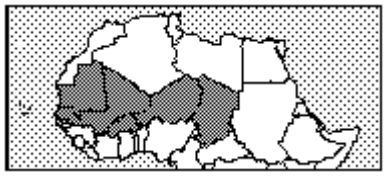


SAHEL WEATHER AND CROP SITUATION 1998

Report N°4 - 10 September 1998

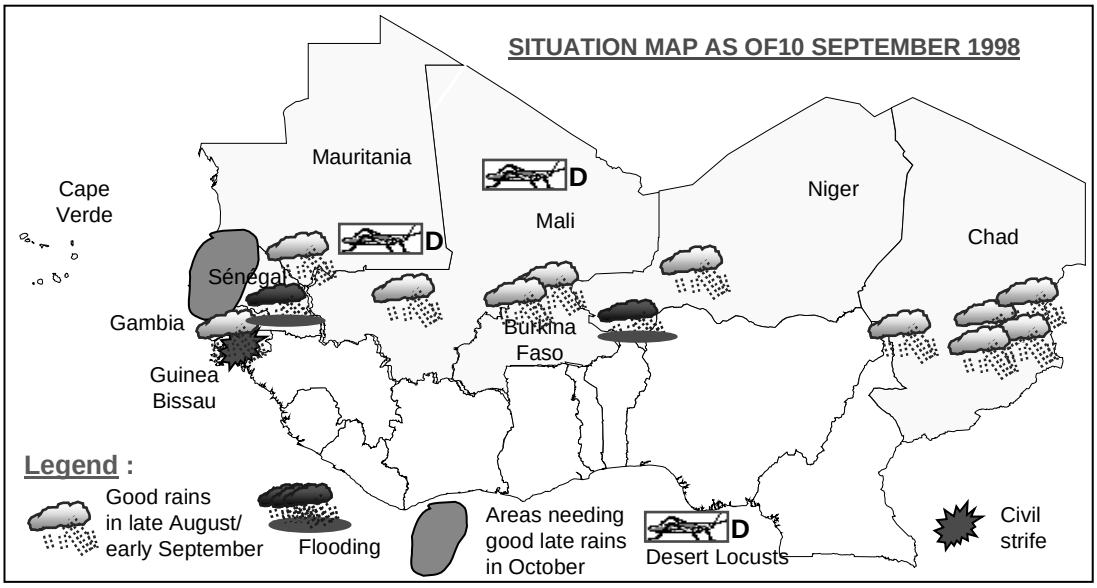
HARVEST PROSPECTS GENERALLY FAVOURABLE FOLLOWING MOSTLY ADEQUATE GROWING CONDITIONS IN AUGUST

SUMMARY

Following widespread rains in July over most producing areas of **Mali**, **Burkina Faso**, **Niger** and **Chad**, precipitation was generally regular and well distributed in August, although decreasing during the last dekad of the month, notably in Burkina Faso and western Niger. Precipitation remained also regular over **Senegal** and **The Gambia**, thus improving growing conditions following late and reduced rains in July. In **Mauritania**, decreased rains in late August have been compensated by improved and widespread rains in early September. In **Cape Verde**, good rains were registered on the main islands in mid or late August. In **Guinea-Bissau**, satellite imagery indicates that abundant and widespread rains covered the entire country in August and early September. The impact, however, of civil strife on farming activities remains unclear. The latest Meteosat satellite image for the first dekad of September indicates that clouds remained present over most producing areas of the Sahel. Precipitation should have decreased in southern Mali and eastern Chad but should have been widespread or even have increased in northern areas of Senegal, Mauritania, Burkina Faso and Niger.

Reflecting generally good rainfall since late July, crops are developing satisfactorily in most producing areas of Mauritania, Mali, Burkina Faso, Niger and Chad. Crop prospects improved in Senegal and The Gambia but rains need to last until October to cover the crop growing cycle, following the late start of the rainy season and subsequent reduced rains.

