



# FAO



## EMERGENCY CENTRE FOR LOCUST OPERATIONS

### DESERT LOCUST BULLETIN No. 183



#### GENERAL SITUATION DURING NOVEMBER 1993 FORECAST UNTIL MID-JANUARY 1994

The Desert Locust upsurge remains serious in Mauritania and Senegal where new generation swarms formed during November despite substantial control operations. In late October and early November, several immature swarms and adults entered south-western Morocco and moved further north to Oued Draa and the Algerian border. By late November, immature swarms began forming in the Senegal River Valley and started to move south towards Gambia.

In South-West Asia, the situation significantly improved during November. Control operations had ended in the Indo-Pakistan summer breeding areas by mid month and current information indicates that only a limited number of isolated adults moved west to south-east Iran.

Substantial ground and aerial control operations continued in Mauritania, treating more than 186,000 ha during November, primarily in the north and west as ecological conditions in central and southern areas were becoming dry. Operations are expected to continue during December, but by the end of the year, most areas should be clear except for the persistence of a few residual populations in the north.

The swarms that reached Morocco were mostly small and dispersed, and control operations were not undertaken. The probability of additional swarms moving north from Mauritania decreases from mid-December onwards due to low daytime temperatures. Small infestations of moderate to high density adults and a few swarmlets are expected to persist in northern Mauritania, southern Morocco and western Algeria and slowly mature during the forecast period. Although adults could breed if rainfall occurs and if temperatures remain unusually warm, it is more likely that they will wait until spring before laying.

Small to moderate scale swarm formation will continue early in the forecast period in northern Senegal and the Senegal River Valley. These swarms are expected to continue to move south towards Gambia, Guinea Bissau and Guinea Conakry without breeding.

Winter breeding has commenced on the central and southern Red Sea coast of Sudan and almost certainly in adjacent areas of Eritrea, and is expected to start during the forecast period on the Tihama of Saudi Arabia and Yemen and on the south-eastern coast of Egypt.

The current situation in West Africa, North-West Africa and along the Red Sea coastal plains requires close monitoring throughout the forecast period.

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 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 November, significant rains occurred only at a few places within the Desert Locust winter-spring breeding areas.

In North-West Africa, as a result of eastward moving of seasonal depressions over the Mediterranean, rains were reported during the entire month primarily from the northern Morocco to Tunisia, and at times Libya (for example east of Hammada Al-Hamra on the 28th) and Egypt. Elsewhere, there were light to heavy rains west of Grand Erg Occidental of Algeria on 10-12 November when Ain Sefra received 18 mm, Bechar 89 mm and Beni Abes 22 mm. Localized rainfall occurred further south in the Atlas Mountains of Morocco where Errachidia received a total of 46 mm during the second half of the month. Some cold cloud activity was visible during the first half of the third decade over the extreme south-west of Morocco and central western Tiris Zemmour of Mauritania, and may have resulted in some rainfall; breeding conditions were reported as favourable in several places of these areas. By the end of the month, some cold cloud activity was observed over Tinrhert region of Algeria where Illizi and In Amenas received moderate rainfall.

Although soil moisture and vegetation remain favourable in parts of Adrar and Inchiri of Mauritania, temperatures decreased during the month with day temperatures only up to 25°C at noon, which will certainly affect Desert Locust development and movements. Mid-level winds over Mauritania and Senegal were primarily from north to north-east up to 25°-30°N; however, during periods of eastwards moving Mediterranean depressions during the first and third decades, winds were southerly to south-westerly over northern Mauritania, southern Morocco and western Algeria .

There was an unconfirmed report of 3 days of rainfall in the Aleg area of Mauritania in mid-November November. However, conditions were previously reported as dry in the infested areas of southern Mauritania where several sand storms occurred, and they are expected to remain such. As a result of the gradual southern movement of the ITCZ to 8°-10° N during the last decade, no further rains are expected to occur in southern Mauritania or in Senegal this year. Dry conditions were reported in northern Chad, and similar conditions are expected in Mali and Niger.

