

## FAO DESERT LOCUST BULLETIN No 130

### GENERAL SITUATION DURING JUNE 1989 FORECAST UNTIL MID AUGUST 1989

The most significant locust activity continues to be in West Africa. Swarms which moved from south-western Mali eastwards through northern Burkina Faso and into south-western Niger during late May have not been reported since. The swarms have probably dispersed but the scattered adults may have continued to move slowly eastwards. Scattered adults from central Mauritania, from the Adrar des Iforhas in Mali, and from Tamesna in Mali and Niger are likely to have moved south-westwards towards the advancing ITCZ. Adults are thus likely to be present in small numbers in the Sahel of Mauritania, Mali, Niger, and perhaps western Chad, in the region of the surface position of the ITCZ. The ITCZ should be located between approximately 12 and 16 degrees N during July. The largest number of adults is likely to be present in western Niger. Breeding is likely to start in the second half of July but the resulting hopper infestations will be small and difficult to find.

The ARTEMIS cold cloud analysis suggests that rain fell in the Adrar des Iforhas area of Mali and Niger on 21 June. Scattered adults are likely to have persisted there, so laying is likely to be occurring on a small scale in some of the wadis, with hoppers present from mid July onwards.

Breeding is known to be in progress in parts of central western Sudan. Breeding is likely to continue on a small scale in this area and further west with young adults appearing towards the end of the forecast period. Breeding on a similar scale is likely to occur in eastern Chad; the NOAA derived greenness index maps for the first 10 days of June suggests the presence of green vegetation north of Adre to Iriba.

Hopper bands were reported in Djibouti during early June with groups of maturing adults later in the month. Similar infestations are likely to have occurred on the western part of the northern Somali coastal plain, southern Eritrea, and in the Railway Area of Ethiopia. The adults are likely to persist. ARTEMIS cold cloud analysis suggests that scattered light rain may have fallen several times during the month in sufficient amounts to allow further breeding.

Scattered adults have been found at several places in the Yemen AR highlands and Yemen PDR coastal plain. These adults are likely to persist and lay. Cold cloud analyses indicate potential rain bearing clouds over the extreme south-west of the Arabian peninsula, including the Yemen AR Tihama, on most days during June. However, local reports indicate that significant rain has fallen only in the highlands. Nevertheless, small scale laying is likely to occur in some of the wadis in the foothills of the coastal escarpments. In addition, scattered hoppers are likely to be present in the highlands; thus, small numbers of young adults may occur there throughout the forecast period. Greenness maps suggest that the vegetation is now dry in Wadi Hadhramaut and the eastern part of the Rub Al Khali. If breeding did occur there, the adults will by now have left. There are no indications, however, of adults moving into other areas in substantial numbers.

Scattered adults have been reported in the summer breeding areas of India and Pakistan. Numbers are likely to increase steadily with laying following the onset of the monsoon which can be expected during July.



## WEATHER AND ECOLOGICAL CONDITIONS

In West Africa the first rains of the season fell in southern Mauritania and light rains were reported in central Mauritania in June. In Mali, Bamako received 26 mm on 3 June and Mopti 12 mm on the 12th. Good rains fell in the Tilemsi Valley and the Adrar from 4 to 10 June. Light rain fell in Niger at Tahoua (8 mm) on 4 June and Gaya (9 mm) on the 3rd and 4th. Significant rain was reported to have fallen in central Chad at Ngouri (107 mm), N'Djamena (44 mm), Nokou (24 mm), Mao (23 mm), and Goz Beida (22 mm) during the month. On the 21st, Meteosat imagery indicated a substantial cloud mass over the Adrar and Malian Tamesna.

In Eastern Africa heavy rain was recorded in late May and early June in central Sudan and Ethiopia. Rain was reported in Kordofan, Central, and Eastern regions in Sudan. During the first decade of June, Meteosat imagery indicated heavy rain east of Khartoum; however, this was not confirmed locally. Heavy rain was confined to western and central areas of Ethiopia. Favourable ecological conditions were reported in Djibouti, eastern and south-eastern Ethiopia, and northern Somalia. By the end of the month, conditions were becoming dry in eastern Ethiopia and Djibouti.

