Seasonal forecasts of rainfall, flow rates and agroclimatological advice for the rainy season of 2013 in West Africa, Cameroon and Chad.

Abuja. Nigeria. May 31, 2013

A globally wet season in West Africa and especially in the West of Sahel is expected in 2013

Climate experts, hydrologists and Agrometeorologists from the African Centre of Meteorological Applications for Development and AGRHYMET Regional Centre, representatives of of CILSS / ECOWAS countries, responsible for monitoring and agrometeorological and hydrometeorological information production during the rainy season, as well as representatives of regional river basin organizations, met from 30th to 31st May 2013 in Abuja, Nigeria to produce seasonal forecasts of the, agro-hydro-meteorologcal characteristics of the 2013 rainy season and determine their applications to food security and water resources management. They benefited from the technical expertise of representatives of the International Research Institute for Climate and Society (IRI, New York) and the Hadley Centre of the UK Meteorological Office (UK Met Office).
The seasonal forecast is an outcome of a consensus on the results of statistical and dynamic models, as well as current knowledge on climate variability in the region. Thus, the results of this forecast give the likely trends in rainfall, cumulative rainfall during the croping season, onset and cessation dates of the season, dry spells during the post-sowing and post-flowering periods, average discharge during the high waters periods for the 2013 rainy season. The meeting also made some recommendations.

1) **Regarding rainfall forecast for the July-August-September period:**

- **Western Sahel (from Senegal and Mauritania to the west of Niger) and to the centre of Niger:** normal or slightly above normal rainfall is expected.
- **East of the Sahel from the Lake Chad to the center of Chad:** normal or slightly deficient rainfall is expected.
- **Along the Gulf of Guinea from Cameroon to Liberia:** normal or slightly deficient rainfall is expected.
- **The rest of the sub region:** normal rainfall is expected.

Based on available products and expert judgment, a normal to slightly early start of Monsoon is very likely over most of the Sahel and disruption of the distribution of rainfall during the rainy season of 2013 is more likely than ever in the sub Region.

2) Cumulative seasonal rainfall. Above average to average, relatively to the 1981-2010 period seasonal rainfall is expected in most of the countries of the Sahel (western and central) and the north of the countries of the Gulf of Guinea. As for the eastern Sahel (southern Chad), an average seasonal cumulative rainfall is expected.

3) Onset of the season: An average to locally late onset of the season is expected for most of the Sahelian countries and the north of Guinea Gulf countries

4) Cessation of the season : For the majority of sahelian countries and the north of Guinea Gulf countries, average to locally late cessation of the season is expected. However, in the extreme north-western Sahel (south-western Mauritania and extreme northern Senegal), the cessation dates should be equivalent to the average.

5) Post planting dry spells (30 days after the onset of the rainy season): Shorter than average dry spells are expected in the Sahel and the northern Gulf of Guinea.

6) Post flowering dry spells (from 50 days after the onset of the rainy season): For the Sahein countries and and the north of Guinea Gulf countries, an overall average trend is expected.

7) Hydrology forecast

The forecast for West Africa, Chad and Cameroon covers the following major river basins: Niger, Senegal, Gambia, Comoé, Volta, Ouémé and Lake Chad. Thus, for 2013, the expected situation of major West African river basins, Chad and Cameroon is as follows:

- **River Senegal**: above normal to normal flows are expected.
- **River Gambia:** normal flows are expected.
- **River Volta** : average to above normal flows are expected.
- **River Niger**: **average to excess flows are expected in the upper and middle part of the Niger River basin, while in the lower part of the basin (Nigerian section)** above normal flows are expected.
- **Lake Chad Basin**: normal to above normal flows are expected throughout the basin.
- **River Comoé** : normal flows are expected.
- **River Ouémé** : above normal to normal flows are expected for the entire basin.

8) Likely impacts on agriculture

Forecasts of the characteristics of the rainy season in 2013, namely an above normal to normal seasonal cumulative rainfall, a normal to slightly late onset, a normal to slightly late cessation, shorter than normal post-planting and post-flowering dry spells, and, give a prospect of good water supply conditions for crop development throughout the unimodal rainfall areas in West Africa. However, with these forecasts, there is a risk of heavy rain which can cause flooding, severe damages, including loss of cultivated areas. These conditions are also favorable for the breeding of pests, including weeds, grasshoppers and other pests for which monitoring and prevention measures should be strengthened. The above forecasts are likely to change during the rainy season. Therefore, it is strongly recommended to follow the updates that will be made in June and July by AGRHYMET Regional Centre, ACMAD and national meteorological and hydrological services.

Recommendations

Regarding the monitoring and updating of the forecasts: Due to the weakness of oceanic indicators, updating of the forecasts will be done on a regular basis with more attention in the West of the Sahel which is at the risk of experiencing a higher than normal cases of extreme rainfall, leading to isolated flooding. The same is true of hydrological forecasts. Indeed, because of the neutral ocean conditions in the Pacific zone, the situation of regional ocean basins (North Atlantic Ocean, Gulf of Guinea, Mediterranean, Indian Ocean) will be prominent in the course of the rainy season. Hence, the need to follow the updates that will be made especially in June and July 2013.

Regarding the management of dams:

- ensure efficient flood routing in the dams and reservoirs to prevent downstream flooding;
- take all necessary steps to make a better use of surplus flows;
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Regarding flood risk:

- monitor areas with high risk of flooding due to local rainfall or overflow of rivers;
- raise awareness among people exposed to the risk;
- the actors (civil and policy makers), should take all necessary measure to mitigate the impacts of future flooding;

Regarding farmers:

- give preference to early or medium varieties where the seedlings have not yet been planted.
- Increase the area under crops with high yield potential (maize, rice, sorghum) or cash (groundnut, cowpea)
- apply the recommended amounts of fertilizers and observe proper techniques to avoid leaching.
- Avoid low laying areas for rainfed crops such as millet, sorghum and maize in favor of upland and lowland rice.
- Increase vigilance against pests and weeds • Intensify reforestation campaigns

Regarding herders and agro-pastoralists

- Increase vaccination campaigns for livestock and poultry
- Increase monitoring of animals to prevent drowning
- adhere strictly to transhumant corridors to avoid conflicts
- Increase forage cultivation and replenish essential feed stocks
- Provide adequate sites for enclosures to protect the animals from adverse weather.

Regarding fishermen:

1. Use extreme caution during high water periods

On May 31, 2013

The PRESAO