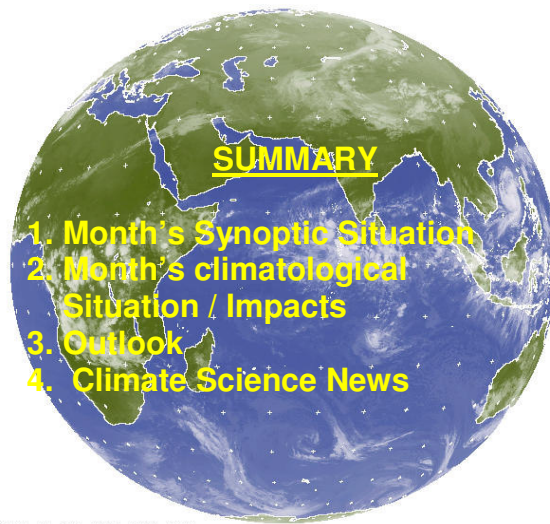


CLIMATE WATCH AFRICA BULLETIN

N° 10
OCTOBER 2008



HIGHLIGHTS: Significant rainfall increase was recorded over northern Africa countries, central Africa countries, Greater Horn of Africa (GHA) countries and southern Africa countries while the Sahel and Gulf of Guinea countries experienced some decrease.

1. SITUATION DURING THE MONTH OF OCTOBER, 2008

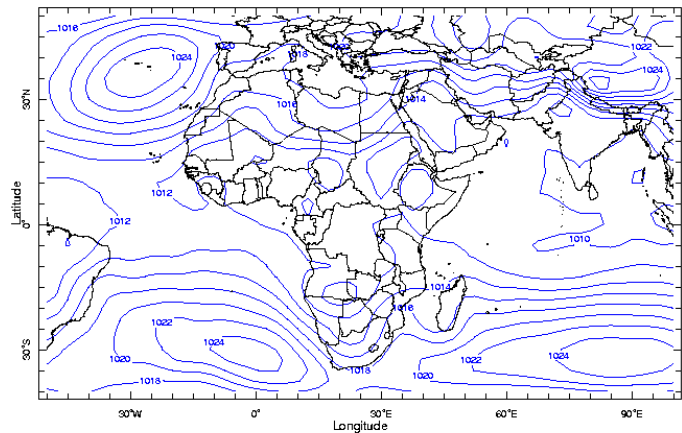
1.1 Centres of Anticyclone

The Azores high pressure at 1024Pa Strengthened by 4 hPa and shifted to the southeast at about 37°N/25°W.

The St Helena high pressure at 1024hPa strengthened by 2hPa compared to the previous month and shifted to the southeast at 30°S/03°W.

The Saharan thermal low of 1010hPa maintained its strength compare to the past month, covering a limited area over southwest Chad/ extreme southeast Niger, extreme southwest Niger/southeast Mali.

The Mascarene high pressure at 1024hPa weakened by 4hPa and shifted its centre to the east at 35°S/88°E with a strong ridge over eastern Africa and minor eastern part of central Africa countries.



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

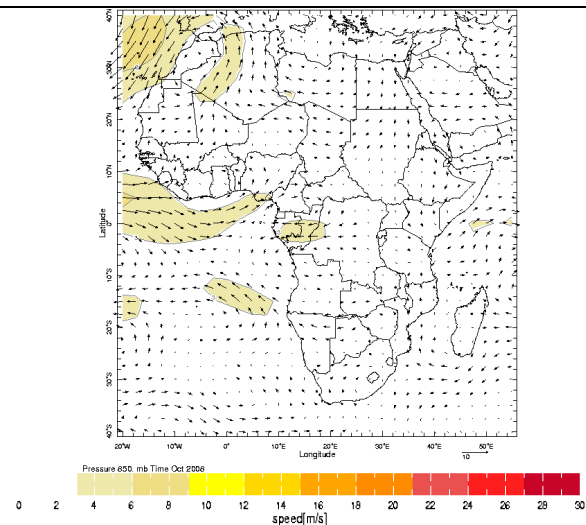
1.2 Low level wind anomaly flow at 850hPa

At 850hPa level, the strong continental southwesterly winds anomalies were observed over extreme north Mali, western Algeria backing to northeasterlies over coastal Morocco. A continental easterlies were observed over central and west Democratic Republic of Congo, Congo and Gabon.

