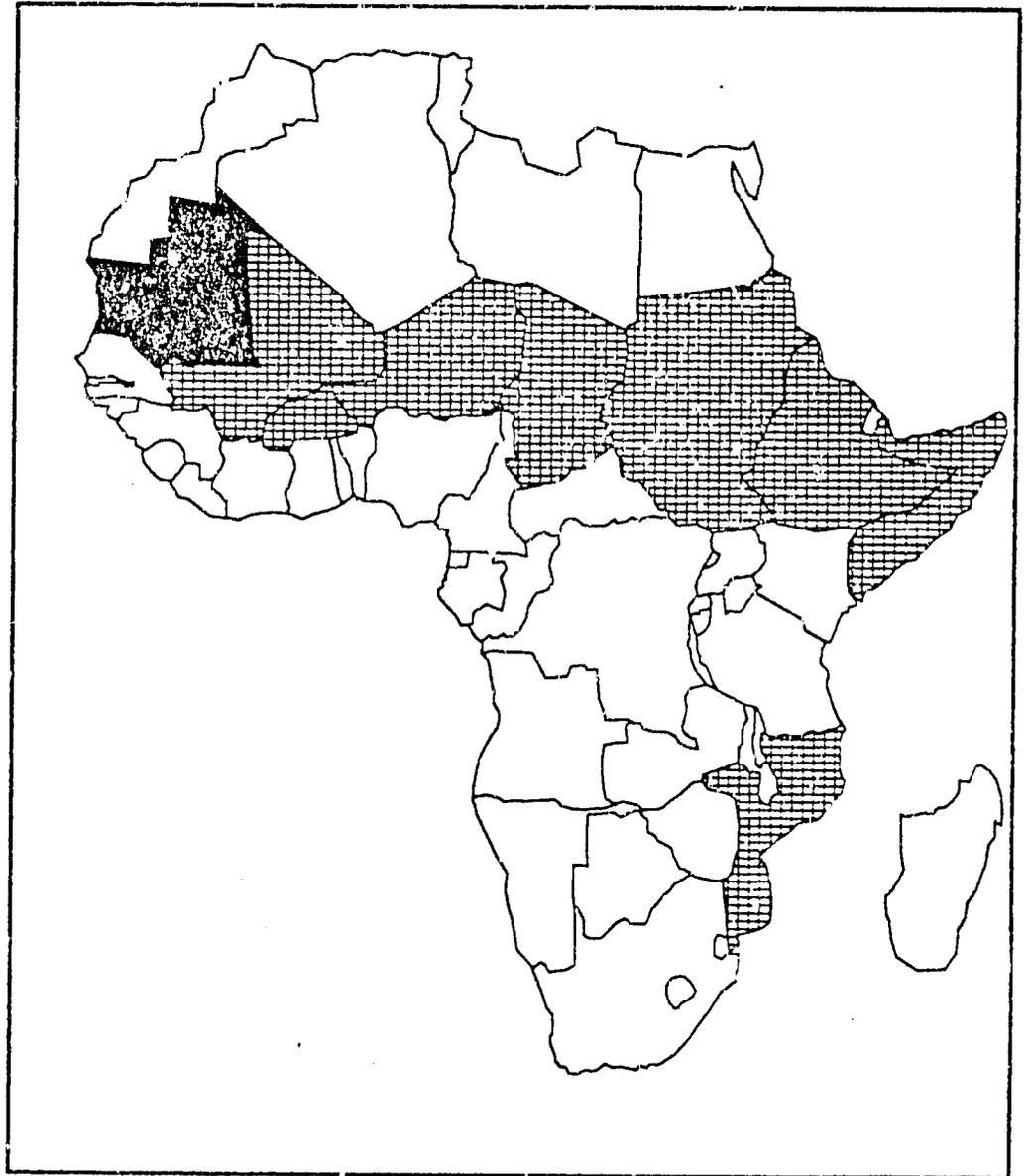


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Report Number 4  
September 1986

