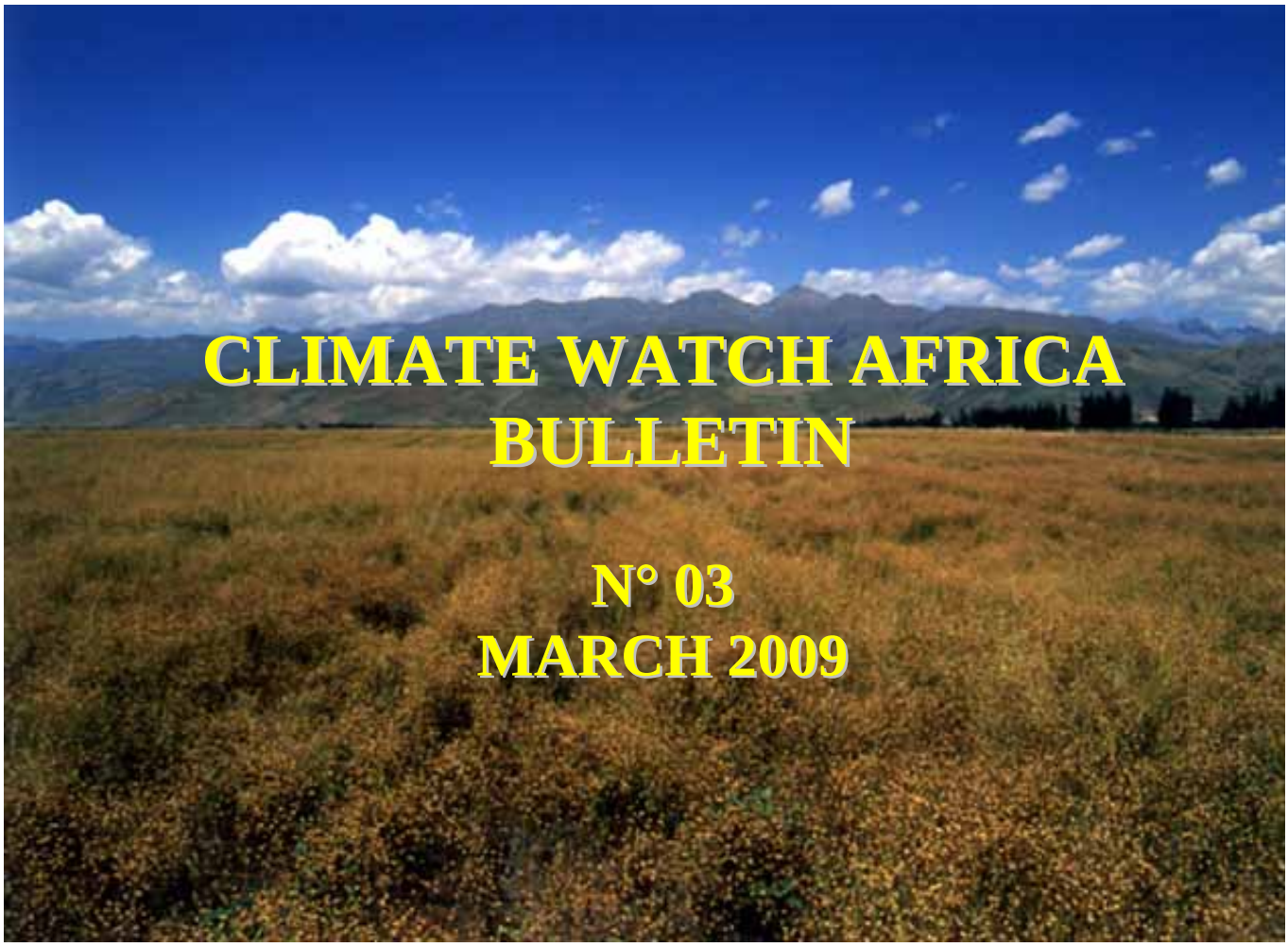
AFRICAN CENTRE OF METEOROLOGICAL APPLICATIONS FOR DEVELOPMENT
CENTRE AFRICAIN POUR LES APPLICATIONS DE LA METEOROLOGIE AU DEVELOPPEMENT



CLIMATE WATCH AFRICA BULLETIN

N° 03
MARCH 2009




SUMMARY

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

HIGHLIGHTS: *Excessive rainfall with floods caused damages in Namibia, Zambia, Malawi, Mozambique, Great Lakes countries, and Madagascar*.

