

## Sally E. Thompson

Assistant Professor  
Department of Civil and Environmental Engineering  
University of California  
Berkeley, CA, 94720-1710

Email: [sally.thompson@berkeley.edu](mailto:sally.thompson@berkeley.edu)

Phone: (510) 642 1980

### PROFESSIONAL PREPARATION:

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University of Western Australia	Chemistry & Env. Eng.	B.Sc. / B.E., 2003
Duke University	Environmental Science	Ph.D., 2010
Duke University	Ecohydrology	Postdoc. 2010-2011

### RESEARCH EXPERIENCE AND PROFESSIONAL APPOINTMENTS:

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**Assistant Professor, University of California, Berkeley** January 2012-Present

- Research in surface hydrology and ecohydrology.

**Postdoctoral Associate, Duke University** May 2010 - Present

- Incorporating periods as a Visiting Scholar at Princeton
- Development of ecohydrological models exploring feedbacks between forest health and hydrological response
- Investigating emergent patterns in biogeochemical export, water balance and streamflow power spectra in catchment-scale hydrological models

**Visiting Assistant Professor, Purdue University** August 2010 – Dec 2010

- Development of data- and model- driven systems theory for exploring alterations in catchment ecosystem dynamics along human impact gradients.

**Doctoral Research, Duke University** Aug 2006-May 2010

- Development of ecohydrological models to simulate vegetation pattern formation
- Extension of hydrological theories relating to infiltration in vegetated and microtopographically undulating terrain
- Application of spatial models to tree recruitment dynamics in forests and under scenarios of climate change

**Sinclair Knight Merz, Perth, Western Australia** Jan 2004 – Aug 2006

- Environmental engineering consultant

### TEACHING EXPERIENCE:

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**Assistant Professor, University of California, Berkeley** January 2012-Present

- Teaching CE103 (Introductory Hydrology), CE203 (Surface Hydrology).

**Visiting Assistant Professor, Purdue University** August 2010 – Dec 2010

- Teaching: "Propagation of Ecological Influence: Environmental Transport", and "Ecological Science and Engineering Colloquium".

- Hydrological Synthesis Summer School, Vancouver BC** June-August 2009
- Student leader and peer mentor.
- Teaching Assistant, Duke University** 2008
- Teaching "Introduction to Differential Equations".
- Guest Lecturer, University of Western Australia** 2006
- Lectured in Chem 308 "Industrial Chemistry".
- Teaching Assistant, University of Western Australia** 2001-2003
- Teaching: Organic, Inorganic and Physical Chemistry (Chem 100); Advanced Organic Chemistry (Chem 200); Environmental Chemistry (Chem 310); Introductory Chemistry (Chem 105)".

### **HONORS AND AWARDS**

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- CUAHSI Early Career Fellowship, 2010
- Editor's Citation for Excellence in Reviewing, 2010, Water Resources Research
- Dean's Award for Outstanding Research Manuscript, 2010, Nicholas School of the Environment, Duke University
- James B Duke Fellowship, 2006-2009, Duke University
- General Sir John Monash Award, 2005-2009, General Sir John Monash Foundation, Australia
- Outstanding Student Presentation, 2007, American Geophysical Union Fall Meeting
- Peter Cassell Scholarship, Sinclair Knight Merz, 2004

### **SYNERGISTIC ACTIVITIES:**

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Associate Editor, Hydrology and Earth Systems Science (2010- present)  
 Editorial Board Member, Advances in Water Resources (2012-present)  
 CUAHSI Early Career Fellowship (2010)  
 Editor's Citation for Excellence in Reviewing, Water Resources Research (2010)  
 Member, American Geophysical Union

### **COLLABORATORS AND OTHER AFFILIATIONS:**

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*Collaborators and Co-Editors:* P. Alvarez-Loayza (Duke), N.B. Basu (UIowa), P.D. Brooks (UA), S. Carleson (Berkeley), K.E. Daniels (NCSU), T.E. Dawson (Berkeley), D. Evangelou (Purdue), C.J. Harman (UIUC, UA, Johns Hopkins), M. Hamilton (Berkeley), A.G. Konings (MIT), S. Levin (Princeton), S. Manzoni (Duke), I. Ngambeki (Purdue), A. Packman (Northwestern), A. Porporato (Duke), P. Suresh Rao (Purdue), L. Ridolfi (Polytechnico di Torino), I. Rodriguez-Iturbe (Princeton), R. Schumer (DRI, Reno), M. Sivapalan (UIUC), J. Terborgh (Duke), P.A. Troch (UA), G. Vico (Duke).