Grasshoppers are reported in almost all countries. Treatments have been undertaken in some areas. Grain-eating birds are also present in Mali and Senegal. The Desert Locust situation remains calm. Only small numbers of locusts were reported during August in southern Mauritania and in northern Mali. Good rains received in August throughout the summer breeding areas of Mauritania, Mali, Niger and Chad will improve breeding conditions. Consequently, locust numbers will increase but remain at a low and non-threatening level.



ASSESSMENT OF 1998 HARVEST PROSPECTS

Following successive localized poor harvests in several countries of the Sahel and in view of weather anomalies in other regions due to El Niño and La Niña phenomena, the 1998 crop season in the Sahel appears particularly sensitive this year. Therefore, in collaboration with Club du Sahel and FAO, the CILSS secretariat launched during a regional meeting on food strategies in the Sahel in June, a special initiative to monitor the 1998 crop season. In each country, a team has collected during August data on the evolution of the season in order to prepare a report which will be presented at a regional meeting from 21 to 25 September in Niamey, at the Agrhymet Centre. This meeting will provide an opportunity to get a first assessment of harvest prospects and discuss the preparation of the usual FAO-GIEWS/CILSS-DIAPER crop assessment missions scheduled in each country from mid-October. The final results of these missions will be presented during a regional meeting organised by DIAPER in the Sahel in mid-November and will then be discussed with representatives from the international community during the annual meeting of the network for Prevention of Food Crises in the Sahel in early December in Dakar.

SITUATION BY COUNTRY

BURKINA FASO: Reflecting generally above normal rains, harvest prospects are favourable. Above normal rainfall was registered in early and mid-August. Rains decreased somewhat during the third dekad, notably in the north but soil moisture reserves are generally abundant. Precipitation increased in the north in early September, compensating for the decreased rains of the previous dekad. Crops are developing satisfactorily. Millet and sorghum are generally heading/maturing. Short cycle and early planted varieties, notably of maize, are being harvested.

Pastures are adequate countrywide. Grasshopper infestations are reported in the north and the east. Cantharids are also present on maize and millet in the Sahel and Mouhoun zones. Worm infestations have been reported in several areas of the north and the east. Treatments have been undertaken.

CAPE VERDE: Substantial rains in mid or late August benefited development of the maize crop. Following the arrival of the rains in late July, the weather remained mostly dry during the first dekad of August, leading to crop failure in some areas. During the second dekad, widespread and abundant rains were registered on the islands of Santo Antao, Fogo and Brava. They remained limited on Santiago island. During the third dekad, rains were registered on Brava, Fogo, Maio and Santiago islands. The maize crop is emerging/tillering.

Grasshopper infestations are reported on Brava, Fogo, Maio and Santiago islands. Treatments have been undertaken on Santiago island, notably in Praia and S. Domingos areas. Other insects are also reported on several islands.

CHAD: Harvest prospects are favourable reflecting generally widespread and abundant precipitation. Widespread and above normal rainfall since early July benefited crop development in most producing areas. Precipitation decreased somewhat in late August in the south but improved in early September. By contrast, torrential rains were registered between 21 and 24 August in Moyen Chari and Logone regions, causing floodings in some areas. Soil moisture reserves are plentiful and crops are developing satisfactorily. Their stages of development vary in the regions according to the planting dates.

Pastures are regenerating well following good rains in July and August. Grasshoppers are reported on millet and sorghum in Batha, Biltine, Chari-Baguirmi, Guéra and Ouaddaï regions. Isolated African Migratory Locusts are present in Massakory area. Low numbers of solitary Desert Locust adults may be present in a few places in Biltine and Ennedi. Small scale breeding is likely to occur in areas of recent rainfall.

THE GAMBIA: Crop prospects improved following good rains in August. Following below normal rains in July, notably during the first and third dekads of the month, precipitation remained generally adequate in August to cover crop water needs. Soil moisture reserves are also generally sufficient. Grasshoppers have been reported in the centre and the north and cantharids in the centre.

GUINEA-BISSAU: It is hoped that peace talks currently underway will permit the return of the displaced populations and normal agricultural and marketing activities. Following the ceasefire agreement signed on July 26, the government of Guinea Bissau and the rebels started peace talks in late August. Most of the 350,000 people who fled Bissau and the main towns due to the fighting which started in late June, should be able to return to their homes. Food has been distributed by WFP to displaced people in the north and north-east.

