AFRICAN CENTRE OF METEOROLOGICAL APPLICATIONS FOR DEVELOPMENT
CENTRE AFRICAIN POUR LES APPLICATIONS DE LA METEOROLOGIE AU DEVELOPPEMENT

CLIMATE WATCH AFRICA BULLETIN

N° 05
May 2008




SUMMARY

1. Month's Synoptic Situation
2. Month's climatological Situation / Impacts
3. Outlook
4. Climate Science News

HIGHLIGHTS: Spatial rainfall intensity increase over Gulf of Guinea, parts of central Africa and northern parts of Greater Horn of Africa (GHA) countries.

1. SYNOPTIC SITUATION DURING THE MONTH OF MAY, 2008

1.1 Centres of Anticyclone

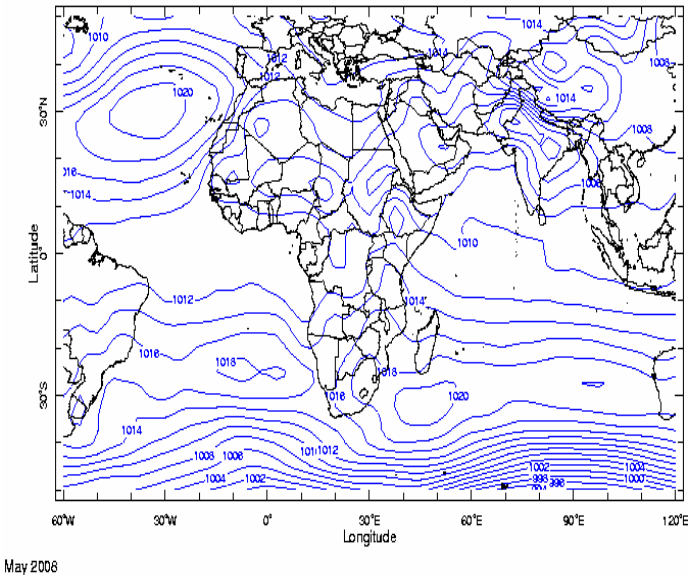
The Azores high pressure at 1020hPa had no variation compared to the past month, but was displaced northeast at 33°N/30°W.

The St Helena high pressure centre at 1018hPa weakened by 2hPa compared to the previous month, but shifted towards the northwest at 25°S/10°W.

The Africa thermal low of 1006hPa persisted with limited area coverage over southern Chad and eastern Sudan.

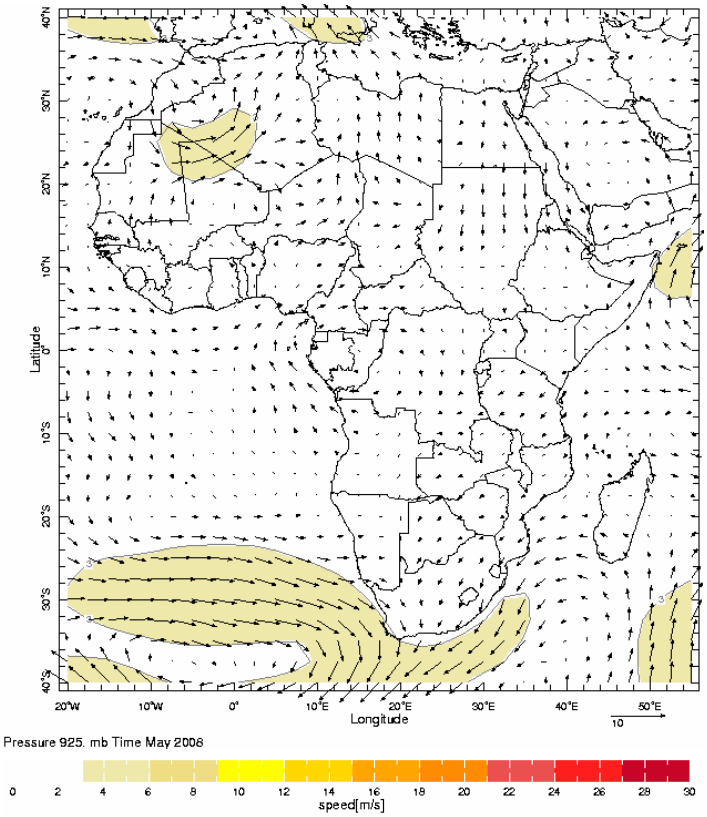
The Mascarene high pressure at 1020hPa strengthened by 2hPa and displaced southwest at 32°S/45°E with a strong ridge over eastern Africa.

The Indian monsoon thermal low continued to deepen strengthening the southwest monsoon over Indian Ocean.



