ERKAN ISTANBULLUOGLU

Curriculum Vitæ

Department of Civil and Environmental Engineering
University of Washington
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EDUCATIONAL HISTORY

Utah State University, Logan, UT
PhD., Civil and Environmental Engineering, 2003
June 2003

Uludag University, Bursa, Turkey
MS., Agricultural Engineering, 1998
June 1998

Uludag University, Bursa, Turkey
BS., Agricultural Engineering, 1996
June 1996

EMPLOYMENT HISTORY

University of Washington, Civil and Environmental Engineering
Seattle, WA, USA
Professor, 2019

University of Washington, Civil and Environmental Engineering
Seattle, WA, USA
Associate Professor, 2013-2019

University of Washington, Civil and Environmental Engineering
Seattle, WA, USA
Assistant Professor, 2009-2013

University of Nebraska,
Lincoln, NE, USA
Geosciences & Biological Systems Engineering, 2005 – 2008
School of Natural Resources & Biological Systems Engineering, 2008 – 2009
Assistant Professor

Massachusetts Institute of Technology, Civil and Environmental Engineering
Cambridge, MA, USA,
Postdoctoral Associate, 2002-2005

Utah State University, Civil and Environmental Engineering & Utah Water Research Laboratory,

Logan, UT, USA
Research Assistant, 1999-2002

AWARDS AND HONORS

Water Resources Research 2015 editor's choice award.

Deutscher Akademischer Austausch Dienst (DAAD) Scholarship, 1995

PRODUCTS

Software:

Package name: The Landlab: A Python-based modeling toolkit for modeling earth surface processes Release date: 2013-03-24,
MIT License, copyright (c) 2013 The *Landlab* Team: Greg Tucker, Nicole Gasparini, Erkan Istanbulluoglu, Daniel Hobley, Sai Nudurupati, Jordan Adams, Eric Hutton

Landlab available from:
http://landlab.github.io/#/
Landlab Tutorials:
https://github.com/landlab/landlab/wiki/Tutorials
Landlab on Hydroshare, available for cloud computing applications for research and teaching:
https://www.hydroshare.org/group/4

PUBLICATIONS

Superscript legend: my graduate student[1], postdoc or research scientist[2], visiting graduate student[3] other graduate student[4], other postdoc[5], visiting scientist[6].

Refereed archival journal publications

1. Barnhart, K. R., Hutton, E. W. H., Tucker, G. E., Gasparini, N. M., Istanbulluoglu, E., Hobley, D. E. J., Lyons, N. J., Mouchene, M., Nudurupati, S. S., Adams, J. M., and Bandaragoda, C.: Short communication: Landlab v2.0: a software package for Earth surface dynamics, Earth Surf. Dynam., 8, 379–397, https://doi.org/10.5194/esurf-8-379-2020, 2020.
2. Beveridge C., Istanbulluoglu E., Bandaragoda C., and A. Pfeiffer (2020). A channel network model for sediment dynamics over watershed management time scales. *Journal of Advances in Modeling Earth Systems* (In Press).
3. Morgan J.A., Kumar N., Horner-Devine A.R., Ahrendt S., Istanbullouglu E., C. Bandaragoda (2020). The use of a morphological acceleration factor in the simulation of large-scale fluvial morphodynamics. *Geomorphology* 356 (2020) 107088.
4. Zhang Y., Hassan M, King L., Fu X., Istanbulluoglu E., and G. Wang (2020). Morphometrics of China's Loess Plateau: The spatial legacy of tectonics climate, and loess deposition history. *Geomorphology* 354 (2020) 107043.
5. Strauch, R., Istanbulluoglu, E., and Riedel, J. (2019). A new approach to mapping landslide hazards: a probabilistic integration of empirical and process-based models in

the North Cascades of Washington, U.S.A., *Nat. Hazards Earth Syst. Sci.*, 19, 2477–2495.

6. Yetemen O., Saco P., and E. Istanbulluoglu (2019). Ecohydrology controls the geomorphic response to climate change, *Geophysical Research Letters*, 46.
7. Di Chongli, Wang T., Istanbulluoglu E., Jayawardena A.W., Li S., and X Chen. (2019) On the deterministic chaotic dynamics in soil moisture, *Journal of Hydrology,* Vol. 578, Nov. 2019, 124048.
8. Pfeiffer, A. M., Collins, B. D., Anderson, S. W., Montgomery, D. R., & Istanbulluoglu, E. (2019). River bed elevation variability reflects sediment supply, rather than peak flows, in the uplands of Washington State. Water Resources Research, 55.
9. Bandaragoda C., A. Castronova, E. Istanbulluoglu, R. Strauch, S. S. Nudurupati1 J. Phuong, J. M. Adams, N. M. Gasparini, K. Barnhart, E. W. H. Hutton, D. E. J. Hobley, N. Lyons, G. E. Tucker, D.G. Tarboton, R. Idaszak, S. Wang (2019). Enabling Collaborative Numerical Modeling in Earth Sciences using Knowledge Infrastructure. *Env. Modelling and Software, Vol 120, October 104424*.
10. Bloschl G., Bierkins M.F.P., Chambel A. et al (2019). Twenty-three Unsolved Problems in Hydrology (UPH)- a community perspective. Hydrological Sciences Journal, 64:10, 1141-1158, DOI: 10.1080/02626667.2019.1620507
11. Phuong J.[1], C. Bandaragoda[2], E. Istanbulluoglu, C. Beveridge[1], R. Strauch[1], L. Setiawan, and S. D. Mooney (2019). Automated retrieval, preprocessing, and visualization of gridded hydrometeorology data products for spatial-temporal exploratory analysis and intercomparison. *Environmental Modeling and Software.* Vol 116. p. 119-30:
12. Frans C.[1], E. Istanbulluoglu, D. P. Lettenmaier, A. Fountain, and J. Reidel (2018). Glacier recession and the response of summer streamflow in the Pacific Northwest United States, 1960-2099. *Water Resour. Res*., 54. https:// doi.org/10.1029/2017WR021764 (Highlighted by AGU Blocksphere, 08/16/2018).
13. Wright O.M.[1], E. Istanbulluoglu, R.R. Horner, C. L. DeGasperi, and J. Simmonds (2018). Is there a limit to bioretention effectiveness? Evaluation of stormwater bioretention treatment using a lumped ecohydrologic watershed model and ecologically-based design criteria. *Hydrological Processes*. 32: 2318-2334. doi.org/10.1002/hyp.13142.
14. Strauch R[1]., E. Istanbulluoglu, S.S Nudurupati[1], C.Bandaragoda[2], N.M. Gasparini, and G.E. Tucker (2018). A hydro-climatological approach to predicting regional landslide probability using Landlab. *Earth Surf. Dynam*., 6: 1–26, 2018. doi.org/10.5194/esurf-6-1-2018.
15. Han, P.-F.[4], X.-S. Wang, and E. Istanbulluoglu. (2018). A null-parameter formula of storage-evapotranspiration relationship at catchment scale and its application for a new hydrological model. *Journal of Geophysical Research: Atmospheres*, 123: 2082-2097. doi.org/10.1002/2017JD027758.
16. Pelletier, J.D., G. A. Barron-Gafford, H. Guttierez-Jurado, E. S. Hinckley, E. Istanbulluoglu, L.A. McGuire, G. Niu, M. J. Poulos, C. Rasmussen, P. Richardson, T. L. Swetnam, and G E. Tucker (2018). Which way do you lean? Using slope aspect variations to understand Critical Zone processes and feedbacks. *Earth Surf. Process. and Landforms*, 43: 1133-1154. doi: 10.1002/esp.4306.

17. Bastola, S.[5], Y.G.[5] Dialynas, R. L. Bras, L.V. Noto, and E Istanbulluoglu (2018). The role of vegetation on gully stabilization at a severely degraded landscape: a case study from Calhoun experimental critical zone observatory. *Geomorphology*, 308: 25-39. doi: 10.1016/j.geomorphology.2017.12.032.

