

# DESERT LOCUST BULLETIN

FAO Emergency Centre for Locust Operations



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## General Situation during December 1998 Forecast until mid-February 1999

The Desert Locust situation remained calm during December except in the northern interior of Sudan where control operations increased against hopper bands and swarms. There is a moderate risk that some of these may move to the Red Sea coastal plains and breed but this will be limited due to the unusually dry conditions reported along both sides of the sea. Thus far, only low numbers of adults are present in a few areas along the coasts of Egypt, Eritrea, Saudi Arabia, Sudan and Yemen. Small scale breeding was in progress in one area of northern Mauritania. Elsewhere, no significant rainfall was reported and dry conditions persisted.

**Central Region.** More hopper band infestations were found in late November in northern Sudan. Many of these were forming immature swarms. Consequently, aerial operations commenced in early December and treated more than 26,000 ha so far. There is a good possibility that some swarms will move towards the Red Sea coastal plains and join the low numbers of solitary adults already present in parts of Egypt, Saudi Arabia and Sudan. Although laying is normally expected at this time of year, unusually dry

conditions along both sides of the Red Sea will limit breeding unless further rains fall. Low numbers of adults were also reported on the Red Sea coastal plains of Yemen and Eritrea.

**Western Region.** Small scale breeding was in progress during December in one area of northern Mauritania where solitary hoppers and young adults were reported. No locusts were reported in Morocco or Algeria where dry conditions prevailed. No significant developments are expected.

**Eastern Region.** Isolated adults were present in a few areas along the south-eastern coastal plains of Iran. Elsewhere, no locusts were reported and conditions remained dry. No significant developments are expected.

The FAO Desert Bulletin is issued monthly, supplemented by Updates during periods of increased Desert Locust activity, and is distributed by fax, e-mail, FAO pouch and airmail by the Locusts and Other Migratory Pests Group, AGP Division, FAO, 00100 Rome, Italy. It is also available on the Internet.

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### Weather & Ecological Conditions in December 1998

For the second month in a row, very little rainfall was reported during December except for a few isolated showers along parts of the Red Sea coastal plains. Consequently, vegetation is becoming dry and conditions are not very favourable for breeding along both sides of the Red Sea unless additional rains fall. Light showers fell in North-West Africa where breeding conditions should improve.

In Eastern Africa, unusually dry weather prevailed for the second month in a row along most of the Red Sea coastal plains from Egypt to Djibouti. Light rains fell near Port Sudan and heavier showers were reported further north along the Egyptian-Sudanese border on 17 December. At the end of the month, a few clouds were present at times over coastal areas near Port Sudan. Apart from these areas, natural vegetation was reported to be dry and conditions not suitable for breeding. Unless further rains fall, only small scale breeding is likely and this will probably be confined to the few cropping areas on the coastal plains such as the Tokar Delta. Dry conditions prevailed elsewhere in the region.

In the Near East, unusually dry weather prevailed for the second month in a row along the entire Red Sea coastal plains from northern Saudi Arabia to Yemen. Vegetation was reported to be drying up in most areas. Unless further rainfall occurs, breeding is expected to be on a small scale and confined to the cropping areas near Jizan and on the Yemeni Tihama. Light showers fell in some coastal areas in the United Arab Emirates and northern Oman but additional rain is probably required before conditions become favourable for breeding.

In West Africa, isolated showers fell in a few places of northern and central Mauritania where Atar and Tidjikja reported light rainfall at mid month. This should be enough to allow favourable breeding conditions to persist in the Atar area. Northern Mauritania was said to be dry and no significant rains were reported. Dry conditions prevailed elsewhere in the region.

In North-West Africa, a few showers fell along the southern side of the Atlas Mountains in Algeria and Morocco during the first and last weeks of December. Some of these extended to the coastal areas between Tan-Tan and Agadir. At the end of the month, light rains were reported in southern Tunisia and in parts of the Sahara near the border of Algeria and Libya. Conditions are becoming favourable for breeding in these areas.