Mean surface pressure during the: Month of May, 2008 (Source : IRI)

1.2 Near Surface Wind Anomaly at (925hPa)

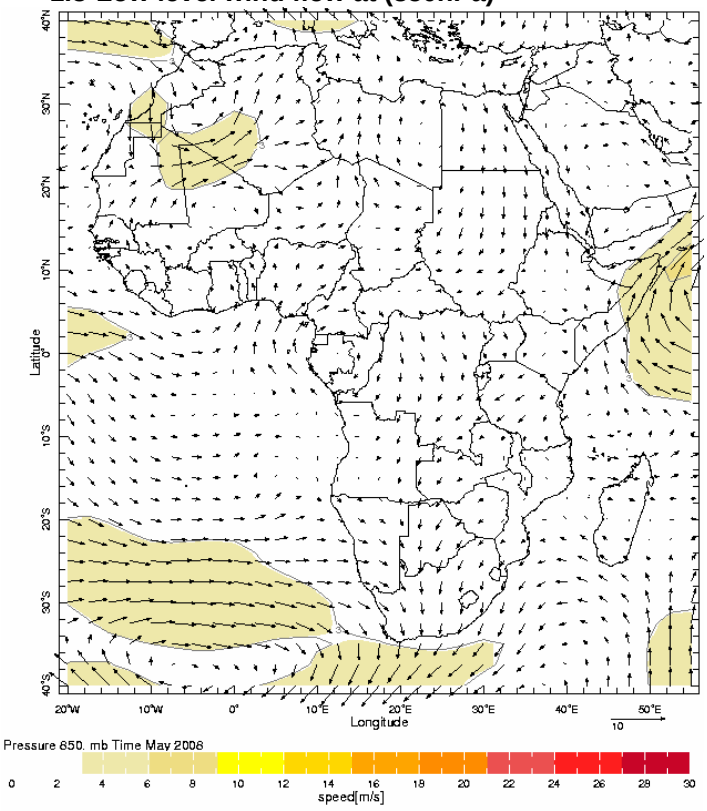


May, 2008 wind anomaly field at 925hPa (m/s) (Source : NOAA/NCEP)

At 925hPa level, the continental strong north-westerly wind anomalies were observed over north Mauritania, north Mali and south-western Algeria. Over coastal Somalia strong south-westerly wind anomalies were observed.
In the southern hemisphere strong westerly winds anomalies veering to northerlies dominating most of southern Atlantic.

The average wind anomaly speed (shaded) was observed at 08 m/s and above.

1.3 Low level wind flow at (850hPa)



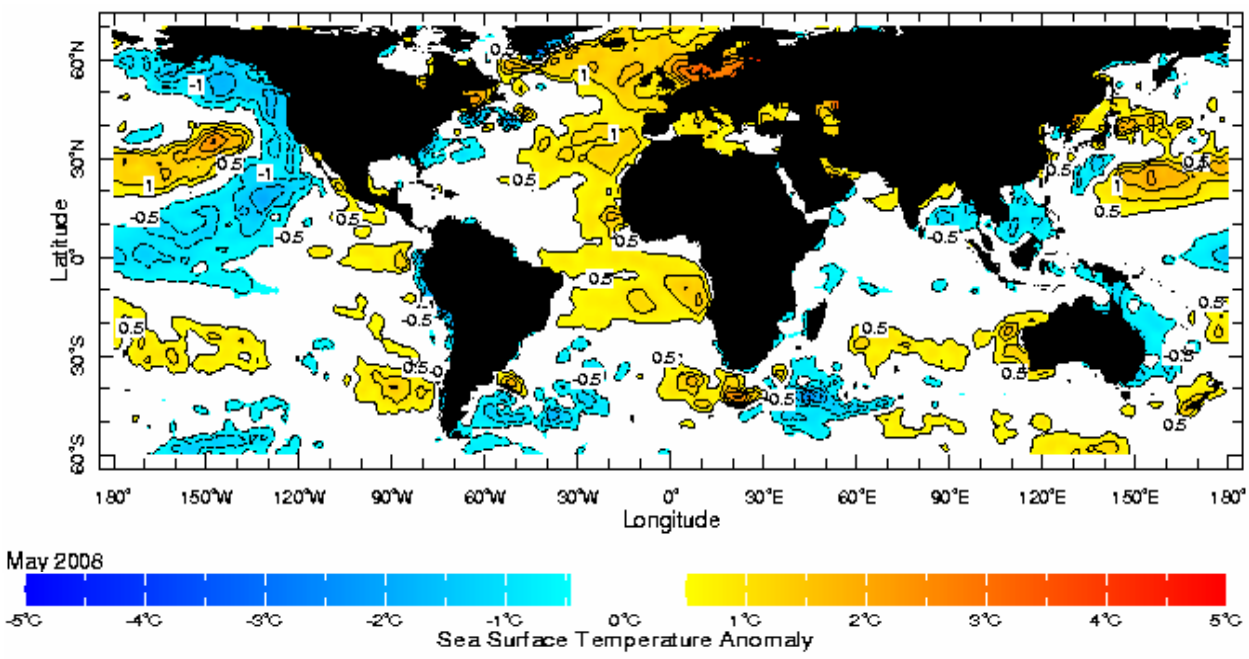
May, 2008 wind anomaly field at 850 hPa (m/s) (Source: NOAA/NCEP)

On the 850hPa level, similar wind patterns prevailed as observed on the 925hPa level, but strengthened in term of spatial coverage.
Over central Morocco northerly winds anomalies prevailed. The southerly winds anomalies over Indian ocean extended over extreme east of Ethiopia while westerly winds anomalies were observed over western part of the Gulf of Guinea.