## FEWS Country Report

# MAURITANIA

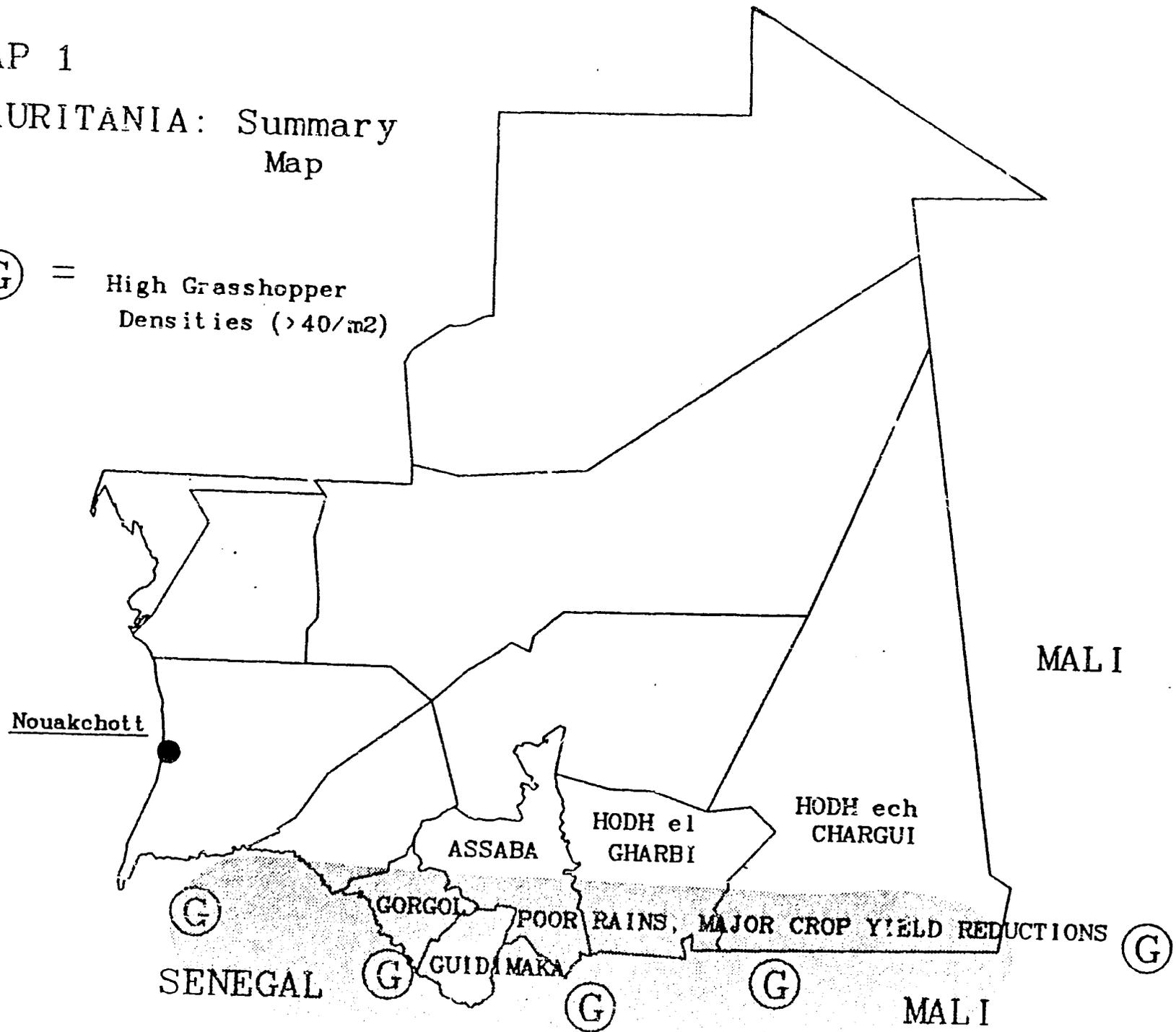


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U.S. Agency  
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Development

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MAP 1  
MAURITANIA: Summary  
Map

Ⓞ = High Grasshopper  
Densities (>40/m<sup>2</sup>)



# MAURITANIA

As Bad as 1984?

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Prepared for the  
Africa Bureau of the  
U.S. Agency for  
International Development

Prepared by  
Price, Williams & Associates, Inc.  
September 1986

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## INTRODUCTION

This is the fourth of a series of monthly reports issued by the Famine Early Warning System (FEWS) on Mauritania. It is designed to provide decisionmakers with current information and analysis on existing and potential nutrition emergency situations. Each situation identified is described in terms of geographical extent and the number of people involved, or at-risk, and the proximate causes insofar as they have been discerned.

Use of the term "at-risk" to identify vulnerable populations is problematical since no generally agreed upon definition exists. Yet it is necessary to identify or "target" populations in-need or "at-risk" in order to determine appropriate forms and levels of intervention. Thus for the present, until a better usage can be found, FEWS reports will employ the term "at-risk" to mean...

...those persons lacking sufficient food, or resources to acquire sufficient food, to avert a nutritional crisis, i.e., a progressive deterioration in their health or nutritional condition below the status quo and who, as a result, require specific intervention to avoid a life-threatening situation.

Perhaps of most importance to decisionmakers, the process underlying the deteriorating situation is highlighted by the FEWS effort, hopefully with enough specificity and forewarning to permit alternative intervention strategies to be examined and implemented. Food assistance strategies are key to famine avoidance. However, other types of intervention can be of major importance both in the short-term and in the long-run, including medical, transport, storage, economic development policy change, etc.

Where possible, food needs estimates are included in the FEWS reports. It is important to understand, however, that no direct relation exists between numbers of persons at-risk and the quantity of food assistance needed. This is because famines are the culmination of slow-onset disaster processes which can be complex in the extreme.

The food needs of individual populations at-risk depend upon when in the disaster process identification is made and the extent of its cumulative impact on the individuals concerned. Further, the amount of food assistance required, whether from internal or external sources, depends upon a host of considerations. Thus the food needs estimates presented periodically in FEWS reports should not be interpreted to mean food aid needs, e.g., as under PL480 or other donor programs.

FEWS is operated by AID's Office of Technical Resources in the Bureau for Africa in cooperation with numerous USG and other organizations.

## SUMMARY

In terms of agricultural production, and stress on the pastoral areas of Mauritania, 1986 will be at least as bad as 1984. Low rainfall totals and long gaps between rains have been disastrous for crops along the south-eastern border in the most productive area of the country (see Map 1). Despite major grasshopper problems directly across the border in Senegal, the situation in Mauritania is, at present, calm. Grasshoppers are present in the southern areas, but are dispersed and are not found in particularly high concentrations. There still exists the potential for problems if rains continue around the 16th parallel, a known breeding area which could produce large numbers given favorable conditions. However, the surveillance and planned spraying in that area will reduce chances that it will be the source of major breeding activity.

