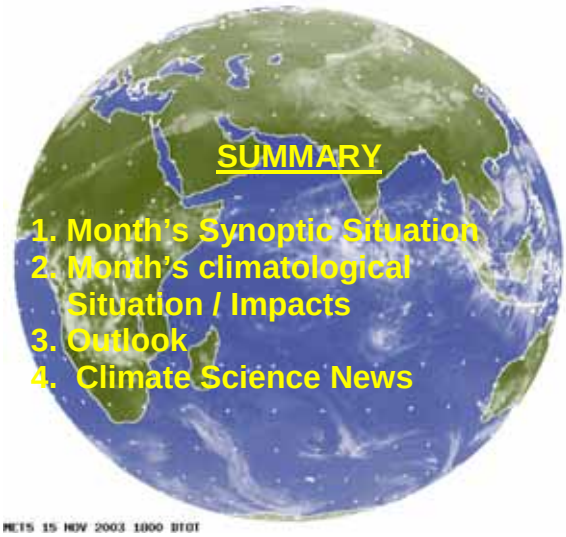
AFRICAN CENTRE OF METEOROLOGICAL APPLICATIONS FOR DEVELOPMENT
CENTRE AFRICAIN POUR LES APPLICATIONS DE LA METEOROLOGIE AU DEVELOPPEMENT

# CLIMATE WATCH AFRICA BULLETIN

## N° 04
## April 2008




**SUMMARY**

**HIGHLIGHTS:** The Greater Horn of Africa (GHA) countries had a significant relief in April after March severe rainfall deficits over several parts while central Africa countries experienced widespread heavy rainfall. However, the GHA countries will experience rainfall deficits over eastern sector.

## 1. SYNOPTIC SITUATION DURING THE MONTH OF APRIL, 2008

### 1.1 Centres of Anticyclone

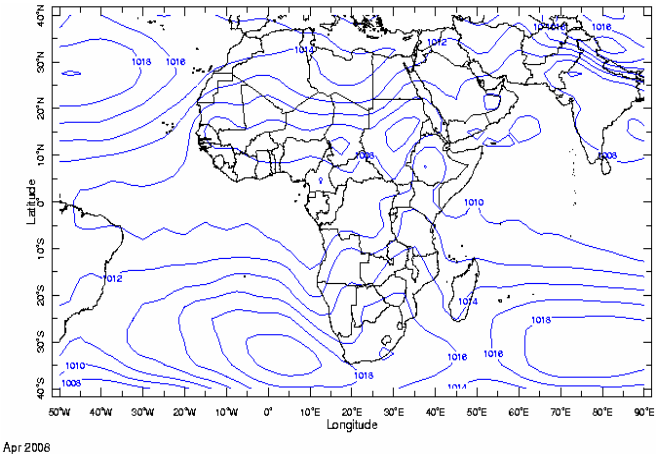
The Azores high pressure at 1020hPa weakened by 4hPa compared to the past month, but was significantly displaced southwest at 28°N/47°W.

The St Helena high pressure centre at 1020hPa had no variation compared to the previous month, but shifted towards the east at 35°S/05°E.

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

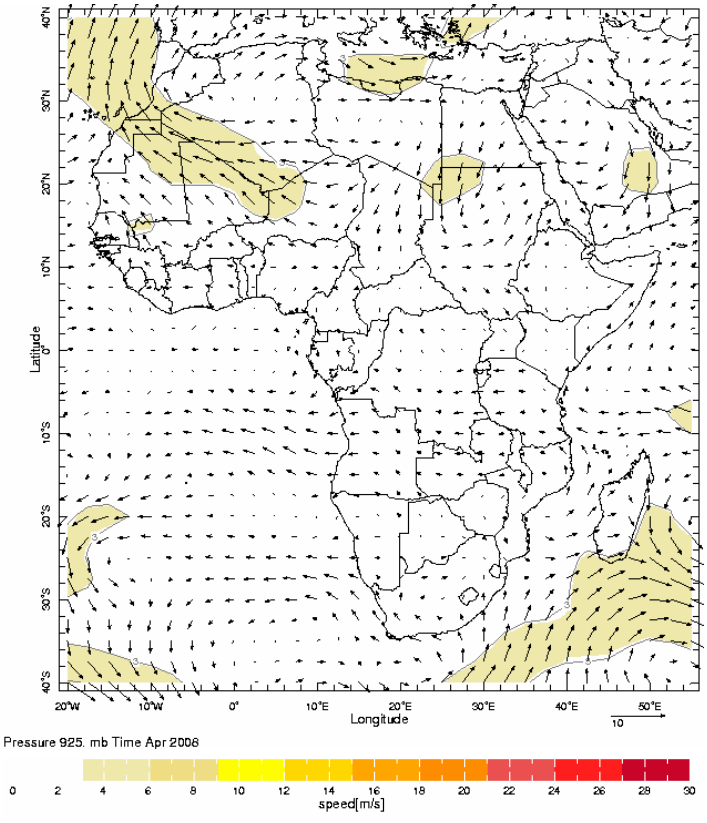
The Mascarene high pressure at 1018hPa had weakened by 4hPa and displaced towards the south at 30°S/75°E with a weak ridge over Madagascar.