The average wind anomaly speed (shaded) was observed at 08 m/s and above.

1.4 Sea Surface Temperature (SST) and El Nino/Southern Oscillation (ENSO)

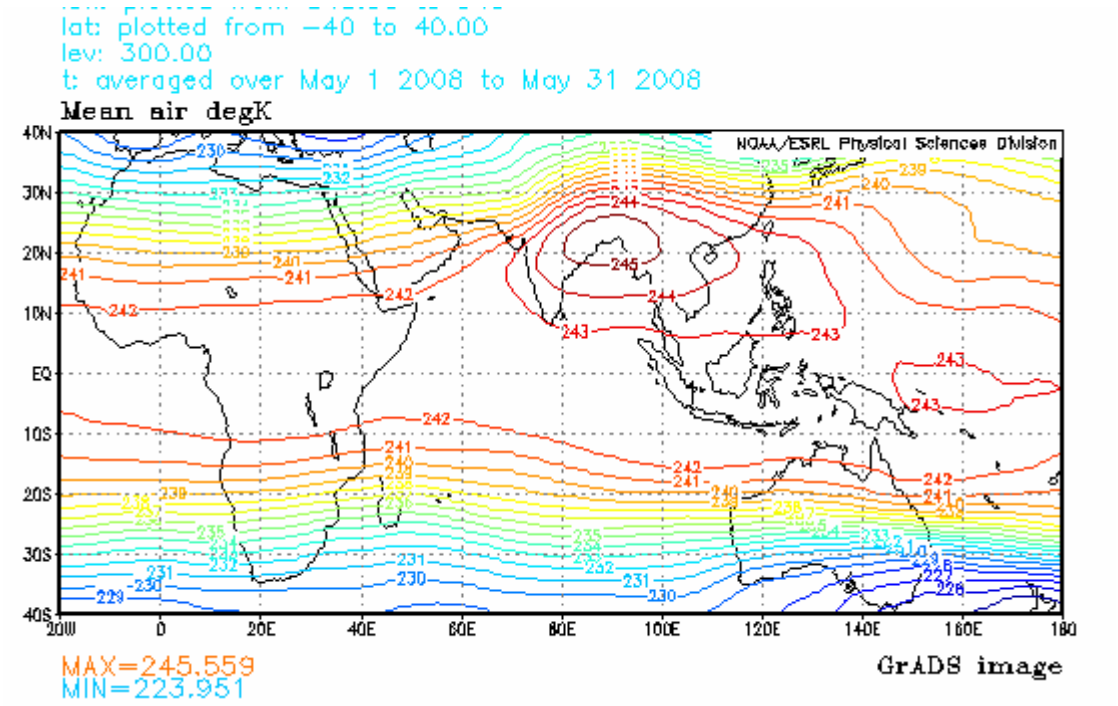
The cooling extended into the equatorial western from the central and north-eastern Pacific Ocean, while warming conditions prevailed in the central north, central south, eastern and parts of western Pacific Ocean. A neutral to warming condition was observed over most of the Atlantic Ocean around Africa. A neutral to warming condition were observed from south central Indian Ocean up to western coast of Australia. The neutral to cooling conditions dominated Mozambique Channel extending into north Indian Ocean reducing prospects for good rainfall over GHA countries.



Source: IRI

1.5 Thermal index

In the month of May, 2008, the thermal index (TI) regime at 300hPa, map shown below, had a near-threshold value of 242°K isotherm over Equatorial Africa 10°N to 10°S that maintained reasonable conditional instability associated with heavy convective rainfall over some parts of West Africa, central Africa and parts of Greater Horn of Africa countries. The threshold value of 243°K with maximum of 245°K maintained the highest conditional instability associated with heavy convective rainfall with severe floods over South Asia.



