



[Call for Applications: Funding Opportunities for MSc and PhD students \(three thematic call\)](#)

Project title: Effects of Active Rifting and Thermal Uplift on Climate, Soil, Water and Agriculture in Southern Main Ethiopian Rift: Implementing Strategies for Recovery Improvement

Institution: Joint project with Arba Minch University (AMU), Wolaita Sodo University (WSU) and Space Science and Geospatial Institute (SSGI)

Number of Positions: Three (3) MSc and PhD students - one student per thematic call

About the project

Active rifting and thermal uplift in the Southern Main Ethiopian Rift play a significant role in shaping surface climate conditions, soil characteristics, water resources, and land-use systems. These volcano-tectonic processes involve the transfer of heat and materials from the Earth's interior to the surface, influencing surface temperatures, soil physicochemical properties, groundwater circulation, and surface water availability.

In response to these pressing issues, the project aims to evaluate the effects of active rifting and thermal uplift on **soil physicochemical properties, groundwater circulation, surface water availability, and localized microclimatic variability**. It will also assess **crop performance under thermally stressed conditions** and examine the associated impacts on socioeconomic activities. Based on these assessments, the project seeks to develop and implement **recovery strategies and sustainable land management practices** for the study area. By focusing on the restoration of degraded soils and landscapes, the project aims to enhance **resilience of rural communities**, improve **soil productivity and agricultural yields**, and promote the **sustainable use of natural resources**. Integrating local knowledge and capacity-building initiatives, the project also intends to empower communities to proactively respond to volcano-tectonic impacts.

The project focuses on the southern segment of the Main Ethiopian Rift Valley and emphasizes **collaborative approaches** to promote sustainable management practices that **mitigate resource degradation** while also supporting the **well-being and resilience of rural communities**.

CALL 1: MSc and PhD Position on Modeling Active Rifting, Thermal Uplift, and Their Impacts on Agriculture and Atmosphere

Thematic Focus

This position focuses on developing models that simulate active rifting and thermal uplift and evaluate their impacts on local agriculture, temperature variations, microclimates, and atmospheric conditions in the Southern Main Ethiopian Rift.



Research Expectations

- ✓ Develop or apply climate models to analyze microclimate trends in relation to volcanic and tectonic process, apply numerical simulation model and or thermal-hydrologic-mechanical process model to analyze changes in temperature, fluid flow, heat flux patterns, and rift-related land deformation, and assess model outputs in relation to crop stress, soil heating, and atmospheric changes.

Required Background

MSc and PhD students in: Geothermal Energy, Soil Science, Agronomy, Watershed Management, Geology, GIS/Remote Sensing, Environmental/Atmospheric Science Science, Geophysics, Hydrology, or related fields.

CALL 2: MSc and PhD Position on Assessing Crop Yield Status Under Thermally Stressed Environments

Thematic Focus

This position addresses how thermal uplift and rifting-induced heat affect crop performance, crop physiology, yield variation, and field productivity.

Research Expectations

- ✓ Conduct field measurements under thermally stressed zones, evaluate crop growth parameters, yield components, and stress responses, identify crop types resilient to high-temperature and geothermal-influenced soils and recommend climate-resilient agricultural practices and management strategies.

Required Background

MSc and PhD students in: Agronomy, Horticulture, Plant Science, Crop Physiology, Soil Science, Watershed Management, Climate science, or related agricultural sciences.

CALL 3: MSc and PhD Position on Impacts of Active Rifting and Thermal Uplift on Socioeconomic

Thematic Focus

This position investigates the extent and severity of active rifting and thermal uplift and their impacts on socioeconomic activities, such as: livelihoods, land use, resource management, agriculture, water availability, and community resilience.



Research Expectations

- ✓ Conduct socioeconomic surveys, interviews, and livelihood assessments, map affected communities using Open source computing platforms (like Python, GEE, R, MATLAB), GIS and field data, determine how thermal uplift affects land use, farming systems, migration, and income sources and propose community-based adaptation and resilience strategies.

Required Background

MSc and PhD students in: Agricultural Economics, Rural Development, RDAE, Environment & Development, Sociology, Geography, or related social and Environmental fields.

General Evaluation Criteria (applies to all three calls)

Research relevance to project objectives, strong methodology (fieldwork, lab analysis, modeling, Machine Learning socioeconomic tools), potential restoration strategies and practical applications, integration of local knowledge, innovation and novelty, and quality of proposal, clarity, and scientific writing

General Requirements and Qualifications

- ✓ Must be an active MSc and PhD student at AMU, WSU and SSGI in eligible fields.
- ✓ Must have completed coursework and be ready to begin research.
- ✓ Demonstrated motivation to work on soil, crop, climate, or socioeconomic challenges.
- ✓ Experience in fieldwork, open source computing platform (like Python, GEE, R) modeling, lab analysis, or socioeconomic studies is advantageous.
- ✓ Strong analytical, communication, and teamwork abilities.

Application Procedure (for all three calls)

- ✓ Submit the following documents: Research proposal aligned with one of the three thematic calls, CV, academic transcripts and credentials (scanned) and any supporting documents



Submit to:

Mr. Talema Moged (Principal Researcher and Project Coordinator, SSGI)

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Deadline: Within 15 consecutive days from the date of this announcement

Notification of Results

Final results: **Mid of March 2026**

Start of MSc and PhD research support: **End of March 2026**