



# FAO



## EMERGENCY CENTRE FOR LOCUST OPERATIONS

### DESERT LOCUST BULLETIN No. 184



The Desert Locust situation continues to be serious in Mauritania and adjacent areas of south-western Morocco as well as in Senegal. In Mauritania, ground and aerial control operations are in progress in the west and north against swarms arriving from summer breeding areas as well as against locally produced hopper bands and swarms. As a result of favourable breeding conditions, new hatching and band formation commenced in early December in northern areas and will continue during the forecast period. However, due to the remoteness of the north, the difficulty of logistics and the impossibility of control operations in adjacent areas of south-western Morocco, it is expected that many areas will remain undetected and uncontrolled, thus allowing for a substantial increase in locust numbers during the next few months. This suggests that large scale control operations may be required in Morocco and perhaps Algeria during the spring once swarms begin moving into these areas. In Senegal, aerial and ground control operations are in progress against immature swarms that are slowly moving southwards along the coast and western interior; it is anticipated that the situation will improve during the forecast period. Additional donor assistance is urgently required to sustain current control operations in Senegal and Mauritania.

Winter breeding continues along the southern Red Sea coastal plains of Sudan and is probably in progress in adjacent coastal areas of Eritrea. However, it appears that breeding thus far is on a relatively small scale and is confined to a few wadis and agricultural areas where conditions are favourable. A similar situation is expected to exist on the Tihama of Saudi Arabia and Yemen. These areas require close monitoring throughout the forecast period.

There was an unconfirmed report of hopper bands on the northern coastal plains of Somalia where scattered adults are known to be present. However, further breeding is not anticipated during the forecast period unless rainfall occurs.

No locusts were reported in South-West Asia up to mid December.

The FAO Desert Locust Bulletin is issued monthly, supplemented by Updates during periods of increased Desert Locust activity, and is distributed by fax, telex, e-mail, FAO pouch and airmail by the Emergency Centre for Locust Operations, AGP Division, FAO, 00100 Rome, Italy.

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## WEATHER & ECOLOGICAL CONDITIONS IN DECEMBER 1993

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.

Eastward moving depressions occurred over the Mediterranean during the first week of December and from mid-month onwards. However, these depressions were probably too far north to have any significant impact on the current Desert Locust infestations. Nevertheless, under the influence of these depressions, wind patterns over West and North-West Africa were affected: surface and mid-level winds over southern Morocco, western Mauritania and Senegal were primarily north-easterly to easterly during almost the entire month, whereas mid-level winds were southerly during the third decade; poor visibility due to sand winds and mist were hampering control operations in Mauritania. No significant rains were reported from areas of current Desert Locust infestations in West and North-West Africa. However, relatively favourable soil and vegetation conditions are expected to persist in Adrar and Tiris Zemmour of northern Mauritania where temperatures have decreased. In the south-western desert areas of Morocco, breeding conditions were reported to be favourable. Although, no information was received from the central Sahara of Algeria, ecological conditions may be starting to dry out in the Tinrhert area where rains were received last month.

Ecological conditions were reported to be dry in southern Mauritania, Senegal and Chad, and similar conditions are expected to be present in northern Mali and northern Niger.

Favourable breeding conditions were limited to a few wadis and irrigated areas along the Red Sea coastal plains of Sudan and Eritrea from Port Sudan to Massawa including the Tokar Delta. Conditions may be improving in other coastal areas as a result of rainfall on the southern coast of Sudan on 10 December and perhaps on the Eritrean coast in mid-month. Elsewhere, vegetation was reported as generally dry, except in eastern Ethiopia and perhaps in some wadis on the northern coast of Somalia.

Conditions are expected to be improving on the southern Tihama of Saudi Arabia where Jeddah received 30 mm on the 12-14th, and again 28 mm on the 23rd as a result of a depression over the area. This depression reached Ramlat Sabatayn of Yemen on the 24th, but no rains were reported. Conditions may be favourable in some places on the northern Tihama of Yemen and coastal plains east of Aden as a result of previous rains. Further north, a depression was present on the 19th over north-western Arabia and a frontal line developed over the northern Red Sea area on the 20th; however, no rains were reported.

Light to heavy rains occurred over northern Batinah and the Musandam Peninsula of Oman and adjacent areas of the southern coast of Iran on the 25th. As a result, ecological conditions may be improving in some areas.

In South-West Asia, ecological conditions were reported to be dry in the Makran, and a similar situation is likely to persist in Baluchistan of Iran. No rains were reported from Rajasthan of India.



