Sahel Food Crisis Forecasting Timetable Watch

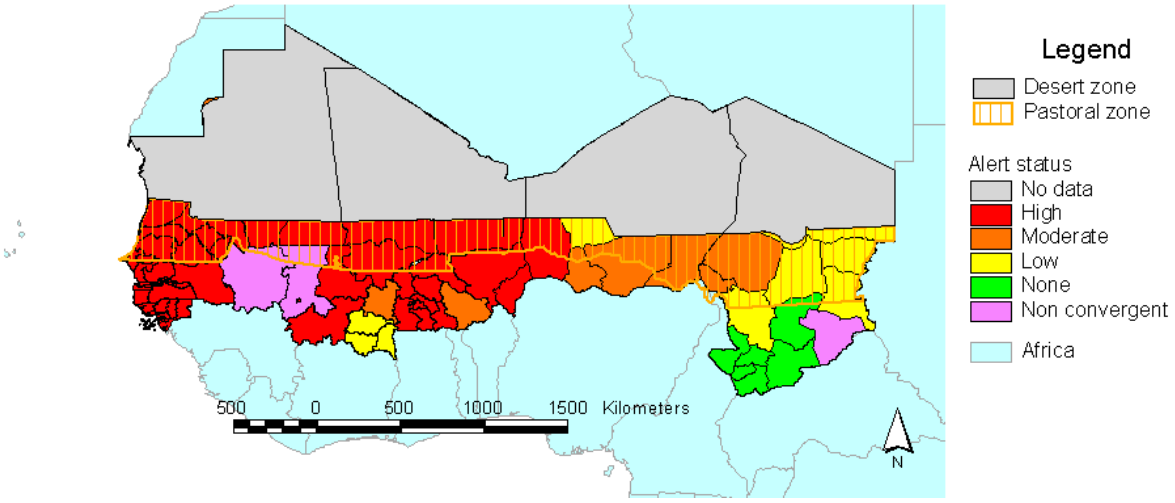
Alert Note 2 – July 1, 2009

Crop production prediction pre-alert based on climate seasonal forecasting

Climate Seasonal Forecasts, by CPC, UK MetOffice, ECMWF, IRI and GMAO, for the months from July to September show negative rainy season scenarios, especially for the coast countries, characterized by the convergence of results and a negative trend from the previous month data. These scenarios are coherent with related climate indicators showing a limited strength of the monsoon in moving north even though the start of the rainy season has been on the average in all CILSS countries except Chad. This situation configures an extended risk of a dry spell in the center and/or at the end of the monsoon rainy season.

Regional food crisis pre- alert status	NONE	LOW	MODERATE	HIGH	NON CONVERGENT

Alert status June 2009



Negative impact on crop production could be expected from Senegal to Niger affecting all crops and in particular cash crops (peanuts, cotton) more sensitive to hydric stress. Cereal production could be expected lower than average in the area from Senegal to Niger where more than 70% of the CILSS total population lives. Risk for a regional crisis, as classified by the Food Crises Forecasting Timetable criteria, has to be considered still moderate. Extended rains during last decade of July and first of August will be a prerequisite for regional crop production on average. The pre alert mobilisation of food security stocks is still recommended.

The alert status map is based on the Climate Seasonal Forecast (CPC, IRI, ECMWF, MetOffice, GMAO). The second level administrative units are classified: -1 below normal value, 0 normal value and +1 above normal value for each forecast. The four second level administrative maps generate the final one showing range from -5 to +5. The Alert status map is obtained from the previous one by grouping: high (-5, -4 and -3), moderate (-2), low (-1), none (0 or positive values) and non convergent whenever for the same second level administrative unit are coexisting at least a negative and a positive value from the four Climate Seasonal Forecasts.

High and Moderate Alert zones

population : 50 million inhabitants
cereals production: 10,000 Ktonn

Population and cereal production at risk are calculated using the average values of cereal production (2003-2007) and the last demographic data available (Agrhymet, 2009) for the CILSS countries of the administrative unit touched by an alert status. These values are indicative of the potential importance of impact of negative rainy season (most negative scenario).

