

Savannah Cooley

savannah.s.cooley@jpl.nasa.gov | (805) 252-8837

Education

Clark University – Worcester, MA

- M.S. in Geographic Information Science (GIS) expected August 2017
- B.A. Economics, Minors in Math and Geography, Concentration in Computational Science 2016
- Traina Scholar: Full-tuition scholarship for students in the sciences 2012-2016
- First Honors Dean's List: recognizes students with GPA of 3.8 or above for academic achievement 2013-present

Rotary Youth Exchange Student, Escola Paulo Freire – Campo Grande, Brazil

August 2010- July 2011

Santa Barbara City College (for high school) – Santa Barbara, CA

2010, 2011, 2012

Work Experience

M.S. Thesis in collaboration with ECOSTRESS Applications Science Team

NASA Jet Propulsion Laboratory and Clark University— Pasadena, CA and Worcester, MA

2016-present

- Assessed severity of the 2015 drought in Guanacaste, Costa Rica using the Standard Precipitation Index with a combination of meteorological and remotely sensed data.
- Estimated plant stress across forests and agricultural areas in Guanacaste with moderate resolution imagery using simulated Level 3 ECOSTRESS evapotranspiration data with Priestly-Taylor Jet Propulsion Laboratory (PT-JPL) model.
- Derived Normalized Difference Vegetation Index product from Landsat 7 spanning 2000 – 2015 and compared results to plant stress measures based on PT-JPL estimates of evapotranspiration across forests and agriculture.

NASA DEVELOP Research Intern

NASA Jet Propulsion Laboratory and EARTH University— Pasadena, CA and Guanacaste, Costa Rica

Summer 2016

- Simulated ECOSystem Spaceborne Thermal Radiometer Experiment on Space Station (ECOSTRESS) land surface temperature Level 2 data and delivered data to project partner EARTH University in Costa Rica.
- Created experimental design to be carried out at EARTH University to demonstrate how ECOSTRESS data can inform precision agriculture irrigation practices and partially replace the need for costly in situ data collection.

Honors Economics Thesis in collaboration with Urban3 Consulting Firm

Urban 3 and Economics Department, Clark University— Asheville, NC and Worcester, MA

2015-2016

- Developed a spatial econometric model for Urban3 client Lafayette, LA Consolidated Government to predict land value per acre based on network centrality measures, and environmental, economic, and social factors.

Spatial Center Intern

Geography Department, University of California, Santa Barbara — Santa Barbara, CA

Summer 2015

- Worked closely with UCSB Map & Imagery Library to establish best practices and a beta implementation of an online self-deposit data discovery portal that features geospatial data generated by UCSB researchers.

GIS Technician and Community Organizer

Iracambi Research Center — Atlantic Rainforest, Rosario da Limeira, Minas Gerais, Brazil

Summer 2014

- Partnered with GIS volunteer team to create an interactive web mapping application that shows human and environmental indicators of the two Environmental Protection Areas in the county including potential landslide zones, water resources, forest cover, ideal reforestation areas, and mining company's bauxite concession zones.

Skills and Technical Capabilities

- Fluent in Portuguese and Spanish: lived in Mexico for 4 years with family; studied and worked in Brazil
- Proficient in: Java, Python and R programming languages; web mapping application development with Google Maps API, javascript and HTML; and ArcGIS, QGIS, Excel, GeoDa, Idrisi TerrSet, ENVI, Stata software programs
- GIS capabilities include: time series analysis, ecological forecasting, network analysis, web mapping, spatial statistics, drought assessment, map comparison, classification, post-classification analysis, data interpolation, accuracy assessment, interpretation of multispectral scanner, RADAR and thermal imagery

Leadership and Community Engagement

- Elected M.S. Student Representative, Clark University Geography Department Faculty Meeting Fall 2016
- Co-director, Aquaponics Greenhouse Cooperative: received \$10,000 grant for pilot project 2015-2016
- Director, Clark Yoga: founded mentorship program for aspiring teachers and low income youth 2014-present
- Clark Undergraduate Student Council Finance Committee: allocate club budgets, financial audits 2012-2013
- Graduate, the Landmark Forum: Leadership and transformation workshop 2013-2014

References

Christine Lee, Ph.D.

ECOSTRESS Applications Lead
NASA Jet Propulsion Laboratory,
4800 Oak Grove Dr, MS 168-200 Pasadena, CA 91109
(818) 354-3343 | christine.m.lee@jpl.nasa.gov

Chris Williams, Ph.D.

Associate Professor of Geography
Adjunct Associate Professor of Biology
Clark University,
2 Vanderbilt Place, Asheville, NC, 28801
(508) 793-7323 | cwilliams@clarku.edu

Joshua McCarty

Chief Analytics Researcher
Urban3,
950 Main Street, Worcester, MA 01610
(919) 932-0993 | josh@urban-three.com

Werner Kuhn, Ph.D.

Director, Center for Spatial Studies
Professor, Department of Geography
University of California, Santa Barbara
Santa Barbara, CA 93106-4060
kuhn@geog.ucsb.edu

Binka Le Breton, Co-Director

Centro de Pesquisas e Conservação Iracambi
Caixa Postal No.1, Rosário da Limeira
36878-000 Minas Gerais, Brasil
Tel: 55 32 3723 1297 | iracambi@iracambi.com