As a result of widespread rainfall during October, favourable conditions are favourable for breeding in some wadis on the Red Sea coastal areas of Sudan from 20 km north of Port Sudan to Aitarba, and in Eritrea near Shelshela and south-east of Asmara. Ecological conditions were reported to be dry in eastern Ethiopia and along the Danakil, but green vegetation persisted in the Ogaden.

As a result of heavy rains fallen during the last decade of October, ecological conditions may remain favourable in Yemen at several places primarily along the western and eastern coasts of Aden up to Al Hawra (1333N/4655E), as well as in some areas of the south-eastern coast of Egypt. Although there was some cold cloud activity over Jeddah area on the 24th-25th, no rains were reported.

Conditions were reported as dry in Iran, Pakistan and India, although some light rains were received locally near Karachi and at a few places of Gujarat and Rajasthan during the first half of November.



## AREA TREATED IN NOVEMBER 1993

India	15,772 ha	(16 October - 8 November)
Mauritania	186,521 ha	(1-20 November)
Pakistan	1,800 ha	(16-31 October)
Senegal	50,123 ha	(1-29 November)



## WEST AFRICA

### MAURITANIA

In early November, the situation was reported to be improving in the central and southern areas as a result of control operations and the movement of swarms toward the west, north-west and north-east. However, residual populations of late instar hopper bands and fledglings continued to be reported near Tamchekket in Hodh El Gharbi, north and north-west of Aleg in Brakna and in Trarza, and swarms were present near Tidjikja in Tagant and in Assaba. By mid month, there were reports of swarms moving west and the situation in the above areas was relatively calm. One swarm was also seen in Gorgol and other swarms were reported late in the month along the Senegal River Valley near Bogué (1633N/1415W) and south of Lac Rkiz. Localized crop damage was reported in eastern Brakna.

On 3-4 November, several swarms were reported from Adrar at Zouerate (2240N/1245W) and on the 8th, the first second generation swarm was reported in the west near Nouakchott. During the first two decades of the month, late instar hopper bands, fledglings and low densities of mature adults were present in Inchiri between Nouakchott and Akjoujt (1945N/1423W) and localized hatching and band formation were seen in Adrar south of Atar (2030N/1303W) as well as in western Inchiri. Localized crop damage was reported near Atar.

Aerial and ground control operations continued in all areas, treating more than 186,000 ha from 1-20 November.

### SENEGAL

Ground control operations continued during November against maturing hopper bands in the north-west between Richard Toll (1628N/1541W), Saint Louis (1601N/1630W) and Louga (1536N/1615W). On 16 November, a large dense immature swarm with an estimated size of 57 km by 8 km was seen along the Senegal River Valley adjacent to Rosso, Mauritania. By 22 November, fledging commenced in the Podor (1637N/1458W) and Richard Toll areas. Localized crop damage was reported in Dagana (1628N/1530W). On 25-27 November, several swarmlets and small to medium sized dense immature swarms were seen along a 200 km stretch of the Senegal River Valley near Podor. Most swarms were reported to be flying in a southerly direction. On 25-26 November, a few small immature swarms were reported at Kaffrine (1410N/1532W) and north-west of Tambacounda (1348N/1340W). Control operations treated more than 50,000 ha from 1-29 November.

### NIGER

A late report stated that isolated adults were seen at three locations south of Agadez during surveys carried out on 11-20 October. Scattered adults, at densities up to 2,000 per ha, continued to persist in the south-east near Diffa.

### CHAD

A few mature solitary adults were present at five locations in the Faya (1757N/1907E) area and in the Moussoro area north-east of Salal (1450N/1710E) on 3-19 November.

