



# FAO



## EMERGENCY CENTRE FOR LOCUST OPERATIONS

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### DESERT LOCUST BULLETIN No. 180

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The current Desert Locust upsurge continues to remain extremely serious in the summer monsoon breeding areas of India and Pakistan, while in Africa the situation is less critical. Hatching occurred on a large scale in early August over a widespread area along the India and Pakistan border where hundreds of hopper bands were reported. Although aerial and ground control operations are in progress, the first new swarms had started to form in this border area of India and Pakistan by the end of the month. In the summer breeding areas of West Africa and Sudan, the situation continues to be of concern in southern Mauritania and in Northern Kordofan of Sudan where hatching occurred and control operations were in progress against numerous hopper bands.

The forecast period is one in which new swarms will form in the summer breeding areas and start to move towards the winter/spring breeding areas. In India and Pakistan, moderate and perhaps large scale swarm formation will occur early in the forecast period. Swarms are expected to persist and breed again in many areas of Rajasthan and adjacent areas of Pakistan where heavy rains previously fell. However, as the monsoon ends, swarms will migrate on a moderate scale westwards to the winter/spring breeding areas in Baluchistan of Pakistan and Iran, and perhaps as far as the eastern Arabian Peninsula.

In Sudan, swarms on a smaller scale will form and start to move towards the Red Sea coast, while in Mauritania swarms will move towards the winter/spring breeding areas south of the Atlas Mountains in Morocco and Algeria; however, this is not expected to be on a major scale.

There is also a low risk of a few swarms moving with the retreating Inter-Tropical Convergence Zone southwards from northern Somalia towards Kenya where they could start to lay at the end of the forecast period.

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The FAO Desert Locust Bulletin is issued monthly, supplemented by Updates during periods of increased Desert Locust activity, and is distributed by telefax, telex, FAO pouch, or mail by the Locust, Other Migratory Pests, and Emergency Operations Group, AGP, FAO, 00100 Rome, Italy.

**Telephone:** (39-6) 5797-4021 or -4578

**Telefax:** (39-6) 5797-5271

**Telex:** 610181 FAO I

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## WEATHER AND ECOLOGICAL CONDITIONS

Based on field reports, METEOSAT and ARTEMIS satellite imagery, and Météo-France synoptic and rain data. Rainfall terms: light = less than 20 mm of rain; moderate = 20 - 50 mm; heavy = more than 50 mm.

During August, the ITCZ was located between 17-20°N over West Africa and Sudan, except for a northward surge over Mali to 24°N on 3, 10 and 16 August. Several low-level depression and frontal systems were present along the ITCZ at various times throughout the month. As a result, rainfall was sporadic in most Sahelian countries and, in general, below long-term seasonal averages.

Good rains occurred over a widespread area of southern and central Mauritania during the first decade, falling as far north as southern Adrar. However, rains were more sporadic during the second decade, occurring primarily in the south-west and south-east and in the north between Akjoujt and Atar and near the Algerian border north-east of Bir Moghrein. During the third decade, rains fell in western regions of the country. Consequently, ecological conditions are reported to be extremely favourable for breeding in Tagant, Hodh El Gharbi, Hodh Esh Chargui and Assaba regions and improving in Brakna and perhaps Trarza.

In Mali, rains fell consistently over a widespread area between Tombouctou and Menaka throughout August while scattered showers fell in the Adrar des Iforas between Tin Essako, Kidal and Tessalit during the second decade. Rain was also reported on the Algerian/ Mali border near Tin Zaouaten on 9-11 August. However, cumulative rainfall for the season is below normal in Tombouctou, Gao, Kidal and Tessalit. In Niger, good rains occurred in central and eastern Tamesna during the second decade; rains fell further south from Tahoua to Lake Chad during most of the month. As a result, breeding conditions are expected to be favourable in central and eastern Tamesna. In Chad, rainfall was concentrated south of 15°N during August, except for the second decade when good rains occurred in the eastern region as far north as Fada. Ecological conditions were reported to be dry in Tibesti and by the end of the month becoming dry in the eastern region.

During the first two decades of August, rains were concentrated in the western part of Darfur and the central and eastern regions of Sudan between Kosti, Shendi and Kassala. Widespread rains in the eastern region on 3 August resulted in floods in the Kassala and Gedaref areas. Rains may have also reached as far north as 16°N in Northern Kordofan, however by the last decade of the month, rains had retreated southwards to below 13°N. Breeding conditions are expected to remain favourable for at least another few weeks in the western region and a bit longer in the eastern region.

