

Enrique R. Vivoni

Interests: Watershed Hydrology, Hydrometeorology, Ecohydrology
Surface-Groundwater Interactions, Hydrogeomorphology
Environmental Informatics, GIS, Remote Sensing, Distributed Modeling
Environmental Fluid Mechanics, Turbulence

Education:

Ph.D. Hydrology, Department of Civil and Environmental Engineering, MIT, 2003.
M.S. Environmental Fluid Mechanics, Department of Civil and Environmental Engineering, MIT, 1998.
B.S. Environmental Engineering Science, Department of Civil and Environmental Engineering, MIT, 1996.

Employment:

Associate Professor, School of Earth and Space Exploration and School of Sustainable Engineering and the Built Environment, Arizona State University, Tempe, Arizona, 2009-present.
Visiting Professor, Departamento de Física, Universidad de Sonora, Hermosillo, Mexico, 2009.
Adjunct Professor, Department of Earth and Environmental Sciences. New Mexico Tech, Socorro, NM. 2009-present.
Research Affiliate, Department of Civil and Environmental Engineering, Massachusetts Institute of Technology, Cambridge, MA, 2005-present.
Associate Professor with Tenure, Department of Earth and Environmental Sciences. New Mexico Tech, Socorro, NM. 2008.
Assistant Professor. Department of Earth and Environmental Sciences. New Mexico Tech, Socorro, NM. 2003-2008.
Research Hydrologist. Geophysical Research Center. New Mexico Tech. Socorro, NM. 2003-2008.
Graduate Research Assistant. Department of Civil and Environmental Engineering, MIT, 1999-2003.
Water Resources Engineer. Camp, Dresser and McKee, Inc., Cambridge, MA, 1998-1999.
Environmental Scientist. CSA Architects and Engineers, San Juan, PR, 1998.
Environmental Engineer. DuPont, Wilmington, DE and Houston, TX, 1994, 1995, 1996.

Awards:

White House, Presidential Early Career Award for Scientists and Engineers (PECASE), 2009-2014.
US Fulbright Scholar, Research Visitor to Mexico, 2008-2009.
HEENAC (Hispanic Engineer National Achievement Awards Conference) Most Promising Engineer – Advanced Degree, 2007.
Langmuir Award, co-Author on Awarded Paper, New Mexico Tech, 2006.
Visiting Scientist, National Center for Atmospheric Research, 2006, 2009.
Young Investigator Program, US Department of the Army, 2005-2008.
University of Arizona Promising Young Scientist Lecturer, 2005.
Los Alamos National Laboratory, University Research Program Recipient, 2005-2006.
Sandia National Laboratory, University Research Program Recipient, 2004-2006.
CUAHSI Cyberpioneer Distinguished Lecture Series, 2003.
American Geophysical Union Outstanding Student Paper Award, 2002.
URISA Horwood Critique Student Prize, 2002.
National Research Council, Ford Foundation Dissertation Fellowship, 2002-2003.
National Science Foundation, Graduate Fellowship, 1997-2000.
Graduate Minority Education, Graduate Fellowship, 1996.
Minority Education Academic Achievement, 1996.
Russell Award in Environmental Engineering, 1996.
Civil Engineering Chi Epsilon Member, 1996.
Tau Beta Pi Engineering Honor Society, 1996.
National Hispanic Scholarship Fund Scholar, 1995.
PEEER Environmental Excellence Award, 1994.
White House, Presidential Scholar, 1993.
Eagle Scout, 1990.

Professional Membership:

American Geophysical Union
American Meteorological Society
American Society of Civil Engineers
Geological Society of America
International Association of Hydrological Sciences
Colegio de Ingenieros y Agrimensores de Puerto Rico
Professional Engineer License (PE) in Puerto Rico
Society for the Advancement of Chicanos and Native Americans in Science (SACNAS)
American Association for the Advancement of Science

Teaching Experience:

Laboratory Teaching Assistant in Fluid Mechanics, MIT. 1997-1998.
Laboratory Teaching Assistant in Hydrology, MIT. 2000-2002.
Lecturer, GIS in Environmental Engineering, MIT. 2001.
Lecturer, Software Tools for Environmental Field Study, MIT. 2001.
Teaching Assistant in Water Quality Field Trip, MIT. 2002.
Faculty, Ecohydrology Seminar Series, NMT, 2003.
Invited Faculty, Earth Processes, Hydrology Lectures, 2003-2008.
Faculty, Surface Water Hydrology, NMT, 2004, 2005, 2006, 2007.
Faculty, Distributed Hydrological Modeling, CNR-MIT Summer Course, 2004, 2007.
Faculty, Hydrometeorology, NMT, 2004.
Faculty, Introduction to Hydrology, NMT, 2005.
Faculty, Interdisciplinary Science for the Environment, NMT, Summer 2005-2006.
Faculty, Time Series Analysis for Hydrological Applications, NMT, January 2006.
Faculty, Landscape Form and Processes, CNR-MIT Summer Course, 2006.
Faculty, Advanced Geographical Information Systems, NMT, 2006.
Faculty, Hydrological Theory and Field Methods, NMT, 2007-2008.
Faculty, Distributed Hydrological Modeling, UNISON-NMT Winter Course, 2007.
Faculty, Atmospheric Dynamics and Rainfall Processes, NMT, 2008.
Faculty, Runoff and Flood Processes, NMT, 2008.
Faculty, Ecohydrology, NMT, 2008.
Faculty, Engineering Hydrology, ASU, 2009.

Leadership

President, MIT Environmental Information Technology Group, 2001-2003.
Advisor, NMT Society of Hispanic Professional Engineers (SHPE), 2003-2008.
Director, NMT-H2CU Collaborative Agreement in the Hydrological Sciences, 2005-2008.
Director, NMT-UNISON Collaborative Agreement in the North American Monsoon, 2006-2008.

Licensed Products and Patents

TIN-based Distributed Hydrologic Model (tRIBS)
Parallelized tRIBS Model
Embedding Process Behavior into TIN Terrain Models (Patent Pending) USA Serial No. 10/458612,
"Method For Producing Property-Preserving Variable Resolution Models Of Surfaces"

Reviewer and Editorial Service:

Journals: Water Resources Research, Journal of Hydrometeorology, Hydrological Processes, Geophysical Research Letters, Journal of Geophysical Research – Earth Surface, Mathematical and Computational Sciences, Advances in Water Resources, International Journal of Climatology, Remote Sensing of Environment, Environmental Modelling and Software, Journal of Hydrologic Engineering, Journal of Hydrology, Hydrology Research, Journal of Geophysical Research – Atmospheres, Soil Science Society of America Journal, Climate Dynamics, Journal of Arid Environments, Journal of Climate, Ecohydrology.

Associate Editor: Journal of Hydrology, Revista Latinoamericana de Recursos Naturales.

Guest Editor: Geomorphology, Journal of Arid Environments, Ecohydrology.

Agencies: National Science Foundation, US Army Research Office, NASA Earth-Sun System Science

Panel Member: NOAA Climate Program Office, National Science Foundation, Hydrologic Sciences, AGU Horton Grant Committee.

Papers in Refereed Journals:

1. Prager, E.J., Southard, J.B. and Vivoni, E.R. 1996. Experiments on the entrainment threshold of well sorted and poorly sorted carbonate sands. *Sedimentology*. 43: 33-40.
2. Nepf, H.M. and Vivoni, E.R. 2000. Flow Structure in Depth-Limited, Vegetated Flow. *Journal of Geophysical Research, Oceans*. 105(C12): 28,547-28,558.
3. Vivoni, E.R. and Camilli, R. 2003. Real-time Streaming of Environmental Field Data. *Computers & Geosciences*. 29(4): 457-468.
4. Grassotti, C., Hoffman, R.N., Vivoni, E.R. and Entekhabi, D. 2003. Multiple Timescale Intercomparison of Two Radar Products and Rain Gauge Observations over the Arkansas-Red River Basin. *Weather and Forecasting*. 18 (6): 1207-1229.
5. Vivoni, E.R., Ivanov, V.Y., Bras, R.L. and Entekhabi, D. 2004. Generation of Triangular Irregular Networks based on Hydrological Similarity. *Journal of Hydrological Engineering*. 9(4): 288-302.
6. Ivanov, V.Y., Vivoni E.R., Bras, R.L. and Entekhabi, D. 2004. Preserving high-resolution surface and rainfall data in operational-scale basin hydrology: A fully-distributed, physically-based approach. *Journal of Hydrology*. 298(1-4): 80-111.
7. Reed, S., Koren, V., Smith, M., Zhang, Z., Moreda, F., Seo, D.J. and DMIP Participants. 2004. Overall distributed model intercomparison project results. *Journal of Hydrology*. 298(1-4): 27-60.
8. Ivanov, V.Y., Vivoni, E.R., Bras, R.L. and Entekhabi, D. 2004. Catchment Hydrologic Response with a Fully-Distributed Triangulated Irregular Network Model. *Water Resources Research*. 40(11): W11102, 10.1029/2004WR003218.
9. Vivoni, E.R., Ivanov, V.Y., Bras, R.L. and Entekhabi, D. 2005. On the Effect of Triangulated Terrain Resolution on Distributed Hydrologic Modeling. *Hydrological Processes*. 19(11):2101-2122.
10. Vivoni, E.R., Teles, V., Ivanov, V.Y., Bras, R.L. and Entekhabi, D. 2005. Embedding Landscape Processes into Triangulated Terrain Models. *International Journal of Geographical Information Science*. 19(4): 429-457.
11. Falorni, G., Teles, V., Vivoni, E.R., Bras, R.L. and Amaratunga, K.S. 2005. Analysis and characterization of the vertical accuracy of digital elevation models from the Shuttle Radar Topography Mission. *Journal of Geophysical Research - Earth Surface*. 110(F2): F02005. doi:10.1029/2003JF000113.
12. Vivoni, E.R. and Richards, K.T. 2005. Integrated use of GIS-based field sampling and modeling for hydrologic and water quality studies. *Journal of Hydroinformatics*. 7(4): 235-250.
13. Xie, H., Zhou X., Vivoni, E.R., Hendrickx, J.M.H. and Small, E.E. 2005. GIS-based NEXRAD Stage III precipitation database: Automated approaches for data processing and visualization. *Computers and Geosciences*. 31(1): 65-76.
14. Xie, H., Zhou, X., Hendrickx, J.M.H., Vivoni, E.R., Guan, H., Tian, Y.Q., and Small, E.E. 2006. Comparison of NEXRAD Stage III and gauge precipitation estimates over a semiarid region. *Journal of the American Water Resources Association*. 42(1): 237-256.
15. Guan, H., Vivoni, E.R. and Wilson, J.L. 2005. Effects of atmospheric teleconnections on seasonal precipitation in mountainous regions of the southwestern U.S.: A case study in northern New Mexico. *Geophysical Research Letters*. 32 (23), L23701, doi: 10.1029/2005GL023759.
16. Vivoni, E.R., Bowman, R.S., Wyckoff, R.L., Jakubowski, R. T. and Richards, K.E. 2006. Analysis of a Monsoon Flood Event in an Ephemeral Tributary and Its Downstream Hydrologic Effects. *Water Resources Research*. 42 (3), W03404, doi: 10.1029/2005WR004036.
17. Vivoni, E.R., Entekhabi, D., Bras, R.L., Ivanov, V.Y., Van Horne, M.P., Grassotti, C. and Hoffman, R.N., 2006. Extending the Predictability of Hydrometeorological Flood Events using Radar Rainfall Nowcasting. *Journal of Hydrometeorology*. 7(4): 660-677.
18. Newman, B.D., Wilcox, B.P., Archer, S., Breshears, D. D., Dahm, C.N., Duffy, C.J., McDowell, N.G., Phillips, F.M., Scanlon, B.R. and Vivoni, E.R. 2006. The Ecohydrology of Arid and Semiarid Environments: A Scientific Vision. *Water Resources Research*. 42, W06302, doi:10.1029/2005WR004141.
19. Van Horne, M.P., Vivoni, E.R., Entekhabi, D., Hoffman, R.N. and Grassotti, C. 2006. Evaluating the effects of image filtering in short-term radar rainfall forecasting for hydrological applications. *Meteorological Applications*. 13(3): 289-303.

