

EFI FOUFOULA-GEORGIU (PhD, NAE)

Distinguished Professor and Henry Samueli Endowed Chair in Engineering
Department of Civil and Environmental Engineering
Courtesy appointment: Department of Earth System Science
Former Associate Dean for Research and Innovation, The Henry Samueli School of Engineering
University of California, Irvine (UCI)

Office: 3076 Interdisciplinary Science and Engineering Building (ISEB)
University of California Irvine, Irvine, CA 92697-2175
E-mail: efi@uci.edu; Cell: (651) 470-2038
Website: <http://efi.eng.uci.edu>

EDUCATION

May 1985 **University of Florida**, Doctor of Philosophy in Environmental Engineering
Dec. 1982 **University of Florida**, Master of Science in Environmental Engineering
July 1979 **National Technical University of Athens, Greece**, Diploma in Civil Engineering

POSITIONS HELD

2018- Henry Samueli Endowed Chair in Engineering, UCI
2017- 2024 Associate Dean for Research and Innovation, Henry Samueli School of Engineering, UCI
2017 - Professor (courtesy appointment), Department of Earth System Science, School of Physical Sciences, UCI
2016 - Distinguished Professor, Department of Civil and Environmental Engineering, Henry Samueli School of Engineering, University of California, Irvine
2016 - Professor Emerita, University of Minnesota
2012 - 2021 Presidential Appointee to the Nuclear Waste Technical Review Board (NWTRB), Special Government Employee (SGE)
2008 - 2016 Joseph T. and Rose S. Ling Endowed Chair, Department of Civil Engineering, University of Minnesota, Minneapolis
2007 - Honorary Professor, Sichuan University, China
2002 - 2016 McKnight Distinguished Professor, University of Minnesota
2008 - 2013 Director, National Center for Earth-surface Dynamics, University of Minnesota
1999 - 2003 Director, St. Anthony Falls Laboratory, University of Minnesota
1996 - 2016 Professor, Department of Civil Engineering, University of Minnesota
1989 - 1996 Associate Professor, Department of Civil Engineering, University of Minnesota
1986 - 1989 Assistant Professor, Department of Civil & Construction Engineering, Iowa State University, Ames
1985 - 1986 Research Associate, St. Anthony Falls Hydraulic Laboratory, University of Minnesota
1984 - 1985 Graduate Research Assistant, Department of Civil Engineering, University of Washington, Seattle
1980 - 1983 Graduate Research Assistant, Dept. of Environmental Engineering, University of Florida, Gainesville
1979 - 1980 Engineer, River Management and Urban Planning Division, Ministry of Public Works, Athens, Greece

ACADEMY MEMBERSHIP

2022 Elected Fellow of the American Academy of Arts and Science (AAA&S)
2018 Elected Member of the National Academy of Engineering (NAE)
2003 Elected Member, European Academy of Sciences (EurASc)

SOCIETY HONORS AND AWARDS

- 2023 UNESCO/IAHS/WMO International Hydrology Prize, Dooge Medal
- 2023 Award for Lifetime contributions to Precipitation Research and Community Service, International Precipitation Conference
- 2022 Robert E. Horton Medal, American Geophysical Union (AGU)
- 2022 Elected Fellow of the American Academy of Arts and Science (AAA&S)
- 2021 Lifetime Achievement Award, Community Surface Dynamics Modeling System
- 2019 Walter Langbein Lecture Award, American Geophysical Union (AGU)
- 2018 Elected Member, National Academy of Engineering (NAE)
- 2018 Elected Fellow, American Association for the Advancement of Science (AAAS)
- 2017 Hydrologic Sciences Medal, American Meteorological Society (AMS)
- 2017 Hydrology Days Award, Colorado State University
- 2016 Robert E. Horton Lecture Award, American Meteorological Society (AMS)
- 2015 NASA Group Achievement Award – GPM Post-Launch Team
- 2012 Presidential Appointee to the Nuclear Waste Technical Review Board – NWTRB
- 2009 Borland Distinguished Lecture Award, Hydrology Days
- 2008 Joseph T. and Rose S. Ling Chair in Environmental Engineering, UMN
- 2007 Hydrologic Sciences Award, American Geophysical Union (AGU)
- 2007 Honorary Professor, Sichuan University, China
- 2005 Fellow, American Meteorological Society (AMS)
- 2003 Elected Member, European Academy of Sciences
- 2002 Distinguished McKnight University Professor, University of Minnesota
- 2002 John Dalton Medal, European Geophysical Society
- 1999 Fellow, American Geophysical Union
- 1998 Fellow, Minnesota Supercomputer Institute
- 1995 Bush Sabbatical Fellow, University of Minnesota
- 1989 Presidential Young Investigator Award, National Science Foundation
- 1989 Editor's Citation for Excellence in Refereeing, Water Resources Research
- 1989 Certificate of Commendation for Contributions in Water Resources National Association of Water Institute Directors and National Association of State Universities
- 1988 Travel award from NATO (to present two lectures at the NATO Advanced Study Institute on Recent Advances in the Modelling of Hydrological Systems, Sintra, Portugal)
- 1986 National Science Foundation Engineering Initiation Award
- 1974 Outstanding Student Fellowship, National Technical University of Athens, Greece
- 1973 Second Honor, Nationwide Competition in Mathematics, Hellenic Mathematical Society

NAMED LECTURES

- 2023 Harleman Distinguished Lecture, Penn State University
- 2017 Lorenz Straub Award Distinguished Lecture, University of Minnesota
- 2020 Edison Distinguished Lecture, University of Notre Dame
- 2012 Kiesel Distinguished Lecture, University of Arizona
- 2007 Moore Distinguished Lecture, University of Virginia

TEACHING EXPERIENCE

- Engineering Hydrology and Hydraulics (senior level)
- Surface Water Hydrology (graduate level)
- Stochastic Hydrology (graduate level)
- Stochastic Geomorphology (graduate level)
- Water Resources Systems (graduate level)
- Hydrology and Hydrologic Design (senior level)
- Advanced Topics in Hydrology (graduate level)
- Multi-scale Analysis of Geophysical and Engineered Systems (graduate level)

PROFESSIONAL SOCIETY MEMBERSHIP

American Geophysical Union (AGU)
European Geosciences Union (EGU)
American Meteorological Society (AMS)
American Association for the Advancement of Sciences (AAAS)
American Society of Civil Engineers (ASCE)
American Water Resources Association (AWRA)
Institute of Mathematical Statistics (IMS)
Society of Women Engineers (SWE)

PROFESSIONAL ACTIVITIES AND PUBLIC SERVICE

Elected positions

- Elected Councilor, American Meteorological Society (AMS), 2020-2022
- President, Hydrology section, American Geophysical Union, (AGU): 2012-2014 President-elect; 2014-2016 President; 2016-2018 past-President
- Elected member, AGU Council Leadership Team, 2015-2017
- Elected Chair, Board of Directors, Consortium of Universities for the Advancement of Hydrologic Sciences (CUAHSI), 2007-2009
- Elected Trustee, Board of Trustees, University Corporation for Atmospheric Research (UCAR), 2007-2008, 2009-2010

National Academies/ National Research Council Committees

- NAE, Co-organizer of Early Career Engineering Convocation (E2C2), National Academy of Engineering (NAE), 2024-
- NAE, Second Vice Chair/Vice Chair/Chair, Section 12, National Academy of Engineering (NAE), 2024-2025/ 2025-2026/ 2026-2027
- NAE, Section 12 Representative to the International Exploratory Search Committee, 2024-2025
- Member, Advisory Committee for Science Engineering Technology (SET), American Academy of Arts and Science, 2023-
- Member, NRC Committee on “Modernizing Probable Maximum Precipitation Estimation”, National Academies Press, <https://nap.nationalacademies.org/catalog/27460/modernizing-probable-maximum-precipitation-estimation>, 2023-2024
- Member, Board of Atmospheric Sciences and Climate (BASC), National Academies, second term, 2022-2025
- Deputy Editor, Physical Sciences and Engineering, *PNAS Nexus*, 2021-2022
- Member, Committee on Membership, National Academy of Engineering (NAE), 2021-2022
- Chair, Peer Committee of Section 12, National Academy of Engineering (NAE), 2021-2022
- Vice-chair, Peer Committee Section 12, NAE, 2020-2021
- Co-chair, AGU Townhall on Federal Meteorological Enterprise Coordination for Advancing Services, Interagency Council for Advancing Meteorological Services (ICAMS), Dec., 2021
- Panelist, Earth System Predictability Research & Development Roundtable, NAS, 2020
- Member, Board of Atmospheric Sciences and Climate (BASC), National Academies, 2019-2021; second term 2022-2026
- Member, European Research Council (ERC), Advanced Grants Expert Panel, 2019-2021
- Member, Community Advisory Committee for Water Prediction (CAC-WP), 2018- 2021
- Board member, The Water Institute of the Gulf, 2019-
- Co-chair, Integrated Hydro-terrestrial Modeling (IHTM) workshop, a multi-agency initiative, 2019-2020

- U.S. Delegate to the International Association of Hydrological Sciences (IAHS), appointed by the NAS President to represent NAS at the 27th Scientific Assembly of IUGG (International Union of Geodesy and Geophysics), Montreal, Canada, July, 2019
- Member, U.S. National Committee for the International Union of Geodesy and Geophysics (IUGG), and U.S Representative to the International Association for Hydrologic Sciences (IAHS), 2016-
- Member, Panel on Global Hydrological Cycle and Water Resources, National Research Council Committee on Decadal Survey of Earth Observations from Space, 2016-2018
- Contributor to the Water Chapter of the Decadal Survey report “Thriving on our Changing Planet: A Decadal Strategy for Earth Observation from Space”, NRC National Academies Press Report, <https://doi.org/10.17226/24938>, 2016-2018
- Member, NRC Committee on Earth Science and Applications from Space (CESAS), Board of Earth Sciences and Resources, NAS, 2012-2016; re-appointed: 2017-2018
- Member, NRC Mapping Sciences Committee, Board of Earth Sciences and Resources, National Academies of Sciences, 2013-2017
- Member, NRC Committee on “Challenges and Opportunities in the Hydrologic Sciences”, 2010-2012
- Contributor to the report “Challenges and Opportunities in the Hydrologic Sciences”, National Academies Press, <https://doi.org/10.17226/13293>, 2012
- Member Water Science and Technology Board (WSTB), National Academies, appointed member, 2000-2004
- Member, NRC Committee on “Progress and Priorities on US Weather Research and Research to Operations Activities”, 2009-2010
- Member, NRC Committee on “Assessment of the NWS Advanced Hydrologic Prediction System”, National Research Council, 2003-2005
- Member, NRC, Committee on “Risk-based Analysis Methods for Flood Damage Reduction Studies,” National Research Council, 1998-2000

Service on National/International Advisory Boards and Committees

- Member, American Academy of Arts and Science, evaluation member of the Rumford Prize for contributions to the fields of heat and light (Physics, Chemistry, Biochemistry, Engineering, Astronomy and Astrophysics), 2024
- Member, Water Committee to assist in developing a “Freshwater signature program” for Virtual Institutes funded by Schmidt Future Philanthropic Organization, 2023-2024
- Panelist, Water Panel, Science Philanthropy Alliance membership meeting, Tucson, March 2023
- Member, Review committee for a faculty position on “Hydraulic Engineering and River Research with a focus on Environmental Fluid Dynamics”, Universität für Bodenkultur Wien – BOKU, Vienna, 2023
- Member, Langbein Lecture Selection Committee, AGU, 2020-2023
- Member, NAS appointee as US National Representative to the International Association of Hydrologic Sciences (IAHS), International Union of Geodesy and Geophysics (IGG), second term, 2020-2024
- Member, Board of Directors, Water Institute of the Gulf, 2020–2025
- Member, AMS International Academic Volunteering Committee, 2020- 2025
- Member, Task Force, Climate Science and Services, American Meteorological Society, 2022-2023
- Member, Executive committee, NSF AI Institute I-GUIDE, University of Illinois Urbana-Champaign, 2020-2024
- Advisory Committee, Earth and Biological Sciences (EBS) Directory, Pacific Northwest National Laboratory (PNNL), 2016 – 2020, second term: 2021-2025
- Panelist, Challenges of Climate Change, Hellenic Institute for Advanced Studies (HIAS), 2022.
- Panelist, NAS, Earth System Predictability Forum, 2021
- Moderator/Co-chair, AGU Townhall meeting, Federal Meteorological Enterprise Coordination for Advancing Services, ICAMS, 2021
- Panelist, Colorado River Hydrology Research Symposium, 2020
- NAE, Section 12, Peer Review Committee, member, vice-chair, chair, 2020- 2023

- Program reviewer, AAAS annual meeting, session reviewer for Dynamic Ecosystems, 2020
- Member, Review Panel of the University of Nevada Reno Graduate Program in Hydrology, 2021
- KAUST, Proposal Reviewer Appointment, 2021
- Panelist, NAS Roundtable on “Earth System Predictability Research and Development”, March 2020
- Member, Princeton Advisory Committee of the Department of Civil and Environmental Eng., 2020
- Co-chair and co-organizer, “Integrated Hydro-Terrestrial Modeling (IHTM): Development of a National Capability”, An interagency workshop, hosted by NSF, Sept. 2019
- Chair, Hydrological Sciences Medal Committee, American Meteorological Society, 2018--2021
- Member, Hydrology Research Awards (HRA) Committee, American Meteorological Society, 2018--2021
- Member, Awards Oversight Committee (AOC), American Meteorological Society, 2018--2021
- Member, Advisory Committee, “Proposal for a Center of Excellence (CoE) for NEOM Research at KAUST” (NEOM is a mega-city project), Office of Sponsored Research, London, March, 2018
- Technical Advisory Committee, CUAHSI workshop to “Envision a terrestrial modeling system to encode and formalize the knowledge from NSF WSC/INFEWS projects”, 2019 --
- Reviewer and Advisory Panel of Experts, European Research Council (ERC), Brussels, 2018 --2019
- Panelist, AGU-IUGG Centennial Symposium on “Disaster Science: Risk Reduction, Resilience, Response and Recovery”, Washington DC, Dec. 2018
- Panelist, Water Policy, Water and Society Technical Committee, AGU, Washington DC. Dec., 2018
- Reviewer, NAS Report on “Future Water Needs for the Nation: Water Science and Research at the U.S. Geological Survey”, Water Science and Technology Board, (WSTP), NAS, 2018
- Scientific Session Proposal Reviewer, Annual AAAS Meeting, 2018
- Community Advisory Committee for Water Prediction (CAC-WP), National Water Center, NOAA, 2018-
- Member, NSF Panel on CAREER awards, 2017--2018
- Vice chair of Hydrologic Sciences Medal, American Meteorological Society (AMS), 2017- 2018
- Member, Suomi Award Committee, American Meteorological Society, 2017- 2018
- Steering Committee, Community Surface Dynamics Modeling Systems (CSDMS), 2016 – 2020
- Advisory Committee, Annual Reviews of Earth and Planetary Sciences, Invited Member, 2017
- Member, Faculty Advisory Council, Institute on the Environment, Univ. of Minnesota, 2016 – 2017
- Stockholm Water Prize (SWP) Nominating Committee, Swedish Academy of Sciences, 2012-2018
- NASA Science Advisory Council -- Earth Sciences Subcommittee, 2011-2018
- Member, Hydrology Research Awards (HRA) Committee, American Meteorological Society, 2015-2016
- Member, Search committee for CUAHSI president, 2016-2017
- Search Committee, Executive Director of CUAHSI, 2015-2016
- NOAA Science Advisory Council -- Ecosystem Science and Management Working Group, 2011-2013
- NSF, Advisory Council for Geosciences Directorate, 2008-2011
- USGCRP (U.S. Global Change Research Program) Water Cycle Initiative Study Group (1999-2000)
- Helmholtz Research Programme on “Sustainable Water Resources Management and Perspective towards a Water Science Alliance”, Helmholtz Center for Environmental Research, Leipzig, Germany, Advisory Review Committee, 2009
- Argentinean Water Resources Advisory Board, Minister for Planning and Agriculture, 2010-2013
- EU (European Union)– Framework 7 Environmental Infrastructure and Collaboratories, Advisory Panel, Brussels, 2008
- NCAR, Member Nominating Committee, 2015- 2018
- Chair, AGU Fellows Committee - Hydrology section, 2012-2014
- Advisory Board, NSF Center, Sustainable Environment Actionable Data (SEAD), 2012-2016
- Scientific Council, CIMA Research Foundation, Savona, Italy, 2012-2016
- Review Editor, Third National Climate Assessment Report, Water Chapter, 2013
- Chair, Search committee, Editor-in-Chief of Water Resources Research, AGU, 2012
- Member, AGU Publications Committee, 2010-2012
- Advisory Board, EU Project DRIHM (Distributed Infrastructure for Hydrometeorology), 2011-2015