In Eritrea, rains may have fallen during the last two decades of August along the southern Red Sea coast, and favourable breeding conditions were reported in subcoastal areas and in the western lowlands. In Ethiopia, rains fell throughout the highlands and in the Railway area throughout August. No significant rain fell on the northern coast of Somalia although some light cold clouds were seen over the Mait area during the first decade of August.

Rainfall in the Arabian Peninsula was limited to south-western areas, mainly along the southern Tihama of Saudi Arabia, and in Yemen along the Tihama, the central highlands and in the Shabwah area throughout August.

In South-West Asia, the monsoon continues over eastern Pakistan and India and south-western winds persisted over the Arabian Sea. Above normal rains fell during the first decade over eastern Rajasthan while very little rain was reported in western areas. However, seasonal totals remain above long-term averages and ecological conditions are expected to remain favourable for breeding for at least another month.



## AREA TREATED IN AUGUST 1993

India	71,186 (1-15 August)
Mauritania	12,440 ha (1-20 August)
Pakistan	no details available
Sudan	15,342 ha (20 July -10 August)



## WEST AFRICA

### MAURITANIA

Laying swarms continued to be reported in northern Assaba and western Tagant during the first ten days of August, and numerous small to medium size, and a few large to very large, early instar hopper bands were present between 1645-1850N/1100-1250W. Although control operations were in progress, many of the bands had reached fifth instar by the end of the month.

The locust situation remains unclear in the two Hodhs and other provinces.

### MALI

Scattered first and second instar hoppers were reported in the Adrar des Iforas at Acharaba (1857N/0043E) on 8 August.

### NIGER

A late report stated that low density adults were seen copulating north of Tahoua during July and scattered adults were present near Diffa. During August, similar infestations were reported south-east of Tahoua at Gouibi (1442N/0620E) and again in the Diffa area at Kelakam (1335N/1144E) and Maine-Soroa (1345N/1130E).

The locust situation remains unclear in Tamesna and Air due to insecurity.

### CHAD

During August, scattered immature and mature adults were seen in the north near Faya Largeau (1758N/1910E) early in the month and at several locations later in the month in the central and eastern regions near Biltine (1435N/2056E), Abeche (1351N/2053), Am-Sack (1348N/1952E) and Salal (1445N/1711E).

**No locust information had been received from other countries in the region up to 31 August.**

## NORTH-WEST AFRICA

### MOROCCO

The unconfirmed swarm reported in the last bulletin in the extreme south-west was confirmed as a low density Desert Locust swarm covering about 800 ha seen flying near Bir Gandouz (2138N/1629W) on 19 July.

### ALGERIA

A late report stated that nomads saw two groups of adults passing over Silet (2239N/0425E) south-west of Tamanrasset during the first decade of July. No locusts were reported up to 20 August.

**No locust information had been received from other countries in the region up to 31 August.**

## EASTERN AFRICA

### SUDAN

In Northern Darfur, control operations were in progress in early August against hoppers in the Malha (1508N/2610E) area where a milling swarm was seen. Laying was reported from the Kebkabiya (1338N/2405E) area in mid month.

In Northern Kordofan, numerous infestations of small to medium size third to fifth instar hopper bands were scattered over a widespread area near El Obeid during the first half of August.

In central Sudan, small numbers of mature adults were seen near Khartoum in early August.

In eastern Sudan, hatching occurred at several locations in the Derudeb (1729N/3546E) area where dense first to third instar hopper bands were reported during the first ten days of August, and by the end of the month fledgling had commenced. A medium density small swarm was seen copulating near Gedaref (1402N/3522E) on 6 August.

#### **ERITREA**

During the last week of July, a few immature and mature swarms were reported in Senhit province near Keren (1545N/3827E) which may have originated from coastal areas. One swarmlet was later reported to have dispersed nearby to the west and south-west of Keren.

No locusts were reported during August.

#### **ETHIOPIA**

High densities of fourth and fifth instar hoppers were reported at several locations in the Afar region of Tigray during August. No locusts were reported from the Ogaden.