(Data Source: NOAA/NCEP)

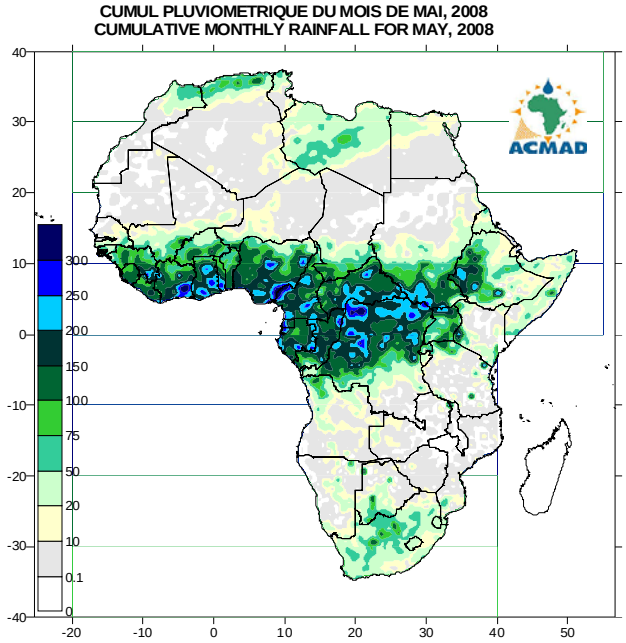
2. CLIMATOLOGICAL SITUATION AND IMPACTS DURING THE MONTH OF MAY, 2008

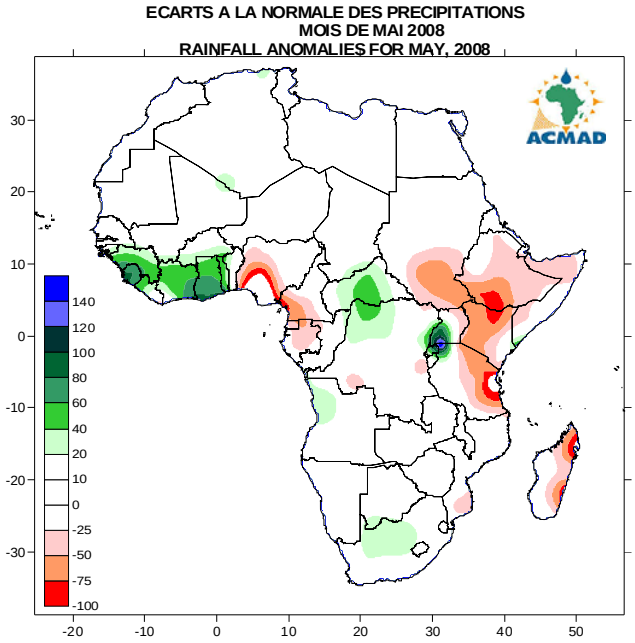
2.1 Rainfall

The estimated rainfall map below shows spatial and rainfall intensity increase over north Africa countries, Gulf of Guinea countries, central Africa countries while GHA countries experienced spatial rainfall intensity decrease. The Sahel countries experiencing little change. In summary.

- **North Africa** countries experienced spatial rainfall intensity increase recording rainfall amounts ranging from 10 to 75 mm over north Morocco, north Algeria and north Tunisia, most of Libya and Egypt.
- **The Sahel** countries had some moisture influx that resulted in light to moderate rainfall ranging 10 to 50 mm over the southern parts.
- **Gulf of Guinea** countries experienced spatial and intensity rainfall increase recording heavy amounts ranging from 50mm to 250mm with peaks of about 300mm over Guinea, Côte d'Ivoire, Ghana, Togo Nigeria.
- **Central Africa** countries experienced significant increase in rainfall distribution and intensity ranging from 10 to 250 mm with peaks of about 300 mm over several parts.
- **GHA** countries experienced spatial rainfall intensity decrease recording amounts ranging from 10 to 200 mm, intensifying over western Ethiopia and southwestern Sudan with peaks of about 250mm.
- **Southern Africa** countries had spatial rainfall intensity increase recording amounts ranging from 10mm to 75 mm with isolated peaks of about 100 mm over southern Botswana and south Africa.

The rainfall anomaly map showed severe rainfall deficits over eastern Madagascar, eastern Tanzania, central Kenya, northern Kenya and southern Ethiopia, southern Sudan, southern Cameroon and central Nigeria, while excessive rainfall were recorded over parts of Uganda, Central Africa Republic, north Democratic Republic of Congo, Togo, Benin, Ghana, Côte d'Ivoire, Liberia, Sierra Leone, Guinea northwestern Angola and South Africa.

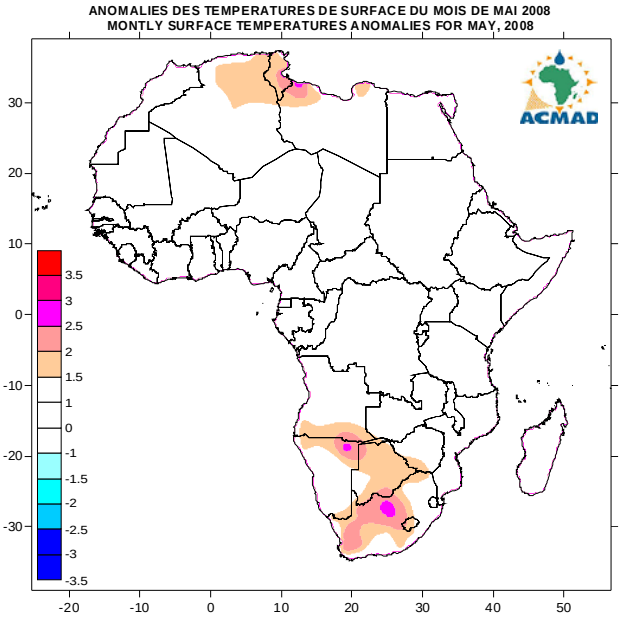




(Data Source: NOAA/NCEP)