20. Nardi, F., Vivoni, E.R. and Grimaldi, S. 2006. Investigating a Floodplain Scaling Relation using a Hydrogeomorphic Delineation Method. *Water Resources Research*. 42(9): W09409. doi: 10.1029/2005WR004155.
21. Gutiérrez-Jurado, H.A., Vivoni, E.R., Harrison, J.B.J. and Guan, H. 2006. Ecohydrology of Root Zone Water Fluxes and Soil Development in Complex Semiarid Rangelands. *Hydrological Processes*. 20: 3289-3316.
22. Newman, B.D., Vivoni, E.R. and Groffman, A.R. 2006. Surface Water-Groundwater Interactions in Semiarid Drainages of the American Southwest. *Hydrological Processes*. 20: 3371-3394.
23. Gebremichael, M., Vivoni, E.R., Watts, C.J. and Rodríguez, J.C. 2007. Sub-mesoscale Spatiotemporal Variability of North American Monsoon Rainfall over Complex Terrain. *Journal of Climate*. 20(9): 1751-1773.
24. Vivoni, E.R., Gutiérrez-Jurado, H.A., Aragón, C.A., Méndez-Barroso, L.A., Rinehart, A.J., Wyckoff, R.L., Rodríguez, J.C., Watts, C.J., Bolten, J.D., Lakshmi, V. and Jackson, T.J. 2007. Variation of Hydrometeorological Conditions along a Topographic Transect in northern Mexico during the North American Monsoon. *Journal of Climate*. 20(9): 1792-1809.
25. Vivoni, E.R., Entekhabi, D. and Hoffman, R.N. 2007. Error Propagation of Radar Rainfall Nowcasting Fields through a Fully-Distributed Flood Forecasting Model. *Journal of Applied Meteorology and Climatology*. 46(6): 932-940.
26. Vivoni, E.R., Entekhabi, D., Bras, R.L. and Ivanov, V.Y. 2007. Controls on Runoff Generation and Scale-dependence in a Distributed Hydrologic Model. *Hydrology and Earth System Sciences*. 11(5): 1683-1701.
27. Gutiérrez-Jurado, H.A., Vivoni, E.R., Istanbuluoglu, E. and Bras, R.L. 2007. Ecohydrological response to a geomorphically significant flood event in a semiarid catchment with contrasting ecosystems. *Geophysical Research Letters*. 34, L24S25, doi:10.1029/2007GL030994.
28. Gebremichael, M. and Vivoni, E.R. 2008. Spatial sampling uncertainty in SMEX04 Soil Moisture Fields: A Data-based Resampling Experiment. *Remote Sensing of Environment*. 112(2): 326-336.
29. Bindlish, R., Jackson, T.J., Gasiewski, A.J., Stankov, B., Cosh, M.H., Mladenova, I., Vivoni, E.R., Watts, C.J. and Keefer, T. 2008. Aircraft-based Soil Moisture Retrievals in Mixed Vegetation and Topographic Conditions. *Remote Sensing of Environment*. 112(2): 375-390.
30. Vivoni, E.R., Gebremichael, M., Watts, C.J., Bindlish, R. and Jackson, T.J. 2008. Comparison of Ground-based and Remotely-sensed Surface Soil Moisture Estimates over Complex Terrain during SMEX04. *Remote Sensing of Environment*. 112(2): 314-325.
31. Noto, L.V., Ivanov, V.Y., Bras, R.L. and Vivoni, E.R. 2008. Effects of Initialization on Response of a Fully-Distributed Hydrologic Model. *Journal of Hydrology*. 352(1-2): 107-125.
32. Ivanov, V.Y., Bras, R.L. and Vivoni, E.R. 2008. Vegetation-Hydrology Dynamics in Complex Terrain of Semiarid Areas. I A Mechanistic Approach to Modeling Dynamic Feedbacks. *Water Resources Research*. 44, W03429, doi:10.1029/2006WR005588.
33. Ivanov V.Y., Bras, R.L. and Vivoni, E.R. 2008. Vegetation-Hydrology Dynamics over Complex Terrain, II Energy-Water Controls of Vegetation Spatiotemporal Dynamics and Topographic Niches of Favorability. *Water Resources Research*. 44, W03430, doi:10.1029/2006WR005595.
34. Méndez-Barroso, L.A., Garatuza-Payán, J. and Vivoni, E.R. 2008. Quantifying Water Stress on Wheat using Remote Sensing in the Yaqui Valley, Sonora, Mexico. *Agricultural Water Management*. 95(6): 725-736.
35. Istanbuluoglu, E., Yetemen, O., Vivoni, E.R., Gutiérrez-Jurado, H.A. and Bras, R.L. 2008. Eco-geomorphic Implications of Hillslope Aspect: Inferences from Analysis of Landscape Morphology in central New Mexico. *Geophysical Research Letters*. 35, L14403, doi:10.1029/2008GL034477.
36. Mascaro, G, Deidda, R. and Vivoni, E.R. 2008. A New Verification Method to Ensure Consistent Ensemble Forecasts through Calibrated Precipitation Downscaling Models. *Monthly Weather Review*. 136(9): 3374-3391.
37. Vivoni, E.R., Rinehart, A.J., Méndez-Barroso, L.A., Aragón, C.A., Bisht, G., Cardenas, M.B., Engle, E. Forman, B.A., Frisbee, M.D., Gutiérrez-Jurado, H.A., Hong, S., Mahmood, T.H., Tai, K. and Wyckoff, R.L. 2008. Vegetation Controls on Soil Moisture Distribution in the Valles Caldera, New Mexico, during the North American Monsoon. *Ecohydrology*. 1(3): 225-238.
38. Mahmood, T. H. and Vivoni, E.R. 2008. Evaluation of Distributed Soil Moisture Simulations through Field Observations during the North American Monsoon in the Redondo Creek, New Mexico. *Ecohydrology*. 1(3): 271-287.

39. Rinehart, A.J., Vivoni, E.R., and Brooks, P.D. 2008. Effects of Vegetation, Albedo and Solar Radiation Sheltering on the Distribution of Snow in the Valles Caldera, New Mexico. *Ecohydrology*. 1(3): 253-270.
40. Brooks, P.D. and Vivoni, E.R. 2008. Mountain Ecohydrology: Quantifying the Role of Vegetation in the Water Balance of Montane Catchments. *Ecohydrology*. 1(3): 187-192.
41. Dominguez, F., Kumar P. and Vivoni, E.R. 2008. Precipitation Recycling Variability and Ecoclimatological Stability – A study using NARR data. Part II: North American Monsoon Region. *Journal of Climate*. 21(20): 5187-5203.
42. Vivoni, E.R., Moreno, H.A., Mascaro, G., Rodriguez, J.C., Watts, C.J., Garatuza-Payan, J. and Scott, R.L. 2008. Observed Relation between Evapotranspiration and Soil Moisture in the North American Monsoon Region. *Geophysical Research Letters*. 35: L22403, doi:10.1029/2008GL036001.
43. Forman, B.A., Vivoni, E.R. and Margulis, S.A. 2008. Evaluation of Ensemble-based Distributed Hydrologic Model Response with Disaggregated Precipitation Products. *Water Resources Research*. 44: W12409. doi:10.1029/2008WR006983.
44. Vivoni, E.R., Di Benedetto, F., Grimaldi, S. and Eltahir, E.A.B. 2008. Hypsometric Control on Surface and Subsurface Runoff. *Water Resources Research*. 44: W12502, doi:10.1029/2008WR006931.
45. Kleissl, J., Watts, C.J., Rodriguez, J.C., Naif, S., and Vivoni, E.R. 2009. Scintillometer Intercomparison Study – Continued. *Boundary Layer Meteorology*. 130: 437-443.
46. Vivoni, E.R., Tai, K. and Gochis, D.J. 2009. Effects of Initial Soil Moisture on Rainfall Generation and Subsequent Hydrologic Response during the North American Monsoon. *Journal of Hydrometeorology*. 10(3): 644-664.
47. Martinet, M.C., Vivoni, E.R., Cleverly, J.R., Thibault, J.R., Schuetz, J.F. and Dahm, C.N. 2009. On Groundwater Fluctuations, Evapotranspiration and Understory Removal in Riparian Corridors. *Water Resources Research*, 45, W05425, doi:10.1029/2008WR007152.
48. Vivoni, E.R., Aragón, C.A., Malczynski, L. and Tidwell, V.C. 2009. Semiarid Watershed Response in central New Mexico and its sensitivity to climate variability and change. *Hydrology and Earth System Sciences*, 13, 715-733.
49. Méndez-Barroso, L.A., Vivoni, E.R., Watts, C.J. and Rodríguez, J.C. 2009. Seasonal and Interannual Relation between Precipitation, Surface Soil Moisture and Vegetation Dynamics in the North American Monsoon Region. *Journal of Hydrology*. 377: 59-70.
50. Forzieri, G., Guarnirei, L., Vivoni, E.R., Castelli, F. and Preti, F. 2009. Multiple Attribute Decision Making for Individual Tree Detection using High-resolution Laser Scanning. *Forest Ecology and Management*. 258: 2501-2510.
51. Tarolli, P., Arrowsmith, J. R. and Vivoni, E.R. 2009. Understanding Earth Surface Processes from Remotely-Sensed Digital Terrain Models. *Geomorphology*. 113: 1-3.
52. Liuzzo, L., Noto, L.V., Vivoni, E.R. and La Loggia, G. 2009. Basin-scale Water Resources Assessment in Oklahoma under Synthetic Climate Change Scenarios using a Fully-Distributed Hydrologic Model. *Journal of Hydrologic Engineering* (In Press).
53. Mascaro, G., Vivoni, E.R. and Deidda, R. 2009. Implications of Ensemble Quantitative Precipitation Forecast Errors on Distributed Streamflow Response. *Journal of Hydrometeorology*. (In Press).
54. Yetemen, O., Istanbuloglu, E. and Vivoni, E.R. 2009. The implications of geology, soils, and vegetation on landscape morphology: Inferences from semiarid basins with complex vegetation patterns in central New Mexico, USA. *Geomorphology*. (In Press).
55. Mascaro, G. and Vivoni, E.R. 2009. Statistical and Scaling Properties of Remotely-sensed Soil Moisture in Two Contrasting Domains in the North American Monsoon Region. *Journal of Arid Environments* (In Press).
56. Vivoni, E.R., Watts, C.J., Rodriguez, J.C., Garatuza-Payan, J., Méndez-Barroso, L.A., and Saiz-Hernández, J.A. 2009. Improved Land-Atmosphere Relations through Distributed Footprint Measurements in a Subtropical Scrubland during the North American Monsoon. *Journal of Arid Environments* (In Press).
57. Méndez-Barroso, L.A. and Vivoni, E.R. 2009. Observed Shifts in Land Surface Conditions during the North American Monsoon: Implications for a Vegetation-Rainfall Feedback Mechanism. *Journal of Arid Environments* (In Press).
58. Forzieri, G., Castelli, F., and Vivoni, E.R. 2009. A Predictive Multidimensional Model of Vegetation Dynamics Derived from Remote Sensing Observations. *IEEE Transactions in Geoscience and Remote Sensing* (In Press).

59. Vivoni, E. R., Rodriguez, J. C. and Watts, C. J. 2009. On the Spatiotemporal Variability of Soil Moisture and Evapotranspiration in a Mountainous Basin within the North American Monsoon Region. *Water Resources Research* (In Press).
60. Rango, A., Hurd, B., Gutzler, D.S. and Vivoni, E.R. 2009. Effects of Climate Variability and Change on Mountain Hydrology and Water Users in the Upper Rio Grande Watershed: Assessment Methods and Strategies. *Climate Research* (In Review).
61. Forzieri, G., Moser, G., Vivoni, E.R., Castelli, F. and Canovaro, F. 2009. Riparian Vegetation Mapping for Hydraulic Roughness Estimation using Very High Resolution Remote Sensing Data Fusion. *Journal of Hydraulic Engineering* (In Review).
62. Forzieri, G., Guarnieri, L., Vivoni, E.R., Castelli, F. and Preti, F. 2009. Spectral-ALS data fusion for different roughness parameterizations of forested floodplains. *River Research and Applications*. (In Review).
63. Brito-Castillo, L., Vivoni, E.R., Gochis, D.J., Filonov, A., Tereschenko, I., and Monzon, C. 2009. An Anomaly in the Occurrence of the Month of Maximum Precipitation Distribution in Northwest Mexico. *Journal of Arid Environments* (In Review).
64. Gochis, D.J., Vivoni, E.R. and Watts, C.J. 2009. The Impact of Soil Depth on Land Surface Energy and Water Fluxes in the North American Monsoon Region. *Journal of Arid Environments* (In Review).
65. Mascaro, G., Vivoni, E.R. and Deidda, R. 2009. Downscaling Soil Moisture in the Southern Great Plains through a Calibrated Multifractal Model for Land Surface Modeling Applications. *Water Resources Research* (In Review).
66. Gutierrez-Jurado, H.A. and Vivoni, E.R. 2009. Ecogeomorphic Expressions of Aspect-controlled Semiarid Basins: 1. Topographic Analyses with High Resolution Data Sets. *Journal of Geophysical Research – Earth Surface* (In Review).
67. Gutierrez-Jurado, H.A. and Vivoni, E.R. 2009. Ecogeomorphic Expressions of Aspect-controlled Semiarid Basins: 2. Topographic and Vegetation Controls on Solar Irradiance. *Journal of Geophysical Research – Earth Surface* (In Review).
68. Nikolopoulos, E.I., Anagnostou, E.N., Borga, M., Vivoni, E.R. and Papadopoulos, A. 2009. Examining Runoff Response and Mechanisms of Two Contrasting Floods in a Mountainous Basin of Italy. *Hydrological Processes*. (In Review).
69. Vivoni, E.R., Watts, C.J. and Gochis, D.J. 2009. Land Surface Ecohydrology of North American Monsoon System. *Journal of Arid Environments* (In Review).
70. Vivoni, E.R., Mniszewski, S., Fasel, P., Mascaro, G., Springer, E.P., Ivanov, V.Y. and Bras, R.L. 2009. Feasibility of Fine-resolution Distributed Hydrological Modeling using Massively-parallel, High Performance Computing. *Advances in Water Resources* (In Preparation).
71. Vivoni, E. R. 2009. Signatures of Seasonal Vegetation Dynamics on Catchment Hydrology. *Geophysical Research Letters* (In Preparation).
72. Forzieri, G., Castelli, F. and Vivoni, E.R. 2009. Regional Vegetation Dynamics during the North American Monsoon. I. Spatiotemporal Patterns, Landscape Controls and Long-term Trends. *Journal of Climate* (In Preparation).
73. Wyckoff, R.L. and Vivoni, E.R. 2009. Streamflow Response to Channel Network Evolution in Semi-Arid Watershed. *Earth Surface Processes and Landforms*. (In Preparation).
74. Flores-Cervantes, J. H., Vivoni, E.R., Istanbuluoglu, E. and Bras, R.L. 2009. Feedback between Grass Distribution and Land Surface Form. (In Preparation).
75. Bisht, G., Sivandran, G., Narayan, U., Ivanov, V.Y., Vivoni, E.R. and Bras, R.L. 2009. Confirmation of a Distributed, Physically-based Ecohydrologic Model in a Semiarid Region using High Performance Computing. *Water Resources Research* (In Preparation).