The Arabian ridge weakened giving way to eastern Africa ridge from south.




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

### 1.2 Near Surface Wind Anomaly at (925hPa)

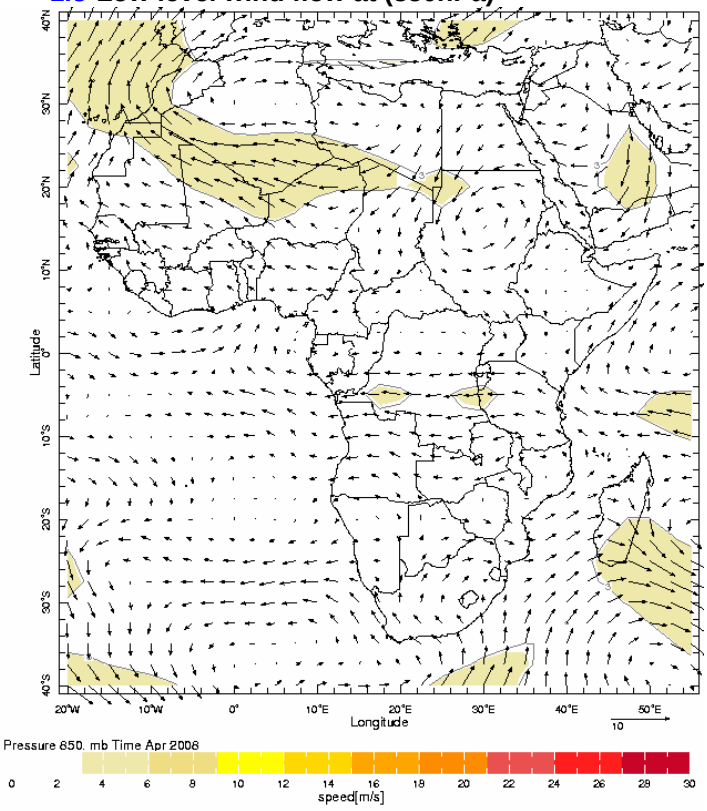



***April, 2008 wind anomaly field at 925hPa (m/s) (Source : NOAA/NCEP)***

At 925hPa level, the continental strong north-easterly wind anomalies were observed over south Egypt, southeast Libya and northwest Sudan. Strong southeasterly winds anomalies were observed over northwestern Niger, northern Mali, northern Mauritania and southern Morocco. Over coastal Libya strong northwesterly winds anomalies were observed. In the southern hemisphere southwesterly winds anomalies were dominant over Madagascar backing to easterlies off coast over South Africa.

