POUYA VAHMANI, Ph.D.

pvahmani@lbl.gov

EDUCATION

- **PhD, Hydrology and Water Resources Eng.**, University of California, Los Angeles, 2010 to 2014, GPA - 3.97
- **M.S., Environmental Engineering**, California State University of Los Angeles, 2008 to 2010, GPA – 4.00
- **B.S., Civil Engineering,** Shahid Bahonar University of Kerman (Iran), Feb.2002 to Feb.2006, GPA – 3.34

PUBLICATIONS

Vahmani, P., F., Sun, A., Hall, and G. Ban-Weiss (2016), Investigating the climate impacts of urbanization and the potential for cool roofs to counter future climate change in Los Angeles, *Environ. Res. Lett.,* accepted (Article reference: ERL-102897).

Vahmani, P., and G. Ban-Weiss (2016), Climatic consequences of adopting drought-tolerant vegetation over Los Angeles as a response to California drought, *Geophys. Res. Lett*., 43, 8240–8249, doi:10.1002/2016GL069658.

Vahmani, P., and G. Ban-Weiss (2016), Impact of Remotely Sensed Albedo and Vegetation Fraction on Simulation of Urban Climate in WRF-UCM: A Case Study of the Urban Heat Island in Los Angeles. *J. Geophys. Res. Atmos.,* 120, doi: 10.1002/2015JD023718.

Vahmani, P., and T. S., Hogue (2015), Urban irrigation effects on WRF-UCM summertime forecast skill over the Los Angeles metropolitan area, *J. Geophys. Res. Atmos.*, 120, doi:10.1002/2015JD023239.

Vahmani, P. and T. S., Hogue (2014), High-resolution land surface modeling utilizing remote sensing parameters and the Noah UCM: a case study in the Los Angeles Basin, *Hydrol. Earth Syst. Sci.*, 18, 1–16, doi:10.5194/hess-18-4791-2014.

Vahmani, P. and T. S., Hogue (2014), Incorporating an Urban Irrigation Module into the Noah Land Surface Model Coupled with an Urban Canopy Model, *J. Hydrometeor,* 15, 1440–1456, doi:10.1175/JHM-D-13-0121.1.

Vahmani, P. and T. S., Hogue (2013), Modelling and analysis of the impact of urban irrigation on land surface fluxes in the Los Angeles metropolitan area, Climate and Land Surface Changes in Hydrology *Proceedings of H01, IAHS-IAPSO-IASPEI Assembly*, Gothenburg, Sweden, July 2013, IAHS Publ. 359.

CONFERENCE PRESENTATIONS

Satellite-Supported Modeling of the Relationships between Urban Heat Island and Land Use/Cover Changes, *poster* presented at the *AGU Fall Meeting,* 2015.

WRF-UCM Modeling of Urban Land-Atmosphere Interactions with a Focus on Landscape Irrigation in the Los Angeles Metropolitan Area, *poster* presented at the *AGU Fall Meeting,* 2014.

Integrating Remote Sensing Data in Noah-UCM Parameterization and Validation: A Case Study for the Los Angeles Metropolitan Area, *poster presented at the AGU Fall Meeting,* 2013.

Development of an Anthropogenic Soil Moisture Contribution Module in the NOAH-UCM for the Los Angeles Metropolitan Region, *Oral presentation, at AGU Fall Meeting*, 2012.

Development and Validation of the Noah-Urban Canopy Model for Two Distinct Urban Climates in the Los Angeles Basin, *poster* presented at the *AGU Fall Meeting,* 2011.

Microtextural analysis of weathering in CO_2 saturated soils, *poster presented at the Spring ACS National Convention*, 2010.

REVIEWER FOR

- Journal of Geophysical Research – Atmospheres
- Urban Climate
- Journal of Hydrology
- Climate

PROFESSIONAL SOCIETIES

American Geophysical Union (AGU); American Meteorological Society (AMS); American Society of Civil Engineers (ASCE)

HONORS, FELLOWSHIPS, AWARDS

- *IAHS Best Early Career Scientist Paper Award*, the Gothenburg Assembly, 2013.
- *NASA Earth System Science Fellowship (NESSF)*, University of California, Los Angeles, 2012 and 2013.
- *Bridge to the Doctorate Fellowship*, the Center for Energy and Sustainability/California State University, Los Angeles, 2010.
- *Special Recognition in Graduate Studies*, CSULA 2010 Honors Convocation.
- *Outstanding Poster Presentation Award in Engineering*, 2010 CSULA Student Symposium.
- *Graduate Student Fellowship*, the Center for Energy and Sustainability/California State University, Los Angeles, 2009.
- *Graduate Student Scholarship*, Shahid Bahonar Uni. of Kerman (Iran), 2006.
- *First Ranked Graduating Student* in Civil Eng. Class, Shahid Bahonar Uni. of Kerman (Iran), 2006.

RESEARCH EXPERIENCE

- Since March 2016, Lawrence Berkeley National Lab
  Postdoctoral Fellow
  Conducting research on the impacts of a warming global climate, urbanization, and land cover change on the climate of the San Francisco Bay Area and consequently on the energy and water demand in the region.
- September 2014 – March 2016, University of Southern California, Los Angeles
  Postdoctoral scholar and research associate
  Conducted research on the interaction between urban climate and human activities, global climate change with a focus on the Los Angeles metropolitan area and practical solutions for mitigating climate change impacts on urban areas.
- September 2010 – August 2014, University of California, Los Angeles
  Graduate Student Researcher
  Performed research on Land surface modeling, Urban-atmosphere interactions, and Remote sensing applications in Hydrology and Water Resources with a focus on urban climate and irrigation.
- May 2009 – June 2010, The Center for Energy & Sustainability, CSULA, Los Angles, California
  Graduate Student Researcher
  Performed research on Soil Weathering due to CO_2 exposure and other Environmental Engineering research projects.

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SKILLS

- Strong background in *Regional Climate Modeling, Urban Climate, Land Surface Modeling, Urban Canopy Modeling, Land Surface-Atmosphere Interactions, Remote Sensing, Environmental Eng., Hydrometeorology, Hydrology,* and *Water Resources.*
- Expertise in *MATLAB, Fortran, Unix/Linux, HTML,* and *CSS.*
- Could operate effectively with *ArcGIS, MODFLOW, AutoCAD,* and *Microsoft Office*.

TEACHING/WORK EXPERIENCE

- Winter 2015, Civil and Environmental Engineering, USC, California,
  Guest Lecturer*: Climate change and air pollution,*
  Gave guest lectures on land surface-atmosphere interactions aspects of climate change and air pollution.
- Winter 2011, Civil and Environmental Engineering, UCLA, California,
  Teacher Assistant*: Introduction to Water Resources Engineering,*
  Gave lectures once a week, held office hours 4 hours a week, and designed the assignments and tests.
- From January 2008 to February 2009, ANM Eng. Inc., Sherman Oaks, California,
  Structural Engineer*,*
  Designed residential buildings. Performed all the structural drafting and required inspections.