

Edwin P. Maurer
Civil Engineering Department
Santa Clara University
Santa Clara, CA 95053-0563

408-554-2178 (tel)
408-554-5474 (fax)
408-249-5683 (home)
emaurer@engr.scu.edu

CURRICULUM VITAE

1. Education

a) Institutes of Higher Education.

B.S., University of Rhode Island, High Distinction, Civil and Environmental Engineering, 1985

M.S., University of California, Berkeley, Civil Engineering, 1989

Ph.D., University of Washington, Civil and Environmental Engineering, 2002

b) Dissertation

Title: Predictability of Runoff in the Mississippi River Basin

Advisor: Dennis P. Lettenmaier, Dept. of Civil and Environmental Engineering,
University of Washington

c) Academic Honors

Tau Beta Pi engineering honor society, University of Rhode Island chapter, 1983.

Graduation with high distinction, University of Rhode Island, 1985.

Phi Kappa Phi honor society, University of Rhode Island chapter, 1985.

University Fellowship, University of California at Berkeley, 1988-89.

NASA Earth System Science Fellowship, 1999-2001.

Packard Faculty Fellowship, Santa Clara University, 2004-06.

Santa Clara University, School of Engineering Researcher of the Year, 2009.

Google Science Communication Fellow, 2011.

Fulbright Visiting Scholar, Chile, 2011.

Robert W. Peters Endowed Professor at Santa Clara University, 2012-2017.

Santa Clara University Award for Recent Achievement in Scholarship, 2013.

2. Teaching and Related Experience

a) Teaching (and Research) Experience

Academic Appointments

Instructor, General Hydrology, Fall semester 1997, Department of Civil Engineering,
National University of the Altiplano, Puno, Perú.

Tutor, Physics Instructional Center, Office of Minority Affairs, October 2000- March
2001, University of Washington.

Adjunct Lecturer, Water Resources Engineering, Spring 2003, Department of Civil
Engineering, Seattle University.

Assistant Professor, 2003-2009, Civil Engineering Department, Santa Clara University.

Associate Professor, 2009-2015, Civil Engineering Department, Santa Clara University.

Professor, 2015-present, Civil Engineering Department, Santa Clara University.

Courses taught at Santa Clara University

CENG 41 - Mechanics I: Statics [Fall 2003; Fall 2004; Fall 2005; Fall 2007; Fall 2008; Fall 2009; Fall 2010; Fall 2012; Fall 2013; Fall 2014].

CENG 139 - Groundwater Hydrology [Spring 2005; Spring 2006; Spring 2007; Spring 2009; Spring 2013; Spring 2014; Spring 2015].

CENG 140 - Water Resources Engineering (lecture and laboratory) [Spring 2004; Spring 2005; Spring 2006; Spring 2007; Spring 2008; Spring 2009; Spring 2010; Spring 2013].

CENG 141 - Hydraulic Engineering [Winter 2004; Winter 2005; Winter 2006; Winter 2007; Winter 2008; Winter 2009; Winter 2010; Winter 2014; Winter 2015].

CENG 142 - Water Resources Design [Spring 2004; Winter 2013; Fall 2014].

CENG 160 - GIS in Water Resources [Winter 2005; Winter 2006; Winter 2007; Winter 2008; Winter 2009; Winter 2010; Winter 2013; Winter 2015].

CENG 161 - Sustainable Water Resources [Spring 2008; Spring 2010; Spring 2014].

CENG 162 - Computational Water Resources Water Resources [Winter 2011; Spring 2015].

CENG 193 – Senior Design Project [see Theses Supervised, section 3.g. below].

b) Other Academic Experience

Hydraulics Laboratory Consultant, 1996-97, Department of Civil Engineering, National University of the Altiplano, Puno, Perú.

Laboratory Assistant and Occasional Lecturer, Fluid Mechanics, Fall quarter 2000, Civil and Environmental Engineering, University of Washington.

Post-Doctoral Research Engineer, Department of Atmospheric Sciences, University of Washington, Seattle, WA, 2002-2003

Visiting Scholar, Pontificia Universidad Católica de Chile, 2011.

c) Relevant Non-Academic Professional Experience

Registered Professional Engineer, California, #C48434, 1991-present.

Volunteer/Missioner, Maryknoll Missioners, Perú, 1994-1998.

Senior Engineer, Natural Resources Consulting Engineers, Berkeley, CA, 1990-1994

Research Assistant, Pacific Institute for Studies in Development, Environment, and Security, Berkeley, CA, 1989-1990

Engineer, Kupper Associates, Piscataway, NJ, 1985-1988

3. Scholarly Work

a) Publications

Peer-Reviewed Journal Articles

1. Rao, C.X. and E.P. Maurer, 1996, A Simplified model for predicting transmission losses in a stream channel, *Water Resources Bulletin*, 32(6), 1139-1146.
2. Maurer, E.P., G.M. O'Donnell, D.P. Lettenmaier, and J.O. Roads, 2001, Evaluation of the land surface water budget in NCEP/NCAR and NCEP/DOE reanalyses using an off-line hydrologic model, *J. Geophys. Res.* 106(D16), 17,841-17,862.
3. Maurer, E.P., A.W. Wood, J.C. Adam, D.P. Lettenmaier, and B. Nijssen, 2002, A long-term hydrologically-based data set of land surface fluxes and states for the conterminous United States, *J. Climate* 15(22), 3237-3251.
4. Wood, A.W., E.P. Maurer, A. Kumar, and D.P. Lettenmaier, 2002, Long range experimental hydrologic forecasting for the eastern U.S., *J. Geophys. Res.* 107(D20), 4429, doi:10.1029/2001JD000659.
5. Maurer, E.P. and D.P. Lettenmaier, 2003, Predictability of seasonal runoff in the Mississippi River basin, *J. Geophys. Res.* 108(D16) 8607 doi:10.1029/2002JD002555.
6. Roads, J., E. Bainto, M. Kanamitsu, T. Reichler, R. Lawford, D. Lettenmaier, E. Maurer, D. Miller, K. Gallo, A. Robock, G. Srinivasan, K. Vinnikov, D. Robinson, V. Lakshmi, H. Berbery, R. Pinker, Q. Li, J. Smith, T. von der Haar, W. Higgins, E. Yarosh, J. Janowiak, K. Mitchell, B. Fekete, C. Vorosmarty, T. Meyers, D. Salstein S. Williams, 2003, GCIP water and energy budget synthesis, *J. Geophys. Res.* 108(D16) 8609 doi: 10.1029/2002JD002583.
7. Ziegler, A.D., J. Sheffield, E.P. Maurer, B. Nijssen, E.F. Wood, and D.P. Lettenmaier, 2003, Detection of intensification in global and continental-scale hydrological cycles: temporal scale of evaluation, *J. Climate* 16, 535-547.
8. Maurer, E.P., J.D. Rhoads, R.O. Dubayah, and D.P. Lettenmaier, 2003, Evaluation of the snow-covered area data product from MODIS, *Hydrol. Processes* 17(1), 59-71.
9. Maurer, E.P., D.P. Lettenmaier, and N. J. Mantua, 2004, Variability and predictability of North American runoff, *Water Resour. Res.* 40(9), W09306 doi:10.1029/2003WR002789.
10. Hayhoe, K., D. Cayan, C. Field, P. Frumhoff, E. Maurer, N. Miller, S. Moser, S. Schneider, K. Cahill, E. Cleland, L. Dale, R. Drapek, R. M. Hanemann, L. Kalkstein, J. Lenihan, C. Lunch, R. Neilson, S. Sheridan, and J. Verville, 2004, Emissions pathways, climate change, and impacts on California, *Proceedings of the National Academy of Sciences (PNAS)* 101(34), 12422–12427.

