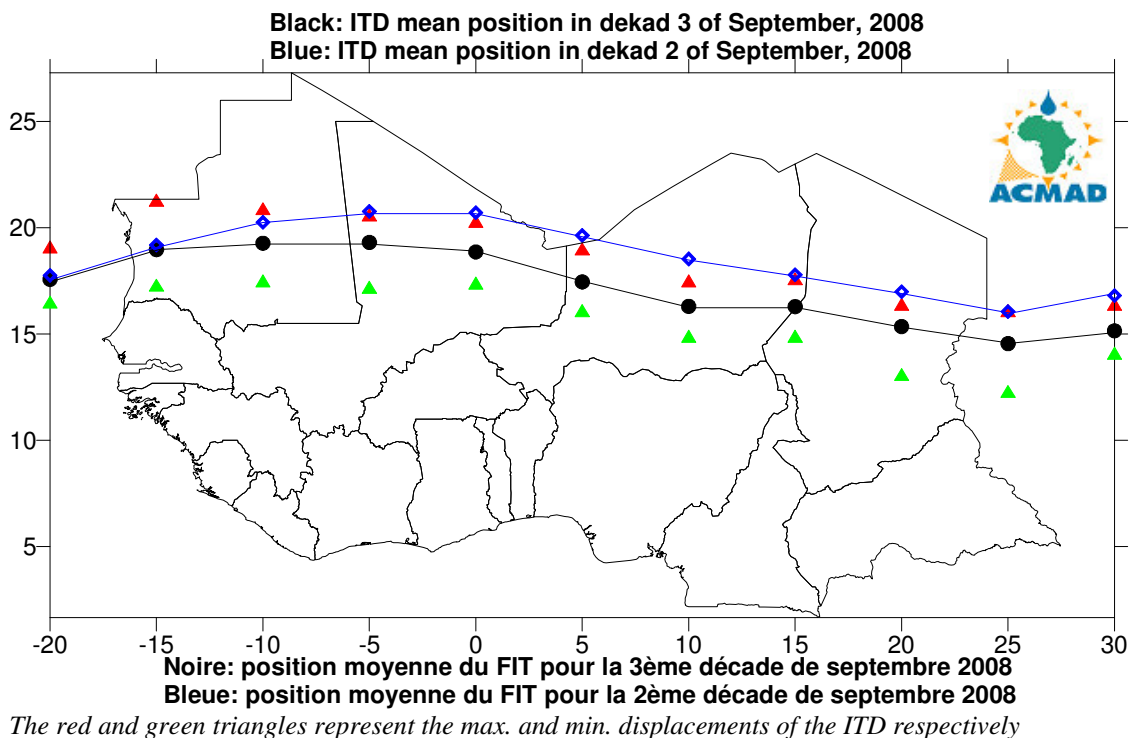


HIGHLIGHT: The highest rainfall was recorded over Gulf of Guinea countries, central Africa countries, the northern and western parts of Greater Horn of Africa (GHA) countries with a decrease over the Sahel. However, most of the GHA countries experienced severe rainfall deficits.