18. Adams, J. M.[4], N. M. Gasparini, D. E. J. Hobley, G. E. Tucker, E. W. H. Hutton, S. S. Nudurupati[1], and E Istanbulluoglu, (2017). The Landlab OverlandFlow component: a Python library for computing shallow-water flow across watersheds, *Geosci. Model Dev*., 10: 1645–1663.

19. Hobley, D. E. J.[5], J. M. Adams[4], S. S. Nudurupati[1], E. W. H. Hutton, N. M. Gasparini, E. Istanbulluoglu, and G. E. Tucker, (2017): Creative computing with Landlab: an open-source toolkit for building, coupling, and exploring two-dimensional numerical models of Earth-surface dynamics, *Earth Surf. Dynam*., 5: 21-46, doi:10.5194/esurf-5-21-2017.

20. Caracciolo, D.[3], E. Istanbulluoglu, and L.V. Noto (2017). An ecohydrological cellular automaton model investigation of juniper pine tree encroachment in a western North America landscape. *Ecosystems*, 20: 1114-1123, doi:10.1007/s10021-016-0096-6.

21. Mykleby P.M.[4], J.D. Lenters, G.J. Cutrell, K.S. Herrman, E Istanbulluoglu, D.T. Scott, T. E. Twine, Christopher J. Kucharik, T. Awada, and M. E. Soylu (2016). Water and energy balance response of a riparian wetland to herbicide treatment of invasive *Phragmites Australis*. *Journal of Hydrology*, 539: 290-303, 10.1016/j.jhydrol.2016.05.015.

22. Frans, C[1]., E. Istanbulluoglu, D. P. Lettenmaier, G. C. Clarke, T. Bohn, and M. Stumbaugh (2016). Implications of decadal to century scale glacio-hydrological change for water resources of the Hood River Basin, OR U.S.A., *Hydrol. Process.,* 30: 4314-4329, doi: 10.1002/hyp.10872.

23. Caracciolo, D.[3], E. Istanbulluoglu, L.V. Noto, and S. Collins (2016). Mechanisms of shrub encroachment into Northern Chihuahuan Desert grasslands and impacts of climate change investigated using a cellular automata model. *Advances in Water Resources,* 91: 46–62.

24. Tucker G.E., D. E. Hobley[5], E. Hutton, N.M. Gasparini, E. Istanbulluoglu, J.M. Adams[4], and S. S. Nudurupati[1] (2016). CellLab-CTS 2015: continuous-time stochastic cellular automaton modeling using Landlab. *Geosci. Model Dev*., 9: 823–839.

25. Clark M.P., B. Schaefli, S.J. Schymanski, L. Samaniego, C.H. Luce, B. M. Jackson, J. E. Freer, J. R. Arnold, R. D. Moore, E. Istanbulluoglu, and S. Ceola (2016). Improving the theoretical underpinnings of process-based hydrologic models. *Water Resour. Res.*, 52: 2350-2365, doi:10.1002/ 2015WR017910.

26. Frans, C. [1], E. Istanbulluoglu, D. P. Lettenmaier, B. Naz, G. Clarke, T. Condom, P. Burns, and A. Nolin (2015). Predicting glacio-hydrologic change in the headwaters of the Zongo River, Cordillera Real, Bolivia, *Water Resour. Res*., 51, doi:10.1002/ 2014WR016728.

27. Yetemen, O.[1], E. Istanbulluoglu, and A. Duvall (2015). Solar Radiation as a Global Driver of Hillslope Asymmetry. *Water Resour. Res.*, 51: 9843-9861, doi:10.1002/ 2015WR017103.

28. Yetemen, O.[1], E. Istanbulluoglu, J. H. Flores-Cervantes[2], E. R. Vivoni, and R. L. Bras (2015), Ecohydrologic role of solar radiation on landscape evolution, *Water Resour. Res.*, 51: 1127-1157. doi:10.1002/2014WR016169.

29. Chang, J.[6], Y. Wang[6], E. Istanbulluoglu, T. Bai, Q. Huang, D.Yang, and S. Huang (2015). Impact of climate change and human activities on runoff in the Weihe River Basin, China, *Quaternary International*, 381: 169-179. http://dx.doi.org/10.1016/j.quaint.2014.03.048.

30. Wang T.[2], E. Istanbulluoglu, D. Wedin, and P Hanson (2015). Impacts of devegetation on the temporal evolution of soil saturated hydraulic conductivity in a vegetated sand dune area. *Environ Earth Sci.* 73:7651–7660. DOI 10.1007/s12665-014-3936-8.

31. Caracciolo D.[3], L.V. Noto, E. Istanbulluoglu, S. Fatichi, and X. Zhou (2014). Climate change and ecotone boundaries: Insights from a cellular automata ecohydrology model in a Mediterranean catchment with aspect controlled vegetation patterns. *Advances in Water Resources*, 73: 159-175. doi.org/10.1016/j.advwatres.2014.08.001.

32. Flores-Cervantes, J.H.[2], E. Istanbulluoglu, E.R. Vivoni, and R.L. Bras (2014). A geomorphic perspective on terrain-modulated organization of vegetation productivity: Analysis in two semiarid grassland ecosystems in Southwestern United States. *Ecohydrol*., 7: 242–257. doi: 10.1002/eco.1333.

33. Gutierrez-Jurado, H. A.[4], E. R. Vivoni, C. Cikoski[4], J. B. J. Harrison, R. L. Bras, and E. Istanbulluoglu (2013). On the observed ecohydrologic dynamics of a semiarid basin with aspect-delimited ecosystems, *Water Resour. Res*., 49: 1-22. doi:10.1002/ 2013WR014364.

34. Zhou X., E Istanbulluoglu, and E. R. Vivoni (2013). Modeling the ecohydrological role of aspect-controlled radiation on tree-grass-shrub coexistence in a semiarid climate, *Water Resour. Res*., 49: 2872-2895. doi:10.1002/wrcr.20259.

35. Bracht-Flyr B.[1], E. Istanbulluoglu, and S. Fritz (2013). A hydro-climatological lake classification model based on the Budyko hypothesis and its evaluation using global data. *Journal of hydrology*, 486: 376–383.

36. Frans, C.[1], E. Istanbulluoglu, V. Mishra, F. Munoz-Arriola and D. P. Lettenmaier (2013). Are climatic or land cover changes the dominant cause of runoff trends in the Upper Mississippi River Basin? *Geophys. Res. Lett*., 40: 1104–1110, doi:10.1002/grl.50262.

37. Soylu E.[1], J.D. Lenters, E. Istanbulluoglu, and S.P. Loheide II (2012). On evapotranspiration and shallow groundwater fluctuations: A Fourier-based improvement to the White method. *Water Resour. Res*., 48: W06506, doi:10.1029/2011WR010964.

38. Herrman, K.S.[2], D.T. Scott, J.D. Lenters, and E. Istanbulluoglu (2012). Nutrient loss following *Phragmites australis* removal in controlled soil mesocosms. *Water, Air & Soil Pollution,* 223: 1-12. doi 10.1007/s11270-012-1113-9.

39. Francipane A., V.Y. Ivanov, L.V. Noto, E. Istanbulluoglu, E. Arnone, R.L. Bras (2012). tRIBS-Erosion: A parsimonious physically-based model for studying catchment hydro-geomorphic response. *CATENA*, 92: 216-231, doi:10.1016/j.catena.2011.10.005.

40. Istanbulluoglu E., T. Wang[2], O. M. Wright[1], and J.D. Lenters (2012). Interpretation of hydrological trends from a water balance perspective: The role of groundwater storage in the Budyko hypothesis, *Water Resour. Res*., 48: W00H16, doi:10.1029/ 2010WR010100.

41. Istanbulluoglu E., T. Wang[2], and D.A. Wedin (2012). Evaluation of ecohydrologic model parsimony at local and regional scales in a semiarid grassland ecosystem. *Ecohydrol.* 5: 121–142, doi: 10.1002/eco.211.