- Advisory Board, NSF Project NGCHC (Northern Gulf Coastal Hazards Collaboratory), 2011-2013
- APLU (Association of Public and Land-grant Universities), Board of Atmospheric Sciences and Climate (BOAC), Executive Committee, 2009-2012
- NCAR, Science Advisory Board, Research Applications Laboratory, (2005-2012)
- NASA/PMM, Precipitation Science Team (2007-present)
- Science Museum of Minnesota Water Planet Program, Science Advisory Board (2005-2010)
- Chair, Horton Medal Committee, AGU (2008-2010)
- Panelist, Water section, Midwest Climate Change Assessment Forum, Chicago, 2010
- EGU, European Geophysical Union, Member, Scientific Committee, Plinius Conference (2007)
- University of Illinois, Urbana, Scientific Advisory Board, Hydrologic Synthesis Activities (2007-2011)
- NSF, Proposal Evaluation Panel, Cyberinfrastructure for Environmental Observatories (2006)
- AGU Fellows Nomination Committee, Hydrology Section (2005-2010)
- CUAHSI, Member, Executive Committee (2003-2010)
- Chair, CUAHSI, Board of Directors (2003-2010)
- UCAR/URC Liaison with the Research Applications Laboratory of NCAR (2003-2006)
- CUAHSI, Search Committee for Executive Director (2003)
- UCAR/NCAR, University Relations Committee (URC) (2000-2007)
- U.S. Weather Research Program Science Steering Committee (1999-2003)
- AGU, Fellow Nomination Committee (1999-2002)
- University of Western Australia, Review Committee of Center for Water Research (CWR) (1999)
- NASA, Tropical Rainfall Measuring Mission (TRMM) Science Team (1998-present)
- European Commission, Proposal Evaluation Panel, Water and Climate Programme (1997)
- NOAA, Proposal Evaluation Panel, GCIP (1995, 1997)
- Global Energy and Water Cycle Experiment, Chair, Precipitation Principal Research Area (1994)
- NSF, Proposal Review Panel, Hydrologic Sciences (1993-1996)
- AGU, Chair, Precipitation Committee, Hydrology Section (1992-1996)

Editorial Duties

- Deputy Editor, Physical Sciences and Engineering, *PNAS Nexus* (2021- 2022)
- Editorial Board, *Geography Compass* (2006-2012)
- Guest Editor, *Water Resources Research* (2005)
- Editorial Board, *Nordic Hydrology* (2003-present)
- Editorial Board, *Advances in Water Resources* (2000-2012)
- Associate Editor, *Hydrologic and Earth Systems Science*, European Geophysical Society (1997-2010)
- Associate Editor, *Journal of Geophysical Research-Atmospheres*, AGU (1997-2005)
- Editor, *Journal of Hydrometeorology*, AMS (1999-2001)
- Associate Editor, *Water Resources Research* (1992-1995)

Initiatives/Meetings/Conference Organization

- Co-Organizer, Inaugural NAE Early Engineering Career Convocation (E2C2), Annual NAE meeting, Beckman Center, Irvine, February 2025
- Co-Organizer, Integrated Hydro-terrestrial Modeling (IHTM) workshop, NSF, Oct. 2019
- Organizer, Special Collection of papers for IPC12, American Meteorological Society (AMS), 2018-2020
- Reviewer, Special session proposals for Dynamic Ecosystems, AAAS Annual meeting, 2021
- Organizer, Union session on “Data Analytics Innovations for Climate and Earth Surface Processes”, AGU meeting, San Francisco, Dec. 2019
- Organizer, 12th International Precipitation Conference (IPC12), Irvine, CA, (200+ attendees), June 2019
- Organizer, “Data Analytics for Climate and Earth (DANCE)” Workshop, Arrowhead, CA, March 2019
- Organizer, First “LIFE-ECOPOTENTIAL” meeting on ecosystem management of protected areas, University of California, Irvine, November 2016

- Founder of the “Sustainable Deltas 2015” initiative endorsed by ICSU (International Council of Scientific Unions) and launched internationally, 2015
- Founder of the Paul Witherspoon Mid-career award, Hydrology Section of AGU (while President), 2014 - now
- Founder of the “Virtual Hydrologists” project, Hydrology Section of AGU (while President), 2015-
<http://abouthydrology.blogspot.com/2016/04/the-virtual-hydrologists-project.html>
- Founder and co-organizer, NCED Summer Institute on Earth-surface Dynamics (SIESD), 2009 -- annually
- Founder and co-organizer, Working group on “Stochastic Transport and Emergent Scaling in Earth-surface Processes” (STRESS), Lake Tahoe, 2007, 2009, 2011, 2013
- Founder of “A Sip of Science: engaging the public in climate and environmental science”, Minneapolis, 2009-
- Organizer, Special session on “Predictability of Extreme Hydrometeorological Events”, EGU meeting, Vienna, April, 2009
- Organizer, Special session on “Stochastic Transport and Emergent Scaling on Earth’s Surface”, EGU meeting, Vienna, April, 2009
- Organizer, Special session on “Rainfall Downscaling”, EGU Plinius Conference, Cyprus, July 2008
- Organizer, AGU Fall meeting, Special session on “Stochastic Transport and Emergent Scaling in Earth-surface Processes”, Dec. 2008
- Organizer, Special session on “Precipitation Downscaling: Recent advances and hydro-geomorphic impacts”, EGU Plinius Conference, Lake Como, Italy (2007)
- Organizer, Special session on “Stochastic Geomorphology: The role of variability and uncertainty in prediction”, American Geophysical Union Spring Meeting, Baltimore (2006)
- Organizer, Special session on “Geomorphological organization and its physical basis,” American Geophysical Union Fall Meeting, San Francisco (2003)
- Organizer, “Stream Restoration Workshop”, NCED-NAS sponsored workshop to define challenges on the science and practice of stream restoration, Minneapolis (2003)
- Organizer, 5th International Conference on Precipitation, Elounda, Crete, Greece (1995)
- Organizer, Special session on “Applications of Wavelet Transforms in Geophysics,” American Geophysical Union Spring Meeting, Baltimore (1993)
- Organizer, Special session on “Self-Similarity in Hydrologic Processes: Identification, Estimation, and Use in Modeling/Measurement/Prediction” American Geophysical Union Fall Meeting, San Francisco (1991)
- Organizer, Conference on “Operational Precipitation Estimation and Prediction”, American Meteorological Society Annual Meeting, Anaheim (1990).
- Organizer, Special session on “Multisensor observations and space-time rainfall modeling,” American Geophysical Union Spring Meeting, Baltimore (1989)
- Organizer, Special session on “Extreme rainfall and hydrologic design,” American Geophysical Union Fall Meeting, San Francisco (1989)

University of Minnesota (UMN) Selected Committees

- International Research Task Force, VP’s Office, University of Minnesota, 2014-2016
- Provost’s Grand Challenges Research Strategy Team, 2015-2016
- Search Committee, Director, Institute on the Environment, 2014-2015
- Institute on the Environment, Advisory Council, 2014 - 2016
- Search Committee, Gibson chair, Dept. of Earth Sciences, 2014-2015
- Search Committee, Transportation faculty, Civil Engineering, 2014-2015
- Science Advisory Committee, VP’s Office, 2007- 2010
- Distinguished McKnight University Professors, Selection Committee, 2007-2012
- Chair, Search committee for Founding Director of the Institute on the Environment, 2008
- Provost’s Advisory Committee on the new Institute on the Environment, University of Minnesota, 2006

- Science and Scholarly Advisory Board, University of Minnesota, 2006 - 2010
- Search Committee for Department Chair, Department of Geology and Geophysics, 2005
- Environmental Sciences and Engineering Initiative, Strategic Planning Committee, Institute of Technology, University of Minnesota, 2005
- Search Committee for a faculty hire, Department of Ecology and Evolutionary Behavior, University of Minnesota, 2003
- Promotion and Tenure Committee, Institute of Technology, University of Minnesota, 2002-2005
- Chair, Search committee for 3 new faculty hires, Department of Civil Engineering, University of Minnesota, 1999
- Chair, Research Fellow Selection Committee, Minnesota Supercomputer Institute (MSI), 1998- 2001
- Director of Graduate Studies, Department of Civil Engineering, University of Minnesota, 1997- 1999

University of California, Irvine (UCI) Selected Committees

- Member, Academies Forum Advisory Board, UC Irvine, 2025-
- Member, Search Committee for Dean of School of Physical Sciences, UC Irvine, 2025
- Chair, Honors Committee, Department of Civil and Environmental Engineering, 2025-
- Member, Faculty Review Committee, Hydrogen Blending Demonstration Project at UCI, 2024
- Chair & Member, Faculty Merit Review Committees, Department of Civil and Environmental Engineering, 2018-
- Member, Search Committee, Integrated Urban Design, Civil and Environ. Engineering, 2021-2022
- Member, Review of Irvine Materials Research Institute (IMRI), 2021-2022
- Member, Working Group, Climate Change and Environmental Sustainability, 2021-2022
- Member, UCI Distinctions Committee, UCI, 2018 – 2021
- Member, Working Group, Imagining Research and Creative Activity post—COVID, 2021-2022
- Member, Associate Deans Council, 2017 - 2024
- Member, CalIT2 Division Council, 2017 – 2024
- Member, Engineering Council, Samueli School of Engineering, 2017 - 2024
- Member, Internal Advisory Board, Institute for Clinical and Translational Science (ICTS), 2017-2020
- Member, Search Committee for faculty in Water, Dept. of Civil and Env. Engr., 2018-2019
- Member, Search Committee for faculty in Fluids, Dept. of Mech. and Aerospace Engr., 2018-2019
- Member, Search Committee for faculty in Water, Dept. of Civil and Env. Engr., 2017-2018
- Chair, Search Committee for faculty in Water, Dept. of Civil and Env. Engr., 2016-2017

Journal Reviewer: Water Resources Research (WRR), Journal of Hydrology (JH), Journal of Applied Meteorology (JAM), International Journal of Mathematical Geology, ASCE Journal of Hydraulic Engineering, ASCE Journal of Water Resources Management and Planning, ASCE Journal of Hydrologic Engineering, Canadian Meteorological and Oceanographical Society Journal, Journal of Stochastic Hydrology and Hydraulics, Hydrology and Earth System Sciences, Journal of Geophysical Research, Journal of Hydrometeorology (JHM), Journal of Climate, Nordic Hydrology, Hydrologic Processes, Physical Review E, Geophysical Review Letters (GRL), Reviews of Geophysics, Journal of Geophysical Research-Atmospheres (JGR-Atmo), Journal of Geophysical Research-Earth Surface (JGR-ES), Proceedings of the National Academies of Science (PNAS), Science, Nature Geosciences, Nature Climate Change, Nature Communications, Scientific Reports.

Proposal reviewer: National Science Foundation (NSF), European Union (EU, Horizon 2020), U. S. Geological Survey (USGS), National Aeronautics and Space Administration (NASA), Environmental Protection Agency (EPA), National Oceanic and Atmospheric Administration (NOAA), Swiss National Science Foundation, Swedish National Science Foundation, Australian Science Foundation, Austrian Science Foundation, National Environmental Research Council (NERC) UK.

CO-AUTHORED REPORTS AS MEMBER OF NATIONAL COMMITTEES

Nuclear Waste Technical Review Board (NWTRB) Co-authored Reports

NWTRB, [Evaluation of the DOE's Research program to Examine the Performance of Commercial High Burn-Up Spent Nuclear Fuel During Extended Storage and Transportation](#), A Report to Congress and the U.S. Secretary of Energy, July 2021.

NWTRB, [Six Overarching Recommendations for How to Move the Nation's Nuclear Waste Management Program Forward](#), A Report to Congress and the U.S. Secretary of Energy, A Report to Congress and the U.S. Secretary of Energy, April 2021.

NWTRB, [Filling the Gaps: The Critical Role of Underground Research Laboratories in the US Department of Energy Geologic Disposal Research and Development Program](#), A Report to Congress and the U.S. Secretary of Energy, Jan 2020.

NWTRB, [Preparing for Nuclear Waste Transportation: Technical Issues That Need to Be Addressed in Preparing for a Nationwide Effort to Transport Spent Nuclear Fuel and High-Level Radioactive Waste](#), A Report to Congress and the U.S. Secretary of Energy, September 2019.

NWTRB, [Geologic Repositories: Performance Monitoring and Retrievability of Emplaced High-Level Radioactive Waste and Spent Nuclear Fuel](#), A Report to Congress and the U.S. Secretary of Energy, May 2019.

NWTRB, [Management and Disposal of U.S. Department of Energy Spent Nuclear Fuel](#), A Report to Congress and the U.S. Secretary of Energy, December 2017.

NWTRB, [Board Activities for the Period January 1, 2013 – December 31, 2015](#), A Report to Congress and the U.S. Secretary of Energy, December 2016.

NWTRB, [Survey of National Programs for Managing High-Level Radioactive Waste and Spent Nuclear Fuel: Update](#), A Report to Congress and the U.S. Secretary of Energy, February 2016.

NWTRB, [Technical Evaluation of the U.S. Department of Energy Deep Borehole Disposal Research](#), A Report to Congress and the U.S. Secretary of Energy, January 2016.

NWTRB, [Designing a Process for Selecting a Site for a Deep-Mined, Geologic Repository for High-Level Radioactive Waste and Spent Nuclear Fuel: An Overview and Summary](#), A Report to Congress and the U.S. Secretary of Energy, November 2015.

NWTRB, [Designing a Process for Selecting a Site for a Deep-Mined, Geologic Repository for High-Level Radioactive Waste and Spent Nuclear Fuel: Detailed Analysis](#), A Report to Congress and the U.S. Secretary of Energy, November 2015

NWTRB, [Evaluation of Technical Issues Associated with the Development of a Separate Repository for U.S. Department of Energy-managed High-level Radioactive Waste and Spent Nuclear Fuel](#), A Report to Congress and the U.S. Secretary of Energy, June 2015.

NWTRB, [Board Activities for the Period January 1, 2008 – December 31, 2012](#), A Report to Congress and the U.S. Secretary of Energy, December 2014.

NWTRB, [Review of U.S. Department of Energy Activities to Preserve Records Created by the Yucca Mountain Repository Project](#), A Report to Congress and the U.S. Secretary of Energy, April 2013.

National Academies (NASEM) Co-authored reports

National Academies Committee on Modernizing Probable Maximum Precipitation Estimation, [Modernizing Probable Maximum Precipitation Estimation](#), Washington DC: The National Academies Press, 2024.

National Academies Committee on Decadal Survey for Earth Observations from Space, [Thriving on our Changing Planet: A Decadal Survey for Earth Observation from Space](#), Washington DC: The National Academies Press, 2018.

National Academies Committee on Challenges and Opportunities in the Hydrologic Sciences, National Research Council, [Challenges and Opportunities in the Hydrologic Sciences](#), Washington, DC: The National Academies, 2012.

National Academies Committee on Progress and Priorities of U.S. Weather Research and Research to Operations, [When Weather Matters: Science and Service to Meet Critical Societal Needs](#), Washington DC: The National Academies Press, 2010.

National Academies Committee to Assess the National Weather Service Advanced Hydrologic Prediction Service Initiative, [Toward a New Advanced Hydrologic Prediction Service \(AHPS\)](#), National Research Council, The National Academies Press, 2006.

National Academies Committee on Hydrologic Science, [Report on a Workshop on Predictability and Limits to Prediction in Hydrologic Systems](#), The National Academies Press, 2002.

National Academies Committee, [Envisioning the Agenda for Water Resources in the Twenty-First Century](#), Washington DC: The National Academies Press, 2001.