## Issues

- o Grasshoppers and locusts have been less of a problem than the poor rainfall.
- o 1986 cereal production will be as poor as 1984 if present conditions persist.
- o Emergency food aid, in addition to the food aid required for a structural deficit, will again be needed due to this year's likely poor harvest.

## Key Events

- o September rainfall, particularly any falling around the 16th parallel of latitude, should be cause for concern in terms of how it may affect grasshopper breeding areas.

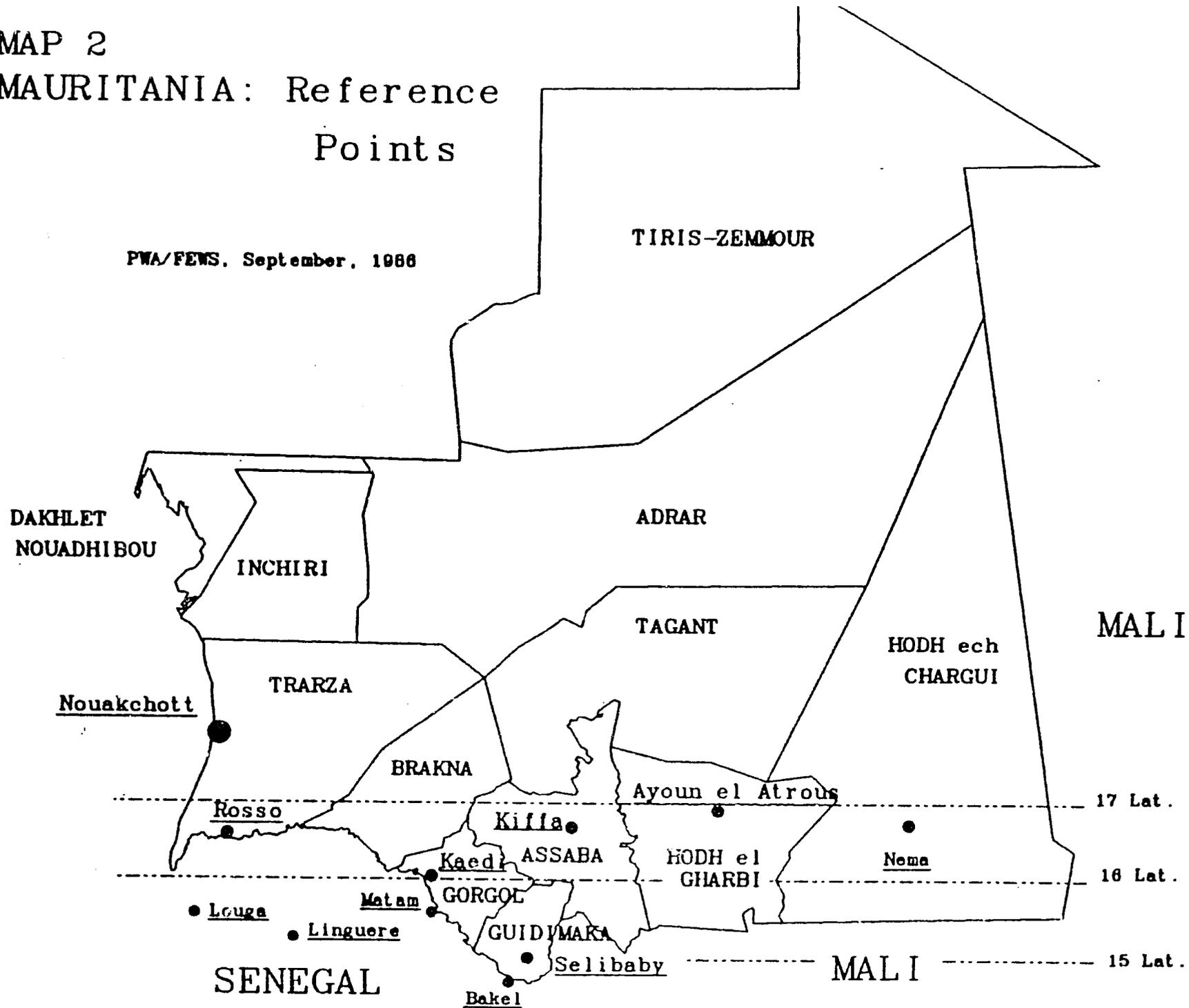
## RAINFALL

Rainfall totals along the central and south-eastern border continue to be below normal. The good rains early in the month did not continue. Guidimaka, Assaba, Hodh el Gharbi and Hodh ech Chargui, an area that produces a large percentage of the rain-fed cereals produced in this arid country, received only 50-80 mm (35-50% of normal August rainfall). These very low totals indicate that major crop reductions are likely, particularly given previous low rainfall in July.

Rains along the south-western border area, from St. Louis to Kaedi, were heavy in the early part of August. They too tailed off after that for a relatively average month, but one whose poor spacing of rains was not good for pastures and crops.

