modeling and High Resolution Data Analysis</i>
10:05AM	Plenary Keynote	Fedor Baart, Deltares	<i>Models in Virtual Environments and Digital Twins</i>
10:25AM	Plenary Keynote	Sai S. Nudurupati, RMA Inc.	<i>Modeling Transient Ecosystem Response to Climate Variability since the Late Pleistocene using Landlab</i>
10:45AM	Break		
11:00AM - 1:00PM	Clinic 3.1 (Breakout Room 1)	Benjamin Campforts and Greg Tucker, CSDMS, IF	<i>Looking under the Hood: Landscape Evolution Modeling with TerrainBento and Landlab</i>
	Clinic 3.2 (Breakout Room 2)	Jon Schwenk, Los Alamos National Lab	<i>Exploring river and delta channel networks with RivGraph</i>
	Clinic 3.3 (Breakout Room 3)	Fedor Baart, Deltares	<i>Digital Twins in Earth Sciences</i>
	Clinic 3.4 (Breakout Room 4)	Chris Vernon, Pacific Northwest National Laboratory	<i>GCAM and Demeter: A Global, Integrated Human-Earth Systems Perspective to Modeling Land Projections</i>
	Clinic 3.5 (Breakout Room 5)	Heidi Roop, University of Minnesota	<i>Communication & Engagement: Tips, Tricks, Traps and Opportunities</i>
1:00PM	Break		
1:30PM - 3:00PM	Science Jam	via Wonder: https://www.wonder.me/r?id=2ea8181c-7fd0-4395-bf18-1e5355de4775	Please contact csdms@colorado.edu to request an additional topic area to be added. Topic Areas: <ul style="list-style-type: none"> • Bridging modeling in academic/research & applied worlds • Modeling the Cryosphere & Earth Surface Processes • Coastlines, Models, and People • Stratigraphic Modeling

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Friday, May 21- Meetings by invitation only

9:00-11:00AM	Location: Via Zoom Link	Steering Committee Meeting	
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