1. GENERAL SITUATION :

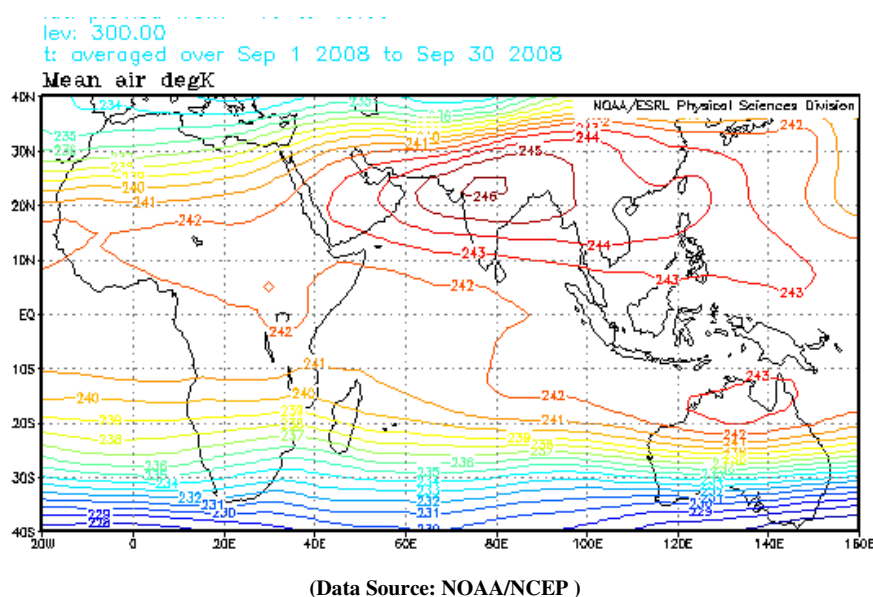
1.1 SURFACE

- **Azores high:** Pressure at 1031hPa strengthened by 3hPa compared to the last dekad and shifted to the north. Its mean position was observed at 47°N/19°W with a ridge extended over north Morocco, north Algeria and north Tunisia.
- **St. Helena high:** Pressure at 1027hPa weakened by 3hPa and shifted northwest at 32°S/27°W with an extended ridge over south Atlantic Ocean.
- **Mascarene high:** Pressure at 1033hPa strengthened by 2hPa compared to the previous dekad and shifted southward at 37°S/63°E with an extended ridge over Indian Ocean.
- **Saharan thermal low:** The Saharan low of 1007hPa maintained its intensity but shifted to the south at 16°N/05°E with an extended trough over northeast Mali, southwest Algeria, central Niger and central Chad.
- **Inter-Tropical Discontinuity (ITD) :** Between the second and third dekad of September, 2008, the ITD had significant southward migration over the Sahel. It's mean position was observed at 17.6°N over longitude 20°W; at 19.0°N and 19.3°N over west and central south Mauritania respectively; at 19.3°N and 18.9°N over west and east Mali respectively; at 17.5°N and 16.3°N over west and central Niger respectively; at 16.3°N and 15.4°N over extreme west and east Chad; at 14.6°N and 15.2°N over northwest and central north Sudan.

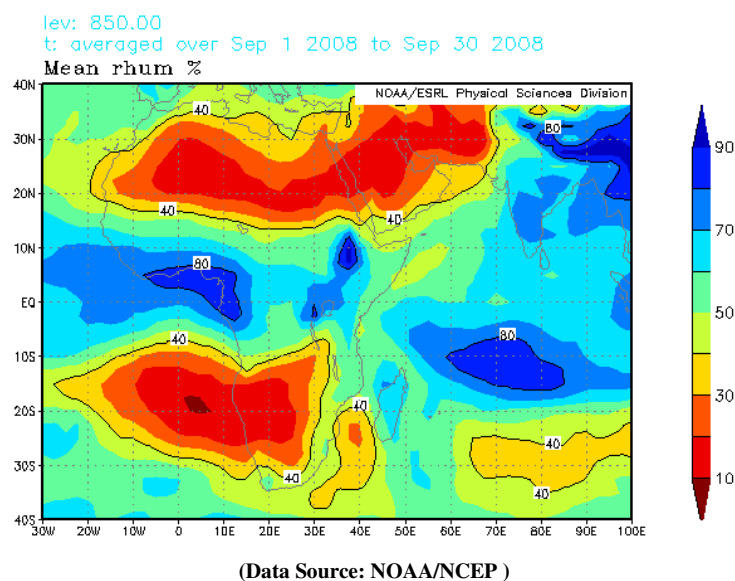


1.2 TROPOSPHERE

- **Monsoon** : Monsoon influx was moderate (5.5 to 12.5 m/s) at 925hPa level over Liberia, north Benin and Nigeria.
- **African Easterly Jet (AEJ) at 700hPa** : The African Easterly Jet mean speed was about 18m/s at 700hPa having weakened by 1m/s compared to the past dekad. Its axis was located at about 13°N stretching from north Nigeria and Benin, central Burkina Faso, extreme south Mali and northeast Guinea.
- **Thermal Index (TI)** : In the third dekad of September, 2008, the thermal index (TI) regime at 300hPa, map shown below, had a near threshold TI regime value of 242°K over extreme west and south of the Sahel countries, parts of Gulf of Guinea countries, northern part of central Africa countries and central and northern part of GHA countries, that maintained high conditional instability associated with heavy rainfall over areas with high relative humidity as observed below. The TI regime maximum of 246°K located over north India maintained high conditional instability associated with heavy rainfall and floods over Asia.