MAP 2  
MAURITANIA: Reference  
Points

PWA/FEWS. September, 1986



## **VEGETATION, CROPS & PASTURES**

In general, this is an extremely poor year, one which will likely equal the poor results of 1984. Mauritania is easily under the most duress, in terms of vegetative cover, of any of its Sahelian neighbors. Looking at Image # 1, which shows degradations of vegetative cover from August 20, 1985 to the same period in 1986 for the Sahel, large areas of negative changes in vegetative cover can be seen across much of Senegal, Mali, and Mauritania. In Mauritania, these run eastward from Kaedi, going through the most productive croplands in Gorgol, Guidimaka, Assaba, Hodh el Gharbi and over to Hodh ech Chargui, at the eastern edge of the country (see Image Series # 2).

The implications of this dryness for agricultural production are serious. Mauritania will probably only harvest as much of its cereal crop as it did in 1984, when it produced 20,000 MT. On a per capita basis, this works out to 11 kg, far short of the 167 kg. which is commonly used as a measure of yearly per capita requirements.

On the other hand, a shortfall in cereal production is common in this area, and a large part of it is structural in nature. Mauritania is always a food deficit area, and only rarely does much better than 1984's results. 1985's 57,000 MT net production was more exceptional in a number of ways than 1984's 20,000 MT was. For example, gross cereal production has gone over 60,000 MT only twice since 1970, while it has been less than 30,000 MT six times in that same period. As a result of this yearly shortfall, Mauritania's food assistance needs are closely monitored and will not take international donors by surprise.

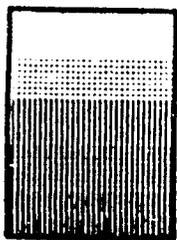
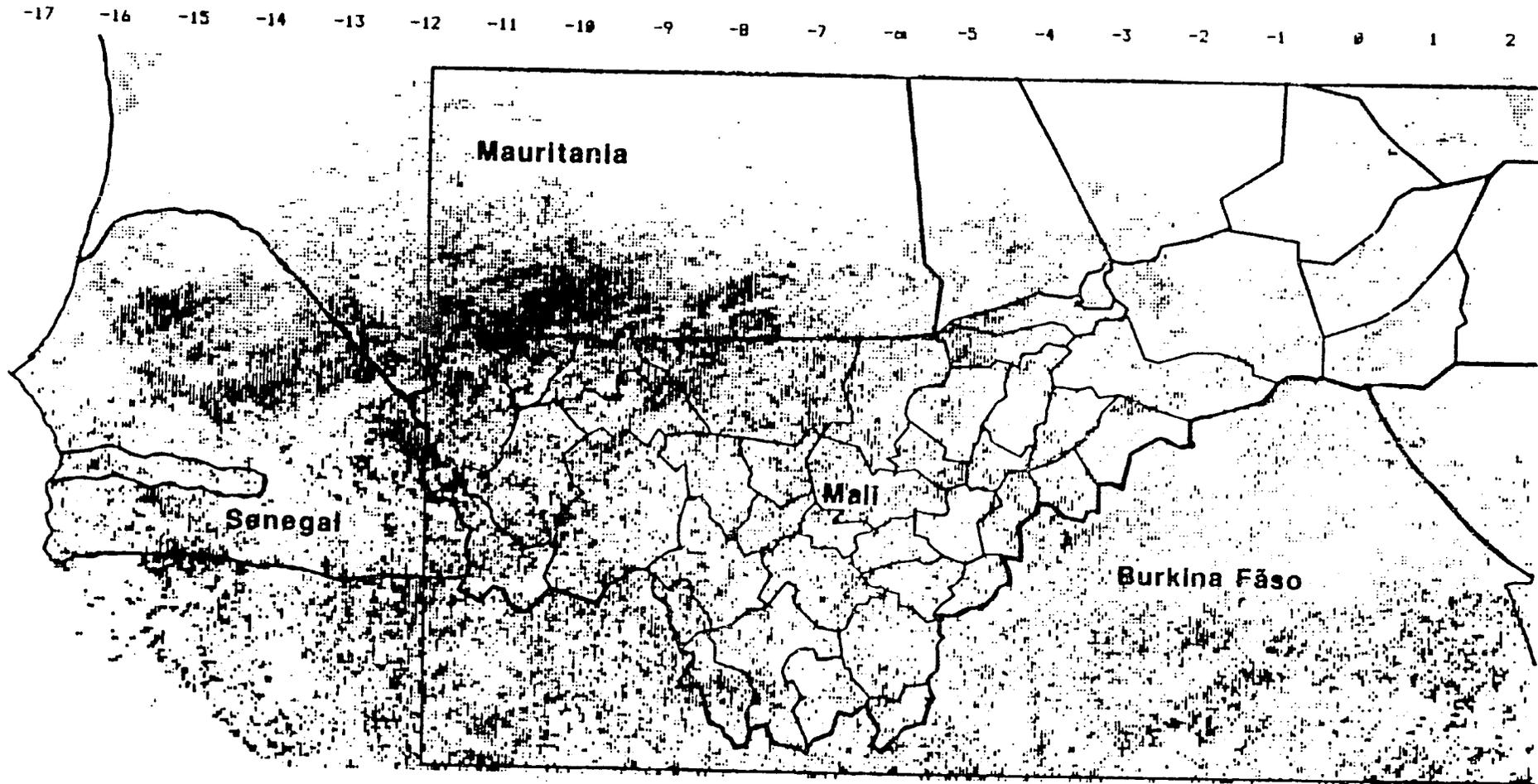
A satellite vegetation image of Mauritania is shown below (see Image # 3). As can be seen, most of the country is always extremely arid, and most of it is desertic. Only toward its southern borders is there sparse ground cover.