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

### 1.3 Low level wind flow at (850hPa)



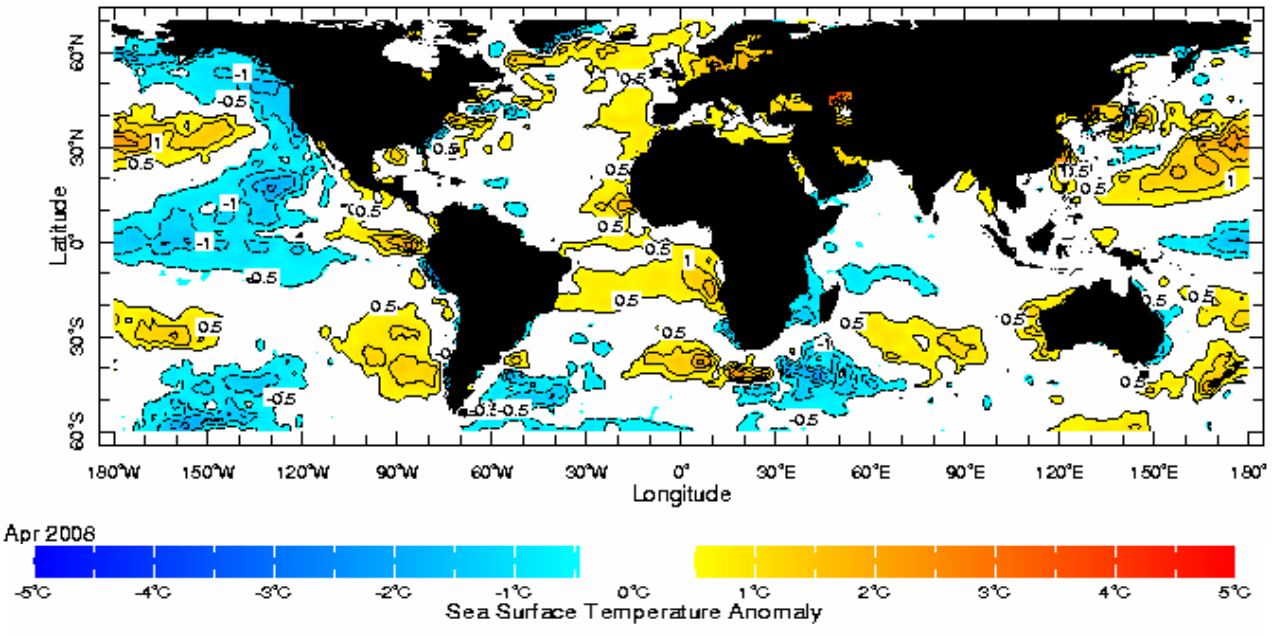

On the 850hPa level, similar wind patterns prevailed as observed on the 925hPa level, but strengthened with greater spatial coverage. Strong difluence over eastern Africa were maintained by strong easterlies and southwesterlies around the equatorial belt.

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

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

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

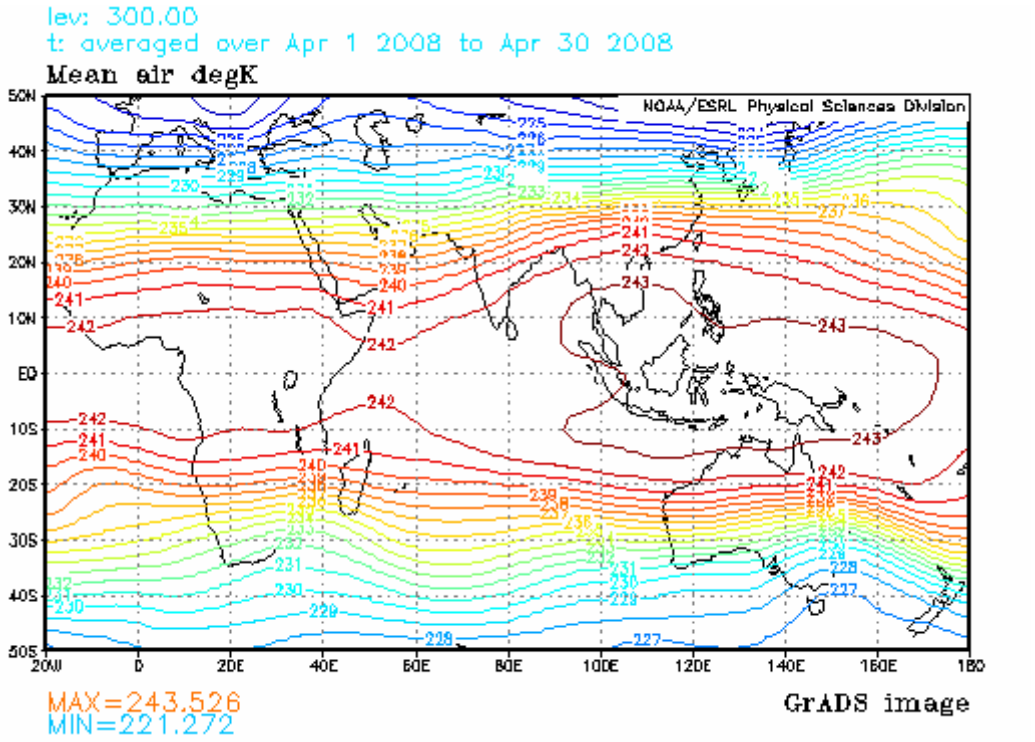
The cooling extended into the western from the central and eastern Pacific Ocean, while warming conditions prevailed in the central north, central south, eastern and western parts of Pacific Ocean. A neutral to warming condition was observed over most of the Atlantic Ocean except over its southwestern part around the Cape. The neutral to cooling conditions were observed in Mozambique Channel and in the Indian Ocean reducing prospects for good rainfall over GHA countries, but enhanced over Indonesia and north/western Australia.