In South-West Asia, although isolated showers fell in parts of Rajasthan, India early in the month, dry conditions generally prevailed in the region.



### Area Treated

	<u>currently reported</u>	<u>1998 total</u>
Algeria		30 ha
Egypt		50,267 ha
Eritrea (1)		18,439 ha
Ethiopia		2,450 ha
Iran		15,590 ha
Mali (2)		1,200 ha
Pakistan		1,250 ha
Saudi Arabia		280,267 ha
Somalia		1,300 ha
Sudan	30,485 ha (1-21 Dec)	48,625 ha
Yemen		21,568 ha

(1) from Nov 1997, mixed with *Locusta*

(2) mixed with grasshoppers



### Desert Locust Situation and Forecast

( see also the summary on the first page )

#### WEST AFRICA

##### **Mauritania**

##### • SITUATION

During December, low densities of scattered adults were present near Atar (2032N/1308W). Small scale breeding occurred between Akjoujt (1944N/1420W) and Atar where low numbers of second to fifth instar hoppers and fledglings were reported. No locusts were seen during surveys further north where conditions were drier.

##### • FORECAST

If additional rains fall, limited breeding is likely to continue in a few areas of the north near Akjoujt, Atar, Zouerate and Bir Moghreïn. Low temperatures are expected to delay locust maturation.

## **Mali**

### • SITUATION

No reports received.

### • FORECAST

*Low numbers of locusts may be present and could persist in a few areas in the Adrar des Iforas.*

## **Niger**

### • SITUATION

No reports received.

### • FORECAST

*A few isolated adults may be present and could persist in a few areas of Tamesna.*

## **Chad**

### • SITUATION

No reports received.

### • FORECAST

*No significant developments are likely.*

## **Senegal**

### • SITUATION

No reports received.

### • FORECAST

*No significant developments are likely.*

## **Burkina Faso, Cape Verde, Gambia, Guinea Bissau, and Guinea Conakry**

### • FORECAST

*No significant developments are likely.*

## **NORTH-WEST AFRICA**

### **Algeria**

#### • SITUATION

Isolated solitary adults were seen on 3 ha at one place west of Tamanrasset (2247N/0531E) on 6 December.

#### • FORECAST

*Scattered adults are expected to persist in some places of the central and southern Sahara. Similar populations may appear south of the Atlas Mountains near Bechar during periods of warm southerly winds. Small scale breeding may occur in areas of recent rainfall.*

### **Morocco**

#### • SITUATION

No locusts were reported during December.

#### • FORECAST

*Isolated adults may be present in a few places of the Adrar Souttoug in the extreme south-west and along the southern side of the Atlas Mountains.*

### **Tunisia**

#### • SITUATION

No locusts were reported during November.

#### • FORECAST

*No significant developments are likely.*

## **Libyan Arab Jamahiriya**

#### • SITUATION

No reports received.

#### • FORECAST

*No significant developments are likely.*

## **EASTERN AFRICA**

### **Sudan**

#### • SITUATION

Late reports indicated that additional infestations of hopper bands were found during the last half of November near Wadi El Malk (ca. 1600N/2945E) in Northern Kordofan and in the Northern Province along the Atbara River where control operations were in progress. Many of the hoppers had fledged and were forming immature swarms. Some of these swarms were seen flying eastwards over the Atbara River by the end of the month. On the Red Sea coastal plains, low numbers of solitary adults were first reported at several places in the Tokar Delta on the 22nd. No locusts were seen during surveys along the plains north to Suakin.

During the first three weeks of December, ground control operations continued in the interior, treating 1,420 ha in the Wadi El Malk area and 3,015 ha along the Atbara River. Aerial operations commenced in the latter area in early December and treated 26,050 ha of fledglings and immature swarms.