Hornberger, G.M, J.D. Aber, J. Bahr, R.C. Bales, K. Beven, E. Foufoula-Georgiou, G. Katul, J.L. Kinter III, R. Koster, D.P. Lettenmaier, D. McKnight, K. Miller, K. Mitchell, J.O. Roads, B.R. Scanlon, and E. Smith, [Review of the USGCRP Plan for a New Science Initiative on the Global Water Cycle](#), Washington DC., U.S. Global Change Research Program, 2001.

National Academies Committee on Risk Analysis and Uncertainty in Flood Damage Reduction Studies, [Risk Analysis and Uncertainty in Flood Damage Reduction Studies](#), National Research Council, 2000.

National Science Foundation, Geosciences Directory -- GEO Advisory Committee Co-authored Report

National Science Foundation, Advisory Committee for the Geosciences (GEO) Directory, ***GeoVision Report: Unraveling Earth's Complexities through Geosciences***, Arlington, VA, National Science Foundation, 2009.

EDITED BOOKS AND SPECIAL COLLECTIONS

Foufoula-Georgiou, E. and P. Kumar, (editors), [Wavelets in Geophysics](#), Academic Press, 373 pages, 1994.

Foufoula-Georgiou, E. and C. Stark (editors), "[Stochastic Transport and Emergent Scaling on Earth's surface](#)", A special collection of papers, *J. Geophysical Research – Earth Surface*, 2009

Foufoula-Georgiou, E. and A. Tsonis (editors), "Space-time Variability and Dynamics of Rainfall", A special collection of papers, Reprinted from *J. Geophysical Research -- Atmospheres*, 1997.

REFEREED JOURNAL PUBLICATIONS

(Italics indicates student or post-doc)

2025

261. *Borah, P., A Mamalakis, C. Guilloteau, A. Tejedor and E. Foufoula-Georgiou*, The three causal pathways of ENSO teleconnections to High Mountain Asia winter precipitation, *Climate Dynamics*, under review, 2025.
259. *Bui, T., M. Ramirez, D. Lafarga, Y.T. Song, E. Foufoula-Georgiou, and S. Shen*, XSLICE: An efficient visualization and diagnosis tool for 4-dimensional climate dynamics, *J. Atmospheric and Oceanic Technology (JTECH)*, <https://doi.org/10.1175/JTECH-D-24-0113.1>, 2025.
258. *Sun, S., C. Nai, B. Pan, W. Li, L. Li, X. Li, E. Foufoula-Georgiou, & Y. Lin*, Fusion of multi-source precipitation records via coordinate-based generative models, *Nature Communications*, under revision, doi:10.48550/arXiv.2506.11698, 2025.
257. *Gao, Y., E. Foufoula-Georgiou & J.A. Vrugt*, Functional data decomposition reveals unexpectedly strong soil moisture-precipitation coupling over the Great Plains, *in review PNAS*, doi:10.48550/arXiv.2506.13939, 2025.
256. *Guilloteau, C., X. Chen, L.R. Leung & E. Foufoula-Georgiou*, Hourly precipitation intensities at 4-km resolution show statistically significant increasing trends from 1991 to 2022 in the CONUS-404 hydroclimate analysis, *Geophysical Research Letters*, under revision, *ESS Open Archive*, doi:10.22541/essoar.175097859.93209681/v1, 2025.
255. *Li, R., C. Guilloteau, and E. Foufoula-Georgiou*, Added value of environmental variables for satellite precipitation retrieval: A temporal co-evolution perspective and a machine learning integration assessment, *Geophysical Research Letters*, doi:10.1029/2025GL116048, 2025.
254. *Guilloteau, C., X. Chen, L.R. Leung & E. Foufoula-Georgiou*, Amplified mesoscale and submesoscale variability and increased concentration of precipitation under global warming over western North America, *Journal of Climate*, doi:10.1175/JCLI-D-24-0343.1, 2025.
253. *Broaddus, C., J. Nienhuis, D. Edmonds, and E. Foufoula-Georgiou*, Wave-influenced deltas: growth through cyclical accretion of barrier spits and the role of mud, *J. Geophysical Research – Earth Surface*, <https://doi.org/10.1029/2024JF008166>, 2025.
252. *Mohammed, A., A. Ebtehaj, E. J. Cohen, and E. Foufoula-Georgiou*, On risk of Rain on Snow over high-latitude coastal areas of North America, *Geophysical Research Letters*, e2025GL114775. <https://doi.org/10.1029/2025GL114775>, 2025.
251. *Guilloteau, C., G. Kerrigan, K. Nelson, G. Migliorini, P. Smyth, R. Li, and E. Foufoula-Georgiou*, A generative diffusion model for probabilistic ensembles of precipitation maps conditioned on multi-sensor satellite observations, *IEEE Transactions on Geoscience and Remote Sensing, TRGS*, <https://doi.org/10.1109/TGRS.2025.3548518>, 2025.

2024

250. *Li, R., C. Guilloteau, P. Kirstetter, and E. Foufoula-Georgiou*, Understanding the error patterns of multi-satellite precipitation products during the lifecycle of precipitation events for diagnostics and algorithm improvement, *J. Hydrology*, <https://doi.org/10.1016/j.jhydrol.2024.132610>, 2024
249. *Gao, Y., C. Guilloteau, E. Foufoula-Georgiou, C. Xu, X. Sun, and J. Vrugt*, Soil-moisture-cloud-precipitation feedback in the lower atmosphere from functional decomposition of satellite observations, *Geophysical Research Letters*, <https://doi.org/10.1029/2024GL110347>, 2024

248. Liu, T., J. Randerson, Y. Chen, D. Morton, E. Wiggins, P. Smyth, E. Foufoula-Georgiou, R. Nadler, and O. Nevo, Systematically tracking the hourly progression of large wildfires using GOES satellite observations, *Earth System Science Data*, 6, 1395–1424, doi:10.5194/essd-16-1395-2024, 2024
247. Desai, A., C. Guilloteau, W. Heilman, J. Charney, N. Skowronski, K. Clark, M. Gallagher, **E. Foufoula-Georgiou**, and T. Banerjee, Investigating fire–atmosphere interaction in a forest canopy using wavelets, *Boundary Layer Meteorology*, 190(21), <https://doi.org/10.1007/s10546-024-00862-0>, 2024.
246. Dabberdt, W, D. Baumgardner, R. Bornstein, G. Carmichael, R. Clark, J. Collett, H. Fernando, E. Foufoula-Georgiou, D. Niyogi, M. Ramamurthy, A. Robock, and J. Winkler, The Global Partners Program: A new international volunteer opportunity for AMS members, *Bull. Amer. Meteor. Soc.*, 105, 47-49, doi:10.1175/BAMS-D-23-0049.1 , 2024
245. Guilloteau, C., **E. Foufoula-Georgiou**, Life Cycle of Precipitating Cloud Systems from Synergistic Satellite Observations: Geostationary Cloud Tracking and GPM Microwave Measurements, *Journal of Hydrometeorology*, doi:10.1175/JHM-D-23-0185.1, 2024.
244. Engsig, M., A. Tejedor, Y. Moreno, **E. Foufoula-Georgiou** and C. Kasmir, DomiRank Centrality reveals structural fragility of complex networks via node dominance, *Nature Communications*, 15,56, doi:10.1038/s41467-023-44257-0, 2024.

2023

243. Guilloteau, C., P. V.V. Le and **E. Foufoula-Georgiou**, Preserving extremes in satellite quantitative precipitation estimates: A matter of scale, *International Geoscience and Remote Sensing Symposium, IGARSS*, doi:10.1109/IGARSS52108.2023.10281499, 2023.
242. Guilinger, J.J., **E. Foufoula-Georgiou**, A.B. Gray, J.T. Randerson, P. Smyth, N.C. Barth and M.L. Goulden, Predicting postfire sediment yields of small steep catchments using airborne LiDAR differencing, *Geophysical Research Letters*, 50, doi:10.1029/2023GL104626, 2023.
241. Singh, A. Zi Wu, P. Wilcock, and **E. Foufoula-Georgiou**, Experimental observations of bedload tracer movement: effects of mixed particle sizes, *Water Resources Research*, <https://doi.org/10.1029/2022WR033114>, 2023.
240. Guilloteau, C., P. V.V. Le and **E. Foufoula-Georgiou**, Constraining the multiscale structure of geophysical fields in machine-learning: the case of precipitation, *Geoscience and Remote Sensing Letters*, [10.1109/LGRS.2023.3284278](https://doi.org/10.1109/LGRS.2023.3284278), 2023.
239. Le, P. V.V., J.T. Randerson, R. Willett, S. Wright, P. Smyth, C. Guilloteau, A. Mamalakis and **E. Foufoula-Georgiou**, Climate-driven changes in the predictability of seasonal precipitation, *Nature Communications*, 14, 3822 (2023). <https://doi.org/10.1038/s41467-023-39463-9>, 2023.
238. Bajinath-Rodino, J.A., **E. Foufoula-Georgiou** and T. Banerjee, Reviewing the "Hottest" Fire Indices Worldwide, *ESS Open Archive*, doi:10.1002/essoar.10503854.1, 2023.
237. Bajinath-Rodino, J.A., A. Martinez, R.A. York, **E. Foufoula-Georgiou**, A. AghaKouchak and T. Banerjee, Quantifying the effectiveness of shaded fuel breaks from ground-based, aerial, and spaceborne observations, *Forest Ecology and Management*, doi:10.1016/j.foreco.2023.121142, 2023
236. Li, R. C. Guilloteau, P.E. Kirstetter and **E. Foufoula-Georgiou**, How well does the IMERG satellite precipitation product capture the timing of precipitation events?, *Journal of Hydrology*, Volume 620 Part B, 129563, doi:10.1016/j.jhydrol.2023.129563, 2023
235. Bajinath-Rodino, J.A., P. V.V. Le, **E. Foufoula-Georgiou**, T. Banerjee, Historical spatiotemporal changes in fire danger potential across biomes, *Science of The Total Environment*, Volume 870, 161954, ISSN 0048-9697, doi:10.1016/j.scitotenv.2023.161954, 2023
234. Vulis, L., A. Tejedor, H. Ma, J.H. Nienhuis, C.M. Broaddus, J. Brown, D.A. Edmonds, J.C. Rowland, and **E.**

Foufoula-Georgiou, River delta morphotypes emerge from multiscale characterization of shorelines, *Geophysical Research Letters*, 50, e2022GL102684, doi:/10.1029/2022GL102684, 2023

2022

233. *Broadbuss, C.M., L.M. Vulis, J.H. Nienhuis, A. Tejedor, J. Brown, E. Foufoula-Georgiou, and D.A. Edmonds*, First order river delta morphology is explained by the sediment flux balance from rivers, waves, and tides, *Geophysical Research Letters*, 49, e2022GL100355, doi:10.1029/2022GL100355, 2022.
232. *Guiloteau, C., E. Foufoula-Georgiou, P. Kirstetter, J. Tan, and G. J. Huffman*, How well do multi-satellite products capture the space time dynamics of precipitation? Part II: Building an Error Model Through Spectral System Identification, *J. Hydrometeorology* doi:10.1175/JHM-D-22-0041.1, 2022
231. *Chen, Y., S. Hantson, N. Andela, S. R. Coffield, C. A. Graff, D. C. Morton, L. E. Ott, E. Foufoula-Georgiou, P. Smyth, M. L. Goulden, and J. T. Randerson*, California wildfire spread derived using VIIRS satellite observations and an object-based tracking system, *Scientific Data*, 9, 249, doi:10.1038/s41597-022-01343-0, 2022.
230. *Tejedor, A., J. Schwenk, M. Kleinhans, A. B. Limaye, L. Vulis, P. Carling, H. Kantz, and E. Foufoula-Georgiou*, The Entropic Braiding Index (eBI): a robust metric to account for the diversity of channel scales in multi-thread rivers, *Geophysical Research Letters*, 49, e2022GL099681, doi:10.1029/2022GL099681, 2022.
229. *Mamalakis, A., A. AghaKouchak, J. T. Randerson, and E. Foufoula-Georgiou*, Hotspots of Predictability: Identifying Regions of High Precipitation Predictability at Seasonal Timescales From Limited Time Series Observations, *Water Resources Research*, 58, e2021WR031302, doi:10.1029/2021WR031302, 2022.
228. *Tamang, S. K., A. M. Ebtehaj, P. J. van Leeuwen, G. Lerman, and E. Foufoula-Georgiou*, Ensemble Riemannian Data Assimilation for High-dimensional Nonlinear Dynamics, *Nonlinear Processes in Geophysics*, 29, pp. 77 - 92, doi:10.5194/npg-29-77-2022, 2022
227. *Kovchegov, Y., I. Zaliapin, and E. Foufoula-Georgiou*, Critical Tokunaga model for river networks, *Phys. Rev. E*, 105 014301, doi:10.1103/PhysRevE.105.014301, 2022.
226. *Kovchegov, Y., I. Zaliapin, and E. Foufoula-Georgiou*, Random Self-similar Trees: Emergence of Scaling Laws, *Surveys in Geophysics*, doi:10.1007/s10712-021-09682-0, 2022.

2021

225. *Papalexiou, S. M., C. R. Rajulapati, K. M. Andreadis, E. Foufoula-Georgiou, M. P. Clark, and K. E. Trenberth*, Probabilistic Evaluation of Drought in CMIP6 Simulations, *Earth's Future*, 9, e2021EF002150, doi:10.1029/2021EF002150, 2021.
224. *Vulis, L., A. Tejedor, I. Zaliapin, J. C. Rowland, and E. Foufoula-Georgiou*, Climate signatures on lake and wetland size distributions in arctic deltas, *Geophysical Research Letters*, 48, e2021GL094437, doi:10.1029/2021GL094437, 2021.
223. *Hansen, A., Campbell T., Ch, S., Czuba, J., Dalzell, B., Dolph, C., Hawthorne, P., Rabotyagov, S., 11, Lang, Z., Kumarasamy, K., Belmont, P., Finlay, J., E. Foufoula-Georgiou, Gran, K., Kling, C., and P. Wilcock*, Economically viable pathways to sustainable water quality in midwestern agricultural watersheds, *Proceedings of the National Academies (PNAS)*, 118 (28) e2024912118, doi:10.1073/pnas.2024912118, 2021.
222. *Takbiri, Z., L. Milani, C. Guiloteau, and E. Foufoula-Georgiou*, Quantitative Investigation of Radiometric Interactions Between Snowfall, Snow Cover, and Cloud Liquid Water Over Land, *J. Remote Sensing*, 13(13), 2641; doi:10.3390/rs13132641, 2021.
221. *Guiloteau, C., E. Foufoula-Georgiou, P. Kirstetter, J. Tan, and G. J. Huffman*, How well do multi-satellite

products capture the space-time dynamics of precipitation? Five products assessed via a wavenumber-frequency decomposition, *J. Hydrometeorology*, doi:10.1175/JHM-D-21-0075.1, 2021.

220. Le, P. VV., C. Guilloteau, A. Mamalakis, and E. Foufoula-Georgiou, Underestimated MJO variability in CMIP6 models, *Geophys. Res. Letters*, 48, e2020GL09224, doi:10.1029/2020GL092244, 2021.
219. Keylock, C.J, A. Singh, P. Passalacqua, and E. Foufoula-Georgiou, "Evaluating landscape complexity and the contribution of non-locality to geomorphometry", *J. Geophysical Research - Earth Surface*, 126, e2020JF005765, doi:10.1029/2020JF005765, 2021.
218. Mamalakis, A., J.T. Randerson, J.-Y. Yu, M.S. Pritchard, G. Magnusdottir, P. Smyth, P.A. Levine, S. Yu, and E. Foufoula-Georgiou, Zonally contrasting shifts of the tropical rainbelt in response to climate change, *Nature Climate Change*, <https://doi.org/10.1038/s41558-020-00963-x>, 2021.
217. Wu, Z., A. Singh, E. Foufoula-Georgiou, M. Guala, X. Fu, and G. Wang, A velocity-variation based formulation for bedload particle hops in rivers, *J. Fluid Mechanics*, 912, A33, <https://doi.org/10.1017/jfm.2020.1126>, 2021.