1. SITUATION DURING THE MONTH OF MARCH, 2009

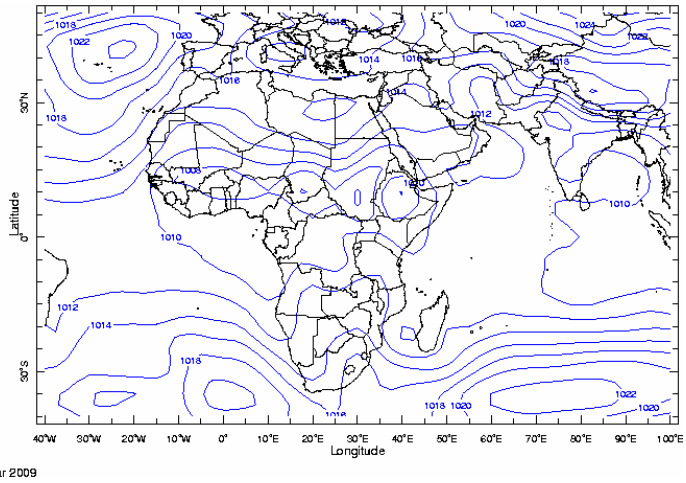
1.1 Centres of Anticyclone

The Azores high pressure at 1024hPa maintained its intensity compared to the previous month and shifted to the northeast at about 42°N/23°W.

The St Helena high pressure at 1020hPa weakened by 2hPa compared to the past month and shifted to the east at 35°S/00°.

The thermal lows of 1006hPa deepened by 2hPa compared to the past month, covering limited areas over south Chad, south Sudan and central Ethiopia.

The Mascarene high pressure at 1022hPa maintained its intensity and shifted northwest at 36°S/80°E with a ridge over eastern part of Southern African countries.



Mean surface pressure during the Month of March, 2009

(Source : IRI)

1.2 Low level wind anomaly flow at 850hPa

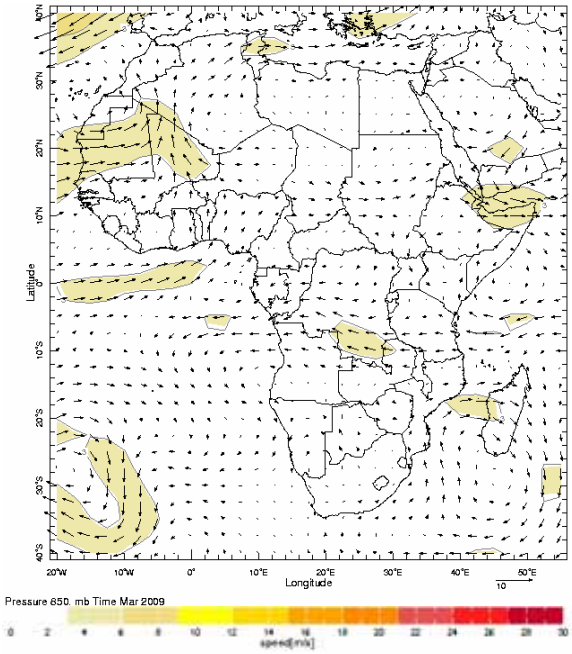
At 850hPa level, the strong westerly winds anomalies from Atlantic Ocean were observed over south Morocco, Mauritania, and north Senegal meeting strong continental south-easterly winds anomalies over Mali and south Algeria.
Over North Tunisia strong continental westerly anomalies were observed.

Over the Gulf of Guinea strong westerly wind anomalies prevailed.

Strong continental easterly wind anomalies were observed over north Zambia and south Democratic Republic of Congo.

In Mozambique Channel and western Madagascar strong westerly winds anomalies were observed.

