West African Science Service Center on Climate Change and Adapted Land Use (WASCAL)

Boubacar IBRAHIM

Hydrologue au Centre de Competence - WASCAL

SPONSORED BY THE
Federal Ministry of Education and Research

WASCAL (Centre Ouest-Africain de Service Scientifique sur le Changement Climatique et l'Utilisation Adaptée des Terres)

WASCAL

Aims to strengthen the research, educational and policy capacity and competency of West-African countries……

to deal with issues of climate change through adapted land use on a scientific basis……..

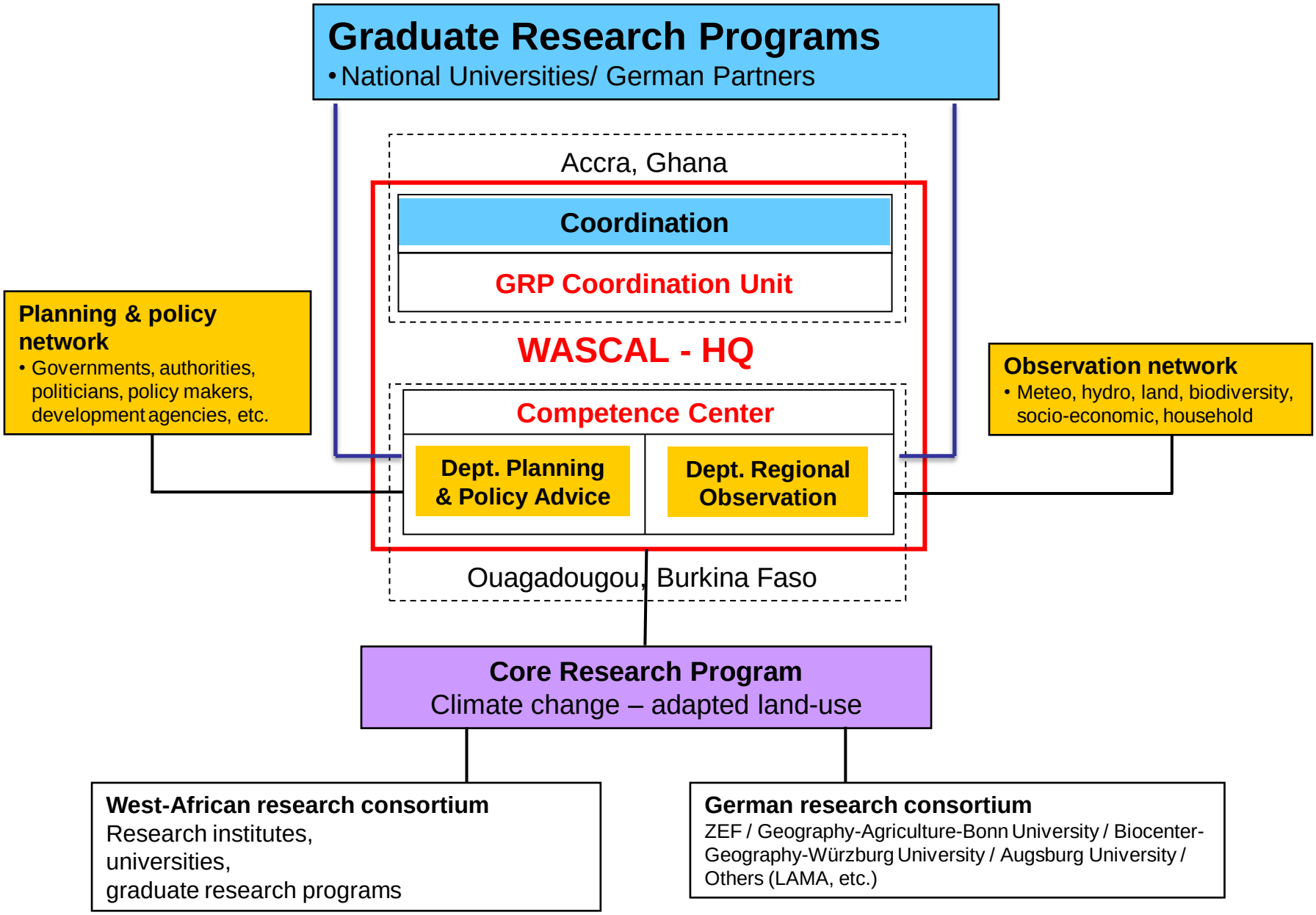
in partnership with
German institutions and others