2.2 Surface Temperature Anomalies

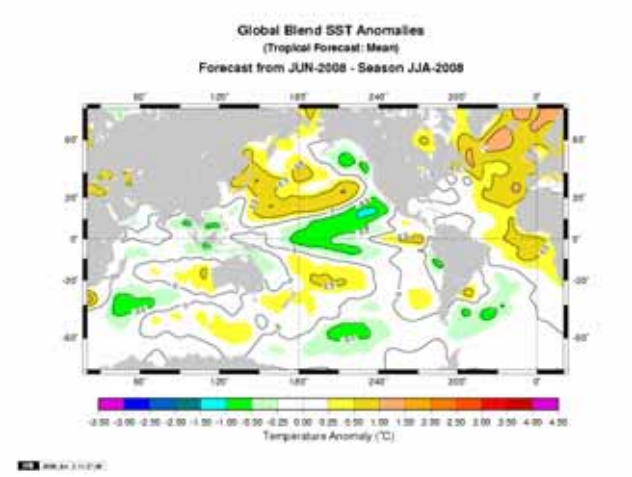
In May, 2008, the temperature anomalies over most of African countries were generally normal (1°C to –1°C). However, high temperature anomalies above 1.5°C were observed in northern Algeria, Tunisia, northwest Libya, southern Angola, northern Namibia, Botswana and South Africa.



(Data Source: NOAA/NCEP)

3. OUTLOOK

3.1 Forecast Sea Surface Temperature (SST)



(source IRI)

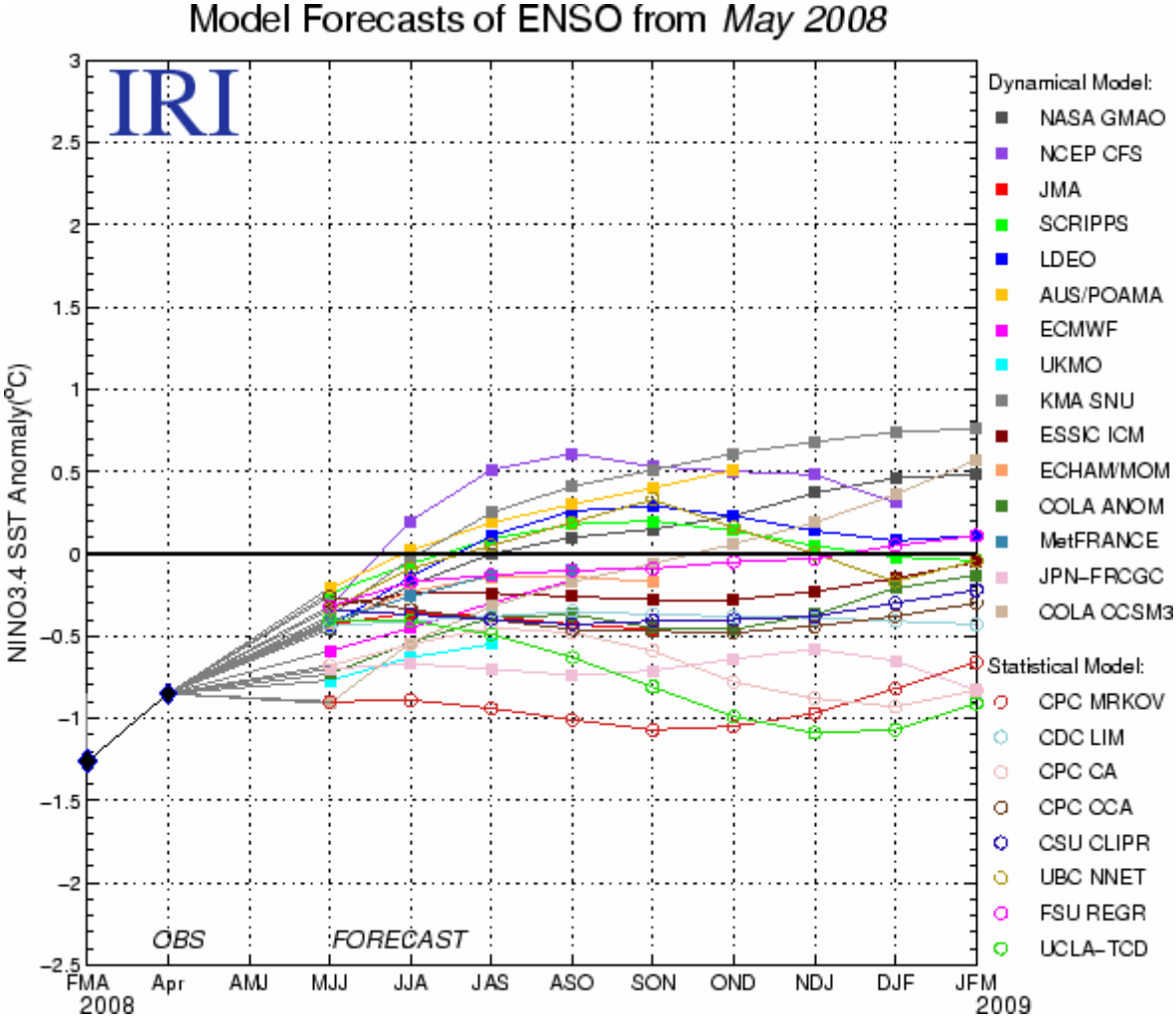
Pacific Ocean: The La Nina to neutral conditions continue in the western Pacific Ocean, but warming is expected to continue over its eastern part.