11. Maurer, E.P. and D.P. Lettenmaier, 2004, Potential effects of long-lead hydrologic predictability on Missouri River main-stem reservoirs, *J. Climate* 17(1) 174-186.
12. Maurer, E.P. and P.B. Duffy, 2005, Uncertainty in projections of streamflow changes due to climate change in California, *Geophys. Res. Lett.* 32(3), L03704 doi:10.1029/2004GL021462.
13. Ziegler, A.D., E.P. Maurer, J. Sheffield, B. Nijssen, E.F. Wood, and D.P. Lettenmaier, 2005, Detection time for plausible changes in annual precipitation, evapotranspiration, and streamflow in three Mississippi River sub-basins, *Climatic Change* 72(1-2), 17-36 doi: 10.1007/s10584-005-5379-4.
14. Maurer, E.P., S. Gibbard, and P.B. Duffy, 2006, Amplification of streamflow impacts of El Niño by increased atmospheric greenhouse gases, *Geophysical Research Letters* 33(2) (January) L02707 10.1029/2005GL025100.
15. Doten, C.O., L.C. Bowling, E.P. Maurer, J.S. Lanini, and D.P. Lettenmaier, 2006, A spatially distributed model for the dynamic prediction of sediment erosion and transport in mountainous forested watersheds, *Water Resour. Res.* 42(4), W04417 doi:10.1029/2004WR003829.
16. Maurer, E.P., C. Mass, 2006, Using radar data to partition precipitation into rain and snow in a hydrologic model, *J. Hydrologic Engineering* 11(3), 214-221.
17. Maurer, E.P., I.T. Stewart, C. Bonfils, P.D. Duffy, and D. Cayan, 2007, Detection, attribution, and sensitivity of trends toward earlier streamflow in the Sierra Nevada, *J. Geophysical Research* 112, D11118, doi:10.1029/2006JD008088.
18. Aschheim, M., E. Maurer, and J.P. Browning, 2007, Dependency of COD on ground motion intensity and stiffness distribution, *Structural Engineering & Mechanics* 27(4), 425-438.
19. Vicuna, S., E.P. Maurer, B. Joyce, J.A. Dracup, D. Purkey, 2007, Climate change impact on water resources in California: exploring different greenhouse gas (GHG) emission scenarios, *Journal of the American Water Resources Association* 43(2), 482-498.
20. Maurer, E.P., 2007, Uncertainty in hydrologic impacts of climate change in the Sierra Nevada Mountains, California under two emissions scenarios, *Climatic Change* 82(3-4), 309-325, doi: 10.1007/s10584-006-9180-9.
21. Cayan, D.R., E.P. Maurer, M.D. Dettinger, M. Tyree and K. Hayhoe, 2008, Climate change scenarios for the California region, *Climatic Change* 87(Suppl. 1), 21-42 doi: 10.1007/s10584-007-9377-6.
22. Hayhoe, K., C. Wake, B. Anderson, X.-Z. Liang, E. Maurer, J. Zhu, J. Bradbury, A. DeGaetano, A.M. Stoner and D. Wuebbles, 2008, Regional climate change projections for the Northeast USA, *Mitigation and Adaptation Strategies for Global Change* 13(5-6), 425-436, doi: 10.1007/s11027-007-9133-2.

23. Maurer, E.P., H.G. Hidalgo, 2008, Utility of daily vs. monthly large-scale climate data: an intercomparison of two statistical downscaling methods, *Hydrology and Earth System Sciences* 12(2), 551-563.
24. Brekke, L.D., M.D. Dettinger, E.P. Maurer, and M. Anderson, 2008, Significance of Model Credibility in estimating Climate Projection Distributions for Regional Hydroclimatological Risk Assessments, *Climatic Change* 89(3-4), 371-394, doi: 10.1007/s10584-007-9388-3.
25. Maurer, E.P., J.C. Adam, and A.W. Wood, 2009, Climate model based consensus on the hydrologic impacts of climate change to the Rio Lempa basin of Central America, *Hydrology and Earth System Sciences* 13, 183-194.
26. Brekke, L. D., E. P. Maurer, J. D. Anderson, M. D. Dettinger, E. S. Townsley, A. Harrison, and T. Pruitt, 2009, Assessing reservoir operations risk under climate change, *Water Resources Research* 45, W04411, doi:10.1029/2008WR006941.
27. Lebassi, B., J. Gonzalez, D. Fabris, E. Maurer, N. Miller, C. Milesi, P. Switzer, and R. Bornstein, 2009, Observed 1970-2005 cooling of summer daytime temperatures in coastal California, *J. Climate* Vo. 22, 3558-3573, doi:10.1175/2008JCLI2111.1.
28. Lawler, J.J., S.L. Shafer, D. White, P. Kareiva, E.P. Maurer, A.R. Blaustein, and P.J. Bartlein, 2009, Projected climate-induced faunal change in the western hemisphere, *Ecology*, 90(3), 588-597.
29. Girvetz, E., Zganjar, C, Raber, G., Maurer, E.P., Kareiva, P., Lawler, J.J., 2009, Applied climate-change analysis: The Climate Wizard Tool, *PLoS ONE* 4(12): e8320. doi:10.1371/journal.pone.0008320.
30. Francl, K.E., K. Hayhoe, M. Saunders, and E.P. Maurer, 2010, Ecosystem Adaptation to Climate Change: Small Mammal Migration Pathways in the Great Lakes States, *J. Great Lakes Res.*, 36(sp2), 86-93, doi: 10.1016/j.jglr.2009.1009.1007.
31. Vicuna, S., J.A. Dracup, J.R. Lund, L.L. Dale and E.P. Maurer, 2010, Basin-scale water system operations with uncertain future climate conditions: Methodology and case studies, *Water Resour. Res.*, 46, W04505, doi:10.1029/2009WR007838.
32. Maurer, E. P., Hidalgo, H. G., Das, T., Dettinger, M. D., and Cayan, D. R., 2010, The utility of daily large-scale climate data in the assessment of climate change impacts on daily streamflow in California, *Hydrol. Earth Syst. Sci.*, 14, 1125-1138, doi:10.5194/hess-14-1125-2010.
33. Maurer, E.P., L.D. Brekke, and T. Pruitt, 2010, Contrasting lumped and distributed hydrology models for estimating climate change impacts on California watersheds. *Journal of the American Water Resources Association* (JAWRA) 46(5):1024-1035. DOI: 10.1111/j.1752-1688.2010.00473.x.
34. Roy, S.B., L. Chen, E.H. Girvetz, E.P. Maurer, W.B. Mills, and T.M. Grieb, 2012, Projecting water withdrawal and supply for future decades in the U.S. under

- climate change scenarios, *Environ. Sci. Technol.* 46(5): 2545–2556, DOI: 10.1021/es2030774.
35. Ficklin, D.L., Y. Luo, I.T. Stewart, and E.P. Maurer, 2012, Development and application of a hydroclimatological stream temperature model within the Soil and Water Assessment Tool, *Water Resources Research* 48, W01511, doi:10.1029/2011WR011256.
 36. Thrasher, B., E.P. Maurer, C. McKellar and P.B. Duffy, 2012, Technical Note: Bias correcting climate model simulated daily temperature extremes with quantile mapping, *Hydrology and Earth Systems Science* 16, 3309–3314, doi:10.5194/hess-16-3309-2012.
 37. Ficklin, D.L., I.T. Stewart, and E.P. Maurer, 2012, Projections of 21st Century Sierra Nevada Local Hydrologic Flow Components Using an Ensemble of General Circulation Models, *J. American Water Resources Assoc.*, 48: 1104–1125. doi: 10.1111/j.1752-1688.2012.00675.x.
 38. Costa-Cabral, M., S.B. Roy, E.P. Maurer, W.B. Mills, and L. Chen, 2013, Snowpack and runoff response to climate change in Owens Valley and Mono Lake watersheds, *Climatic Change*, 116(1): 97-109, DOI 10.1007/s10584-012-0529-y.
 39. Ficklin, D.L., I.T. Stewart, and E.P. Maurer, 2013, Effects of projected climate change on the hydrology in the Mono Lake Basin, California, *Climatic Change*, 116(1):111-131, DOI: 10.1007/s10584-012-0566-6.
 40. Pierce, D.W. T. Das, D.R. Cayan, E.P. Maurer, N. Miller, Y. Bao, M. Kanamitsu, K. Yoshimura, M.A. Snyder, L.C. Sloan, G. Franco, M. Tyree, 2013, Probabilistic estimates of future changes in California temperature and precipitation using statistical and dynamical downscaling, *Climate Dynamics* 40(3-4):839-856, DOI: 10.1007/s00382-012-1337-9.
 41. Demaria, E.M.C., E.P. Maurer, J. Sheffield, E. Bustos, D. Poblete, S. Vicuña, and F. Meza, 2013, Using a gridded global data set to characterize regional hydroclimate in central Chile, *Journal of Hydrometeorology* 14(1):251-265, doi: 10.1175/JHM-D-12-047.1.
 42. Wilsey, C.B., J.J. Lawler, E.P. Maurer, D. McKenzie, S.L. Shafer, P. Townsend, R. Gwozdz, J.A. Freund, K. Haggmann, K. Hutten, 2013, Tools for assessing climate impacts on ecosystems, *Journal of Fish and Wildlife Management*, 4, 220-241, doi:10.3996/062012-jfwm-055.
 43. Maurer, E.P., T. Das, and D.R. Cayan, 2013, Errors in climate model daily precipitation and temperature output: time invariance and implications for bias correction, *Hydrology and Earth System Sciences*, 17, 2147-2159, doi:10.5194/hess-17-2147-2013.
 44. Ficklin, D.L., I.T. Stewart, and E.P. Maurer, 2013, Climate change impacts on streamflow and subbasin-scale hydrology in the Upper Colorado River Basin, *PLoS ONE* 8(8): e71297. doi:10.1371/journal.pone.0071297.

