

# How Do We Conduct Research, Education and Outreach in a Climate Friendly Way, Including the Activities of Professional Organizations? How Do We Help our Universities to become More Climate Smart?

**Tenyindze Therence Zabze**

## **ABSTRACT:**

In a world faced with the urgent need to mitigate the impacts of climate change, our vision is to revolutionize the way we conduct research, education, and outreach in a climate-friendly manner. We strive to lead professional organizations and universities towards becoming climate-smart institutions. Emphasizing the key role of geospatial sciences within the broader realm of climate science, we aim to set the agenda for research and pedagogy to address the complex challenges posed by climate change.

The role of geospatial sciences in climate science is instrumental. Geospatial data, technologies, and analytical tools enable us to understand the intricate interactions between Earth's physical systems and human activities. By incorporating geospatial sciences into climate science, we gain a holistic understanding of environmental processes, their drivers, and the implications they have on socio-economic systems. This interdisciplinary approach is crucial as climate change is a multifaceted issue that cannot be addressed by a single discipline alone.

Our vision recognizes the importance of conducting research, education, and outreach in a climate-friendly manner. To achieve this, we will promote the use of sustainable practices in all aspects of our work. From designing energy-efficient laboratories to reducing the carbon footprint of fieldwork, we will prioritize environmentally conscious solutions. We will advocate for the adoption of sustainable practices by professional organizations and universities, encouraging them to make climate-smart choices in their activities and operations.

Education plays a pivotal role in shaping the future generation of climate scientists, policymakers, and informed citizens. Our vision includes incorporating climate-friendly education into curricula at all levels, from primary education to higher education. We will focus on integrating geospatial sciences into climate science education, ensuring students develop the necessary skills to analyze and interpret spatial data and understand the linkages between human activities and climate change. By fostering a climate-smart educational environment, we aim to empower students to become climate champions and contribute to sustainable solutions.

Outreach is essential for bridging the gap between scientists and society. Our vision is to enhance public understanding of climate change and its consequences through effective outreach programs. We will leverage geospatial sciences to visualize climate data and communicate complex information in an accessible way. By engaging with communities and stakeholders, we can promote climate-smart practices and empower individuals to take collective action. There is an urgent need to collaborate with professional organizations to amplify our outreach efforts, leveraging their networks and resources to reach a wider audience.

Leading professional organizations have a crucial role to play in championing climate-friendly practices. Our vision involves actively collaborating with professional organizations to influence their agenda and encourage the adoption of sustainable practices within their membership. By

organizing conferences, workshops, and webinars, we will promote the integration of geospatial sciences in climate science research and education. Through collaborations, we aim to establish interdisciplinary networks that bring together scientists, scholars, and practitioners to address climate change challenges collectively.

Universities have a tremendous opportunity to become climate-smart institutions at the forefront of climate science research and education. Our vision is to support universities in achieving this through the integration of geospatial sciences. We will advocate for the inclusion of geospatial sciences in university curricula, ensuring students have access to interdisciplinary climate science education. Further, we will assist universities in implementing sustainable practices, developing climate action plans, and fostering a culture of sustainability across campus. By embracing our vision and leveraging the key role of geospatial sciences, we can revolutionize the way we conduct research, education, and outreach in a climate-friendly manner. Together with professional organizations and universities, we will pave the way towards a sustainable future, enabling society to mitigate and adapt to the challenges posed by climate change. Our commitment to this vision will be measured through tangible actions, continuous improvement, and the legacy of a resilient planet for future generations.

**KEYWORDS:** *climate data, Big Data, cloud computing, raster data, geospatial, OpenShift, containers*

**Tenyindze Therenze Zabze**, University of Buea, Molyko, Buea, Cameroon