2020

216. Foufoula-Georgiou, E, et al, Advancing precipitation estimation, prediction and impact studies, *Bull. American Meteor. Society*, 101 E1584-E1592, doi:10.1175/BAMS-D-20-0014.1, 2020.
215. Stevens, A. R. Willett, A. Mamalakis, E. Foufoula-Georgiou, A. Tejedor, J. Randerson, P. Smyth and S. Wright, Graph-guided regularized regression of Pacific ocean climate variables to increase predictive skill of southwestern US winter precipitation, *J. Climate*, 34:12, 737 - 754, doi:10.1175/JCLI-D-20-0079.1, 2020
214. Guilloteau, C., A. Mamalakis, L. Vulis, P. Le, T. Georgiou, and E. Foufoula-Georgiou, Rotated spectral principal component analysis (rsPCA) for identifying dynamical modes of variability in climate systems, *J. Climate*, 34:2, 715 - 736, doi:10.1175/JCLI-D-20-0266.1, 2020.
213. Sadegh, M., A. AghaKouchak, I. Mallakpour, L. S. Huning, O. Mazdiyasi, M. Niknejad, E. Foufoula-Georgiou, F. C. Moore, J. Brouwer, A. Farid, M. R. Alizadeh, A. Martinez, N. D. Mueller, and S. J. Davis, Data and analysis toolbox for modeling the nexus of food, energy, and water *Sustainable Cities and Society*, 61, doi:10.1016/j.scs.2020.102281, 2020.
212. Keylock C. J., A. Singh, P. Passalacqua, and E. Foufoula-Georgiou, Hölder-conditioned hypsometry: a refinement to a classical approach for the characterization of topography, *Water Resources Research*, 56, doi:10.1029/2019WR025412, 2020.
211. Hooshyar, M., S. Bonetti, A. Singh, E. Foufoula-Georgiou, and A. Porporato, From turbulence to landscapes: Logarithmic mean profiles in bounded complex systems, *Phys. Review E.*, 102, 1-9, doi:10.1103/PhysRevE.102.033107, 2020.
210. Chen, Y., J. Randerson, S. Coffield, E. Foufoula-Georgiou, P. Smyth, C. Graff, D. Morton, N. Andela, G van der Werf, L. Giglio, and L. Ott, Forecasting global fire emissions on sub-seasonal to seasonal (S2S) timescales, *J. Advances in Modeling Earth Systems (JAMES)*, 12, e2019MS001955, doi:10.1029/2019MS001955, 2020.
209. Vulis, L., A. Tejedor, J. Schwenk, A. Piliouras, J. C. Rowland, and E. Foufoula-Georgiou, Channel network control on seasonal lake area dynamics in arctic deltas, *Geophysical Research Letters*, 46, doi:10.1029/2019GL086710, 2020.
- BC1. Guilloteau, C., E. Foufoula-Georgiou, Multiscale evaluation of satellite precipitation products: effective resolution of IMERG, in "Satellite Precipitation Measurement", Springer Verlag, solicited, Chapter 29, V. Levizzani et al. (eds.), Springer Nature Switzerland AG, 2020.
208. Guilloteau, C., and E. Foufoula-Georgiou, Beyond the pixel: using patterns and multiscale spatial

information to improve the retrieval of precipitation from space-borne passive microwave imagers, *J. Atmos. Oceanic Technol.*, doi:10.1175/JTECH-D-19-0067.1, 2020.

207. Wu, Z., D. Furbish, and **E. Foufoula-Georgiou**, Generalization of hop distance-time scaling and particle velocity distributions via a two-regime formalism of bedload particle motions, *Water Resources Research*, 56, 1-14, doi:10.1029/2019WR025116, 2020.
206. Graff C., S. Coffield, Y. Chen, **E. Foufoula-Georgiou**, J. Randerson, and P. Smyth, Forecasting daily wildfire activity using Poisson regression, *IEEE Transactions in Geoscience and Remote Sensing*, doi:10.1109/TGRS.2020.2968029, 2020.

2019

205. Boardman, E., M. Danesh-Yazdi, **E. Foufoula-Georgiou**, C. L. Dolph, and J. C. Finlay, Fertilizer, landscape features and climate regulate phosphorus retention and river export in diverse Midwestern watersheds, *Biogeochemistry*, doi:10.1007/s10533-019-00623-z, 2019.
204. Coffield SR, Graff CA, Chen Y, Smyth P, **Foufoula-Georgiou E**, Randerson JT. Machine learning to predict final fire size at the time of ignition. *International journal of wildland fire*. 17;28(11):861-73, <https://doi.org/10.1071/WF19023>, 2019.
203. Mamalakis, A., J.-Y. Yu, J.T. Randerson, A. AghaKouchak, and **E. Foufoula-Georgiou**, Reply to: A critical examination of a newly proposed interhemispheric teleconnection to Southwestern US winter precipitation, *Nature Communications*, 10, 2918, doi:10.1038/s41467-019-10528-y, 2019.
202. Hooshyar, M., A. Singh, D. Wang, and **E. Foufoula-Georgiou**, Climatic controls on landscape dissection and network structure in the absence of vegetation, *Geophysical Research Letters*, 46, 3216 - 3224 doi:10.1029/2019GL082043, 2019.
201. Gran, K., C. Dolph, A. Baker, M. Bevis, S. J. Cho, J. A. Czuba, B. Dalzell, M. Danesh-Yazdi, A. Hansen, S. Kelly, Z. Lang, J. Schwenk, P. Belmont, J. C. Finlay, P. Kumar, S. Rabotyagov, G. Roehrig, P. Wilcock, and **E. Foufoula-Georgiou**, The power of environmental observatories for advancing multidisciplinary research, outreach, and decision support: the case of the Minnesota River Basin, *Water Resources Research*, doi:10.1029/2018WR024211, 2019.
200. Takbiri Z., A. M. Ebtehaj, **E. Foufoula-Georgiou**, P. E. Kirstetter, and F. J. Turk, A Prognostic Nested K-Nearest Approach for Microwave Precipitation 2 Phase Detection over Snow Cover, *Journal of Hydrometeorology*, 124, 251 - 274, doi:10.1175/JHM-D-18-0021.1, 2019.

2018

199. Wu, Z., **E. Foufoula-Georgiou**, G. Parker, A. Singh, X. Fu, and G. Wang, Analytical solution for anomalous diffusion of bedload tracers gradually getting buried in transport, *Journal of Geophysical Research: Earth Surface*, 124, doi:10.1029/2018JF004654, 2018.
198. Mamalakis, A. and **E. Foufoula-Georgiou**, A multivariate probabilistic framework for tracking the intertropical convergence zone: Analysis of recent climatology and past trends, *Geophysical Research Letters*, doi:10.1029/2018GL079865, 2018.
197. Papalexiou, S. M., Y. Markonis, F. Lombardo, A. AghaKouchak, and **E. Foufoula-Georgiou**, Precise temporal Disaggregation Preserving Marginals and Correlations (DiPMaC) for stationary and non-stationary processes, *Water Resources Research*, 54, doi:10.1029/2018WR022726, 2018.
196. Guo, L., M. Brand, B. F. Sanders, **E. Foufoula-Georgiou**, and E. D. Stein, Tidal asymmetry and residual sediment transport in a short tidal basin under sea level rise, *Advances in Water Resources*, 121, 1-8, doi.org/10.1016/j.advwatres.2018.07.012, 2018.

195. *Guilloteau, C., E. Foufoula-Georgiou, C. D. Kummerow, and V. Petković*, Resolving Surface Rain from GMI High-Frequency Channels: Limits Imposed by the Three-Dimensional Structure of Precipitation, *J. Atmos. Oceanic Technol.*, 35, 1835-1847, doi:10.1175/JTECH-D-18-0011.1, 2018
194. Kumar, P., P.V.V. Le, A.N.T. Papanicolaou, B.L. Rhoads, A.M. Anders, A. Stumpf, C.G. Wilson, E.A. Bettis III, N. Blair, A.S. Ward, T. Filley, H. Lin, L. Keefer, D.A. Keefer, Y.-F. Lin, M. Muste, T.V. Royer, **E. Foufoula-Georgiou**, and P. Belmont, Critical Transition in Critical Zone of Intensively Managed Landscapes, *Anthropocene*, doi:10.1016/j.ancene.2018.04.002, 2018.
193. *Tejedor, A., A. Longjas, P. Passalacqua, Y. Moreno, and E. Foufoula-Georgiou*, River deltas as Multiplex networks: A framework for studying multi-process multi-scale connectivity via coupled-network theory, *Geophysical Research Letters*, doi:10.1029/2018GL078355, 2018.
192. *Mamalakis A., J.-Y. Yu, J.T. Randerson, A. AghaKouchak, and E. Foufoula-Georgiou*, A new inter-hemispheric teleconnection increases predictability of winter precipitation in southwestern US, *Nature Communications*, 9(1), 2332, doi:10.1038/s41467-018-04722-7, 2018.
191. *Papalexiou, S., A. AghaKouchak, and E. Foufoula-Georgiou*, A diagnostic framework for understanding climatology of the tails of hourly precipitation extremes in the United States, *Water Resour. Res.*, 54, doi:10.1029/2018WR022732, 2018.
190. *Wu, Z., D. Furbish, and E. Foufoula-Georgiou*, A regime shift in bedload particle motions unifies disparate views of particle velocities and generalizes hop distance-time scaling, *Geophysical Research Letters*, 2018.
189. *Tejedor, A., A. Longjas, E. Foufoula-Georgiou, T. T. Georgiou, and Y. Moreno*, Diffusion Dynamics and Optimal Coupling in Multiplex Networks with Directed Layers, *Physical Review X*, 8(3), 031071, doi:10.1103/PhysRevX.8.031071, 2018.
188. *Czuba, J. A., A. T. Hansen, E. Foufoula-Georgiou, and J. C. Finlay*, Contextualizing Wetlands Within a River Network to Assess Nitrate Removal and Inform Watershed Management, *Water Resources Research*, Accepted, doi:10.1002/2017WR021859, 2018.
187. *Hansen, A. T., C. L. Dolph, E. Foufoula-Georgiou, and J. C. Finlay*, Contribution of wetlands to nitrate removal at the watershed scale, *Nature Geoscience*, doi:10.1038/s41561-017-0056-6, 2018.
186. *Papalexiou, S. M., A. AghaKouchak, K. E. Trenberth, and E. Foufoula-Georgiou*, Global, Regional, and Megacity Trends in the Highest Temperature of the Year: Diagnostics and Evidence for Accelerating Trends, *Earth's Future*, doi:10.1002/2017EF000709, 2018.

2017

185. *Tejedor, A., A. Longjas, D. A. Edmonds, I. Zaliapin, T. Georgiou, A. Rinaldo, and E. Foufoula-Georgiou*, Entropy and optimality in river deltas, *Proceedings of the National Academy of Sciences, USA*, 114(44), 11651-11656, doi:10.1073/pnas.1708404114, 2017.
184. *Tejedor, A., A. Singh, I. Zaliapin, A.L. Densmore, and E. Foufoula-Georgiou*, Scale-dependent erosional patterns in steady and transient state landscapes, *Science Advances*, 3(9), e1701683, doi:10.1126/sciadv.1701683, 2017.
183. *Guilloteau, C., E. Foufoula-Georgiou, and C.D. Kummerow*, Global multiscale evaluation of satellite passive microwave retrieval of precipitation during the TRMM and GPM eras: effective resolution and regional diagnostics for future algorithm development, *Journal of Hydrometeorology*, 18(11), 3051-3070, doi:10.1175/JHM-D-17-0087.1, 2017.
182. *Tejedor, A., A. Longjas, E. Foufoula-Georgiou, T. Georgiou, and Y. Moreno*, Diffusion Dynamics and Optimal Coupling in Directed Multiplex Networks, Arxiv, arxiv:1708.01951, 2017
181. *Tejedor, A., A. Longjas, I. Zaliapin, S. Ambroj, and E. Foufoula-Georgiou*, Network robustness assessed

within a dual connectivity framework: joint dynamics of the Active and Idle Networks, *Scientific Reports* 7, 8567, doi:10.1038/s41598-017-08714-3, 2017.

180. *Danesh-Yazdi, M., A. Tejedor, and E. Foufoula-Georgiou*, Self-Dissimilar Landscapes: Revealing the Signature of Geologic Constraints on Landscape Dissection via Topologic and Multi-Scale Analysis, *Geomorphology*, 295, 16-27, doi:10.1016/j.geomorph.2017.06.009, 2017.
179. *Takbiri, Z., A. M. Ebtehaj, and E. Foufoula-Georgiou*, A Multi-sensor Data-driven methodology for all-sky Passive Microwave Inundation Retrieval, *Hydrol. Earth Syst. Sci.*, 21, 2685-2700, doi:10.5194/hess-21-2685-2017, 2017.
178. *Danesh-Yazdi, M., G. Botter, and E. Foufoula-Georgiou*, Time-Variant Lagrangian Transport Formulation Reduces Aggregation Bias of Water and Solute Mean Travel Time in Heterogeneous Catchments, *Geophysical Research Letters*, 44, doi:10.1002/2017GL073827, 2017.
177. *Parodi, A., D. Kranzmueller, A. Clematis, E. Danovaro, A. Galizia, L. Garrote, M. Llasat, O. Caumont, E. Richard, Q. Harpham, F. Siccardi, L. Ferraris, N. Rebora, F. Delogu, E. Fiori, L. Molini, E. Foufoula-Georgiou, and D. D'Agostino*, DRIHM(2US): an e-Science environment for hydro-meteorological research on high impact weather events, *Bull. Amer. Meteor. Soc.*, doi:10.1175/BAMS-D-16-0279.1, 2017.
176. *Belmont, P., and E. Foufoula-Georgiou*, Solving water quality problems in agricultural landscapes: new approaches for these nonlinear, multi-process, multi-scale systems, *Water Resources Research*, 53, doi:10.1002/2017WR020839, 2017.
175. *Czuba, J.A., E. Foufoula-Georgiou, K. Gran, P. Belmont, and P. Wilcock*, Interplay between Spatially-Explicit Sediment Sourcing, Hierarchical River-Network Structure, and In-Channel Bed-Material Sediment Transport and Storage Dynamics, *JGR Earth Surface*, 122, 1090-1120, doi:10.1002/2016JF003965, 2017.
174. *Kelly, S., Takbiri, Z., Belmont, P., Foufoula-Georgiou, E.*, Human amplified changes in precipitation-runoff patterns in large river basins of the Midwestern United States, *Hydrology and Earth System Sciences*, 21, 5065-5088, doi:10.5194/hess-21-5065-2017, 2017.
173. *Hajra, R., S. Szabo, Z. Tessler, T. Ghosh, Z. Matthews, and E. Foufoula-Georgiou*, Unravelling the association between the impact of natural hazards and household poverty: evidence from the Indian Sundurban delta, *Sustainability Science*, 12, 453-464, doi:10.1007/s11625-016-0420-2, 2017.
172. *Schwenk J., and E. Foufoula-Georgiou*, Are process nonlinearities encoded in meandering river planform morphology?, *JGR Earth Surface*, 2017.
171. *Schwenk J., A. Khandelwal, M. Fratkin, V. Kumar, and E. Foufoula-Georgiou*, High spatio-temporal resolution of river planform dynamics from Landsat: the RivMAP toolbox and results from the Ucayali River, *Earth and Space Science*, 4, 46–75, doi:10.1002/2016EA000196, 2017.

2016

170. *Schwenk J., and E. Foufoula-Georgiou*, Meander cutoffs nonlocally accelerate upstream and downstream migration and channel widening, *Geophysical Research Letters*, 43, 12,437-12,445, doi:10.1002/2016GL071670, 2016.
169. *Szabo S., R.J. Nicholls, B. Neumann, F.G. Renaud, Z. Matthews, Z. Sebesvari, A. AghaKouchak, R. Bales, C.W. Ruktanonchai, J. Kloos, E. Foufoula-Georgiou, P. Wester, M. New, J. Rhyner, C. Hutton*, Making SDGs Work for Climate Change Hotspots, *Environment: Science And Policy For Sustainable Development*, 58:6, 24-33, 2016.
168. *Danesh-Yazdi, M., E. Foufoula-Georgiou, D. L. Karwan, and G. Botter*, Inferring Changes in Water Cycle Dynamics of Intensively Managed Landscapes via the Theory of Time-Variant Travel Time Distributions, *Water Resources Research*, 52, doi:10.1002/2016WR019091, 2016.

