DENIS MUTIIBWA, Ph.D.

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EDUCATION

Doctor of Philosophy, Biological Systems Engineering, University of Nebraska, Lincoln, NE: August 2011
Master of Science, Statistics, University of Nebraska, Lincoln, NE**:** December 2010
Master of Science, Biological Systems Engineering, University of Nebraska, Lincoln, NE: December 2007
Bachelor of Science, Agricultural Engineering, Alexandria University, Alexandria, Egypt: August 2005

COMPUTER &TECHNICAL SKILLS

R • PYTHON • IDL • GDAL • ERDAS Imagine• QGIS • ArcGIS • SAS • MATLAB

PROFESSIONAL EXPERIENCE

LONG SPRING LLC, COLLEGE PARK, MD   2014 – PRESENT
RESEARCH CONSULTANT
- Founded a consultancy based on high performance and smart computing of big gridded-datasets in environment, agriculture, water resources management and climate.
- Developed a land use classification scheme which was adopted by the state of Nebraska for large scale mapping and monitoring of irrigated lands.
- Implemented remote sensing methodologies to model and map surface energy balance fluxes and atmospheric boundary layer properties for improved integrated water management and monitoring of agricultural water consumption.

UNIVERSITY OF NEVADA, RENO, NV   2013 – 2015
POSTDOCTORAL RESEARCH ASSOCIATE, DEPARTMENT OF GEOGRAPHY
- Investigated current and future climate extremes across the United States.
- Investigate the impact of climate extremes on avian ecology in the Southwest United States
- Designed and implemented a micro-climate sensor network in the Southwest United States

Key Accomplishments:
- Set put and managed a microclimate sensor network in the Southwest, improving data collection and monitoring of extreme hot climate condition in the Southwest.
- Characterized the spatial and temporal patterns in United States temperature extremes
- Mapped Heat wave and Cold wave events across United States during the recent past decades
- Developed a potent scheme that estimated air temperature from remote sensed Land Surface Temperature

UNIVERSITY OF NEBRASKA, LINCOLN, NE   2011 – 2012
POSTDOCTORAL RESEARCH ASSOCIATE, DEPARTMENT OF BIOLOGICAL SYSTEMS ENGINEERING
- Investigated anthropogenic signals of climate change
- Designed and Setup a climate and environment monitoring network
- Implemented remote sensing techniques in environment and agricultural water management
Key Accomplishments:
- Utilized remote sensing-based surface energy balance modeling to model and partitioned surface energy fluxes from satellite imagery.
- Set up and managed a network of Bowen Ratio Energy Balance Systems, from installation and equipment maintenance through data collection.
- Improved data collection, archiving and management for climate, environment and agricultural water resources.
- Improved the ability farmers to manage agricultural water by increasing precision of modeling crop water requirements.

WORK AUTHORISATION

Authorized to work in the United States permanently (Green card holder)

PROFESSIONAL AFFILIATIONS

American Geophysical Union (AGU)
American Society of Civil Engineers (ASCE)

HONORS

Milton E. Mohr Award, 2007, 2009, 2010
Widaman Trust Distinguished Graduate Assistant Award, 2009
Bill and Rita Stout Outstanding Graduate Student Award, 2007
Graduate Fellowship Award: 2009

RECENT PUBLICATIONS

Mutiibwa, D., Albright, P. T., and Vavrus, S. 2015. Recent spatiotemporal patterns in temperature extremes across conterminous United States. *Journal of Geophysical Research*. 120, DOI: 10.1002/2015JD023598

Mutiibwa, D., Albright, P. T., and Strachan, S. 2015. Land Surface Temperature and Surface Air Temperature in Complex Terrain. *IEEE J. Sel. Top. Appl. Earth Obs. Remote Sens. DOI: 10.1109/JSTARS.2015.2468594*.

Sharma, V., Irmak, S., Kilic, A., and **Mutiibwa**, D. 2015. Application of remote sensing for quantifying and mapping surface energy fluxes in South Central Nebraska, USA: Analyses with respect to field (*Accepted in, Transactions of the ASABE)*.

Mutiibwa, D., Irmak, S., and Kilic, A. 2013. Identifying the effects of anthropogenic component of LULC changes on the regional climate of the USA High Plains. *Climate 2(3): 153-167 DOI:10.3390/cli2030153*

Mutiibwa, D., and Irmak, S. 2012. Estimation of crop coefficients from AVHRR-based NDVI for analyzing long-term trends in evapotranspiration in relation to changing climate in the USA High Plains. *Water Resources Research. Vol. 49(1): 231-244. Doi 10.1029/2012WR012591*

Mutiibwa, D., Irmak, S. 2012. Transferability of Jarvis-Type models developed/re-parameterized for specific crops to estimate stomatal resistance for other crops: Analyses on model calibration, validation, performance, sensitivity, and elasticity. *Transactions of the ASABE. Vol. 56(2): 409-422.*

Irmak, S., Odhiambo, L., and D. **Mutiibwa**. 2011. Assessing the impact of daily net radiation models on grass and alfalfa-reference evapotranspiration estimated using Penman-Monteith equation in a sub-humid and arid climate. *Journal of Irrigation and Drainage Engineering. Vol. 137(2): 59-72.*

Irmak, S., I. Kabenge, K. Skaggs, and D. **Mutiibwa**. 2011. Trend and magnitude of changes in local climate variables and reference evapotranspiration over 116-year period in the Platte River Valley, central Nebraska-USA. *Journal of Hydrology 420-421: 228-244.*

Irmak, S., **Mutiibwa, D**., and J. O. Payero. 2010. Net radiation dynamics: Performance of 20 daily net radiation models as related to model structure and intricacy in two climates. *Transactions of the ASABE. Vol. 53(4): 1059-1076.*

In review

Mutiibwa, D., Pun, M., and Ruopu, L. 2015. Land Use classification: A Surface Energy Balance and Vegetation Index Application to Map and Monitor Irrigated Lands. (In review, *Remote Sensing of Environment).*