***Source: IRI***

### 1.5 Thermal index

In the month of April, 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 maximum value of 243°K maintained the highest conditional instability associated with heavy convective rainfall with floods over Southeast Asian and extreme northern parts Australia and linked to suppressed rainfall over parts of GHA countries.




***(Source : NOAA/NCEP)***

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

### 2.1 Rainfall

The estimated rainfall map below shows spatial and rainfall intensity decrease over north Africa countries and southern Africa countries; spatial and rainfall intensity increase over Gulf of Guinea countries and GHA countries with the Sahel countries experiencing no significant change. In summary.

- **North Africa** countries experienced spatial and rainfall intensity decrease recording rainfall amounts ranging from 10 to 50 mm over north Morocco, north Algeria and north Tunisia and Libya.

- **The Sahel** countries remained generally dry with localised dust haze. Some light to moderate rainfall ranging 10 to 50 mm were recorded over its extreme southern part.

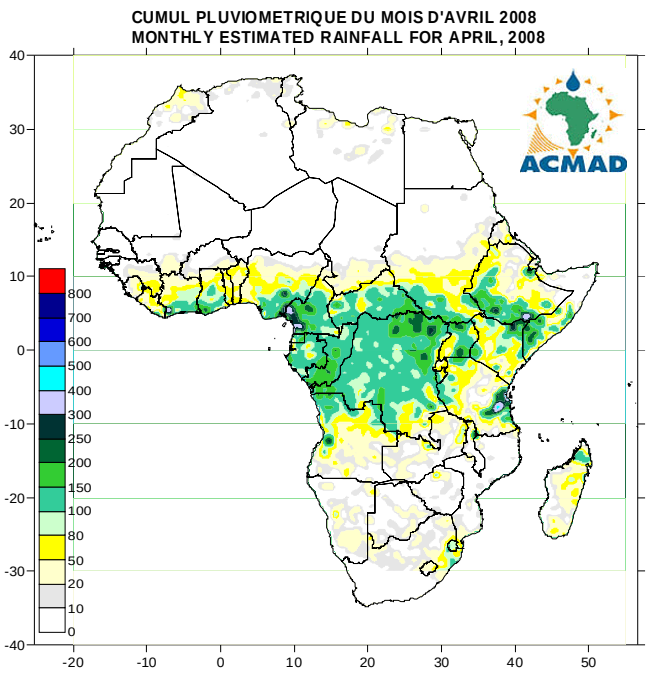
- **Gulf of Guinea** countries experienced spatial and intensity rainfall increase recording amount ranging from 10 to 200 mm with peaks of about 300mm over southeast Nigeria and southwest Côte d'Ivoire.

- **Central Africa** countries experienced no significant change in rainfall pattern compared to the past month. The amount of rainfall ranging from 10 to 250 mm with peaks of about 300 mm recorded over Cameroon.

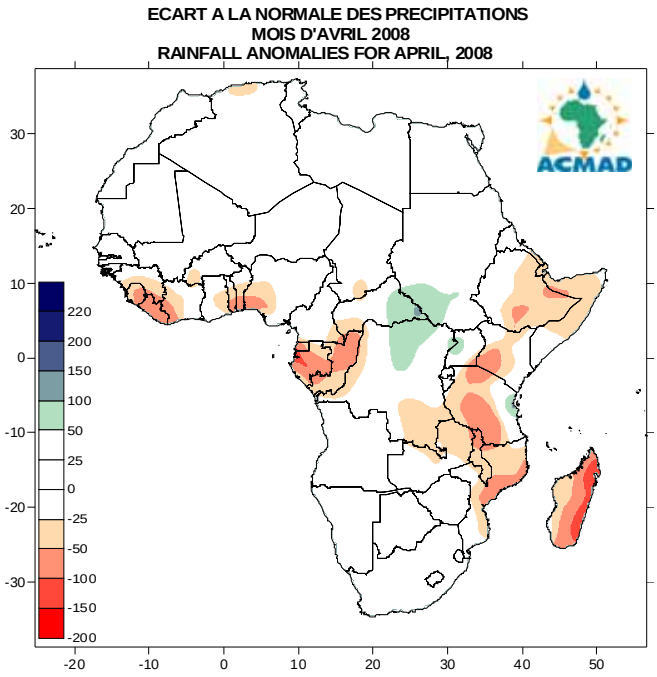
- **GHA** countries experienced significant spatial rainfall and intensity increase recording amounts ranging from 10 to 250 mm, intensifying over Ethiopia and Tanzania with peaks of about 300mm and above.