167. Szabo, S., E. Brondizio, F.G. Renaud, S. Hetrick, R. J. Nicholls, Z. Matthews, Z. Tessler, A. *Tejedor*, Z. Sebesvari, **E. Foufoula-Georgiou**, S. da Costa, and J. A. Dearing, Population dynamics, delta vulnerability and environmental change: comparison of the Mekong, Ganges–Brahmaputra and Amazon delta regions, *Sustainability Science*, doi: 10.1007/s11625-016-0372-6, 2016.
166. Brondizio, E., **E. Foufoula-Georgiou**, S. Szabo, N. Vogt, Z. Sebesvari, F. G. Renaud, A. Newton, E. Anthony, A. V. Mansur, Z. Matthews, S. Hetrick, S. M. Costa, Z. Tessler, A. *Tejedor*, A. *Longjas*, J. A. Dearing, Catalyzing action towards the sustainability of deltas, *Current Opinion in Environmental Sustainability*, 19, 182-194, doi:10.1016/j.cosust.2016.05.001, 2016.
165. *Fan, N., A. Singh*, M. Guala, **E. Foufoula-Georgiou**, and B. Wu, Exploring a semi-mechanistic episodic Langevin model for bed load transport: Emergence of normal and anomalous advection and diffusion regimes, *Water Resources Research*, doi:10.1002/2015WR018023, 2016.
164. *Tejedor, A., A. Longjas*, R. Caldwell, D.A. Edmonds, I. Zaliapin, and **E. Foufoula-Georgiou**, Quantifying the signature of sediment composition on the topologic and dynamic complexity of river delta channel networks and inferences toward delta classification, *Geophysical Research Letters*, 43, doi:10.1002/2016GL068210, 2016.
163. *Gangodagamage, C., E. Foufoula-Georgiou*, S.P. Brumby, R. Chartrand, A. Koltunov, D. Liu, M. Cai, and S.L. Ustin, Wavelet-compressed representation of landscapes for hydrologic and geomorphologic applications, *IEEE Geoscience and Remote Sensing Letters*, 13(4), 480-484, doi:10.1109/LGRS.2015.2513011, 2016.
162. Sebesvari, Z., **E. Foufoula-Georgiou**, I. Harrison, E.S. Brondizio, T. Bucx, J.A. Dearing, D. Ganguly, T. Ghosh, S.L. Goodbred, M. Hagenlocher, R. Hajra, C. Kuenzer, A.V. Mansur, Z. Matthews, R.J. Nicholls, K. Nielsen, I. Overeem, R. Purvaja, Md.M. Rahman, R. Ramesh, F.G. Renaud, R.S. Robin, B. Subba Reddy, G. Singh, S. Szabo, Z.D. Tessler, C. van de Guchte, N. Vogt, and C.A. Wilson, Imperatives for sustainable delta futures, *Global Sustainable Development Report (GSDR) 2016 Science Brief*, 2016.
161. *Hansen, A.T., J.A. Czuba, J. Schwenk, A. Longjas, M. Danesh-Yazdi*, D.J. Hornbach, and **E. Foufoula-Georgiou**, Coupling freshwater mussel ecology and river dynamics using a simplified dynamic interaction model, *Freshwater Science*, 35(1), 200-215, doi:10.1086/684223, 2016.
160. **Foufoula-Georgiou, E.**, Z. *Takbiri, J.A. Czuba*, and J. *Schwenk*, The change of nature and the nature of change in agricultural landscapes: Hydrologic regime shifts modulate ecological transitions, *Water Resources Research*, 51, doi:10.1002/2015WR017637, 2016.

2015

159. Tessler, Z.D., C.J. Vorosmarty, M. Grossberg, I. Gladkova, H. Aizenman, J. Syvitski, and **E. Foufoula-Georgiou**, Profiling risk and sustainability in coastal deltas of the world, *Science*, 2015.
158. Kuenzer, C., I. Klein, T. Ullmann, **E. Foufoula-Georgiou**, R. Baumhauer, and S. Dech, Remote sensing of river delta inundation: Exploiting the potential of coarse spatial resolution, temporally-dense MODIS time series, *Remote Sensing*, 7, 8516-8542, doi:10.3390/rs70708516, 2015.
157. Szabo, S., F.G. Renaud, M.S. Hossain, Z. Sebesvari, Z. Matthews, **E. Foufoula-Georgiou**, and R.J. Nicholls, Sustainable development goals offer new opportunities for tropical delta regions, *Environment: Science and Policy for Sustainable Development*, 57(4), 16-23, doi:10.1080/00139157.2015.1048142, 2015.
156. *Ebtehaj, A.M.*, R.L. Bras, and **E. Foufoula-Georgiou**, On evaluation of ShARP passive rainfall retrievals over snow-covered land surfaces and coastal zones, arXiv:1503.05495v2, 2015.
155. *Ebtehaj, A.M.*, **E. Foufoula-Georgiou**, G. Lerman, and R.L. Bras, Compressive Earth Observatory: An insight from AIRS/AMSU retrievals, *Geophysical Research Letters*, doi:10.1002/2014GL062711, 2015

154. Pelletier, J.D., A.B. Murray, J.L. Pierce, P.R. Bierman, D.D. Breshears, B.T. Crosby, M. Ellis, **E. Foufoula-Georgiou**, A.M. Heimsath, C. Houser, N. Lancaster, M. Marani, D.J. Merritts, L.J. Moore, J.L. Pederson, M.J. Poulos, T.M. Rittenour, J.C. Rowland, P. Ruggiero, D.J. Ward, A.D. Wickert, and E.M. Yager, Forecasting the response of Earth's surface to future climatic and land-use changes: A review of methods and research needs, *Earth's Future*, 3(7), 220-251, doi:10.1002/2014EF000290, 2015.
153. *Singh, A.*, L. Reinhardt, and **E. Foufoula-Georgiou**, Landscape reorganization under changing climatic forcing: Results from an experimental landscape, *Water Resour. Res.*, 51(6), 4320-4337, doi:10.1002/2015WR017161, 2015.
152. *Tejedor, A.*, *A. Longjas*, I. Zaliapin, and **E. Foufoula-Georgiou**, Delta channel networks: 1. A graph-theoretic approach for studying connectivity and steady-state transport, *Water Resour. Res.*, 51(6), 3998-4018, doi:10.1002/2014WR016577, 2015.
151. *Tejedor, A.*, *A. Longjas*, I. Zaliapin, and **E. Foufoula-Georgiou**, Delta channel networks: 2. Metrics of topologic and dynamic complexity for delta comparison, physical inference and vulnerability assessment, *Water Resour. Res.*, 51(6), 4019-4045, doi:10.1002/2014WR016604, 2015.
150. *Schwenk, J.*, S. Lanzoni, and **E. Foufoula-Georgiou**, The life of a meander bend: connecting shape and dynamics through numerical modeling, *J. Geophys. Res.- Earth Sciences* (selected as the highlight paper of the volume), 120(4), 690-710, doi:10.1002/2014JF003252, 2015.
149. *Gangodagamage, C.*, and **E. Foufoula-Georgiou**, Wavelet-compressed representation of landscapes for geomorphologic applications, *IEEE Geoscience and Remote Sensing Letters*, to appear, 2015.
148. *Tejedor, A.*, *A. Longjas*, I. Zaliapin, and **E. Foufoula-Georgiou**, Delta channel networks: 1. A graph-theoretic approach for studying connectivity and steady-state transport, *Water Resour. Res.*, 51(6), 3998-4018, doi:10.1002/2014WR016577, 2015.
147. *Czuba, J.*, and **E. Foufoula-Georgiou**, Dynamic connectivity in a fluvial network for identifying hotspots of geomorphic change, *Water Resour. Res.*, 51(3), 1401-1421, doi:10.1002/2014WR016139, 2015.
146. *Ebtehaj, A.M.*, R.L. Bras, and **E. Foufoula-Georgiou**, Shrunken locally linear embedding for passive microwave retrieval of precipitation", *IEEE Trans. on Geosci. and Remote Sens.*, doi:10.1109/TGRS.2014.2382436, 2015.

2014

145. *Gangodagamage, C.*, **E. Foufoula-Georgiou**, and P. Belmont, River basin organization around the mainstem: scale invariance in tributary branching and the incremental area function, *J. Geophys. Res. Earth Surf.*, 119(10), 2174-2193, doi: 10.1002/2014JF003304, 2014.
144. Keylock, C., *A. Singh*, and **E. Foufoula-Georgiou**, The complexity of gravel-bed river topography examined via Gradual Wavelet Reconstruction, *J. Geophys. Res.- Earth Sciences*, 119(3), 682-700, doi:10.1002/2013JF002999, 2014.
143. *Ning, L.*, *F. Carli*, *M. Ebtehaj*, **E. Foufoula-Georgiou**, and T. Georgiou, Coping with model uncertainty in data assimilation using optimal mass transport, *Water Resour. Res.*, 50(7), 5817-5830, doi: 10.1002/2013WR014966, 2014.
142. *Ebtehaj, A.M.*, M. Zupanski, G. Lerman, and **E. Foufoula-Georgiou**, Variational data assimilation via sparse regularisation, *Tellus A*, 66, 21789, doi: 10.3402/tellusa.v66.21789, 2014.
141. Keylock, C., *A. Singh*, J. Venditti, and **E. Foufoula-Georgiou**, Robust classification for the joint velocity-intermittency structure of turbulent flow over fixed and mobile bedforms, *Earth Surf. Proc. And Landforms*, 39(15), 1717-1728, doi: 10.1002/esp.3550, 2014.
140. *Fan, N.*, D. Zhong, B. Wu, **E. Foufoula-Georgiou**, and M. Guala, A mechanistic-stochastic formulation of

bed load particle motions: from individual particle forces to the Fokker-Planck equation under low transport rates, *J. Geophys. Res.*, 119(3), 464-482, doi:10.1002/2013JF002823, 2014.

139. Czuba, J.A., and E. Foufoula-Georgiou, A network-based framework for identifying potential synchronizations and amplifications of sediment delivery in river basins, *Water Resour. Res.*, 50(5), 3826-3851, doi:10.1002/2013WR014227, 2014.
138. Guala, M., A. Singh, N.B. Bull, and E. Foufoula-Georgiou, Spectral description of migrating bedforms and sediment transport, *J. Geophys. Res.*, 119(2), 123-137, doi:10.1002/2013JF002759, 2014.
137. Foufoula-Georgiou, E., A.M. Ebtehaj, S.Q. Zhang, and A.Y. Hou, Downscaling satellite precipitation with emphasis on extremes: A variational ℓ_1 -norm regularization in the derivative domain, *Surveys in Geophysics*, 35(3), 765-783, doi:10.1007/s10712-013-9264-9, 2014.

2013

136. Foufoula-Georgiou, E., I. Overeem, Y. Saito, S. Dech, C. Kuenzer, S. Goodbred, I. Harrison, E. Anthony, E. Brondizio, J. Hutton, R. Nicholls, Z. Matthews, J. Dearing, A. Lazar, A. Baschieri, A. Newton, R. Ramachandran, F. Renaud, Z. Sebesvari, C. Vorosmarty, Z. Tessler, S. Costa, K. M. Ahmed, M. M. Rahman, G. Lintern, P. Van Cappellen, H. Durr, S. Gao, M. Marchand, T. Bucx, V. L. Nguyen, M. Goichot, C. Paola, D. Mohrig, and R. Twilley, "A vision for a coordinated international effort on delta sustainability", in *Deltas: Landforms, Ecosystems and Human Activities*, edited by G. Young & G.M.E. Perillo, IAHS Publ. 358, 3-11, 2013.
135. Ganti, V., C. Paola, and E. Foufoula-Georgiou, Kinematic controls on the preserved cross-sets, *J. Geophys. Res.*, 118, 1-12, doi: 10.1002/jgrf.20094, 2013.
134. Hondzo, M., V. Voller, M. Morris, E. Foufoula-Georgiou, J. Finlay, V. Ganti, and M. Power, Estimating and scaling stream ecosystem metabolism along channels with heterogeneous substrate, *Ecohydrology*, 679-688, doi: 10.1002/eco.1391, 2013.
133. Singh, A., J. Czuba, E. Foufoula-Georgiou, J. Marr, C. Hill, S. Johnson, C. Ellis, J. Mullin, C. H. Orr, P. Wilcock, M. Hondzo, and C. Paola, SteamLab Collaboratory: Experiments, Data sets and Research Synthesis, *Water Resour. Res.*, 49, 1746-1752, doi:10.1002/wrcr.20142, 2013.
132. Falcini, F., V. Ganti, C. Paola, E. Foufoula-Georgiou, and V. Voller, A combined non-linear and non-local model in depositional systems, *J. Geophys. Res.*, 118, 1-11, doi: 10.1002/jgrf.20108, 2013.
131. Keylock, C., A. Singh, and E. Foufoula-Georgiou, The influence of bedforms on the velocity-intermittency structure of turbulent flow above a gravel bed, *Geophys. Res. Letters*, 40, 1351-1355, doi:10.1002/grl.50337, 2013.
130. Ebtehaj, A.M. and E. Foufoula-Georgiou, Variational Downscaling, Fusion, and Assimilation of Hydro-meteorological Sates via Regularized Estimation, *Water Resour. Res.*, 49, 1-20, doi: 10.1002/wrcr.20424, 2013.

2012

129. Parodi, A., G. Boni, L. Ferraris, F. Siccardi, P. Pagliara, E. Trovalore, E. Foufoula-Georgiou, and D. Kranzlmüller, The "Perfect Storm": From across the Atlantic to the Hills of Genoa, *EOS*, Vol. 93, No. 24, 2012.
128. Singh, A., and E. Foufoula-Georgiou, On the interaction of bed topography, instantaneous shear stress and sediment flux in an experimental channel, *Coherent flow structure in Geophysical Flows at Earth's Surfaces*, Invited Book Chapter, in print, 2013.

127. Zanardo S., I. Zaliapin and **E. Foufoula-Georgiou**, Are American rivers Tokunaga self-similar? New results on river network topology and its climatic dependence, *Journal of Geophys. Res.*, 118, 166-183, doi:10.1029/2012JF002392, 2013.
126. Singh, A., **E. Foufoula-Georgiou**, F. Porte-Agel and P. R. Wilcock, Coupled dynamics of the co-evolution of bed topography, flow turbulence and sediment transport in an experimental flume, *J. Geophys. Res.*, 117, F04016, doi:10.1029/2011JF002323, 2012.
125. **Foufoula-Georgiou, E.**, M. Guala, and F. Sotiropoulos, Marine-hydrokinetic energy and the environment: observations, modeling, and basic processes, EOS, Trans. Amer. Geophys. Union, doi:10.1029/2012EO100009, 2012.
124. *Ebtehaj A.M.*, **E. Foufoula-Georgiou**, G. Lerman, Sparse Regularization for Precipitation Downscaling, *Journal of Geophys. Res.*, 117, D08107, doi:10.1029/2011JD017057, 2012.
123. Voller, V. R., *V. Ganti*, C. Paola, and **E. Foufoula-Georgiou**, Does the flow of information in a landscape have direction?, *Geophys. Res. Lett.*, 39, L01403, doi:10.1029/2011GL050265, 2012
122. *Passalacqua P.*, P. Belmont and **E. Foufoula-Georgiou**, Automatic geomorphic feature extraction from lidar in flat and engineered landscapes. *Water Resour. Res.*, 48, W03528, doi:10.1029/2011WR010958, 2012.
121. Straub, K. M., *V. Ganti*, C. Paola and **E. Foufoula-Georgiou**, Prevalence of exponential bed thickness distributions in the stratigraphic record: Experiments and theory, *Journal of Geophys. Res.*, 117, F02003, doi:10.1029/2011JF002034, 2012.
120. *Ganti, V.*, *P. Passalacqua*, and **E. Foufoula-Georgiou**, A sub-grid scale closure for nonlinear hillslope sediment transport models, *J. Geophys. Res.*, 117, F02012, doi: 10.1029/2011JF002181., 2012.