Satellite imagery indicates that abundant and widespread rains covered the entire country in August and early September. Hopefully, the cease-fire in late July permitted farmers to undertake replanting of rice in swamps but the availability of seeds and delays in the preparation of rice seedbeds due to insecurity in June/July is likely to have severely limited areas planted.

MALI: Harvest prospects are generally favourable reflecting good growing conditions in July and August. Precipitation remained generally widespread and abundant in July and August. Rains decreased somewhat in the centre-east in late August but improved in early September. Cumulative rainfall is normal to above normal and above last year's level. Crops are reaching reproduction phase in the south; they are elongating in the north. Irrigated rice is tillering.

Pastures are generally adequate. Grain-eating birds are reported in the Office du Niger area. Grasshoppers are reported in Kidal region. There were unconfirmed reports from nomads of Desert Locust adults present in mid August in the Adrar des Iforas south of Kidal between Wadi Alkit and Aourou. Small numbers of solitary adults are expected to be present and breeding in a few of the major wadis in the Adrar des Iforas, the Tilemsi Valley, Timetrine and Tamesna.

MAURITANIA: Regular rains in August benefited development of recently planted coarse grains. Following the good start of the rainy season in mid or late July over most producing areas, which permitted widespread planting of coarse grains, precipitation remained widespread and regular during August. Rains decreased in late August, notably in the south-west but they improved significantly in early September and reached quite northern areas. Crops are generally growing satisfactorily. Early short cycle millet and sorghum crops (60 – 70 days) are heading in several areas of the south. Short cycle sorghum (70 – 90 days) is in the elongation phase while long cycle varieties (120 – 150 days) is tillering in the low lying areas.

Pastures are well developped. Some grasshoppers have been reported locally, notably in the pastures. A single solitary Desert Locust hopper was seen south of Kiffa on 10 August. No other locusts were seen during surveys in the south. Small scale breeding is expected to continue and extend into areas of recent rainfall in the south and the centre as well as in the north near Atar. As a result, locust numbers will increase but remain at a low and non-threatening level.

NIGER: Crop prospects are generally favourable reflecting adequate growing conditions since mid-July. Rains were generally regular and widespread in late July and August. They decreased during the last dekad of August but remained widespread in early September. As in early August in the Niamey area, torrential rains in the southwest and in Niamey in early September caused several deaths, substantial damage to infrastructure, which has made about 20 000 persons homeless, and flooding in crop zones. Soil moisture reserves are abundant and crop water needs are well covered. Stages of development vary in the regions according to planting dates.

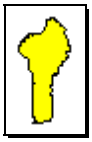
Pastures are abundant reflecting good rains in the pastoralist zones. Grasshopper and other insect infestations are reported in several departments; treatments have been undertaken locally. Grain-eating birds are also present in Maradi, Tahoua and Zinder departments. Small numbers of solitary Desert Locust adults are likely to be present and breeding in Tamesna where rains have recently fallen. Breeding is expected to continue and scattered hoppers and adults are likely to appear.

SENEGAL: Crop prospects improved following regular rains in August. The rainy season started in the extreme south-east in early June. Rains progressed slowly to the centre and the north, which remained dry up to mid-July. Wet planting of coarse grains started with the arrival of the rains in late July in the north. In August, regular rains were registered in the centre and the north (St Louis, Louga and Thiès regions), except in the southern part of St Louis region. Heavy rains in Tambacounda region (with record dekadal precipitation recorded during the last dekad of August in Kédougou) caused flooding in some areas. In the south (Kolda region), precipitation remained irregular and badly distributed. Crop water needs are covered everywhere and crops are generally developing satisfactorily. Millet and sorghum crops are generally elongating/heading in the south and the centre, tillering/elongating in the north. Maize is flowering. Rice is tillering/elongating. Due to the late start of the rains in the centre and centre-north and seed supply difficulties, planted areas are likely to be reduced. The final outcome will depend heavily on the continuation of the rains up to mid-October in the centre and the north.