- **Southern Africa** countries had spatial and rainfall intensity decrease recording rainfall amounts ranging between 10 to 50 mm with highest of about 100 mm over south Africa and Madagascar.

The rainfall anomaly map showed severe rainfall deficits over most of GHA countries, over northeastern part of southern Africa countries, over Gulf of Guinea countries, Congo and Gabon, while excessive rainfall were recorded over parts of Uganda, southwest Sudan, eastern Central Africa Republic and northern Democratic Republic of Congo.



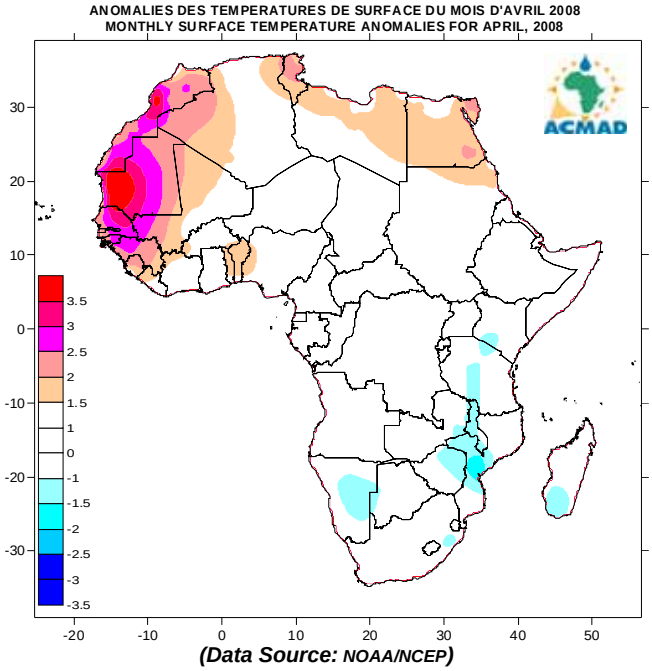

*(Data Source: NOAA/ NCEP)*




*(Data Source: NOAA/NCEP)*

## 2.2 Surface Temperature Anomalies

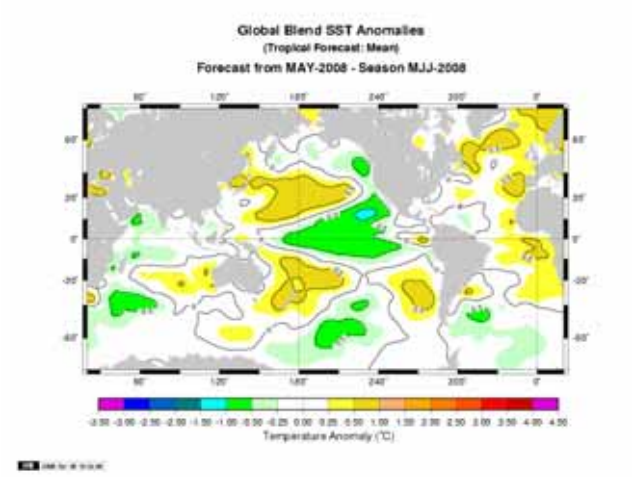
In April, 2008, the temperature anomalies over most of Africa countries were generally normal (1°C to –1°C). However, high temperature anomalies above 1.5°C were observed in northern Benin, north Togo, north west Côte d'Ivoire, eastern Mali, Liberia, Sierra Leone, Egypt, north Libya, Tunisia northeast and west Algeria with highest temperature anomaly of above 3°C over Morocco, Mauritania and Senegal, while the lowest temperature anomalies below –1°C were observed in eastern Namibia, eastern South Africa, Mozambique, Malawi, Kenya, Tanzania and South Madagascar.