2011

119. *Ebtehaj, A.M.* and **E. Foufoula-Georgiou**, Adaptive Fusion of Multi-sensor Precipitation using Gaussian Scale Mixtures in the Wavelet Domain, *J. Geophys. Res.*, 116, D22110, doi:10.1029/2011JD016219, 2011.
118. Singh, A., S. Lanzoni, P. R. Wilcock and **E. Foufoula-Georgiou**, Multi-scale statistical characterization of migrating dunes in sand-bed rivers, *Water Resour. Res.*, doi:10.1029/2010WR010122, 2011.
117. **Foufoula-Georgiou, E.**, Syvitski, J., Paola, C., Chu Thai Hoanh, Phuc Tuong, Vörösmarty, C., Kremer, H., Brondizio, E., and Saito, Y., and Twilley, R., International Year of Deltas 2013 (IYD-2013): A Proposal, *Eos*, Vol. 92, No. 40, 4, 2011
116. Sorooshian S., A. AghaKouchak, P. Arkin, J. Eylander, **E. Foufoula-Georgiou**, R. Harmon, J. Hendrickx, B. Imam, R. Kuligowski, B. Skahill, and G. Skofronick-Jackson, "Advanced Concepts on Remote Sensing of Precipitation at Multiple Scales", *Bull. Am. Meteor. Soc.*, 2011
115. **E. Foufoula-Georgiou**, and *P. Passalacqua*, Nonlocal transport theories in geomorphology: mathematical modeling of broad scales of motion, *Treatise in Geomorphology*, 2011.
114. *Straub, K. M.*, *V. Ganti*, C. Paola, and **E. Foufoula-Georgiou**, Persistence of exponential bed thickness distribution in the stratigraphic record: experiments and theory, *J. Geophys. Res.*, 116, F0211, doi:10.1029/2010JF001893, 2011.
113. *Basu, B.*, **E. Foufoula-Georgiou**, and A. S. Sharma, Chaotic behavior in the flow along a wedge modeled by the Blasius equation, *Nonlinear Process. in Geophys.*, 18(2), 171-178, 2011.
112. *Ganti, V.*, *K. M. Straub*, **E. Foufoula-Georgiou**, and C. Paola, Space-time dynamics of depositional systems: Experimental evidence and theoretical modeling of heavy-tailed statistics, *J. Geophys. Res.*, 116, F02011, doi:10.1029/2010JF001893, 2011.

111. *Basu, B., E. Foufoula-Georgiou, and A. S. Sharma, Chaotic behavior in the flow along a wedge modeled by the Blasius equation, Nonlinear Process. in Geophys., 18(2), 171-178, 2011.*
110. *Ebtehaj, M., and E. Foufoula-Georgiou, Statistics of precipitation reflectivity images and cascade of Gaussian-scale mixtures in the wavelet domain: A formalism for reproducing extremes and coherent multiscale structures, J. Geophys. Res., 116, D14110, doi:10.1029/2010JD015177,2011.*
109. *Ebtehaj, M., and E. Foufoula-Georgiou, Orographic Signature on Multiscale Statistics of Extreme Rainfall: A Storm Scale Study, J. Geophys. Res., doi:10.1029/2010JD014093, 2011.*
108. *Parodi, A., E. Foufoula-Georgiou, and K. Emanuel, Signature of microphysics on spatial rainfall statistics, J. Geophys. Res., 116, D14119, doi:10.1029/2010JD015124, 2011*
107. *Gangodagamage, C., E. Foufoula-Georgiou, and P. Belmont, Revisiting scaling laws in river basins: new scaling considerations across hillslope and fluvial regimes, Water Resour. Res., 47, W07508, doi:10.1029/2010WR009252, 2011.*

2010

106. **Foufoula-Georgiou, E.** and C. Stark, Rethinking geomorphic transport: stochastic theories, broad range of motion and non-locality, *J. Geophys. Res.*, 115, F00A01, doi:10.1029/2010JF001661, 2010.
105. **Foufoula-Georgiou, E., V. Ganti,** and W. E. Dietrich, A non-local theory for sediment transport on hillslopes, *J. Geophys. Res.*, 115, F00A16, doi:10.1029/2009JF001280, 2010.
104. Zaliapin, I., **E. Foufoula-Georgiou,** and M. Ghil, Transport on river networks: a dynamical approach, *J. Geophys. Res. - Earth Surface*, 115, F00A15, doi:10.1029/2009JF001281, 2010.
103. *Ganti, V., M. M. Meerschaert, E. Foufoula-Georgiou, E. Viparelli, and G. Parker, Normal and Anomalous dispersion of tracers in gravel-bed rivers, J. Geophys. Res., 115, F00A12, doi:10.1029/2008JF001222, 2010.*
102. Palmer, M.A., E.S. Bernhardt, W.H. Schlesinger, K.N. Eshleman, **E. Foufoula-Georgiou,** M.S. Hendryx, A.D. Lemly, G.E. Likens, O.L. Loucks, M.E. Power, P.S. White, and P.R. Wilcock, Mountaintop mining consequences, *Science*, 327 (5962), 148-149, doi:10.1126/science.1180543, 2010.
101. *Passalacqua, P., P. Tarolli, and E. Foufoula-Georgiou, Testing space-scale methodologies for automatic geomorphic feature extraction from lidar in a complex mountainous landscape, Water Resour. Res. 46, W11535, doi:10.1029/2009WR008812, 2010.*
100. *Passalacqua, P., T. Do Trung, E. Foufoula-Georgiou, G. Sapiro, and W. E. Dietrich, A geometric framework for channel network extraction from LiDAR: nonlinear diffusion and geodesic paths, J. Geophys. Res., 115, F01002, doi:10.1029/2009JF001254, 2010.*
99. *Fienberg, K., A. Singh, E. Foufoula-Georgiou, D. Jerolmack, and J. Marr, A theoretical framework for interpreting and quantifying the sampling time dependence of gravel bedload transport rates, in Gray, et al., Bedload-surrogate monitoring technologies: U.S. Geological Survey Scientific Investigations Report 2010-5091, p. 266-282, 2010.*

2009

98. Stark, C. P., **E. Foufoula-Georgiou,** and *V. Ganti,* A non-local theory of sediment buffering and bedrock channel evolution, *J. Geophys. Res.*, 114, F01029, doi:10.1029/2008JF000981, 2009.
97. *Singh, A., K. Fienberg, D. J. Jerolmack, J. Marr, and E. Foufoula-Georgiou, Experimental evidence for statistical scaling and intermittency in sediment transport rates, Geophys. Res. Lett., 114, F01025, doi:10.1029/2007JF000963, 2009.*

96. Singh, A., F. Porte-Agel, and **E. Foufoula-Georgiou**, On the influence of gravel bed dynamics on velocity power spectra, *Water Resour. Res.*, 46, W04509, doi:10.1029/2009WR008190, 2010.
95. *Ganti, V., A. Singh, P. Passalacqua, and E. Foufoula-Georgiou*, A subordinated Brownian motion model for sediment transport, *Phys. Rev. E*, 80, 011111, 2009.

2008

94. *Roux, S.G., V. Venugopal, K. Fienberg, A. Arneodo, and E. Foufoula-Georgiou*, Evidence for inherent nonlinearity in temporal rainfall, *Advances in Water Resources*, doi:10.1016/j.advwatres.2008.09.007, 2008.
93. *Singh, A., S. Lanzoni, and E. Foufoula-Georgiou*, Nonlinearity and complexity in gravel bed dynamics, in *Stochastic Environmental Research and Risk Assessment*, Springer Verlag, N.Y, doi: 10.1007/S00477-008-0269-8, 2008

2007

92. *Barnes E. A., M. E. Power, E. Foufoula-Georgiou, M. Hondzo, W. E. Dietrich*, Upscaling river biomass using dimensional analysis and hydrogeomorphic scaling, *Geophys. Res. Lett.*, 34, L24S26, doi:10.1029/2007GL031931, 2007.
91. *Lashermes B., E. Foufoula-Georgiou, W. E. Dietrich*, Channel network extraction from high resolution topography using wavelets, *Geophys. Res. Lett.*, 34, L23S04, doi:10.1029/2007GL031140, 2007
90. *Basu, S., E. Foufoula-Georgiou, B. Lashermes, and A. Arneodo*, Estimating Intermittency Exponent in Neutrally Stratified Atmospheric Surface Layer Flows: A Robust Framework based on Magnitude Cumulant and Surrogate Analyses, *Phys. Fluids 19*, 115102, doi:10.1063/1.2786001, 2007.
89. *Lashermes, B., E. Foufoula-Georgiou, and W. E. Dietrich*, Channel network extraction from high resolution topography using wavelets, *Geophys. Res. Lett.*, 34, L23S04, doi:10.1029/2007GL031140, 2007
88. *Sapozhnikov, V. and E. Foufoula-Georgiou*, An exponential Langevin-type model for rainfall exhibiting spatial and temporal scaling, in *20 Years of Nonlinear Dynamics in Geosciences*, A. Tsonis and J.B. Elsner, eds., Springer-Verlag, New York, 2007.
87. *Lashermes, B. and E. Foufoula-Georgiou*, Area and width functions of river networks: New results on multifractal properties, *Water Resour. Res.*, 43, W09405, doi:10.1029/2006WR005329, 2007
86. *Gangodagamage, C., E. Barnes, and E. Foufoula-Georgiou*, Scaling in river corridor widths depicts organization in valley morphology, *Geomorphology*, 91(3-4), 198-215, doi:10.1016/j.geomorph.2007.04.014, 2007

2006

85. *Passalacqua P., F. Porté-Agel, E. Foufoula-Georgiou, C. Paola*, Application of dynamic subgrid-scale concepts from large-eddy simulation to modeling landscape evolution, *Water Resources Research*, 42, W06D11, doi:10.1029/2006WR004879, 2006.
84. *Sklar L. S., W. E. Dietrich, E. Foufoula-Georgiou, B. Lashermes, D. Bellugi*, Do gravel bed river size distributions record channel network structure?, *Water Resources Research*, 42, W06D18, doi:10.1029/2006WR005035, 2006.
83. *Venugopal V., S. G. Roux, E. Foufoula-Georgiou, A. Arneodo*, Revisiting multifractality of high-resolution temporal rainfall using a wavelet-based formalism, *Water Resources Research*, 42, W06D14, doi:10.1029/2005WR004489, 2006.

82. Basu, S., F. Porté-Agel, **E. Foufoula-Georgiou**, J-F Vinuesa, and M. Pahlow, M. Revisiting the local scaling hypothesis in stably stratified atmospheric boundary layer turbulence: an integration of field and laboratory measurements with large-eddy simulations, *Boundary-Layer Meteorology*, in press, 2006.
81. Dodov, B., and **E. Foufoula-Georgiou**, Floodplain morphometry extraction from a high resolution digital elevation model: a simple algorithm for regional analysis studies, *IEEE Geoscience and Remote Sensing Letters*, Vol 3, No 3, 410-413, 2006.algorithm for regional analysis studies, *IEEE Geoscience and Remote Sensing Letters*, in press, 2006.
80. Gupta R., V. Venugopal, **E. Foufoula-Georgiou**, A methodology for merging multisensor precipitation estimates based on expectation-maximization and scale-recursive estimation, *J. Geophysical Research*, 111, D02102, doi:10.1029/2004JD005568, 2006.
79. Paola C., **E. Foufoula-Georgiou**, W. E. Dietrich, M. Hondzo, D. Mohrig, G. Parker, M. E. Power, I. Rodriguez-Iturbe, V. Voller, P. Wilcock, Toward a unified science of the Earth's surface: Opportunities for synthesis among hydrology, geomorphology, geochemistry, and ecology, *Water Resources Research*, 42, W03S10, doi:10.1029/2005WR004336, 2006.
78. Venugopal, V., S. G. Roux, **E. Foufoula-Georgiou** and A. Arneodo, Scaling behavior of high resolution temporal rainfall: New insights from a wavelet-based cumulant analysis, *Phys. Let. A*, 348,335-345, 2006.

2005

77. Dodov B., **E. Foufoula-Georgiou**, Fluvial processes and streamflow variability: Interplay in the scale-frequency continuum and implications for scaling, *Water Resources Research*, 41, W05005, doi:10.1029/2004WR003408, 2005.
76. Smedsmo, J., V. Venugopal, **E. Foufoula-Georgiou**, K. Droegemeier and F. Kong, On the Vertical Structure of Modeled and Observed Deep Convective Storms: Insights for Precipitation Retrieval and Microphysical Parameterization. *J. Applied Meteorology*, 44(12), 1866-1884, 2005.
75. Dodov, B., and **E. Foufoula-Georgiou**, Incorporating the spatio-temporal distribution of rainfall and basin geomorphology into nonlinear analyses of streamflow dynamics: Methodology development and a predictability study, *Advances in Water Resources*, 28, 711-728, 2005.
74. Venugopal, V., S. Basu, and **E. Foufoula-Georgiou**, A new metric for comparing precipitation patterns with application to ensemble forecasts, *J. Geophysical Research*, 110 (D08111), doi:10.1029/2004JD005395, 2005.

2004

73. Stefan, H. G., **E. Foufoula-Georgiou**, and R. E. A. Arndt, The St. Anthony Falls Laboratory: A rich history and a bright future, EWRI History and Heritage Book Proceedings, *Environmental & Water Resources History Symposium 2004*, ASCE, 2004.
72. Dodov, B., and **E. Foufoula-Georgiou**, Generalized hydraulic geometry: Insights based on fluvial instability analysis and a physical model, *Water Resources Research*, 40, W12201, doi:10.1029/2004WR003196, 2004.
71. Basu, S., **E. Foufoula-Georgiou**, and F. Porté-Agel, Synthetic turbulence, fractal interpolation and large-eddy simulation, *Physical Review E*, 70, 026310, 2004.
70. Dodov, B., and **E. Foufoula-Georgiou**, Generalized hydraulic geometry: Derivation based on a multiscaling formalism, *Water Resources Research*, 40, W06302, doi:10.1029/2003WR002082, 2004.

2003

69. Silberman, E., R. E. A. Arndt, G. Parker, **E. Foufoula-Georgiou**, and C. Paola, The St. Anthony Falls Laboratory in History in *Henry P G Darcy, and Other Pioneers in Hydraulics: Contributions in Celebration of the 200th Birthday of Henry Darcy*, Brown et al. (ed.), ASCE, 2003.
68. Venugopal V., F. Porté-Agel, **E. Foufoula-Georgiou** and M. Carper, Multiscale interactions between surface shear stress and velocity in turbulent boundary layers, *J. Geophysical Research*, 108(D19), doi:10.1029/2002JD003025 (2003JD004285), 2003.
67. Harris, D., **E. Foufoula-Georgiou**, and C. Kummerow, Effects of under-represented precipitation variability and partial beamfilling on microwave rainfall retrievals, *J. Geophysical Research*, 108(D8), 10.1029/2001JD001144, 2003.
66. Tustison, B., D. Harris, and **E. Foufoula-Georgiou**, Scale-Recursive estimation for multi-sensor QPF verification: A preliminary assessment, *J. Geophysical Research*, 108(D8), 8377-8390, 2003.

2002

65. Basu, S., **E. Foufoula-Georgiou**, and F. Porté-Agel, Predictability of atmospheric boundary-layer flows as a function of scale, *Geophysical Research Letters*, doi: 10.1029 / 2002GL015497, 2002.
64. Basu, S., and **E. Foufoula-Georgiou**, Detection of nonlinearity and chaoticity in time series using the transportation distance function, *Physics Letters A*, 301(5-6), 413-423, 2002.

2001

63. Harris, D., **E. Foufoula-Georgiou**, K. Droegemeier, and T. Levit, Multi-scale statistical properties of a high-resolution precipitation forecast, *J. Hydrometeorology*, 2(4), 406-418, 2001.
62. **Foufoula-Georgiou, E.** and V. Venugopal, Patterns and organization in precipitation, in *Spatial Patterns in Catchment Hydrology-Observations and Modelling*, R. Grayson and G. Blöschl (eds.), Cambridge University Press, 2001.
61. Paola, C. and **E. Foufoula-Georgiou**, Statistical geometry and dynamics of braided rivers, in *Gravel-Bed Rivers*, M. P. Mosely (ed.), New Zealand Hydrological Society, Wellington, NZ, 2001.
60. Nykanen, D. and **E. Foufoula-Georgiou**, Soil moisture variability and its effect on scale-dependency of nonlinear parameterizations in coupled land-atmosphere models, *Advances in Water Resources*, 24(9-10), 1143-1157, 2001.
59. Tustison, B., D. Harris, and **E. Foufoula-Georgiou**, Scale issues in verification of precipitation forecasts, *J. Geophysical Research*, 106(D11), 11,775-11,784, 2001.
58. Harris, D. and **E. Foufoula-Georgiou**, Subgrid variability and stochastic downscaling of modeled precipitation and its effects on radiative transfer computations, *J. Geophysical Research*, 106(D10), 10349-10362, 2001.
57. **Foufoula-Georgiou, E.** and V. Sapozhnikov, Scale invariances in the morphology and evolution of braided rivers, *Mathematical Geology*, 33(3), 2001.
56. Nykanen, D., **E. Foufoula-Georgiou**, and W. Lapenta, Impact of small-scale rainfall variability on larger-scale spatial organization of land-atmosphere fluxes, *J. Hydrometeorology*, 2(2), 105-121, 2001.
55. Hornberger, G.M., J.D. Aber, J. Bahr, R.C. Bales, K. Beven, **E. Foufoula-Georgiou**, G. Katul, J.L. Kinter III, R.D. Koster, D. Lettenmaier, D. McKnight, K. Miller, J.O. Roads, B.R. Scanlon, and E. Smith, A plan for a new science initiative on the Global Water Cycle, *US Global Change Research Program*, Washington DC, May 2001.

