Initiative on sub-seasonal to seasonal (S2S) forecast in the agricultural sector

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Context

- In Central Africa agriculture is essentially rain-fed, and employs more than half of the population.
- Agricultural production is tightly linked to weather and rainfall fluctuations.
- Observed changes are obvious in temperature and precipitation in Central African countries (Aguilar *et al.*, 2009).

**Main challenge**: Provide climate information tailored to agricultural needs
Main challenges

Time scale
Useful climate information should be provided enough time in advance to allow efficient planning *(at least 2 week ahead?)*

Detailed information
Need of finer time scale information to allow better management of crop development steps
What climate information is available over Central Africa

Weather predictions: provide *details* weather information, but *time scale too short* for agricultural planning

Seasonal predictions: indication of seasonal average conditions of weather parameters (normal, wet, dry)

Good time scale, but *information not detailed enough* for local agriculture Planning (*e.g. onset of growing season, dry episodes*)

Need to address *both time scale* and *detailed* information
Initiative on S2S prediction

- Initiative within the framework of CR4D
- Countries: Cameroon and Dem. Rep. of Congo (DRC)
- Aim: assess the skill of available S2S predictions to capture seasonal characteristic useful for agriculture over Central Africa (e.g. onset of growing season, occurrence of dry spells during the growing season)

**S2S predictions** contribute to fill the gap between weather and seasonal time scales
Project activities

- Present the current state of climate service for agriculture over CA
- Highlight climate information needed by farmers
- Define meaningful climate index related to information need by farmers
- Assess the skill of climate model predictions at S2S timescales over Central Africa

<table>
<thead>
<tr>
<th>Event/shock identified by farmers</th>
<th>Climate information related to event/shock</th>
<th>Climate information needed by farmers</th>
</tr>
</thead>
<tbody>
<tr>
<td>prolonged episode of drought</td>
<td>Length of dry spells during the rainy season</td>
<td>-onset of growing season</td>
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<tr>
<td></td>
<td></td>
<td>-dry spells distribution</td>
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<td>-dry spells duration</td>
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</table>
Detection of onset of rainy season

Comparison of onset of rainfall between CMA model and observations at 2 weeks lead time

Positive values: models predict onset date of rainy season in advance compared to station observation data

Negative values: models predict onset date of rainy season in later compared to station observation data
Conclusions

S2S predictions is still a research project

• Need of capacity building on S2S predictions

• Research and operational: Strengthen link between Met services and Universities
Thank you