

Jacob J. Bukoski

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EDUCATION

University of California at Berkeley

Berkeley, CA, USA

PhD of Environmental Science, Policy and Management, 2021 (expected)

- **Tentative focus:** Quantitative, data-oriented decision making in the environmental sector
- Data Science for the 21st Century, NSF Research Trainee

Yale University, School of Forestry & Environmental Studies

New Haven, CT, USA

M.S. of Environmental Science, 2016

- **Thesis:** A predictive model for ecosystem carbon stocks in the mangroves of the Indo-Pacific

University of North Carolina at Chapel Hill

Chapel Hill, NC, USA

*B.A. of Environmental Studies, 2011, **With Distinction, GPA: 3.719***

- Seven month study abroad experience Energy and Sustainability, Bangkok, Thailand

AWARDS, GRANTS & FELLOWSHIPS

- National Science Foundation, Data Science for the 21st Century Research Traineeship 2016-Present
- National Science Foundation, Graduate Research Fellowship Program 2015-Present
- Carpenter Sperry Research Fund, Yale University 2015-2016
- Williams Summer Internship Fund, Yale University 2015-2016
- Tropical Resources Institute Fellow, Yale University 2015-2016
- Columbia Economics Review Environmental Policy Competition, 1st Place Awardee 2015
- Yale Institutional Scholarship – Donnelley Fund, Yale University 2014-2015
- Carolina Covenant Scholar, UNC-Chapel Hill 2009-2011
- Carolina Student Transfer Excellency Program, UNC-Chapel Hill 2008-2011

RELEVANT TEACHING EXPERIENCE

Sampling Methodology and Practice, New Haven, CT, USA

Jan. 2016-May 2016

Teaching Fellow for Dr. Timothy G. Gregoire

- Grading bi-weekly student homework assignments
- Assisting fellow Master's students in course material and Program R statistical software package

RELEVANT RESEARCH EXPERIENCE

Spatial Informatics Group, LLC, Pleasanton, CA, USA

May 2016-Present

Affiliated Research Scientist

- Contract work in geospatial data analysis and tool development to inform decision making within the land-use and policy-making realms

USAID Lowering Emissions in Asia's Forests (LEAF), Bangkok, Thailand Nov. 2013-Sept. 2015

Research Intern

- Developing a linear mixed effects regression model to predict mangrove forest carbon stocks
- Field sampling of ecosystem carbon stocks in mangroves of Thailand and Vietnam

Yale University, New Haven, CT, USA Sept. 2014-May 2015

Research Assistant

- Data mining and statistical analyses of emissions from indoor biomass combustion for residential cooking within the developing world

Solar Decathlon, Europe, 2014 – KMUTT, Bangkok, Thailand / Paris, France Sept. 2013-July 2014

Sustainability Consultant

- Conducted a full life cycle assessment under ISO 14044 standard of an energy efficient residence
- Mentored fellow students on life cycle thinking within construction and building practices

Mangrove Forest Research Center, Ranong, Thailand Sept. 2013-May 2014

Volunteer Research Assistant

- Prepared documents, assisted in field-sampling, and organized community outreach events
- Prepared a decentennial review of the Ranong Man and Biosphere Reserve for the UNESCO Man and Biosphere Program

King Cobra Radio-Telemetry Project, Sakaerat Biosphere Reserve, Thailand Nov. 2012-2013

Research Assistant

- Refined research protocols and managed data quality for (i) a field-based king cobra radio-telemetry project and (ii) a biosphere wide census of terrestrial fauna within the three predominant forest types

2012 Bangkok Futsal Stadium, JGSEE, Bangkok, Thailand Dec. 2011-2012

Independent Consultant

- Conducted economic, emissions, and energy balance analyses on life cycle implications of a solar cooling system in the Bangkok 2012 World Cup Futsal Stadium

PUBLICATIONS IN REVIEW & IN PREP

- (In press) **Bukoski, J.J.**, Ghewala, S.H., and Chaiwiwatworakul, P. The life cycle assessment of an energy-positive peri-urban residence in a tropical regime. *Journal for Industrial Ecology*.
- (In review) **Bukoski, J.J.**, Broadhead, J.S., Donato, D.C., Kauffman, J.B., Murdiyarso, D., and Gregoire, T.G. A predictive model of ecosystem carbon stocks in Southeast Asian mangroves.
- (In prep) **Bukoski, J.J.**, and Broadhead, J.S. Mangrove Carbon Stock Estimator. United Nations Food and Agricultural Organization. *Technical Document*.

- (In prep) **Bukoski, J.J.**, Drazen, E., Johnson, W.R., and Swamy, L. Tropical forests for sustainable development. (*Introductory piece for a special issue in the Journal of Sustainable Forestry*).

PEER-REVIEWED PUBLICATIONS

- **Bukoski, J.J.**, Chaiwiwatworakul, P., and S.H. Gheewala. 2015. Energy savings vs. costs of implementation for demand side management strategies within an energy efficient tropical residence. *Energy Efficiency* 8(4): 1-13.
- **Bukoski, J.**, Gheewala, S.H., Mui, A., Smead, M., and S. Chirarattananon. 2014. The life cycle assessment of a solar-assisted absorption chiller in Thailand. *Energy and Buildings* 72: 150-156.

CONFERENCE PROCEEDINGS & PRESENTATIONS

- **Bukoski, J.J.** The use of mixed effects models for obtaining low carbon stock estimates in mangroves. Yale Master's Colloquium. Yale School of Forestry and Environmental Studies. *Oral presentation*.
- **Bukoski, J.J.**, Broadhead, J.S., and T.G. Gregoire. 2015. A low-cost mechanism for predicting mangrove carbon stocks. *World Forestry Congress XIV*. Durban, S. Africa. *Oral presentation*.
- **Bukoski, J.J.**, and Broadhead, J.S. (2015). Regression models for predicting carbon stocks in Southeast Asian mangroves. *Inception Workshop for the IUCN-UN FAO-USAID "Income for coastal communities for protecting mangroves" project*. Bangkok, Thailand. (**Invited**). *Oral presentation*.
- **Bukoski, J.J.** and S. H. Gheewala. (2014). Beyond face value: A life cycle comparison of bamboo board vs. precast concrete veneer wall system cladding materials. *4th International Conference on Green and Sustainable Innovation (ICGSI) 2014*. Bangkok, Thailand. *Oral presentation*.

TECHNICAL DOCUMENTS

- Saah, D., Manley, P., Chen, Q., O'Neil-Dunne, J., White, A., Moody, T., Freed, T., **Bukoski, J.**, Moghaddas, J. 2016. Monitoring desired conditions for vegetation and wildlife habitat: An independent test of proposed indicators for monitoring vegetation in the Lake Tahoe Basin. Report submitted to: US Forest Service Pacific Southwest Research Station – SNPLMA Round 10 Science Project. 73 pp.

PROFESSIONAL & ACADEMIC CONTRIBUTIONS

- **Treasurer**, Yale Chapter of the International Society of Tropical Foresters 2015-2016
- **Student Staff Writer**, Yale Environment Review 2014-2015
- **Special Issue Editor**, Journal of Sustainable Forestry 2016-Present
- **Professional Affiliations:**
 - American Geophysical Union (AGU), Society of American Foresters (SAF) 2016-Present
- **Invited Academic Journal Reviewerships:**
 - Global Change Biology, Energy Conversion and Management