A comparison between this year's cover and that of 1985, which was a year of a relatively excellent crop harvest, is instructive. Images # 4 and 5 compare ten day periods in 1985 and 1986 (July 21-31 and August 11-20). As can be seen, vegetation was much more evident in 1985 at similar periods than in 1986.

Image 1

# SENEGAL - MAURITANIA - MALI:

Negative Vegetation Changes From  
August 11-20, 1985 To August 11-20, 1986  
(Source NOAA NVI)



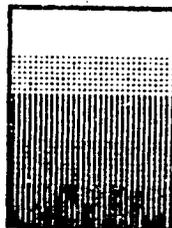
Clouds, No Change, or Positive Change  
1 Category Decline  
2  
3  
4



# MAURITANIA: South-Eastern

## Negative Differences in Vegetation

(Source NOAA NVI)



Clouds, No Change, or Positive Change

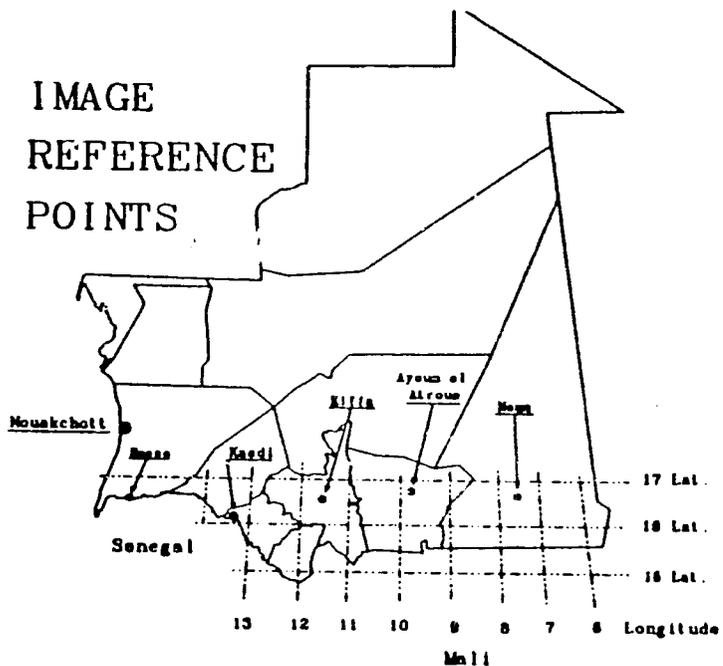
1 Category Decline

2