Atlantic Ocean: A neutral to cooling condition is expected over south-western Atlantic Ocean, while warming trend is expected to continue from south eastern to northern Atlantic around Africa.

Indian Ocean: Neutral to cooling condition is expected in western and northern Indian Ocean, but neutral to warming condition is expected in the southern part.

3.2 El Ni Niño/La Niña

The set of dynamical and statistical model forecasts of ENSO indicated a spread of possible SST anomalies over Nino 3.4 domain (5°N – 5°S, 120°W – 170°W).



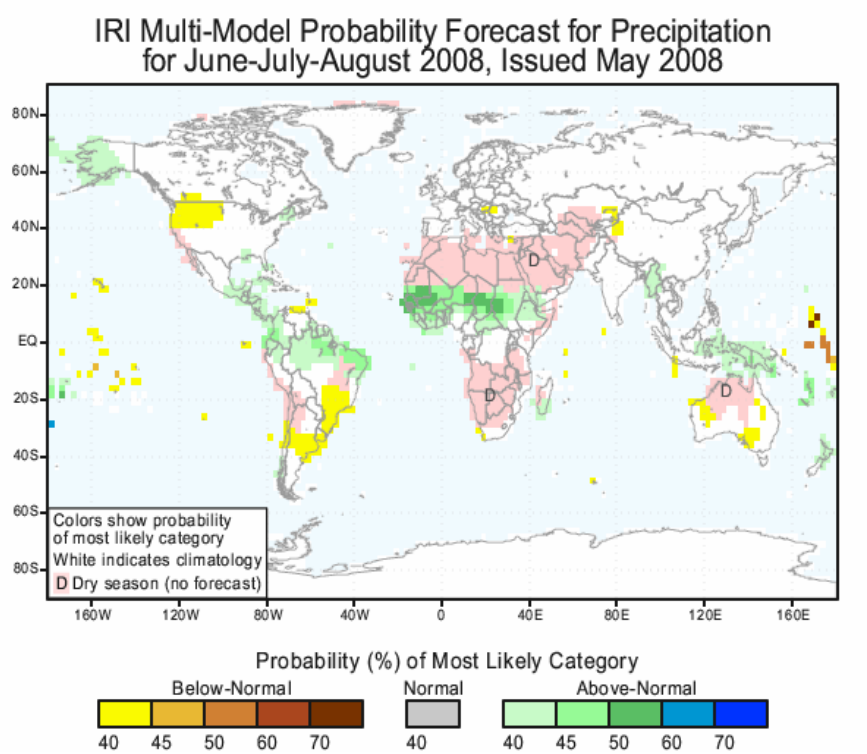
(Source: IRI)

3.3 Rainfall

The northward movement of the ITD will lead to the intensification of rainfall over West African countries with the Sahel countries recording light to moderate rainfall ranging from 10mm to 75mm. The central Africa and