42. Lenters J.D., G. J.[4] Cutrell, E. Istanbulluoglu, D. T. Scott, K. S. Herrman, A. Irmak, D. E. Eisenhauer (2011). Seasonal Energy and water balance of a *Phragmites Australis*-

dominated wetland in the Republican River Basin of south-central Nebraska (USA), *Journal of Hydrology*, 408: 19–34. doi:10.1016/j.jhydrol.2011.07.010

43. Soylu E.[1], E. Istanbulluoglu, J.D. Lenters, and T. Wang[2] (2011). Quantifying the impact of groundwater depth on evapotranspiration in a semi arid grassland region, *Hydrol. Earth Syst. Sci.,* 15: 787–806. doi:10.5194/hess-15-787-2011.

44. Yetemen O.[1], E. Istanbulluoglu, and E.R. Vivoni (2010). The implications of geology, soils, and vegetation on landscape morphology: Inferences from semiarid basins with complex vegetation patterns in Central New Mexico, USA. *Geomorphology,* 116, 246–263. doi:10.1016/j.geomorph.2009.11.026.

45. Wang, T.[2], E. Istanbulluoglu, J. D. Lenters, and D.T. Scott (2009). On the role of groundwater and soil texture in the regional water balance: An Investigation in the Nebraska Sand Hills, USA. *Water Resour. Res*., 45: W10413, doi:10.1029/2009WR007733.

46. Istanbulluoglu E. (2009a). Modeling Catchment Evolution: From decoding geomorphic processes signatures toward predicting impacts of climate change. *Geography Compass* 3: 1125-1150. doi: 10.1111/j.1749-8198.2009.00228.x.

47. Istanbulluoglu E. (2009b). An Eco-hydro-geomorphic perspective to modeling the role of climate in catchment evolution. *Geography Compass* 3: 1151-1175. doi: 10.1111/j.1749-8198.2009.00229.x.

48. Istanbulluoglu E., O. Yetemen[1], E.R. Vivoni, H.A. Gutierrez-Jurado[3], and R.L. Bras (2008). Eco-geomorphic implications of hillslope aspect: Inferences from analysis of landscape morphology in central New Mexico. *Geophys. Res. Lett., 35,* L14403, doi:10.1029/2008GL034477.

49. Irmak S., E. Istanbulluoglu, and A. Irmak (2008). An evaluation of evapotranspiration model complexity against performance in comparison with Bowen Ratio Energy Balance latent heat measurements. *Transactions of the ASABE*, 51(4): 1295-1310.

50. Gutiérrez-Jurado, H.A., E.R. Vivoni, E. Istanbulluoglu, and R.L. Bras (2007). Ecohydrological response to a geomorphically significant flood event in a first-order semiarid basin with contrasting hillslope ecosystems. *Geophys. Res. Lett.*, 34, L23S25, doi:10.1029.

51. Grimaldi S., Nardi S, Di Bendetto F., E. Istanbulluoglu, and RL Bras (2007). A physically-based method for removing pits in digital elevation models. *Advances In Water Resources*, 30 (10): 2151-2158.

52. Istanbulluoglu E., and R. L. Bras (2006). On the dynamics of soil moisture, vegetation and erosion: Implications of climate variability and change, *Water Resour. Res.*, 42, W06418 10.1029/2005WR004113.

53. Tucker G.E., L. Arnold, R.L. Bras, H. Flores, E. Istanbulluoglu, P. Solyom (2006), Headwater channel dynamics in semi-arid rangelands, Colorado high plains, USA, *Geological Society of America Bulletin*, 118 (7/8): 959-974.

54. Flores-Cervantes, J. H.[1], E. Istanbulluoglu, and R.L. Bras (2006). The development of gullies on the landscape: A model of headcut retreat resulting from plunge pool Erosion, *Journal of Geophysical Research: Earth Surface,* 111, F01010, doi: 10.1029/2004JF000226.

55. Istanbulluoglu E., and R. L. Bras (2005). Vegetation-modulated landscape evolution: Effects of vegetation on landscape processes, drainage density, and topography, *Journal of Geophysical Research*, 110, F02012, doi:10.1029/2004JF000249.
56. Istanbulluoglu E., R. L. Bras, H. Flores[1], and G. E. Tucker (2005). Implications of Bank Failures and Fluvial Erosion for Gully Development: Field Observations and Modeling, *Journal of Geophysical Research*, 119, F01014, doi:10.1029/2004JF000145.
57. Luce C.H., D.G. Tarboton, E. Istanbulluoglu, and R. T. Pack (2005). Reply to Comment on Modeling of the interactions between forest vegetation, disturbances, and sediment yields, *Journal of Geophysical Research: Earth Surface,* 110, F01013, doi:10.1029/2004JF000279.
58. Istanbulluoglu E., D. G. Tarboton, R. T. Pack and C. H. Luce (2004). Modeling of the Interactions Between Forest Vegetation, Disturbances and Sediment Yields, *Journal of Geophysical Research: Earth Surface,* 109, F01009, doi:10.1029/2003JF000041.
59. Istanbulluoglu E., D. G. Tarboton, R. T. Pack and C. H. Luce (2003). A sediment transport model for incision of gullies on steep topography, *Water Resour*. *Res*., 39(4), 1103, doi:10.1029/2002WR001467.
60. Istanbulluoglu E., D. G. Tarboton, R. T. Pack and C. Luce (2002). A Probabilistic Approach for Channel Initiation, *Water Resour*. *Res*., 38(12), 1325, doi:1310.1029/2001WR000782.
61. Istanbulluoglu E. (2000). Theoretical justification of SCS method for runoff estimation (Discussion). *ASCE Journal of Irrigation and Drainage Eng*. 126(1):74-75.

Book Chapter:

62. Istanbulluoglu E. (2016). Landscape evolution models and ecohydrologic processes. In *Ecosystems: A Biogeoscience Approach*, E.A. Johnson and Y Martin (eds). Cambridge University Press, Oct. 13, 2016, 496p.

Conference proceedings and other non-journal articles

1. Adams J.M.[3], S.S. Nudurupati2, N.M. Gasparini, D.E.J. Hobley, E.W.H. Hutton, G.E. Tucker, and E. Istanbulluoglu (2014). Landlab: Sustainable Software Development in Practice. 2nd Workshop on Sustainable Software for Science: Practice and Experiences (WSSSPE2). http://dx.doi.org/10.6084/m9.figshare.1097629. New Orleans Convention Center, 11/2014.
2. Caracciolo D.[3], E. Istanbulluoglu, L.V. Noto (2014). Modeling shrub encroachment in a grassland with a cellular automata model. *Evolving Water Resources Systems: Understanding, Predicting and Managing Water–Society Interactions* Proceedings of ICWRS2014, Bologna, Italy, June 2014. IAHS-AISH Proceedings and Reports. 2014;364:20-25.
3. Istanbulluoglu E., H. Flores, and R.L. Bras (2004). Modeling the Complex Dynamics of Landscape Development: Applications for Land Management, *Proceedings for the 24th Army Science Conference*, 29 Nov. -2 Dec., Orlando FL.

4. Flores A., E. Istanbulluoglu, R.L. Bras, and D. Entekhabi (2004). A Framework for the Prediction of Soil Moisture, *Proceedings for 24th Army Science Conference*, 29 Nov. -2 Dec., Orlando FL.
5. Vivoni E.R., E. Istanbulluoglu, and R.L. Bras (2003). A Blueprint for an Integrated Watershed Hydrogemorphic Modeling System*, Proceedings of the First Interagency Conference on Research In the Watersheds*, 27-30 October, Benson AZ.
6. Istanbulluoglu, E., D. G. Tarboton, R. T. Pack and C. Luce (2001). A Probabilistic Approach for Channel Initiation. In: Ramirez, J. A. (ed.), *Proceedings of the 21th AGU Hydrology Days*, p. 134-145.
7. Istanbulluoglu E., H. Degirmenci, and S. Yazgan (1998). A Mathematical Simulation Model Approach in Pre-Seasonal Irrigation Planning. *Proceedings of the CIGR 13th International Congress on Agricultural Engineering*, Vol. 1, Rabat-Morocco.
8. Degirmenci, H., S. Yazgan, and E. Istanbulluoglu (1998). Monitoring and Evaluation Indicators Based on Environmental Problems in Irrigation Management. *Proceedings of the Kriton Curi International Symposium on Environmental Management of the Mediterranean Sea*, 18-20 June 1998, Antalya-Turkey.