Greenness maps indicated green vegetation in the Hadhramaut, eastern Rub Al Khali, and the south-western highlands in May and early June. By mid June, vegetative conditions had declined substantially in Rub Al Khali and the Hadhramaut. Analysis of Meteosat imagery indicates a substantial cloud mass and possibly heavy rainfall in the Tihama and highlands of Yemen AR and to a lesser extent in the Tihama and Asir mountains of Saudi Arabia from mid May through the second decade of June. However, rainfall in the Tihama was not confirmed by ground stations.

During early June the wind flows north of the ITCZ were weak; while on the south side, the winds were south-westerly in West Africa and south-easterly in Eastern Africa. Rains are expected to become general throughout the Sahel during the forecast period.

Light rainfall was reported in some areas of Baluchistan and Rajasthan in June.

## AREA TREATED IN JUNE 1989

Mauritania	85 ha
Djibouti	up to 5000 ha



## WEST AFRICA

### MAURITANIA

In late May, there were reports of Desert Locusts near Ouadane. Third and fourth instar hoppers, at densities of 1-2 per sq m, were reported at Aguilal (2054N/1142W) on the 30th. Mature isolated adults were seen 25 km west of Ouadane at Khalit. 85 ha were treated in the Adrar area.

Hoppers of various instars were reported northeast of Ouadane at El Beyad (2130N/1120W) in early June. The situation was reported calm up to 22 June.

### MALI

No additional reports of swarms in south-western Mali were received after 31 May.

Low density populations of adults were reported from Wadi Borrhach (2042N/0114E) near the border of Algeria in early June. Surveys during the second half of June reported that the situation was calm in the Adrar and Tamesna. In the Mopti region, isolated individuals mixed with grasshoppers were seen at Soye (1414N/0417W) in mid June. Scattered adults were reported in the Gourma region at Lac Aougoundou (1544N/0315W) at densities up to 1450 per ha.

### BURKINA FASO

No additional swarms were reported after 31 May up to the end of June.

### NIGER

No new swarms were reported from south-western Niger in June.

Some isolated adults were reported in Tamesna and Air up to 4 June.

### CHAD

Chad was reported clear during June. The swarm that was reported near Adre on 11 May was confirmed as being Tree Locusts.

## NORTH-WEST AFRICA

**No information regarding locusts had been received from countries in the region up to 30 June.**

## EASTERN AFRICA

### SUDAN

There was an unconfirmed report of locusts in Geneina near the border with Chad in early June. Small and isolated populations, with a maximum density of 400 per ha at Umm Khirwa (1428N/2847E) and Kugum (1419N/2833E), were seen breeding over an unspecified area in the Wadi Milk area west of Sodiri in Northern Kordofan. Ecological conditions in the summer breeding area were reported to be improving due to recent rainfall.

Scattered locusts, with a maximum density of 120 per ha, were reported in mid June at Jebel Ashkol (1409N/3104E) and Esh Shugeig (1426N/3154E) in central Sudan.

Aerial surveys undertaken in mid June reported that no locusts were seen between El Fasher and Geneina, El Fasher and Khuwei (1305N/2915E), and from El Obeid to Umm Sayala (1425N/3110E) and Hamrat El Wiz (1458N/3005E). Ecological conditions were reported as good.

There was an unconfirmed report of a 1 sq km swarm in Southern Kordofan at Muglad (1102N/2744E); this may be Tree Locusts.

#### **ETHIOPIA**

Ethiopia was reported clear up to 9 June.

#### **DJIBOUTI**

Second to fourth instar hopper bands were seen within an area of 5000 ha in the Obock area on 29 May. These were controlled in early June.

In mid June, scattered groups of maturing locusts were seen at several locations between Obock and Tadjoura (1150N/4245E) and near the Ethiopian and Somali border between Dikhil (1105N/4225E) and Yoboki.

### NEAR EAST

#### **YEMEN ARAB REPUBLIC**

Solitary adults at densities of 10 per ha were reported from Sanaa, Saada, Ridaa, and Al Jawf areas in mid June.

#### **YEMEN PDR**

Solitary adults at a density of 15 per sq km were reported at Al Hadhenah (1422N/4740E) in June. Small numbers of locusts were seen copulating over an area of 600 ha at Al Khzmah (1425N/4730E). Scattered locusts were also reported on the coastal plains west of Aden at Wadi Al Fajrah (1259N/4418E) and Wadi Dar (1300N/4400E).

#### **KINGDOM OF SAUDI ARABIA**

Saudi Arabia was reported clear of locusts up to 31 May.

