

DESERT LOCUST BULLETIN

FAO Emergency Centre for Locust Operations



No. 217
(3 Oct 1996)



General Situation during September 1996 Forecast until mid-November 1996

Significant Desert Locust infestations continued to persist in Mauritania and to a lesser extent in Yemen during September. Lower numbers of locusts were present in Mali and in the Indo-Pakistan summer breeding areas. As most of the summer rains have come to an end, vegetation will dry up and adults will concentrate and may form several small groups or swarms, primarily in Mauritania. These are expected to start moving out of the summer breeding areas during October. Consequently, new infestations are likely to appear in Senegal, northern Mauritania, and on the Red Sea coastal plains of Yemen during the forecast period. Some of these could lay in suitable areas.

In West Africa, hopper bands continued to mature and new swarms started to form by the end of the month in south-western Mauritania. Ground control operations increased throughout the month, treating more than 2,000 ha. Some of those that escape detection and control may move into northern Senegal while the majority are expected to move towards coastal and northern Mauritania. Breeding has occurred in central Mali where hopper bands were reported and control operations were in progress.

In the Near East, surveys have confirmed that there

was significant breeding last month in the interior of Yemen where hopper bands are now maturing and starting to form groups of new adults. As conditions are nearly dry in most areas, those adults that escape detection and control are expected to move towards the Red Sea coastal plains of Yemen and Saudi Arabia; some of these may continue west towards the Eritrean and Sudanese coasts. If rain falls on the coast, laying could occur.

Small scale breeding continued in the summer monsoon area along the Indo-Pakistan border; control operations against hoppers and new adults were in progress in India. As the monsoon appears to have come to an end and conditions are drying out, adults will concentrate and may form a few small groups which are likely to move towards western Pakistan during the forecast period.



Weather & Ecological Conditions during Sept. 1996

During September, the ITCZ in West Africa remained quite far north over northern Mali and Niger and often well south of Mauritania. Although cloud activity increased over Mauritania, Mali and Niger compared to last month, little rainfall was reported in locust areas. During the second half of the month, rainfall declined even further in most of the summer breeding areas.

Numerous depressions moved eastwards across the Mediterranean throughout most of the month. These were fairly strong over North-West Africa during the 18th-28th. The ITCZ remained in the north over an area extending from Mali to Sudan, reaching up to 26N over

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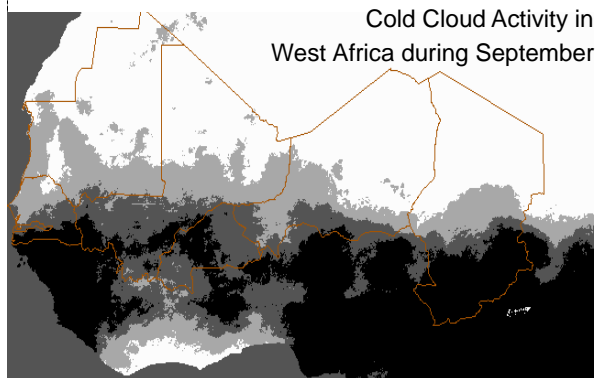
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□ light ■ moderate ■ heavy



the Mouydir Mountains of Algeria. Under the influence of several disturbances over eastern Mauritania and western Mali, it was often located over southern Senegal. As a result, northerly winds prevailed over western Mauritania which may have caused some adults to move south and cross the Senegal River. Some places in southern and western Mauritania received light and moderate rainfall and ecological conditions were favourable for breeding. Only Kiffa reported regular rainfall; elsewhere most of the rains fell during the first half of the month. Ecological conditions are almost certainly favourable for locust breeding in north-western Senegal which received significant rains during August and September. In Mali, conditions were dry near Gao in late August and a few light showers were received during the first two dekads of September which are not expected to have had a significant impact. Conditions are expected to have improved near Tombouctou where an estimated 68 mm fell on 24 September. Favourable conditions may persist at some places in Tamesna and Air in northern Niger where some light rains occurred, and good conditions are likely to be present in the south-east where rains continued. Little cloud activity was visible during the month over Chad where only a few showers may have fallen.