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

## NORTH-WEST AFRICA

### MOROCCO

A late report stated that isolated immature adults were present on 16 October in the north-east at Bourfa (3229N/0157W) and in the extreme south-west at Ausert (2234N/1412W) on the 18th and at Tichla (2120N/1456W) on the 26th. On 28 October to 5 November, several diffuse immature swarms entered the extreme south-west region and moved north-eastwards reaching Al-Farciya (2645N/0950W). A second wave of swarms entered the south-west on 11-29 November between west of Bir Guendouz (2123N/1657W), Tichla and Ausert. Scattered adults were present throughout the

month over a widespread area along Oued Draa and the southern side of the Atlas Mountains between Goulimime (2856N/1010W) and Figuig (3206N/0115W).

## **ALGERIA**

A late report indicated that two small swarm fragments were seen in the central Sahara near In-Salah (2711N/0229E) and Adrar (2753N/0017W) on 13-15 October. No reports have been received for November.

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

## **EASTERN AFRICA**

### **SUDAN**

Late reports stated that low densities of immature and mature adults were present at several places on the Red Sea coast between Suakin (1907N/3722E) and Khor Arbaat (1949N/3710E) on 20-28 October.

During the first half of November, groups of adults at densities up to 4,200 per ha were reported to be laying on 200 ha in the Tokar Delta and Adobana (1809N/3817E) areas. Immature and mature solitary adults, at densities of 15-240 per ha, were also seen near Aiterba at Jebel Maharba (1747N/3823E) and Khor Hambokaieb (1750N/3821E).

### **ERITREA**

A few isolated adults were seen in the Shelshela area (1548N/3912E) during the first half of November.

### **SOMALIA**

There was an unconfirmed report of low densities of solitary adults on the central northern coast at Mait (1058N/4707E) during the first half of November.

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

No locust activity was reported up to 15 November.

## **NEAR EAST**

### **SAUDI ARABIA**

A late report stated that no locusts were present during September.

In mid November, isolated solitary adults were reported on the northern Tihama at two locations in the Rabegh (2247N/3902E) area at a density of 1 per ha.

### **YEMEN**

A late report indicated that isolated solitary adults were present in the interior of Shabwa at Wadi Mayfaah (1417N/4733E) on 6 September and in Al Korah (1429N/4646E) on the 26th.

During October, isolated adults were seen on the coastal plains west of Aden at Bir Umm Rijah (1301N/4432E) and Wadi Dar (1246N/4421E) and east of Aden at Shugra (1325N/4602E) and Wadi Ahwar (1326N/4629E) and 22-24 October.

### **EGYPT**

A late report stated that isolated adults were present along the southern Red Sea coast from 10-20 October. No further details are available.

### **OMAN**

Isolated adults were seen in the Muscat area in late October; however, no further details are available.

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

## SOUTH-WEST ASIA

**PAKISTAN**

During the first half of November, control operations concluded in the summer breeding areas. On 3 November, isolated adults were reported in Lasbela district west of Karachi at Mai Samani (2542N/6645E). No locusts were seen during surveys in the coastal areas of Mekran and Lasbela up to 12 November.

**INDIA**

During the second half of October, there were 30 reports of swarms in Barmer, Jalore, Jodhpur, Pali and Sirohi districts of Rajasthan and Kutch district of Gujarat as well as further east in Chitogarh (2454N/7442E) district of Rajasthan and Dhar (2232N/7524E) district of Madhya Pradesh. Newly emerged hoppers were reported from Jaisalmer, Jodhpur, Bikaner and Nagaur districts. Aerial and ground control operations treated a total of 758 ha of hopper bands and 14,870 ha of swarms during the period.

During the first half of November, two loose concentrations of pink adults, each measuring 0.5 km by 0.5 km, were seen in the Pugal area of Bikaner. Ground control operations treated a total of 116 ha of hoppers and 28 ha of adults. No control operations were undertaken after 8 November.

**IRAN**

Isolated pink immature adults, most likely originating from the Indo-Pakistan summer breeding areas, were seen during surveys carried out in the interior of Baluchistan at Saravan (2722N/6220E), Zaboli (2708N/6140E) and Garseman-e Bala (2719N/6118E) on 7-8 November, and on the south-eastern coast at Kachow (2515N/6050E) and Karatushti (2527N/5930E) on the 11th.