Theses:

1. Wyckoff, R.L. 2007. Sensitivity to Arroyo Development Scenarios: Insights from a Distributed Hydrological Model. Masters of Science in Hydrology, New Mexico Institute of Mining and Technology, 193 pp.
2. Aragon, C.A. 2008. Development and Testing of a Semi-Distributed Watershed Model: Case Studies Exploring the Impact of Climate Variability and Change in the Rio Salado. Masters of Science in Hydrology, New Mexico Institute of Mining and Technology, 140 pp.

3. Tai, K. 2008. Effects of Initial Soil Moisture on Rainfall Generation and Subsequent Hydrologic Response during the North American Monsoon, Masters of Science in Hydrology, New Mexico Institute of Mining and Technology, 98 pp.
4. Rinehart, A.J. 2008. Effects of Radiation Sheltering and Scattering from Distant Landscapes on the Accumulation and Ablation of Snow in La Jara Catchment in the Valles Caldera. Masters of Science in Hydrology, New Mexico Institute of Mining and Technology, 142 pp.
5. Mendez-Barroso, L. A. 2009. Changes in Hydrological Conditions and Surface Fluxes Due to Seasonal Vegetation Greening in the North American Monsoon Region. Masters of Science in Hydrology, New Mexico Institute of Mining and Technology, 158 pp.

Conference Presentations:

1. Vivoni, E.R. 1997. A drag and diffusivity model for emergent vegetation. US/Japan Seminar on the Environment. Crested Butte, CO.
2. Nepf, H.M. and Vivoni, E.R. 1998. Drag and Diffusivity in Emergent Vegetation. ASCE Wetlands Engineering and River Restoration Conference. Denver, CO.
3. Nepf, H.M. and Vivoni, E.R. 1999. Flow Structure in Depth-Limited, Vegetated Flow: Transition between emergent and submerged regimes. IAHR XXVIII Congress, Graz, Austria.
4. Hoffman, R.N., Entekhabi, D., Grassotti, C. and Vivoni, E.R. 2000. Real-time distributed hydrometeorological forecasting using NEXRAD data. AGU Spring Meeting. Washington, D.C.
5. Ivanov, V., Vivoni, E.R., Bras, R.L. and Entekhabi, D. 2001. Development of a Distributed Hydrologic Model using Triangulated Irregular Networks for Continuous, Real-Time Flood Forecasting. AGU Spring Meeting. Boston, MA. (Invited)
6. Bras, R.L., Ivanov, V.Y., Vivoni, E.R. and Entekhabi, D. 2001. The value of distributed modeling to flood forecasting. NASA Land Surface Hydrology Program Meeting. Poster. Potomac, MD.
7. Grassotti, C., Hoffman, R.N., Vivoni, E.R., Entekhabi, D. and Ivanov, V. 2001. NEXRAD-Based Precipitation Products: Validation and Application within a Hydrological Prediction Model. 7th International Precipitation Conference. Samoset Resort, Rockport, ME.
8. Vivoni, E.R. and Sheehan, D.D. 2001. Using NEXRAD Rainfall Data in an ArcView GIS-based Hydrology Model as an Educational Tool. ESRI International User Conference. San Diego, CA.
9. Vivoni, E.R., Grassotti, C., Ivanov, V.Y., Bras, R.L., Entekhabi, D. and Hoffman, R.N. 2001. Using NEXRAD-based QPEs and short-term QPFs in a TIN-based Distributed Hydrologic Model for Hydrologic Forecasting. AGU Fall Meeting. San Francisco.
10. Bras, R.L., Vivoni, E.R. and Ivanov, V.Y. 2001. Thirty Years of Flood Forecasting with John Schaake: Latest Advances in Distributed Modeling. AGU Fall Meeting. San Francisco. (Invited)
11. Vivoni, E.R., Camilli, R., Rodríguez, M.A., Sheehan, D.D. and Entekhabi, D. 2002. Development of mobile computing applications for hydraulics and water quality field studies. Hydraulic Engineering Software IX. Montreal, CA.
12. Vivoni, E.R., Camilli, R., Rodríguez, M.A., Sheehan, D.D. and Frankel, S. 2002. Development of Software Tools for Environmental Field Studies using ArcPAD. ESRI International User Conference. San Diego, CA.
13. Bras, R.L., Ivanov, V.Y., Vivoni, E.R. and Entekhabi, D. 2002. Simulating the Spatial Distribution of Hydrologic Processes with a TIN-based Model. AGU Spring Conference. Washington, DC. (Invited)
14. Grassotti, C., Vivoni, E.R., Hoffman, R.N. and Entekhabi, D. 2002. Hydrometeorological studies with NEXRAD-based precipitation products. AGU Spring Conference. Washington, DC.
15. Kolodziej, K., Tsou, C-H., Spieler, R., Agarwal, N., Richards, K., Lau, E., Camilli, R., and Vivoni, E.R. 2002. Real-time Field Data Mapping. URISA Annual Conference, Chicago, IL.
16. Vivoni, E.R. and Richards, K.T. 2002. GIS-based water quality sampling and modeling. American Water Resources Association Annual Meeting. Philadelphia, PA.
17. Bras, R.L., Ivanov, V.Y., Vivoni, E.R., Entekhabi, D. 2002. MIT TIN-based Real-time Integrated Basin Simulator. Distributed Model Intercomparison Project. Washington, DC.
18. Vivoni, E.R., Ivanov, V.Y., Bras, R.L., Entekhabi, D. 2002. Triangulated irregular networks and similarity in landscape processes. AGU Fall Conference. San Francisco, CA.
19. Van Horne, M.P., Vivoni, E.R., Entekhabi, D., Grassotti, C. and Hoffman, R.N. 2003. Short-term radar nowcasting for hydrologic applications over the Arkansas-Red River basin. 17th Conference on Hydrology. 83rd AMS Annual Meeting. Long Beach, CA.

20. Vivoni, E.R., Van Horne, M.P., Entekhabi, D., Grassotti, C. and Hoffman, R.N. 2003. Quantitative flood forecasts based on short-term radar nowcasting. 17th Conference on Hydrology. 83rd AMS Annual Meeting. Long Beach, CA.
21. Falorni, G., Vivoni, E.R., Teles, V. and Bras, R.L. 2003. Evaluating Shuttle Radar Topography Mission (SRTM) elevation products for hydrogeomorphic applications. EGS XXV General Assembly. Nice, France.
22. Vivoni, E.R., Teles, V., Ivanov, V.Y., Bras, R.L. and Entekhabi, D. 2003. Embedding landscape processes into triangulated irregular networks for distributed hydrogeomorphic modeling. EGS XXV General Assembly. Nice, France. (Invited)
23. Ivanov, V.Y., Vivoni, E.R., Bras, R.L. and Entekhabi, D. 2003. Coupling hydrological processes within the framework of a TIN-based distributed model and experience in simulating long-term catchment dynamics. EGS XXV General Assembly. Nice, France.
24. Vivoni, E.R., Istanbuluoglu, E. and Bras, R.L. 2003. A Blueprint for an Integrated Watershed Hydrogeomorphic Modeling System. First Interagency Conference on Research in the Watersheds. Benson, AZ.
25. Vivoni, E.R. 2003. High resolution, multi-scale modeling of watershed hydrology. New Mexico Hydrologic Modeling Symposium. Socorro, NM.
26. Vivoni, E.R. 2003. High Performance, Multiple Resolution Modeling of Semi-Arid Hydrology at Regional Scales. SAHRA Annual Meeting. Tucson, AZ.
27. Bras, R.L., Vivoni, E.R., Ivanov, V.Y. and Entekhabi, D. 2003. Coupled surface-subsurface response to rainfall: Runoff nonlinearity and scale-dependence in a topographically complex catchment. AGU Fall Conference, San Francisco, CA. (Invited)
28. Vivoni, E.R., Istanbuluoglu, E. and Bras, R.L. 2003. Coupling catchment hydrology and landscape evolution: Interactive effects on hydrograph and basin shape. AGU Conference, San Francisco, CA.
29. Falorni, G., Teles, V., Vivoni, E.R., Bras, R.L. and Istanbuluoglu, E., 2003. SRTM DEMs: Vertical accuracy, error characterization and methods for improving. AGU Conference, San Francisco, CA.
30. Vivoni, E.R. 2003. High-resolution, multi-scale modeling of watershed hydrology: An opportunity to integrate remote sensing observations, field data collection and distributed modeling in a hydrologic observatory. CUAHSI Cyberseminar Distinguished Invited Lecture.
31. Tidwell, T., Brookshire, D., Chermak, J., Cockerill, K., Krumhans, J., Malczynski, L., Matthews, P., Paananen, O., Passell, H. and Vivoni, E.R. 2004. Options and consequences: Water banking/leasing explored for the Rio Grande in Southern New Mexico. UCOWR/NIWR Conference on Allocating Water: Economics and the Environment. Portland, OR.
32. Nardi, F., Vivoni, E.R., and Grimaldi, S. 2004. Caratterizzazione idrologica delle aree di inondazione tramite analisi di DEM. XXIX Convegno di Idraulica e Costruzioni Idrauliche. Trento, IT.
33. Falorni, G., Teles, V., Vivoni, E.R., and Bras, R.L. 2004. The vertical accuracy of SRTM DEMs: Analysis, Characterization, Effects and Methods for Improving. 32nd International Geological Congress, Florence, IT.
34. Haley, C.J., Vivoni, E.R., and Brister, B. S. 2004. Hydrogeological study of the coalbed methane resource in the Raton Basin, NM. New Mexico Geological Society Spring Meeting. Socorro, NM.
35. Thomson, B., Coonrod, J.A. and Vivoni, E.R. 2004. Development of the River Interaction & Observation (RIO) Field Laboratory. Consortium. Identifying Technologies to Improve Regional Water Stewardship Conference. Albuquerque, NM.
36. Xie, H., Hendrickx, J., Vivoni, E.R, and Zhou, X. 2004. Estimation of spatial-temporal monsoon rainfall amount, probability and frequency using archived NEXRAD Stage III data: New Mexico 1996-2003. ASPRS 2004 Annual Conference. Denver, Colorado.
37. Jakubowski, R.T., Richards, K., Bowman, R. S. and Vivoni, E.R. 2004. Interactions between the Rio Grande and the shallow aquifer system along the Bosque Riparian Corridor, New Mexico. American Water Resources Association Conference on Riparian Ecosystems and Buffers. Olympic Valley, CA.
38. Bowman, R.S., Dahm, C., Hendricks, J.M.H. and Vivoni, E.R. 2004. Combining land-based and satellite-based measurements for estimation of regional evapotranspiration. U.S.-Mexico Border Coalition of Resource Conservation & Development Districts Annual Meeting, Las Cruces, NM.
39. Gutierréz-Jurado, H.A., Vivoni, E.R., Aragón, C., Meier, D., and Díaz-Granados, A. 2004. Ecohydrological watershed characterization of semi-arid environments in New Mexico and Chihuahua, Mexico: A remote sensing and GIS approach. Second International Symposium on Transboundary Waters Management. Tucson, AZ.