Little cloud activity was visible as well over Eastern Africa and the Near East and there were no reports of substantial rainfall. Ecological conditions were reported to be favourable only along the Red Sea coastal plains near Jizan in Saudi Arabia. Conditions were dry in the infested areas of the interior of Yemen. In southern Oman, the monsoon came to an end in the Salalah area.

A few light rains fell in Rajasthan, India and perhaps in the adjacent areas of Pakistan along the border. Rainfall decreased during the second half of the month, indicating that the summer monsoon is coming to an end. Ecological conditions are already starting to dry.

In North-West Africa, some light rains fell at a few places in southern Morocco, central Algeria and Libya; however, these are not expected to significantly improve ecological conditions. Although light to moderate rains continued at several locations in southern and central Tunisia, no locusts are likely to be present.



Area Treated

India	183 ha	(16-27 August)
	288 ha	(11-15 September)
Iran	39,889 ha	(14 May - 29 July)
Mali	18 ha	(29-31 August)
	no details	(12 September)
Mauritania	3,660 ha	(1-30 September)
Sudan	120 ha	(25-29 July)
Yemen	2,855 ha	(4-18 September)



Desert Locust Situation and Forecast

WEST AFRICA

Mauritania

• SITUATION

During September, hopper bands continued to mature within a wide area of the south-west near Aleg (1703N/1356W), R'Kiz (1650N/1520W), Mederdra (1655N/1540W) and on the coast south of Nouakchott. Most of the infestations were only a few hundred or thousand square metres in size with a few up to 1-2 ha. However, the number of bands reported gradually increased throughout the month, reaching up to 40 at a single location. Isolated mature adults and a few mature swarms continued to be reported in the same area up to the 15th. One swarm was seen copulating on the 7th.

During the second half of the month, hoppers started to fledge on the 17th and form new swarms by the 21st. Although some of these were seen moving towards the south and the north-west, the majority of the infestations remained in the south-west south of Nouakchott. By the end of the month, there was still no indication of further movement northwards.

In the south-east, scattered mature adults were present at a few places north of Aioun el Atrouss (1640N/0937W) in early September and an immature swarm was seen flying south on the 21st.

Control operations in the south-west substantially increased during the month, from 137 ha during the first dekad and 493 ha during the second to 3,030 ha during the third.

• **FORECAST**

Additional swarms are expected to develop during October from those hopper bands that escape control operations in the south-west. Although some of these may mature and lay within the same area, most are expected to move further north towards Inchiri and Adrar, while some could move south across the Senegal River Valley. Consequently, adult numbers are expected to increase along the coast and in the north-west where they will mature and could lay by the end of the forecast period if rains occur.

Senegal

• **FORECAST**

Scattered adults are likely to be present in the western part of the Senegal River Valley and will almost certainly be supplemented by adult groups, possibly a few small swarms, appearing from the north at any time during the forecast period as the ITCZ moves southwards. These may mature and lay in areas of recent rains, or move further south.

Mali

• **SITUATION**

Control operations continued against hopper bands in the Gao area (1615N/0003W) in late August. Five bands were found. They ranged in size from 100 sq. metres to 10 ha and consisted of third to fifth instars, at densities ranging from 100 to 1,000 per sq. metre. Nearly 20 ha were treated on the 29th-31st. Similar infestations were found and treated in the same area on 12 September.

In early September, nomads reported pink and yellow adults in the northern Adrar des Iforas between Tissealine (1939N/0205E) and Tadjodjemet (2001N/0128E), and in Timetrine at Inaouinass (1921N/0025W). A swarm may have passed over the latter area. Further west, there were reports for the first time this year of numerous hopper bands west of Tombouctou in the Tin Aicha (1649N/0359W) area, at densities up to 40 per sq. metre.

• **FORECAST**

Adult groups and a few small swarms are expected to form near Gao and Tombouctou during October. Some of these may move into the Adrar des Iforas, gradually mature and lay in areas that received rainfall, while others could move further west and north-west. Undetected breeding may have occurred in some parts of the Adrar des Iforas and Timetrine. If so, hoppers could be present possibly forming a few patches or bands.