#### • FORECAST

*A few more swarms may form in the interior early in the forecast period and move towards the Red Sea coast. Locust numbers are expected to increase on the coastal plains as a result of adults and perhaps a few small groups or swarms arriving from the interior. Breeding is likely to occur but may be limited unless further rains fall. There is a risk of undetected adult populations already present on the western side of the Red Sea Hills near Derudeb and in Wadi Oko/Diib.*

### **Eritrea**

#### • SITUATION

Isolated mature adults were seen laying at two places on the Red Sea coastal plains south of Massawa near Badda (1433N/4005E) on 17 Decem-



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ber. No other locusts were seen between Massawa and the Djibouti border.

• **FORECAST**

*Small scale breeding will continue in a few areas along the southern Red Sea coastal plains where solitary hoppers will appear in the coming weeks but these will be difficult to detect. Similar breeding may occur on the northern plains if rains fall during the forecast period.*

### **Somalia**

• **SITUATION**

No reports received.

• **FORECAST**

*Low numbers of solitary adults are likely to be present and persist in some interior and coastal areas of the north-east. Small scale breeding is expected to occur if rains fall.*

### **Ethiopia**

• **SITUATION**

No locusts were reported in the south-east during November and early December.

• **FORECAST**

*Isolated adults may be present near Dire Dawa.*

### **Djibouti**

• **SITUATION**

No reports received.

• **FORECAST**

*No significant developments are likely.*

### **Kenya, Tanzania and Uganda**

• **FORECAST**

*No significant developments are likely.*

### **NEAR EAST**

#### **Saudi Arabia**

• **SITUATION**

Low numbers of solitary adults persisted and continued to mature in two areas along the Red Sea coastal plains during December: near Jizan (1656N/4233E) where adults at densities of 50-200 per ha were reported at six places, and on the coast north and east of Jeddah where adults at densities up to 50 per ha were seen at three locations.

• **FORECAST**

*Low numbers of adults will persist and continue to mature on the Red Sea coastal plains between Jeddah and Jizan. Another generation of breeding is likely to occur near Jizan and to a lesser extent in a few places along the coast towards Jeddah and Yenbo. Breeding is expected to be limited by the drying conditions unless further rains fall. There remains a low risk of adults or a few small groups or swarms arriving from Sudan.*

### **Yemen**

• **SITUATION**

Low numbers of solitary adults continued to mature along the Red Sea coastal plains between Bayt Al Faqih (1431N/4319E) and Midi (1618N/4217E) during the first half of December. Most of the locusts were found during surveys undertaken in cropping areas. Some of the adults were reported to be transiens and forming small groups at two places near Hodeidah. No locusts were seen during surveys along the coastal plains of the Gulf of Aden.

• **FORECAST**

*Adults will continue to mature on the Red Sea coastal plains and are likely to breed on a small scale in a few places. Breeding is expected to be limited by the drying conditions unless further rains fall.*

### **Egypt**

• **SITUATION**

Isolated mature adults were seen in a few places in the south-east near Wadi Diib and Shalateen (2308N/3530E) in early December. No locusts were present around Lake Nasser or in the adjacent coastal hills.

• **FORECAST**

*There is a risk that locust numbers will increase on the southern coastal plains of the Red Sea as adults and perhaps a few small swarmlets arrive from the summer breeding areas and start to breed.*

### **Kuwait**

• **SITUATION**

No locusts were reported during November.

• **FORECAST**

*No significant developments are likely.*

### **Oman**

• **SITUATION**

No reports received.

• **FORECAST**

*No significant developments are likely.*

### **UAE**

• **SITUATION**

No reports received.

- **FORECAST**

*No significant developments are likely.*

### **Bahrain, Iraq, Israel, Jordan, Qatar, Syria Arab Republic and Turkey**

- **FORECAST**

*No significant developments are likely.*

### **SOUTH-WEST ASIA**

#### **Iran**

- **SITUATION**

Isolated mature adults were present at a few places on the coastal plains east of Chabahar (2518N/6038E) on 10 December.

- **FORECAST**

*No significant developments are likely.*

#### **Pakistan**

- **SITUATION**

No locusts were reported during December.

- **FORECAST**

*No significant developments are likely.*

#### **India**

- **SITUATION**

No locusts were reported during the first half of December.