Technical reports:

Bandaragoda C.[2], Frans C.[1], Istanbulluoglu E., Raymond C., and L. Wasserman (2015). Hydrologic Impacts of Climate Change in the Skagit River Basin Final report prepared for: Skagit Climate Science Consortium, Mt Vernon, WA and Seattle City Light, Seattle, WA, p. 42.

Strauch R.[1], E. Istanbulluoglu (2015). Flood frequency-magnitude relations over mountain regions under a changing climate. Prepared for the National Park Service. Uni. of Wash., Seattle, WA, p. 115.

Istanbulluoglu E. (2008). Hydrological Analysis of the Niobrara River. Presented to the Nebraska Game and Parks Commission, University of Nebraska, Lincoln NE, p. 81.

OTHER SCHOLARLY ACTIVITY

Invited lectures, seminars, and panels.
Note: Invited talks at conferences listed in next section.

International:

1. Leopoldina, German Academy of Sciences. International Symposium: Earth surface shaping by biotic processes, Halle, Germany. Invited seminar: *Ecohydrological processes and landscape evolution*. February, 2018.
2. University of British Columbia, Department of Geography, Vancouver, Canada. *Mountain hydrogeomorphic processes in the Pacific Northwest USA: glacial melt and landsliding,* October 16, 2017.
3. ETH, Zurich, Switzerland. Civil, Environmental and Geomatic Eng. *Mountain hydrogeomorphic processes in the Pacific Northwest USA: glacial melt and landsliding,* October*,* 30, 2017.
4. University of Tübingen, Tübingen, Germany. International Research Training Group (IRTG): *Ecohydrologic role of solar radiation on landscape evolution,* April 2015.

5. University of Palermo, Sicilia, Italy. Civil and Hydraulic Engineering: *Extreme events and Regional Hydrology*, December, 2012.
6. University of Palermo, Sicilia, Italy. Civil and Hydraulic Engineering: *Water, Vegetation, Landscapes: Coupled Processes and Outcomes from Simple to Complex,* December, 2011.
7. University of Calgary, Department of Biological Sciences, Alberta, Canada. *Vegetation control on landscape evolution: modeling and field observations,* April 2008.
8. European Surface Processes Group 5th Annual Meeting, Gwatt, Switzerland. *Vegetation control on landscape evolution: modeling and topographic analysis*, May 2008.
9. University of Padova, Italy. Dept. of Land and Agroforest Environments. *Linking ecohydrology and geomorphology in modeling landscape evolution,* July 2006.
10. Ataturk University, College of Agriculture, Erzurum, Turkey. *Hydrological Organization on the Landscape*, May 2007.

National:

11. University of Wisconsin, Center for Sustainability and the Global Environment, Westin Roundtable Series, *Climate Variability and Watershed Response as an Integrated Biophysical System*, March 14, 2018.
12. Central Florida University, Civil and Env. Eng., *Climate Variability and Watershed Response as an Integrated Biophysical System*, April 10, 2019.
13. University of Washington, CEE 500 Departmental seminar, *Modeling Hydro-geomorphic processes in the Pacific Northwest USA: Glacier dynamics and landsliding*, January, 2018.
14. University of Washington, Environmental and Water Resources Seminar, *Ecohydrologic role of solar radiation on landscape evolution*. May, 2015.
15. Boise State University, Boise, ID. Department of Geosciences. *The Role of Solar Radiation on Landscape Dynamics*, *Vegetation Patterns, and Landforms*. April, 2012.
16. University of Washington, Environmental and Water Resources Seminar. *Modeling The Role of Solar Radiation on Ecohydrological Patterns and Feedbacks*, January, 2011.
17. University of Washington, Water Center Seminar. *Landscape System Response Under a Changing Climate* February 2010.
18. University of Washington, Environmental and Water Resources Seminar. *Modeling the Impacts of Long-term Climate Change on Catchment Response*, December 2009.
19. University of Minnesota, Saint Anthony Falls Laboratory (SAFL), Minneapolis, MN. *Vegetation Dynamics and Landscape Evolution*, November, 2009:
20. Nebraska Game & Parks Commission, Lincoln, NE. *Hydrologic Analysis of the Niobrara River*. January, 2009.
21. Nebraska Dept. of Natural Resources, Lincoln, NE. *Preliminary Analysis of the Niobrara River Hydrology*. April, 2008.
22. Chadron State College, Chadron, NE, *Hydrology of the Niobrara River*, May 11, 2008.
23. Stout Lecture, Department of Geosciences, University of Nebraska, Lincoln. *Linking Biotic and Abiotic controls in landform analysis and modeling,* October 2006.
24. University of Nebraska, Biological Systems Engineering, Lincoln, NE. *Sensitivity of basin water balance to climate fluctuations,* April 2006.
25. New Mexico Institute of Mining and Technology, Dept. of Environmental Science, Socorro NM. *Episodicity in geomorphic processes: Effects of climate, vegetation and*

disturbances on landscape evolution and sediment yields. August 2003.

26. US Geological Survey Workshop on Wildland Fire Impacts on Watersheds: Understanding, Planning, and Response. Denver CO. *Models for Landslides and Debris Flow Hazard Identification: Planning for short- and long-term risks*, October 2003.
27. US Dept of Agriculture Forest Service, Post-fire Geomorphology of Southern Idaho Workshop. Boise ID. *A probabilistic model for channel initiation mapping*, July 2001.

Presentations given at conferences

Superscript legend: my graduate student[1], my postdoc or research scientist[2], visiting graduate student[3] other graduate student[4], other postdoc[5], visiting scientist[6].

The presenter is in bold. Only presentations by E. Istanbulluoglu are listed. Presentations from students, postdocs and collaborator (~150) are not listed.

1. **Istanbulluoglu E.** (2020). Ecohydrological processes and landscape evolution. CSDMS Annual Meeting, University of Colorado, Boulder, CO. (Invited keynote).
2. **Istanbulluoglu E.**, Yetemen O., Caracciolo D., S. Nudurupati (2018). Disturbance Hydro-eco-geomorphology: How do the Watershed Systems Respond to Disturbances? AGU Fall Meeting 2018 (**invited**).
3. **Istanbulluoglu E**., C. Bandaragoda[2], and S.S. Nudurupati[1] (2018). Hydrologic prediction challenges in contrasting systems: humid mountain peaks to desert landscapes. Geophysical Research Abstracts. Vol. 20, EGU 2018-8952. *European Geophysical Union Meeting*, Vienna, Austria, April 2018, **(invited).**
4. **Istanbulluoglu E,** and O. Yetemen[1] (2016). Solar radiation and landscape evolution: co-evolution of topography, vegetation, and erosion rates in a semi-arid ecosystem. *European Geophysical Union General Assembly*, Vienna, Austria, April, 2016 **(invited)**.
5. **Istanbulluoglu E.**, C. Frans[1], and C. Bandaragoda[2] (2015). Climate change and glacio-hydrologic processes in the Pacific Northwest. 2015 *American Water Resources Association Washington State Conference*, October 2015 **(invited)**.
6. **Istanbulluoglu E**., O. Yetemen[1] (2014). On modeling the organization of landscapes and vegetation patterns controlled by solar radiation. *American Geospatial Union Fall Meeting*, San Francisco, CA, December 2014 **(invited)**.
7. **Istanbulluoglu E**., O. Yetemen[1], and R. Strauch (2013). Modeling Post-wildfire Sediment Availability, Supply, and Transport. *American Geospatial Union Chapman Conference*, Estes Park, CO, August 2013 **(invited)**.
8. **Istanbulluoglu E.,** J.H. Flores-Cervantes[2], and O. Yetemen[1] (2012). Coupled Modeling of Geomorphology and Ecohydrology: Topographic feedbacks driven by solar radiation. *American Geospatial Union Fall Meeting*, San Francisco, CA, December 2012. **(invited)**
9. Yetemen O.[1], J. H. Flores-Cervantes[2], and **E. Istanbulluoglu** (2012). Getting The Ecohydrology Right in Modeling Catchment Development. *CUAHSI 3rd. Biennial Colloquium on Water Science and Engineering*. Boulder, CO, July 2012.
10. **Istanbulluoglu E**., T. Wang[2], and D.A. Wedin (2010). Evaluation of Ecohydrologic Model Parsimony at Local and Regional Scales in a Semiarid Grassland Ecosystem. *American Geospatial Union Fall Meeting*, San Francisco, CA, December 2010.