40. Hong, S-H. and Vivoni, E.R. 2004. Ecohydrological Modeling of Grassland-Shrub-Tree Dynamics in the Sevilleta National Wildlife Refuge. New Mexico Water Research Conference. Socorro, NM.
41. Rittel, C. and Vivoni, E.R. 2004. Mapping geomorphic and hydrologic features from digital topography for the Rio Salado watershed. New Mexico Water Research Conference. Socorro, NM.
42. Rittel, C. and Vivoni, E.R. 2004. Geomorphic Mapping using Digital Terrain Algorithms along the Semi-arid Rio Salado Watershed, New Mexico. Geological Society of America, Annual Meeting and Exposition. Denver, CO.
43. Vivoni, E.R., Ivanov, V.Y. and Bras, R.L. 2004. A coupled surface – subsurface hydrology model based on triangulated irregular networks: Distributed simulations in regional watersheds. Geological Society of America, Annual Meeting and Exposition. Denver, CO.
44. Bowman, R.S., Coonrod, J.E.A., Ferré, P.T.A, Hogan, J.F., Phillips, F.M., Rango, A., Rasmussen, R., Small, E.E., Springer, E.P. and Vivoni, E.R. 2004. A Semiarid Long-Term Hydrologic Observatory at the Continental Scale: The Upper Río Grande Basin. Geological Society of America, Annual Meeting and Exposition. Denver, CO.
45. Xie, H., Vivoni, E.R., Zhou, X. and Hendrickx, J.M.H. 2004. Rainfall Climatology of the Monsoon Season in New Mexico: Radar observations from NEXRAD Stage III (1996-2003). 85th American Meteorological Society Meeting. San Diego, CA.
46. Vivoni, E.R., Gutierrez, H. A., Brooks, B., Aragón, C. A., Rinehart, A., Wyckoff, R., Watts, C. J., Rodríguez, J. C. and Jackson, T. 2004. Topographic and Ecosystem Controls on Soil Moisture Distribution in the SMEX04-NAME Transect Study, Northern Sonora, Mexico. 85th American Meteorological Society Meeting. San Diego, CA.
47. Vivoni, E.R., Bowman, R. S., Wyckoff, R., Jakubowski, R. and Richards, K. 2004. Analysis of a Monsoon Flood Event in a Regional Semiarid Watershed. 85th American Meteorological Society Meeting. San Diego, CA.
48. Aragón, C.A. and Vivoni, E.R. 2004. System dynamics modeling of watershed tributary inflows to the Middle Rio Grande from Otowi to Elephant Butte, New Mexico. AGEP Annual Conference. Las Cruces, NM.
49. Ivanov, V.Y, Bras, R.L., Istanbuluoglu, E. and Vivoni, E.R. 2004. Aspects of radiation budget, subsurface lateral moisture exchange, and vegetation function in areas of complex topography. American Geophysical Union, Fall Conference, San Francisco, CA.
50. Wyckoff, R., Vivoni, E.R. and Rinehart, A. 2004. Fine-Resolution Hydrologic Modeling of Semiarid River Basins: Preliminary Results from Upper Rio Grande Subbasins. American Geophysical Union, Fall Conference, San Francisco, CA.
51. Hogan, J.F., Vivoni, E.R., Bowman, R.S., Coonrod, J.E.A, Thomson, B., Samani, Z., Ferré, P.T., Phillips, F.M., Rango, A., Rasmussen, R., Springer, E.S., Small, E.E. 2004. A Semiarid Long-Term Hydrologic Observatory at the Continental Scale: The Upper Río Grande Basin. American Geophysical Union, Fall Conference, San Francisco, CA.
52. Vivoni, E.R., Ivanov, V.Y, Bras, R.L., Entekhabi, D. 2004. On the effects of triangulated terrain resolution on distributed hydrologic model response. American Geophysical Union, Fall Conference, San Francisco, CA.
53. Bowman, R.S., Vivoni, E.R., Wyckoff, R., Jakubowski, R. and Richards, K. 2004. Analysis of a Monsoon Flood Event Effect on Surface and Groundwater Interactions in a Regional Semiarid Watershed. American Geophysical Union, Fall Conference, San Francisco, CA.
54. Gutiérrez, H.A., Vivoni, E.R., Aragón, C.A., Rinehart, A., Wyckoff, R., Watts, C.J., Rodríguez, J.C. and Jackson, T.J. 2004. Landscape Controls on Monsoon Soil Moisture Distribution in Northern Sonora, Mexico. American Geophysical Union, Fall Conference, San Francisco, CA.
55. Gutierrez-Jurado, H.A. and Vivoni, E.R. 2004. Preliminary Geospatial Assessment of Ecohydrological Variations in a Semiarid Catchment in the Sevilleta National Wildlife Refuge. SAHRA 4th Annual Conference, Albuquerque, NM.
56. Wyckoff, R. and Vivoni, E.R. 2004. Relationship Between the Pacific Decadal Oscillation, El Niño / Southern Oscillation, and Discharge in the Río Puerco Watershed New Mexico. SAHRA 4th Annual Conference, Albuquerque, NM.
57. Aragón, C. A. and Vivoni, E.R. 2004. System dynamics modeling of watershed tributary inflows to the Middle Rio Grande from Otowi Bridge to Elephant Butte Reservoir, New Mexico. SAHRA 4th Annual Conference, Albuquerque, NM.

58. Vivoni, E.R. 2004. Watershed Hydrology Impacts of Vegetation Change: Data Collection, Distributed Modeling and Data Assimilation. SAHRA 4th Annual Conference, Albuquerque, NM.
59. Vivoni, E.R. 2004. Integrative, fine-resolution modeling in the Río Grande: Physical Realism, Model Coupling and Data Integration. SAHRA 4th Annual Conference, Albuquerque, NM.
60. Vivoni, E.R. 2004. Climate Variability, Vegetation Change and Hydrology in the Southwestern United States. SACNAS National Conference. Austin, TX.
61. Gutierrez-Jurado, H.A., Ivanov, V.I., Vivoni, E.R., and Bras, R. L. 2005. Integrated approach to ecohydrology of semi-arid sites in areas of complex topography and biome transitions. American Geophysical Union, Spring Conference, New Orleans, LA.
62. Guan, H., Vivoni, E.R., Wilson, J.L. 2005. Effects of atmospheric teleconnections on seasonal precipitation in mountainous regions of the southwestern U.S.: A case study in northern New Mexico. New Mexico Water Research Conference. Socorro, NM.
63. Vivoni, E.R., Bowman, R.S., Wyckoff, R.L, Jakubowski, R.T. and Richards, K.E. 2005. Using observation networks to track a monsoon flood event in the Rio Puerco and its downstream effects. New Mexico Water Research Conference. Socorro, NM.
64. McGee, S., Reno, M., Aragón, C. and Vivoni, E.R. 2005. Amount and Variability in Tributary Inflows to the Rio Grande. New Mexico Water Research Conference. Socorro, NM.
65. Gutiérrez-Jurado, H.A., Vivoni, E.R., Harrison, J.B.J. and Guan, H. 2005. Ecohydrology of root zone water fluxes and soil development in a small drainage basin in central New Mexico. New Mexico Water Research Conference. Socorro, NM.
66. Wyckoff, R.L. and Vivoni, E.R. 2005. Paired Catchment Study for the Río Puerco Flood of September 2003. New Mexico Water Research Conference. Socorro, NM.
67. Rinehart, A.J., Vivoni, E.R., Frisbee, M., Aragón, C.A., Bisht, G., Cardenas, M.B., Forman, B., Gutierrez, H.A., Hong, S-H, Mendez, L.A., Tai, K., Wyckoff, R.L. 2005. Design and Implementation of a Hydrometeorological Field Campaign in the Valles Caldera, NM. New Mexico Water Research Conference. Socorro, NM.
68. Gutierrez-Jurado, H.A., Goodell, P.C., Vivoni, E.R. and M. Gebremichael. 2005. Temporal and spatial rainfall variability analysis of the Peña Blanca, Uranium District, Chihuahua, Mexico. Geological Society of America, Annual Meeting and Exposition. Salt Lake City, Utah.
69. Istanbuloglu, E., Vivoni, E.R, Ivanov, V.Y. and Bras, R.L. 2005. Comprehensive Representation of Hydrologic and Geomorphic Process Coupling in Numerical Models: Internal Dynamics and Basin Evolution. American Geophysical Union, Fall Conference, San Francisco, CA. (Invited).
70. Bras, R.L., Ivanov, V.Y. and Vivoni, E.R. 2005. Topographic Influence on Vegetation Distribution: A Distributed Hydrologic Model with Vegetation Dynamics. American Geophysical Union, Fall Conference, San Francisco, CA. (Invited).
71. Rinehart, A.J. and Vivoni, E.R. 2005. Numerical simulation of distributed snow processes in complex terrain utilizing triangulated irregular networks. American Geophysical Union, Fall Conference, San Francisco, CA.
72. Pullin, M.J., Vivoni, E.R., Harrison, J.B.J., Andrews, J. and Vargas, A. 2005. Rainfall in semiarid ecosystems: Coupled hydrology and biogeochemistry affect nitrogen cycling. American Geophysical Union, Fall Conference, San Francisco, CA.
73. Wyckoff, R.L. and Vivoni, E.R. 2005. Paired catchment modeling study for a monsoon flood event in neighboring semi-arid basins, New Mexico. American Geophysical Union, Fall Conference, San Francisco, CA.
74. Vivoni, E.R., Mniszewski, S., Fasel, P., Springer, E.S., Ivanov, V.Y., Bras, R.L. 2005. Parallelization of a Fully-Distributed Hydrologic Model using Sub-basin Partitioning. American Geophysical Union, Fall Conference, San Francisco, CA.
75. Gebremichael, M. and Vivoni, E.R. 2005. Spatiotemporal Variability of Precipitation over Complex Terrain during the North American Monsoon. American Geophysical Union, Fall Conference, San Francisco, CA.
76. Gutierrez-Jurado, H. and Vivoni, E.R. 2005. Aquifer Recharge Assessment from Surface Ecohydrological Conditions: A Spatial Analysis along an Ecotonal Gradient in New Mexico. American Geophysical Union, Fall Conference, San Francisco, CA.
77. Nardi, F., Vivoni, E.R. and Grimaldi, S. 2005. Investigating the Hydraulic Geometry of Floodplains Using a Hydrogeomorphic Delineation Method. American Geophysical Union, Fall Conference, San Francisco, CA.

78. Méndez-Barroso, L.A., Rinehart, A.J., Aragón, C.A., Bisht, G., Cardenas, M.B., Engle, E., Forman, B., Frisbee, M.D., Gutiérrez-Jurado, H.A., Hong, S-H., Tai, K., Wyckoff, R.L., Vivoni, E.R. 2005. Spatial and Temporal Analysis of Hydrometeorological Conditions in the Valles Caldera, New Mexico during the North American Monsoon. American Geophysical Union, Fall Conference, San Francisco, CA.
79. Hong, S.H., J.M.H. Hendrickx, J.B.J. Harrison, E. Vivoni and B. Borchers. 2005 Comparison of Two Methods for Root Zone Soil Moisture Estimation. Presentation in Pedometrics 2005, Naples, FL.
80. Rinehart, A.J. and Vivoni, E.R. 2005. Development of a TIN-Based Numerical Snow Model Prototype. SAHRA 5th Annual Conference, Tucson, AZ.
81. Vivoni, E.R. 2005. Distributed Observations and Modeling in the Valles Caldera: Science Questions, Field Campaign and Distributed Modeling. SAHRA 5th Annual Conference, Tucson, AZ.
82. Rinehart, A.J., Vivoni, E.R., Frisbee, M., Aragón, C.A., Bisht, G., Cardenas, M.B., Forman, B., Gutierrez, H.A., Hong, S-H, Mendez, L.A., Tai, K., Wyckoff, R.L. 2005. Design and Implementation of a Hydrometeorological Field Campaign in the Valles Caldera, NM. SAHRA 5th Annual Conference, Tucson, AZ.
83. Pullin, M.J.; Vivoni, E.R.; Harrison, J.B.J.; Andrews, J.; Vargas, A. 2005. Rainfall in Semiarid Ecosystems: Coupled Hydrology and Biogeochemistry Affect Nitrogen Cycling. Frontiers in the Exploration of the Critical Zone, Workshop.
84. Aragón, C.A., Malczynski, L.A., Vivoni, E. R., and Tidwell. 2006. Modeling Ungauged Tributaries using GIS and System Dynamics. 26th Annual ESRI International User Conference, San Diego, CA.
85. Vivoni, E.R. and Gebremichael, M. 2006. Improved Understanding of North American Monsoon Hydrometeorology through Integration of Field Campaigns, Remote Sensing and Numerical Modeling. American Geophysical Union, Spring Conference, Baltimore, MD. (Invited).
86. Mascaro, G., Vivoni, E.R., Gebremichael, M., and Deidda, R. 2006. Utility of downscaled precipitation fields for hydrological forecasts at the catchment scale. 2nd International Symposium on Quantitative Precipitation Forecasting and Hydrology, Boulder, CO.
87. Mascaro, G., Vivoni, E.R., Deidda, R. 2006. Utility of downscaled precipitation fields for ensemble hydrological forecasts at the catchment scale. Fourth European Conference of Radar Meteorology and Hydrology, Barcelona, Spain.
88. Grimaldi, S., Petroselli, A., Nardi, F. and Vivoni, E. R. 2006. Un approccio fisicamente basato per la correzione dei DEM. XXX Convegno di Idraulica e Costruzioni Idrauliche – IDRA. Trento, IT.
89. Vivoni, E.R. 2006. In Search of Organization and Complexity in Semiarid Mountain Regions with Monsoonal Climates. AGU Hydrology Days. Ft Collins, CO.
90. Vivoni, E.R. 2006. Spatiotemporal distribution of precipitation and soil moisture within the NAME-SMEX04 region. Monsoon Region Climate Applications: A Binational Workshop. Guaymas, MX.
91. Vivoni, E.R., Entekhabi, D. and Hoffman, R.N. 2006. Error Propagation from Radar Rainfall Nowcasting Fields to a Fully-Distributed Flood Forecasting Model. Fourth European Conference of Radar Meteorology and Hydrology, Barcelona, Spain.
92. Vivoni, E.R. 2006. Ecohydrology of seasonally-green desert landscape. CNR-MIT Summer School on Landscape form and processes: Models and applications in watershed analysis. Viterbo, Italy.
93. Dominguez, F., Kumar, P. and Vivoni, E.R. 2006. Precipitation recycling in the North American Monsoon Region. NAME SWG-8 Meeting. Tucson, AZ.
94. Tai, K., Vivoni, E. R. and Wyckoff, R. L. 2006. Evaluation and comparison of observed and modeled precipitation forcing to a distributed hydrological model to simulate a regional monsoon flood event. American Geophysical Union, Fall Conference, San Francisco, CA.
95. Aragón, C.A., Vivoni, E. R., Malczynski, L.A., Tidwell, V.C. and Gonzales, S. 2006. Modeling the contributions of ungauged tributaries to the Rio Grande: A system dynamics approach. American Geophysical Union, Fall Conference, San Francisco, CA.
96. Di Benedetto, F., Vivoni, E.R. and Grimaldi, S. 2006. Use of Hypsometric Analysis for a Classification of Basin Hydrological Response: Surface and Groundwater Partitioning. American Geophysical Union, Fall Conference, San Francisco, CA.
97. Gebremichael, M. and Vivoni, E.R. Do Distributed Hydrologic Models Capture Observed Spatial Scaling Properties of Soil Moisture Fields? American Geophysical Union, Fall Conference, San Francisco, CA.
98. Gutierrez-Jurado, H.A., Vivoni, E.R., Harrison, J.B.J, Turner, P., Bisht, G., Istanbuluoglu, E. and Bras, R.L. 2006. Analysis of an extreme monsoon event on the ecohydrologic and geomorphologic