- **FORECAST**

*No significant developments are likely.*

#### **Afghanistan**

- **FORECAST**

*No significant developments are likely.*

current month; otherwise, it will not appear until the following month. Reports should be sent even if no locusts were found or if no surveys were conducted.

**Iran / Pakistan Joint Border Survey.** The report of the 1998 joint survey of the spring breeding areas along the Iran and Pakistan border is available on the FAO Locust homepage for viewing and downloading at <http://www.fao.org/news/global/locusts/pubs1.htm>.

**NR/EMPRES training.** A course on using the custom geographic information system (GIS) program for national locust and habitat data management will be held in Asmara from 25 January to 5 February for DLCO-EA, Eritrea, Saudi Arabia, and Yemen.

**Happy New Year.** The staff of the Locust Group at FAO extends their best wishes to affected countries and donors for a happy and prosperous New Year.



## **Announcements**

**George Popov, 1922-1998.** We announce with deep regret the death of George Basil Popov on 22 December 1998 in London, England. Mr. Popov devoted his life to studying the behaviour and habitat of the Desert Locust. He was awarded a FAO medal in 1997 in recognition of his outstanding achievements and contributions. One of his more recent publications was an *Atlas of Desert Locust Breeding Habitats* (FAO, 1997). We wish to express our condolences to his family and his government.

**Locust reporting.** Affected countries are kindly reminded to make sure that locust situation reports are sent to FAO HQ by the 25th day of the month so the information can be included in the FAO bulletin for the



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### Glossary of terms

The following special terms are used in the Desert Locust Bulletin when reporting locusts:

#### **NON-GREGARIOUS ADULTS AND HOPPERS**

##### **ISOLATED (FEW)**

- very few present and no mutual reaction occurring;
- 0 - 1 adult/400 m foot transect (or less than 25/ha).

##### **SCATTERED (SOME, LOW NUMBERS)**

- enough present for mutual reaction to be possible but no ground or basking groups seen;
- 1 - 20 adults/400 m foot transect (or 25 - 500/ha).

##### **GROUP**

- forming ground or basking groups;
- 20+ adults/400 m foot transect (or 500+/ha).

#### **ADULT SWARM AND HOPPER BAND SIZES**

##### **VERY SMALL**

- swarm: less than 1 km<sup>2</sup>      • band: 1 - 25 m<sup>2</sup>

##### **SMALL**

- swarm: 1 - 10 km<sup>2</sup>      • band: 25 - 2,500 m<sup>2</sup>

##### **MEDIUM**

- swarm: 10 - 100 km<sup>2</sup>      • band: 2,500 m<sup>2</sup> - 10 ha

##### **LARGE**

- swarm: 100 - 500 km<sup>2</sup>      • band: 10 - 50 ha

##### **VERY LARGE**

- swarm: 500+ km<sup>2</sup>      • band: 50+ ha

#### **RAINFALL**

##### **LIGHT**

- 1 - 20 mm of rainfall.

##### **MODERATE**

- 21 - 50 mm of rainfall.

##### **HEAVY**

- more than 50 mm of rainfall.

#### **OTHER REPORTING TERMS**

##### **BREEDING**

- the process of reproduction from copulation to fledging.

##### **SUMMER RAINS AND BREEDING**

- July - September/October

##### **WINTER RAINS AND BREEDING**

- October - January/February

##### **SPRING RAINS AND BREEDING**

- February - June/July

##### **DECLINE**

- a period characterised by breeding failure and/or successful control leading to the dissociation of swarming populations and the onset of recessions; can be regional or major.

##### **OUTBREAK**

- a marked increase in locust numbers due to concentration, multiplication and gregarisation which, unless checked, can lead to the formation of hopper bands and swarms.

##### **PLAGUE**

- a period of one or more years of widespread and heavy infestations, the majority of which occur as bands or swarms. A major plague exists when two or more regions are affected simultaneously.

##### **RECESSION**

- period without widespread and heavy infestations by swarms.

##### **REMISSION**

- period of deep recession marked by the complete absence of gregarious populations.