#### **KUWAIT, UAE, and OMAN**

Kuwait, UAE, and Oman were reported clear up to 31 May.

#### **SYRIA**

Syria remained free of Desert Locusts during May.

**No other information regarding locusts had been received from countries in the region up to 30 June.**

### SOUTH-WEST ASIA

#### **PAKISTAN**

Low density solitary locusts were seen during the first half of June in Lasbela and Tharparker districts, with a maximum density of 750 per sq km at Tinkanda (2533N/6635E) on 11 June.

**INDIA**

In late May, isolated populations of locust adults were reported at four locations in Rajasthan with a maximum density of 225 per sq km at Agnao (2806N/7247E) on the 20th.

On 1 June, isolated populations of adults at a density of 225 per sq km were seen at Godreli (2711N/7224E) in Rajasthan.

<b>NEW ASSISTANCE REQUESTED</b>
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As reported in ECLC Bulletin 14/89, **Burkina Faso** has requested the following: telefax machine and \$5000 for communications and information dissemination.

**Niger** has requested the following (in 4/89):

	<b>CFA</b>
-lubricants for ground survey vehicles	7.060.000
-operating expenses for surveys	6.300.000
-2 Helicopters for survey (1200 hours)	
operational expenses	3.500.000
-ground control	8.260.000
-aerial control	57.750.000
<b>-TOTAL</b>	<b>82.870.000</b>

**Uganda** has requested the following: 6 4-wheel drive pick-ups and 10,000 litres of ULV pesticide (reported in 14/89).

**Mali** has requested the following:

	<b>US \$</b>
-jet fuel for helicopters (100,000 litres)	50.000
-manual sprayers	190.000
-survey & ground control costs:	
Phase I	60.000
Phase II	100.000
<b>-TOTAL</b>	<b>400.000</b>

<b>NEW ASSISTANCE PROVIDED</b>
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The **EEC** has provided \$210,000 for manual sprayers to MaliAs reported in ECLC Bulletin 14/89, **France** has pledged the following assistance to **Chad, Niger, Mali, Mauritania, Senegal, and Burkina Faso**:

	<b>Fr. Francs</b>
-operational expenses	2,000,000
-survey	6,400,000
-equipment	3,000,000
-technical assistance (logisticians)	2,500,000

and to <b>DLCO-EA</b> and <b>ECLO</b>	4,000,000
<b>-TOTAL</b>	<b>17,900,000</b>



#### LOCUST HANDBOOK

The Locust Handbook has been translated into Arabic and French. For the Arabic version, contact: ODNRI, Central Avenue, Chatham Maritime, Chatham Kent ME4 4TB. Telex 263907 LDN G (Attn: ODNRI). Telephone 0634-880088. Fax 0634-880066. For the French version, contact: CIDA, 200 Promenade de Portage, Hull, Quebec CANADA K1A0GA. The Arabic version is 24.00 Sterling or free to those eligible for British aid. The French version is free to Francophone African Plant Protection Services.

#### NEW LOCUST BULLETIN

We have tried with the new layout of the Bulletin to make it easier to understand. We have combined the outline of the current situation and forecast so that we can show how the situation leads to the forecast. We will in the future start with the most important development that has occurred in the invasion area.

We have included forecast migrations on the distribution map. The map has had to be reduced in scale to allow it to be sent by facsimile, and that has required a modification of the symbols. We have also presented forecasts by country grouped into regions so that each country can know exactly what we expect to occur in that country. A country will get only the detail forecasts for its region.

The Bulletin will be issued as early as possible in each month with a Bulletin Update soon after mid month. We hope to send both documents by facsimile to most countries within a short time. The Bulletin will replace the present Summary.



## FORECAST UNTIL MID AUGUST 1989

### WEST AFRICA

#### **MAURITANIA**

A few small swarms and scattered adults are likely to have moved south from the Ouadane area towards the advancing ITCZ. The adults will disperse over the southern part of the country and are likely to mature and lay in the near future. Hopper infestations will occur during August and may include a few small bands; otherwise, they will be dispersed and difficult to find.

#### **SENEGAL**

The Senegal River Valley may receive small-scale invasions of scattered adults moving south from Mauritania. Any invading adults will lay soon after arrival, giving rise to hoppers from late July onwards. However, hopper infestations will be at most on a small scale.

