

JOHN YUMBYA MUTUA

Email: jyumbya@yahoo.com • Mobile: +254 723 459907

RESEARCH INTERESTS

GIS, remote sensing, spatial statistics, data visualization, reproducible research

EDUCATION

Master of Climate Change Adaptation

University of Nairobi

Mapping heat stress risk for dairy cattle under current and future climatic conditions in Uganda

Continuing

Nairobi, Kenya

B.A., Geography

Moi University

2009

Eldoret, Kenya

PEER-REVIEWED PUBLICATIONS

Nijbroek, R., Piikki, K., Söderström, M., Kempen, B., Turner, K., Hengari, S., and **Mutua, J.** (2018). **Soil Organic Carbon Baselines for Land Degradation Neutrality: Map Accuracy and Cost Tradeoffs with Respect to Complexity in Otjozondjupa, Namibia.** *Sustainability*, 10(5), 1610.

Hamerlynck, O., Zeine, S. M., **Mutua, J.**, Mukhwana, L., and Yéna, M. (2016). **Reflooding the Faguibine floodplain system, northern Mali: potential benefits and challenges.** *African Journal of Aquatic Science*, 41(1), 109-117.

Yumbya, J., Vaate, M. B. De, Kiambi, D., Kebebew, F., and Rao, K. 2014. **Geographic Information Systems for assessment of climate change effects on teff in Ethiopia.** *African Crop Science Journal*, 22, 847 - 858

RESEARCH AND CONSULTING

International Centre for Tropical Agriculture, Nairobi, Kenya

Geospatial Analyst

2015-Present

My work revolves around creating reproducible workflows for analyzing complex spatial data, with appropriate analytical methods, informed by my unique combination of skills, experience, and understanding of research themes - climate change, food security and agriculture.

African Biodiversity Conservation and Innovations Centre, Nairobi, Kenya

2010-March 2015

GIS Analyst

October

Designed and implemented models for mapping commodity suitability in East Africa and implemented training and capacity building programs in GIS and remote sensing.

International Centre for Tropical Agriculture, Cali, Colombia

Visiting Scientist

February 2012-June 2012

Developed an R algorithm for mapping and identifying priority rice wild relatives species for conservation.

Institute of Research for Development, Tombouctou, Mali

GIS/Remote Sensing Consultant

April 2010-September 2010

Spectral analysis of Multispectral Landsat 7 Enhanced Thematic Mapper Plus (ETM+) and aerial imagery; Created geospatial datasets for use in ecosystem services mapping projects in Kenya and Mali.

Value Addition and Cottage Industry Development in Africa, Nairobi, Kenya January 2010-September 2010
GIS Analyst

Maintained the organization's enterprise geodatabase and ensured constant updating; Performed GIS data cleaning; Developed and implemented geostatistical modeling and analysis.

Kenya Electricity Generating Company, Nairobi, Kenya September 2009-January 2010
Intern

Hydrological modeling and forecasting for hydroelectric power production; Maintained the organization's enterprise geodatabase and ensured constant updating.

Department of Resource Survey and Remote Sensing, Nairobi, Kenya June 2009-August 2009
Intern

Designed and produced high-resolution well-designed map layouts; Maintained the organization's enterprise geodatabase and ensured constant updating.

Kenya Meteorological Department Nairobi, Kenya June 2008-August 2008
Intern

Designed and implemented a spatial model for mapping daily rainfall distribution in Kenya; Modeled rainfall-runoff modeling using Galway Flow Forecasting System.

SHORT COURSES AND WORKSHOPS LED

R for developing LDN indicators June 2017
 Faculty of Agriculture and Natural Resources, University of Namibia, *Windhoek, Namibia*

INVITED TALKS

Geospatial Innovation at CIAT: Today and a View into the future November 2017
 Kenyatta University, GIS Day *Nairobi, Kenya*

CONFERENCE PRESENTATIONS

Bush encroachment mapping in Otjozondjupa region, Namibia August 2018
 FOSS4G 2018 *Dar es salaam, Tanzania*

POSTER PRESENTATIONS

Mapping the suitability of tropical forages - now and in the future - September 2018
 Tropentag *Ghent, Belgium*

CIAT Soil Carbon Sequestration Research November 2017
 Soil Carbon Sequestration: Supporting NDCs and donor action *ZEF Center for Development Research, University of Bonn*

Development of a SOC Baseline: Experiences from Otjozondjupa, Namibia. March 2017
 Global Symposium on Soil Organic Carbon *Rome, Italy*

Spatial Targeting of Agricultural Intensification Investments March 2017
 Linking Household Surveys with Spatial Data Workshop *Arusha, Tanzania*

SKILLS

Software Expert: ArcGIS Suite, QGIS, ERDAS Imagine suite, ENVI, Google Earth Engine
Languages Expert: R, L^AT_EX, HTML, Markdown, XLSForm, git
 Intermediate: Python, MATLAB, JavaScript
Social Media Twitter: @JohnYumbya, 1,800+ tweets, 176+ followers
 Blogs: maintainer, <https://jyumbya.github.io/>

Open source contributions:
 SurfaceTortoise - Find Optimal Sampling Locations Based on Spatial Covariate(s): <https://github.com/cran/SurfaceTortoise>
 mapsRinteractive: Local Adaptation and Evaluation of Digital Soil Maps: <https://github.com/cran/mapsRinteractive>
 Targeting Tools: https://github.com/CIAT/targeting_tools_10_3
 CLEANED-RX: <https://github.com/CIAT/cleaned-rx>
 Many more projects hosted on GitHub, <https://github.com/jyumbya>

MEMBERSHIPS IN PROFESSIONAL SOCIETIES

Geospatial Society of Kenya (GSK)	2017-present
Society for Conservation GIS (SCGIS)	2010-present

REFEREES

Dr. Dionysious K Kiambi
 Dean, Graduate School
 P.O Box 56875 - 00200, Nairobi, Kenya
dionysious.kiambi@pacuniversity.ac.ke

William K.Kiplagat
 Head, Geography Department
 P.O. Box 3900 - 30300, Eldoret, Kenya
williamkiplagat@yahoo.com

Dr. James M Kinyanjui
 Natural Resource Scientist
 Department of Resource Surveys and Remote Sensing
 P.O. Box 47146 - 00100, Nairobi, Kenya
mwangikinyanjui@gmail.com