- conditions in a semiarid basin based on field instrumentation and reconnaissance. American Geophysical Union, Fall Conference, San Francisco, CA.
99. Santini, M., Petroselli, A., Nardi, F., Vivoni, E.R. and Grimaldi, S. 2006. A review of DEM-based flow direction characterization methods for hydrogeomorphic applications. American Geophysical Union, Fall Conference, San Francisco, CA.
 100. Mascaro, G., Vivoni, E.R. and Deidda, R. 2006. Evaluation of Uncertainty in Nested Flood Forecasts by Coupling a Multifractal Precipitation Downscaling Model and a Fully-Distributed Hydrological Model. American Geophysical Union, Fall Conference, San Francisco, CA.
 101. Istanbuloglu, E., Vivoni, E.R., Gutierrez-Jurado, H. A. and Bras, R.L. 2006. On the topographic imprint of vegetation: Results from field observations and DEM analysis of small semiarid basins. American Geophysical Union, Fall Conference, San Francisco, CA.
 102. Capolongo, D., Petroselli, A., Nardi, F., Vivoni, E. R. and Grimaldi, S. 2006. Evaluation of ASTER DEM for hydro-geomorphological applications. American Geophysical Union, Fall Conference, San Francisco, CA.
 103. Forman, B.A., Vivoni, E.R. and Margulis, S.A. 2006. Ensemble-based Distributed Hydrological Modeling with Disaggregated Satellite-Derived Precipitation. American Geophysical Union, Fall Conference, San Francisco, CA.
 104. Rinehart, A. J., Musselman, K., Brooks, P., Vivoni, E.R., and Molotch, N. 2006. Integrating Observations and Modeling of Snow-Vegetation Interactions: A Progress Report. SAHRA Annual Conference, Scottsdale, AZ.
 105. Canalda, S.M., Osmer, E.M., Tapaha, F., Harrison, J.B.J., Vivoni E.R., Pullin, M.J. 2006. Rain-initiated biogeochemical cycling in semiarid environments. SACNAS Conference. Tampa, FL.
 106. Mascaro, G., Deidda, R. and Vivoni, E.R. 2007. Development and verification of a hydrometeorological forecasting chain that couples a multifractal precipitation downscaling model and a fully-distributed hydrological model. EGU General Assembly, Vienna, Austria.
 107. Mascaro, G., Deidda, R. and Vivoni, E.R. 2007. Verification of ensemble precipitation fields simulated by downscaling models by means of rank histograms. EGU General Assembly, Vienna, Austria.
 108. Gebremichael, M. and Vivoni, E. R. 2007. Investigation of the Scaling Properties of Simulated Soil Moisture Fields. EGU General Assembly, Vienna, Austria.
 109. Vivoni, E.R. 2007. Landscape Organization and its Control on Runoff Processes. UCLA Department of Civil and Environmental Engineering. Los Angeles, CA.
 110. Vivoni, E.R. and Gutierrez-Jurado, H.A. 2007. Advances to Catchment Theory from Ecohydrological Patterns and Feedbacks in Complex Terrain. XXIV IUGG General Assembly, Perugia, Italy.
 111. Vivoni, E.R. and Méndez-Barroso, L.A. 2007. Constraining Hydrologic Simulations with Remote Sensing in a Large-Scale Semiarid Basin with Monsoonal Climate. XXIV IUGG General Assembly, Perugia, Italy.
 112. Mascaro, G., Vivoni, E.R. and Deidda, R. 2007. Testing the consistency hypothesis of the ensemble members forecasted by a statistical model for precipitation downscaling by means of the verification rank histogram. XXIV IUGG General Assembly, Perugia, Italy.
 113. Mascaro, G., Vivoni, E.R. and Deidda, R. 2007. Uncertainty assessment of a hydrometeorological ensemble forecasting chain coupling a precipitation downscaling model and a distributed hydrological model. XXIV IUGG General Assembly, Perugia, Italy.
 114. Noto, L.V., Ivanov, V.Y., Bras, R.L. and Vivoni, E.R. 2007. A physically-based and distributed approach to analyze soil erosion and rainfall triggered landslides at the watershed scale. XXIV IUGG General Assembly, Perugia, Italy.
 115. Petroselli, A., Santini, M., Nardi, F., Grimaldi, S. and Vivoni, E.R. 2007. Flow direction methods in flat areas. XXIV IUGG General Assembly, Perugia, Italy.
 116. Vivoni, E.R. 2007. Spatiotemporal Analysis of a Monsoon Flood Event in Northwestern Mexico: Insights from Remote Sensing and Hydrologic Modeling. AGU Joint Assembly, Acapulco, Mexico.
 117. Mendez-Barroso, L. A. and Vivoni, E.R. 2007. Seasonal Evolution of Land Surface Conditions in the North American Monsoon Region from MODIS Observations. AGU Joint Assembly, Acapulco, Mexico.
 118. Dominguez, F., Kumar, P. and Vivoni, E.R. 2007. Precipitation Recycling: a Mechanism for Hydroclimatological Stability in the North American Monsoon Region. AGU Joint Assembly, Acapulco, Mexico.

119. Forman, B.E., Vivoni, E.R. and Margulis, S. 2007. Toward Improved Calibration of Distributed Hydrologic Models via Uncertainty Analysis. AGU Joint Assembly, Acapulco, Mexico.
120. Istanbuloglu, E., Yetemen, O. and Vivoni, E.R. 2007. On the long-term control of vegetation on landforms. AGU Hydrology Days, Fort Collins, CO.
121. Gutierrez-Jurado, H.A. and Vivoni-Gallart, E.R. 2007. Ecohidrología como estrategia de investigación sobre los recursos hídricos en zonas semiáridas. VI Congreso Internacional y XII Nacional de Ciencias Ambientales. Universidad de Chihuahua, Chihuahua, MX.
122. Vivoni, E.R., Wyckoff, R.L. and Tai, K. 2007. Hydrometeorological Observations and Numerical Modeling in a Large Semiarid Basin, Rio Puerco, New Mexico. ARO Arid Lands Workshop, Colorado Springs, CO.
123. Tai, K., Vivoni, E.R. and Gochis, D.J. 2007. Offline coupled WRF-distributed hydrological modeling: Preliminary testing for a warm season flood event in the Southwestern US. WRF Workshop. Boulder, CO.
124. Ivanov, V.Y., Bras, R.L. and Vivoni, E.R. 2007. Effects of Topography on Vegetation-Hydrology Interactions in a Semiarid Grass Ecosystem. XXIV IUGG General Assembly, Perugia, Italy.
125. Vivoni, E.R., Mendez-Barroso, L.A., Rodriguez, J.C. and Watts, C.J. 2008. On the spatiotemporal organization of soil moisture in the North American Monsoon region. Catchment-scale Hydrological Modelling & Data Assimilation International Workshop. Melbourne, Australia.
126. Wilson, J.L., Phillips, F. M., Bowman, R.S., Hendrickx, J.M.H., and Vivoni, E.R. 2007. Evolution of Hydrological Science: The New Mexico Tech Example. Geological Society of America Annual Meeting, Denver, CO. (Invited).
127. Tai, K. and Vivoni, E.R. 2007. Offline coupled WRF-distributed hydrological modeling: Preliminary testing for a warm season flood event in the Southwestern US. NM WRRI Water Research Conference, Socorro, NM.
128. Mahmood, T. and Vivoni, E.R. 2007. Use of Landsat 5 TM imagery for Improved Distributed Hydrological Modeling. NM WRRI Water Research Conference, Socorro, NM.
129. Mantilla, R., Gomez, J. and Vivoni, E.R. 2007. Spatial Variability of Hillslope Vertical Profile and its effect on Runoff Generation Mechanisms: Implications for Land Surface Models. NM WRRI Water Research Conference, Socorro, NM.
130. Yatheendradas, S., Vivoni, E.R., Mendez-Barroso, L.A. and Watts, C.J. 2007. Effects of uncertainty in soil properties on semi-arid hydrologic forecasting: Initial results from a soil moisture field campaign during NAME. Fourth Symposium on Southwest Hydrometeorology, Tucson, AZ.
131. Tai, K., Vivoni, E.R. and Gochis, D. 2007. Offline coupled WRF-distributed hydrological modeling: Preliminary testing for a warm season flood event in the Southwestern US. GSA Graduate Student Research Conference, New Mexico Tech, Socorro, NM.
132. Gutierrez-Jurado, H., Vivoni, E.R., Istanbuloglu, E. and Bras, R.L. 2007. Ecohydrological response to a geomorphically significant flood event in a semiarid catchment with contrasting ecosystems. GSA Graduate Student Research Conference, New Mexico Tech, Socorro, NM.
133. Vivoni, E.R. 2007. Spatiotemporal Analysis of Land Surface Hydrology in Northwestern Mexico: Insights from Remote Sensing and Hydrologic Modeling. Mountain Hydroclimate and Water Resources Workshop. Boulder, CO.
134. Mendez-Barroso, L.A. and Vivoni, E.R. 2007. Seasonal Evolution of Land Surface Conditions in the North American Monsoon Region from MODIS Observations. Mountain Hydroclimate and Water Resources Workshop. Boulder, CO.
135. Vivoni, E.R., Yatheendradas, S., Mendez-Barroso, L. A., Mantilla, R., Saiz-Hernandez, J., Garatuza-Payan, J., Rodriguez, J.C., Watts, C.J. and Gochis, D.J. 2007. An Incremental and Interactive Process for Watershed Characterization and Modeling: A Case Study in Southwestern North America. American Geophysical Union, Fall Conference, San Francisco, CA. (Invited).
136. Vivoni, E.R., Watts, C.J., Rodriguez, J.C., Garatuza-Payan, J., Mendez-Barroso, L.A., Yezpe, E.A., Saiz-Hernandez, J. and Gochis, D.J. 2007. Relation between Surface Flux Measurements and Hydrologic Conditions in a Subtropical Scrubland during the North American Monsoon. American Geophysical Union, Fall Conference, San Francisco, CA.
137. Gebremichael, M., and Vivoni, E.R. 2007. What is the ability of distributed hydrologic models to reproduce observed spatial soil moisture fields? American Geophysical Union, Fall Conference, San Francisco, CA.

138. Yatheendradas, S. and Vivoni, E.R. 2007. Distributed Soil Moisture Estimation in a Mountainous Semiarid Basin: Constraining Soil Parameter Uncertainty through Field Studies. American Geophysical Union, Fall Conference, San Francisco, CA.
139. Mantilla, R., Gomez, J. and Vivoni, E.R. 2007. A Framework to Compare Lumped and Distributed Hydrological Models of Climate-Land Surface-Groundwater Dynamics. American Geophysical Union, Fall Conference, San Francisco, CA.
140. White, A.B., Springer, E. and Vivoni, E.R. 2007. Examining severe drought-induced vegetation change and its influence on water resources. American Geophysical Union, Fall Conference, San Francisco, CA.
141. Mahmood, T. and Vivoni, E.R. 2007. Impacts of remotely-sensed vegetation dynamics on ecohydrological response in a small mountainous watershed. American Geophysical Union, Fall Conference, San Francisco, CA.
142. Tai, K., Vivoni, E.R., and Gochis, D. 2007. Evaluation of Ensemble Meteorological Forcing in a Distributed Hydrological Model: Decomposing the Nonlinear Basin Response. American Geophysical Union, Fall Conference, San Francisco, CA.
143. Gutiérrez-Jurado, H.A., Vivoni, E.R. and Ennin, F. 2007. Analysis of catchment hydrogeomorphology and vegetation patterns based on a differential GPS and interferometric SAR. American Geophysical Union, Fall Conference, San Francisco, CA.
144. Petroselli, A., Santini, M., Nardi, F., Grimaldi, S. and Vivoni, E.R. 2007. Investigating the spatial variability of the hillslope flow velocities in the width function. American Geophysical Union, Fall Conference, San Francisco, CA.
145. Yetemen, O., Istanbuluoglu, E. and Vivoni, E.R. 2007. Topographic Analysis of Landscape Morphology and Vegetation Patterns in a Semiarid Basin in Central New Mexico. American Geophysical Union, Fall Conference, San Francisco, CA.
146. Zeweldi, D.A., Gebremichael, M., Anagnostou, E. N. and Vivoni, E. R. 2007. Evaluating Satellite Rainfall Products and their Impacts in Hydrologic Model Simulations. American Geophysical Union, Fall Conference, San Francisco, CA.
147. Nikolopoulos, E., Anagnostou, E., Gebremichael, M. and Vivoni, E.R. 2007. Can we Use Satellite-Rainfall to Predict Floods in Small Mountainous Basins? American Geophysical Union, Fall Conference, San Francisco, CA.
148. Mahmood, T. and Vivoni, E.R. 2007. Impacts of remotely-sensed vegetation dynamics on ecohydrological response in Redondo Creek watershed. SAHRA 7th Annual Conference, Tucson, AZ.
149. White, A., Springer, E. and Vivoni, E.R. 2007. Assessing climate-induced vegetation change and the consequences on water resources in Upper Rio Grande. SAHRA 7th Annual Conference, Tucson, AZ.
150. Rango, A., Vivoni, E.R., Gutzler, D., Hurd, B. and Bestelmeyer, S. 2007. Climate change impacts on New Mexico Mountain Sources of Water. AWRA 2007 Annual Conference. Albuquerque, NM.
151. Nikolopoulos, E.I., Anagnostou, E.N., Borga, M. and Vivoni, E.R. 2008. Hydrological analysis of flash floods in mountainous basin. EGU General Assembly, Vienna, Austria.
152. Istanbuluoglu, E., Yetemen, O., Vivoni, E.R. and Gutierrez-Jurado, H.A. 2008. Eco-geomorphology of semiarid moderate relief landscape with contrasting terrain aspect. Meeting of Young Researchers in Earth Science, New Orleans, LA.
153. Gutierrez-Jurado, H.A. and Vivoni, E.R. 2008. Multi-resolution analysis of vegetation and hydrogeomorphic interactions of a semiarid catchment with contrasting ecosystems. Meeting of Young Researchers in Earth Science, New Orleans, LA.
154. Vivoni, E.R., Lettenmaier, D., Watts, C.J., Garatuzza-Payan, J. and Gochis, D.J. 2008. NAME Land surface and hydrological studies at basin and regional scales. 10th Meeting of NAME Science Working Group. Miami, FL.
155. Istanbuluoglu, E., Yetemen, O., Vivoni, E.R., Gutierrez-Jurado, H.A. and Bras, R.L. 2008. Influence of hillslope aspect on landscape evolution: Inferences from analysis of landscape morphology in central New Mexico. Hydrology Days, Fort Collins, CO.
156. Mendez-Barroso, L.A., Vivoni, E.R., Watts, C.J. and Rodriguez, J.C. 2008. Seasonal and interannual relations between precipitation, soil moisture and vegetation in the North American monsoon region. Regional Climate Forum for the Northwest Mexico and Southwest United States. Ensenada, Baja California, Mexico.