11. **Istanbulluoglu E**., and J. H. Flores-Cervantes[2] (2010). The Role of Solar Radiation as a Driver of Eco-geomorphic Feedbacks and Landscape Evolution. *American Geospatial Union Fall Meeting*, San Francisco, CA, December 2010. **(Invited)**
12. **Istanbulluoglu E**., and X Zhou (2010). Assessing the impact of climate change on an aspect and elevation controlled semiarid ecosystem using a tree-shrub-grass competition model: The role of local interactions on global outcomes. *American Geophysical Union Meeting of the Americas*, Igassu Falls, Brazil, August 2010. **(Invited)**
13. **Istanbulluoglu E.**, J. Lundquist, J. Lutz, and T. Wang (2010). Modeling the Impact of Forest Harvesting and Regrowth in a Snowmelt Dominated Basin in the Pacific Northwest, *UCOWR/NIWR Annual Conference*, Seattle, WA, July 2010.
14. **Istanbulluoglu E**., and D. Wedin (2009). Toward a Parsimonious Ecohydrological Vegetation Dynamics Model for Predicting the Impacts of Climate on Landscape Evolution, *American Geospatial Union Fall Meeting*, San Francisco, CA, December 2010. **(Invited)**
15. Yetemen O.[1], **E. Istanbulluoglu**, and E.R. Vivoni (2009). The Implications of Geology, Soils, and Vegetation on Landscape Morphology: Inferences from Semiarid Basins with Complex Vegetation Patterns in Central New Mexico, USA. *2009 Binghamton International Geomorphology Symposium*, Blacksburg, VA, October 2009 **(Invited)**.
16. **Istanbulluoglu E**. (2009). Water Balance and the Hurst Phenomenon, *MIT Symposium in honor of Rafael L. Bras*, Cambridge MA, March 2009.
17. **Istanbulluoglu E.,** T. Wang[2], and J.D. Lenters (2008). On Basin Residence Time and Annual Hydrology: Development of Annual Hydrology Model of the Sandhills Rivers, *2008 Water Colloquium*, University of Nebraska, Lincoln, October 2008.
18. **Istanbulluoglu E.,** O. Yetemen[1], E.R. Vivoni, H.A. Gutierrez-Jurado, and R.L. Bras (2008). Influence of hillslope aspect on landscape evolution: Inferences from analysis of landscape morphology in central New Mexico. *American Geospatial Union Hydrology Days Meeting*, Fort Collins, CO, March 2008.
19. **Istanbulluoglu, E**., O. Yetemen[1], and E.R. Vivoni (2007). On the long-term control of vegetation on landforms. *American Geospatial Union Hydrology Days Meeting*, Fort Collins, CO, March 2007.
20. **Istanbulluoglu E**., E.R. Vivoni, H. Gutierrez-Jurado, and R.L. Bras (2006). On the topographic imprint of vegetation: Results from field observations and DEM analysis of small semiarid basins. *American Geospatial Union Fall Meeting*, San Francisco, CA, December 2007.
21. **Istanbulluoglu E**., K. Gill, D. Wedin, and S. Irmak (2006). Influence of Hydro-climatologic Fluctuations on Water Balance and Grassland Dynamics. *2006 Water Colloquium*, University of Nebraska, Lincoln, October 2006.
22. **Istanbulluoglu E**., and R.L. Bras (2005). Landscape response to climate forcing: a fully coupled Eco-Hydro-Geomorphic modeling approach, *American Geospatial Union Fall Meeting*, San Francisco, CA, December 2007. **(Invited)**.
23. **Istanbulluoglu E**., E.R. Vivoni, V. Ivanov, and R.L. Bras (2005). Comprehensive Representation of Hydrologic and Geomorphic Process Coupling in Numerical Models: Internal Dynamics and Basin Evolution, *American Geospatial Union Fall Meeting*, San Francisco, CA, December 2005. **(Invited)**.
24. **Istanbulluoglu E**., and R.L. Bras (2005). "Vegetation-Modulated Landscape Evolution". The Third Princeton-CNR Workshop "*New Frontiers in Hydrology*", Princeton University, Princeton, NJ, May, 2005.

25. **Istanbulluoglu E**., and R.L. Bras (2004). "On the Dynamics of Soil Moisture Vegetation and Erosion: Implications of Stochastic Climate Forcing", *American Geospatial Union Fall Meeting*, San Francisco, CA, December 2004.
26. **Istanulluoglu E**., H. Flores, R. L. Bras and G. E. Tucker (2003). "Modeling the Implications of Fluvial Erosion and Bank Failures on Gully Development and Growth", *American Geospatial Union Fall Meeting*, San Francisco, CA, December 2003.
27. **Istanbulluoglu, E**., D. G. Tarboton, R. T. Pack and C. H. Luce. (2002) Sediment Transport in Gullies on Steep Topography: Theory and Observations. *GSA* Meeting, Denver, Colorado, October 27-30, 2002 **(Invited)**.
28. **Istanbulluoglu, E**., D. G. Tarboton and R. T. Pack. (2001). A Sediment Transport Model for Incising Gullies Based On Upland Topographic Controls. *American Geospatial Union Fall Meeting*, San Francisco, CA, December 2001.
29. **Istanbulluoglu,** E., D. G. Tarboton, R. Pack. (2001). Quantifying the Exposure of Streams to Sediment Inputs using Probabilistic Methods. *American Geospatial Union Spring Meeting*, Boston, MA, June 2001.
30. **Istanbulluoglu E**., H. Degirmenci, and S. Yazgan (1998). "A Mathematical Simulation Model Approach in Pre-Seasonal Irrigation Planning". *CIGR 13th International Congress on Agricultural Engineering*, Feb.,1998, Rabat-Morocco.

Professional society memberships

American Geophysical Union- 2001-present
European Geophysical Union, 2015-present
Universities Council on Water Resources (UCOWR), 2010 – 2017
American Meteorological Society, 2011-2013.

Other.

Journal Reviews (*approximate number of reviews*): I review ~18 papers a year in addition to my associate editor role in Water Resources Research. Nature (4), Water Resources Research (6 per year), Proceedings of National Academy of Sciences (3), Geophysical Research Letters (3 per year), Bioscience (1), Journal of Geophysical Research (3 per year), Journal of Hydrology (1 per year), Hydrological Processes (10), Geomorphology (5), Earth Surface Processes and Landforms (5), Computers and Geosciences (2), Forest Ecology and Management (2), Irrigation Science (1), Water International (1), Geoderma (2). Environmental Software & Modeling (3), Land Degredation and Development (3).

Proposal Reviews (*3-4 proposals a year in addition to any panel membership assignments*): NSF (Geomorphology and Landuse Dynamics; Hydrology; Collaboration in Mathematical Geosciences; Environmental Sustainability; Innovation at the Nexus of Energy and Water (INFEWS); Advanced Computer Infrastructure; Environmental Sustainability; Geography and Spatial Sciences; Postdoctoral fellowships); NASA Terrestrial Ecosystems; Netherlands Organization for Science Research; Nebraska Natural Resources Commission.