## AREA TREATED IN DECEMBER 1993

Mauritania	172,310 ha	(21 November - 20 December)
Senegal	50,700 ha	(30 November - 29 December)



## DESERT LOCUST SITUATION

### WEST AFRICA

#### MAURITANIA

In late November, late instar hopper bands continued to fledge and form swarms in Tagant, western Brakna, Trarza and Inchiri which moved northwards, and by the end of the month maturing swarms were reported in Zouerate (2240N/1245W) while other swarms were seen in the Senegal River Valley. In Tiris-Zemmour, hatching and early band formation was reported during the last decade of November.

During the first half of December, swarms continued to move into the north-west from the central and western regions while other swarms continued to move south across the Senegal River from southern Brakna and Trarza. Numerous immature swarms were present and moving north between Nouakchott and Akjoujt, and near Atar and Zouerate. From 13 December onwards, a new wave of immature swarms appeared in coastal areas south and north of Nouakchott and extending from Nouamghar (1921N/1630W) to the border area at Tmeimichat (2116N/1416W). Further north, scattered adults were reported between Zouerate and Bir Moghreïn (2512N/1131W).

Breeding was in progress during December over a large part of Inchiri and south-western Adrar where fourth and fifth instar hopper bands were reported by the 20th. Laying and new early instar bands were reported from Tiris-Zemmour, west and south-west of Zouerate from early December onwards.

Substantial aerial and ground control operations were in progress in all areas, treating a total of 172,300 ha from 21 November to 20 December.

#### SENEGAL

Swarm formation was in progress during December in the north-west where previous breeding had occurred. These infestations were augmented by additional immature swarms crossing the Senegal River Valley from the north. A large immature swarm, covering an area of 30 km by 10 km, was seen in the Senegal River Valley at Mboundoum (1624N/1605W) on 8 December. From the second week of December onwards, swarms moved steadily southwards in the central interior and along the coast, reaching the Thies (1448N/1655W) area on the 8th, Linguere (1526N/1509W) and Mbacke (1447N/1553W) on the 10th, Fatick (1421N/1625W) and Kaolack (1409N/1605W) on the 13th, Diourbel (1439N/1612W) on the 14th, Mbour (1425N/1658W) on the 19th and Dakar by the 20th. By the end of the month, only a few swarms remained in the Senegal River Valley area. Localized damage, severe at times, was reported on vegetables, sugarcane and trees. Ground and aerial control operations were in progress in all areas, treating a total of 50,700 ha from 1-29 December.

#### CAPE VERDE

A few adults were seen on Santo Antao island during the first six days of December.

#### CHAD

A few isolated mature adults were seen during surveys north and south-east of Faya (1757N/1907E) in late November and early December. No locusts were seen in the Abeche and Moussoro areas up to 10 December.

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

### NORTH-WEST AFRICA

#### MOROCCO

Numerous small maturing swarms continued to arrive during December from the south into the extreme south-western desert areas where about 1-5 swarms were reported daily between Bir Guendez (2136N/1629W) and Ausert (2237N/1421W). From mid November onwards, there have been no reports of swarms north of 2310N nor of laying. Solitary adults were reported in the north-west at Tamzi-

gadat (3112N/0406W) on 4 December, adults were seen in the south near Smara (2643N/1141W) on the 13th flying northwards, and solitary adults were reported south-west of Tan Tan (2828N/1107W) on the 14-15th.

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

## EASTERN AFRICA

### SUDAN

In early December, mixed instar hoppers, at densities up to 1,200 per sq. m, were gregarizing at an unknown number of locations in Khor Gwob (1859N/3722E) on the southern Red Sea coastal plains; solitary adults were also present on about 90 ha. In Tokar Delta (1827N/3741E), scattered adults, some copulating and laying, were reported on 510 ha at densities up to 9 per 100 sq. m.

### ERITREA

Scattered solitary adults continued to persist on the Red Sea coastal plains in the Wachro (1546N/3914E), Sheib and Shelshela (1552N/3904E), Algena (1725N/3835E) and Karora (1745N/3820E) areas up to mid December.

### ETHIOPIA

No Desert Locusts were seen during surveys in the Ogaden and Danakil regions during November and early December.

### DJIBOUTI, KENYA, TANZANIA and UGANDA

No locust activity was reported up to 15 December.