157. Narayan, U., Bisht, G., Bras, R.L., Ivanov, V.Y. and Vivoni, E.R. 2008. Coupling a regional atmospheric model (WRF) and a high resolution distributed ecohydrologic model (tRIBS-VEGGIE) to study soil moisture variability. Army-Air Force Workshop. Omaha, NE.
158. Vivoni, E.R. and Tai, K. 2008. Hydrometeorological Forecasting using Distributed Models - Case Study in a Large Semiarid River Basin. Army-Air Force Workshop. Omaha, NE.
159. Gutierrez-Jurado, H.A., Harrison, J.B.J. and Vivoni, E.R. 2008. Vegetation-soil-aspect modulated hydrologic dynamics on semiarid hillslopes of central New Mexico Geological Society of America Annual Meeting, Houston, TX.
160. Forzieri, G., Guarnieri, L., Castelli, F., Preti, F. and Vivoni, E.R. 2008. Remote sensing derived woody structural parameters in riparian corridors. 4th European Center for River Restoration International Conference, Venice, IT.
161. Mahmood, T.H. and Vivoni, E.R. Evaluation of distributed soil moisture simulations in a forested mountain watershed, New Mexico. NM Water Research Conference, Socorro, NM.
162. Moreno, H.A. and Vivoni, E.R. 2008. Groundwater depth and air temperature effects on discharge and runoff generation in the Colorado Front Range. NM Water Research Conference, Socorro, NM.
163. Gutierrez-Jurado H.A. and Vivoni E.R. 2008. Analysis of catchment hydrogeomorphology, vegetation patterns and incoming solar radiation based on sequentially-improved terrain datasets: IFSAR, dGPS and ALSM. Studying Earth Surface Processes with High-Resolution Topographic Data Workshop, Boulder, Colorado.
164. Mascaro G., E.R. Vivoni, R. Deidda. 2008. A verification framework for ensemble hydrometeorological flood prediction systems, 10th Plinius Conference on Mediterranean Storms, Nicosia, Cyprus.
165. Gochis, D.J., Yates, D.N., Yu, W., Rutledge, S., Lang, T., Cifelli, R. and Vivoni, E.R. 2009. Evaluation of an operational heavy rainfall and flash-flood prediction system for the Colorado Front Range. American Meteorological Society, 89th Annual Meeting, Phoenix, AZ.
166. Mahmood, T. and Vivoni, E.R. 2009. Impacts of Remotely-Sensed, Seasonal Land Cover Dynamics on Distributed Hydrological Response in Two Forested Mountain Settings. American Meteorological Society, 89th Annual Meeting, Phoenix, AZ.
167. Moreno, H.A., Vivoni, E.R. and Gochis, D.J. 2009. Distributed flood forecasting using different radar-based products in the Colorado Front Range. American Meteorological Society, 89th Annual Meeting, Phoenix, AZ.
168. Mendez-Barroso, L.A. and Vivoni, E.R. 2009. Monitoring ecohydrological dynamics in the North American monsoon region from remote sensing and ground-based observations. American Meteorological Society, 89th Annual Meeting, Phoenix, AZ.
169. Trujillo, R.V., Hernández, C., Gutierrez-Jurado, H.A. and Vivoni, E.R. 2008. Ecohydrological dynamics in semiarid hillslopes. Society for the Advancement of Chicanos and Native Americans in Science (SACNAS) National Conference. Salt Lake City, Utah.
170. Vivoni, E.R., Moreno, H.A., Mascaro, G., Rodriguez, J.C., Watts, C.J., Garatuza-Payan, J. and Scott, R.L. 2008. Effects of vegetation dynamics on the relations between ET and soil moisture in the North American monsoon: Comparison of regional observations and reanalysis products. Climate Prediction Program for the Americas Meeting, Silver Springs, MD.
171. Vivoni, E.R., Méndez-Barroso, L.A., Watts, C.J., Gochis, D.J., Rodríguez, J.C., Saiz-Hernandez, J.A., Garatuza-Payan, J., Yépez, E.A. and Robles-Morua, A. 2008. Improved seasonal hydrologic prediction in the North American monsoon region: Results from field experimentation, remote sensing and modeling in the Rio Sonora basin. Climate Prediction Program for the Americas Meeting, Silver Springs, MD.
172. Gochis, D., Rajagopal, S., Vivoni, E.R., Troch, P.A. and Scott, R. 2008. Evaluation of the Community Noah Land Surface model against tower flux data in the Tier 1 region of NAME. Climate Prediction Program for the Americas Meeting, Silver Springs, MD.
173. Yépez, E.A., Vivoni, E. R., Watts, C.J., Rodríguez, J.C., Garatuza-Payan, J., Méndez-Barroso, L.A., Saiz-Hernández, J. and Gochis, D.J. 2008. Componentes de la evapotranspiración en matorrales xerófilos de Sonora en un contexto ecohidrológico. Sociedad Científica Mexicana de Ecología. Merida, Mexico.
174. Mahmood, T.H. and Vivoni, E.R. 2008. Fine Resolution Soil Moisture Simulations - Redondo Creek Case Study. 8th Annual SAHRA Meeting, Tucson, AZ.

175. White, A.B., Springer, E.S., Langhorst, G.J. and Vivoni, E.R. 2008. Regional Soil Moisture and Vegetation Change Observations - Ojo Caliente Case Study. 8th Annual SAHRA Meeting, Tucson, AZ.
176. Vivoni, E.R., Springer, E.S., Mniszewski, S., Fasel, P., Langhorst, G., Moulton, D., Yatheendradas, S., Mahmood, T.H., Mascaro, G. and White, A.B. 2008. Overview of Regional Scale Simulations for Vegetation Change Analysis. 8th Annual SAHRA Meeting, Tucson, AZ.
177. Ivanov, V.Y., Bras, R.L. and Vivoni, E.R. 2008. Ecohydrologic Dynamics in Areas of Complex Topography in Semiarid Ecosystems. American Geophysical Union, Fall Conference, San Francisco, CA.
178. Gochis, D.J., Vivoni, E.R. and Nesbitt, S.N. 2008. The Influence of Satellite-based Estimates of Precipitation on Modeled Land Surface States and Fluxes over the North American Monsoon Region. American Geophysical Union, Fall Conference, San Francisco, CA.
179. Munoz-Arriola, F., Tang, Q., Zhu, C., Vivoni, E.R. and Lettenmaier, D.P. 2008. Interannual and intraseasonal interactions between greening process and soil moisture in the North American monsoon region in northwestern Mexico. American Geophysical Union, Fall Conference, San Francisco, CA.
180. Vivoni, E.R., Forzieri, G., Mendez-Barroso, L.A., and Castelli, F. 2008. Exploring topographic and climatic controls on vegetation dynamics in the North American monsoon region. American Geophysical Union, Fall Conference, San Francisco, CA.
181. Bowman, R., J. Hendrickx, E. Vivoni, C. Dahm, J. Cleverly, J. Coonrod, M. Litvak, K. Benedict, Z. Samani, and S. Bawazir. 2008. Improved estimation of evapotranspiration in semi-arid ecosystems. NSF Workshop on Water Dynamics, Burlington, VT.
182. Vivoni, E.R. and Gutierrez-Jurado, H.A. 2009. Vegetation impacts on surface geomorphology and solar radiation in aspect-controlled semiarid basins obtained from high resolution terrain data sets. Jornada Symposium, Las Cruces, NM.
183. Vivoni, E.R. 2009. Land-Atmosphere Interactions and Hydrologic Response in the NAME experiment: 2004-2008. WCRP/CLIVAR/VAMOS Panel, San Juan, Puerto Rico.
184. Vivoni, E.R. 2009. Exploring Monsoon Hydrology through Field Observations, Remote Sensing and Numerical Modeling. 2009 Annual Water Symposium, Scottsdale, AZ.
185. Vivoni, E.R. 2009. Observations and modeling of the effects of seasonal vegetation cover on evapotranspiration and soil moisture. ARO Meeting at the Topographic Engineering Center, Alexandria, VA.
186. Mascaro, G., Vivoni, E. R. and Deidda, R. 2009. Assessing the propagation of uncertainty associated with ensemble quantitative forecasts into streamflow response. 11th Plinius Conference on Mediterranean Storms, Barcelona, Spain.
187. Gutierrez-Jurado, H.A. and Vivoni, E.R. 2009. Topographic and Vegetation Feedbacks on the Ecogeomorphic and Radiation Properties of a Semiarid Basin with Contrasting Ecosystems. AGU Chapman Conference on Examining Ecohydrological Feedbacks of Landscape Change along Elevation Gradients in Semiarid Regions. Sun Valley, Idaho.
188. Vivoni, E.R., Watts, C.J. and Rodriguez, J.C. 2009. Catchment Patterns and Controls on Soil Moisture and Evapotranspiration in a Mountainous Basin within the North American Monsoon Region. AGU Chapman Conference on Examining Ecohydrological Feedbacks of Landscape Change along Elevation Gradients in Semiarid Regions. Sun Valley, Idaho.
189. Vivoni, E.R. 2009. Signatures of Seasonal Vegetation Dynamics on Catchment Hydrology in the North American Monsoon Region. AGU Fall Conference. San Francisco, CA.
190. Yopez, E.A., Perez-Ruiz, E.R., Rodriguez, J.C., Garatuza-Payan, J., Watts, C.J., Vivoni, E.R., Tarin, T., Mendez-Barroso, L. 2009. Eco-hidrologia del ciclo del carbono en ecosistemas estacionalmente secos de Sonora. Primer Simposio Mexicano del Carbono, Ensenada, BCN.
191. Mascaro, G., Vivoni, E.R. and Deidda, R. 2009. Downscaling satellite soil moisture estimates in the Southern Great Plains through a calibrated multifractal model for land surface applications. AGU Fall Conference. San Francisco, CA.
192. Gutierrez-Jurado, H.A., Vivoni, E.R., Bras, R. L., Harrison, J.B.J., Cikoski, C. and Istanbuloglu, E. 2009. On the observed ecohydrologic dynamics of a semiarid catchment with topographic-induced microclimatic conditions. AGU Fall Conference. San Francisco, CA.
193. Mniszewski, S., Fasel, P., Vivoni, E.R., White, A. and Springer, E. 2009. Increasing model efficiency for high-resolution Baron Fork using basin structural characteristics. SAHRA 9th Annual Meeting, Tucson, AZ.

194. Vivoni, E.R., Mahmood, T.H., Springer, E. and Moulton, D. 2009. Exploring hillslope-scale soil moisture and runoff generation through distributed simulations at the Los Alamos Ponderosa Pine Study Site. SAHRA 9th Annual Meeting, Tucson, AZ.
195. White, A.B., Langhorst, G., Mniszewski, S., Fasel, P., Li, J., Vivoni, E.R. and Springer, E. 2009. Climate-induced regional vegetation change and its hydrologic implications. SAHRA 9th Annual Meeting, Tucson, AZ.
196. Childers, D.L., Grimm, N.B., Heffernan, J., Mickinley, T. and Vivoni, E.R. 2010. How Internal Processes Affect Resilience to State Change in High-Disturbance Wetland Ecosystems. Flood Pulsed Wetlands International Symposium, Botswana.