GRADUATE STUDENTS & POSTDOCS

Chaired Doctoral Degrees:

Student Name (level of supervision**)**	**Dissertation Title**	**Completed Year**	**Current Employer**
Evren Soylu (Co-chaired with Prof. John Lenters, U of Nebraska)	Evapotranspiration and water table interactions in regions of shallow groundwater: Sensitivity to soil properties, vegetation, and climate variability.	Spring, 2011	Research scientist Georgia Institute of Technology
Omer Yetemen (chair)	Modeling the role of solar radiation on landscape development * GSA *Farouk El-Baz* research *award*	Spring, 2014	Now Lecturer: Univ. of Newcastle, Australia.
Domenico Caracciolo (co-advisor with Prof Leonardo Noto, U of Palermo)	Modeling the past and future dynamic of the vegetation patterns at catchment scale using an ecohydrological Cellular Automata model. Dissertation presented to the University of Palermo, Italy, in English.	Winter, 2014	Post Doctoral Researcher, University of Cagliari, Italy
Chris Frans (chair)	Implications of Glacier Recession for Water Resources * CEE Nece award	Summer, 2015	US Army Corps of Engineers
Ronda Strauch (chair)	Probabilistic Modeling of Shallow Landslides at Regional Scales * North West Climate Science Center Fellowship.	Summer, 2017	Postdoc at UW Climate Impacts Group (CIG)

Current Doctoral Students:

Student Name	**Dissertation Title**	**Expected graduation**
Sai Nudurapati (chair)	Ecohydrologic fluxes and vegetation patterns in semi-arid ecosystems investigated using Landlab	2020 summer
Claire Beveridge (co-advising with Prof. Hossain)	Modeling the coupled socio-hydro-geomorphic processes and the removal of Elwha River dams. * NSF Graduate Research Fellow * Hydro Research Foundation award	2020 (achieved candidacy, 2018)
Amanda Manaster (chair)	Investigation of Best Management Practices of forest roads: field observations and modeling.	2021
Jeff Keck (chair)	The role of Atmospheric Rivers on geomorphic response of steep mountain river systems in Western Washington	2022
Zhuoran Duan (chair)	Impact of River morphology on flood generation	2022

Chaired Masters Degrees

Student Name	Masters Thesis Title	Completed Year	Current Employer
Olivia M. Wright (chair)	Restoring the hydrologic response to pre-developed conditions in an urbanized headwater catchment: Reality or utopia	Winter, 2012	Stormwater Engineer in King County, WA
Xiaochi Zhou (chair)	Modeling the impact of topography on tree, shrub, grass competition based on ecohydrological dynamics of semiarid climates	Spring, 2011	Postdoctoral researcher at Cornell University
Chris Frans (chair)	Influences of 20th century climate and land use change on the hydrology of the Upper Mississippi River Basin: 1918-2007.	Spring, 2011	US Army Corps of Engineers
Omer Yetemen (chair)	Topographic analysis of landscape morphology in Central New Mexico: Influence of hillslope aspect, geology, and vegetation.	Spring, 2008	Lecturer at the University of Newcastle, Australia

Other significant student supervision

Student Name	Level of Supervision	Thesis/Paper Title (if applicable)	Completed
Jimmy Phuong	PhD Dissertation (advisor Sean Mooney, Dept. of biomedical Informatics)	Designing Landlab utilities for biomedical informatics	2019
Brandon McNerney	Honors project	Green Stormwater Management: Designing for Success	March 2017
James Neher	Honors project	Streamflow Analysis in the Skagit River Basin	December 2014
Alex Ratcliff	Honors project	Drumheller Fountain Hydraulics Evaluation	Spring 2019

Postdocs and Research Scientists

Scholar Name	Topic	Duration
Dr. Zach Johnson (Res. Sci)	Hydrodynamic modeling	current
Dr. Jacob Morgan (Preevents project postdoc)	Hydrodynamic modeling for hydro-geomorphic flood predictions	current
Dr. Christina Bandaragoda (Senior Research Scientist)	Modeling glacio-hydrology	1/2014-current
Dr. Allison Pfeiffer (Preevents project postdoc)	Modeling sediment transport dynamics in river networks	1/2018-1/2019
Dr. Homero Flores (Postdoctoral Associate)	Ecohydroloy and Landscape Evolution Modeling	05/2010 – 08/2012
Dr. Tiejun Wang (Postdoctoral Associate)	Evapotranspiration and Groundwater relations	09/2008 – 10/2010
Dr. Kyle Herrman (Assoc. Prof. U. Wisc. S.P.)	Riparian vegetation monitoring Co advised with Prof. Durelle Scott	8/2006-6/2008
Matt Stumbaugh (Research Staff)	Analysis of glacio-hydrology model results	6/2016-12/2016

Graduate student committees

Student Name	Level of Supervision	Department	Completed
Matthew Bonnema	Dissertation Committee	Civil and Environmental Eng.	2019
Tobias Mueller	Dissertation Committee	Geography (Univ. British Columbia)	2019
Sarah Harbert	Dissertation Committee	Earth and Space Science	current
Kai Tsuruta	Dissertation Committee	Forest Resources Management (Univ. British Columbia)	2017
Mary Roderick	Dissertation Committee	Urban Design & Planning	2017
Aaron Frickle	Dissertation Committee	Oceanography	2017
Xiaodong Chen	Dissertation Committee	Civil and Environmental Eng.	2017
Safat Sikdar	Dissertation Committee	Civil and Environmental Eng.	2017
Elizabeth A. Clark	Dissertation Committee	Civil and Environmental Eng.	2017
Amanda Tan	Dissertation Committee	Oceanography	2015
Joe Hamman	Dissertation Committee	Civil and Environmental Eng.	2016
Michael Paulos	Dissertation Committee (external member)	Geoscience, Boise State University	2016
Bushra Naseem	Dissertation Reviewer (external examiner)	Civil and Env. Engineering, University of New South Wales	2016
Mergia Y Sonessa	Dissertation Committee	Civil and Environmental Eng.	2014
Xiaogang Shi	Dissertation Committee	Civil and Environmental Eng.	2012
Erik Rosenberg	Dissertation Committee	Civil and Environmental Eng.	2012
Ben Livneh	Dissertation Committee	Civil and Environmental Eng.	2012
Shraddhanand Shukla	Dissertation Committee	Civil and Environmental Eng.	2012
Joe Hamman	Masters Thesis Committee	Civil and Environmental Eng.	2012
Neil Schaner	Masters Thesis Committee	Civil and Environmental Eng.	2011
Javier Homero Flores-Cervantes[&]	Dissertation Committee (external member)	Civil and Environmental Eng. MIT	2010
Steven Walters[&]	Masters Thesis Committee	School of Nat. Resour., University of Nebraska	2010
Greg Cutrell[&]	Masters Thesis Committee	School of Nat. Resour., University of Nebraska	2010
Amy (Zoller) Wright[&]	Masters Thesis Committee	School of Nat. Resour., University of Nebraska	2010
Brandi Bracht-Flyer[&]	Dissertation Committee	Earth and Atmospheric Science University of Nebraska, Lincoln	2009
Tiejun Wang	Dissertation Committee (UNL)	Assessment of vadose zone modeling in a semi-arid region, Nebraska, USA	June, 2008

[&] Students I closely worked with and coauthored papers.

Visiting graduate students and scientists

[1]Visiting graduate student, [2]visiting post graduate scientist

Scholar Name	Topic	Duration
Dr. Chongli Di[2] (China)	Complexity analysis of soil moisture and vegetation patterns	1/2018- current
Dr. Petter Nyman[2] (Australia)	Wildfire impacts on runoff and erosion	3/2016-8/2016

Laura Bidera Micheli[1] (visiting student, Italy)	Urban Drainage Modeling	8/2015-6/2016
Gu Henan[1], (China)	Ecohydrology of the Tibetan Plateau	9/2015-9/2016
Dr. Gu Wenguan[2] (China)	Modeling macro-scale hydrology	08/2012-07/2013
Dr. Yung-Ling Huang[2] (Taiwan)	Landsliding in Taiwan	09/2012-08/2013
Dr. Yung-Feng Huang[2] (Taiwan)	The role of typhoons in hydro-geomorphologic response in Taiwan	09/2012-08/2013
Dr. Jianxia Chang[2] (China)	Yellow River Hydrology, China	2012
Dr. Yimin Wang[2] (China)	Yellow River Hydrology, China	2012

RESEARCH ACTIVITIES

Funded Research: Total amount: **$12.9M,** Total my amount: **$4.2M** (2006 to 2026)