	Burkina Faso	*Cape Verde*	*Gambia*	*Guinea Bissau*	*Mali*	*Maurit.*	*Niger*	*Senegal*	*Chad*	CILSS
Population (x 1000)	15.527	509	1.618	1.383	12.464	3.171	14.302	11.708	9.133	69.814
Average Cereal production (x1000 tonn)	3.160	4	208	170	3.327	115	2.875	743	.1688	12.496

(Source: Agrhymet - Concertation régionale sur la situation alimentaire et nutritionnelle au Sahel et en Afrique de l'Ouest. Cotonou, Mars 2009)

Average Climate Seasonal Forecast expected rains for agricultural zone

	Burkina Faso	*Cape Verde*	*Gambia*	*Guinea Bissau*	*Mali*	*Maurit.*	*Niger*	*Senegal*	*Chad*
CPC	--		-	-	--	--	--	-	-
ECMWF	-		--	--	--	--	-	--	-
IRI	=		=	=	=	=	=	=	=
MetOffice	--		--	--	--	--	-	--	=
GMAO	=		--	--	=	--	=	--	=

The synthesis at national level for the crop season 2009 is produced by the interpretation of the seasonal forecast from the five climate centers where the symbol '- -' and the color orange represent a strong deficit forecast for the country, a limited deficit condition is symbolized by '-' and the light yellow, the normal condition with '=' colored white, the weak positive condition with '+' and the light green and the very good condition with the '++' symbol and the dark green.

The Food Crises Forecasting Timetable (CPCA) framework has been developed by AGRHYMET Regional Center and IBIMET-CNR in collaboration with WMO in order to provide early warning alerts on intensity and geographical extension of food crises.

Crisis levels	Frequency	Main Causes	Touched population	Mitigation actions
Regional crisis *Reduction in cereal production ≥ 30%*	1 year in 15	Climatic hazards	Millions of people	Mobilization of international food aid
Sub-regional crisis a) *10% ≤ Reduction in cereal production < 30%* b) *Touched population ≥ 50% and reduction in cereal production ≥ 10%*	1 year in 7	Conjunction of climatic or other biophysical and socio-economic factors	Hundred of thousand of inhabitants	Mobilization of international food aid
National crisis	1 year in 2	Conjunction of climatic or other biophysical and socio-economic factors	Tenths of thousand of inhabitants	International triangulations and distribution of national stocks
Local crisis	Every year	Socio-economic factors (food access, market prices, population movements)	Thousand of inhabitants	Distribution of national stocks

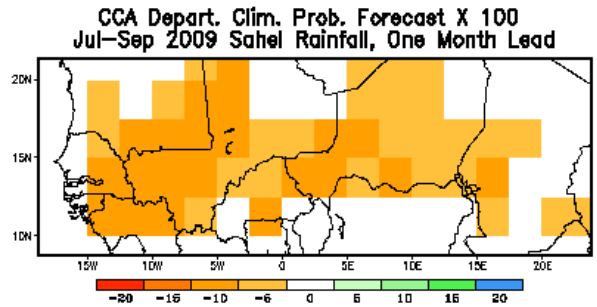
The CPCA has been designed to respond to decision makers demand to be alerted at appropriate time depending the food crisis dimension and the international aid support required. By this end four different levels of food crises and related timing for the alerts have been identified to made operational the related contingency plans.

Regional, such as the 1984 famine, and sub-regional food crises should be pre-alerted by the month of June to made possible food acquisition and transportation from outside the region, while national and local food crises, being managed by the security and commercial stocks in the region, could postpone alerts to the month of August or later. The CPCA has therefore identified available field and remote sensing data, agrometeorological models and indicators apt to provide useful information in the time frame June-October to support early warning alerts.

Presently Climate Seasonal Forecasts are the only available information to support pre-alert for regional and sub-regional crises, even though their limited precision recommends caution in the results exploitation. Existing limits in data quality advise to detect, trough the convergence of results by four different forecasts, conditions apt to reduce to a minimum probability of a regional food crisis.