45. Pierce, D., D.R. Cayan, T. Das, E.P. Maurer, N.L. Miller, Y. Bao, M. K. K. Yoshimura, M.A. Snyder, L.C. Sloan, G. Franco, M. Tyree, 2013, The key role of heavy precipitation events in climate model disagreements of future annual precipitation changes in California, *Journal of Climate* 26, 5879–5896. doi:10.1175/jcli-d-12-00766.1, 2013.
46. Livneh, B., E.A. Rosenberg, C. Lin, V. Mishra, K. Andreadis, E.P. Maurer, and D.P. Lettenmaier, 2013, A long-term hydrologically based data set of land surface fluxes and states for the conterminous U.S.: Update and extensions, *Journal of Climate* 26, 9384–9392. doi: 10.1175/JCLI-D-12-00508.1
47. Das, T., E.P. Maurer, D.W. Pierce, M.D. Dettinger, D.R. Cayan, 2013, Increases in Flood Magnitudes in California Under Warming Climates, *J. Hydrology* 501, 101-110, doi:10.1016/j.jhydrol.2013.07.042
48. Demaria, E.M.C., E.P. Maurer, B. Thrasher, S. Vicuña and, F.J. Meza, 2013, Climate change impacts on an alpine watershed in Chile: do new model projections change the story?, *J. Hydrology* 502:128-138, <http://dx.doi.org/10.1016/j.jhydrol.2013.08.027>.
49. Ficklin, D.L., I.T. Stewart, and E.P. Maurer, 2013, Effects of climate change on stream temperature, dissolved oxygen, and sediment concentration in the Sierra Nevada in California, *Water Resources Research* 49, 2765–2782, doi:10.1002/wrcr.20248.
50. Maurer, E.P. and D.W. Pierce, 2014, Bias correction can modify climate model-simulated precipitation changes without adverse affect on the ensemble mean, *Hydrol. Earth Syst. Sci.*, 18, 915-925, doi:10.5194/hess-18-915-2014.
51. Maurer, E.P., L. Brekke, T.Pruitt, B.Thrasher, J.Long, P. Duffy, M. Dettinger, D.Cayan and J. Arnold, 2014, An enhanced archive facilitating climate impacts analysis, *Bulletin of the American Meteorological Society*, 95(7):1011–1019, doi:10.1175/BAMS-D-13-00126.1.
52. Ficklin, D., B. Barnhart, J. Knouft, I. Stewart, E. Maurer, S. Letsinger, G. Whittaker, 2014, Climate change and stream temperature projections in the Columbia River basin: biological implications of spatial variation in hydrologic drivers, *Hydrol. Earth Syst. Sci.*, 18, 4897-4912, doi:10.5194/hess-18-4897-2014.

Book Chapters

53. Maurer, E.P., G.M. O'Donnell, D.P. Lettenmaier, and J.O. Roads, 2001, Evaluation of NCEP/NCAR reanalysis water and energy budgets using macroscale hydrologic simulations, In: *Land Surface Hydrology, Meteorology, and Climate: Observations and Modeling, AGU series in Water Science and Applications*, V. Lakshmi, J. Albertson, and J. Schaake eds., pp. 137-158.
54. Ziegler, A.D., J. Sheffield, E.F. Wood, B. Nijssen, E.P. Maurer and D.P. Lettenmaier, 2002, Detection of intensification of the global water cycle: the potential role of FRIEND, In: *Regional hydrology: bridging the gap between*

- research and practice*, International Association of Hydrological Sciences (IAHS) Redbook publication No. 274, 51-57, IAHS Press, Wallingford, UK.
55. Maurer, E.P., 2006, Using global climate model output for impact analysis, In: *2006 Yearbook of Science & Technology*, McGraw-Hill, New York.
- Reports and Other Publications*
56. Gleick, P.H. and E.P. Maurer, 1990, Assessing the costs of adapting to sea-level rise: a case study of San Francisco Bay, Stockholm Environment Institute, Sweden and Pacific Institute for Studies in Development, Environment, and Security, Berkeley, CA.
57. Maurer, E.P., B. Nijssen, D.P. Lettenmaier, 2000, Use of reanalysis land surface water budget variables in hydrologic studies, *GEWEX News*, 10(4) pp. 6-8. November 2000.
58. Union of Concerned Scientists, 2004, Climate change in California: choosing our future, declining snowpack and risks to water supplies, Union of Concerned Scientists, Cambridge, MA (available online at <http://www.climatechoices.org/>).
59. Cayan, D., E. Maurer, M. Dettinger, M. Tyree, K. Hayhoe, C. Bonfils, P. Duffy, and B. Santer, 2006, Climate scenarios for California, California Climate Change Center publication no. CEC-500-2005-203-SF.
60. Maurer, E.P., L. Brekke, T. Pruitt, and P.B. Duffy, 2007, Fine-resolution climate change projections enhance regional climate change impact studies, *Eos, Trans., American Geophysical Union*, 88(47), 504.
61. Hopmans, J.W. and E. Maurer, 2008, Impact of climate change on irrigation water availability, crop water requirements and soil salinity in the San Joaquin Valley, University of California Water Resources Center. Technical Completion Reports. Paper sd011.
62. Cayan, D., M. Tyree, M. Dettinger, H. Hidalgo, T. Das, E. Maurer, P. Bromirski, N. Graham, and R. Flick, 2009, Climate change scenarios and sea level rise estimates for the California 2008 Climate Change Scenarios Assessment, Public Interest Energy Research Program Reports, Publication # CEC-500-2009-014-D, California Energy Commission, Sacramento, CA, 62 pp.
63. Maurer, E.P., 2009, Water for Life: A Journey to Nicaragua Exploring Sustainable Development, *Explore* 12(2), 30-34.
64. Roy, S.B., L. Chen, E. Girvetz, E.P. Maurer, W.B. Mills, and T.M. Grieb, 2010, Evaluating Sustainability of Projected Water Demands Under Future Climate Change Scenarios, prepared for the Natural Resources Defense Council, July 2010, 32 pp. (online at <http://www.nrdc.org/globalwarming/watersustainability/>).
65. Mote, P., L. Brekke, P.B. Duffy, and E. Maurer, 2011, Guidelines for constructing climate scenarios, *Eos Trans. AGU*, 92(31), 257-258, doi:10.1029/2011EO310001.