#### **MALI**

The Sahelian belt is likely to have been invaded by a few small swarms and scattered adults from the Adrar des Iforhas and the Tamesna of Niger. More scattered adults may follow. These will mix with the dispersed remnants of swarms reported in southern Mali during May. Laying is likely to occur during the second half of July. A few small bands may form in mid August but most of the hoppers will be scattered and difficult to find. Small scale breeding is likely to be occurring in some of the wadis in the Adrar des Iforhas.

#### **NIGER**

Considerable numbers of scattered adults are almost certainly present throughout the Sahelian belt partly derived from Tamesna and the Adrar des Iforhas but primarily from the swarms present in May. Laying is likely to occur throughout the Sahelian belt during the second half of July with the largest infestations probably occurring in the west of the country. A number of small bands may form at the end of the forecast period ; otherwise, the hoppers will be scattered and difficult to find.

#### **CHAD**

Scattered adults are likely to have invaded the Sahelian belt in the west of the country. These will start to lay during the second half of July but only scattered hoppers are likely to result. Breeding on a similar scale is likely to be in progress in the eastern part of the Sahel in the area east of Biltine. In both areas, the hoppers are likely to be difficult to detect.

#### **BURKINA FASO**

The scattered remnants of swarms present in late May may still be present. If so, they will be laying during the second half of July. The resulting hoppers will be scattered and difficult to detect.

#### **GAMBIA, GUINEA BISSAU, GUINEA CONAKRY and CAMEROON**

No invasions are expected.

 <b>FORECAST UNTIL MID AUGUST 1989</b>
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#### NORTH WEST AFRICA

##### **MOROCCO, ALGERIA, TUNISIA, and LIBYA**

No invasions are expected.

#### EAST AFRICA

##### **SUDAN**

Small scale breeding is in progress in Kordofan and almost certainly in North Darfur. Laying will continue in these regions during the forecast period with first hatchings appearing from early July onwards and fledging commencing in early August.

##### **ETHIOPIA**

Some scattered adults may be present in the Railway Area and the southern Red Sea coast of Eritrea. Laying is likely but on a small scale only.

##### **DJIBOUTI**

Scattered adults are likely to persist. Laying is likely but on a small scale only.

##### **SOMALIA**

Scattered adults may be present in the western part of the northern coast. Laying may occur in some localities but only on a small scale.

##### **KENYA, UGANDA, and TANZANIA**

No invasions are expected.

#### NEAR EAST

##### **KINGDOM OF SAUDI ARABIA**

Small scale breeding may have occurred in the Rub Al Khali bordering Oman. The adults are likely to have moved out of the area as the vegetation dried. A few adults may be present in the Asir mountains but the rest of the country is likely to be clear of locusts.

##### **YEMEN ARAB REPUBLIC**

Scattered adults are likely to persist in highland areas and lay. Breeding is likely to continue during the forecast period, resulting in overlapping generations. In the Tihama, small scale breeding may be occurring in wadis along the foothills of the escarpment.

##### **YEMEN PDR**

Small scale breeding is likely to have occurred in Wadi Hadhramaut but the adults are likely to have emigrated westwards as the vegetation dried. Small scale breeding is in progress and is likely to continue with overlapping generations in mountain areas. Small scale breeding is also likely to occur in some of the wadis in the western coastal plains.

##### **OMAN**

Small scale breeding may have occurred in areas bordering the Rub Al Khali. The adults are likely to have moved out of the area as vegetation dried up.



**BAHRAIN, EGYPT, IRAQ, ISRAEL, KUWAIT, JORDAN, QATAR, SYRIA, TURKEY, and UNITED ARAB EMIRATES**

No invasions are expected.

**SOUTH WEST ASIA****PAKISTAN**

Small scale migration eastward from Baluchistan to the monsoon breeding areas of Sind and Punjab is likely to occur. Scattered adult numbers are likely to increase with breeding commencing with the onset of the monsoon.

**INDIA**

Small scale migration eastward from Baluchistan to the monsoon breeding areas of Rajasthan is likely during the period. Scattered adult numbers are likely to increase with breeding commencing with the onset of the monsoon.

**IRAN and AFGANISTAN**

No invasions are expected.



# Criquet Pèlerin: Situation Résumée No. 130 - JUIN, 1989

## Desert Locust Situation Summary No. 130 - JUNE, 1989