### SOMALIA

No locusts were seen during ground surveys from 23 November to mid December in the north eastern interior between Las Anod, Garoe and Gardo and also west of Hargeisa. In late November, low density immature adults were present at two locations on the coastal plains west of Bossaso (1116N/4911E), and a dense immature swarm was seen settled on trees in the coastal mountains at 1100N/4830E. In mid December, there were unconfirmed reports of hopper bands and adults on the northern coastal plains at Mait (1100N/4706E) and Bulhar (1023N/4424E), although, the latter may be *Locusta*.

## NEAR EAST

### YEMEN

A late report stated that no locusts were seen during surveys on the Tihama from 15-18 November.

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

## SOUTH-WEST ASIA

### PAKISTAN

No locust activity was reported during the second fortnight of November.

### INDIA

No locust activity was reported from mid November to mid December.

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



## FORECAST UNTIL MID-FEBRUARY 1994

### WEST AFRICA

#### MAURITANIA

The situation is expected to remain serious in northern areas. Swarms currently invading the north from summer breeding areas will slowly mature and may start to lay during the forecast period where conditions are favourable; however, subsequent hatching may be delayed due to low temperatures and may not occur until late February. Breeding will continue by those swarms produced from earlier laying in the north with resulting hopper bands forming and slowly maturing during the period. It is almost certain that there will be breeding areas that are not detected or controlled which could allow for a substantial build-up of populations.

#### SENEGAL

Swarms are expected to continue their gradual movement towards the south as they slowly mature. Infestations may be augmented by swarms crossing the Senegal River Valley from the north; however, this movement is expected to cease early in the forecast period and by the end of the forecast period, the situation is expected to significantly improve.

#### GAMBIA

A few small swarms are expected to appear during the forecast period as a result of continuing southern movement from northern Senegal; however, breeding is not expected to occur.

#### GUINEA BISSAU

A few small swarms are expected to appear in northern areas during the forecast period as a result of continuing southern movement in the region; however, breeding is not expected to occur.

#### GUINEA CONAKRY

A few small swarms are expected to appear in northern areas during the forecast period as a result of continuing southern movement in the region; however, breeding is not expected to occur.

#### MALI

A few isolated adults may be present and overwintering in a few locations of the Adrar des Iforas; however, no significant developments are likely.

#### NIGER

A few isolated adults may be present and overwintering in a few locations of Tamesna; however, no significant developments are likely.

#### CHAD

A few isolated adults may be present and overwintering in a few locations of Tibesti and adjacent northern areas; however, no significant developments are likely.

#### BURKINA FASO and CAMEROON

No significant developments are likely.

### NORTH-WEST AFRICA

#### MOROCCO

Breeding will continue in the extreme south-western desert and infestations will be augmented by swarms moving in from adjacent areas of northern Mauritania. Swarm movement is not expected to occur into northern areas during the period unless unusually warm temperatures occur. If current infestations cannot be controlled, it is expected that a substantial build-up of the populations will occur during the period which would threaten northern areas once temperatures warm up to allow migration, probably around March.

**ALGERIA**

As no gregarious infestations have been reported to date, no significant developments are expected until temperatures warm up in the early spring to allow migration from adjacent areas of Mauritania and Morocco.

**TUNISIA and LIBYA**

No significant developments are likely.

**EASTERN AFRICA****SUDAN**

Breeding will continue along the Red Sea coastal plains in areas of recent rainfall, particularly from Port Sudan to the Eritrean border and perhaps in Wadi Oko/Diib. Small scale swarm formation could occur during the period depending on the extent of current breeding. The situation should be closely monitored.

**ERITREA**

Breeding is almost certainly in progress along the Red Sea coastal plains and will continue in areas of recent rainfall during the period. The situation should be closely monitored.

**SOMALIA**

If reports of hopper bands are confirmed to be Desert Locust along the northern coastal plains, then a few small swarms are likely to form during the period. Otherwise, scattered adults are expected to persist in some areas along the northern coast.

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

No significant developments are likely.

**NEAR EAST****SAUDI ARABIA**

Scattered adults are expected to present in those areas on the Tihama that have received recent rains and breed during the forecast period.

**YEMEN**

Scattered adults are expected to present in those areas on the Tihama that have received recent rains and breed during the forecast period.

**EGYPT**

Scattered adults may be present on the south-eastern coastal plains of the Red Sea and breed if rainfall occurs during the period.

**UAE**

Isolated adults may be present on the coast of Fujayrah.

**OMAN**

Isolated adults may be present on the Musandam Peninsula and on the Batinah.

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

No significant developments are likely during the forecast period.