- **Relative Humidity (RH)**: The 850hPa map below shows high RH in the third dekad of September, 2008 over the Gulf of Guinea countries, northern part of central Africa, western, northern and central eastern parts of GHA countries with the rest of the Continent having low RH characterized by rainfall deficits.

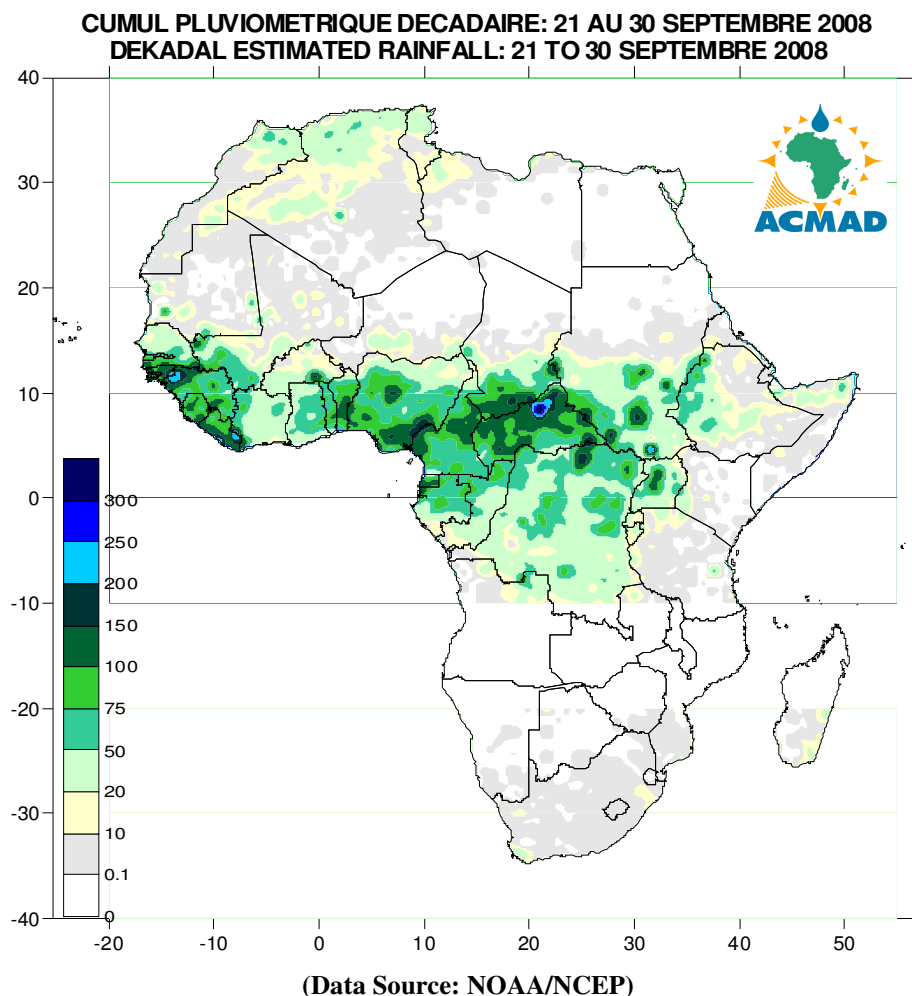


2. RAINFALL AND TEMPERATURE SITUATION

2.1 RAINFALL

The rainfall estimate based on Satellite and Rain Gauge on the map below for the third dekade of September, 2008 shows slight spatial and intensity rainfall increase over north Africa, Gulf of Guinea countries, central Africa and GHA countries while the Sahel and Southern Africa countries experienced some decrease. In summary:

- **North Africa countries** : experienced spatial and intensity of rainfall increase recording amounts ranging from 10mm to 100mm over Morocco, north Algeria, Libya and Tunisia.
- **The Sahel** : had spatial rainfall decrease recording amounts ranging from 10mm to 150mm with peaks of about 200mm over southern parts.
- **Gulf of Guinea countries** : had slight spatial rainfall increase recording amounts ranging from 20mm to 200mm with heaviest amounts of about 250mm over Guinea, southeast Liberia and west Côte d'Ivoire.
- **Central Africa countries** : experienced slight spatial and intensity of rainfall increase recording amounts ranging from 10mm to 200mm with peaks of 200mm to 300mm over north Central African Republic.
- **GHA countries** : experienced slight spatial rainfall increase recording amounts ranging from 10mm to 200mm intensifying over south Sudan with a peak of 250mm. However, the eastern sector continued to experience severe rainfall deficits.
- **Southern Africa countries** : had spatial and intensity of rainfall decrease recording localized rainfall ranging from 10mm to 50mm over southern part of South Africa and southern Madagascar.