66. Cobb, A., M. Warms, E.P. Maurer, and S. Chiesa, 2012, Low-tech coconut shell activated charcoal production, *International Journal for Service Learning in Engineering* 7(1):93-104.
67. Girvetz, E.H., E.P. Maurer, P. Duffy, A. Ruesch, B. Thrasher, C. Zganjar, Making Climate Data Relevant to Decision Making: The important details of Spatial and Temporal Downscaling, The World Bank, June 26, 2012.
68. Maurer, E.P. and E. Cordero, 2013, Our infrastructure isn't ready for climate change, *The Wall Street Journal Market Watch*, April 29, 2013.
69. Maurer, E. and K. Hayhoe, Why All Christians Should Heed Pope Francis' Call to "Care for Our Common Home", *The Biologos Forum*, <http://biologos.org>, June 19, 2015.
70. Decosse, D., E. Maurer and J. Farnsworth, Pope Francis' 'Common Home' encyclical is a game changer, *San Jose Mercury News*, June 18, 2015.

b) Works in Progress

71. Pierce, D., D. Cayan; E. Maurer; J. Abatzoglou, K. Hegewisch, 2015, Improved bias correction techniques for hydrological simulations of climate change, *J. Hydrometeorology*.
72. Ficklin, D.L. S.L. Letsinger, I.T. Stewart, and E.P. Maurer, 2015, Assessing differences in snowmelt-dependent hydrologic projections using CMIP3 and CMIP5 climate forcing data for the western United States, *Hydrology Research*.

c) Conference contributions (with published abstract)

1. Maurer, E.P. and C.X. Rao, 1994, A model to calculate agricultural return flows, In: *Proceedings AWRA Symposium on Human-Induced Changes on Hydrologic Systems*, pp. 1117-1125 (Jackson Hole, WY, June 26-29, 1994).
2. Maurer, E.P., D.P. Lettenmaier, and J.O. Roads, 1999, Water balance of the Mississippi River basin from a macroscale hydrologic model and NCEP/NCAR reanalysis. *EOS, Trans.*, 80(46) pp. F409-410. (presented at AGU Fall Meeting, 12/16/99).
3. Maurer, E.P., P. Storck, N. Christensen, and D.P. Lettenmaier, 2000, Evaluation of the snow-covered area data product from MODIS in the context of hydrologic modeling. *EOS, Trans.*, 81(48) p. F548. (presented at AGU Fall Meeting, 12/19/2000).
4. Maurer, E.P., G.M. O'Donnell, D.P. Lettenmaier, J.O. Roads, and E.F. Wood, 2000, LDAS long-term retrospective analyses. *EOS, Trans.*, 81(19) pp. S201-202. (presented at AGU Spring Meeting, 5/31/2000).
5. Maurer, E.P., A.W. Wood, J.C. Adam, B. Nijssen, and D.P. Lettenmaier, 2001, Derived continental U.S. land surface hydrologic fluxes and state variables, 1950-2000, *EOS, Trans.*, 82(47) p. F409. (presented at AGU Fall Meeting, 12/11/2001).

6. Maurer, E.P. and D.P. Lettenmaier, 2001, Initializing long-lead ensemble forecasts with remotely sensed snow covered area observations, *EOS, Trans.*, 82(20) p. S188. (presented at AGU Spring Meeting, 5/31/2001).
7. Sheffield, J., E. Maurer, A. Ziegler, E.F. Wood, A. Broccoli, and D.P. Lettenmaier, How well can acceleration of the global water cycle be detected?, *EOS, Trans.*, 82(20) p. S155, (presented at AGU Spring Meeting, Boston, May 29, 2001).
8. Maurer, E.P. and D.P. Lettenmaier, Characterizing potential predictability and its sources in the Mississippi River basin, U.S.A., Abstract #2579 in *Proceedings European Geophysical Society XXVII General Assembly* (presented in Nice France, April 22, 2002).
9. Maurer, E.P., Lettenmaier, D.P., Mantua, N.J., Variability of United States runoff and its climate teleconnections, *EOS, Trans.*, 84(46), Fall Meet. Suppl., Abstract H22B-0917 (presented at AGU Fall Meeting, 12/9/2003).
10. Doten, C.O., Bowling, L.C., Maurer, E.P., Voisin, N., Lettenmaier, D.P., Development of a sediment transport component for DHSVM, *EOS, Trans.*, 84(46), Fall Meet. Suppl., Abstract H52A-1158, 2003 (presented at AGU Fall Meeting, 12/12/2003).
11. Maurer, E.P. and P.B. Duffy, Uncertainty in projections of impacts of climate change on Sierra Nevada mountain hydrology in California, *EOS, Trans.*, 85(46), Fall Meet. Suppl., Abstract U53A-0705 (presented at 2004 AGU Fall Meeting, San Francisco, CA, 12/17/2004).
12. Gibbard, S. E.P. Maurer and P.B. Duffy, Regional climate and hydrological responses to El Niño in an increased CO2 climate, *EOS, Trans.*, 85(46), Fall Meet. Suppl., Abstract A53B-0879 (presented at AGU Fall meeting, San Francisco, CA, 12/17/2004).
13. Maurer, E.P. Partitioning precipitation into rain and snow for event-based hydrologic modeling in the Pacific Northwest U.S., *EOS, Trans.*, 85(17), Spring Meet. Suppl., p. 253, Abstract H51G-04, (INVITED: 2004 Joint Assembly of AGU, Montreal, Canada, 5/21/2004).
14. Maurer, E.P., J. Cetrone, S. Medina, and C. Mass, Partitioning of precipitation into rain and snow in distributed hydrologic simulations in the Western Cascades, Oregon, USA, *Preprints, 84th AMS Annual Meeting*, Abstract P3.5 (presented at AMS Annual Meeting, Seattle, WA 1/14/2004).
15. Maurer, E.P., Evaluating uncertainty in regional hydrologic impacts of climate change using different global models: A California case study, *Proceedings ASCE World Water & Environmental Resources Congress* (presented in Anchorage, Alaska, 5/17/2005).
16. Maurer, E.P., Future greenhouse gas emission and water resources impacts in California, *Proceedings, American Water Resources Association 2005 Annual Water Resources Conference* (presented at Seattle, WA, 11/8/2005).

17. Maurer, E.P., Uncertainty in hydrologic impacts of climate change over California's Sierra Nevada Mountains, *EOS, Trans.* 86(52), Fall Meet. Suppl., Abstract H43B-0498 (presented at 2005 AGU Fall Meeting, San Francisco, CA, 12/8/2005).
18. Maurer, E.P., I.T. Stewart, C. Bonfils, P.B. Duffy, and D. Cayan, Earlier streamflow in the Sierra Nevada: influence of elevation on detectability of past and projected trends, *EOS, Trans.* 87(52), Fall Meet. Suppl., Abstract C33C-1285 (presented at 2006 AGU Fall Meeting, San Francisco, CA, 12/13/2006).
19. Brekke, L.D. and Maurer, E.P., The significance of hydrologic model selection in studying climate change impacts on low flows, *EOS, Trans.* 87(52), Fall Meet. Suppl., Abstract GC32A-06 (presented at 2006 AGU Fall Meeting, San Francisco, CA, 12/13/2006).
20. Maurer, E.P. and A.W. Wood, Central America climate change: implications for the Rio Lempa, *Eos Trans.* 88(23), Jt. Assem. Suppl., Abstract H22D-07 (presented at Spring AGU Meeting, Acapulco, Mexico, 5/22/2007).
21. Maurer, E.P. and H. Hidalgo, Utility of daily vs. monthly large-scale climate data: an intercomparison of two statistical downscaling methods, *EOS, Trans.* 87(52), Fall Meet. Suppl., Abstract GC51B-03 (at 2007 AGU Fall Meeting, San Francisco, CA, 12/14/2007).
22. Schoups, G., J.W. Hopmans, and E.P. Maurer, Projected impacts of climate change on irrigated agriculture in the San Joaquin Valley, California, *Geophysical Research Abstracts* 10, EGU2008-A-03108 (at European Geophysical Union meeting, Vienna, Austria 4/18/2008).
23. Maurer, E.P., H.G. Hidalgo, D.R. Cayan, M.D. Dettinger and T. Das, Improving statistically downscaled daily data for hydrology: diagnosis and opportunities, (poster resented at Fifth Annual California Climate Change Conference, Sacramento, CA, 9/9/2008).
24. Bates, D.J., I.T. Stewart, and E.P. Maurer, Development of a GIS Database to Evaluate Climate-Induced Streamflow Timing Changes in the Sierra Nevada, California (poster presented at 2008 Fall AGU Meeting, San Francisco, CA, 12/16/2008).
25. Hopmans, J.W., G. Schoups and E.P. Maurer, Regional Climate Change Impacts on California's Irrigated Agriculture: Water Demand and Salinity (presented at 2008 Fall AGU Meeting, San Francisco, CA, 12/18/2008).
26. VanDorn, J, K. Hayhoe, A.Wood, and E. Maurer, Multi-model, high-resolution projections of continental U.S. climate and hydrology in the 21st century (presented at 2008 Fall AGU Meeting, San Francisco, CA, 12/18/2008).
27. Maurer, E.P., H.G. Hidalgo, T. Das, M.D. Dettinger, and D.R. Cayan, Projecting climate change impacts on hydrology: the potential role of daily GCM output, (poster presented at 2008 Fall AGU Meeting, San Francisco, CA, 12/18/2008).