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

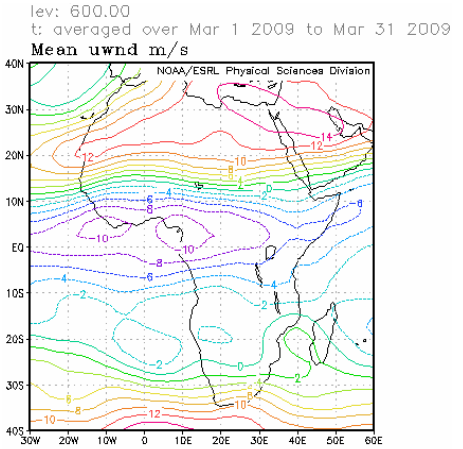


March 2009, Wind Anomalies at 850Hpa
(Source : NOAA/NCEP)

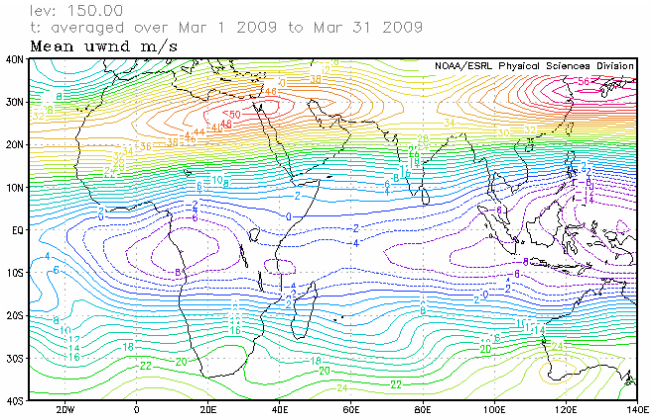
1.3 Mid and upper level winds

At the 600hPa over part of Gulf of Guinea countries and north-western part of central Africa countries a wind core of 10 m/s was observed.

The mean maximum wind speed at 150hPa was 50m/s over eastern part northern Africa. Over southeast Asia there is a wind core of 16m/s with secondary peak of about 08 m/s over western part of central Africa countries.



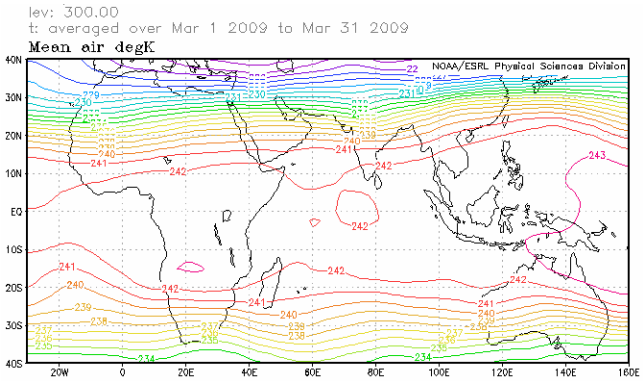
10m/s winds over part of Gulf of Guinea countries and north-western part of central Africa countries. (Source : NOAA/NCEP)



Maximum of 50 m/s over eastern part of northern Africa. Wind core of 16 m/s over southeast Asia and 08m/s over western part of central Africa (Source : NOAA/NCEP)