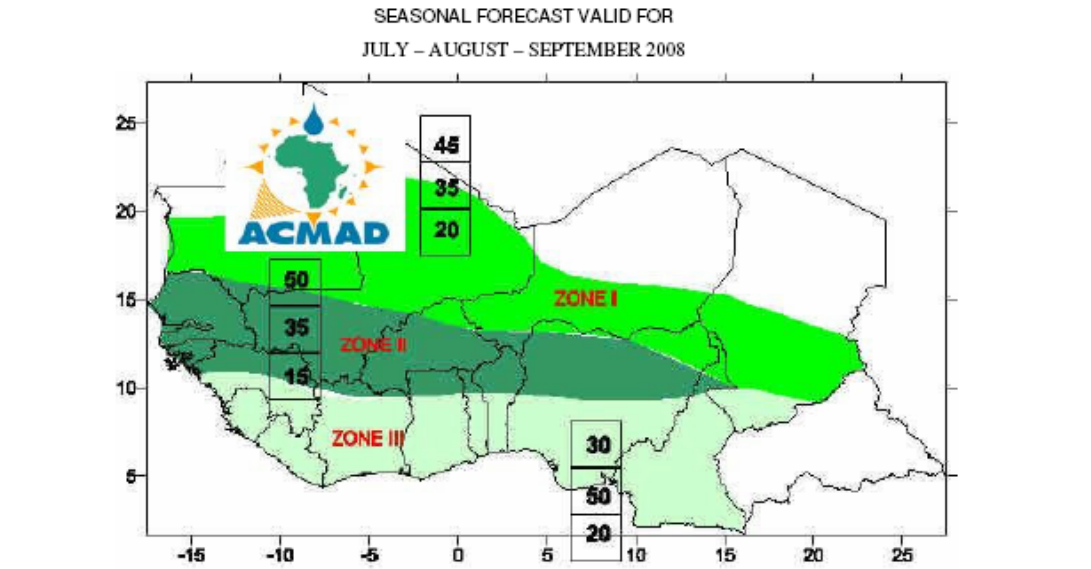
western sector of GHA countries will experience some increase recording moderate to heavy rainfall with a decrease over eastern sector.

The IRI model forecast shown below is above normal rainfall over most of West Africa countries consistent with seasonal rainfall outlook of PRESAO-11 presented below.



(Source IRI)

PRESAO 11

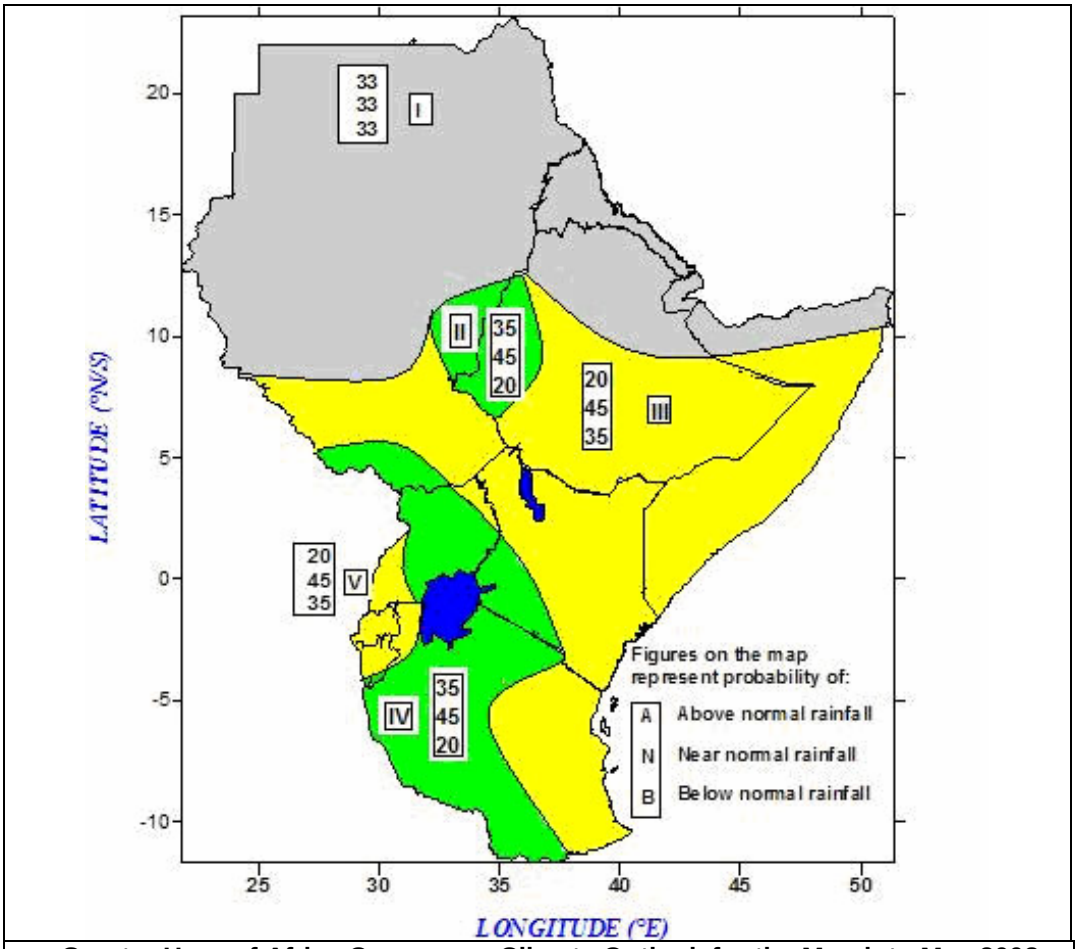


ZONE 1 : Above normal rainfall more likely - ZONE 2 : Above normal rainfall very likely - ZONE 3 : Normal rainfall more likely

NB : The possibilities of rainfall deficits are very unlikely.