From Equatorial Atlantic Ocean up to Gulf of Guinea strong westerly wind anomalies prevailed backing to southwesterlies over southern Nigeria and western Cameroon.

In the southern Atlantic strong southeasterly wind anomalies were observed off coast of Angola .

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

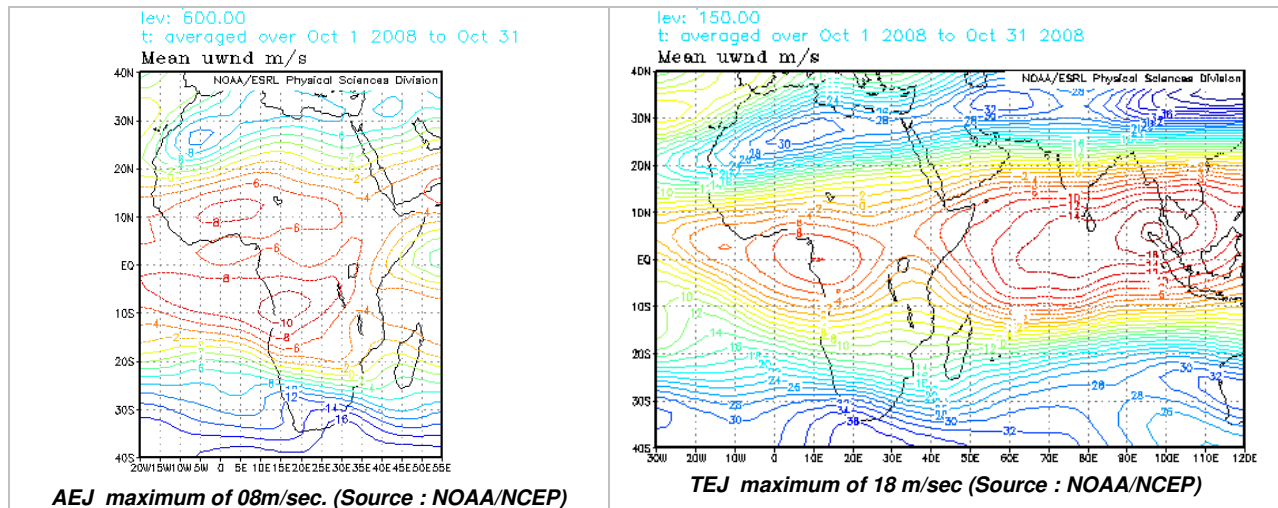


October 2008, Wind Anomalies at 850hPa
(Source : NOAA/NCEP)

1.3 Mid and upper level winds

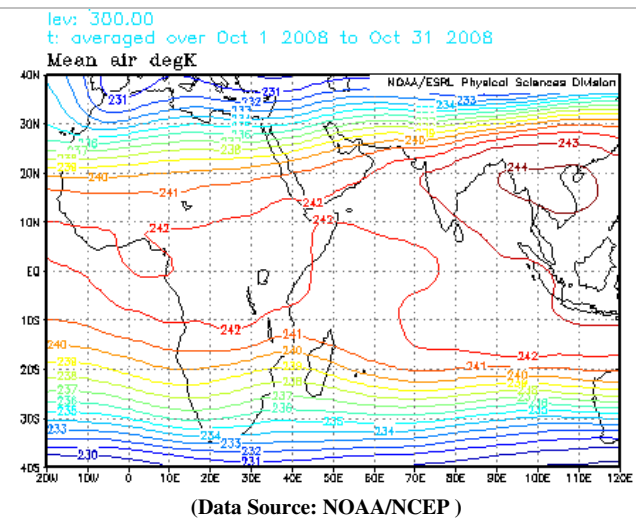
At the 600hPa over west Africa a wind core of 08 m/s with axis located at about 11°N over south Mali, Burkina Faso, north Côte d'Ivoire, north Ghana, north Togo, north Benin and southwest Niger exist while the maximum wind core at 10m/s is located at around 9°S over Angola.