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



## WEST AFRICA

**MAURITANIA**

The situation is expected to improve in central and southern areas with the onset of dry ecological conditions and by the end of the year most areas should be relatively clear. In the north and north-west, small scale swarm formation will occur, and these new swarms together with moderate to high numbers of adults are expected to persist and slowly mature during the forecast period. Although small scale breeding could occur in areas that receive rainfall and if temperatures remain unusually warm, it is more likely that adults will wait until the spring before laying.

**MALI**

A few isolated adults may persist in a few locations of the Adrar des Iforas; however, no significant developments are expected.

**NIGER**

A few isolated adults may persist in a few locations of Tamesna; however, no significant developments are expected.

**CHAD**

A few isolated adults may persist in a few locations of BET; however, no significant developments are expected.

**SENEGAL**

Small scale swarm formation will continue early in the forecast period and may be augmented by localized swarm movement in the Senegal River Valley. The majority of these swarms are expected to move southwards and slowly mature. No further breeding is anticipated in the country.

**GAMBIA**

A few small swarms may appear in northern areas during the forecast period as a result of southern movement from northern Senegal.

**GUINEA BISSAU**

A few small swarms may appear in northern areas during the forecast period as a result of southern movement in the region.

**GUINEA CONAKRY**

A few small swarms may appear in northern areas during the forecast period as a result of southern movement in the region.

**BURKINA FASO, CAMEROON and CAPE VERDE**

No significant developments are likely.

**NORTH-WEST AFRICA****MOROCCO**

Small infestations of swarmlets and swarms as well as adults, some at moderate to high densities, are likely to be spread over a wide area from Tichla in the extreme south-west to Oued Draa and the southern side of the Atlas Mountains in the north-east. These populations may lay if rainfall occurs and temperatures remain unusually warm during the forecast period; however, it is more likely that they will wait until the spring. The probability of additional swarm movement from the south decreases from mid December onwards due to the onset of cold daytime temperatures.

**ALGERIA**

Small infestations of adults are almost certainly present in the western desert from Tindouf to Bechar and perhaps in central areas near Adrar and In Salah. These populations may lay if rainfall occurs and temperatures remain unusually warm during the forecast period; however, it is more likely that they will wait until the spring. The probability of swarm movement from neighboring countries decreases from mid December onwards due to the onset of cold daytime temperatures.

**TUNISIA and LIBYA**

No significant developments are likely.

**EASTERN AFRICA****SUDAN**

Breeding will continue along the Red Sea coastal plains during the forecast period and probably in Wadi Oko/Diib, and new generation adults will appear late in the period and may form small swarmlets depending on the extent of current infestations and rainfall.

**ERITREA**

Breeding will continue along the Red Sea coastal plains during the forecast period and new generation adults will appear late in the period and may form small swarmlets depending on the extent of current infestations and rainfall.

**DJIBOUTI**

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

## **SOMALIA**

Scattered adults may be present and breeding in any areas along the northern coastal plains that received recent rains.

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

No significant developments are likely.

## **NEAR EAST**

### **SAUDI ARABIA**

Scattered adults may be present in some areas along the Tihama and lay if rainfall occurs during the forecast period.

### **YEMEN**

Scattered adults may be present in some areas along the Tihama and lay if rainfall occurs during the forecast period.

### **EGYPT**

Scattered adults may be present in some areas along the south-eastern coastal plains and lay if rainfall occurs during the forecast period.

### **OMAN**

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

### **UAE**

Scattered adults may be present on the coast of Fujayrah.

## **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 will persist in south-eastern coastal and interior areas and lay if rainfall occurs.

### **PAKISTAN**

Scattered adults are expected to be present on the Makran and in adjacent interior areas of Baluchistan and are expected to persist during the forecast period and lay if rainfall occurs. Small residual populations, some at moderate to high densities, are expected to persist in some areas of Tharparkar, Nara and Cholistan.

### **INDIA**

Small residual populations, some at moderate to high densities, are expected to persist during the forecast period in some areas of Rajasthan and Gujarat.