**SOUTH-WEST ASIA****IRAN**

Scattered adults may be present on the south-eastern coastal plains and breed if rainfall occurs during the period.

**PAKISTAN**

Scattered adults are expected to be present on the Makran and perhaps in adjacent interior areas of Baluchistan and breed late in the forecast period if rainfall occurs.

**INDIA**

Residual populations of adults are expected to persist and overwinter in some areas of Rajasthan and Gujarat during the forecast period.

**AFGHANISTAN**

No significant developments are likely during the forecast period.



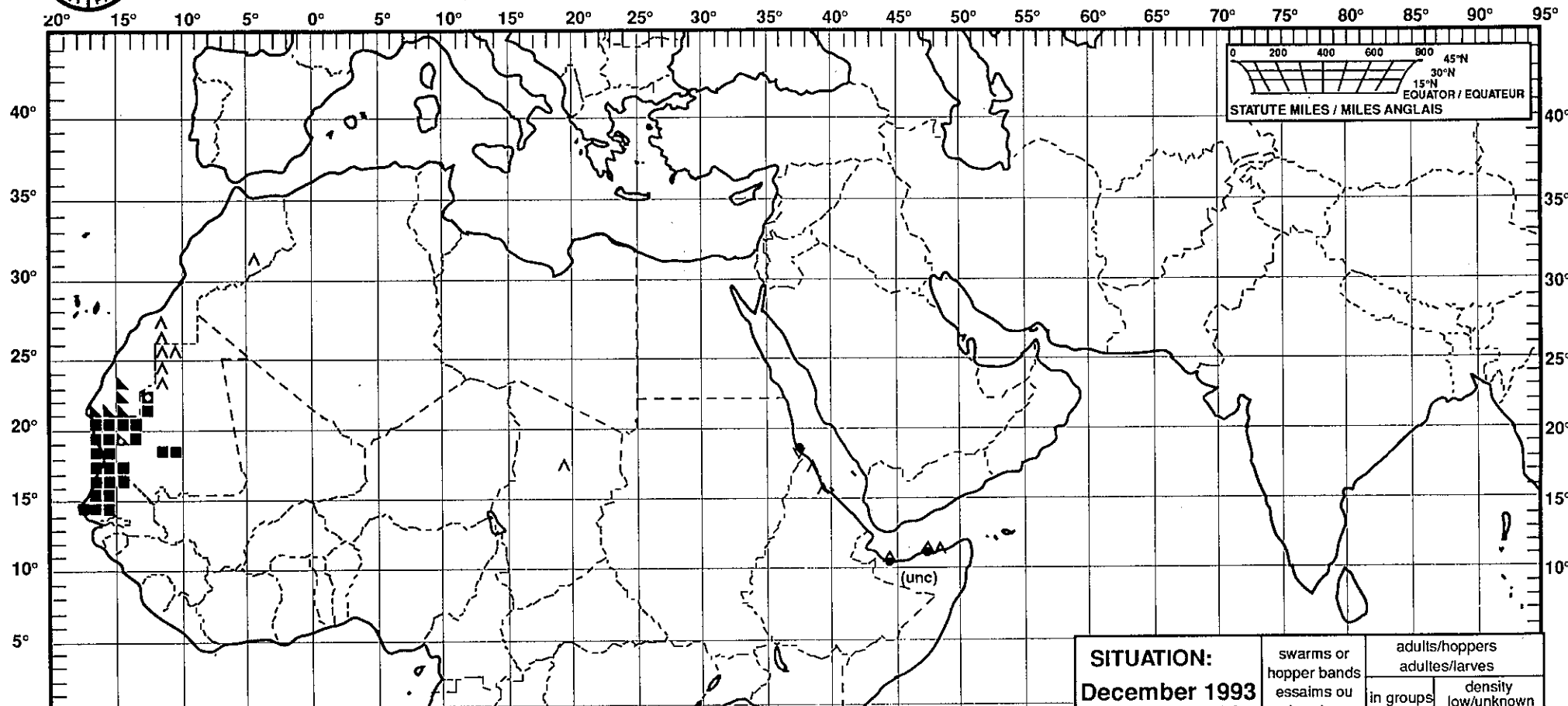
FAO/ECLO would like to extend their best wishes to locust-affected countries and the international donor community for a happy, healthy and prosperous New Year.

31 December 1993



# Desert Locust: summary Criquet pèlerin: situation résumée

## No. 184



FORECAST TO: PREVISION AU: 15.2.94	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: December 1993 decembre 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)	◼	◼	◼