The mean maximum wind speed at 150hPa was 18 m/s over eastern Indian Ocean with secondary peak of about 08 m/s over equatorial eastern part of Gulf of Guinea countries and western part of central Africa countries.



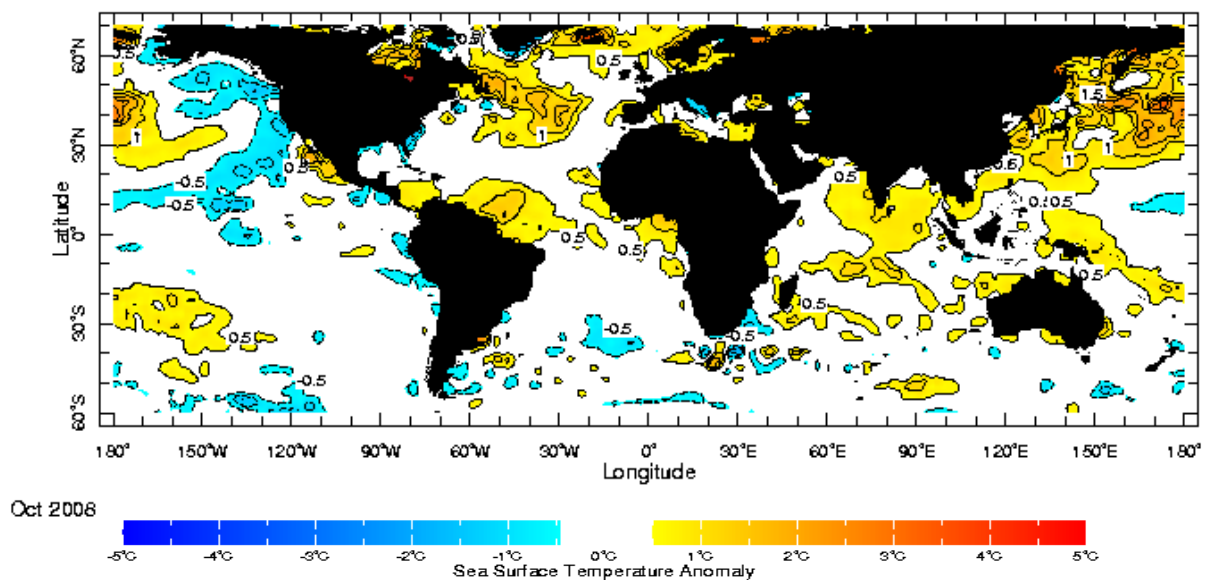
1.4 Thermal index

In the month of October, 2008, the thermal index (TI) regime at 300hPa, map shown, had a near-threshold value of 242°K isotherm over extreme western and eastern parts of Gulf of Guinea countries, central Africa countries and GHA countries that maintained reasonable conditional instability associated heavy rainfall. The threshold value of 243°K and above maintained the highest conditional instability associated with heavy convective rainfall with floods over Asia. The low TI regime value of 241°K and below was associated with suppressed convection and rainfall deficits over Sahel countries, parts of southern African countries.



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

A neutral to cooling prevailed in the central equatorial and north eastern Pacific Ocean, while warming conditions prevailed in central, western and south eastern Pacific. A neutral to warming condition was observed over most of the Atlantic Ocean except its southern, and northwestern parts where some cooling conditions were observed. A neutral to warming condition was observed over most of Indian Ocean. The neutral to warming conditions were observed over Mozambique Channel with cooling conditions observed south of it .