##### **UPSURGE**

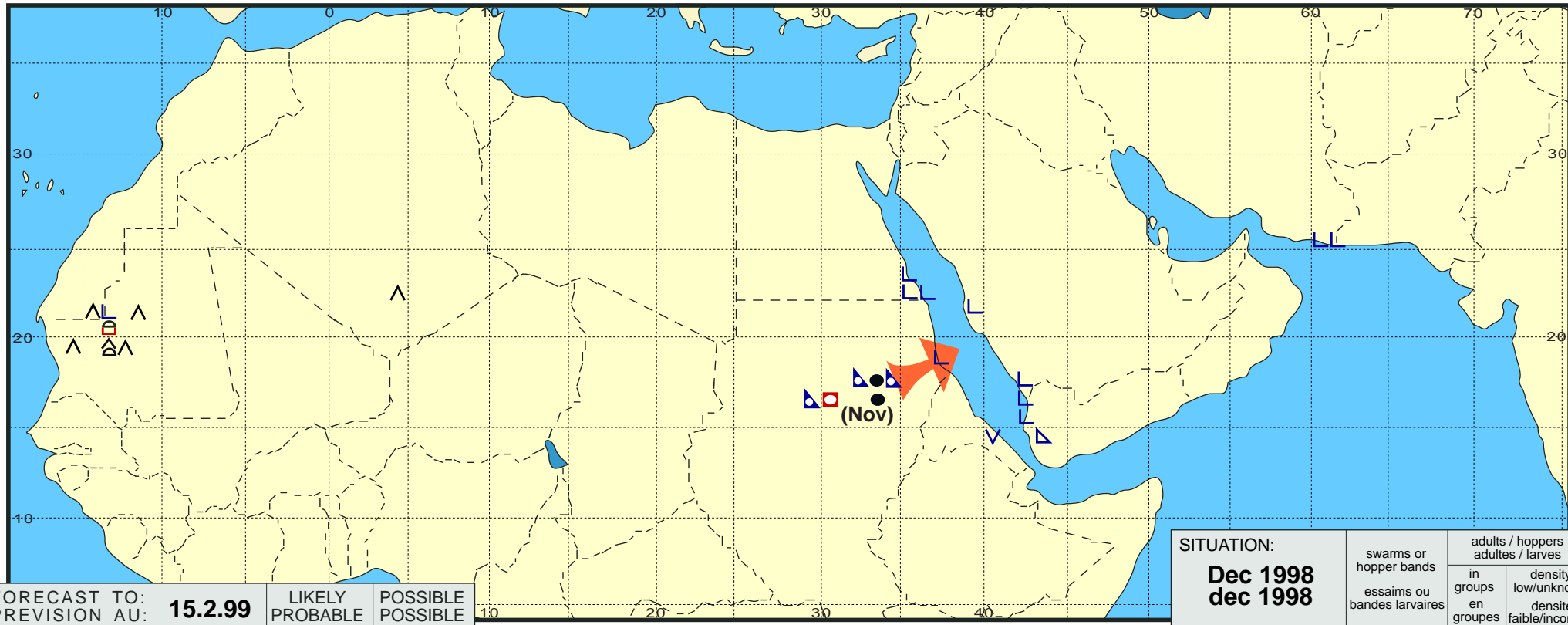
- a period following a recession marked initially by a very large increase in locust numbers and contemporaneous outbreaks followed by the production of two or more successive seasons of transient-to-gregarious breeding in complimentary seasonal breeding areas in the same or neighbouring Desert Locust regions.



# Desert Locust Summary

## Criquet pèlerin situation résumée

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FORECAST TO: PREVISION AU:	15.2.99	LIKELY PROBABLE	POSSIBLE POSSIBLE
favourable breeding conditions conditions favorables à la reproduction			
major swarm(s) essaim(s) important(s)			
minor swarm(s) essaim(s) limité(s)			
non swarming adults adultes non essaimant			

SITUATION: Dec 1998 dec 1998	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)			