#### **SOMALIA**

In early August, one immature swarm was seen flying near Hadh (1045N/4707E) and scattered adults were seen along the escarpment between Hadh and Meit (1101N/4707E) as well as in the adjacent coastal plains.

#### **DJIBOUTI, ETHIOPIA, KENYA, TANZANIA and UGANDA**

No Desert Locusts were reported during the first half of August.

**No locust information had been received from other countries in the region up to 31 August.**

#### **NEAR EAST**

##### **OMAN**

No locusts were seen during a survey in mid August in the Sur and Al-Kamil area of Sharqiya where swarms were reported last month.

**No locust information had been received from other countries in the region up to 31 August.**

#### **SOUTH-WEST ASIA**

##### **PAKISTAN**

A late report stated that several swarms were seen in mid July on the Mekran near Lasbela and in interior of Baluchistan near Khuzdar. These probably came from the eastern Arabian Peninsula.

During August, several hundred hopper bands were present at a number of locations in Tharparkar, Khairpur, Nara and Cholistan deserts where control operations were in progress. The distribution of infestations is patchy and most of the bands are small. Infestations in Tharparkar are estimated to cover some 3,000 sq. km. A few low density swarms were reported laying in southern Punjab at mid-month. By the end of August, the first new swarms were reported to be forming in the Tharparkar Desert near Umerkot (2522N/6944E) and Mithi (2444N/6948E). No locusts were reported from Baluchistan.

##### **INDIA**

During the first half of August, there were 97 reports of mature swarms and 472 reports of hopper bands in western Rajasthan and Gujarat. Most of the swarms were reported in Jaisalmer District with a lesser number in Barmer, Jalore, Jodhpur and Bikaner Districts. Hopper band infestations were primarily concentrated in Jaisalmer and Barmer Districts where by mid-month late instar hopper bands were reported.

**No locust information had been received from other countries in the region up to 31 August.**



## FORECAST UNTIL MID-OCTOBER 1993

### WEST AFRICA

#### MAURITANIA

Small scale swarm formation will occur early in the forecast period in currently infested areas. Most of these swarms are expected to move towards the west and northwest, however, some may persist and mature in those areas that remain green and start to lay by the end of the forecast period.

#### MALI

Small scale fledging is expected to occur early in the forecast period in the Adrar des Iforas with the possibility of a few small swarms forming. Small infestations may persist in remaining green areas; however, most of these are expected to move towards the west, or north-west and north-east on winds associated with eastward moving Saharan depressions during the forecast period.

#### NIGER

Small scale hopper infestations may be present in some areas of Tamesna and Air. If so, these are expected to fledge during the forecast period and some may move northwards as ecological conditions become dry.

#### CHAD

Small scale solitary breeding is likely to have occurred in some areas of the eastern region between Adre and Fada. Scattered adults are expected to persist in remaining areas of green vegetation, particularly in the eastern region during the forecast period.

#### BURKINA FASO, CAMEROON, GAMBIA, GUINEA BISSAU, GUINEA CONAKRY and SENEGAL

No significant developments are likely.

### NORTH-WEST AFRICA

#### MOROCCO

There is a moderate risk of a few small swarms appearing in the extreme south-west and along the southern side of the Atlas Mountains during the forecast period. Movement is expected to occur during periods of eastward atmospheric disturbances over the Sahara. As a precautionary measure, it is recommended that surveys be undertaken.

#### ALGERIA

There is a moderate risk of a few small swarms appearing in the southern and central regions of the Sahara and along the southern side of the Atlas Mountains from October onwards. Movement is expected to occur during periods of eastward atmospheric disturbances over the Sahara. As a precautionary measure, it is recommended that surveys be undertaken.

#### LIBYA

There is a moderate risk of a few small swarms appearing in the south-western region from October onwards. Movement is expected to occur during periods of eastward atmospheric disturbances over the Sahara. As a precautionary measure, it is recommended that surveys be undertaken.

#### TUNISIA

No significant developments are likely.

## EASTERN AFRICA

### **SUDAN**

Swarm formation is expected to occur during the forecast period in currently infested areas. Based on available information, this is likely to be on small scale; however, the possibility of moderate scale formation cannot be excluded. The majority of the swarms are expected to begin moving towards the winter/spring breeding areas of the Red Sea coast, however, a few may persist in remaining areas of green vegetation and perhaps lay again.