1.4 Thermal index

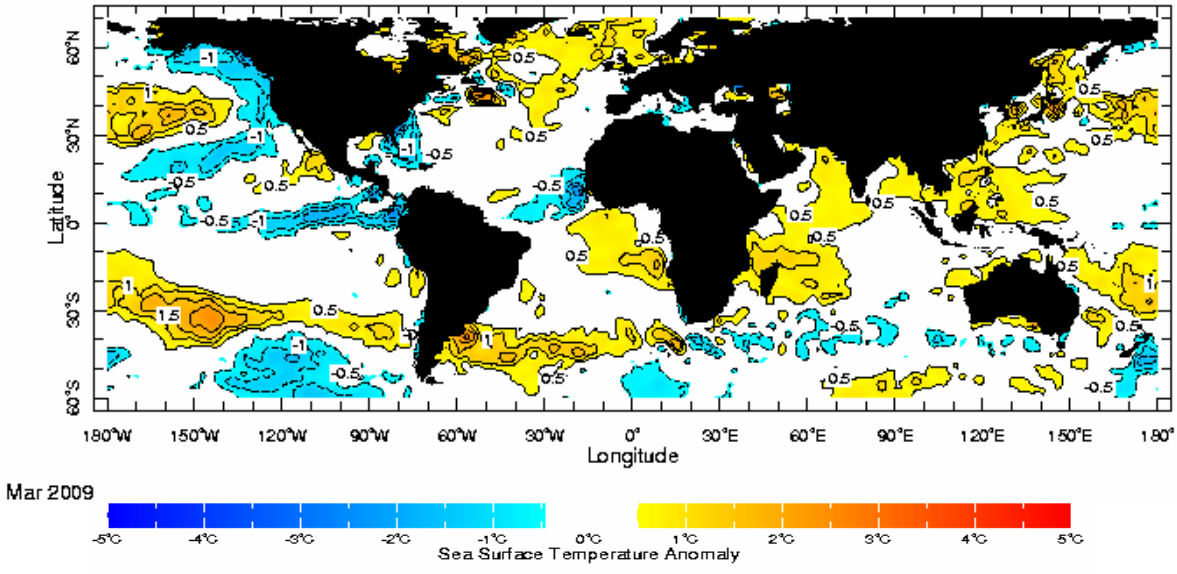
In the month of March, 2009, the thermal index (TI) regime at 300hPa, map shown, had a near-threshold value of 242°K isotherm over southern part of Gulf of Guinea countries, central Africa countries, GHA countries extending to northern part of southern African countries maintaining reasonable conditional instability associated with heavy rainfall. The threshold value of 243°K and above maintained the highest conditional instability associated with heavy convective rainfall with floods over southeast Angola/Namibia/Botswana, east Asia and extreme northeast Australia . The low TI regime value of 241°K and below was associated with suppressed convection over the Sahel, the Sahara countries and extreme northern parts of Gulf of Guinea countries.



(Data Source: NOAA/NCEP)

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

A neutral to cooling conditions prevailed in the central and eastern equatorial, north-eastern and south Pacific Ocean, while warming condition prevailed in western, south central and central north Pacific. Neutral to warming conditions were observed over most of the Atlantic Ocean except in the central eastern and north-west parts where some cooling conditions were observed. Neutral to warming condition were observed over most of the Indian Ocean. Warming conditions were observed over Mozambique Channel with cooling conditions observed in the south of the Channel.



Source: IRI

2. CLIMATOLOGICAL SITUATION AND IMPACTS DURING THE MONTH OF MARCH, 2009

2.1 Rainfall : The estimated rainfall map below shows rainfall increase over northern Africa countries, the Sahel, Gulf of Guinea countries, central Africa countries and GHA countries while the southern Africa countries got rainfall intensity decrease. In summary**:**

- **North Africa** had spatial rainfall increase with intensity decrease recording rainfall amounts ranging from 10mm to 80mm over Morocco, Algeria and Tunisia.

- **The Sahel** countries remained generally dry and dusty. However, some light amounts of rainfall ranging from 10mm to 80mm were recorded over south and north Mali, Burkina Faso and south Chad.

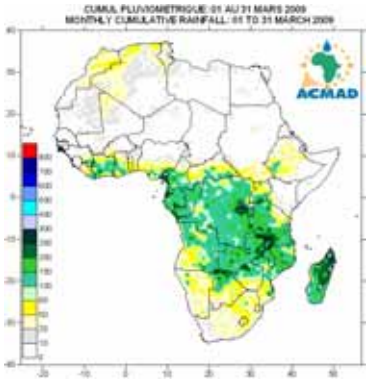
- **Gulf of Guinea** countries experienced spatial and intensity of rainfall increase recording amounts ranging from 10mm to 200mm with maximum ranging between 200mm to 400mm over Côte d'Ivoire, Liberia and Cameroon.

- **Central Africa** countries experienced slight spatial rainfall increase recording amounts ranging from 10mm to 300mm with maximum rainfall amounts of about 400mm over Democratic Republic of Congo and Angola.