Pastures are regenerating following regular rains in August. Grasshopper infestations have been reported in Kaffrine department but strong treatments blocked their expansion. Grain eating birds are also present in the Senegal River region. No Desert Locust activity is reported.

SITUATION IN THE COASTAL COUNTRIES ALONG THE GULF OF GUINEA

Following a late start of the season in the coastal countries of western Africa, growing conditions are generally favourable, except in Ghana and Côte d'Ivoire which experienced dry weather. The situation is uncertain in Nigeria, where erratic rainfall in the north could have reduced crop output. The cereal output in Sierra Leone is expected to be below last year's level following additional population displacements while production should be close to last year in Liberia.



BENIN: Rains were widespread in July and August over the whole country. The first maize crop and rice are being harvested. Satellite vegetation images show above normal vegetation in the south and the north, but slightly below average vegetation in the centre, around Parakou and maize and millet production could be reduced in this area. Overall crop prospects are favourable following adequate growing conditions in most parts of the country.

CAMEROON: Abundant and widespread rains benefited crop development in July and August. Precipitation was particularly abundant during the second and third dekad of July and again during the second dekad of August when there was above normal rainfall countrywide. Precipitation decreased during the third dekad of August and in early September but was sufficient to meet crop water needs. Therefore, coarse grains are developing satisfactorily and crop prospects are favourable.

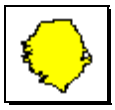
COTE D'IVOIRE: Cumulative rainfall since the beginning of the season has been normal to below normal but rains remained widespread and prospects for the 1998 crops are about normal. Satellite vegetation images show above average vegetation over the whole country. However, reduced rainfall in June and July could have hampered crop production in the south where the main maize and rice crops are currently being harvested.

GHANA: Prospects remain uncertain for cereals. Below average rains were recorded in July and August in the centre, and could reduce the output of the main maize and rice crops which were at the maturing stage during this period and are now harvested. Limited and erratic rainfall in June over the Upper regions could also have affected millet and sorghum production in these areas. In contrast, good growing conditions prevailed in the south where maize production is expected to be above average.

GUINEA: Following widespread and abundant rainfall during the whole growing season, the main cereal crops are maturing and overall prospects for the 1998 production are favourable. However, satellite vegetation images show below normal vegetation in Fouta Djallon and Boké areas where reduced rains in July could have affected rice and maize production.

LIBERIA: Abundant rainfall during the whole growing season allowed good development of the rice crop, which is about to be harvested. Although substantial input distributions were carried out during the beginning of the growing season, severe seed shortages were reported in the rural areas and will have limited the output. The 1998 cereal output is expected to be close to last year's level.

NIGERIA: Sattelite vegetation imagery show below normal vegetation in the north, in Sokoto, Katsina, Kano, Bauchi and Borno states, which resulted from limited rains during the start of the growing season. This could limit the 1998 wheat and sorghum production in these areas. Overall growing conditions have been favourable in the centre and the south and the output for the main maize and rice crops, which are currently being harvested, should be close to last year's level. However, shortages of fertilisers, improved seeds and pesticides are again expected to limit maize and rice production for the second year. The government is tentatively forecasting a 12 percent reduction of rice production.