### **ERITREA**

Small scale breeding may be in progress and continue during the forecast period in areas of recent rains in the western lowlands and in the highlands near Asmara. Adults are expected to begin moving late in the forecast period toward winter/spring breeding areas along the northern Red Sea coast.

### **ETHIOPIA**

Scattered adults are likely to be present in some areas of the Ogaden and Tigray where they are expected to remain during the forecast period.

### **DJIBOUTI**

A few isolated adults may be present in coastal areas; however, no significant developments are likely during the forecast period.

### **SOMALIA**

There is a low risk of a few small swarms moving southwards with the retreating ITCZ from the Meit area towards the Kenya border where they could start to lay at the end of the forecast period.

### **KENYA**

There is a very low risk of a few small swarms appearing at the end of the forecast period in northern areas.

### **TANZANIA and UGANDA**

No significant developments are likely.

## NEAR EAST

### **SAUDI ARABIA**

Scattered adults may be present on the southern Tihama and breed in areas of recent rainfall during the forecast period. There is a low risk that a few swarms may reach the Tihama following migration from the summer breeding areas of Sudan. As a precautionary measure, it is recommended that surveys be undertaken on the Tihama.

### **YEMEN**

Scattered adults may be present in some places on the Tihama and in Shabwah and breed in areas of recent rainfall during the forecast period.

### **OMAN**

There is a moderate risk of swarms appearing in the Musandam Peninsula and on the Batinah as a result of migration from Pakistan and India during the forecast period. Regular surveys are recommended throughout the period as a precautionary measure.

### **UAE**

There is a moderate risk of swarms appearing on the Fujayrah coast as a result of migration from Pakistan and India during the forecast period. Regular surveys are recommended throughout the period as a precautionary measure.

**BAHRAIN, EGYPT, IRAQ, ISRAEL, JORDAN, KUWAIT, LEBANON, QATAR, SYRIA and TURKEY**

No significant developments are likely during the forecast period.

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

Moderate, possibly large, scale swarm formation will occur early in the forecast period in eastern desert areas from Tharparkar to Cholistan. Swarms are expected to move locally in the vicinity of the border areas on a moderate scale and persist in those areas that remain green where they could start laying by late September. However as the monsoon comes to an end, swarms will migrate on a moderate scale westwards to the winter/spring breeding areas of Baluchistan.

**INDIA**

Moderate, possibly large, scale swarm formation will occur early in the forecast period in western Rajasthan and Gujarat. Swarms are expected to move locally in the vicinity of the border areas and persist in those areas that remain green where they could start laying by late September. However as the monsoon comes to an end, swarms will migrate on a moderate scale west towards winter/spring breeding areas. There is a low risk of a few swarms moving further east during the forecast period.

**IRAN**

There is a moderate risk of swarms appearing on the south-eastern coast as a result of migration from Pakistan and India during the forecast period. Regular surveys are recommended throughout the period as a precautionary measure.

**AFGHANISTAN**

There is a low risk of swarms appearing in southern regions as a result of migration from the summer breeding areas of Pakistan and India.



With the generous assistance of the international donor community and national governments of locust-affected countries, action has been taken in all affected countries to mount control operations against the current Desert Locust infestations.

1. Survey and control teams organized under the Magreb Task Force are being positioned in northern Mali and southern Mauritania to assist National teams.
2. Locust consultants have been sent to Mauritania, Mali, Niger, Chad, Sudan, Eritrea, Ethiopia, Somalia, Pakistan and India to help organize emergency control campaigns.
3. One helicopter each is due to arrive in Eritrea, Ethiopia and Somalia for survey and control operations.
4. FAO Technical Cooperation Programme projects have been prepared for Mauritania, Mali, Chad, Sudan, Eritrea, Ethiopia, Somalia, Pakistan and India to provide technical assistance and equipment.
5. The U.K. recently donated £1 million and USAID is committing up to an additional \$150,000.

In order for FAO/ECLO keep all donors and locust-affected countries informed of any new or significant developments in the locust situation, all reports of locusts should be immediately sent to ECLO by facsimile and include date, coordinates of location, species, stage, density and estimated area of infestation.