Funding Agency	**Project Title**	**My Role, Other PIs, co-PIs**	**Total Amount, (My amount) (Other)**	**Dates (start-finish)**
NSF	*Collaborative Research: Cyber Training: CIU: Data Streams, Model Workflows, and Educational Pipelines inn Hydrologic Sciences*	Co- PI (PI: Christina Bandaragoda, Co-PI Bart Nijssen)	$446,396 (~$50K)	9/1/18-8/31/21
Washington Dept of Nat. Resources (DNR) (awarded annually)	*Prescription Scale Effectiveness Monitoring Project*	Co-PI (PI: Charles Luce, US Forest Service)	$ 3.583M ($1.017 M)	6/2019-7/2026
NSF, PREEVENTS Track 2	*Integrated Modeling of Hydro-Geomorphic hazards: Floods, Landslides, and Sediment*	PI, (co-PIs: A. Horner-Devine, C. Bandaragoda, B. Collins, G Mauger; Sen. Per: J. Lund-quist, N. Kumar, D. Shean, all UW)	$1.699 M (~$500K)	9/2017-8/2021
NSF	RAPID:COLLAB. RESEARCH: *Building Infrastructure to Prevent Disasters like Hurricane Maria*	Senior personnel (PI: Christina Bandaragoda)	$ 250K (~$0.0K)	2/2017-3/2018
Seattle City Light	*Predicting the impact of landslides on powerlines*	Co-PI, (PI, Christina Bandaragoda)	$95K ($ 50K)	12/2017-6/2019

Washington DNR	*Prescription Scale Effectiveness Monitoring Project*	PI	$237.7 K ($237.7 K)	10/2017-6/2019
Washington DNR	*Prescription Scale Effectiveness Monitoring Project*	PI	$125K ($125K)	10/2016-6/2017
NSF	*Hydroshare*	Co-PI, (PI: Christina Bandaragoda)	$50K ($0.0)	9/2016-10/2018
Whatcom County	*Groundwater modeling project*	Co-PI, (PI: Christina Bandaragoda)	~$45K ($0.0)	4/2016 12/2016
US Dept of Interior, Bureau Indian Affairs	*Vulnerability Assessment in the Sauk Watershed and Mountain ecosystems using glacio-hydrology modeling*	Co-PI (PI: Sauk IndianTribe, UW subcontract)	$230K ($156K)	5/2016-6/2018
NSF	*SI2-SSI LANDLAB: A Flexible, Open-Source Modeling Framework for Earth-Surface Dynamic*	Co-PI (PI Greg Tucker, UC Boulder, co-PI Nicole Gasparini, Tulane Uni.)	$2M ($650,317)	6/16/2015-7/31/2020
Skagit Climate Science Consortium (SC^2)	*Streamflow Projections in the Lower Skagit Basing Under Climate Change Scenarios*	PI	$55,843 ($55,843)	2/2015-4/2016
Skagit Climate Science Consortium (SC^2)	*Modeling streamflow for the Skagit basin under future climate change scenarios*	PI	$92K ($92K)	11/2014-06/2016
The Nooksack Indian Tribe	*Modeling of Glaciers in the Nooksack River*	PI	$22,187 ($22,187)	11/2014-1/2016
Seattle City Light	*Modeling of Glaciers and Associated Hydrologic Impacts in the Skagit River Basin*	PI	$99,316 ($99,316)	12/2013 3/2015
National Park Service (NPS)	*Climate Change and Flood Risks in Northern Cascadia Road Networks*	PI	$18K ($18K)	12/2013 3/2015
NSF	*Predicting Climate Change impacts on Shallow Landslide Risk at regional scales*	PI (Co-PI Jessica Lundquist)	$299,036 ($250K)	09/2013 - 08/2016
NSF	*Collaborative Research: SI2-SSE: Component-*	Co-PI	$650K	09/2012-08/2015

	Based Software Architecture for Computational Landscape Modeling	(PI Greg Tucker, UC Boulder, co-PI Nicole Gasparini, Tulane Uni.)	($180K)	
U.S. Environ. Protection Agency (EPA)	*Development of a Stormwater Retrofit Plan for Water Resources Inventory Area (WRIA) 9, and Estimation of Costs for Retrofitting all Developed Lands of Puget Sound*	Co-PI (PI : Jim Simmonds, King County, WA & Collaborator R. Horner, Landscape Architecture, UW)	$900K ($170K)	06/12-5/15
NASA	*Predicting the Effect of Mountain Glacier Recession on Water Resources*	Co-PI (PI: Dennis Lettenmaier, UCLA)	$982,698 ($160K)	09/2010-12/2013
NSF	*Collaborative Research: On Topographic Imprint of Hillslope Aspect: Deciphering Aspect Controls on Vegetation and Landforms in Central New Mexico*	PI (Co-PI, E. Vivoni, B. Harrison, F. Phillips, New Mexico Tech)	$227,180 ($117,599)	09/10-08/13
US Geol. Survey/ US Army Corps of Engineers	*Quantifying Uncertainty in Missouri River Adaptive Management Processes*	Co-PI (PI: Drew Tyre, University of Nebraska)	$247,104 ($40K)	9/2008 – 8/2010
Nebraska Environ-mental Trust (NET)	*Riparian Vegetation Removal Impacts on Water Quantity, Quality and Stream Ecology*	Co-PI (PI; D. Scott, Virginia Tech.).	$433,960 ($120K)	4/2009-12/2010
Nebraska Game and Parks Commission	*Analysis of Hydrological Data of the Niobrara River Basin, NE*	PI	$39,746 ($39,746)	03/2008-06/2010
Univ Corp for Atmos. Research	*Integrating meteorology data in hydrology research and education and expanding the University of Nebraska's IDD capabilities*	Co-PI (PI A. Huston, Univ of Nebraska)	$20K ($10K)	06/2007-3/2008
US Dept. Interior-GS	*Regional Water Balance and Climate: Managing water resources under*	PI (Co-PI D. Scott, Virginia Tech)	$11,038 ($6K)	06/2006 – 06/2007

	uncertainty in Nebraska and Great Plains			
U of Neb. Interdisciplinary Res. Grant	*Water Balance, Grass-land Dynamics, and Dune Stability*	PI	$20K ($20K)	03/2006-02/2008
U of Neb. Water Center	*A long-term hydrological assessment of Subsurface Drip Irrigation: Agro-Ecological Water Balance Dynamics on Field and Basin Scales*	PI (Co-PI, Suat Irmak, U of Nebraska)	$19K ($19K)	8/2006-7/2007

List of other educational contributions

Short Courses:
Superscript legend: [1]courses led by my group in which I was the instructor; [2]course led and instructed by collaborators, assisted by me and my group in computer applications; [3]courses developed and instructed by me (day to week-long). The format of courses include a lecture or several lectures, followed by hands-on modeling applications using Landlab on PCs or on a cloud computing cyber-infrastructure, Hydroshare.

[2]*Community Surface Dynamics Modeling Systems (CSDMS) 2018 Annual Meeting*, Boulder, CO. Software Clinic: Landlab with Hydroshare (duration: 2-2.5 hours), May 23, 2017.

[1]*Geological Society of America Meeting*, Seattle WA. Short course: *Landlab Earth-Surface Modeling Toolkit: building and applying models of coupled earth surface processes* (duration: 8 hours), October 21, 2017.

[2]*Community Surface Dynamics Modeling Systems (CSDMS) 2017 Annual Meeting*, Boulder, CO. Software Clinic: *Modeling Earth-Surface Dynamics with Landlab* (duration: 2-2.5 hours), May 24, 2017.

[1]*CUAHSI Biennial Symposium, 2016,* Shepherdstown, WV. Workshop: *Modeling Landscape Response Using Big Data with Landlab* (duration: 3 hours), July 26, 2016.

[2]*Community Surface Dynamics Modeling Systems (CSDMS) 2015 Annual Meeting*, Boulder, CO. Software Clinic: *Landlab*: *A Python library for building, exploring, and coupling 2D surface-process models* (duration: 2-2.5 hours), May 27, 2017.

