

## STAFF PROFILE TEMPLATE

---



1. **Name:** Dr. Peter Kinyae Musyimi
2. **Designation:** Lecturer of Geography
3. **Employment details**

School: School of Education and Social Sciences

Department: Humanities and Languages

### **Contact Information**

#### **Email Address :**

**Corporate Email:** [pkinyae@karu.ac.ke](mailto:pkinyae@karu.ac.ke)

**Personal Email:** [pemusyimi@gmail.com](mailto:pemusyimi@gmail.com)



Water Scarcity, Meteorological measurements, Hydro climatology, Applied remote sensing, agricultural meteorology and climatology.

### **List some of your key published works**

#### **Peer-reviewed Publications**

1. **Musyimi, P. K.**, Sahbeni, G., Timár, G., Weidinger, T., & Székely, B. (2023). Analysis of Short-Term Drought Episodes Using Sentinel-3 SLSTR Data under a Semi-Arid Climate in Lower Eastern Kenya. *Remote Sensing*, 15(12), 3041. <https://doi.org/10.3390/rs15123041>
2. Rotich, I. K., & **Musyimi, P. K.** (2023). Wind power density characterization in arid and semi-arid Taita-Taveta and Garissa counties of Kenya. *Cleaner Engineering and Technology*, 100704. <https://doi.org/10.1016/j.clet.2023.100704>
3. Sahbeni, G., Székely, B., **Musyimi, P. K.**, Timár, G., & Sahajpal, R. (2023). Crop Yield Estimation Using Sentinel-3 SLSTR, Soil Data, and Topographic Features Combined with Machine Learning Modeling: A Case Study of Nepal. *AgriEngineering*, 5(4), 1766-1788. <http://doi.org/10.3390/agriengineering5040109>
4. Timár, G., **Musyimi, P. K.**, & Appel, S. (2023). Projection analysis and georeference of the 1:2M Africa map by Régnauld de Lannoy de Bissy (1891-1902). In Annual Conference Digital Approaches to Cartographic Heritage - Proceedings, ISSN 2459-3893, pp. 187-193. <https://www.researchgate.net/profile/>
5. Sahbeni, G., Ngabire, M., **Musyimi, P. K.**, & Székely, B. (2023). Challenges and Opportunities in Remote Sensing for Soil Salinization Mapping and Monitoring: A Review. *Remote Sensing*, 15(10), 2540. <http://doi.org/10.3390/rs15102540>
6. **Musyimi, P. K.**, Székely, B., Gandhi, A., & Weidinger, T. (2022). Palmer-type soil modelling for evapotranspiration in different climatic regions of Kenya. *Hungarian Geographical Bulletin*, 71(4), 365-382. <https://doi.org/10.15201/hungeobull.71.4.4>
7. **Musyimi, P. K.**, Sahbeni, G., Timár, G., Weidinger, T., & Székely, B. (2022). Actual evapotranspiration estimation using sentinel-1 SAR and sentinel-3 SLSTR data combined with a gradient boosting machine model in Busia county, Western Kenya. *Atmosphere*, 13(11), 1927. <http://doi.org/10.3390/atmos13111927>
8. Gandhi, A., Bartok, B., Ilona, J., Musyimi, P. K., & Wedinger, T. (2022). Historical fog climate dataset for Carpathian Basin from 1886 to 1919. *Data in Brief*, 44, 108500. <https://doi.org/10.1016/j.dib.2022.108500>
9. **Musyimi, P.K.**, (2020) Climate variability adaptation in rural Kenya. <https://www.afrikablog.hu/climate-variability-adaptation-in-rural-kenya>
10. Huho, J. M., Kosonei C.R., & **Musyimi, P.K.** (2020). Sociodemographic determinants of households' food wastes in Garissa Sub-County, Kenya. *Budapest International Research and Critics institute Journal*. Budapest Institute. ISSN 2615-3076, 932-946

11. Böttcher, Zora Delphine; Helbig, Torben Leon; Hingst, Finn-Rasmus; Kagwi Njuguna, Elvis James; Karanja Wangui, Edwin; Kingori, Paul; **Kinyae Musyimi, Peter**; Nyaguthii Njiraini, Doreen; Orozco, Richard Jose; Orth, André Günter; Ouko Ang'ila, Robert; Petersen, Gyde; Rau, Franziska; Ried, Christian David; Robinson, James Scott; Schampera, Charlotte; Schmidt, Kim-Karen; Thiesmeier, Alma Irma Maria; Wairimu Mwaura, Ann; Wangui, Maina Esther (2018). Rural-urban transitions –Livelihood, Human-Wildlife Interactions, Land Use and Land Cover Change in the Buffer Zone of Mount Kenya National Park. December 2018, 1-94.  
<https://www.dropbox.com/sh/m21vph4dov6m277/AACKeDnpG0CGsbsjzwwEREw8a?dl=0>
  
12. **Musyimi P.K.**, Huho, J.M., and Opiyo, F.E. (2018) Understanding Drought Characteristics and Perceived Effects on Water Sources in Kenya's Drylands: A Case Study of Makindu Sub-County. In Fymat A. L. and Kapalanga, J. (eds) Advancing Africa's Sustainable Development: Proceedings of the 4th Conference on Science Advancement. Cambridge Scholars Publishing, Newcastle upon Tyne, NE6 2PA, UK pp 324 – 349
  