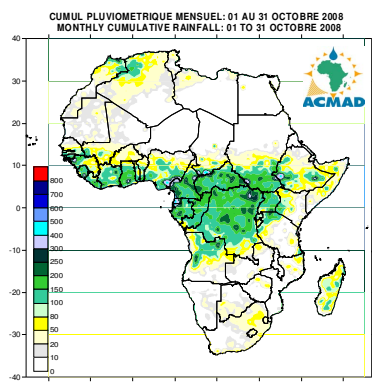
2. CLIMATOLOGICAL SITUATION AND IMPACTS DURING THE MONTH OF OCTOBER, 2008

2.1 Rainfall

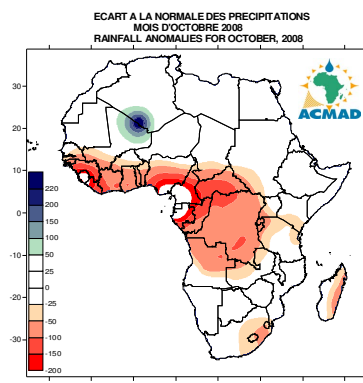
The estimated rainfall map below shows spatial rainfall increase over northern Africa countries, central Africa countries, GHA countries and southern Africa countries while the Sahel countries and Gulf of Guinea countries had a decrease. In summary.

- **North Africa** had spatial and intensity of rainfall increase recording rainfall amounts ranging from 10mm to 100 mm with maximum rainfall ranging between 100 to 250mm over northern Algeria and Morocco.
- **The Sahel** countries had significant spatial and intensity of rainfall decrease recording amounts ranging from 10mm to 150 mm. However, some heavy rainfall amounts between 150 to 400mm were recorded over Guinea and south Chad.
- **Gulf of Guinea** countries experienced slight spatial rainfall decrease recording amounts ranging from 10mm to 300mm with peaks of 300mm to 500mm over Sierra Leone, Ghana, Nigeria, Cameroon and Equatorial Guinea.
- **Central Africa** countries experienced slight spatial rainfall increase recording amounts ranging from 10mm to 250mm with peaks above 250mm over Central African Republic, Democratic Republic of Congo and Gabon.
- **GHA** countries experienced spatial rainfall increase recording amounts ranging from 10mm to 200mm with peaks of above 300mm over southern Sudan and northwestern Ethiopia.
- **Southern Africa** countries experienced spatial rainfall increase recording amounts ranging from 10mm to 80 mm with maximum rainfall amounts between 100 to 150mm over north Mozambique and parts of Madagascar.

The October 2008, rainfall anomaly map shows significant rainfall deficits over southwestern part of Sahel countries, Gulf of Guinea countries, most of central Africa countries, eastern parts of South Africa and eastern Madagascar, while excessive rainfall was recorded over extreme south Algeria and north Mali.



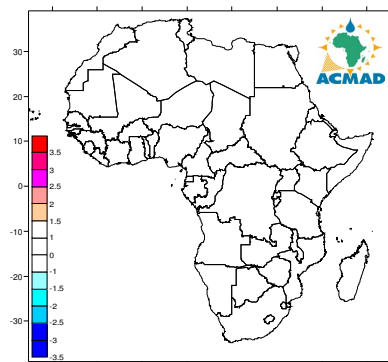
(Data Source: NOAA/NCEP)



(Data Source: NOAA/NCEP)

2.2 Surface Temperature Anomalies

In October 2008, the temperature anomalies over most of African countries were generally normal (1°C to -1°C).



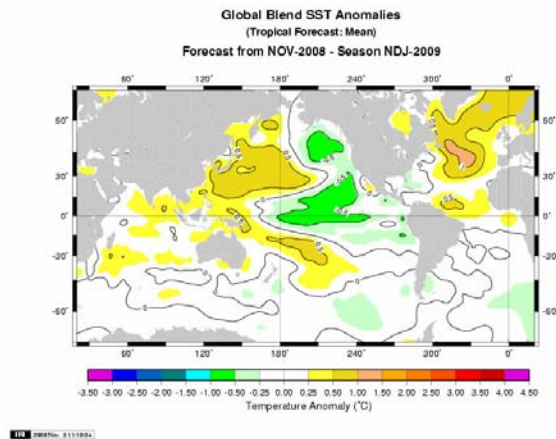
OUTLOOK

3.1 Forecast Sea Surface Temperature (SST)

Pacific Ocean: Neutral to cooling conditions will continue in the central and eastern Pacific Ocean, but warming is expected over its western and south central part. However, the set of dynamical and statistical model forecasts of ENSO over Nino 3.4 domain (5°N – 5°S, 120°W – 170°W) indicated a spread of possible SST anomalies maintaining neutral conditions throughout the forecast period.