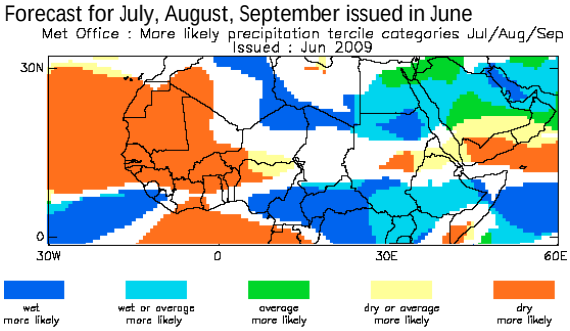
Climate Seasonal Forecasts for CILSS countries

Climate Prediction Centre – NOAA
(*http://www.cpc.ncep.noaa.gov*)
Forecast for July, August, September issued in June



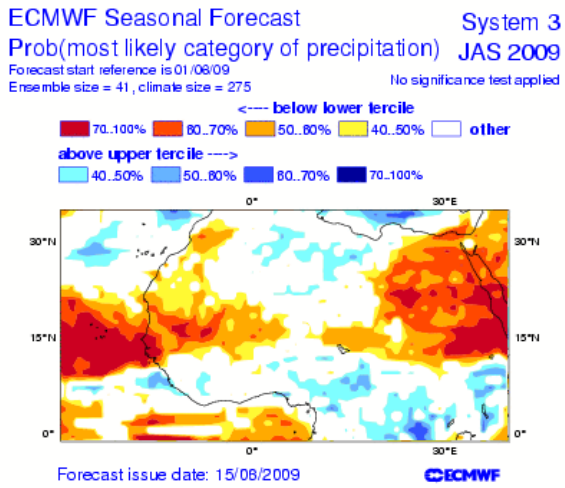
Extended below normal values for landlocked countries and average values for coast countries. Trend: negative for coastal countries and less negative forecast for Chad from forecast issued in May.

MET OFFICE
(*http://www.metoffice.gov.uk*)
Forecast for July, August, September issued in June



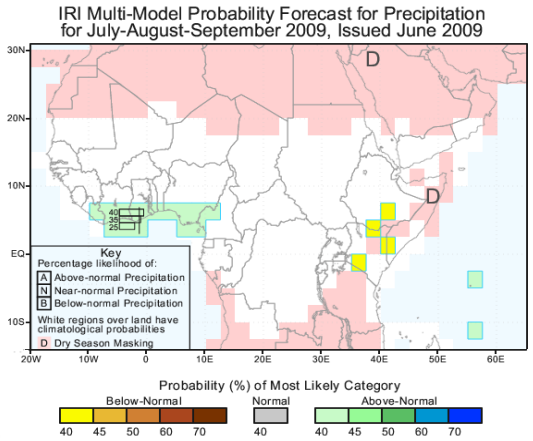
Extended below average values for coast countries, Mali, Burkina Faso and the western part of Niger. Normal values for remaining countries. Trend: negative in Mali, Burkina Faso and Niger, from forecast issued in May.

ECMWF
(*http://www.ecmwf.int*)
Forecast for July, August, September issued in June



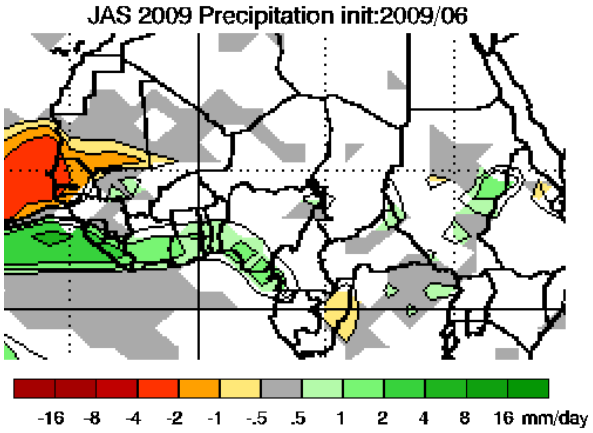
Below normal values for all countries less Chad. Negative trend from forecast issued in May

IRI
(*http://iri.columbia.edu*)
Forecast for July, August, September issued in June



Average values for all countries. Negative trend in the western countries from forecast issued in May.

GLOBAL MODELING AND ASSIMILATION OFFICE
(*http://gmao.gsfc.nasa.gov*)
Forecast for July, August, September issued in June



Below normal values for coastal countries and Mauritania. Positive Trend for all countries less in Chad that are stable

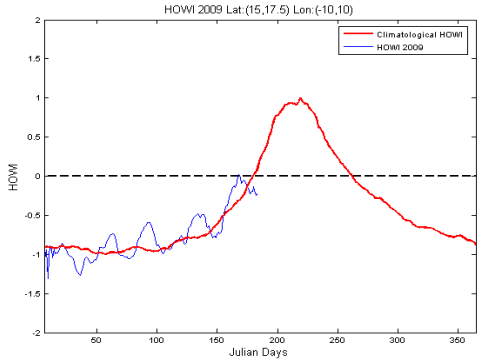
Present monsoon analysis

Analyzing several indices related to the monsoon activity in June, it is observed that:

- The HOWI reveals a significant delay for the onset timing of sustained convective activity above 10°N.
- The ITF position is southern than its climatological position, in particular in the western Sahel.
- Positive SST anomalies, close to the Guinea gulf coastline, contribute in limiting the rain belt northern displacement.
- The MJO signature showed a positive anomaly (suppressed convective activity) since early June over the Indian Ocean, limiting the atmospheric instabilities over Eastern Africa. No significant signal is expected until mid – July.

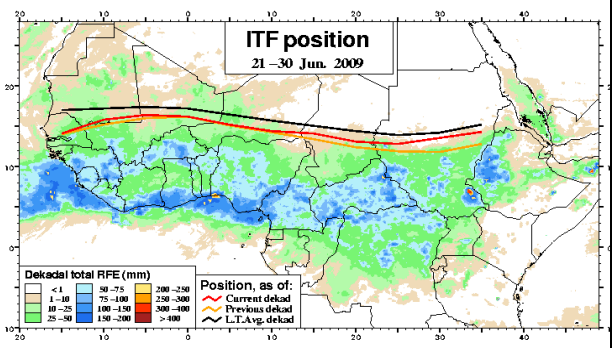
According to these indices sustained convective activity is not expected above 10°N until mid – July since the thermal sea – land contrast between the Atlantic Ocean and the African continent is reduced, the inland northward propagation strength is weaker than normal and the convective energy, over the Sahel, is growing slowly.

HOWI 2nd July 2009



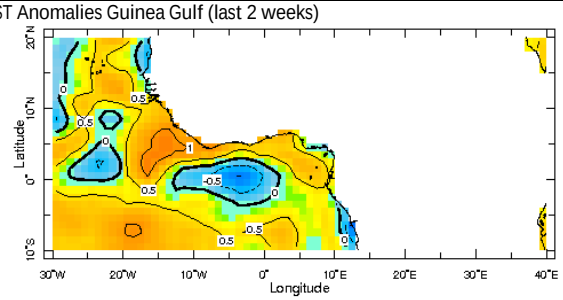
(source IBIMET)

ITF position 3rd dekad of June

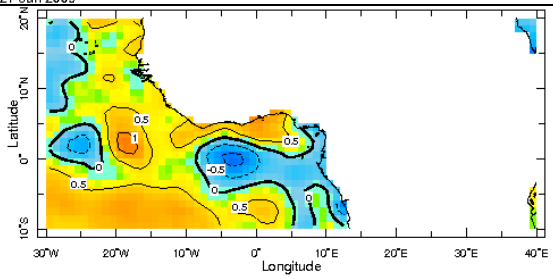


(source: ADDS)

SST Anomalies Guinea Gulf (last 2 weeks)



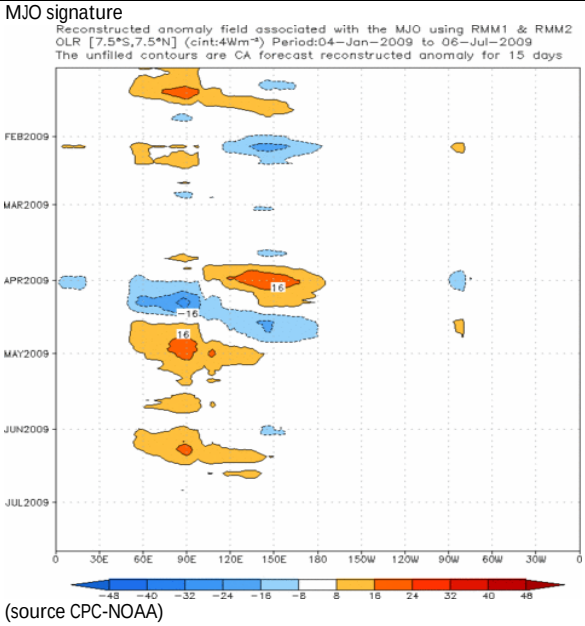
21-27 Jun 2009



28 Jun 2009 - 4 Jul 2009

(source NOAA)

MJO signature



(source CPC-NOAA)

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