Niger

• **FORECAST**

As a result of earlier breeding, low numbers of hoppers are likely to be present in central Tamesna and fledge. Infestations are expected to remain small and limited.

Chad

• **SITUATION**

A late and unconfirmed report stated that some adults were seen grouping in the Biltine area and that scattered mature adults were present in several oases west of Faya (1756N/1906E) during July.

• **FORECAST**

Small scale breeding may have occurred this summer in some areas of rainfall in the Biltine, Ennedi and Tibesti regions where a few hoppers and new adults may be present. 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**

No locust activity was reported during the first half of September.

• **FORECAST**

Scattered adults may be present in the extreme south.

Morocco

• **SITUATION**

No locust activity was reported during September.

• **FORECAST**

Low to moderate numbers of adults may appear in the extreme south by the end of the forecast period. Some of these could lay if rainfall occurs.

Libya and Tunisia

• **FORECAST**

No significant developments are likely.



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EASTERN AFRICA

Sudan

• SITUATION

Late reports stated that a mature swarm was seen near the Chad border at Tordame (1551N/2350E) flying north-east towards Wadi Hawar on 15 July, and ground control operations were undertaken against 120 ha of 5th instar hoppers and adults in northern Sudan at Khor Naama (1920N/3255E) on the 25-29th.

During the first half of August, isolated mature adults were seen in the Ed Dueim area at Um Sunta (1347N/3200E) and in Northern Kordofan west of El Obeid at Kagmer (1424N/3024E) and Um Sayala (1425N/3105E). No locusts were reported in the eastern and northern parts of the country up to 26 August.

• FORECAST

Adults present in the summer breeding areas are expected to gradually migrate east towards the Red Sea coast during the forecast period, mature and lay in areas that receive rainfall. These may be supplemented by any adults arriving from the east

Somalia

• FORECAST

Scattered adults may be present and are likely to persist along some parts of the north-west coastal plains and adjacent areas of the interior.

Eritrea

• SITUATION

No locusts were found during a survey on the Red Sea coast north of Massawa near Shieb (1554N/3908E) and to the south near Foro (1525N/39300E) on 19 September. No locusts were reported from the western lowlands.

• FORECAST

Any undetected locusts in the western lowlands are expected to move east towards the Red Sea coast during the forecast period. Although numbers are almost certainly low, they may be supplemented by any adults arriving from the east. They will mature and lay upon arriving on the coastal plains if rainfall occurs.

Ethiopia

• SITUATION

No locusts were found during a survey along the railway between Asebe Teferi (0905N/4052E) and Dewele (1102N/4237E) near the Djibouti border on 12-

15 September.

• FORECAST

A few isolated adults may be present and breeding near Dire Dawa and the Somali border.

Djibouti, Kenya, Tanzania and Uganda

• FORECAST

No significant developments are likely.

NEAR EAST

Saudi Arabia

• SITUATION

No locust activity was reported during September.

• FORECAST

Low to moderate numbers of new adults may be present along the western edge of the Empty Quarter from Wadi Najran to Wadi Dawasir adjacent to current infestations in Yemen. Any adults present on the southern Red Sea coastal plains near Jizan are expected to be supplemented by some adult groups, perhaps a few small swarms, appearing from the east during October. These will almost certainly mature and lay if further rainfall occurs on the coast.

Yemen

• SITUATION

During September, survey results confirmed that breeding has occurred within a large area of the interior on the southern edge of Ramlat Sabatayn. Small bands of hoppers in all stages at moderate densities (50-60 hoppers/sq. m.) were present near Nisab (1431N/4630E) and in the wadis and on the desert plains north of Ataq (1432N/4733E) and Bayhan (1448N/4543E). Most of these had already started to fledge by mid month. Control operations treated nearly 2,900 ha up to the 18th. Due to insecurity, surveys could not be carried out in the Marib area where additional infestations may be present.

• FORECAST

Adult will concentrate as vegetation continues to dry out and will form groups and perhaps a few swarms in the southern edge of Ramlat Sabatayn and move west and north towards the Red Sea coast. A similar situation is expected to develop in the Marib/AI Jawf area. As adults appear on the Red Sea coast, they are expected to mature and lay in areas that receive rainfall, while some may continue further west across the Red Sea.