Before 2000

54. Droegemeier, K. K., J. D. Smith, S. Businger, C. Doswell III, J. Doyle, C. Duffy, **E. Foufoula-Georgiou**, T. Graziano, L.D. James, W. Krajewski, M. LeMone, D. Lettenmaier, C. Mass, R. Pielke Sr., P. Ray, S. Rutledge, J. Schaake, and E. Zipser, Hydrological aspects of weather prediction and flood warnings: Report of the Ninth Prospectus Development Team of the U.S. Weather Research Program, *Bulletin of the American Meteorological Society*, 81(11), 2665-2680, 2000.
53. *Zepeda-Arce, J*, **E. Foufoula-Georgiou**, and K. Droegemeier, Space-time rainfall organization and its role in validating quantitative precipitation forecasts, *J. Geophysical Research*, 105(D8), 10,129-10,146, 2000.
52. *Cârsteanu, A.*, **E. Foufoula-Georgiou**, and *V. Venugopal*, Event-specific multiplicative cascades for temporal rainfall, *J. Geophysical Research*, 104(D24), 31611-622, 1999.
51. *Venugopal, V.*, **E. Foufoula-Georgiou**, and *V. Sapozhnikov*, Evidence of dynamic scaling in space-time rainfall, *J. Geophysical Research*, 104(D24), 31599-610, 1999.
50. *Venugopal, V.*, **E. Foufoula-Georgiou**, and *V. Sapozhnikov*, A space-time downscaling model for rainfall, *J. Geophysical Research*, 104(D16), 19,705-721, 1999.
49. *Sapozhnikov, V.* and **E. Foufoula-Georgiou**, Horizontal and vertical self-organization of braided rivers towards a critical state, *Water Resources Research*, 35(3), 843-851, 1999.
48. *Sapozhnikov, V.*, B. Murray, C. Paola, and **E. Foufoula-Georgiou**, Validation of braided-stream models: Spatial state-space plots, self-affine scaling and island shapes, *Water Resources Research*, 34(9), 2353-2364, 1998.
47. *Nykanen, D.*, **E. Foufoula-Georgiou**, and *V. Sapozhnikov*, Study of spatial scaling in braided river patterns using synthetic aperture radar imagery, *Water Resources Research*, 34(7), 1795-1807, 1998.
46. **Foufoula-Georgiou, E.** and *V. Sapozhnikov*, Anisotropic scaling in braided rivers: An integrated theoretical framework and results from application to an experimental river, *Water Resources Research*, 34(4), 863-867, 1998.
45. **Foufoula-Georgiou, E.**, On stochastic theories of space-time rainfall: Some recent results and open problems, in *Stochastic Methods in Hydrology: Rain, Landforms and Floods*, Gupta et al. (eds.), Vol. 7 in the Advanced Series on Statistical Sciences and Applied Probability, *Word Scientific*, 1997.
44. *Cârsteanu, A.*, *V. Sapozhnikov*, *V. Venugopal*, and **E. Foufoula-Georgiou**, Absolute optimal time-frequency basis—a research tool, *J. Phys. A: Math. and Gen.*, 30, 7133-7146, 1997.
43. *Zhang, S.* and **E. Foufoula-Georgiou**, Subgrid scale rainfall variability and effects on atmospheric and surface variable prediction, *J. Geophysical Research* 102 (D6), 19,559-573, 1997.
42. *Kumar, P.* and **E. Foufoula-Georgiou**, Wavelet analysis for geophysical applications, *Reviews in Geophysics*, 35(4), 385-412, 1997.
41. *Cârsteanu, A.* and **E. Foufoula-Georgiou**, Non-trivial scaling in the loss of prediction information with aggregation in hourly precipitation, *J. Geophysical Research*, 102(D6), 6631-6636, 1997.
40. *Sapozhnikov, V.* and **E. Foufoula-Georgiou**, Experimental evidence of dynamic scaling and self-organized criticality in braided rivers, *Water Resources Research*, 33(8), 1983-1991, 1997.
39. *Cârsteanu, A.* and **E. Foufoula-Georgiou**, Assessing dependence among weights in a multiplicative cascade model of temporal rainfall, *J. Geophysical Research*, 101(D21), 26,363-26,370, 1996.

38. *Perica, S. and E. Foufoula-Georgiou*, A Model for multiscale disaggregation of spatial rainfall based on coupling meteorological and scaling descriptions, *J. Geophysical Research*, 101(D21), 26,347-26,361, 1996.
37. *Perica, S. and E. Foufoula-Georgiou*, Linkage of scaling and thermodynamic parameters of rainfall: results from midlatitude mesoscale convective systems, *J. Geophysical Research*, 101(D3), 7431-7448, 1996.
36. *Sapozhnikov, V. and E. Foufoula-Georgiou*, Self-affinity in braided rivers, *Water Resources Research*, 32(5), 1429-1439, 1996.
35. *Sapozhnikov, V. and E. Foufoula-Georgiou*, Do the current landscape evolution model show self-organized criticality? *Water Resources Research*, 32(4), 1109-1112, 1996.
34. *Venugopal, V. and E. Foufoula-Georgiou*, Energy decomposition of rainfall in the time-frequency-scale domain using wavelet packets, *J. Hydrology*, 187, 3-27, 1996.
33. *Franchini, M., K. R. Helmlinger, E. Foufoula-Georgiou, and E. Todini*, Stochastic storm transposition coupled with rainfall/runoff modeling for estimation of exceedance probabilities of design floods, *J. Hydrology*, 175, 511-532, 1996.
32. *Kumar, P. and E. Foufoula-Georgiou*, A multicomponent self-similar characterization of rainfall fluctuations, in *Environmental Studies*, M. Wheeler et al. (eds.), *Springer-Verlag, N.Y.*, 1995.
31. *Sapozhnikov, V. and E. Foufoula-Georgiou*, Study of self-similar and self-affine objects using logarithmic correlation integral, *J. Phys. A: Math. and Gen.*, 28, 559-571, 1995.
30. **Foufoula-Georgiou, E.** and W. Krajewski, Recent advances in rainfall modeling, estimation, and forecasting, U.S. National Rep. to *Int. Union of Geodesy and Geophysics (1991-1994)*, *Reviews in Geophysics*, 1125-1137, July 1995.
29. *Kumar, P. and E. Foufoula-Georgiou*, Introduction to wavelet transforms, in *Wavelets in Geophysics*, E. Foufoula-Georgiou and P. Kumar (editors), *Academic Press*, 1994.
28. *Kumar, P. and E. Foufoula-Georgiou*, Characterizing multiscale variability of zero intermittency in spatial rainfall, *J. Applied Meteorology*, 33(12), 1516-1525, 1994.
27. *Kumar, P., P. Guttorp, and E. Foufoula-Georgiou*, A probability weighted moment test to assess simple scaling, *J. Stochastic Hydrology and Hydraulics*, 8, 173-183, 1994.
26. *Stedinger, J., R. Vogel and E. Foufoula-Georgiou*, Frequency analysis of extreme events, Chapter 18, in *Handbook of Hydrology*, *McGraw Hill*, 1993.
25. *Montgomery, D. and E. Foufoula-Georgiou*, Channel network source representation for Digital Elevation Models, *Water Resources Research*, 29(12), 3925-3934, 1993.
24. *Koutsoyiannis, D. and E. Foufoula-Georgiou*, A scaling model of storm hyetograph, *Water Resources Research*, 29(7), 2345-2361, 1993.
23. *Helmlinger, K., P. Kumar and E. Foufoula-Georgiou*, On the use of DEM data for Hortonian and fractal analyses of channel networks, *Water Resources Research*, 29(8), 2599-2613, 1993.
22. *Kumar P. and E. Foufoula-Georgiou*, A multicomponent decomposition of spatial rainfall fields: 2. self-similarity in fluctuations, *Water Resources Research*, 29(8), 2533-2544, 1993.
21. *Kumar P. and E. Foufoula-Georgiou*, A multicomponent decomposition of spatial rainfall fields: 1. segregation of large and small scale features using wavelet transforms, *Water Resources Research*, 29(8), 2515-2532, 1993.
20. *Kumar, P. and E. Foufoula-Georgiou*, A new look at rainfall fluctuations and scaling properties of spatial rainfall, *J. Applied Meteorology*, 32(2), 209-222, 1993.

19. **Foufoula-Georgiou, E.**, Self-similarity: theory and applications in hydrology, *EOS Transactions*, American Geophysical Union, 73(49), p. 532, 1992.
18. Georgakakos, K. P. and **E. Foufoula-Georgiou**, Real-time coupling of hydrological and meteorological models for flood forecasting, Chapter 9, in *Recent Advances in the Modelling of Hydrological Systems*, D. Bowles and E. O'Connell (eds.), *Reidl Publ. Co.*, 1991.
17. **Foufoula-Georgiou, E.** and K. P. Georgakakos, Recent advances in space-time precipitation modeling and forecasting, Chapter 3, in *Recent Advances in the Modelling of Hydrological Systems*, D. Bowles and E. O'Connell (eds.), *Reidel Publ. Co.*, 1991.
16. *Andricevic, R.* and **E. Foufoula-Georgiou**, A transfer function approach to sampling network design for groundwater contamination, *Water Resources Research*, 27(10), 2759-2769, 1991.
15. *Andricevic, R.* and **E. Foufoula-Georgiou**, Modeling kinetic non-equilibrium using the first two moments of the residence time distribution, *J. Stochastic Hydrology and Hydraulics*, 5, 155-171, 1991.
14. **Foufoula-Georgiou, E.**, Convex interpolation for gradient dynamic programming, *Water Resources Research*, 27(1), 31-36, 1991.
13. **Foufoula-Georgiou, E.**, Review of the book "Floods: Hydrological, Sedimentological, and Geomorphological Implications," by K. Beven and P. Carling (eds.), 290 pp., *John Wiley and Sons*, 1989, *Bulletin American Meteorological Society*, 71(7), 1031-1034, 1990.
12. *Kumar, P.* and **E. Foufoula-Georgiou**, Fourier domain shape analysis methods: A brief review and an illustrative application to rainfall area evolution, *Water Resources Research*, 26(9), 2219-2227, 1990.
11. *Wilson, L. L.* and **E. Foufoula-Georgiou**, Regional rainfall frequency analysis via stochastic storm transposition, *J. Hydraulic Engineering*, ASCE, 116(7), 859-880, 1990.
10. **Foufoula-Georgiou, E.** and *L. L. Wilson*, In search of similarities in extreme rainstorms, *J. Geophysical Research*, 95(D3), 2061-2072, 1990.
9. **Foufoula-Georgiou, E.**, A probabilistic storm transposition approach for estimating exceedance probabilities of extreme precipitation depths, *Water Resources Research*, 25(5), 799-816, 1989.
8. Kitanidis, P. and **E. Foufoula-Georgiou**, *Reply to Comment on Error analysis of conventional discrete and gradient dynamic programming*, by K. Ponnambalam and B. J. Adams, *Water Resources Research*, 24(12), 2105-2106, 1988.
7. **Foufoula-Georgiou, E.** and P. K. Kitanidis, Gradient dynamic programming for stochastic optimal control of multidimensional water resources systems, *Water Resources Research*, 24(8), 1345-1359, 1988.
6. **Foufoula-Georgiou, E.** and P. Guttorp, Assessment of a class of Neyman-Scott models for temporal rainfall, *J. Geophysical Research*, 92(D8), 9679-9682, 1987.
5. **Foufoula-Georgiou, E.** and D. P. Lettenmaier, A Markov renewal model for rainfall occurrences, *Water Resources Research*, 23(5), 875-884, 1987.
4. Kitanidis, P. K. and **E. Foufoula-Georgiou**, Error analysis of conventional discrete and gradient dynamic programming, *Water Resources Research*, 23(5), 845-858, 1987.
3. **Foufoula-Georgiou, E.** and T. T. Georgiou, Interpolation of binary series based on discrete-time Markov chain models, *Water Resources Research*, 23(3), 515-518, 1987.
2. **Foufoula-Georgiou, E.** and P. Guttorp, Compatibility of continuous rainfall occurrence models with discrete rainfall observations, *Water Resources Research*, 22(8), 1316-1322, 1986.
1. **Foufoula-Georgiou, E.** and D. P. Lettenmaier, Continuous-time versus discrete-time point process models for rainfall occurrence series, *Water Resources Research*, 22(4), 531-542, 1986.

PAPERS PRESENTED IN CONFERENCES

There are over 500 papers that have been presented in major international conferences including American Geophysical Union (AGU), European Geosciences Union (EGU), Chapman Conferences, International Association of Hydrologic Sciences, International Conference on Precipitation, etc. Abstracts are published and available on the web.

INVITED PRESENTATIONS

There are over 200 invited presentations in meetings, special guest lectures, plenaries, and University colloquia.

COLLABORATORS

K. Droegemeier (Meteorology, U of Oklahoma), T. Georgiou (EECS, U of California Irvine), P. Guttorp (Statistics, U of Washington), D. Koutsoyiannis (Hydrology, NTUA, Greece), G. Parker (Sediment transport, U of Illinois UC), C. Paola (Geomorphology, U of Minnesota), J. Stedinger (Statistical Hydrology, Cornell), E. Todini and M. Franchini (Hydrology, U of Bologna), F. Porté-Agel (Atmospheric Boundary Layer, EPFL), C. Kummerow (Atmospheric Sciences, Colorado State University), S. Yuter (Meteorology, NCSU), I. Zaliapin (Mathematics, U of Nevada, Reno), W. Dietrich (Geomorphology, U of California, Berkeley), A. Arneodo (Turbulence, Ecole Normale Supérieure de Lyon, France), S. Roux (Turbulence, Ecole Normale Supérieure de Lyon, France), C. Stark (Mathematical Geomorphology, University of Columbia), M. Power (Ecology, U of California, Berkeley), M. Ghil (Atmospheric Dynamics, Ecole Normale Supérieure, Paris, France), M. Meerschaert (Mathematics, Michigan State University), G. Sapiro (EE, Duke University), M. Guala (University of Minnesota), P. Belmont (Utah State University), J. Randerson (UCI), P. Smyth (UCI), M. Pritchard (UCI), J-Y Yu (UCI), A. AghaKouchak (UCI), B. Sanders (UCI), T. Banerjee (UCI)

GRADUATE ADVISORS: Dennis P. Lettenmaier (U of Washington), Wayne C. Huber (U of Florida)

GRADUATE and POSTGRADUATE ADVISEES:

Former Advisees (those who followed academic career are underlined)

PhD students: Praveen Kumar (1993), Sanja Perica (1995), Alin Cârsteanu (1997), Venu Venugopal (1999), Deborah Nykanen (2000), Boyko Dodov (2003), Sukanta Basu (2004), Chandana Gangodagamage (2009), Paola Passalacqua (2009), Arvind Singh (2011), Vamsi Ganti (2012), Ardeshir Ebtehaj (2013), Jon Czuba (2016), Jon Schwenk (2016), Mohammad Danesh-Yazdi (2017), Zeinab Takbiri (2018), Antonios Mamalakis (2020), Lawrence Vulis (2023), Yifu Gao (2025) – *please see my web site for their current positions (<http://efi.eng.uci.edu>)*

M.S. students: Larry Wilson (1989), Praveen Kumar (1989), Geoff Griffin (1991), Keith Helmlinger (1992), Igor Jankovic (1992), Thomas Rasmussen (1992), Venu Venugopal (1995), Deborah Nykanen (1997), Jesus Zepeda-Arce (2000), B. Tustison (2001), Jamie Smedsmo (2004), Rohit Gupta (2004), Lisa Tilman (2005), Paola Passalacqua (2005, co-advised with Fernando Porté-Agel), Nikos Theodoratos (2006), Birdoha Basu (2011)

Research Associates: Daniel Harris, Victor Sapozhnikov, Shuxia Zhang, Venu Venugopal, Boyko Dodov, Sukanta Basu, Rohan Shreshtha, Bruno Lashermes, Ion Iorgulescu, Kurt Fienberg, Arvind Singh, Stefano Zanardo, Diego Ponce de Leon Barido, Amy Hansen, Zi Wu (UCI), Yannis Dialynas (UCI), Anthony Longjas (UCI), Simon Papalexiou (UCI), Alejandro Tejedor (UCI), Clement Guilloteau (UCI), Runze Li (UCI), Janine Baijnath-Rodino (UCI), James Guillinger (UCI), Hongbo Ma (UCI), Pritam Borah (UCI) – *please see my web site for their current positions (<http://efi.eng.uci.edu>)*

Visiting Scientists: Dr. Fengxia Li, Visiting Scholar at UCI; Lecturer, College of Architecture, Xi'an University of Architecture and Technology, Shaanxi Province (2018-2019); Prof. Venu Venugopal; Fulbright Fellow to UCI from Indian Institute of Science, Bangalor (2022-2023).