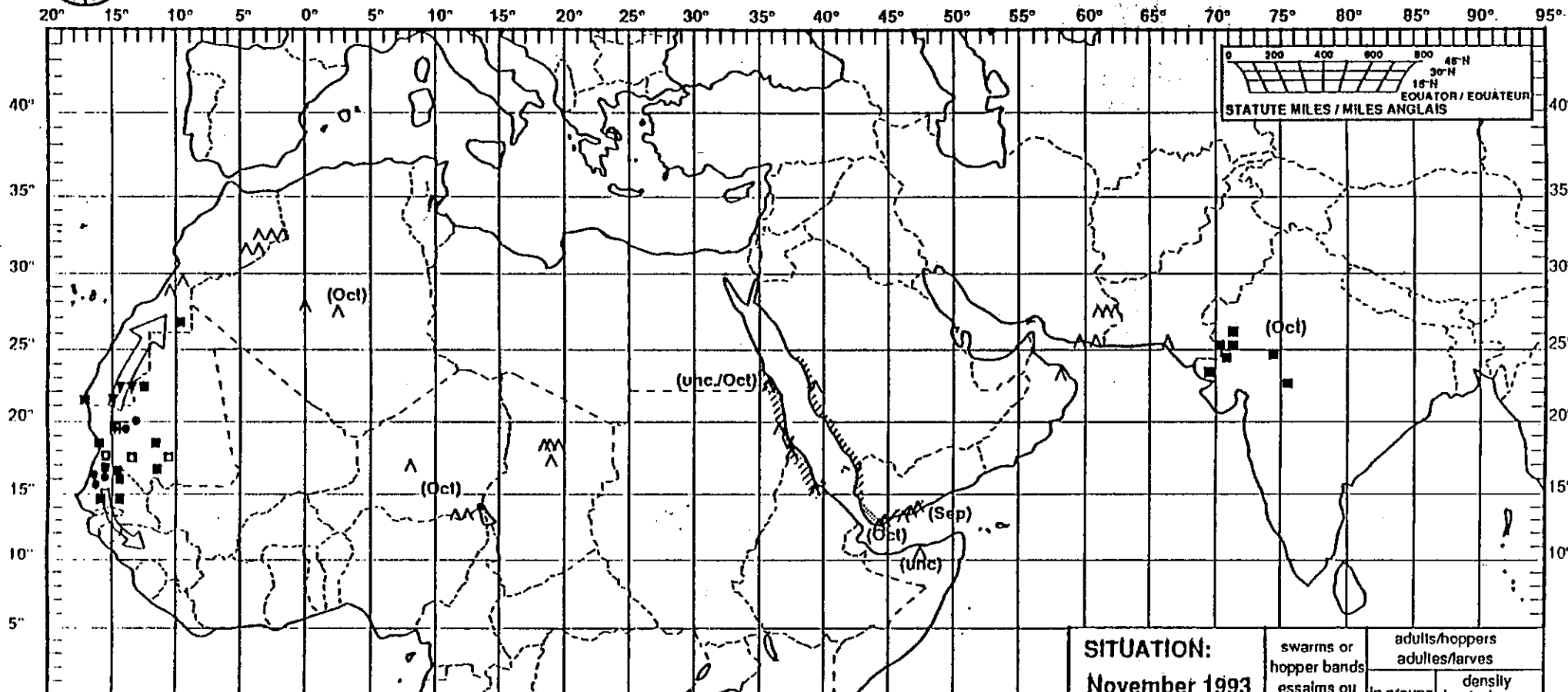
### **AFGHANISTAN**

No significant developments are likely during the forecast period.



# Desert Locust: summary Criquet pèlerin: situation résumée

No. 183



FORECAST TO: PREVISION AU:	15.1.94	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:**  
**November 1993**  
**novembre 1993**

	swarms or hopper bands essaims ou bandes larvaires	adults/hoppers adultes/larves	
		in groups en groupes	density low/unknown 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)	◻	◻	◻