

DESERT LOCUST BULLETIN

FAO Emergency Centre for Locust Operations



No. 219
(4 Dec 1996)



General Situation during November 1996 Forecast until mid-January 1997

A second generation of Desert Locust breeding was in progress during November in north-western Mauritania and by the end of the month new swarms had started to form and move north. Immature swarms from earlier breeding moved into southern Morocco and reached the south side of the Atlas Mountains late in the month. More swarms are expected to appear in early December. Unusually heavy rains fell along the coastal plains on both sides of the Red Sea where locusts may be present and breeding.

In **West Africa**, several hundred small hopper bands and patches were present in north-western Mauritania as a result of laying last month. Although control operations were undertaken, small swarms started to form in late November and were seen moving to north-eastern Mauritania where they are expected to mature and lay eggs if rainfall occurs. Second generation breeding also occurred in northern Mali but on a much smaller scale, and by the end of the month most of the adults had moved north into Algeria.

In **North-West Africa**, the breeding in north-west Mauritania extended into the extreme south-west of Morocco where small immature swarms formed and moved progressively north towards the Atlas

Mountains. By the end of the month, some had reached the Oued Draa area where aerial control operations were initiated. A few additional swarms are likely to arrive from Mauritania on the southern side of the Atlas Mountains in Morocco and Algeria during December where they will mature and lay eggs if rainfall occurs.

In the **Central Region**, heavy and widespread rains associated with a low pressure system over the northern Red Sea fell along both sides of the Red Sea from Eritrea to Egypt and from Yemen to Saudi Arabia. Rains were heaviest near Jeddah. Low to moderate numbers of adults probably moved to the coastal plains from the interior of Yemen on southerly winds associated with the disturbance. These are expected to have dispersed and will lay during the forecast period.

In **South-West Asia**, no significant locust infestations were reported.



Weather & Ecological Conditions during Nov. 1996

An unusually strong low pressure system over the northern Red Sea resulted in southerly winds and heavy rainfall for a week at mid-month along the coastal plains of the Red Sea. Sporadic rains fell in North-West Africa where temperatures were decreasing.

In the **Central Region**, a low pressure system started forming over north-eastern Africa by the end of the first dekad of the month. This system moved over the northern Red Sea where it persisted for nearly ten days. Prevailing winds over the southern Red Sea were from the south starting about the 9th. Over the next few days, these southerly winds extended from the Gulf of

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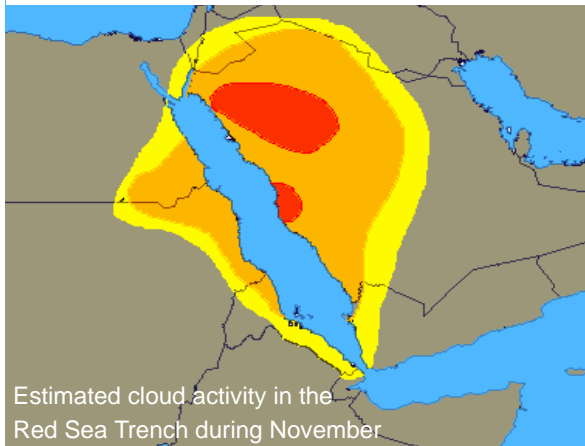
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light moderate heavy



Aden to north of the Sudanese/Egyptian border, and persisted there until about the 20th. Moderate to heavy rains fell along both sides of the Red Sea from Eritrea and Yemen to the Sinai Peninsula. Rainfall was heaviest on the central Saudi Arabian coast where Jeddah received a total of 208 mm during the second dekad of the month, Mecca 127 mm, Yenbo 36 mm, and Jizan 35 mm. Flooding was reported near Jeddah. Less heavy rains fell on the western side of the Red Sea. Quseir (Egypt) and Port Sudan both reported 27 mm and Massawa (Eritrea) 61 mm during the period. Rainfall was also reported in the central and northern interior of Saudi Arabia (Hail 98 mm and Tabuk 80 mm) as the disturbance moved further east. Rains continued to fall near Jeddah (60 mm) up until the end of the month. Breeding conditions will improve along the coastal plains on both sides of the Red Sea as well as in subcoastal areas such as Wadi Oko/Diib of Sudan and Egypt. Light rains fell in southern Yemen on the Gulf of Aden plains during the third week of the month.