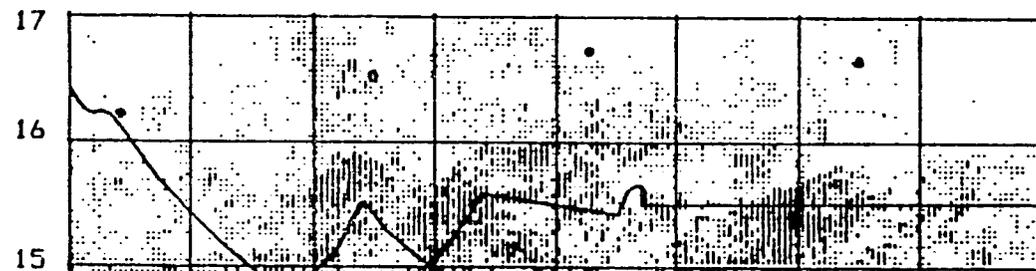
3

4

IMAGE  
REFERENCE  
POINTS

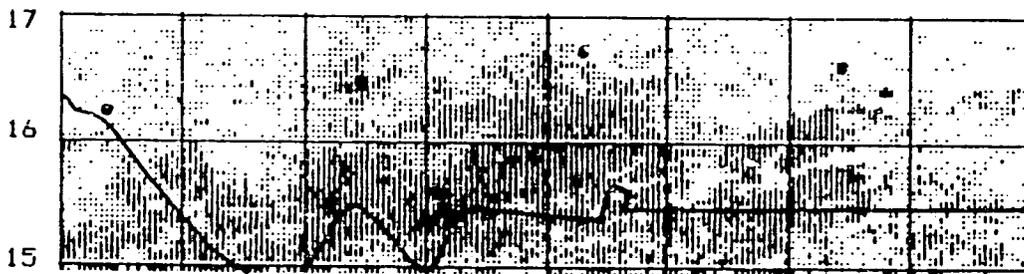


-14 -13 -12 -11 -10 -9 -8 -7 -6



Negative Changes from July 31, 1985 to July 31, 1986

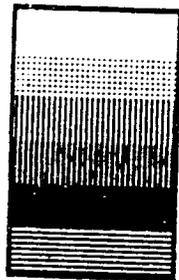
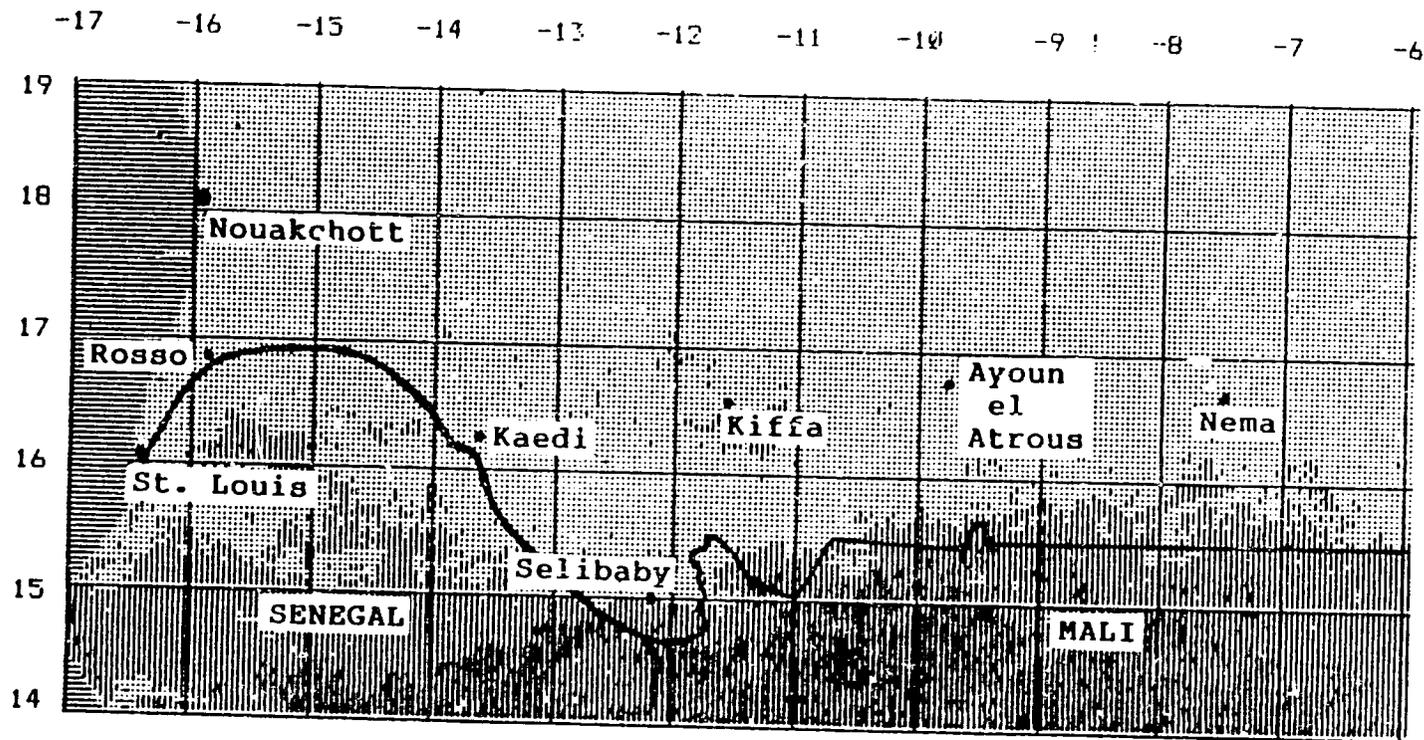
-14 -13 -12 -11 -10 -9 -8 -7 -6



Negative Changes from August 20, 1985 to August 20, 1986

Image 3

# MAURITANIA: Vegetation Images, 9/11-20, 1986

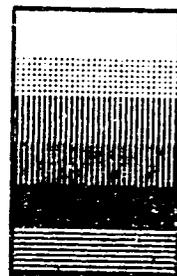


17	0.0636%	Clouds
17332	64.8410%	Bare Soil
5394	20.1796%	Sparse Vegetation
2423	9.0647%	Vegetation
84	0.3143%	Heavy Vegetation
1480	5.5368%	Water, Mud

Image Series 4

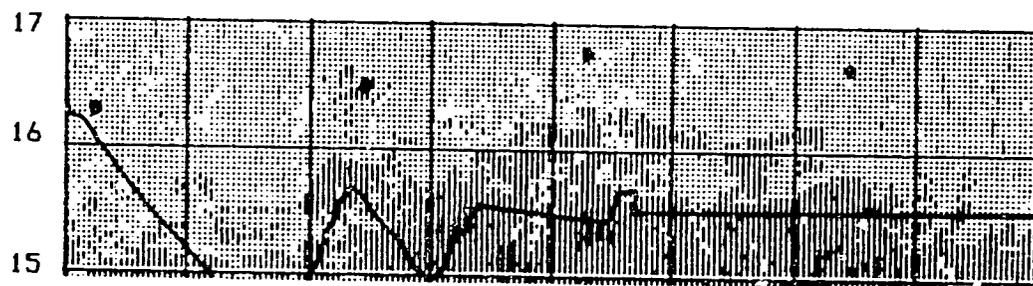
# MAURITANIA: South-Eastern Vegetation Images

(Source NOAA NVI)