Bahrain, Egypt, Iraq, Israel, Jordan, Kuwait, Oman, Qatar, Syria, Turkey and UAE

• FORECAST

No significant developments are likely.

SOUTH-WEST ASIA

Pakistan

• SITUATION

During the first half of September, low densities of solitary adults were present at a total of 71 locations from Tharparkar to Cholistan and at 3 locations further west in Lasbela. A maximum of 16 adults were reported in Rahimyar Khan and Bahawalpur districts. Small scale breeding continued in the Rahimyar Khan area where a total of 27 second to fourth instar hoppers were present at four locations.

During the second half of the month, similar infestations persisted at 68 locations in the desert border areas and at 5 locations of Lasbela. A few solitary second to fourth instar hoppers persisted at Ismail Dahr (2750N/7109E) near Rahimyar Khan.

• FORECAST

Breeding is expected to come to an end in the desert from Tharparkar to Cholistan. As remaining hoppers fledge and vegetation continues to dry out, adults will concentrate and may form a few small groups that will start moving west towards the winter breeding areas of Baluchistan by the end of the forecast period. As a result, locust numbers will decrease in the summer breeding areas.

INDIA

• SITUATION

During the second half of August, scattered locusts persisted in Rajasthan where 88 locations were found infested, at densities ranging from 30 to 7,500 adults per sq. km. Most locations continued to be in Jaisalmer district, and, to a lesser extent, in Bikaner, Barmer, Jodhpur, Nagaur and Banaskantha. Breeding occurred and ground control operations began against all instar hoppers and fledglings primarily in Jaisalmer district at Sultana (2725N/7055E) and to a lesser extent in 6 other locations of the same district, and in Barmer and Bikaner. A total of 183 ha was treated.

During the first half of September, fewer locations were found with locusts as there were only two in Barmer district and four in Jodhpur. However, densities increased as vegetation dried out, ranging from 225 to 22,500 per sq. km (2 to 225 per ha). Control operations against hoppers infestations continued in Bikaner and started in Jodhpur, although it remained on a small scale with a total of 288 ha treated at three locations.

• FORECAST

Breeding is expected to come to an end in Rajasthan and current generation adults are expected to continue to decline. As hoppers fledge and vegetation begins to dry out, new adults will concentrate and may form groups. These are expected to start moving west towards the winter breeding areas of Baluchistan by the end of the forecast period. As a result, locust numbers

will decrease in the summer breeding areas of Rajasthan.

IRAN

• SITUATION

In addition to information in Bulletin No. 214, a late report indicated that control operations were undertaken against moderate densities of mature adults during the first half of June at several locations in the Dasht-i-Lut desert east of Kerman. This is an area in the interior where solitary locusts have never been reported. In the second half of the month and during July, scattered immature solitary and transiens adults were present at several locations along the coastal plains and against the foothills from Jask (2540N/5746E) east to the Pakistan border as well as on the Vashnam Plains near Chabahar (2516N/6041E) as a result of previous breeding. Control operations against hoppers and maturing adults continued near Jask up to 21 June, in the Bampur area up to 2 July, near Nikshahr, Khash and Zahedan up to the 5th, and near Chabahar up to the 29th. A total of nearly 40,000 ha were treated from 14 May to 29 July.

• FORECAST

No significant developments are likely.

AFGHANISTAN

• FORECAST

No significant developments are likely.



Announcements

An increasing number of Desert Locust reports are sent to FAO-HQ via electronic mail. In order to avoid delays in the processing of these reports, messages regarding locust and weather information should only be sent to: ECLO@fao.org

The personal email addresses of the various Locust Group staff can continue to be used for other information.

Thank you for your collaboration.



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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 per 400 m foot transect (or less than 25 per ha).

SCATTERED (SOME, LOW NUMBERS)

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

GROUP

- forming ground or basking groups;
- more than 20 adults per 400 m foot transect (or more than 500 per ha).