The quantity of rainfall is expected to be close to that of the year 1999.

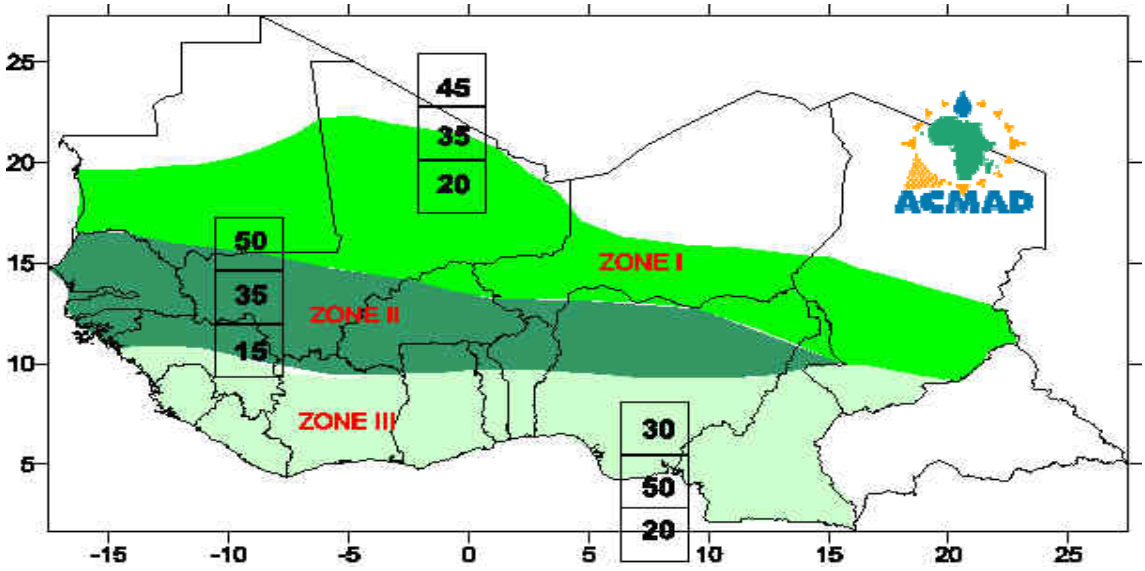
GHACOF CLIMATE OUTLOOK FORUM
GHACOF 21



Greater Horn of Africa Consensus Climate Outlook for the March to May 2008

Zone I: Climatology is indicated over northern and central Sudan; Eritrea; Djibouti; northern Ethiopia and extreme northern Somalia.
Zone II: Increased likelihood of near-normal to above normal rainfall over eastern Sudan and western Ethiopia.
Zone III: Increased likelihood of near-normal to below-normal rainfall over much of Somalia as eastern, central and southern Ethiopia as well as much of Kenya and southern Sudan.
Zone IV: Increased likelihood of near-normal to above-normal rainfall over southwestern, western and northern Tanzania; extreme southern Burundi; southwestern Kenya; eastern, central and northwestern Uganda as well as southwestern Sudan.
Zone V: Increased likelihood of near-normal to below-normal rainfall over southwestern Uganda; Rwanda; much of Burundi and northwestern Tanzania

Seasonal Forecast of Precipitation
Bulletin of July August September 2008
West Africa, Chad and Cameroon
Update June 20, 2008



COMMENTS:

The evolution of Sea Surface Temperature over the Atlantic Ocean, the Indian Ocean and the equatorial Pacific Ocean forecast based on observed conditions during March and April has been confirmed in May 2008.

Therefore, during July-August–September 2008, warm conditions will characterize the Tropical Atlantic Ocean. In the Tropical Equatorial Pacific Zone (Nino 3.4) and in the Indian Ocean, neutral conditions are expected.

The forecasts of different centers using observed SSTs for the month of May have confirmed the forecast on the map above.

1. **Possibility of rainfall deficit is very low over the sub-region.**
2. **In zone I, a probability (45%) of rainfall higher than normal is forecast in some places covering most part of the Sahel.**
3. **In zone II, high probability (50%) of rainfall Higher than normal was forecast over Senegal, Gambia, Guinea Bissau, south Mali, Burkina Faso, the extreme northern part of countries from Guinea Conakry to Cameroon.**
4. **Zone III which covers the Gulf of Guinea countries maintains normal tending to above normal conditions.**
5. **Risks of flooding with considerable damages will characterize the season particularly in zone II. The weather Monitoring and watch must be reinforced for civil protection, health, agriculture and water reserves.**

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