[2]*Community Surface Dynamics Modeling Systems (CSDMS)2014 Annual Meeting*, Boulder, CO. Software Clinic: *Creative computing with Landlab: A flexible Python package for rapidly building and exploring 2D surface-dynamics models* (duration: 2-2.5 hours), May 21, 2017.

[3]*University of Palermo*, *Civil and Hydraulics Eng., Sicilia, Italy*. Short course: *Analysis and Processing of DEMs for hydrological and surface energy budget applications*. I presented 4, 2-hour lectures and computer lab sessions, (duration: 4 days). This course was part of a Masters Degree program in Hydrology & Water Resources at the University of Palermo, Presented twice, 3rd week of December, 2011 and 2012.

[1]*University of Minnesota, National Center for Earth Dynamics (NCED),* Minneapolis, MN. 2010 NCED Summer Institute: "*Rivers and Vegetation*". Presented a half day lecture on

Ecohydrological Modeling and half day computer lab session presenting the CATGraSS model developed in my group (duration 1 day), August, 2010.

[3]*University of Tuscia, College of Agriculture, Viterbo, Italy*, CNR-MIT Summer School on Climate Change and Hydrologic Disasters, (June 26-30, 2006)*:* I developed a week-long short course. I presented 4 morning lectures and afternoon computer lab sections.

[3]*Polytechnic Institute of NYU*, New York, NY. *Summer School of The Honors Center of Italian Universities – H2CU. GIS Terrain Analysis for Hydrogeomorphic Applications* (duration 1 day). I presented a morning lecture and led an afternoon computer lab, July 23, 2008.

Other Lectures:

University of Washington Professional Engineering Review Class*,* UW Educational Outreach (2010, 2011).

University of Washington X Prize: lab session on urban sustainable water resource management challenges. *Panel member*. The panel discussed storm water management challenges in Puget Sound. Instructor Prof. Ann Bostrom, 02/14/2011

University of Washington ENGR498b: Preparing for Graduate Education, *Panel member*. The panel discussed career paths in engineering with a graduate degree. Instructor Prof Mari Ostendorf, 02/02/2011.

University of Washington, Guest Lecture (CEE 250: Environmental Pollution: Energy and Materials Balance): *Ecohydrology and Topographic Controls on Vegetation Pattern and Organization*. 2010, 2011, 2012.

University of Washington, Guest Lecture (CEE 498: GIS for Civil Engineers), Dec 4, 2009: *GIS Analysis for Hydrological Modeling*.

University of Nebraska, School of Nat. Resour. Guest Lecture, NRES 423/823: Integrated Resource Management, Jan 28, 2009: *Hydrology of the Niobrara River*.

SERVICE

Departmental service

Area head, Hydrology & Hydrodynamics, University of Washington, Civil Eng. (2013- current)

Chair, Graduate Education Committee, Civil and Env. Eng. (9/2018-current)

Chair, Faculty Affairs Committee, Civil and Env. Eng. (9/2016-03/2017)

Faculty Affairs Committee, Civil and Env. Eng. (2014-current)

Departmental Affairs Committee, Civil and Env. Eng. (2017-2018)

Graduate Education Committee, Civil and Env. Eng. (2013)

Faculty Search Committee: Urban water systems, joint position between CEE and UW Puget Sound Institute, Tacoma .

Undergraduate Education Committee, Civil and Env. Eng. (2010- 2012)

Hiring Committee: Research Asst. Prof. position in Environmental Microbiology Research, 2010.

University of Washington/ University of British Colombia Hydrology & Water Resources Symposium, Autumn 2010, 2011, 2012, 2013.

Graduate Admission Committee Geosciences Department, University of Nebraska (2005 – 2007).

University service

Steering Committee Mountain to Sea (M2S) Research Initiative

Advisor to American Water Resources Association (AWRA) student chapter, 2013-2016.

University of Washington Program of Climate Change (UW-PCC) board member, 2013-2016.

Member of task force for *Climate Analytics* MS Certificate program, UW-PCC, 2015.

University of Washington representative of Universities Council on Water Resources (UCOWR) 2010-2015.

Professional society and other service

Editorial: Associate editor, Water Resources Research, Jan 2014-current.

Proposal Review Panel Member:
NSF Advanced Computer Infrastructure, October 30-31, 2011, Washington, DC.
NASA Terrestrial Ecosystems, March 2012, Washington, DC.
NSF Environmental Sustainability, November 2014, Washington, DC.
NSF – INFEWS (Food, Energy, Water Systems) May 22-23, 2017, Washington, DC.

Community service:
Chair of Ecohydrology Technical Committee of the American Geophysical Union (AGU), 2015-2016. Previously deputy chair, 2013-2015, and a member before 2013.

AGU Hydrology Section, Ad-hoc Committee on Technical Committees. 2018-current. Co-authored: "Report of the Ad Hoc Committee for Technical Committee Chair Terms of Reference" in AGU Hydrology Section newsletter, July 2018.

Member of Board of Directors, Consortium of Universities for the Advancement of Hydrologic Science Inc., CUAHSI, 2015-2017.

Member of Community Surface Dynamics Modeling Systems (CSDMS), Terrestrial Workgroup, 2009-current. Workgroups evaluate state of process knowledge, identify knowledge gaps, and contribute to the CSDMS model toolkit.

Member of Board of the Graduate Program in Civil, Environmental and Materials Engineering of the University of Palermo, IT, 2018-current.

Conference session organizer, chair or moderator:
Session co-chair and co-organizer: *Modeling the Terrestrial Landscape,* American Geophysical Union Fall Meeting, San Francisco, CA, 2016.

Session co-chair and co-organizer: *Ecohydrologic and Ecogeomorphologic Processes at the Intersection of Landscapes and Environmental Change,* American Geophysical Union Fall Meeting, San Francisco, CA, 2016.

Session co-chair and co-organizer: *Ecohydrology in a Changing Environment*, American Geophysical Union Fall Meeting, San Francisco, CA, 2015.

Session co-chair and co-organizer: *Runoff Generation Processes in Changing Environments: Integrating Observations and Processes*, American Geophysical Union Fall Meeting, San Francisco, CA, 2015.

Session co-chair and co-organizer: *Seeking a better understanding of gully erosion,* European Geophysical Union General Assembly, Vienna, 2015.

Session co-chair and co-organizer: *Ecohydrology in a Changing Environment*, American Geophysical Union Fall Meeting, San Francisco, CA, 2014.

Session co-chair and co-organizer: *Critical zone evolution -- legacy influences on contemporary processes*, CUAHSI 4th Biennial Colloquium on Hydrologic Science and Engineering. July 28-July 30, 2014 (invited by CUAHSI)

Session co-chair and co-organizer: *Ecogeomorphology: Footprints on a Landscape*, American Geophysical Union Fall Meeting, San Francisco, CA, 2012.

Session co-chair and co-organizer: *Landscape System Response Under Change,* American Geophysical Union Fall Meeting, San Francisco, CA 2012.

Session co-chair and co-organizer: *Landscape System Response Under Change,* American Geophysical Union Fall Meeting, San Francisco, CA 2011.

Session co-chair and co-organizer: *Emerging Topics in Interdisciplinary Hydrology: Biogeochemistry, Ecology, and Geomorphology*. American Geophysical Union Fall Meeting, San Francisco 2010.

Session co-chair and co-organizer: *GIS Terrain Analysis for Hydrologic Applications*, American Geophysical Union Fall Meeting, San Francisco, 2008.

Other service:

Invited Associate Editor for a Forest Hydrology Report, submitted to the Cooperative Monitoring, Evaluation and Research (CMER) Committee of Washington Department of Natural Resources, 2015.

Member of a Technical Writing and Implementation Group (TWIG) to develop study design for Best Management Practices BMP for forest roads in Washington State (2014-2018).

Hydrological Synthesis Group of the University of Illinois, Urbana-Champaign- 2010/2011. Contributed (with 17 others) to an report to NSF: "Predictions under Change (PUC): Water, Earth and Biota in the Anthropocene", editor Murugesu Sivapalan.

Consulting: Boise Cascade Corporation, Boise ID, 2003.

Engineering design: Planning and design of drip irrigation system in Guzelyurt region, Northern Cyprus, 1998.