*(Data Source: NOAA/NCEP)*

## 3. OUTLOOK

### 3.1 Forecast Sea Surface Temperature (SST)




*(source IRI)*

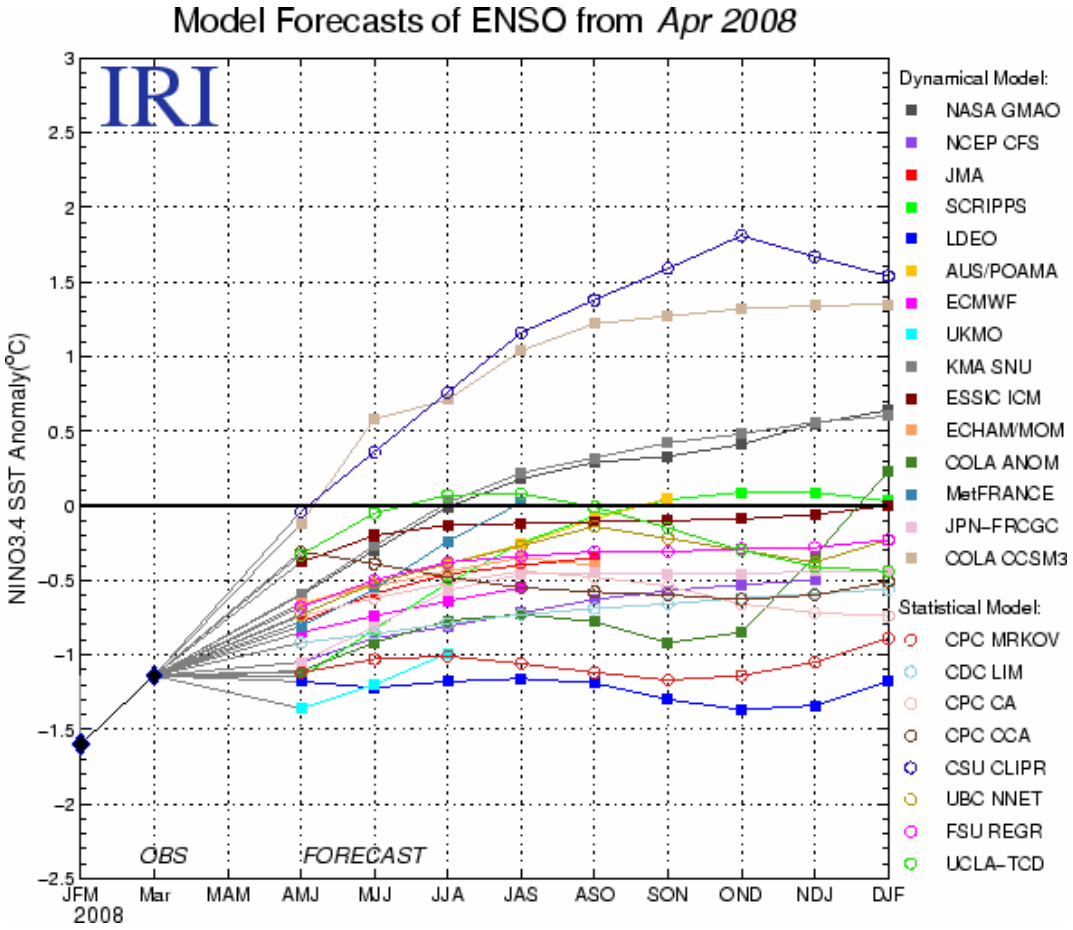
**Pacific Ocean:** The La Nina will be well established in the central and east Pacific Ocean, but warming is expected to continue over its western part.

**Atlantic Ocean:** A neutral to cooling condition is expected over southwestern and around equatorial Atlantic, but warming trend is expected to continue from south central to northern Atlantic.

**Indian Ocean:** Neutral to cool condition is expected in western Indian Ocean, but neutral to warming condition is expected from south central to its eastern part. Over the Mozambique channel a cooling is expected suppressing prospect for rainfall over the region.

### 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). The equatorial eastern Pacific is expected to maintain La Niña conditions with prevailing and growing pattern of negative SST anomalies in the central and eastern equatorial Pacific Ocean and enhancement of the easterly Trade Winds across much of the eastern and central equatorial Pacific Ocean.