Present Advisees (UCI)

PhD students: Connor Broaddus, Dain Kim, Neda Dolatabadi, Dani Lafarga (co-advised with Prof. Samuel Shen, San Diego State University)

Post-doctoral Fellows: Runze Li, Pritam Borah

Research Specialist: Clement Guilloteau

Affiliate Scientist: Alejandro Tejedor, Senior Scientist at UCI
Associate Professor, Institute for Biocomputation and Physics of Complex Systems
University of Zaragoza, Zaragoza, Spain.

Foreign PhD Student External Advisor/Examiner

Davide Ceresetti, University of Grenoble (PhD, 2005)
Athansios Paschalis, ETH (PhD, 2013)
Niannian Fan, Tsinghua University (PhD, 2014)
Nicola Durighetto (MS, 2018)

THESES OF ADVISED GRADUATE STUDENTS:

Kumar, Praveen. MS, 1989 April, “*A Stochastic Simulation Model for Space-time Description of Rainfall*” Adv. E. Foufoula-Georgiou, Department of Civil Engineering, Iowa State University.

Griffin, Geoffrey. Master of Science, 1991 August, “*Reservoir Operation Optimization: A case Study for the Lake Zumbro Hydropower Facility*”, Adv. E. Foufoula-Georgiou, Department of Civil Engineering, University of Minnesota.

Helmlinger, Keith. MS, 1992 November, “*Estimation of Morphometric and Scaling Properties of River Networks from Digital Elevation Data*”, Adv. E. Foufoula-Georgiou, Department of Civil Engineering, University of Minnesota.

Rasmussen, Thomas. Master of Science, 1992 May, “*Analysis of Atrazene Levels in the Lower Missouri River*”, Adv. E. Foufoula-Georgiou, Department of Civil Engineering, University of Minnesota.

Jankovic, Igor. Master of Science, 1993 May, “*Numerical Simulation of Groundwater Recharge: Spatial and Temporal Analysis*”, Adv. R. Andricevic, E. Foufoula-Georgiou and R. Barnes, Department of Civil Engineering, University of Minnesota.

Kumar, Praveen. PhD, 1993 April, “*Multiscale Study of Rainfall Fields Via Wavelet Transforms for Identifying Scaling Characteristics*”, Adv. E. Foufoula-Georgiou, Department of Civil Engineering, University of Minnesota.

Venugopal, Vuruptur. Master of Science, 1995 November, “*Time-Frequency-Scale Analysis of Temporal Rainfall*”, Adv. E. Foufoula-Georgiou, Department of Civil Engineering, University of Minnesota.

Carsteanu, Alin-Andrei. PhD, 1997 December, “*Space-Time Rainfall Modeling: Considerations of Scaling and Dynamics*”, Adv. E. Foufoula-Georgiou, Department of Civil Engineering, University of Minnesota.

Nykanen, Deborah. MS, 1997 June, “*Study of the Morphology and Spatial Scaling of Braided Rivers Using Synthetic Aperture Radar Imagery*”, Adv. E. Foufoula-Georgiou, Department of Civil Engineering, University of

Minnesota.

Venugopal, Vuruptur. PhD, 1999 January, “*Spatio-Temporal Organization and Space-Time Downscaling of Precipitation Fields*”, Adv. E. Foufoula-Georgiou, Department of Civil Engineering, University of Minnesota.

Zepeda-Arce, Jesus. Masters, 1999 February, “*Multiscale Statistical Measures for Assessment of Quantitative Precipitation Forecasts*”, Adv. E. Foufoula-Georgiou, Department of Civil Engineering, University of Minnesota.

Nykanen, Deborah K. PhD, 2000 November, “*Space-Time Variability of Rainfall and Soil Moisture in Coupled Land-Atmosphere Modeling: Issues of Scale and Effect on Predicted Water and Energy Fluxes*”, Adv. E. Foufoula-Georgiou, Department of Civil Engineering, University of Minnesota.

Tustison, Benjamin T. MS, 2001 May, “*Multiscale Techniques for the Verification of Quantitative Precipitation Forecasts*”, Adv. E. Foufoula-Georgiou, Department of Civil Engineering, University of Minnesota.

Dodov, Boyko A. PhD, 2003 August, “*Analysis of the Effects of Channel Morphometry and Network Topology on the Nonlinearity of Hydrologic Response as a Function of Scale*”, Adv. E. Foufoula-Georgiou, Department of Civil Engineering, University of Minnesota.

Basu, Sukanta. PhD, 2004 December, “*Large-Eddy Simulation of Stably Stratified Atmospheric Boundary Layer Turbulence: A Scale-Dependent Dynamic Modeling Approach*”, Adv. E. Foufoula-Georgiou, Department of Civil Engineering, University of Minnesota.

Gupta, Rohit. MS, 2004 June. “*Parametric and Non-Parametric Approaches for Validation and Blending of Multi-Sensor Precipitation Estimates*”, Adv. E. Foufoula-Georgiou, Department of Civil Engineering, University of Minnesota.

Smedsmo, Jamie L. MS, 2004 June, “*A Statistical View of the Vertical Structure of Modeled and Observed Clouds: Insights for QPF Verification and Remote Sensing of Precipitation*”, Adv. E. Foufoula-Georgiou, Department of Civil Engineering, University of Minnesota.

Passalacqua, Paola. Master's 2005 December, “*Scale Dependence and Subgrid-Scale Closure in Numerical Simulations of Landscape Evolution*”, Adv. F. Porte-Agel, E. Foufoula-Georgiou and C. Paola, Department of Civil Engineering, University of Minnesota.

Tilman, Elizabeth A. MS, 2005 May, “*Scaling Relationships for the Depth and Width of Channels in an Experimental Braided River*”, Adv. E. Foufoula-Georgiou, Department of Civil Engineering, University of Minnesota.

Theodoratos, Nikos. MS, 2006 June, “*The Effect of Channel-Floodplain Interactions on the Scaling of Floods*”, Adv. E. Foufoula-Georgiou, Department of Civil Engineering, University of Minnesota.

Gangodagamage, Chandana. PhD, 2009 September, “*Scale Invariance and Scaling Breaks - New Metrics for Inferring Process Signature from High Resolution LiDAR Topography*”, Adv. E. Foufoula-Georgiou, Department of Civil Engineering, University of Minnesota.

Paola Passalacqua. PhD, 2009, “*On the geometric and statistical signature of landscape forming processes,*” Adv. E. Foufoula-Georgiou, Department of Civil Engineering, University of Minnesota.

Singh, Arvind. PhD, 2011 December, “*Statistical Mechanics of Sediment Transport*”, Adv. E. Foufoula-Georgiou, Department of Civil Engineering, University of Minnesota.

Ganti, Vamsi. PhD, 2012, “*Non-local Theories of Geomorphic Transport: From Hillslopes to Rivers to Deltas to the Stratigraphic Record*”, Adv. E. Foufoula-Georgiou, Department of Civil and Environmental Engineering, University of Minnesota.

Mohammad Ardeshir Ebtehaj, PhD, 2013, “*Hydrometeorological Inverse Problems via Sparse Regularization: Advanced Frameworks for Rainfall Downscaling, Fusion, and Assimilation*”, Adv. E. Foufoula-Georgiou, Department of Civil and Environmental Engineering, University of Minnesota.

Jon Czuba, PhD, 2016, “*A network-based framework for hydro-geomorphic modeling and decision support with application to space-time sediment dynamics, identifying vulnerabilities, and hotspots of change*”, Adv. E. Foufoula-Georgiou, Department of Civil and Environmental Engineering, University of Minnesota.

Jon Schwenk, PhD, 2016, “*Meandering rivers: interpreting dynamics from planform geometry and the secret lives of migrating meanders*”, Adv. E. Foufoula-Georgiou, Civil and Environmental Engineering, University of Minnesota.

Mohammad Danesh-Yazdi, PhD, 2017, “*Inferring the impacts of anthropogenic changes and catchment spatial heterogeneity on the water cycle dynamics and transport time scales*”, Adv. E. Foufoula-Georgiou, Department of Civil and Environmental Engineering, University of Minnesota.

Zeinab Takbiri, PhD, 2018, “*Multi-Satellite Remote Sensing of Land-Atmosphere Interactions: Advanced Data-Driven Methodologies for Passive Microwave Retrievals of Flood and Precipitation*”, Adv. E. Foufoula-Georgiou (UCI), co-adv. M. Ardeshir Ebtehaj (UMN), Department of Civil and Environmental Engineering.

Antonios Mamalakis, PhD, 2020, “*Links of climate variability and change with regional hydroclimate: Predictability, trends, and physical mechanisms on seasonal to decadal scales*”, Adv. E. Foufoula-Georgiou (UCI), Department of Civil and Environmental Engineering.

Lawrence Vulis, PhD, 2023, “*Exploring the hydromorphology of arctic river deltas for process understanding and for projecting their response to climate change,*” Adv. E. Foufoula-Georgiou (UCI), Department of Civil and Environmental Engineering.

Yifu Gao, PhD, 2025 (co-advised with Prof. Jasper Vrugt), “*High Dimensional Model Representation in Hydroclimate Studies: Theory, Hydrologic Modeling, and the Disentanglement of Soil Moisture-Precipitation Coupling,*” Department of Civil and Environmental Engineering, UCI.

SPONSORED RESEARCH

(PI – Principal Investigator)

NSF	Presidential Young Investigator Award (lead PI)	1990-1995	\$500,000
NSF	Critical Systems and Engineering Program (lead PI)	1988-1989	\$100,000
NSF	Hydrologic Sciences Program (lead PI)	1992-1994	\$150,000
NASA	Tropical Rainfall Measuring Mission (TRMM) (lead PI)	1992-1995	\$230,000
NASA	Global Change Fellowship for P. Kumar (lead PI)	1992-1994	\$90,000
NASA	Global Change Fellowship for S. Perica (lead PI)	1994-1996	\$90,000
NASA	Global Change Fellowship for V. Venugopal (lead PI)	1996-1999	\$90,000
NOAA	Office of Global Programs (lead PI)	1994-1997	\$220,000
NSF	Hydrologic Sciences Program (lead PI)	1996-1999	\$200,000
NASA	Land Surface Hydrology Program (lead PI)	1996-1999	\$290,000
NOAA/NASA	Joint Program on GCIP (lead PI)	1997-2000	\$330,000
NSF	U.S. Weather Research Program (lead PI)	1997-2000	\$330,000
NASA	Tropical Rainfall Measuring Mission (TRMM) (lead PI)	1998-2001	\$300,000
NASA	Land Surface Hydrology (lead PI)	2001-2003	\$360,000
NASA	Land Surface Hydrology (co-PI with F. Porté-Agel)	2001-2005	\$350,000
NSF	Mesoscale Meteorology Program (lead PI)	2001-2004	\$286,000
NSF	Hydrologic Sciences Program (lead PI)	2002-2006	\$262,000
NASA	Land Surface Hydrology Program (lead PI)	2002-2005	\$232,700
NASA	Global Precipitation Mission (GPM) (lead PI)	2003-2006	\$300,000
NSF	Science and Technology Center (NCED) (co-lead PI and co-Director, University of Minnesota)	2002-2012	\$40 million (20 PIs)
NSF	Hydrology Program (co-PI with F. Porté-Agel)	2005-2008	\$300,000
NASA	Land Surface Hydrology (co-PI with F. Porté-Agel)	2005-2008	\$320,000
NASA	Global Precipitation Mission (GPM) (lead PI)	2006-2009	\$340,000

NSF	Cyber Enabled Discovery and Innovation (lead PI)	2008-2011	\$300,000
NSF	Geomorphology and Land-use Dynamics (lead PI)	2008-2011	\$230,000
NSF	Mathematics in Geosciences (Geomorphologic Transport Laws) (lead PI)	2008-2011	\$150,000
NASA	GPM data fusion with emphasis on extremes (lead PI)	2009-2012	\$280,000
UMN	Institute on the Environment – U of Minnesota (lead PI)	2011-2013	\$200,000
GOOGLE	Earth Engine (lead PI)	2011-2013	\$200,000
NSF	Mathematics in Geosciences (Environmental Transport on river networks) (lead PI)	2009-2013	\$230,000
NASA	Climate Change Education Partnership (co-PI)	2011-2013	\$420,000
NASA	Global Change Fellowship for M. Ebtehaj	2012-2015	\$150,000
NASA	Towards the next generation of multi-sensor multi-scale precipitation fusion: a variational approach in the wavelet domain (GPM) (lead PI)	2013-2016	\$415,000
NSF	Water Sustainability and Climate: Climate and human dynamics as amplifiers of natural change: a framework for vulnerability assessment and mitigation planning (lead PI)	2012-2017	\$4.3 M (\$2.3 U of M)
NSF	National Center for Earth Surface Dynamics NCED 2 (co-PI)	2012-2017	\$3.5 M
NSF	Linked Institutions for Future Earth (LIFE) (lead PI)	2012-2017	\$800,000
NSF	Belmont Forum: DELTAS (lead PI; 7 countries)	2013-2017	\$2.0 M (\$750K US)
NASA	Global Precipitation Program (lead PI)	2016-2019	\$350,000
NSF	National Research Training at UCI (co-PI)	2017-2020	\$2.5 M
NSF	TRIPODS+CLIMATE, Div. of Mathematical Sciences (DMS) (lead PI)	2018-2021	\$300,000
NSF	Delta Channel Networks, Earth Sciences Div., Geomorphology and Land use Dynamics (GLD) Program (lead PI)	2018-2021	\$335,000
NSF	Finest Time Resolution Dynamic Modeling, Engineering Directorate (co-PI)	2018-2021	\$220,000
NASA	Earth Sciences Fellowship for L. Vulis (lead PI)	2018-2021	\$310,000
NASA	Global Precipitation Measuring Mission (GPM) (lead PI)	2019-2021	\$430,000
CA	National Labs Fee and Los Alamos (student L. Vulis)	2021-2023	\$150,000
NASA	Global Precipitation Measuring Mission (GPM) (lead PI)	2022-2025	\$470,000
NASA	Dynamical Error Modeling and Uncertainty Quantification for Remotely-Sensed Atmospheric Variables (lead PI)	2023-2026	\$450,000
NSF	Collaborative Research: Dynamic connectivity of river networks as a framework for identifying controls on flux propagation and assessing landscape vulnerability to change (lead PI)	2024-2027	\$316,000
NSF	Expand AI2ES for 4D space-time organization of precipitation processes and extremes, visualization tools, and workforce development (lead PI)	2023-2027	\$897,000
NASA	Quantifying and understanding the impacts of anthropogenic changes in fluvial sediment flux on the shorelines and channel networks of wave-dominated deltas – FINESST (funding for student C. Broaddus)		

NSF	(lead PI) CAIG: Data science frontiers in advancing predictive understanding of landscapes and erosional extremes under changing climatic scenarios (RISE-2425747)	2023-2025	\$150,000
NSF	(lead PI) CAIG: Advancing Wildfire Science, Prediction, and Management with Machine Learning (RISE-2425748)	2024-2027	\$474,700
	(co-PI)	2024-2027	\$889,200

Updated: September 2025