Invited Lectures:

1. Vivoni, E.R. 2001. New Technologies for Environmental Engineering and Water Resources. Presentation at CSA Group, Inc. San Juan, Puerto Rico.
2. Vivoni, E.R. 2001. Environmental Engineering and GIS. Masters of Engineering Course Seminar: Invited Lecture. Massachusetts Institute of Technology. Cambridge, MA.
3. Vivoni, E.R. 2002. Hydrologic Field Data Streaming: Development, testing and application in the Williams River watershed, Australia. Ralph M. Parsons Laboratory Hydrology Seminar.
4. Vivoni, E.R. 2002. Real-time field data streaming: Development, testing and application in the Williams River watershed, Australia. Microsoft Corporation. Redmond, WA.
5. Vivoni, E.R. 2002. Incorporating Advanced Sensing and Modeling Tools into Environmental and Water Resources Research. Georgia Tech. Civil and Environmental Engineering, Atlanta, GA.
6. Vivoni, E.R. 2002. Emergency Response to Water-borne Disasters: A New Technology for Field Data Streaming. ATEEC Fellows Institute, University of Northern Iowa, IA.
7. Vivoni, E.R. 2003. Incorporating the spatial variability in topography, rainfall and hydrology within a watershed model. Rice University. Department of Civil and Environmental Engineering. Houston, TX.
8. Vivoni, E.R. 2003. High-resolution, multi-scale modeling of watershed hydrology: An opportunity to integrate remote sensing observations, field data collection and distributed modeling in a hydrologic observatory. CUAHSI Cyberseminar Distinguished Invited Lecture.
9. Vivoni, E.R. and others. 2003. Faculty mentoring leading to the doctorate- a job. New Mexico Alliance for Graduate Education and the Professorate. Annual Conference, Socorro, NM.
10. Vivoni, E.R. 2003. High-resolution, multi-scale modeling of watershed hydrology. Geophysical Fluid Dynamics Institute. Florida State University. Tallahassee, FL.
11. Vivoni, E.R., Ivanov, V.Y., Bras, R.L., Nardi, F. and Grimaldi, S. 2004. CNR-MIT Summer Course on Distributed Hydrologic Modeling with Geospatial Data and Tools. University of Rome "La Sapienza".
12. Vivoni, E.R. 2004. Watershed Hydrology Impacts of Vegetation Change: Data Collection, Distributed Modeling and Data Assimilation. SAHRA 4th Annual Conference, Albuquerque, NM.
13. Vivoni, E.R. 2004. Integrative, fine-resolution modeling in the Río Grande: Physical Realism, Model Coupling and Data Integration. SAHRA 4th Annual Conference, Albuquerque, NM.
14. Vivoni, E.R. 2004. Climate Variability, Vegetation Change and Hydrology in the Southwestern United States. SACNAS National Conference. Austin, TX.
15. Vivoni, E.R. 2005. Analysis of a Monsoon Flood Event in a Regional Semiarid Watershed. Hydrology and Water Resources Department, University of Arizona, Tucson, AZ.
16. Vivoni, E.R., Bowman, R.S., Wyckoff, R.L., Jakubowski, R. T. and Richards, K. 2005. A Monsoon Flood Event in the Rio Puerco and its Downstream Effects on Surface and Groundwater Interactions in the Rio Grande. New Mexico Tech, Socorro, NM.
17. Vivoni, E.R., Gutiérrez, H.A., Aragón, C.A., Rinehart, A., Wyckoff, R., Watts, C.J., Rodríguez, J.C. and Jackson, T.J. 2005. Hydrologic and Meteorological Characteristics of the North American Monsoon over Complex Terrain in Northern Sonora, Mexico. New Mexico Tech, Socorro, NM.
18. Vivoni, E.R. 2005. A Monsoon Flood Event in the Rio Puerco and its Downstream Effects on Surface and Groundwater Interactions in the Rio Grande. Department of Earth and Planetary Science. University of New Mexico, Albuquerque, NM.
19. Vivoni, E.R. 2005. Hydrology of Semiarid Regions with Monsoon Climates: Observations, Processes and Models. Department of Civil and Environmental Engineering. University of Illinois at Urbana-Champaign. Champaign, IL.
20. Vivoni, E.R. 2006. Long Road to Graduation: Forks, Dead-Ends and the End of the Tunnel. Keynote Address to Graduate Student Association Conference. New Mexico Tech, Socorro, NM.

21. Vivoni, E.R. 2006. Interdisciplinary Science for the Environment. University of El Paso, Texas.
22. Vivoni, E.R. 2006. Ecohydrology of seasonally-green desert landscape. CNR-MIT Summer School on Landscape form and processes: Models and applications in watershed analysis. Viterbo, Italy.
23. Vivoni, E.R. 2007. Landscape Organization and its Control on Runoff Processes. UCLA Department of Civil and Environmental Engineering. Los Angeles, CA.
24. Vivoni, E.R. 2007. Anticipated Modifications to Hydrological Processes due to Climate Change. EPSCOR Planning Meeting II. Las Cruces, NM.
25. Vivoni, E.R. 2007. Ecohydrology of Seasonally-Green Desert Landscapes. Princeton University, Princeton, NJ.
26. Vivoni, E.R. 2007. Ecohydrology of Seasonally-Green Desert Landscapes. Massachusetts Institute of Technology, Cambridge, MA.
27. Vivoni, E.R. 2007. Ecohydrology of Seasonally-Green Desert Landscapes. Università degli Studi di Cagliari, Cagliari, Sardinia, Italy.
28. Vivoni, E.R. 2007. Ecohydrology of Seasonally-Green Desert Landscapes. Arizona State University, Tempe, AZ.
29. Vivoni, E.R. 2007. Landscape Organization and its Control on Runoff Processes. H2CU-NMT Short Course on GIS Terrain Analysis. Columbia University, New York, NY.
30. Vivoni, E.R. 2007. Ecohydrology of Seasonally-Green Desert Landscapes. University of Connecticut, Storrs, CT.
31. Vivoni, E.R. 2007. Ecohydrology of Seasonally-Green Desert Landscapes. University of Texas at Austin, Austin, TX.
32. Vivoni, E.R. 2008. Ecohydrology of Seasonally-Green Desert Landscapes. Stanford University, Stanford, CA.
33. Vivoni, E.R. 2008. Ecohydrology of Seasonally-Green Desert Landscapes. University of Washington, Seattle, WA.
34. Vivoni, E.R. 2008. Ecohydrological Studies and Watershed Modeling. Jornada Experimental Range, Las Cruces, NM.
35. Vivoni, E.R. 2008. Ecohydrology of Seasonally-Green Desert Landscapes. University of Nevada-Reno, Reno, NV.
36. Vivoni, E.R. 2008. Ecohydrology of Seasonally-Green Desert Landscapes. Texas A&M, College Station, TX.
37. Vivoni, E.R. 2009. Ecohydrology of Seasonally-Green Systems of Southwestern North America. University of Arizona, Tucson, AZ.
38. Vivoni, E.R. 2009. Estudios Ecohidrológicos en Cuencas de la Región del Monzón Mexicano: Integración de observaciones de campo con modelos distribuidos de ecohidrología. Universidad de Guadalajara, Guadalajara, Jalisco, Mexico.
39. Vivoni, E.R. 2009. Insights on the Ecohydrology of the North American Monsoon region. Central Arizona-Phoenix, Long Term Ecological Research. Tempe, AZ.
40. Vivoni, E.R. 2009. Exploring the Hydrosphere: Using High Performance Computing and Distributed Data Sources for Hydrologic Forecasting. CISCO Planetary Skin Meeting. Tempe, AZ.
41. Vivoni, E.R. 2009. Exploring the Effects of Initial Soil Moisture on Rainfall Generation and Hydrologic Response through Physically-based Models. ASU Center for Environmental Fluid Mechanics. Tempe, AZ.
42. Vivoni, E.R. 2009. Climate Impacts on Tributary Flows: Using System Dynamics for River Basin Planning and Management in Participatory Environments. ASU Water Sim Meeting. Tempe, AZ.
43. Vivoni, E.R. 2009. Aspect Controls on Ecogeomorphology and Radiation Fluxes of a Semiarid Basin. University of Arizona, Tucson, AZ.

Book Chapters and Proceedings

1. Vivoni, E.R., Camilli, R., Rodríguez, M.A., Sheehan, D.D. and Entekhabi, D. 2002. Development of mobile computing applications for hydraulics and water quality field studies. In: *Hydraulic Information Management*. Blain, W.R. and Brebbia, C.A. (ed). WIT Press. Southampton. pp. 275-284.
2. Falorni, G., Vivoni, E.R., Teles, V. and Bras, R.L. 2002. Analysis of a SRTM-derived DEM of the Little Washita watershed. *Proceedings of the 1st CNR-Princeton Workshop*. Princeton, NJ.

3. Vivoni, E.R., Grimaldi, S., Nardi, F., Ivanov, V.Y., Castelli, F., Bras, R.L. and Ubertini, L. 2004. Assessing Hydrological Extreme Events with Geospatial Data and Models. *EOS Transactions, American Geophysical Union*. 85 (39): 371, 375.
4. Vivoni, E.R., Mendez-Barroso, L.A., Rodriguez, J.C. and Watts, C.J. 2008. On the spatiotemporal organization of soil moisture in the North American Monsoon region. *Catchment-scale Hydrological Modelling & Data Assimilation International Workshop*. Melbourne, Australia.
5. Vivoni, E.R., Watts, C.J., Rodriguez, J.C., Garatuzza-Payan, J., Mendez-Barroso, L.A., Yopez, E.A., Saiz-Hernandez, J. and Gochis, D.J. 2008. Relation between Surface Flux Measurements and Hydrologic Conditions in a Subtropical Scrubland during the North American Monsoon. *CLIVAR Exchanges Newsletter*. 13(2): 21-23.
6. Vivoni, E.R. 2009. Progress on Understanding Land-Atmosphere Interactions and Surface Hydrology during the North American Monsoon. *VAMOS! Newsletter of the Variability of the American Monsoon Systems Panel*. (In Press).

Publicity

1. Vivoni, E.R. 2001. CEE Students develop and test new tools for environmental field sampling. *Civil and Environmental Engineering Department at MIT Newsletter*. 15(4): 5-6.
2. Environmental field work gets boost. 2002. *MIT Tech Talk*. Volume 46. Number 17. Page 1 and 8.
3. Environmental engineering goes wireless. 2002. *Technology Review: MIT's Magazine of Innovation*. MIT News Section. 77 Mass Ave. May issue. pg 4.
4. *Software Tools for Environmental Field Study*. 2001. I-Campus: MIT/Microsoft Alliance publication.
5. Featured on Univision.com in article on Hispanic Students at MIT, 2001.
6. "What price water?" *El Defensor Chieftain*, Vol. 138, No. 28. April 7, 2004. Rose Baca.
7. New Mexico Tech Graduate Student to Model the Rio Puerco Basin, *Divining Rod: A publication of the New Mexico Water Resources Institute*, July, 2004.
8. Distributed Hydrologic Modelling using Geospatial Data and Tools, *International Association of Hydrologic Sciences, Newsletter* 81, 2004.
9. NM Tech signs pact with Italian universities. *New Mexico Business Weekly*. May, 2005.
10. Tech signs collaborative pact with 15 Italian universities. *El Defensor Chieftain*, Vol. 139, No. 43. May 28, 2005. Enrique Vivoni.
11. Valles Caldera Field Campaign. *SAHRA Ephemeral Flow Newsletter*, September, 2005.
12. Study in rainfall and runoff at Tech taught by Italian hydrologist. *El Defensor Chieftain*, Vol. 140, No. 4, Jan 14, 2006, Argen Duncan.
13. Italian researchers work with Tech as part of agreement. *El Defensor Chieftain*, Vol, 140. July 26, 2006, Argen Duncan.
14. *Great Minds, New Mexico Technology Research Collaborative*, Summer 2006, George Zamora.
15. Fifty Years of Hydrology at the College on the Rio Grande, *Techtonics Alumni Newsletter*, October 2006, Enrique Vivoni.
16. New Mexico Tech involved in international study of summer monsoons. *New Mexico Tech and Universidad de Sonora Press Releases*, October 2006.
17. *Gallery of Geology – High Water on the Rio Puerco*, *New Mexico Geology*, 29(2), May 2007.
18. New Mexico Tech student used remotely sensed datasets to improve model, *Divining Rod: A publication of the New Mexico Water Resources Institute*, September, 2007.
19. The Effects of the Rainstorm – Report on Hugo Gutierrez-Jurado's Research, *El Defensor Chieftain*, 142(6): A8, Argen Duncan.
20. ASU researcher aims to boost stewardship of federal lands, *ASU Insight*, 29(35): 2, Nicole Staab and Matt Evans.

Sponsored Research Projects

1. Distributed Hydrologic Modeling for Water Resources Planning: A GIS-based, System Dynamics Approach. Sandia National Laboratories (\$20,000).
2. Hydrologic Dynamics of Climate and Land-use Change in the Rio Puerco River Basin, New Mexico. Student Water Research Award. New Mexico Water Resources Institute (\$5,000).
3. Integrating Satellite Rainfall Estimates with Weather Radar Data for Hydrologic Assessments in New Mexico. New Mexico Space Grant Consortium (\$15,000).

4. Dynamic Hydrology and Ecosystem Modeling in Semi-Arid Complex Terrain using NASA EOS Observations from TERRA and AQUA. NASA Earth Science Enterprise (\$252,786).
5. High Performance, Multiple Resolution Modeling of Semi-Arid Hydrology at Regional Scales. NSF Hydrological Sciences (\$130,076).
6. A CUAHSI Vision Paper on the Ecohydrology of Arid and Semiarid Environments. CUAHSI Collaborator with Brent Newman (LANL) (\$5,000).
7. GIS-based System Dynamics Modeling of Watershed Processes for Water Resources Management of the Rio Grande, New Mexico. Sandia National Laboratories (\$80,000).
8. New Mexico EPSCoR Phase II. National Science Foundation: EPSCoR Program. (\$794,831).
9. Interdisciplinary Science for the Environment: Research Experience for Undergraduates at New Mexico Tech. National Science Foundation: Special Projects, Undergraduate Programs (\$261,945).
10. Spatial Scaling of Soil Moisture and Evapotranspiration in the Upper Río Grande Basin. Los Alamos National Laboratory – New Mexico Tech Program (\$49,961).
11. Linking Atmospheric Dynamics with Land-Surface Hydrology over Complex Terrain: A Multiple Resolution Modeling Approach. U.S. Army Research Office (\$148,474).
12. Hydrometeorological Field Studies during the North American Monsoon in the Valles Caldera National Preserve. Student Water Research Award. New Mexico Water Resources Institute (\$5,000).
13. Development of Geospatial Modeling Tools for Watershed-based Water Resources Management in New Mexico. New Mexico Water Resources Research Institute, Seed-Money Grant (\$30,000).
14. Effects of Land-Cover Change on Streamflow Yield through Watershed Modeling in the Gila River Basin. Sandia National Laboratory. (\$59,648).
15. A US-Mexico Collaboration on Hydrological Studies of the North American Monsoon. National Science Foundation (\$121,000).
16. Integration of Remote Sensing Data with Distributed Modeling in Jemez River basin. New Mexico Water Resources Research Institute (\$5,000).
17. Impacts of Climate Change on Water Resources in the Rio Grande Basin based on High Performance Computing Simulations. LANL-NMT Collaborative Agreement. (\$66,904).
18. Investigation of the Scaling Properties of Terrestrial Hydrology. NASA THP. (\$151,086).
19. Improved Streamflow Forecasts in the Rio Sonora Basin. NOAA Climate Office Program. (\$390,943).
20. Improved Hydrometeorological Forecasting through Physically-based Distributed Models. NWS Office of Hydrologic Development (\$260,630).
21. Supplement IRES: US-Mexico Collaboration on Hydrological Studies of the North American Monsoon. National Science Foundation (\$10,300).
22. On Topographic Imprint of Hillslope Aspect: Deciphering Aspect Control on Vegetation and Landform in Central New Mexico. NSF Geomorphology and Land Use (\$109,581).
23. US-Mexico Studies on Ecohydrological Interactions during the North American Monsoon. U.S. Fulbright Program (\$35,000).
24. Effects of Seasonal Land Surface Conditions on Hydrometeorological Dynamics in Southwestern North America. Army Research Office (\$999,960).

