



STUDY NAME

Building understanding of climate variability into planning of groundwater supplies from low storage aquifers in Africa (BRAVE)

RESEARCH ORGANISATIONS

British Geological Survey (BGS), University of Ouagadougou (UO), Water Research Institute (WRI), University of Reading (UoR)

RESEARCH TEAM

BGS: **David Macdonald (PI)**, Christopher Jackson
 UO: Jean Pierre Sandwidi
 WRI: William Agyekum
 UoR: Emily Black, Anne Verhoef, Rosalind Cornforth

RESEARCH AIM / HYPOTHESIS

The overall objective of the BRAVE project is to better quantify the impacts of climatic variability and change on groundwater supplies from low storage aquifers, and so to benefit the poor in Africa through better-informed development planning decisions.

STUDY DESCRIPTION

Africa's population is growing rapidly and is expected to increase by over 150% between 2000 and 2050. This will result in an increased demand for water. Groundwater has been identified as having the potential to meet much of the growing water requirements for domestic use, food production and other productive uses, especially as it is seen as being more resilient to climate variability than surface water resources.

However, it is recognised that in large regions of Africa where the groundwater store is relatively small there may be occasions when extended periods of low groundwater recharge result in water shortages.

As groundwater is being promoted as a means to address Africa's future water supply needs, further research is crucial to study the potential vulnerability of communities that become more reliant on these low storage aquifers. This will allow better decisions to be made when planning groundwater development.

The BRAVE project aims to take advantage of recent developments in models of climate, the land surface and groundwater to improve the understanding of how these groundwater resources are affected by climate variability, under present and future climate, and by changes in land use and water demand.



**Unlocking the
Potential of
Groundwater
for the Poor**

CATALYST PROJECT

A social and natural science approach to enabling sustainable use of groundwater for the benefit of the poor

A key element of the project is to ensure that the output from the model is in a form that addresses the questions being asked by those making decisions on water resource development.

The BRAVE project will use the River Volta Basin (RVB) in West Africa as a case study area, working in Burkina Faso and Ghana. It brings together a strong team of internationally-recognised meteorologists, hydrogeologists, land surface modellers and knowledge exchange experts, with extensive experience of working in Africa, and builds on recent NERC-funded research.

WHERE?



Burkina Faso
Ghana

WHERE TO FIND OUT
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