28. Brekke, L.D., T. Pruitt, E. P. Maurer, T. Das, P. Duffy, and K. White, Expansion of the On-line Archive "Statistically Downscaled WCRP CMIP3 Climate Projections" (poster presented at 2009 Fall AGU Meeting, San Francisco, CA, 12/16/2009)
29. Girvetz, E.H., C. Zganjar, G. T. Raber, E. P. Maurer, and P. Duffy, Visualizing and communicating climate change using the ClimateWizard: decision support and education through web-based analysis and mapping (poster presented at 2009 Fall AGU Meeting, San Francisco, CA, 12/15/2009).
30. Thrasher, B., P. Duffy, E. P. Maurer, K. White, T. Das, L. D. Brekke, and E. H. Girvetz, Statistical Downscaling of CMIP5 Global Climate Model Simulations for Use in Regional Impact Studies (poster presented at 2009 Fall AGU Meeting, San Francisco, CA, 12/14/2009).
31. Roy, S.B., R. C. Bales, M. C. Costa-Cabral, L. Chen, E. P. Maurer, N. L. Miller, and W. B. Mills, Climate Change and Adaptation Planning on the Los Angeles Aqueduct (poster presented at 2009 Fall AGU Meeting, San Francisco, CA, 12/14/2009).
32. Duffy, P., S. Tyan, E. P. Maurer, 2010, Relative contributions of natural variability versus choice of model to uncertainty in projected trends in near-surface temperature and precipitation, GC23F-0977 presented at the AGU Fall 2010 meeting, 12/14/2010.
33. Pruitt, T., B. Thrasher, T. Das, E. P. Maurer, P. Duffy, J. Long, L. D. Brekke, 2010, New Daily Downscaled Information at the "Bias-Corrected Downscaled WCRP CMIP3 Climate Projections" online archive, GC51A-0729 presented at the AGU Fall 2010 meeting, 12/17/2010.
34. Maurer, E.P., T. Das, D. R. Cayan, 2010, Stability of biases in daily climate model data: implications for downscaling, GC51A-0738 presented at the AGU Fall 2010 meeting, 12/17/2010.
35. Ficklin, D.L., I. T. Stewart-Frey, E. P. Maurer, 2010, How will a warmer climate affect water quality in the Sierra Nevada, California?, H33C-1152 presented at the AGU Fall 2010 meeting, 12/15/2010.
36. Stewart-Frey, I T, Ficklin, D L, Luo, Y, Maurer, E P, 2011, : Can a new model better capture the stream temperature changes resulting from climate warming? Abstract H21K-03 presented at 2011 Fall Meeting, AGU, San Francisco, Calif., 5-9 Dec.
37. Ficklin, D L, Stewart-Frey, I T,, Maurer, E P, 2011, Changes in components of the hydrologic cycle under a warming climate in California, Abstract H31K-03 presented at 2011 Fall Meeting, AGU, San Francisco, Calif., 5-9 Dec.
38. Costa-Cabral, M C, Roy, S B, Maurer, E P, Mills, W B, Chen, L, 2011, Climate Change Impacts on the Los Angeles Aqueducts Water Sources: 21st Century Hydrologic Projections for Owens Valley and Mono Lake Watershed, Abstract H13C-1235 presented at 2011 Fall Meeting, AGU, San Francisco, Calif., 5-9 Dec.

39. Brekke, L., Dettinger, M., Duffy, P., Maurer, E., Pruitt, T., and Thrasher, B., 2011, Bias-corrected and downscaled WCRP CMIP3 climate projections: Helping resource managers incorporate global climate science into local planning activities, Abstract T128A presented at World Climate Research Programme (WCRP) OSC Climate Research in Service to Society, Denver, CO, 24-28 October.
40. Demaria, E.M.C., Maurer, E., Sheffield, J., Bustos, E., Poblete, D., Vicuña, S., Meza, F., 2012, Using a gridded global data set to characterize regional hydroclimate in central Chile, presented at Adaptation Futures: 2012 International Conference on Climate Adaptation, Tucson, AZ, 29-31 May.
41. Stewart, I.T., Ficklin, D.L., Maurer, E.P., 2012, How much water will be available in the upper Colorado River Basin under projected climatic changes? Abstract GC41B-0967 presented at 2012 Fall Meeting, AGU, San Francisco, CA, 3-7 Dec.
42. Ficklin, D.L., Stewart, I.T., Maurer, E.P., 2012, Projected Impacts of Climate Change on Stream Temperature and Dissolved Oxygen in a Snowmelt-Dominated Mountainous Watershed, Abstract H44D-03 presented at 2012 Fall Meeting, AGU, San Francisco, CA, 3-7 Dec.
43. Das, T., Maurer, E.P., Pierce, D.W., Dettinger, M.D., Cayan, D., Munevar, A., 2012, Increases in Flood Magnitudes in California Under Warming Climates, Abstract GC21C-0980 presented at 2012 Fall Meeting, AGU, San Francisco, CA, 3-7 Dec.
44. Demaria, E.M. Maurer, E.P., Sheffield, J., Bustos, E., Poblete, D., Vicuna, S., Meza, F.J., 2012, Using A Gridded Global Data Set To Characterize Regional Hydroclimate In Central Chile, Abstract GC21C-0978 presented at 2012 Fall Meeting, AGU, San Francisco, CA, 3-7 Dec.
45. Maurer, E.P., 2012, Developing and distributing data for facilitating flexibility in coping with climate change (INVITED), Abstract GC42A-01 presented at 2012 Fall Meeting, AGU, San Francisco, CA, 3-7 Dec. 2012.
46. Ficklin, D. S. Letsinger, I.T. Stewart, E.P. Maurer, 2013, How do hydrologic projections for the western United States change with the new CMIP5 models?, Abstract GC44C-04 presented at 2013 Fall Meeting, AGU, San Francisco, CA, 12 Dec.
47. Maurer, E.P., D.W. Pierce, D.R. Cayan, (INVITED) 2013, Downscaling climate model output for water resources impacts assessment, Abstract GC41E-02 presented at 2013 Fall Meeting, AGU, San Francisco, CA, 12 Dec.
48. Cayan, D., D. Pierce, M. Dettinger, A. Gershunov, L. Flint, A. Flint, E. Maurer, A. Hall, D. Walton, E. Fleishman M.W. Schwartz, 2014, Downscaling Extremes: Abilities of regional downscaling in studying ecological drought, Ecological Society of America (ESA) annual meeting, Sacramento, CA, August 11.
49. Velasco, E., J.J. Gurdak, J. Dickinson, R.T. Hanson, T. Ferr, and E.P. Maurer, Groundwater level response in U.S. Principal Aquifers to natural climate

- variability on interannual to multidecadal timescales, Abstract GC11D-0593 presented at 2014 Fall Meeting, AGU, San Francisco, Calif., 15 Dec.
50. Maurer, E.P., (INVITED) 2014, Using Climate Model Output in Hydrologic Impact Studies: Consequences of Correcting Biases at Different Scales, Abstract H31K-02 presented at 2014 Fall Meeting, AGU, San Francisco, CA, 17 Dec.

d) Conference contributions (without published abstract)

