



CALL FOR WATER RESOURCES MODELLING HACKATHON

1. Introduction

Rwanda Water Resources Board (RWB) in collaboration with the Albertine Rift Conservation Society (ARCOS Network) is inviting university students to participate in the third edition of water resources modeling and erosion control hackathon. The main objective of this competition is to promote innovative solutions for sustainable water use and management and enhance Biodiversity conservation in Rwanda.

2. Participants

The competition will be free and open to all undergraduate and postgraduate students enrolled Public and private universities, Rwanda Polytechnic, and other higher learning institutions based in Rwanda. Eligibility will be limited to students of all ages for undergraduate students and only master student aged utmost 25 years for male or 28 years for females.

Eligible fields of study include:

- Water resources, climate, urban planning, environmental programs or related programs for **Water Allocation Modelling**
- Software engineering, computer science, computer engineering, data science, and programming disciplines for IoT applications for **erosion control solutions**

3. Hackathon

- a. **Water resources Modeling:** The competition will be open to any water resources modelling software, preferably **HEC-HMS** and **QSWATplus** for **Hydrological modelling**, **HECRAS** for **Hydraulic Modelling**. Competitors will be provided only with the selected catchment boundary. All other datasets required for the modelling tasks must be sourced by the participants themselves guided by RWB where possible

- b. **Erosion Control:** the competition will be open to any programming language preferably R or Python programming to extract and analyze radical terraces. The results should be in GIS format preferably shapefile. RWB will provide satellite image or Ladar data to work on.

4. Entry and pre-selection

- The registration period to the competition is **5thDecember 2025- 19th December,2025**
- Participants are required to submit [a filled form](#) .
- Students who have been awarded in the first and second edition of the Water Modelling Hackathon 2024, 2025 are not allowed to apply.
- The pre-selected students will be notified not later than 24th December 2025

5. Submission

a) Model Submission

The submission will include:

- PDF documents describing the sub catchment, data used, model parameterization, calibration, model results, flood risk maps and interventions.
- Zipped developed model with all its contents.

b) Erosion control

The submission will include

- Pdf document describing the steps followed, tools used, images used with their source and how it was processed, Maps and visualization of identified terraces.
- Scripts: provide a readable code (R or Python scripts used for analysis and mapping Well-commented and organized for clarity that can reproduce the analysis.
- A README file listing all required libraries, software versions, and installation instructions
- The extracted terraces should be submitted in in shapefile format.

Submissions will be done via RWB's official email, hackathon@rwb.rw, copy to info@arcosnetwork.org **not later than 20th February 2026 at 17:00 Rwandan Time.**

c) Important date for the competition

The application period will run from **5th December 2025 to 19th December 2025**, and the selected applicants will be notified on **24th December 2025**. An online induction session for the selected applicants will be held on **30th December 2025**, with the meeting link shared via email. Applicants are expected to submit their **mid-term progress report on 1st February 2026** and deliver a **mandatory online presentation on 2nd February 2026**. Participants who complete the mid-term requirements will then submit their **final report and models by 20th February 2026**. The evaluation week is scheduled for **23rd to 27th February 2026**, during which the top ten performers will be identified. These top ten will deliver their presentations (Hybrid) on **3rd March 2026**. The award ceremony will take place on **World Water Day**.

6. Evaluation criteria

a) Water resources modelling

The evaluation of model and model report will be based on:

- Source and quality of data
- Model parameterization
- Model calibration.
- Produced flood hazard maps
- Produced flood risk maps
- Results interpretation
- Recommendation based on the results

b) Erosion control

- code quality (organization, readability, and commenting of the code. Script reproducibility (can the code be executed without errors?)
- Methodology: Clear description and execution of the approach used to map terraces and Justification of methods and tools chosen.
- Accuracy of the results

7. Awards



The three best candidates for each topic will be awarded. the first winner will be awarded one million Rwandan Francs (1,000,000 RWF), the second will be awarded Seven hundred and fifty thousand Rwandan Francs (750,000 RWF) and the third winner will be awarded five hundred thousand Rwandan Francs (500,000 RWF).