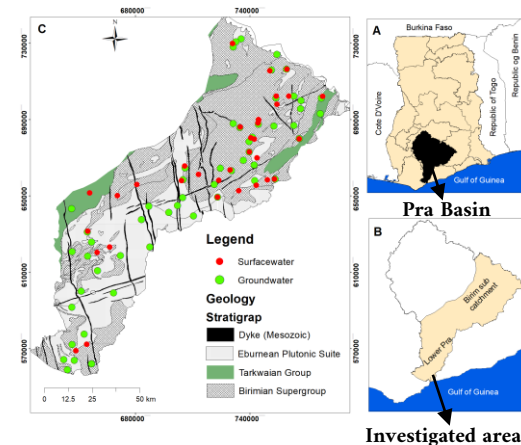


Hydrogeochemical modelling of origin, evolution and mechanisms controlling water resources quality in the Pra Basin (Ghana)

Motivation

Sustainable water resource management of the Basin



Methodology

Field sampling campaign

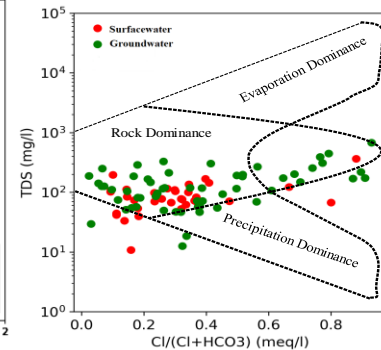
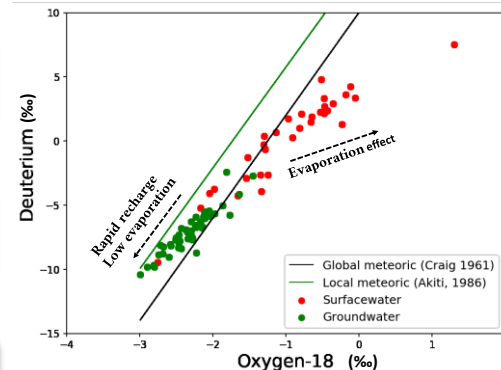
Laboratory measurements

Hierarchical cluster analysis

Hydrochemical evolution model

Inverse geochemical modelling

Results



- ❖ Surfacewater is affected by evaporation
- ❖ Hydrochemistry is controlled by water-rock interaction
- ❖ Groundwater evolves from **CaHCO₃** to **NaHCO₃** and finally into **NaCl** waters along the flow path.
- ❖ Inverse modelling underlines the dissolution of **biotite, dolomite, halite, plagioclase**, and precipitation of **calcite** and **gypsum** as the significant cause of variation.