51. Lettenmaier, D.P., E.F. Wood, G.M. O'Donnell and E.P. Maurer, Land data assimilation system retrospective simulations for land surface water and energy balance parameterization, GCIP Principal Investigators Meeting, Potomac, MD, 3/27-28/2000.
52. O'Donnell, G.M., D.P. Lettenmaier, E.F. Wood, E. Maurer and J.O. Roads, LDAS retrospective analyses: A hydrological perspective, AMS 80th Annual Meeting, 15th Conference on Hydrology, Long Beach, CA, 1/9-14/2000.
53. Maurer, E.P., Development of a long-term land surface data set for investigating hydrologic predictability, University of Washington/University of British Columbia Joint Hydrology Meeting, Vancouver, B.C., 10/12/2001.
54. Lettenmaier, D.P., E.P. Maurer and J.O. Roads, GEWEX water and energy budget synthesis study (WEBS) - Early results from GCIP, International Geosphere-Biosphere Programme (IGBP) Global Change Open Science Conference, Amsterdam, 7/10-13/2001.
55. Maurer, E.P. and D.P. Lettenmaier, Predictability of seasonal runoff in the Mississippi River basin, AMS/GAPP Mississippi River Climate and Hydrology Conference, New Orleans, 5/14/2002.
56. Maurer, E.P. and D.P. Lettenmaier, The potential value of hydrologic predictability on Missouri River main-stem reservoir systems, GEWEX Americas Prediction Project PI's meeting, Seattle, WA, 7/21/2003.
57. Maurer, E., (INVITED) Publication of a large-scale hydrologic data set using the SDSC SRB, National Partnership for Advanced Computational Infrastructure (NPACI) All-Hands Meeting, San Diego, CA, 3/19/2003.
58. Maurer, E., Forecasting streamflow with the UW hydrometeorological forecast system, Pacific Northwest Weather Workshop, Seattle, WA, 3/8/2003.
59. Maurer, E.P., Anticipating future climate change impacts on California mountain hydrology, 2006 California Water and Environmental Modeling Forum annual meeting, Pacific Grove, CA, 3/1/2006.
60. Maurer, E.P. and A.W. Wood, Evaluation of hydrologic indices for forecasting Western U.S. seasonal water supply, 2006 Pacific Climate Workshop (PACLIM), Pacific Grove, CA, 3/27-28/2006.
61. Maurer, E.P., I.T. Stewart, C. Bonfils and P.D. Duffy, 2006, Detectability of trends towards earlier streamflow in the Sierra Nevada, 2006 California Energy

- Commission Climate Change Research Conference, Sacramento, CA, 9/13-15/2006.
62. Maurer, E.P., (INVITED) Detection of the climate change signal in the hydrological record, Fourth Annual California Climate Change Conference, Sacramento, CA, 9/10/2007.
 63. Maurer, E.P., Downscaling global climate change projections for assessment of water resources impacts (INVITED at the Texas Water Development Board's Far West Texas Climate Change Conference, 6/17/2008, El Paso, Texas).
 64. Maurer, E.P., New statistical downscaling techniques for California and the West, (INVITED presentation at 6th Annual California Climate Change Research Symposium, Sacramento, CA, September 9, 2009).
 65. Ficklin, D.L., I.T. Stewart, and E.P. Maurer, Effects of projected climate change on the hydrology in the Mono Lake Basin, California, presented at the California Water and Environmental Modeling Forum, Asilomar, CA, 2/28-3/2, 2011.
 66. Stewart, I.T., D.L. Ficklin, E.P. Maurer, R. McIntosh, C. Carrillo, changing likelihoods of extremely low flows, high flows, and high stream temperatures in the Sierra Nevada, CA, 26th Pacific Climate Workshop, March 3-6, 2013.

e) Invited Seminars

67. Experimental Climate Prediction Center, Scripps Institution of Oceanography, U. of California, San Diego, CA, February 6, 2001.
68. Climate Impacts Group, Joint Institute for the Study of the Atmosphere and Ocean, U. Washington, Seattle, WA, May 7, 2002.
69. Operation Hydrological Forecasting for Central Asian Hydrologists, Global Educational Services Seminar, Seattle, WA, February 27, 2003.
70. Environmental Studies Institute Fall Seminar Series, Santa Clara University, October 8, 2004.
71. The Nature Conservancy Climate Change and Conservation Workshop, Santa Barbara, CA, October 24, 2005.
72. U.S. Bureau of Reclamation River Systems Management Workshop, Las Vegas, NV, November 9, 2005.
73. U.C. Davis Civil and Environmental Engineering Seminar Series, Davis, CA, November 21, 2005.
74. University of Washington Hydrology Group Seminar, Seattle, WA, October 12, 2006.
75. Cross-country Ski Areas Association Meeting, Bear Valley, CA, April 12, 2007.
76. Stanford University Environmental Engineering and Science Seminar, Stanford, CA, April 18, 2008.
77. Sustainable Silicon Valley, Santa Clara, CA, April 25, 2008.

78. California's changing hydrologic landscape: dealing with uncertain climate change impacts, Dawdy Lecture in the Hydrologic Sciences, Dept. of Geosciences, San Francisco State University, October 14, 2008.
79. Uncertainty in projected impacts of climate change on water, Workshop Cambio Climático y Políticas Públicas, Centro de Cambio Global, Universidad Católica de Chile, April 23, 2009.
80. Translating global models to the local scale, Workshop on Scenarios of Future Climate, Oregon Climate Change Research Institute (OCCRI), Portland, OR, October 28, 2009.
81. Climate disruption and sustainability: implications for water and energy, SCU School of Engineering seminar, March 4, 2010.
82. Symposium on Climate Change Effects on Central California's Environment, Los Padres National forest and NASA Ames, California State University, Monterey Bay, April 27, 2010.
83. Workshop on downscaling and analysis of uncertainty, Pontificia Universidad Católica de Chile, Santiago, Chile, June 8-9, 2010.
84. Climate change and water: assessing impacts and uncertainties, Whole Earth Seminar, U.C. Santa Cruz Earth and Planetary Sciences, Feb. 15, 2011.
85. VIC Hydrology Model Training Workshop, Pontificia Universidad Católica de Chile, Santiago, Chile, October 11-12, 2011.
86. Challenges in translating climate projections for water adaptation planning, U.S. Global Change Research Program, Interagency Group on Integrative Modeling, College Park, MD, October 4, 2012.
87. Climate Model Downscaling, Energy and Resources 290: Energy And Environment, UC Berkeley, January 29, 2013.
88. Downscaling for the world of water, National Climate Predictions and Projections (NCPP) Quantitative Evaluation of Downscaling workshop, Boulder, CO, August 14, 2013.
89. Do new climate model projections demand new impact studies?, California Water & Environmental Modeling Forum (CWEMF) 2014 Annual Meeting, February 24, 2014, Folsom, CA.

f) Grants Received

1. Laboratory Software Support for Geographical Information Systems in Water Resources, SCU Technology Steering Committee, 2003, \$13,400.
2. Enhanced Fluid Mechanics and Hydraulics Laboratory Equipment, SCU Technology Steering Committee, 2004, \$14,630.
3. Promoting sustainable engineering practices in a multicultural environment, SCU Center for Multicultural Learning, 2004, \$5,000. (PI: J. Gonzalez; M. Aschheim, E. Maurer).