13. **Musyimi, P.K.**, Nduru, G. M., Huho, J.M., & Opiyo, E. F. (2018). Economic Gains of Water Scarcity Adaptation Strategies in Makindu Sub-County, Kenya. Machakos University Journal of Science and Technology, ISBN978-9966-820-64-8 Vol. 1, Issue 1, November 2018
  
14. **Musyimi, P.K.**, Nduru, G. M., Huho, J.M., & Opiyo, E. F. (2018). Assessing Climate Variability Adaptation and Coping Strategies among Rural Households in Kenya. Journal of Water and Environmental Technologies. Vol. (02) August 2018. ISSN: 2508-9250, 342-349
  
15. **Musyimi, P.K.**, Nduru, G. M., Huho, J.M., & Opiyo, E. F. (2018). Households' Perceptions on Impact of Drought on Water Resources in Makindu Sub-County, Kenya AFRREV Vol. 12(3) July 2018, 64-73. <https://doi.org/10.4314/afrev.v12i3.7>

### **Book Chapters**

1. **Musyimi P.K.**, Székely, B, & Weidinger, T. (2023) .Meteorological Measurements in Mount Kenya Region, Importance of Quality Control, Preparatory Steps and Calibration. *Egyetemi Meteorológiai Füzetek, University notes of Meteorology, Department of Meteorology Eötvös Loránd University*, 155-169. ISSN 0865-7920.  
<https://doi.org/10.31852/EMF.35.2023.155.169>
  
2. Agustiyara, A., Székely, B., Nurmandi, A., **Musyimi, P.K.** (2023). Remote Sensing Applied for Land Use Change Assessment and Governance in Riau-Indonesia. In: Stephanidis, C., Antona, M., Ntoa, S., Salvendy, G. (eds) HCI International 2023 Posters. HCII 2023. *Communications in Computer and Information Science, vol 1835. Springer*,

Cham. [https://doi.org/10.1007/978-3-031-36001-5\\_56](https://doi.org/10.1007/978-3-031-36001-5_56)

3. **Musyimi, P. K.**, Székely, B., & Weidinger, T. (2022) Maize coefficient influence on real evapotranspiration in Garissa County, Kenya in: Pongrácz, R.; Mészáros, R.; Kis, A. (eds.) Aktuális meteorológiai kutatások: Az éghajlatváltozás és hatásainak vizsgálata, levegőminőségi elemzések. Budapest, Magyarország: *ELTE Meteorológiai Tanszék*, 110-118. <https://doi.org/10.31852/EMF.34.2022.110.118>
4. **Musyimi, P. K.**, Székely, B., & Weidinger, T. (2020). Long-term (1901–2016) temperature-based potential evapotranspiration and aridity index analysis for the lower eastern region of Kenya. In Pongrácz, R.; Mészáros, R.; Kis, A. (eds.) Current PhD research at the 75-year-old Department of Meteorology. Budapest, Magyarország: *ELTE Department of Meteorology*. <https://doi.org/10.31852/EMF.33.2020.074.083>

### **Published Abstracts**

1. **Musyimi, P. K.**, Mendyl, A., Agustiyara, A., Székely, B., & Weidinger, T. (2023). Hourly reference evapotranspiration analysis using synoptic meteorological measurements and ERA5 reanalysis data from Kenyan Counties, EMS Annual Meeting 2023, Bratislava, Slovakia, 4–8 Sep 2023, EMS2023-331, <https://doi.org/10.5194/ems2023-331>
2. Mendyl, A., **Musyimi, P. K.**, Adrás Zénó, G., and Weidinger, T.(2023, September). Analysis of Wind Data and Assessment of Wind Energy Potential in North-West Hungary, EMS Annual Meeting 2023, Bratislava, Slovakia, 4–8 Sep 2023, EMS2023-114, <https://doi.org/10.5194/ems2023-114>
3. Mendyl, A., Gandhi, A., **Musyimi, P. K.**, Székely, B., & Weidinger, T. (2022, May). Comparative analysis of wind and solar energy potential from different climate regions, case studies of Morocco, India, and Kenya. In EGU General Assembly Conference Abstracts (pp. EGU22-380). <https://doi.org/10.5194/egusphere-egu22-380>
4. **Musyimi, P. K.**, Székely, B., & Weidinger, T. (2022). Reference evapotranspiration estimation and influence of coffee on real evapotranspiration in humid climatic regions of Kenya. In EGU General Assembly Conference Abstracts (pp. EGU22-388). <https://doi.org/10.5194/egusphere-egu22-388>
5. Sahbeni, G., **Musyimi, P. K.**, Székely, B., & Weidinger, T. (2022). The Relationship Between Soil Moisture and Drought Monitoring Using Sentinel-3 SLSTR Data in Lower Eastern Counties of Kenya. In EGU General Assembly Conference Abstracts (pp. EGU22-6058). <https://doi.org/10.5194/egusphere-egu22-6058>
6. **Musyimi, P. K.**, Székely, B., & Weidinger, T.(2021) Maize coefficient influence on real evapotranspiration in Garissa country, Kenya, webGeoMATES 2021, International Congress on Geomathematics in Earth- & Environmental Sciences, ABSTRACT BOOK of the webGEOMATES 2021 congress for young scientists, Hungarian Geological

Society, 26, 2021, Hungary.

7. **Musyimi, P. K.**, Székely, B., & Weidinger, T. (2021). Long-term reference and real evapotranspiration modelling using a one-dimensional Palmer-type soil model for different climatic regions of Kenya (No. EMS2021-330). Copernicus Meetings. <https://doi.org/10.5194/ems2021-330>