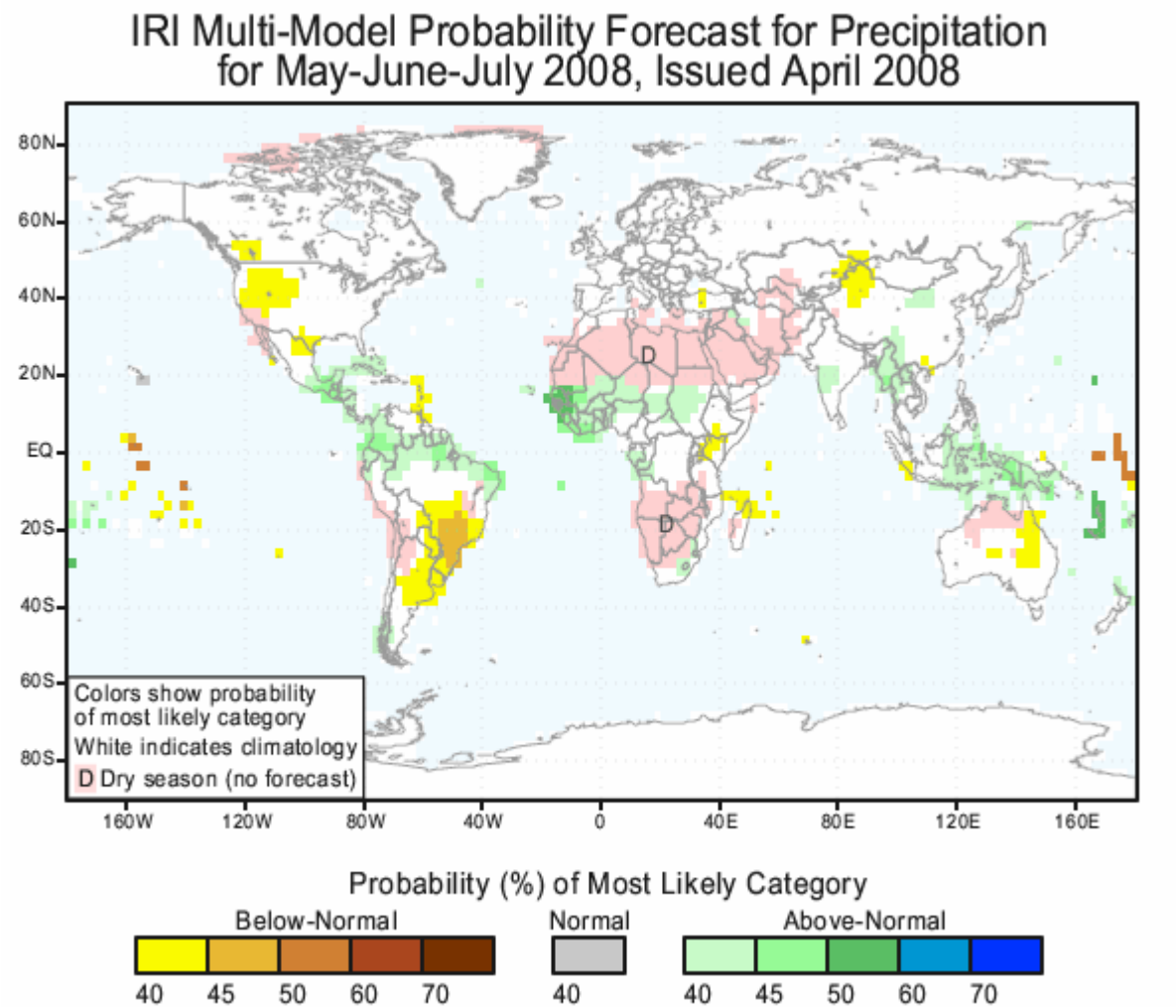



*(Source: IRI)*

### 3.3 Rainfall

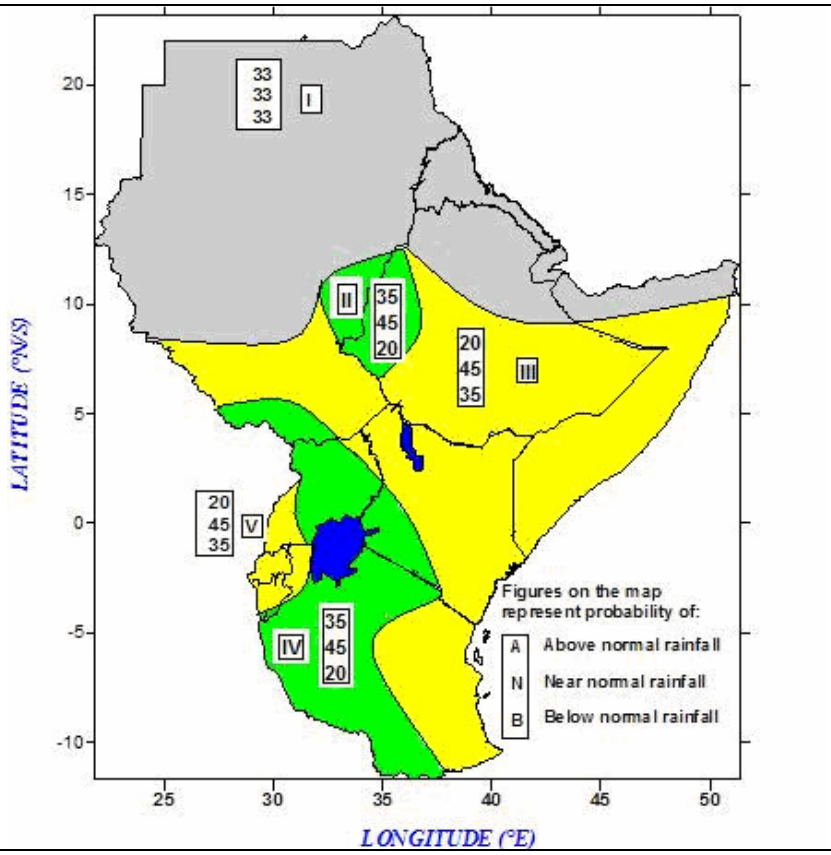
The northward movement of the ITD will lead to the intensification of rainfall over West African countries with the Sahel countries recording light to moderate rainfall ranging from 10-50mm. The central Africa and western sector of GHA countries will experience some increase recording moderate to heavy rainfall with a decrease over eastern sector.

The IRI model forecast below is normal to below normal over most of GHA countries is consistent with seasonal rainfall outlook for GHACOF-21 presented below.




***(Source IRI)***

**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

**African Center of Meteorological Applications to Development --- (A c m a D)**

# PRESAO-11

## 11th REGIONAL CLIMATE OUTLOOK FORUM

**Date and venue:** 21st – 23rd May, 2008 - Niamey, NIGER

**Theme:** Seasonal Climate Prediction, Water Resources Management and Food Security

## ANNOUCEMENT

**Introduction and Objectives**

The African Centre of Meteorological Applications for Development **(ACMAD)** in a partnership with the Niger Basin Authority (NBA) and its partners in Seasonal Forecasting are organizing the 11th Regional Climate Outlook Forum for West Africa, Cameroon and Chad **(PRESAO 11),** on the theme**: "Seasonal Climate Prediction, Water Resources Management and Food Security"** in Niamey, NIGER on 21st – 23rd May, 2008.

The PRESAO-11 is programmed to prepare the rainfall and river discharge seasonal forecasts for 2008 monsoon season and assess their impacts on socio-economical activities in the region. This 2008 forum will have the following three main components throughout presentations of selected experts and discussions