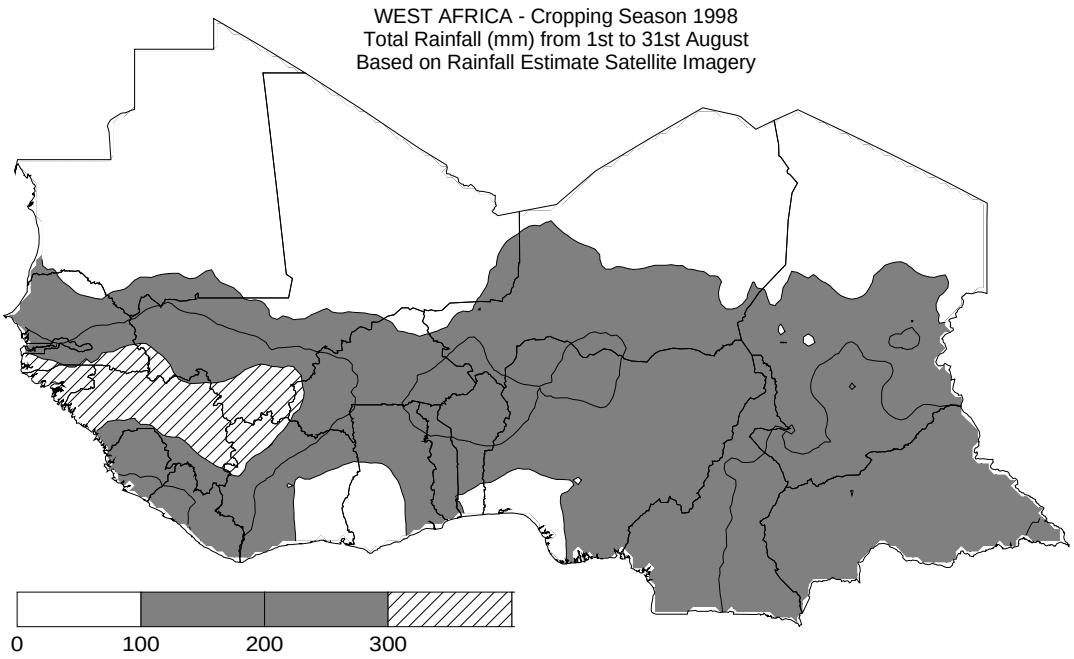


SIERRA LEONE: Harvest prospects for the 1998 growing season are poorer than last year. The planted area is estimated to be substantially lower than last year, as two thirds of the country are still unsecured and large population displacements occurred during the growing season. An acute shortage of rice seed in the country further limited production. Flooding occurred in the Kambia and Mambolo areas, and destroyed rice fields.

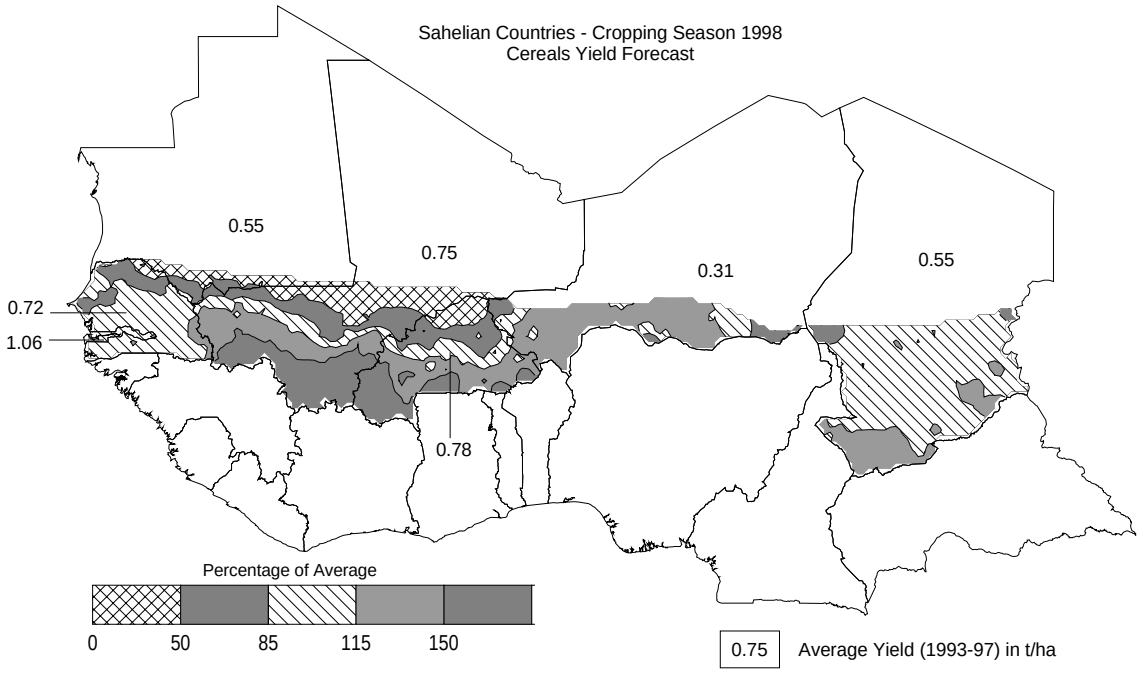
TOGO: Rains remained limited but widespread in July and August. The harvest of the main maize and rice crops is underway. The late start of the growing season and limited rainfall during the two dekads of May and the first dekad of June might have reduced crop output in the south. In the centre and the north, maize, millet and sorghum crops benefited from adequate growing conditions and the output is expected to be normal to above normal.