2.2 OBSERVED DATA

The Table below shows heavy rainfall recorded over Libreville in Gabon. The lowest temperatures of 5.0°C was recorded at Maseru in Lesotho with the highest temperatures of 42.3°C recorded at Bilma in Niger.

N°	STATIONS	Précipitations (mm)	Number of rainy days	Température Max mean (°C)	Température Min mean (°C)
1	Abidjan	2	2	29,7	23,7
2	Accra	0	0	30,8	24,5
3	Addis Abéba	37	2	-	-
4	Agadez	0	0	41,3	26,8
5	Alger(Dar El-Beida)	18	5	26,8	17,2
6	Antananarivo	40	3	25,6	13,5
7	Antsiranana	0	0	31,6	20,5
8	Bamako-Senou	43	5	32,9	22,2
9	Bangui	54	4	31,1	21,2
10	Bilma	0	0	42,3	22,5
11	Bobo Dioulasso	55	5	31,0	21,9
12	Brazzaville	21	3	31,3	22,3
13	Casablanca	13	4	25,6	19,5
14	Cotonou	74	5	29,5	24,5
15	Dakar-Yoff	24	2	31,2	26,4
16	Dar-es-Salaam	11	3	31,1	19,1
17	Douala	55	2	30,7	23,4
18	Entebbe	13	1	27,0	18,4
19	Johannesbourg	0	0	25,5	8,7
20	Khartoum	0	0	41,4	28,1
21	Kinshasa	0	0	31,3	22,4
22	Le Caire	0	0	34,4	24,0
23	Le Cap	9	4	14,9	10,5
24	Libreville	110	4	28,4	23,5
25	Lilongwe	0	0	29,6	16,9
26	Lomé	28	6	30,2	24,2
27	Lusaka	0	0	33,9	15,9
28	Maputo	0	0	28,2	16,9
29	Maseru	0	0	-	5,0
30	Mbeya	0	0	27,3	10,9
31	Monrovia	0	0	28,9	24,0
32	Nairobi	0	0	28,1	13,7
33	Nampula	0	0	33,8	19,1
34	N'Djamena	0	0	35,6	25,0
35	Niamey-Aéroport	0	0	36,5	25,7
36	Nouakchott	0	0	36,8	26,5
37	Ouagadougou	5	3	33,2	23,5
38	Plaisance	20	8	25,6	19,5
39	Sal	0	0	30,1	25,6
40	Seychelles	9	6	30,3	25,3
41	Tamanrasset	0	0	30,6	22,1
42	Toalagnaro	21	1	28,1	20,3
43	Tombouctou	0	0	39,9	26,9
44	Tripoli	8	5	31,4	20,4
45	Tunis	17	5	25,5	18,1
46	Windhoek	0	0	30,6	11,6
47	Zinder	14	2	37,1	24,8

NOTE: 0 means no rain;

- means no temperature data available

Data Source : ACMAD / GTS

3. OUTLOOK FOR DEKAD (11th – 20th October, 2008)

3.1 RAINFALL

The ITD will move significantly southward with more displacement over eastern part of the Sahel marking the cessation of rainfall over the Sahel. Rainfall is expected to increase over Gulf of Guinea countries, central Africa and western parts of GHA countries. In summary:

- **North Africa countries** : expected to experience an increase in rainfall recording about 10mm to 100mm with isolated peaks of 150mm.
- **The Sahel** : The rainfall is expected decrease over Senegal, Gambia, south Mali, Burkina Faso and south Niger recording amounts ranging from 10mm to 50mm with isolated peaks of above 75mm.
- **Gulf of Guinea countries** : Guinea, Guinea Bissau, Sierra Leone, Liberia, Cote-d'Ivoire, Ghana, Togo, Benin, Nigeria and Cameroon will record rainfall increase amounts ranging from 20mm to 200mm with peaks of about 250mm and above.
- **Central Africa countries** : Central African Republic, Democratic Republic of Congo will experience rainfall increase recording amounts ranging from 20mm to 200mm and above with isolated peaks of about 250mm and above.
- **GHA countries** : Uganda, western Kenya, southwest Sudan and southwestern Ethiopia will experience a general increase recording rainfall amounts ranging from 10mm to 150mm with peaks of about 200mm. However, the eastern sector will continue to experience acute rainfall deficits.
- **Southern Africa countries** : few southern Africa countries especially South Africa will get relief from a general rainfall increase over the Cape and eastern coast of South Africa, south Mozambique and parts of Madagascar recording rainfall ranging from 10mm to 100mm.