Partner countries

WASCAL partner countries

- Benin
- Burkina Faso
- Côte d'Ivoire
- Gambia
- Ghana
- Mali
- Niger
- Nigeria
- Sénégal
- Togo

Operational structure of WASCAL



Graduate Research Program

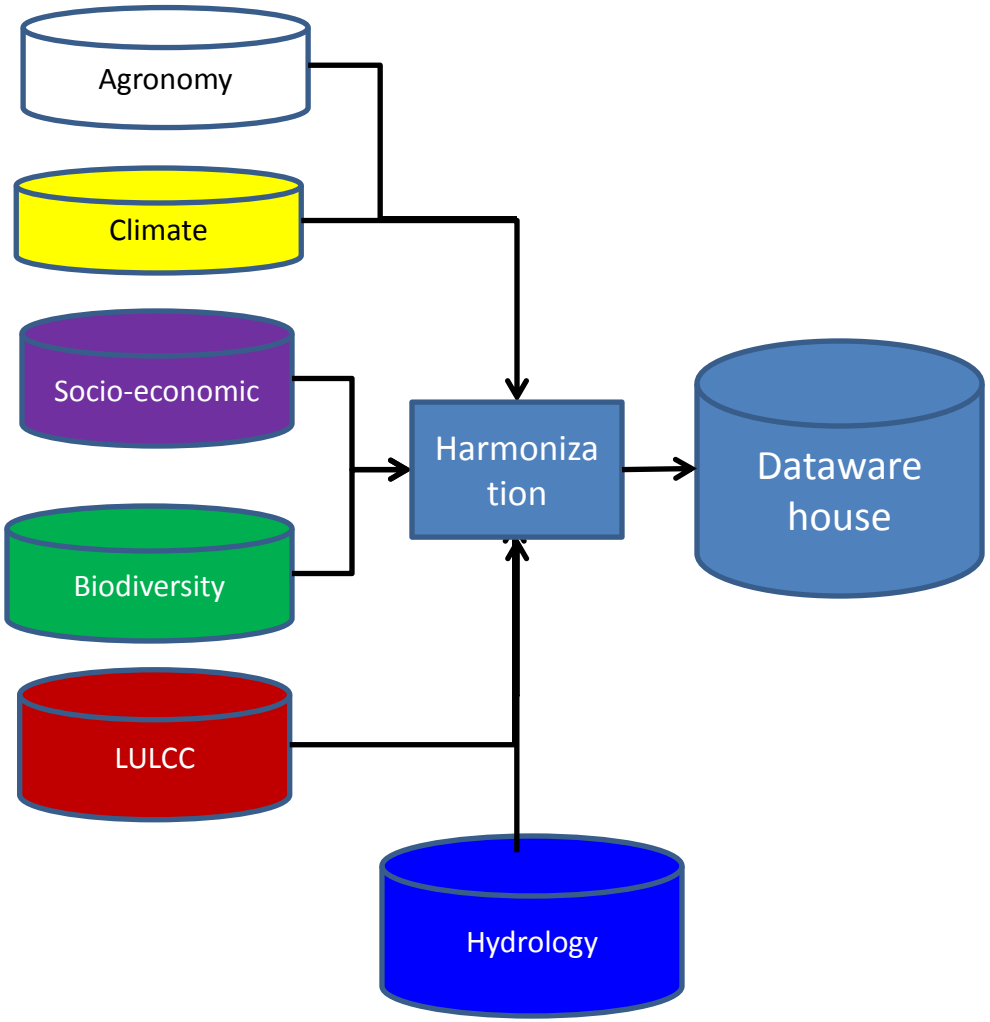
PhD studies

1. African climate system in Nigeria
2. Climate change and water resources in Benin
3. Climate change and land in Ghana
4. Climate change and economics in Senegal
5. Climate change and agriculture in Mali
6. Climate change and biodiversity in Cote d'Ivoire