*Graduate Advisor and Postdoctoral Sponsors:* G.G. Katul (Duke), P. Suresh Rao (Purdue)  
*Thesis Advisor and Postgraduate-Scholar Sponsored:* Gopal Penny (PhD), Gabrielle Boisrame (PhD), Michael Koochafken (Masters), Alan Vaz Lopes (PhD), Marc Mueller (PhD)



## BIBLIOGRAPHY

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2. **Thompson, S.E.** and G.G. Katul, Implications of non-random seed abscission and global stilling for migration of wind-dispersed plant species, In Press, *Global Change Biology*.
3. **Thompson, S.E.**, S. Levin, I. Rodriguez-Iturbe, Linking plant disease risk and precipitation drivers: A dynamical systems framework, *The American Naturalist*, 181(1), E1-E16, 2013.
4. **Thompson, S.E.**, and G.G. Katul. Hydraulic determinism as a constraint on the evolution of ecosystems and organisms, *The Journal of Hydraulic Research*, 50, pp 547-557, 2012.
5. **Thompson, S.E.**, I. Ngambeki, P.A. Troch, M. Sivapalan, D. Evangelou, Incorporating student-centered approaches into catchment hydrology teaching: a review and synthesis, *Hydrology and Earth System Sciences, Hydrology and Earth Systems Science*, 16, pp 3263-3278, 2012.
6. Konings, A. G., G. G. Katul, and **S. E. Thompson**, A phenomenological model for the flow resistance over submerged vegetation, *Water Resources Research*, 48(W02522) doi:10.1029/2011WR011000, 2012.
7. **Thompson, S.E.**, and G.G. Katul. Multiple mechanisms generate Lorenzian and  $1/f^{\mu}$  power spectra in daily stream-flow time series. *Advances in Water Resources*, 37, pp. 94-103, doi:10.1016/j.adwatres.2011.10.010, 2012.
8. **Thompson, S.E.** and G.G. Katul. Inferring ecosystem parameters from observation of vegetation patterns. *Geophysical Research Letters*, 38(L20401), doi:10.1029/2011GL049182, 2011.
9. **Thompson, S.E.**, C.J. Harman, R. Schumer, J.S. Wilson, N.B. Basu, P.D. Brooks, S.D. Donner, M.A. Hassan, A.I. Packman, P.S.C. Rao, P.A. Troch, M. Sivapalan. Patterns, puzzles and people: Implementing hydrologic synthesis. *Hydrological Processes*. 25, pp. 3256-3266, doi:10.1002/hyp.8234.
10. Sivapalan, M., **S. E. Thompson**, C. J. Harman, N. B. Basu, and P. Kumar. Water cycle dynamics in a changing environment: Improving predictability through synthesis. *Water Resources Research*, 47(W00J01), doi:10.1029/2011WR011377, 2011.
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14. **Thompson, S.E.**, C.J. Harman, A.G. Konings, M. Sivapalan, A. Neal, and P.A. Troch. Comparative hydrology across Ameriflux sites: The variable roles of climate, vegetation and groundwater. *Water Resources Research*. 47(W00J07), doi:10.1029/2010WR009797, 2011.
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16. Guan, K., **S.E. Thompson**, C.J. Harman, N.B. Basu, P.S.C. Rao, M. Sivapalan, A.I. Packman and P.K. Kalita. Hydrological and biogeochemical signatures of contaminant transport at the watershed scale: spectral and wavelet analysis, *Water Resources Research*, 2011, 47(W00J02), doi:10.1029/2010WR009997.
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19. Basu, N.B., G. Destouni, J.W. Jawitz, **S.E. Thompson**, N.V. Loukinova, A. Darracq, S. Zanardo, M. Yaeger, M. Sivapalan, A. Rinaldo, and P. S. C. Rao. Nutrient loads exported from managed catchments reveal emergent biogeochemical stationarity. *Geophysical Research Letters*, 2010, 37(L23404), doi:10.1029/2010GL045168.
20. **Thompson, S.E.**, P. Alvarez-Loayza, J.T. Terborgh and G.G. Katul. The effects of plant pathogens on tree recruitment in the Western Amazon under a projected future climate: a dynamical systems analysis. *Journal of Ecology*, 2010, 98(6), p. 1434-1446.
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22. **Thompson, S.E.**, C.J. Harman, P. Heine and G.G. Katul. Vegetation-infiltration relationships across climatic and soil type gradients. *Journal of Geophysical Research Biogeosciences*, 2010. 115(G02023), doi:10.1029/2009JG001134
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