3.2 TEMPERATURE

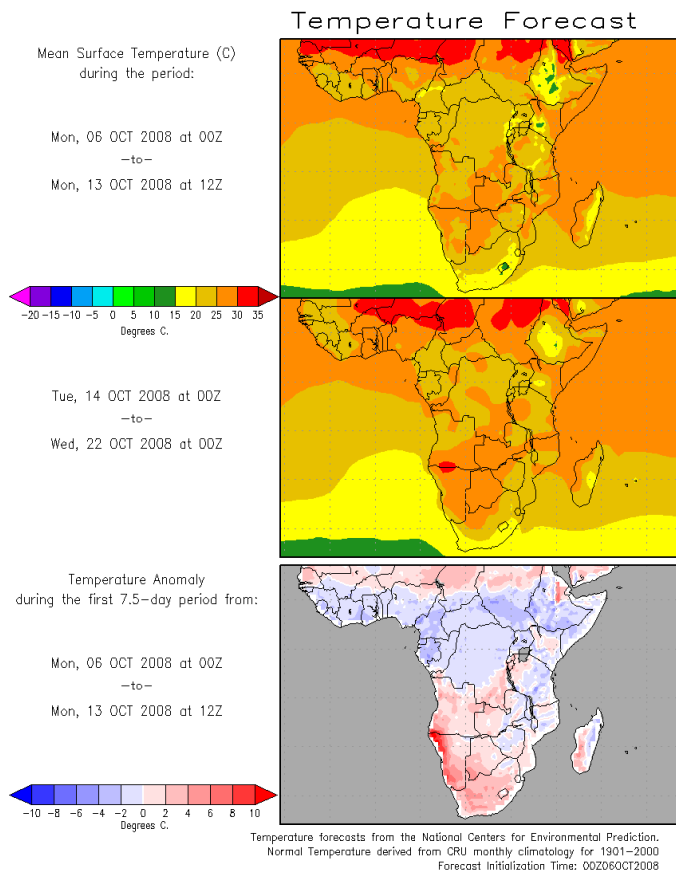
The forecast map below shows that the countries north of Equator will record the highest temperatures while few parts of Southern Africa and of GHA countries will record the lowest temperatures. The highest forecast temperatures on the map below range from 25°C to 35°C in orange and red colours respectively with more than 75% of the Continent expected to record 20°C and above.

3.3 SOIL MOISTURE

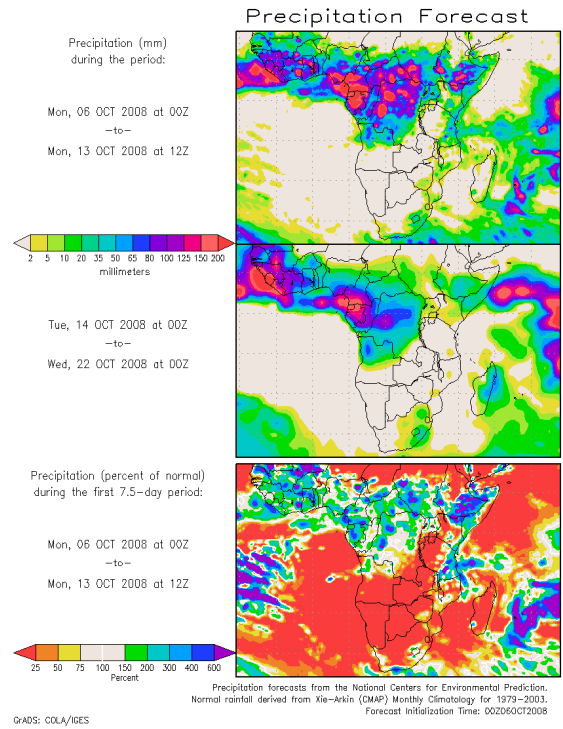
The outlook on soil moisture change, map shown below includes the initial soil moisture and the forecast changes over the next 7 days. The soil moisture change and precipitation relationship is discernable on the maps below. The areas forecast to have highest soil moisture increase are confined within central Africa and of GHA countries.