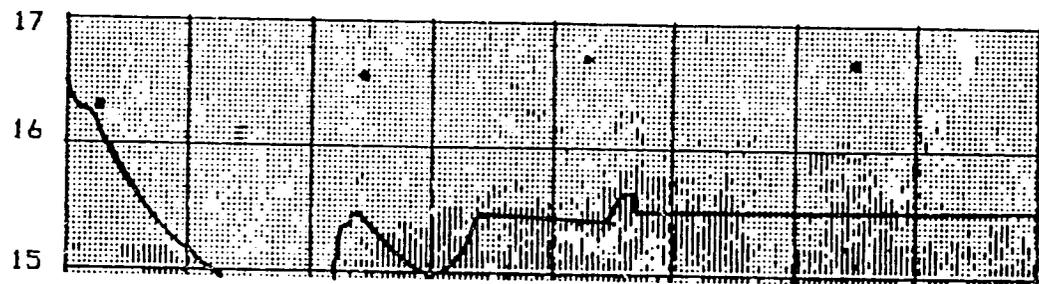
Clouds  
Bare Soil  
Sparse Vegetation  
Vegetation  
Heavy Vegetation  
Water, Mud

-14 -13 -12 -11 -10 -9 -8 -7 -6



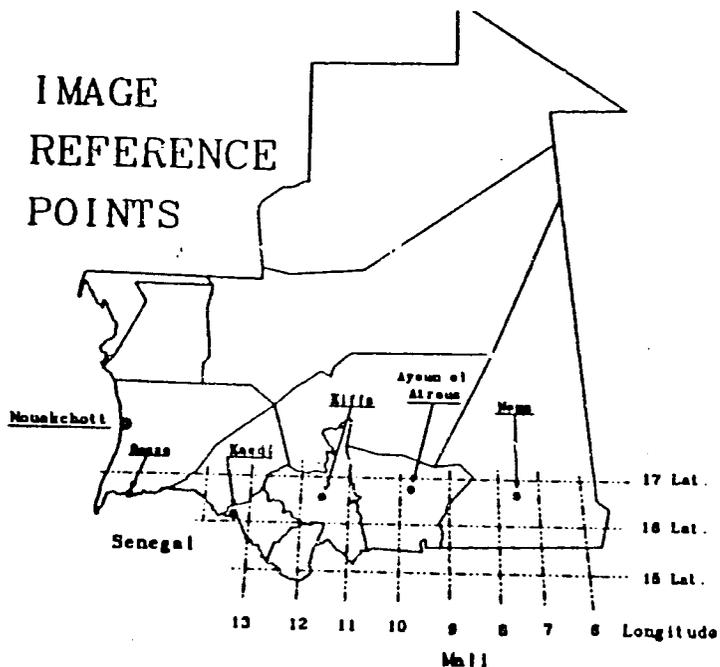
July 21-31, 1985

-14 -13 -12 -11 -10 -9 -8 -7 -6



July 21-31, 1986

IMAGE  
REFERENCE  
POINTS



# MAURITANIA: South-Eastern Vegetation Images

(Source NOAA NVI)

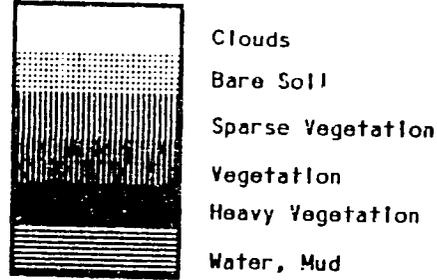
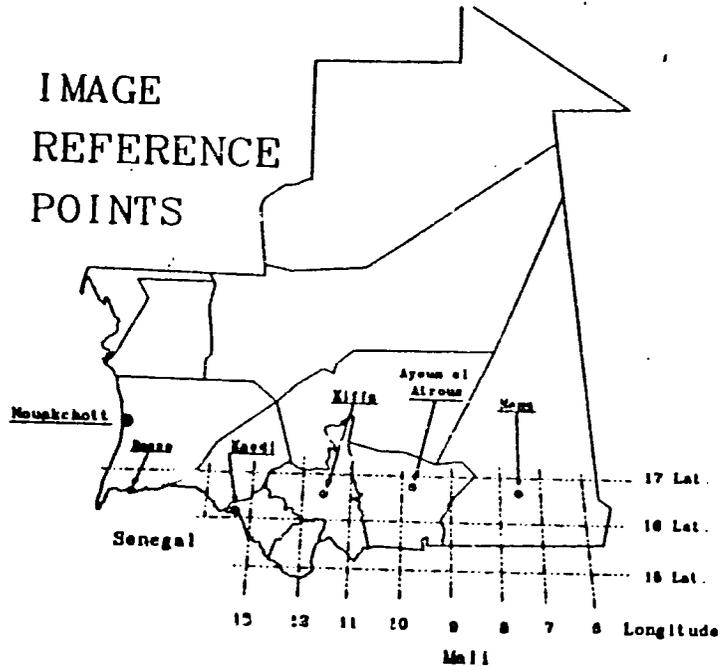
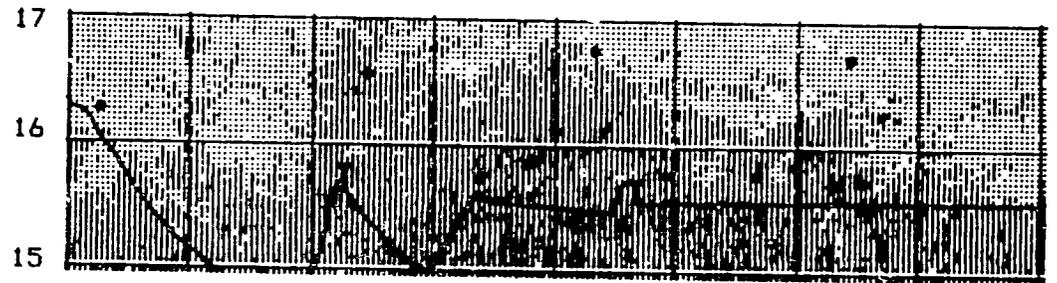