ADULT SWARM AND HOPPER BAND SIZES

VERY SMALL

- swarm: less than 1 km² • band: 1 - 25 m²

SMALL

- swarm: 1 - 10 km² • band: 25 - 2,500 m²

MEDIUM

- swarm: 10 - 100 km² • band: 2,500 m² - 10 ha

LARGE

- swarm: 100 - 500 km² • band: 10 - 50 ha

VERY LARGE

- swarm: 500+ km² • 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.

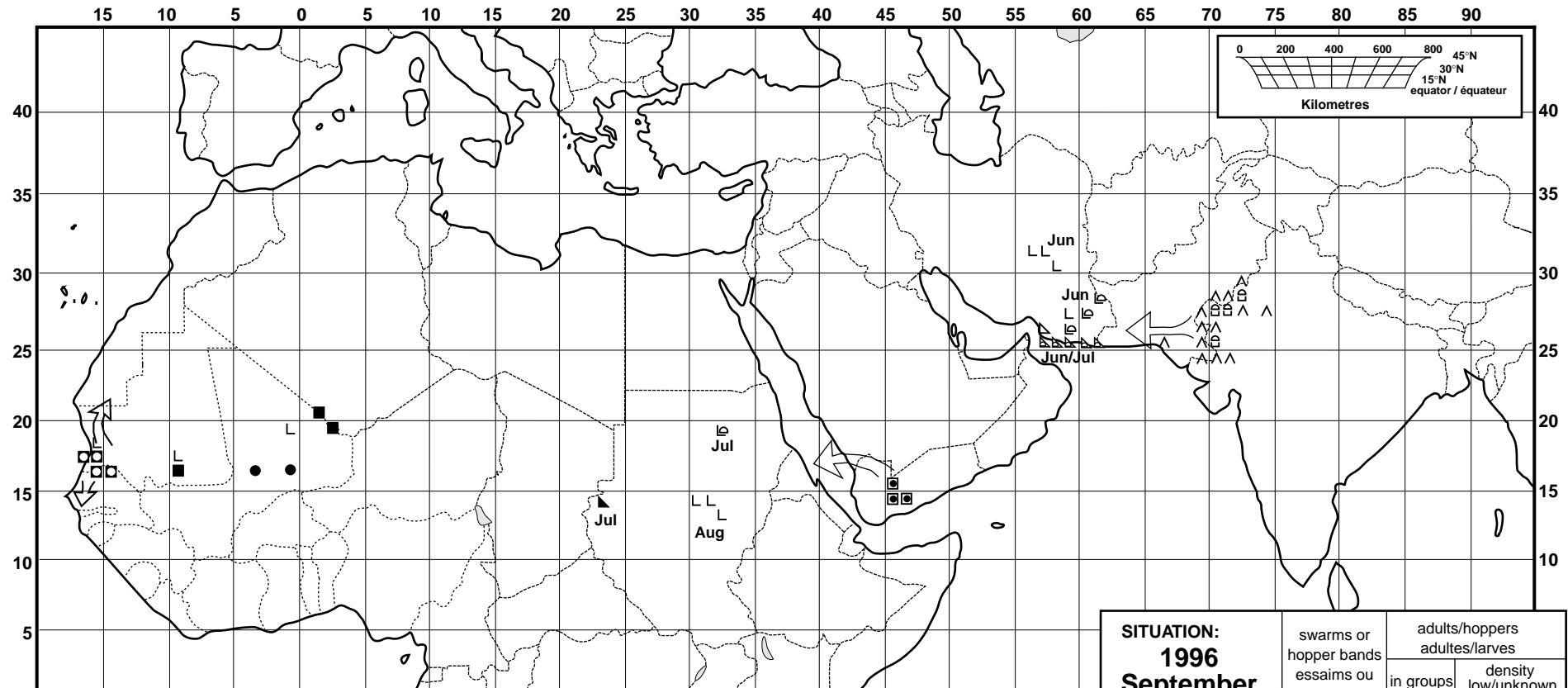
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Desert Locust summary

Criquet pèlerin situation résumée

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FORECAST TO: PREVISION AU:	15.11.96	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: 1996 September septembre	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)	◼	◼	◻