Master studies

1. Climate change and human security in Togo
2. Climate change and energy in Niger
3. Climate change and education in Gambia
4. Climate change and adapted land use in Nigeria

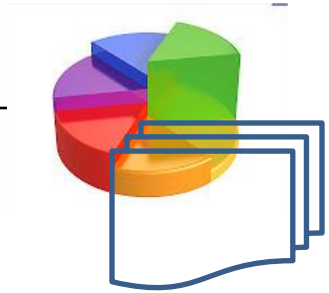
Integrated research programs



Multi-criteria analysis

Simulation

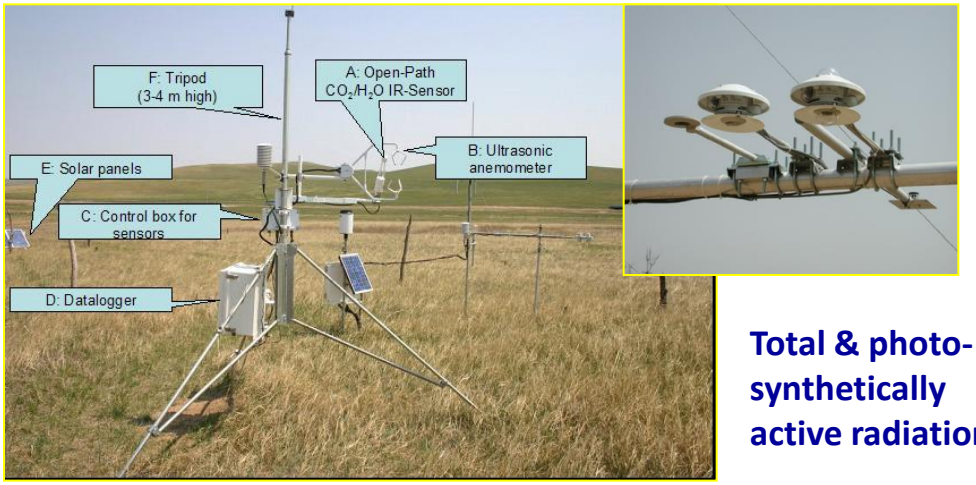
Query



Analysis and reporting

An integrated database for multi-use

Hydro-Climatological Observatory

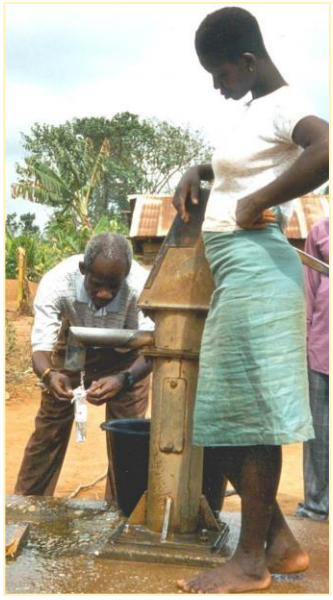


Total & photo-synthetically active radiation

Weir for runoff measurement

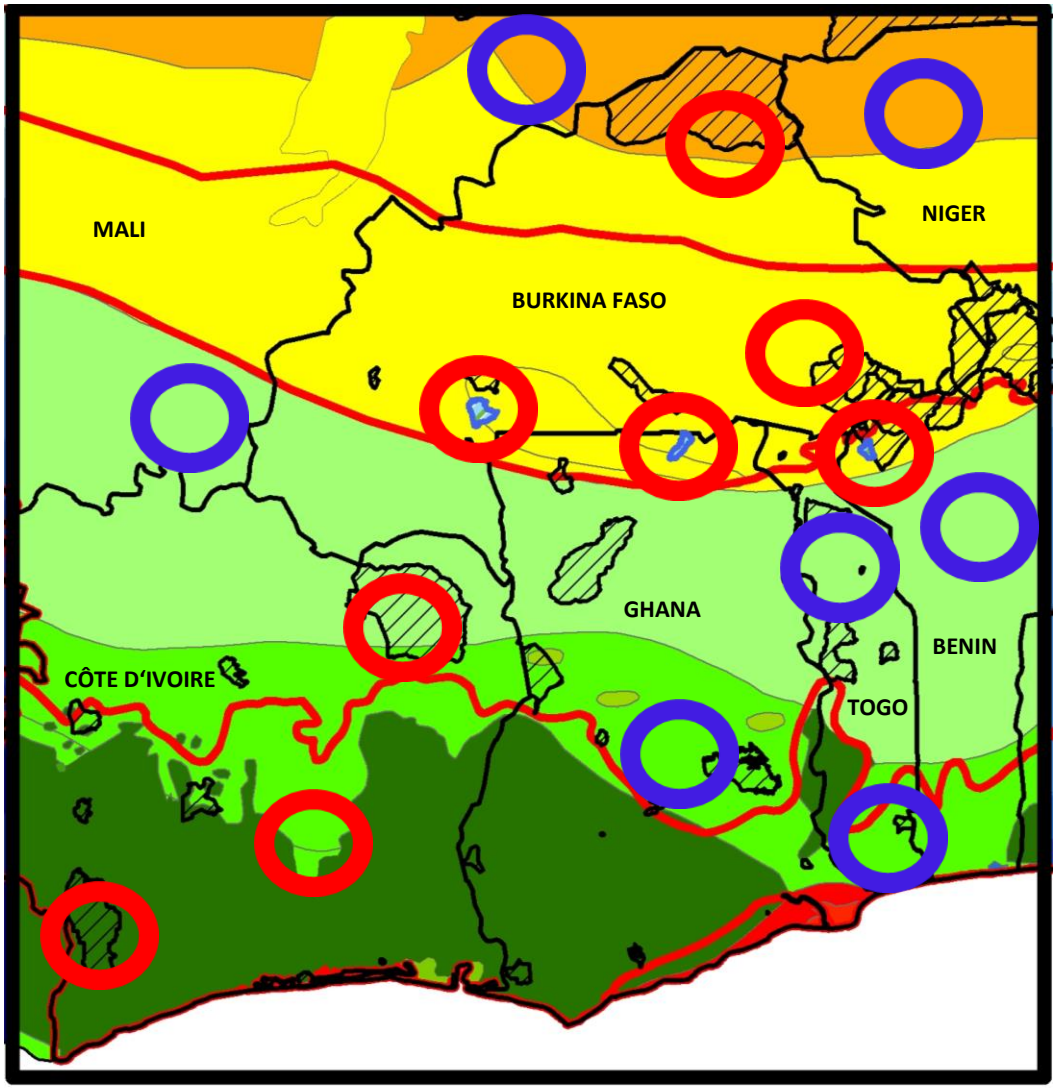
Scintillometer: heat flux

Eddy covariance



Water sampling

Biodiversity Observation Network



LEGEND

- WASCAL target zone/ observation network
- IUCN protected areas
- WASCAL CRP watershed
- Limits of FAO agro-ecological zones
- Country border

Selected observatories

- Existing observatories
- New observatories

Vegetation zones (White, 1983)

- Sahel zone
- North Sudanian savanna zone
- South Sudanian savanna zone
- Rain forest zone

Spatial distribution of fifteen selected observatories within WASCAL window for the establishment of Observation Networks