IMAGE  
REFERENCE  
POINTS

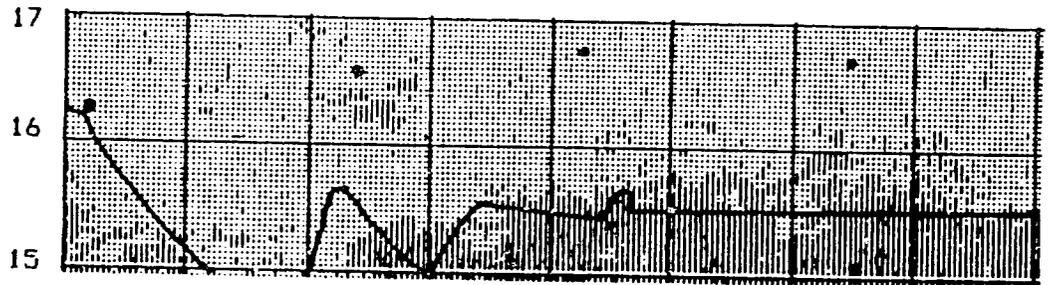


-14 -13 -12 -11 -10 -9 -8 -7 -6



August 11-20, 1985

-14 -13 -12 -11 -10 -9 -8 -7 -6



August 11-20, 1986

## LOCUSTS & GRASSHOPPERS

**National** - The grasshopper and locust problem is currently under control throughout most areas of Mauritania (see Map 3). Grasshoppers are present all along the southern borders, but not in alarming numbers. Reports indicate that the grasshoppers have dispersed, as is usual, into wild vegetation in low densities, and crop damage due to these pests is not currently significant.

Recent surveys of traditional major locust breeding grounds in the hinterlands of Kiffa, Ayoun al Atrous, and Nema, show very moderate concentrations, perhaps due to the extremely parched conditions noted above. The amount of damage from grasshoppers or locusts on Mauritania's sparse crops could be less than last year's 15-25% loss rate.

The only major threat from the exterior lies to the south in Senegal, where dense concentrations of grasshoppers and locusts have been confirmed. Recent reports indicate that movement of these infestations was not northwards, which would be a positive fact if confirmed at other sites.

A possible threat is also found within Mauritania's boundaries, if the right climactic conditions prevail. Given good rainfall along the 16th parallel of latitude in the traditional breeding grounds of the south-east, it would be possible that new breeding could occur. Third-generation adults could then follow the retreating rains southward in October to the already hard-hit crop growing areas along the southern border. Given the sparse and dry wild vegetation that now characterizes most of Mauritania they would then concentrate in whatever fields are left.

Spray planes contracted for aerial spraying in Mali are also being contracted to work the south-eastern Mauritania border area. 20,000 liters of fenitrothion are being allocated by USAID for operations in this area. If the European Development Fund survey of the Selibaby area at the south-central border shows control measures to be needed, cooperation with aerial spraying operations planned for northern Senegal is possible.

**Regional** - The most immediate threat to Mauritania comes from the dense numbers of grasshoppers and locusts counted along the Senegalese side of the border from Matam to Rakel. Densities up to 170 per square meter were counted. Another less dense concentration has been reported between Louga and Linguere. Both grasshoppers (Oedaleus senegalensis) and locusts (Locusta migratoria) have been positively identified in these areas.

The nature of the threat comes from a fear that the concentrations of grasshoppers and locusts in Senegal will still move northward into Mauritania before beginning their normal southward movement in late September and October. This depends upon the location and direction of movement of the Inter-Tropical Discontinuity (ITD), a seasonal Sahelian weather front which pulls the rainy season with it as it moves northward.

If the ITD lags in its southward retreat which normally starts in August when it is near its highest latitude, wind directions would allow grasshoppers and locusts to move northwards towards Mauritania. As the ITD descends to approximately 100-200 km north of the Mauritanian border (approximately the 17th parallel), it will generally force southward movement by these pests.

By the end of the third decade of August, it had begun its descent and was slightly above 19 degrees N latitude. It is thus still slightly higher than its mean position over the last 30 years.

This suggests that there is still a slightly greater chance than normal for rainfall in Southern Mauritania. However, current field reports from Senegal, while not conclusive, do mention that the general movement of the infestations seen was to the south and west.

The longer term impact of this year's grasshopper infestation is hard to quantify. Locust eggpods deposited in stressed, relatively dry soil, such as that found now in Mauritania, can remain viable for many years. If the Senegalese infestations, or others in Mauritania, lay pods in sufficiently dense agglomerations, this could mean that there would again be greater than normal problems next year, or the years after that. Current field activities are, of course, trying to locate and control mobile adults and young adults. Only more field visits by trained personnel will make possible forecasts of where they have laid their eggs.

# MAP 3

## Grasshoppers & Locusts in the Western Sahel

September 1, 1986