Service Activities:

1. Undergraduate Advisor for Environmental Science with Hydrology Option, 2003-2008.
2. Undergraduate/Graduate Advisor for 5-yr B.S. and M.S. program in Hydrology, 2003-2008.
3. New Mexico Tech Hydrology Website Coordinator, 2003-2008.
4. New Mexico Tech Society of Hispanic Professional Engineers Advisor, 2003-2008.
5. New Mexico Alliance for the Graduate Education and Professorate Steering Committee, 2004-2006.
6. Member of Department Chair Selection Committee, 2006.
7. Organizer for AGEP Spring Workshop on “Responsibility and Communities: Practicing Science Responsibly: A Discussion on New Mexico Water Issues”.
8. MESA (Mathematics Engineering Science Achievement) Jamboree Science Judge, 2004-2005.
9. Editorial Board of Revista Latinoamericana de Recursos Naturales, 2005-present.
10. Organized CUAHSI Hydrologic Observatory in the Rio Grande Proposal, 2004.
11. CNR-MIT Summer School on Distributed Hydrologic Modeling Faculty, 2004.
12. Organized and led Soil Moisture Field Campaign in Sonora, MX as part of SMEX04-NAME, 2004.
13. Participated in 2004 NSF National Workshop on Water: Challenges at the Intersection of Human and Natural Systems, Richland, WA.

14. Session co-Chair for GSA 2004 Annual Meeting: “Hydrogeology: Flow and Transport Simulations”
15. SACNAS 2004 Annual Conference Panel and Presentation on “Frontiers in Geoscience”.
16. Session Chair for AMS 2005 Annual Meeting: “Understanding and predicting the water cycle across scales”
17. Horton Student Research Award, American Geophysical Union, Committee Member, 2005–2008.
18. Session co-Chair for Spring AGU 2005 Annual Meeting: “Biosphere-Atmosphere-Hydrology Interactions in Semiarid Regions”.
19. New Mexico Science and Engineering Fair Judge, 2005-2006.
20. New Mexico Tech – H2CU Collaborative Agreement co-Director, 2005-2008.
21. Sevilleta National Wildlife Refuge, Permit Application Committee, 2005-2008.
22. Interdisciplinary Science for the Environment: Research Experience for Undergraduates, Advisor, Traveling Lecture Series, Summers 2005-2007.
23. GEM 2005 National Conference Panel and Presentation on NSF Science and Technology Centers.
24. Session co-Chair for Fall AGU 2005 Meeting: “Advances in Distributed Modeling of Watershed Processes From Improved Physical Representation, Remote Sensing, and Numerical Techniques”.
25. Member of the NM Governor’s Climate Change and its Impact on Water Resources Committee.
26. Member of the North American Monsoon Experiment (NAME) Science Working Group (SWG).
27. Outreach program to Mesa High School students, 2005-2007.
28. Member of Department System Engineer Committee, Fall 2005.
29. Panelist, National Science Foundation, Hydrological Sciences, 2006.
30. Keynote Address to Graduate Student Association Research Conference, 2006.
31. SACNAS 2006 Annual Conference Session Co-Chair: “In Their Own Words: Participant Perspectives on Pipeline Programs”.
32. Outreach and Recruiting Activities for REU Program, UTEP, 2006.
33. CNR-MIT Summer School Invited Lecturer, 2006.
34. AGU Ecohydrology Technical Committee Member, 2006-present.
35. New Mexico Tech – Universidad de Sonora Collaborative Agreement co-Director, 2006-2008.
36. Outreach to New Mexico Office of State Engineering, Hydrological Modeling Seminar, 2006.
37. EES Hydrology Faculty Search, co-Chair, 2006.
38. Organized and led Soil Moisture Field Campaign in Sonora, MX, Summers 2006, 2007, 2008.
39. Editorial Board of Environmental Modeling and Software, 2006-present.
40. Co-Chair Hydrology Faculty Search Committee, 2006.
41. Admissions Coordinator, Hydrology Program, 2006-2008.
42. New Mexico WRI Annual Conference Planning Committee, 2007-2008.
43. Macey Scholarship Selection Committee, 2007-2008.
44. Session co-Chair for Spring AGU 2007 Meeting: “Land Surface Hydrology in North American Monsoon Region”.
45. Session co-Chair for IUGG General Assembly: “Surface and Groundwater Interactions”, 2007.
46. Organizer and Lecturer, Cagliari Summer School on Distributed Hydrologic Modeling with Geospatial Models and Data, Cagliari, Italy, 2007.
47. Organizer and Lecturer, H2CU-NMT Short Course on GIS Terrain Analysis for Hydrogeomorphic Applications, Columbia University, New York, 2007.
48. Session co-Chair for Fall AGU 2008 Annual Meeting: “Remotely-sensed DTMs for Hydrogeomorphic Applications”.
49. New Mexico Tech American Disabilities Act (ADA) Committee Member, 2007-2008.
50. Hydrological Synthesis Activity at University of Illinois, 2007-present.
51. NM EPSCoR State Board Membership, 2007-2008.
52. HENAAC (Hispanic Engineering National Achievement Award Conference) Participation, 2007.
53. Organizer and Lecturer, UNISON-NMT Winter School on Distributed Hydrologic Modeling, 2007.
54. Associate Editor, Journal of Hydrology, 2008-present.
55. Guest Editor, Special Issue of Journal of Arid Environments, 2008-2009.
56. Guest Editor, Special Issue of Geomorphology, 2008-2009.
57. Session co-Chair for Fall AGU 2009 Annual Meeting: “Observing and predicting hydroclimatic processes in the North American Monsoon region.”
58. Program Committee, AGU Chapman Conference on Examining Ecohydrological Feedbacks of Landscape Change Along Elevation Gradients in Semiarid Regions, 2009.

59. National Ecological Observation Network (NEON), Domain 14 Science and Education Coordination Committee, Member, 2009-present.

Advising Experience:

Graduate Students:

1. Robert Wyckoff. Hydrologic Dynamics of Climate and Land-use Change: Multiple-resolution modeling of the Rio Puerco Basin, New Mexico. (M.S., 2007, Graduated).
2. Carlos Aragon. Distributed Watershed Modeling for Water Resources Planning: A GIS-based System Dynamics Approach. (M.S., 2008, Graduated).
3. Alex Rinehart. High-Performance, Multiple-Resolution Modeling of Semi-Arid Hydrology at Regional Scales: Data Assimilation and Field Data Collection. (M.S, 2008, Graduated).
4. Kwain (Bill) Tai. Linking Atmospheric Dynamics with Land-Surface Hydrology over Complex Terrain: A Multiple Resolution Modeling Approach. (M.S., 2008, Graduated).
5. Hugo Gutierrez-Jurado. Dynamic Hydrology and Ecosystem Modeling in Semi-Arid Complex Terrain using NASA EOS Observations from TERRA and AQUA. (Ph.D. Candidate, 2004-present).
6. Luis Mendez-Barroso. Effects of Vegetation Greening on Hydrologic Conditions in the Rio Sonora. (M.S. Candidate, 2005-present).
7. Taufique Mahmood. Integration of Remotely-Sensed Fields into Distributed Hydrological Modeling for Calibration and Testing in the Rio Grande. (Ph.D. Candidate, 2006-present).
8. Hernan Moreno. Improved Hydrometeorological Forecasting using Physically-based Distributed Models (Ph.D. Candidate, 2008-present).

Visiting Students:

1. Fernando Nardi. Investigating a Floodplain Width Scaling Relationship (University of Rome, "La Sapienza", 2-weeks, 2004).
2. Giuseppe Mascaro. Downscaling Precipitation Fields and its Effects on Hydrological Response. (University of Cagliari, 6 months, 2006).
3. Francesco Di Benedetto. Geomorphic Controls on Hydrological Response and the Impact of DEM Interpolation (University of Rome, "La Sapienza", 8 months, 2006).
4. Lorena Liuzzo. Relating Hydrological Complexity to Surface-Subsurface Mechanisms. (University of Palermo, 8 months, 2007).
5. Luca Martini. Parameter Estimation and Testing for PEM4PIT pit filling algorithm (University of Rome, "La Sapienza", 4 months, 2007).
6. Giovanni Forzieri. Remote Sensing of Vegetation dynamics (University of Florence, 8 months, 2008).

Post-Doctoral Associates:

1. Mekonnen Gebremichael. Scaling and Variability of Precipitation and Hydrologic Fields; Distributed Hydrological Modeling with High Performance Computing; Remote Sensing; Data Analysis. (2006).
2. Ricardo Mantilla. Distributed Hydrological Modeling: High Performance Computing, Model Complexity and River Scaling Laws. (2006-2008).
3. Soni Yatheendradas. Climate Change Impacts on Water Resources and Hydrological Modeling in Semiarid Basins. (2007-2008).
4. Giuseppe Mascaro. Scaling properties of Rainfall and Soil Moisture and Hydrologic Response (2008).

Undergraduate Students:

1. Benjamin Brooks. Hydrologic Data Analysis and Field Data Collection for Semi-Arid Catchments in New Mexico: The Rio Puerco and Rio Salado Basins. (B.S. Candidate, Summer 2004).
2. Alexis Martinez. Semiarid Hydrology in the Upper Rio Grande basin: Data Analysis, Modeling and Community Outreach. (B.S. Candidate, Fall 2004).
3. Colin Cikoski. Digital topographic models of New Mexico. (B.S. Candidate, Spring 2004)
4. Jaron Andrews and Alexandra Vargas. Rainstorm-initiated Biogeochemical Cycling in Semiarid Ecosystems (B.S. Candidate, REU, Summer 2005).
5. Frederic Tapaha, Sabrina Canalda and Eva Osmer. Rainstorm-initiated Biogeochemical Cycling in Semiarid Ecosystems (B.S. Candidate, REU, Summer 2005).
6. Phillip Turner. Hydrologic Instrumentation in the Sevilleta National Wildlife Refuge, New Mexico. (B.S., Summer 2006).

7. Sarah Gonzales. Water Resources Management in Rio Grande (B.S. Candidate, 2006).
8. Frederic Tapaha. Hydrologic Instrumentation in the Sevilleta National Wildlife Refuge, New Mexico. (B.S. Candidate, Fall 2006).
9. Alexis Martinez and Whitney DeFoor. Field Campaign and Hydrologic Instrumentation in Sonora, Mexico. (B.S. Candidate, Summer 2007).
10. Alexis Martinez, James Craft, Kim Bandy and Tom Dotson. Field Campaign and Hydrologic Instrumentation in Sonora, Mexico. (B.S. Candidate, Summer 2008).
11. Rhonda Trujillo and Christine Hernandez. Hydrologic Instrumentation in the Sevilleta National Wildlife Refuge, New Mexico. (B.S., Summer 2008).

Thesis Committees:

1. Chris Haley (M.S. in Geology, advisor Peter Mozley), completed May 2004.
2. Renee Sandvig (M.S. in Hydrology, advisor Fred Phillips), completed April 2005.
3. Huade Guan (PhD in Hydrology, advisor John Wilson), completed June 2005.
4. Geoffrey Marshall (M.S. in Hydrology, advisor Xiaobing Zhou), completed May 2005.
5. Setsuko Shindo (M.S. in Hydrology, advisor Penny Boston), completed June 2005.
6. Sung-ho Hong (PhD in Hydrology, advisor Jan Hendrickx), completed March 2008.
7. Heather Lacey (M.S. in Hydrology, advisor Fred Phillips), completed May 2006.
8. Ken Stanley (Master of Science Teaching, advisor Dave Norman), completed August 2006.
9. Berta Gutierrez (Master of Science Teaching, advisor Bill Chavez), completed May 2007.
10. Ann Ahern Gomez (Master of Science Teaching, advisor Bill Chavez), completed May 2007.
11. Nicole Alkov (M.S. in Hydrology, advisor Jan Hendrickx), completed September 2008.
12. Jesus Gomez (M.S. in Hydrology, advisor Jan Hendrickx), completed May 2008.
13. Elizabeth Bastien (M.S. in Hydrology, advisor Fred Phillips), completed December 2008.
14. Marty Frisbee (PhD in Hydrology, advisor Fred Phillips).
15. Carlos Ramirez (M.S. in Hydrology, advisor Bruce Harrison).

External Committees:

1. Maceo Martinet (Ph.D in Ecology, advisor Cliff Dahm, University of New Mexico), completed October 2008.
2. Giuseppe Mascaro (Ph.D. in Civil Engineering, advisor Roberto Deidda, University of Cagliari), completed January 2008.
3. Alejandro Flores (Ph.D. in Hydrology, advisor Rafael Bras, MIT), completed October 2008.
4. Gautam Bisht (Ph.D. in Hydrology, advisor Rafael Bras, MIT)
5. Agustin Robles Morua (Ph.D. in Environmental Engineering, advisor Alex Mayer, Michigan Tech).