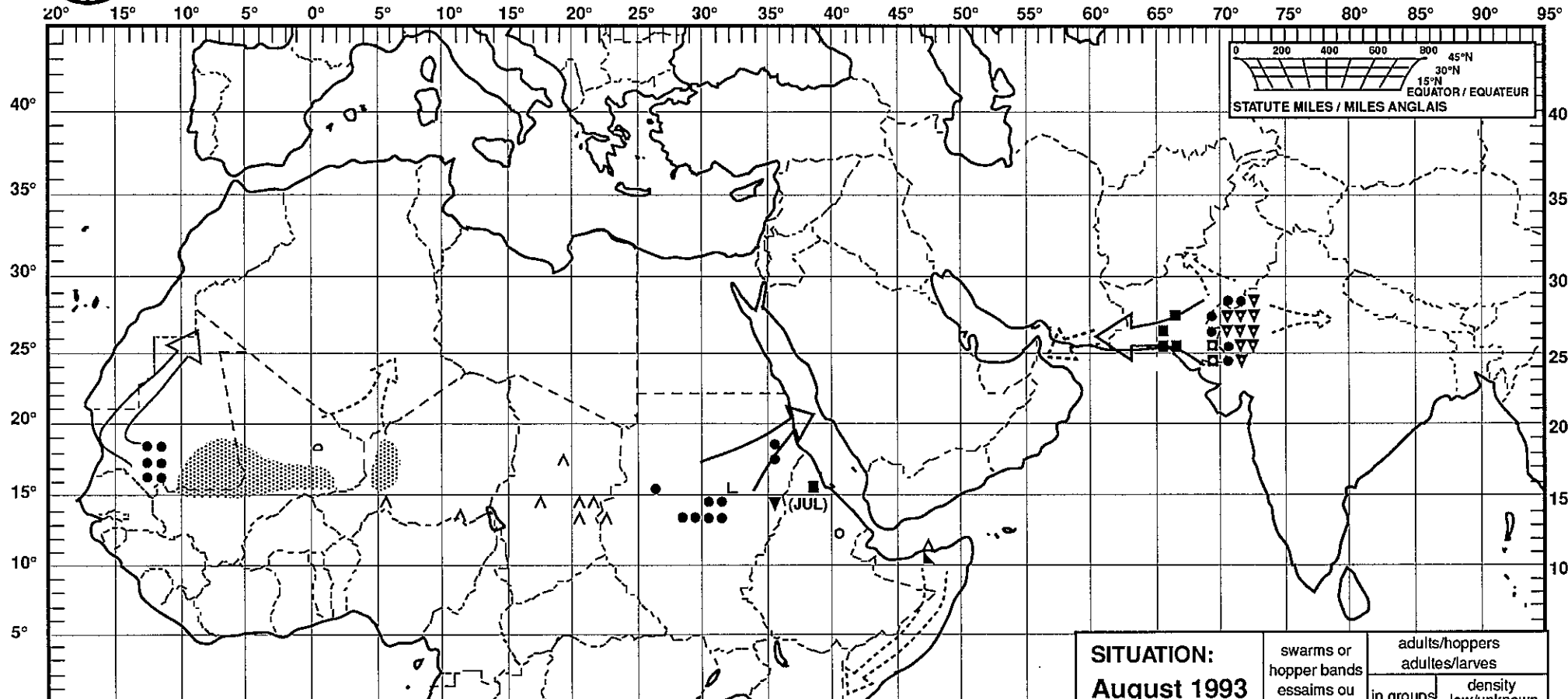
1 September 1993



# Desert Locust: summary

## Criquet pèlerin: situation résumée

# No. 180



FORECAST TO: PREVISION AU: 15.10.93	LIKELY PROBABLE	POSSIBLE POSSIBLE
current undetected breeding reproduction en cours et non détectée		
major swarm(s) essaim(s) important(s)		
minor swarm(s) essaim(s) limité(s)		
non swarming adults adultes non essaimant		

**SITUATION:**  
**August 1993**  
**août 1993**

	swarms or hopper bands essaims ou bandes larvaires	adults/hoppers adultes/larves	
		in groups en groupes	density low/unknown densité faible/inconnue
immature adults adultes immatures	■	□	◻
mature or partly mature adults adultes matures ou partiellement matures	▲	△	◀
adults, maturity unknown adultes, maturité inconnue	▲	△	^
egg laying or eggs pontes ou œufs	▼	▽	∨
hoppers larves	■	○	◐
hoppers & adults (combined symbol example) larves et adultes (exemple symboles combinés)	◼	◉	◑