In **North-West Africa**, light rains fell early in the month south of the Atlas Mountains in Morocco near the coast at Tan-Tan and Sidi Ifni and in southern Algeria at Tamanrasset (60 mm). Moderate rains fell several times over western and central Libya. Prevailing winds were generally from the north-east except when depressions moved east across the Mediterranean which resulted in warm southerly winds. This occurred several times throughout the month. Ecological conditions for breeding are expected to be improving in those areas that received rainfall although decreasing temperatures will slow down any locust maturation.

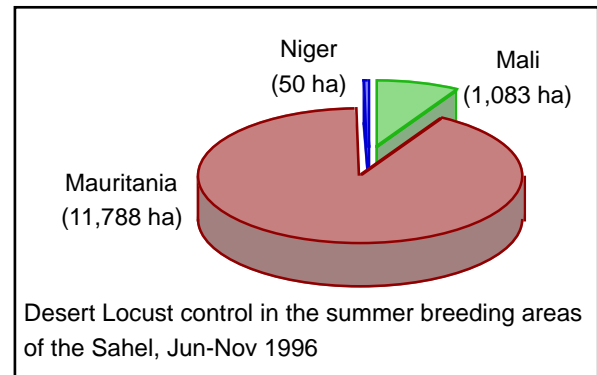
In **West Africa**, no significant rainfall was reported except for some isolated showers at Tahoua in Niger. Green vegetation was limited to parts of north-western and central Mauritania near Nouakchott, southern Inchiri and Tijirit, and in south-western Tagant. Green annual vegetation was also present in a few areas of south-western Adrar. However conditions were dry by the end of the month due to warm temperatures and no rainfall. Vegetation was drying out in northern Mali and in central Tamesna of Niger. However, vegetation was still green in low-lying and inter-dunal areas of Tamesna of Mali and Niger from rainfall in late September.

In **South-West Asia**, localized showers fell during the second half of the month in coastal (Jiwani 13 mm) and interior (Panjgur 50 mm) areas of Baluchistan, Pakistan and in Rajasthan, India at Jodhpur (90 mm). Consequently, breeding conditions are expected to be improving in parts of Baluchistan.



Area Treated

Mauritania	2,002 ha	(November)
Morocco	1,600 ha	(November)



Desert Locust Situation and Forecast

WEST AFRICA

Mauritania

• SITUATION

During November, second generation breeding was in progress in two areas: in the Inchiri region north of Nouakchott to the Moroccan border and in the Tamassoumit (1835N/1239W) area west of Tidjikja where laying occurred last month. Infestations consisted of several hundred small hopper patches and bands at moderate to high densities. Most of the bands were less than 0.5 ha in size although a few were up to 3 ha. Early in the month, two dense immature swarms were seen south of Nouakchott and a few maturing

swarms were seen moving west near Boumdeid (1726N/1120W). These are probably leftover from late summer breeding. At mid month, one group was seen copulating near Boumdeid. During the last dekad, fledging commenced in all areas and a number of new swarms formed. Most swarms were less than 1 sq. km in size and many were seen moving northwards. There were reports of swarms in the extreme north and north-east of Tiris-Zemmour region near the Moroccan and Algerian borders. Control operations treated a total of 2,000 ha during the month, primarily hopper bands and by the end of the month new swarms.

• **FORECAST**

Low to moderate numbers of small swarms will continue to form early in the forecast period in Inchiri and southern Adrar. If temperatures remain warm and no rainfall occurs, these are likely to move further north towards El Hank and adjacent areas of Algeria and Morocco, especially during periods of warm southerly winds. These will mature and could lay by the end of the year if rainfall occurs.

Mali

• **SITUATION**

A late report stated that Desert Locust mixed with African Migratory Locust were present in western Mali in early October on about 2,000 ha near Niono (1415N/0600W) at Mare Takadji. Densities were estimated to be about 20-80 adults per sq. m. During the last dekad of the month, a few maturing swarms were reported in the Tilemsi Valley of the north near Tagmart (1850N/0039E), and hatching and small to medium sized hopper bands were seen nearby. Further north, moderate numbers of adults and hatchlings were reported at In Abser (2015N/0039E) and Tin-Eridjane (1952N/0037E) at the end of the month.