Atlantic Ocean: A neutral to cooling condition is expected over southern Atlantic Ocean, while warming trend is expected to continue over northern Atlantic.

Indian Ocean: Neutral to warming condition is expected over the Indian Ocean.

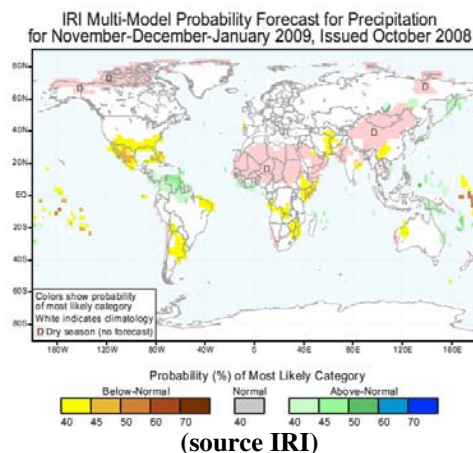


(source IRI)

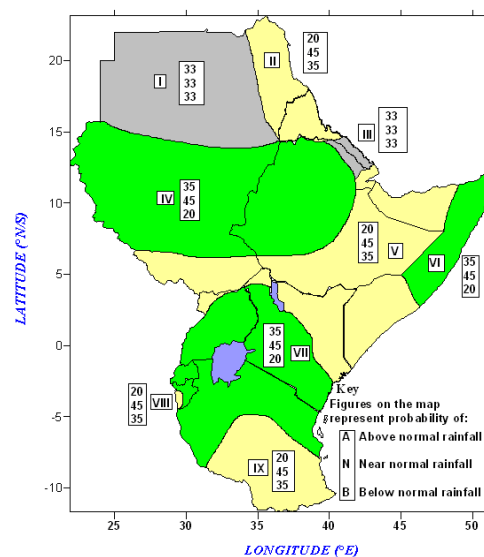
3.3 Rainfall

With the southward displacement of the ITD, leading to significant reduction of moisture influx over the Sahel the convective zone is expected southward causing rainfall reduction over the Sahel and northern parts of the Gulf of Guinea countries. While rainfall activities are expected to intensified over southern parts of Gulf of Guinea countries, central African countries and western parts of GHA countries.

The IRI forecast shown below indicates above normal rainfall over, western part of Gulf of Guinea countries from November to January, while below normal rainfall was forecast over northeastern part of GHA countries which is consistent with the ICPAC consensus Climate outlook for September to December 2008. The ACMAD seasonal climatic forecast for central African countries (PRESAC3) for October-December 2008 revealed normal to above normal rainfall over most of the countries.



Greater Horn of Africa Consensus Climate Outlook for September to December 2008



Climate Science News

Seasonal Climate forecast for central African countries: October- December 2008 PRESAC-3

African centre of Meteorological Applications for Development

Taking into account the state and as well as the knowledge of the impact of the Sea Surface Temperatures on the rains in central Africa, the figure below indicates the rainfall pattern forecast for the period of October-November-December 2008 in the sub-region. In general, the sub-region will be characterized by normal to above normal rainfall.

Zone I: located on the coasts of Cameroon, Equatorial Guinea, Gabon and Congo will be characterized by normal to above normal rains.

Zone II: stretching from central South Cameroon, to the North-East of Equatorial Guinea and Gabon, crossing the Centre of Congo and the South of the DRC will be characterized by normal rains.

Zone III: including the north and east of Cameroon, Central African Republic the Extreme north of Congo, the Central and east of DRC will be characterized by normal to above normal rainfall.

The users of this product are encouraged to contact the National Meteorological and Hydrological Services (NMHSs) for the opinions and advice detailed with the local scales.