4. Improving the Continental-Scale Assessment of Changes in U.S. Water Supply, SCU, University Research Grant, 2004, \$4,725.
5. Incorporating Societal Impact in Engineering Sustainable Development, SCU Bannan Center for Jesuit Education, \$6000. (PI: J. Gonzalez; M. Aschheim, E. Maurer, J. Ota, I. Sanchez).
6. Fostering collaboration with Central America in sustainable development, SCU Bannan Center for Jesuit Education, 2004-05, \$5,000 (supplemented by \$2,500 from SCU School of Engineering). (PI: J. Gonzalez; M. Aschheim, E. Maurer).
7. Assessing the Risks of Shifting Climate on Water and Power Operations in Reclamation Regions, U.S. Bureau of Reclamation, 2005, \$133,000 (total)
8. Assessing potential impacts of climate change on California, California Institute for Energy and Environment, 2005, \$12,658.
9. Impact of climate change on irrigation water availability, crop water requirements and soil salinity in the Sacramento-San Joaquin Valley, California Water Resources Center, U. California, 2006, \$30,000.
10. Arthur Vining Davis grant, Santa Clara University, 2006, \$2,500.
11. Statistical downscaling and archiving IPCC AR4 climate projections for planning application in the United States, U.S. Department of Energy and U.S. Bureau of Reclamation, 2007, \$20,000.
12. Detection and attribution of climate change impacts on streamflow timing, U.C. Merced (U.S. Dept. of Energy prime award), 2007, \$9,956.
13. Water for Life: Journey to Nicaragua, Bannan Institute, Santa Clara University, 2008, \$5,000.
14. Use of other statistical downscaling techniques and hydrological modeling, UC San Diego/CA State Energy Resources Commission, 2008-2010, \$50,000.
15. Global AR4 Downscaling, The Nature Conservancy, 2009, \$6,300.
16. Downscaling Climate Change Information for Improved Decision Making, The Nature Conservancy, (World Bank Prime), 2011, \$37,160.
17. Climate analysis, monitoring, and modeling: Phase V, California Energy Commission (U.C. San Diego Prime), 2011-2013, \$50,000 (my portion).
18. Sustainable Watershed Monitoring, SCU Technology Innovation Grant, 2012-2013, \$2,000
19. RUI: Groundwater teleconnections with interannual to multidecadal climate variability, National Science Foundation, (PI: J. Gurdak, SFSU), 2013-2016, \$26,341 (my portion).
20. Changes in Central American hydroclimate in the context of food security, SCU School of Engineering Research Grant, 2015-2016, \$7,100.
21. Can an inverted classroom increase performance and student engagement in engineering statics?, 2015, SCU Enhanced Teaching with Technology Grant (with L. Doyle, T. Nilsson), \$9,700 (total award).

22. Developing Metrics to Evaluate the Skill and Credibility of Downscaling, U.S. Department of Energy (PI: Alex Hall, UCLA), 2015-2018, \$71,250 (my portion).
23. Estimating Local Climate Change Projections, Santa Clara Valley Water District, 2015, \$7,230.
24. RUI: GSS: Coping with food and water insecurity: Producing vulnerability or resilient responses to the coffee leaf rust outbreak and Mesoamerican drought?, National Science Foundation (PI: Chris Bacon, SCU), 2015-2018, \$272,555 (total award)

g) Theses Supervised

Ph.D. Theses Supervised (we do not offer a Ph.D. in Civil Engineering at SCU)

1. Comarazamy, Daniel E., Impacts of land cover/land use changes in coastal tropical regions under a changing environment, Mechanical Engineering Department, Santa Clara University (Principal Advisor: J.E. Gonzalez, SCU), awarded 2010.
2. Lebassi Habtezion, Bereket, Coastal coastal-cooling of summer daytime temperatures under global warming conditions, Department of Mechanical Engineering, Santa Clara University (Principal Advisor: J.E. Gonzalez, SCU), awarded 2010.

M.S. Theses (our M.S. program in Civil Engineering has no thesis option)

None.

B.S. Theses Supervised (Senior Design Projects)

1. Bowen, M., 2004, Butterfield Boulevard Storm Drain Design Project.
2. Reynolds, D., 2004, Temporary Dewatering System for the Excavation of the New San Jose Civic Center.
3. Lopez Jr., V., 2005, Rural Community Water Distribution System.
4. Martel, N., 2005, Water Supply Development: Isla Zacatillo.
5. Rodrigues, J., 2005, Rainwater Harvesting.
6. Shao, M., Yelinek, M., 2005, Short Creek Restoration.
7. Salas, P., 2005, Little Arthur Creek Bank Restoration Project.
8. De Leon, M., 2006, Design of a Water Supply System for El Salvador.
9. Smith, N., 2006, Bank Stabilization Design of Upper Penitencia Creek.
10. Flaherty, S., Kimbrell, J., Peck, D., 2007, Extensive Green Roof Design.
11. Doi, S., Hoo, K., Patriacca, B., 2008, Green Roof Design.
12. Castro, S., Reyes, E., 2008, Gravity Water System for Nicaragua: Agua Para La Vida (co-advised with S. Chiesa).
13. B. Schlesinger, 2009, Greenhouse Distill.

14. N. Diaz, P. Hoseit, G. Kaprelian, 2009, Salt Water Intrusion in the Salinas Valley.
15. D. Bates, 2009, South Bay Tidal Micro-hydropower Plant.
16. M. Lovell and E. Short, 2010, Kizzi Water Project.
17. K. Beckstrom Muller and A. Thorpe, 2011, Sea Level Rise: Analysis and Redesign on Calabazas Creek.
18. P. Ramsell and L. Webb, 2011, Natural Watershed Runoff Monitoring
19. E. Li and R. Peralta, 2011, Outdoor Classroom Design for the Santa Clara Bronco Garden.
20. A. Cobb and M. Warms, 2011, Low-Tech Coconut Shell Activated Carbon Filter.
21. J. Bolanos, M. Crapps, and A. Folchi, 2014, Rainwater Catchment System at Walden West Outdoor Science School.
22. M. Foran, N. Kozas, and D. Lafranchi, 2014, Mission Well Design.
23. C. Boyle, S. Hanson, 2014, Life Water (Rwanda rainwater collection).
24. N. Roby, T. Giffen, G. Kayser, , 2015, Geomorphic Restoration and Stabilization of a Reach of Stevens Creek
25. S. Cameron, Santa Clara 2015, University Creek Restoration

4. Service to the University, the Profession, and the Community

a) Service to the University

University

- Ignatian Faculty Forum Member, 2004-2009.
- Steering committee, Environmental Studies Institute, 2005-2012.
- Traveled to El Salvador to build collaboration between the UCA and SCU, and to provide student immersion opportunities, summers 2004 and 2005.
- Tech Museum Awards, Environment Panel judge, Center for Science, Technology, and Society, 2004-2008.
- Member of the search committee for a new full-time, tenure-track faculty member in the Environmental Studies Program, 2006-2007.
- Participated in the Collegium Summer Colloquy at St. John's University, Minnesota, June 2006.
- Panelist for the "Pedagogies for the Teachable Moment," April 23, 2007.
- Led faculty/student immersion trip to Rio Blanco, Nicaragua, March 2008.
- Task force member for curriculum development for expanding opportunities for engineering students to participate in the Casa de la Solidaridad program in El Salvador, 2007.

- Participant sponsored by the Ignatian Center for Jesuit Education at the Western Conversations gathering, at University of San Francisco October 17-19, 2008.
- Sloan Grant committee on work-life balance, 2009.
- Western Association of Schools and Colleges (WASC) Teacher-Scholar Subcommittee, 2009.
- Panelist, More to Explore, Ignatian Center for Jesuit Education, May 19, 2009.
- SCU Sustainability/Environmental Justice Presidential Workshop, May 15, 2009.
- School of Engineering Grievance Committee, 2012-2015.
- Presented at the What's GIS workshop, SCU learning commons, Nov 1, 2012.
- Participant in the Faculty Life Panel, DARE visit, SCU, February 26, 2013.
- Participant in the Faculty Life Panel, DARE visit, SCU, February 18, 2015.
- Organizing committee for "Our Future on a Shared Planet: Silicon Valley in Conversation with the Environmental Teachings of Pope Francis", 2015.
- SCU Faculty Affairs Committee, 2015-2018.
- Advisory board member, interdisciplinary minor in sustainability, 2015-2016.
- Faculty Sustainability Liaison, 2014-present.

School and Department

- Participated in Open House Activities, 2004-present.
- Participated in Preview Day Activities, 2004-present.
- Assisted in revision and approval of the Environmental Sciences minor for engineers, 2007.
- Participated in ASCE Mid Pacific Conference activities, 2007.
- Co-advisor of the student chapter of ASCE, 2007-2009.
- Co-advisor for Engineers without Borders, 2008-present.
- Civil Engineering Department representative to the Faculty Senate Council, 2010-2011.
- Representing the Civil Engineering Department on the School of Engineering's Engineering Computer Systems Committee, 2004-2009, 2012-present.
- Panelist presenting on Sustainability and Hydrology at SCU LEAD scholars meeting, September 18, 2008.
- SCU School of Engineering Graduate Program Leadership Committee 2012-present.
- Chair, School of Engineering Internal Grant review committee, 2014.
- Mechanical Engineering Faculty Search Committee, 2013-2014.
- Civil Engineering Lab Manager Search Committee, 2014.
- Kuehler proposal evaluation committee, 2015.
- Senior Lecturer Promotion Committee, 2015-2018.

b) Service to the Profession

Professional Affiliations

- American Geophysical Union
- American Society of Civil Engineers
- American Meteorological Society
- American Water Resources Association

Journal Editing

- Associate Editor, Journal of the American Water Resources Association [2013-present]
- Guest Editor, International Journal of Service Learning in Engineering, 2014.