TOTAL RAINFALL AND CROP YIELD FORECAST MAPS

The first map indicates the total rainfall amount for the whole month of August. Data are extracted from the RainFall Estimate (RFE) Satellite Imagery as produced by NOAA/USGS/FEWS/USAID project. The RFE images are obtained by interpolating various parameters recorded at ground and obtained through remote sensing measurements as: rainfall, relative humidity, wind speed, elevation, cold cloud temperatures.



The map below shows the forecasted yield of cereals (millet, sorghum, maize) for the Sahelian countries for the 1998 cropping season, as percent of the average yield of the last five years (1993-97). The map is obtained by applying to each country a yield function which relates, in a statistical way for the period 1982 to 1997, the output parameters from the FAO crop specific water balance model to the crop yield. For 1998, the water balance model is using average rainfall from 1st September to the end of the crop cycle.



Source: NOAA – Prepared by FAO, SDRN, Agrometeorology Group

*This is the **fourth GIEWS report of the 1998 season on weather and crop conditions in the Sahelian countries of western Africa**. Geographical coverage of these reports include the nine CILSS (Permanent Inter-State Committee for Drought Control in the Sahel) member states: Burkina Faso, Cape Verde, Chad, Gambia, Guinea-Bissau, Mali, Mauritania, Niger and Senegal. Reports will be issued each month from June to November. The final report for 1998 with the first production estimates will be issued in late-November.*

These reports are prepared with data from, and in close collaboration with, out-posted FAO Representatives, the Agro-Meteorology Group and the Environment Monitoring Group (SDRN), the Emergency Centre for Locust Operations (ECLO), the Special Relief Operations Service (TCOR), the World Food Programme (WFP), as well as various Non-Governmental Organizations (NGO's). In This report FAO/ARTEMIS rainfall estimates, field data on rainfall, FAO agro-meteorological crop monitoring field reports and information provided by FAO Representations up to 31 August have been utilised. The satellite images of the first dekad of September has also been consulted for final updating

*In these reports, reference will be made to four different **eco-climatic zones** based on the average annual precipitation and agricultural features, i.e. Sahelian zone, Sudano-Sahelian zone, Sudanian zone and Guinean zone. They are shown in the map published with the first report and described below:*

***Sahelian zone**: Where average annual precipitation ranges between 250 and 500 mm. This zone is at the limit of perennial vegetation. In parts where precipitation is less than 350 mm, only pastures and occasional short-cycle drought-resistant cereal crops are grown; all cropping in this zone is subject to high risk.*

***Sudano-Sahelian zone**: Where average annual precipitation ranges from 500 to 900 mm. In those parts of this zone where precipitation is less than 700 mm, mostly crops with a short growing cycle of 90 days are generally cultivated predominantly sorghum and millet.*

***Sudanian zone**: Where average annual precipitation ranges from 900 to 1 100 mm. In this zone, most cereal crops have a growing cycle of 120 days or more. Most cereals, notably maize, root and cash crops are grown in this zone.*

***Guinean zone**: Where average annual precipitation exceeds 1 100 mm. Guinea-Bissau and a small area of southern Burkina Faso belong to this zone, more suited to root crop cultivation.*

*Reference will also be made to the **Intertropical Convergence Zone (ITCZ)**, also known by its trace on the earth's surface, called the **Intertropical Front**. The ITCZ is a quasi-permanent zone between two air masses separating the northern and southern hemisphere trade winds. The ITCZ moves north and south of the equator and usually reaches its most northerly position in July. Its position defines the northern limits of possible precipitation in the Sahel; rain-bearing clouds are generally situated 150-200 km south of the Intertropical Front.*

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