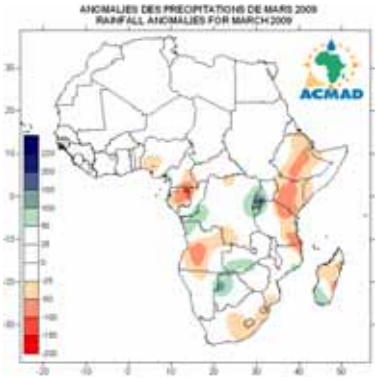
- **GHA** countries experienced spatial rainfall increase recording amounts ranging from 10mm to 200mm with some localized peaks between 200 to 400mm over south Tanzania and Great Lakes countries.

- **Southern Africa** countries experienced rainfall intensity decrease recording amounts ranging from 10mm to 300mm with heaviest amounts of about 400mm over Madagascar.

Compared to the reference period of 1979-2000, the March, 2009, rainfall anomaly map shows significant rainfall deficits over GHA countries, west Nigeria, south Cameroon, Gabon, Congo, north and south Democratic Republic of Congo, Angola, north Namibia, north Madagascar, south Mozambique and south of South Africa, while, excessive rainfall was recorded over southeast Liberia, northeast Côte d'Ivoire, Great Lakes countries, west Cameroon, west and east Democratic Republic of Congo, north Angola, south Zambia, north Botswana, northeast Namibia, east Mozambique and south Madagascar.



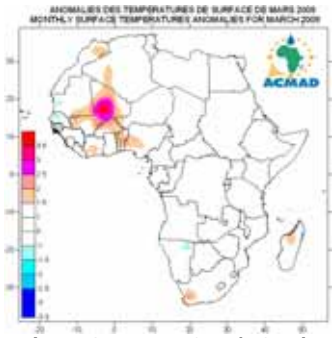
(Data Source: NOAA/NCEP)



(Data Source: NOAA/NCEP)

2.2 Surface Temperature Anomalies

In March 2009, the temperature anomalies compared to 1971-2000 base period, over most of African countries were generally normal (1°C to –1°C). However, negative temperature anomalies (<-1.5°C) were observed in west Mauritania, north Senegal and northeast Namibia, while, positive temperature anomalies (>1.5°C) were observed over north Morocco, west Algeria, south and north Mali, southeast Mauritania, Burkina Faso, west Nigeria, central Côte d'Ivoire, Togo, southwest of South Africa and north Madagascar with the highest positive temperature anomalies epicenter (>2.5°C) covering central Mali.



(Data Source: NOAA/NCEP)

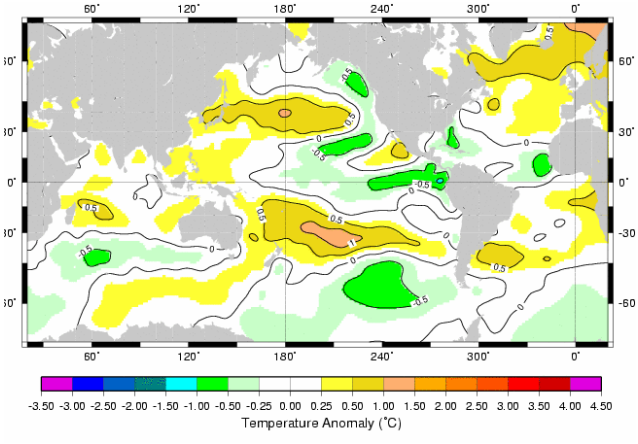
3. OUTLOOK

3.1 Forecast Sea Surface Temperature (SST)

Pacific Ocean: Neutral to cooling conditions will continue in the eastern and southern Pacific Ocean, but warming is expected over its western, central southern and central northern parts.

Atlantic Ocean: A neutral to warming condition is expected over most of Atlantic Ocean except over central, north-western parts of the Ocean.

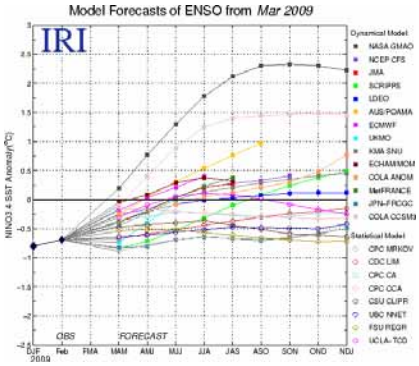
Indian Ocean: Neutral to warming condition is expected over most of the Indian Ocean except over the south central part where cooling conditions is expected. Over Mozambique Channel warming condition will prevailed.