1. Presentation of the seasonal forecast of rainfall for the period July-August-September, 2008 by participating countries and International Centers and presentation of the consensus 2008 seasonal climate forecast of the rainfall and river discharge for the region.
2. Evaluation and discussions on the use and impact of the past, 2007 seasonal climate forecast by specific users
3. The strategy for improved applications and dissemination of climate forecast products to end-users – Specific communications by users, development community and research community

**Participation:**

The forum will gather representatives from the development community (water resources management, agriculture and food security, health, energy, and Natural Ecosystems…); Natural disasters actors and managers; National Meteorological and Hydrological Services (NMHSs), Representatives of regional and international institutions; Climate scientists and Professionals in communication;

If you wish to participate or participate and make an oral presentation please fill the form below and
Fax it to: + 227 20 72 36 27 or Email it to **presao11@acmad.ne** before the 30th April 2008

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**PRESAO11 (Niamey 21-23 May 2008)**
**PARTICIPANT FORM[1]**

**NAME**…… **SURNAME**……

**INSTITUTION** ……

**ADDRESS** ……

……

**Tel:** ……**Fax:**……**email**……

☐ I will participate without communication ☐ articipate with communication[2]

Date…… Signature……

[1] Participants are expected to be sponsored by their organisations. However, limited sponsorship for needy participants can be obtained on request before 30th April 2008

[2] Summary of the communication to be sent before 30th April 2008