WASCAL

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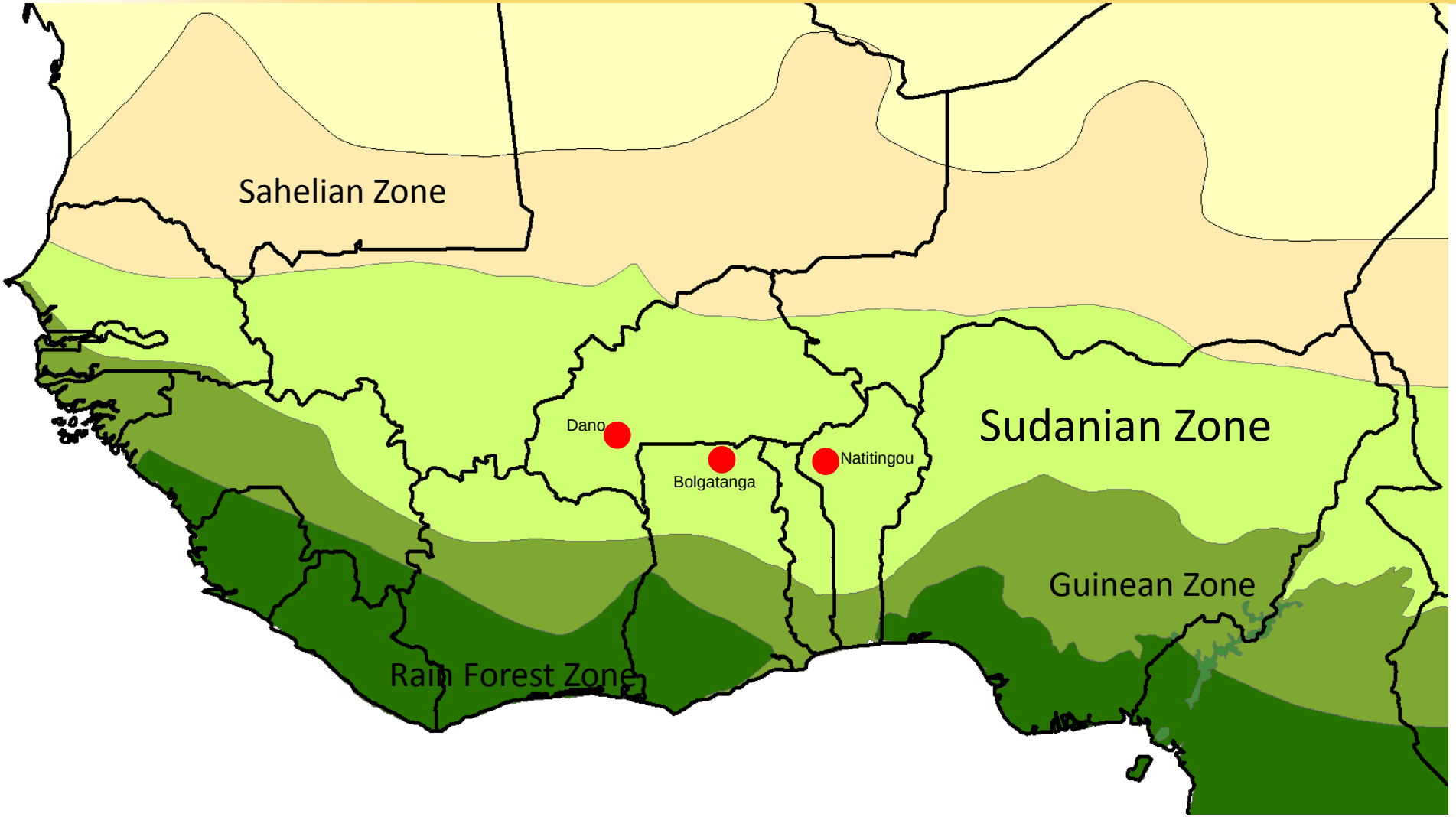
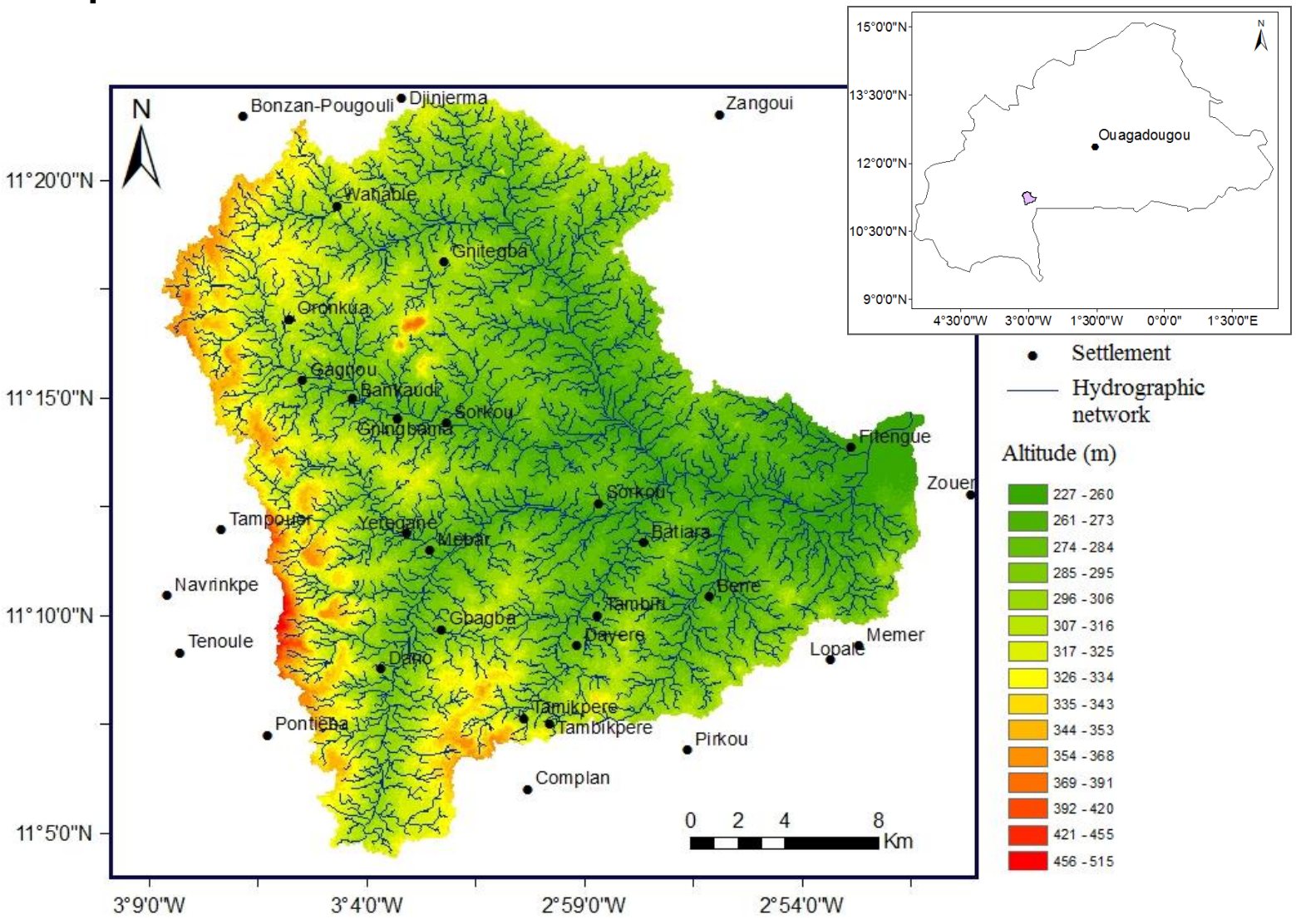


