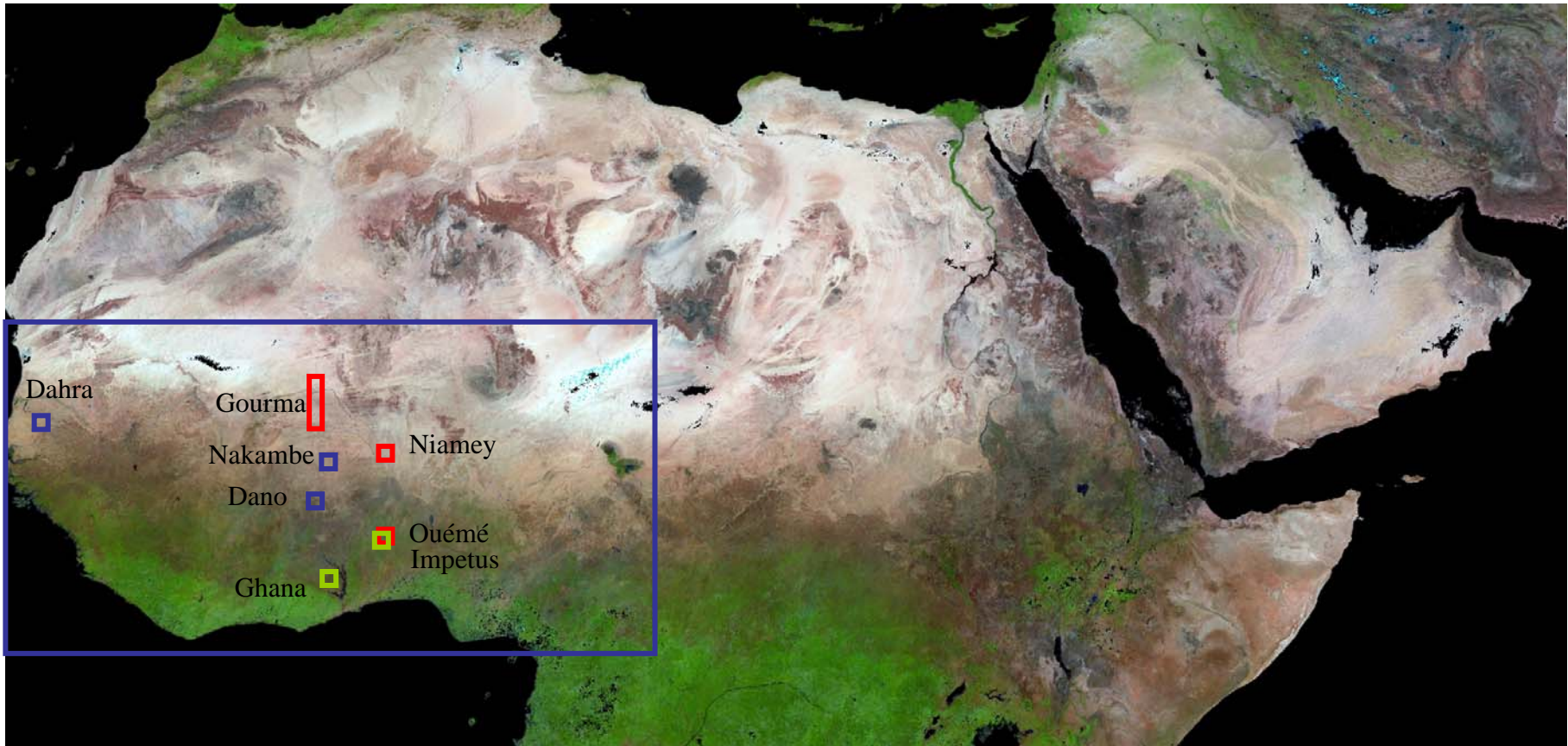


Parallel meeting of disciplines : Land - Surface Processes

Participants : 25

Within **West-Africa**, AMMA-IP includes a variety of sites and related process activities that cover the whole eco-climatic (rainfall, vegetation) gradient. This is somewhat a unique situation.



Parallel meeting of disciplines : Land - Surface Processes

- How can we take advantage of this **network of sites** and related activities to get a better understanding of hydrological, physical, biological and chemical processes at a **regional scale**?
- Objectives of the '**LSP**' session :
 - to review the process studies performed by the AMMA participants within West Africa
 - to identify main issues that would allow a regional integration

Parallel meeting of disciplines : Land - Surface Processes

Presentations

- **Land surface process activities at the different sites**
 - **Benin** (*Luc Seguis / S. Galle*)
 - **Mali** (*E. Mougin*)
 - **Niger** (*Luc Descroix / Bernard Cappelaere*)
 - **Dhara / Senegal** (*Inge Sandholt*)
 - **Nakambe / Burkina - Faso** (*Harouna Karambiri*)
 - **Dano / Burkina - Faso** (*Harald Kuntsmann*)
- **Modelling and Up-Scaling**
 - **Forcing Data base** (*Aaron Boone*)
 - **Modelling activities** (*P. de Rosnay*)
 - **Up-Scaling** (*L.Kergoat*)

Parallel meeting of disciplines : Land - Surface Processes

Regional integration : 2 main ideas

- Identify **specific research topics** between scientific teams :
 - CO₂, H₂O, N and energy Fluxes (*all*)
 - Soil emissions (*Benin, Mali, BF-Dano*)
 - Vegetation productivity (*all*)
 - Interaction vegetation / hydrology in Sahel (*BF-Dano, Mali, Niger*)
 - Water balance for 2 sahelian endoreic watersheds (*Mali, Niger*)
 - Hydrological response to the same climatic impacts for two watersheds with different substratums in Sahel (*BF-Nakambe, Niger*)
- Use of **modelling and assimilation** approaches as an integration tool
 - There is a need to list required and identify missing parameter/variables in order to establish a common data base. Need also to define commun measurements protocols for missing data.
 - A 'green cruise' across WA could be defined between sites
 - Inter comparison activities (i.e. ABC-TreeGrass / Niger -Mali, STEP / Mali – Senegal).

Question: Do the instrumentation plans fit the requirements of the disciplinary groups?

List of items / questions addressed during the session:

- *Are the modellers satisfied with the sampling plan (Are all the main vegetation surfaces represented in the deployment plan)?*

There is a need for a more humid site : a southern site in Benin should be instrumented but collaboration with german teams in Ghana (GLOWA-Biota)

- *Flux measurements (maintenance, quality control, data analysis)*

- **Proposed Strategy :**

- First quality control is performed by IRD/African partners

- Second quality control is performed by CEH (6 months)

- Data analysis is performed by scientific teams

- There is a strong need for training european and african scientists (**mid term action**)

- On a **short term basis**, someone should be identified (for each mesoscale site) to analyse the data in close collaboration with CEH
- A **core group** has been defined including TT2, TT3, TT4 and TT5 members and representatives of the model and satellite groups.
- The core group will define the overall **strategy** for data analysis and training. Colin Lloyd is the leader of this core group.

Other items addressed during the session:

- AMMA secondary sites (ex: Nakambe site in BF)
- Concordance between ground and airborne measurements?
- Need for geophysical surveys in Benin, presently not funded
- Lack of man power for the Niger site