(source IRI)

3.2 El Ni Niño/La Niña

The set of dynamical and statistical model forecasts of ENSO over Nino 3.4 domain (5°N – 5°S, 120°W – 170°W) are generally in agreement regarding La Nina condition since September 2008, and since mid-December oceanic conditions have also indicated La Nina conditions. However, current forecasts and observations indicate that conditions are currently in the process of returning to neutral, with considerable uncertainty prevailing with regard to the second half of 2009.



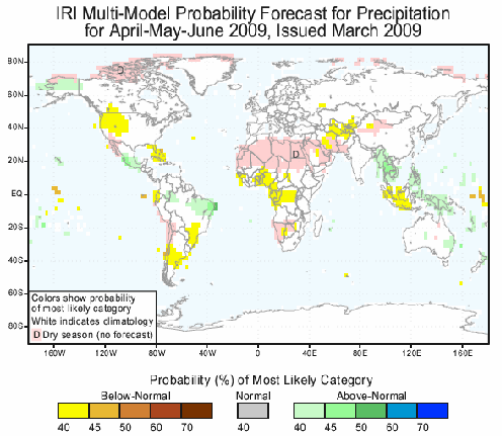
(source IRI)

3.3 Rainfall

The ITD will continued northward migration and lead to moisture increase over northern part of Gulf of Guinea and southern part of the Sahel countries and associated convective belt resulting in rainfall increase.

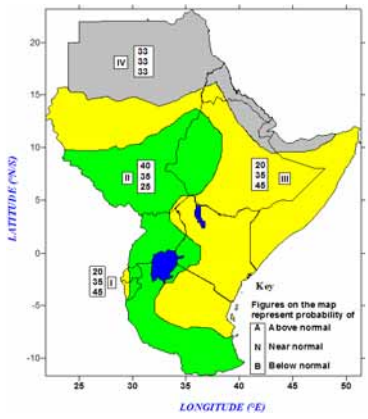
IRI forecast for April-May-June indicates below normal rainfall over parts of Gulf of Guinea, central Africa, the Sahel, over west Zimbabwe, west Zambia and east Namibia.

The 23rd GHACOF forecast (below) for MAM 2009 shows the **Zone I:** below normal to near normal rainfall; **Zone II:** above normal to near normal rainfall; **Zone III:** below normal to near normal rainfall ;**Zone IV:** Climatology.



(source IRI)

GHACOF23 Forecast for MAM, 2009



(source : ICPAC)

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

PRESAO-12

12th REGIONAL CLIMATE OUTLOOK FORUM

Date and venue: 21st – 22nd May, 2009 - Niamey, NIGER

Theme: :"Seasonal Climate Prediction as a tool for Water Resources Management, Food Security and risk management"

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 12th Regional Climate Outlook Forum (RCOF) for West Africa, Cameroon and Chad, the **PRESAO 12,** on the theme**: "Seasonal Climate Prediction as a tool for Water Resources Management, Food Security and risk management"** to be held in Niamey, NIGER on 21st 22nd May, 2009.

This 2009 forum will have the following three main components.

1. Presentation of the rainfall onset dates of rainfall and the seasonal forecasts for the period July-August-September 2009 by participating countries and International Centers, presentation of the consensus 2009 seasonal climate forecast of the rainfall and river discharge for the region.
2. Evaluation and discussions on the use and impact of the 2008 seasonal climate forecast by specific users,
3. The strategy for improved applications and dissemination of climate forecast products to end-users – Specific communications by media, 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/and make an oral presentation please fill the form below and Fax it to: + 227 20 72 36 27 or Email it to **presao12@acmad.org** before the 1st April 2009

PRESAO12 (Niamey 21-22 May 2009)
PARTICIPANT FORM[1]

NAME…… SURNAME……

INSTITUTION……

ADDRESS ……

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Tel: ……Fax:……email……

☐ I will participate without communication ☐ I will participate 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 1st April 2009

[2] Summary of the communication to be sent before 15th April 2009