The initial target region is the Sudanian savanna belt which is considered as the potential breadbasket of West Africa.

The experimental watershed of Dano



Area: 583 km^2

Population density: 59 inhbts/km^2

Equipment on Dano watershed

8 automatic climate stations

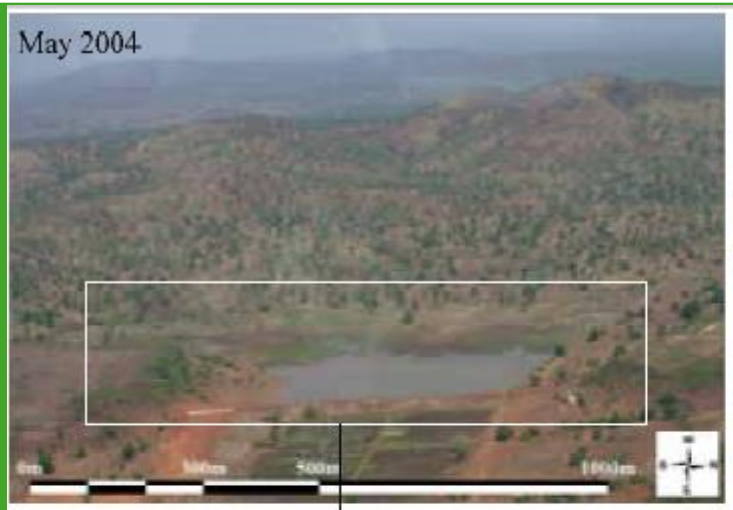
10 discharge gauges at different scales

Equipment on Dano watershed

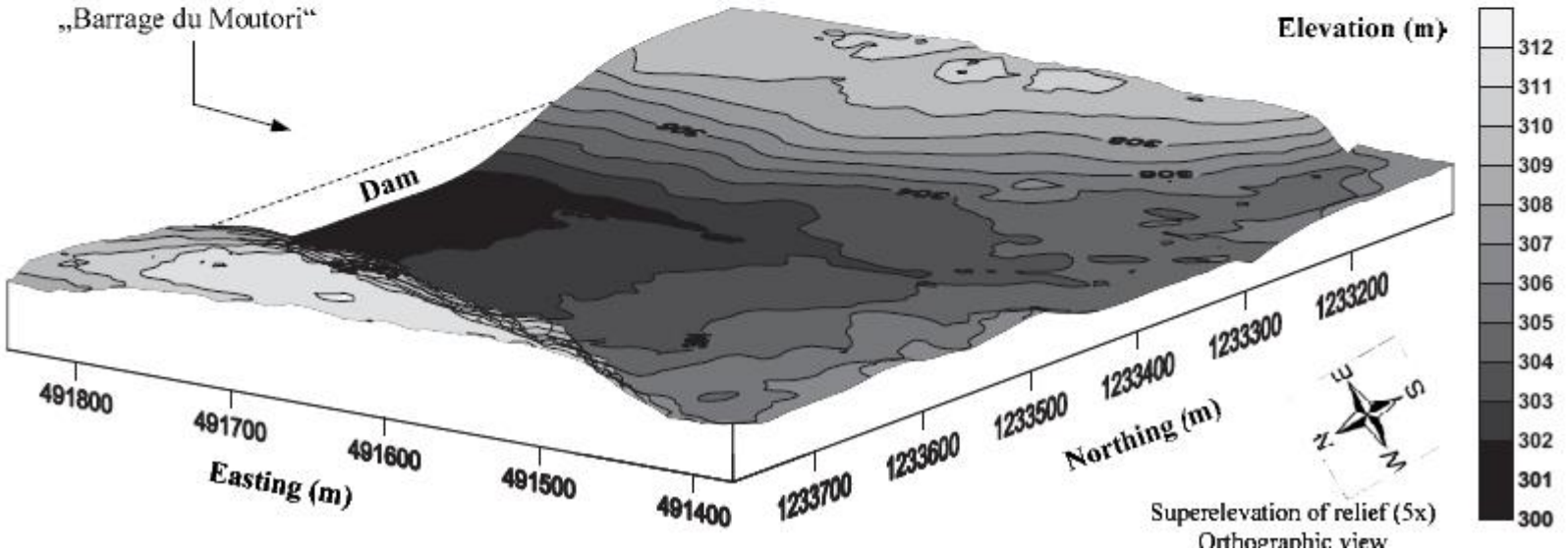
14 piezometers for water table

3 water level stations in the reservoirs

Monitoring of the reservoirs silting



Plan topographique



Conclusion

WASCAL will thus contribute to:

- generate integrated knowledge and
- develop the analytical capability in the region on climate change and land resources to
- design resilient land use systems and
- develop measures to conserve or restore healthy ecosystems that allow
  - sustainable development across the region, and
  - preserves the natural resource base for future generations.

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Merci de votre attention