3.4 IMPACTS

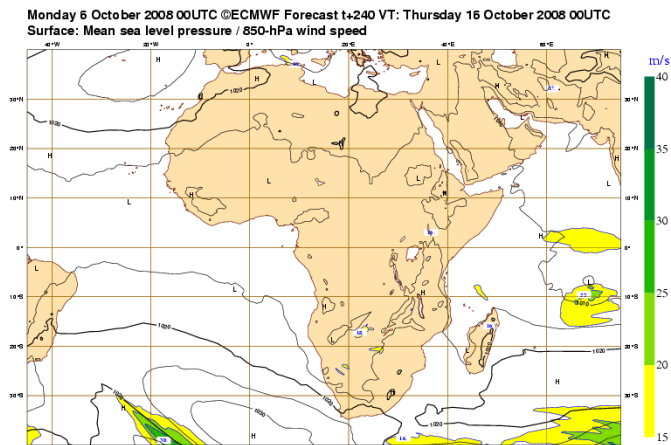
- **Health**: The incidences of malaria and other climate related diseases are higher in areas with high temperatures during rainy periods. The temperatures in the range of 20°C to 28°C with high rainfall (high humidity) favour the survival of the vector and development of the parasite in the vector resulting in high incidences of malaria even in low prevalence areas. The Gulf of Guinea countries, parts of central Africa countries and GHA countries with high humidity/rainfall and the prevailing high temperatures support the survival of parasite resulting in higher incidences of vector borne diseases such as malaria among others. The health authorities need to continue the health care services to protect lives of the vulnerable communities.
- **Agriculture and food security**: The applications of climate information in agricultural production are of crucial importance. We often emphasize on the importance of well documented onsets and cessations dates of seasonal rainfall as well as monitoring of the phenological stages of crops in our countries. However, it is of crucial importance to carry out cost benefit analysis on determination and applications of appropriate planting dates in order to take full advantage of limited soil moisture availability in a shortened crop growing season. The drought-tolerant crops can be grown in zones where the prevailing soil moisture is the climate constraint on yield. The crop varieties that are higher yielding, more drought resistant, earlier maturing, disease and pest tolerant are recommended in these moisture constrained zones for communities' sustained food security and adaptation. There is also a need to invest in higher yielding crops during a good rainy season by taking advantage, for example from forecasts issued by regional climate outlook forum (RCOF) such as the PRESAO, GHACOF and SARCOF.
- **African Natural Ecosystems** : There is a need to invest in the rehabilitation of our presently degraded water catchments areas within our natural ecosystems through enhanced national heritage conservation strategies such as national tree planting, afforestation and soil conservation programmes during rainy seasons to minimise soil loss due to heavy runoff.



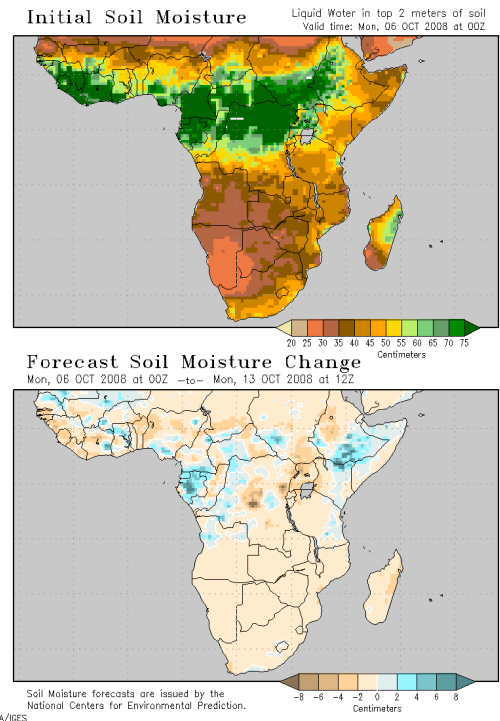
Source : COLA



Source : COLA



Source : ECMWF



Source : COLA