Manuscript Reviews

- Bulletin of the American Meteorological Society [2004]
- Climate Research [2006, 2007(2)]
- Climatic Change [2005(2), 2006(2), 2007, 2008, 2009, 2010(2), 2011(3), 2012, 2013;2015]
- Climate Dynamics [2014(2)]
- Environmental Earth Sciences [2013, 2014]
- Environmental Research Letters [2015]
- Geophysical Research Letters, AGU [2003, 2005, 2006; 2014; 2015]
- Global and Planetary Change [2012, 2013]
- Hydrological Processes [2004(2), 2005, 2006(2), 2007]
- Hydrological Sciences [2006, 2010]
- Hydrology and Earth System Science [2011, 2012(2), 2013(3); 2014; 2015(2)]
- International Journal of Climatology [2009, 2014(2), 2015(2)]
- Journal of the American Water Resources Association [2007, 2010, 2011, 2013(2)]
- Journal of Climate [2011, 2013]
- Journal of Geophysical Research, AGU [2003, 2006, 2007, 2008, 2009(4), 2010(3); 2014; 2015(2)]
- Journal of Great Lakes Research [2009]
- Journal of Hydrologic Engineering [2012]
- Journal of Hydrology [2006, 2007(2), 2011(3), 2013, 2014, 2015(2)]
- Journal of Hydrometeorology, AMS [2003, 2004(3), 2007, 2009(2), 2012, 2013; 2014(2); 2015]
- Journal of Irrigation and Drainage, ASCE [2003]
- Nature [2005]
- Proceedings of the National Academies of Science [2009]
- Sustainability [2012]
- Water Resources Research [2005, 2006(2), 2007, 2008(2), 2009(2), 2010, 2012(2), 2013(2), 2014(2)]

Proposal Reviews

- NOAA climate and global change program [2003, 2008].
- National Science Foundation [2005, 2009, 2010, 2011; 2015].
- National Oceanic and Atmospheric Administration's Climate Prediction Program for the Americas [2006, 2007, 2010].
- NASA Terrestrial Hydrology Proposal Review Panel, September 22-23, 2008 [9 proposals].
- FONDECYT (Chilean National Commission for Scientific and Technological Research) [2010]
- Univ. of California, Agriculture and Natural Resources Competitive Grants Program [2012]

Other Professional Service

- American Geophysical Union Fall 2003 Meeting, co-chaired session "Observations and Theoretical and Numerical Studies of Land Surface Heterogeneities on Land-Atmosphere Modeling"
- American Geophysical Union Fall 2004 Meeting, co-chaired student paper awards (~500 papers) in the hydrology section.
- American Geophysical Union Fall 2005 Meeting co-chaired session "Regional hydrologic implications of global climate change based on IPCC fourth assessment model simulations.
- Serve as member of the Climate Change Technical Advisory Group, California Department of Water Resources, 2007-2012.
- Co-facilitated the Climate Change: Adaptation for Water Managers workshop, Biosphere, Arizona, February, 2008.
- Co-convened the session "Climate Change and Hydrology III: Impacts on Regional-Scale Hydrology and Implications for Sustainability of Agricultural and Natural Ecosystems, American Geophysical Union Fall meeting, December 18, 2008.
- Review of Chapter 2, Regional Climate Model Projections for the State of Washington, part of the State mandated report on Comprehensive Assessment of the Impacts of Climate Change on the State of Washington.
- Review of U.S. Bureau of Reclamation Technical Memorandum "West-wide climate risk assessments: BCSD surface water predictions," 2011.
- Peer-Review of California Energy Commission technical report CEC-500-2012-010, 2012.
- Presented "Climate Change and Water" to American Council of Engineering Companies, Santa Clara County Chapter, April 2, 2012.
- Co-convened Session GC14B: Hotspots on a changing planet: Identifying water-energy-food security challenges under a changing climate, American Geophysical Union Fall Meeting, December 3-4. 2012.

- Advisory Board, Climate change, water and society program, UC Davis, 2012-2013.
- Participant in Center for Sustainable Engineering (CSE) workshop, June 2013, Georgia Tech, Atlanta, GA.
- Invited participant at World Climate Research Programme (WCRP) Coordinated Regional Downscaling (CORDEX) empirical statistical downscaling workshop, 26-27 September, 2013, Trieste, Italy.
- Co-convened session GC063: Quantifying climate impacts on human and natural systems: Which uncertainties matter?, American Geophysical Union Fall Meeting, December 15-19, 2014.
- Fulbright Scholar Program, Discipline Peer Review. Engineering: Civil 1 committee, 2014-2017.
- Invited panelist for Going Natural - incorporating nature in climate change adaptation, Floodplain Management Conference, Santa Clara, CA, Sep. 4, 2014.
- Provided Climate Change Training Workshop, Santa Clara Valley Water District Headquarters, 1 January 2015.

c) Community Service

Media Contributions

Quoted in the Oakland Tribune (December 18, 2005).

Appeared on TV station KPIX (CBS affiliate), Aug 5, 2005, for the story "From above, the earth shows environmental damage".

Participated as a panelist on the "Your Call" radio show on KALW on Aug 25, 2005.

Quoted in two articles in the Modesto Bee on October 8, 2006.

Provided commentary for the video "Water Matters" produced by the Union of Concerned Scientists, released May 2006.

Quoted in an interview in the San Jose Mercury News (January 31, 2006)

Commented on global climate change impacts on the Bay Area on TV channel 2, KTVU, on February 2, 2007.

Data and analysis I produced were recognized in the article "Muddy Slopes" at Sports Illustrated.com, published March 7, 2007.

My HESS article on climate change impacts on the Rio Lempa was featured in El Faro, October 19, 2009.

I was quoted in the NY Times Green Inc. article "California Dams to Feel Impact of Climate Change," December 2, 2009.

A report on which I was a co-author was featured in Civil Engineering magazine, October 2010.

Quoted in the San Jose Mercury News article "Taking gardening to new heights", June 10, 2011.

Commented on the evolving 2014 drought in an interview on Telemundo 48 (KSTS Area de la Bahía) on January 17, 2014.

Live interview on California's drought on KPIX 5, San Francisco, on January 19, 2014.

Other Community Service

Participated in Sustainable Silicon Valley meeting on August 19, 2005.

Participated in Science Education Days, sponsored by the Union of Concerned Scientists, in Sacramento, CA April 26-27, 2005 and May 15-16, 2006

Provided expert testimony to the Board of Directors of the Santa Clara Valley Water District on climate change impacts on water resources, January 29, 2008.

Served as expert witness to the State of California in the case heard in the U.S. District Court (Eastern District of California), "Central Valley Chrysler-Jeep, Inc., et al., v. Catherine E. Witherspoon (Executive Officer of the California Air Resources Board), with my testimony discussing impacts of global warming on California's water resources, 2006-2008.

Climate Change and Water, presentation to Graham Middle School Robotics Team, October 29, 2008.

Serve on Bicycle Advisory committee for the City of Santa Clara, 2008-2014.

Adopted (as the Civil Engineering Department) a portion of San Tomas Aquino Creek as part of the Santa Clara Valley Water District program, 2009-present.

Served on judging panel for Sustainable Silicon Valley's Showcase of Solutions, Spring 2013, 2014.

Contributed to a documentary on Santa Clara Valley water prepared by Michele Guieu for the Sip. Do Not Gulp. exhibit at SCU's de Saisset museum, January 17 - March 16, 2014.

Contributed expertise on the drought in California for a television interview on Univision, May 13, 2015,

I was interviewed by Scott Budman at NBC-TV about the El Nino and California drought on August 13, 2015.