During the first week of November, hopper bands were present in the northern Adrar des Iforas and Timetrine areas. Most of the infestations consisted of first to fourth instar bands at several locations near Wadi Erherrher (2006N/0130E) and the Boureissa Basin (ca. 1955N/0140E) in the Adrar and near Wadi Tinkar (1928N/0024W) in Timetrine. Band sizes varied from 150-1,500 sq. m and densities were up to 300 hoppers per sq. m. near Erherrher and Tinkar but only around 20 per sq. m near Boureissa. Scattered gregarious adults were seen copulating at one site near Erherrher. By the end of the month, only scattered adults were reported in these areas.

• **FORECAST**

Low numbers of adults are likely to persist in some parts of the Adrar des Iforas and the Tilemsi Valley where they will slowly mature and lay eggs if rainfall occurs.

Niger

• **SITUATION**

Results from surveys carried out in Tamesna on 30 October to 8 November indicate that infestations declined during October and early November. Solitary and transiens immature and mature adults at densities up to 1,500 per ha were reported from a total of 18 locations in central Tamesna. The total area infested was nearly 4,000 ha. A dozen small first and second instar hopper bands of about 1 sq. metre each mixed with copulating adults were seen at Inzinkad (1806N/0548E). All stages of transiens hoppers were seen at Tadrek (1801N/0615E) within about 50 ha., and solitary second to fourth instar hoppers were present south-east of In Afer (1746N/0548E).

• **FORECAST**

Low numbers of adults are expected to persist during the forecast period in central Tamesna. Some of these could move north into Algeria during periods of warm southerly winds.

Burkina Faso, Cape Verde, Chad, Gambia, Guinea Bissau, Guinea Conakry and Senegal

• **FORECAST**

No significant developments are likely.

NORTH-WEST AFRICA

Morocco

• **SITUATION**

Several small immature swarms were present during the first two dekads of November in the south-western provinces of Dakhla and Laayoune probably as a result of local breeding or movement from adjacent areas. On the 9th, a small swarm covering 400 ha was treated at Tiniguir (2336N/1544W). During the third dekad, a 5 sq. km swarm was seen near Smara moving north-east at Lafreina (2653N/1111W). Other swarms were seen in the Assa-Zag province south of Guelmim by the end of the month. This indicates that some swarms have reached the Oued Draa area. Aerial control operations treated 1,200 ha on the 30th in Assa-Zag.

• **FORECAST**

Swarm formation is expected to continue early in the forecast period in areas of previous breeding in the extreme south-west. Additional groups of adults and some small swarms may appear from adjacent areas of north-western Mauritania. Unless rainfall occurs, these groups and adults are likely to move north towards Oued Draa as long as temperatures remain warm.



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Those adults that have already arrived in Oued Draa will mature and probably lay by the end of the forecast period.

Algeria

• SITUATION

A few small patches of second to fourth instar transiens hoppers were present in the Timeiaouine region near the border of Mali during the first half of November. A maximum density of 50 hoppers per sq. m were seen at 2024N/0144E on 50 sq. m. The total infested area was estimated to be about 2 ha. These infestations are most likely an extension of breeding in the northern Adrar des Iforas of Mali.

During the second half of the month, scattered adults were seen south-east of Tindouf in the Chanachane (2601N/0412W) region which may have arrived from northern Mauritania or Mali.

• FORECAST

As a result of previous breeding near the Malian border, low to moderate numbers of adults are likely to have moved further north and north-west into the southern and central Sahara. They will probably disperse and eventually lay in areas of recent rainfall west and south of the Hoggar Mountains. Groups of adults and perhaps a few small swarms are likely to appear in the west from Tindouf to Bechar and lay in areas that receive rainfall during December.

Tunisia

• SITUATION

A late report confirmed that locusts appeared in the south around 10 October (Bulletin 218). Infestations consisted of scattered solitary adults mixed with a few mature gregarious adults in the regions of Tataouine, Gafsa, Tozeur, Kebili, Sidi Bouzid and Sfax. Similar infestations were found during surveys on 17-22nd at several locations in the extreme south near the Libyan border.

• FORECAST

Small scale breeding may occur in parts of the south that received recent rainfall.

Libya

• FORECAST

Scattered adults may be present in a few places of the west and north-west where they could breed in areas of recent rainfall.

EASTERN AFRICA

Sudan

• FORECAST

Low to moderate numbers of adults and perhaps a few groups are likely to be present and breeding in places along the Red Sea coastal plains from Karora to the Egyptian border and in adjacent interior areas such as Wadi Oko/Diib that received rainfall during November. As a result, hoppers are likely to appear from December onwards and may form a few small bands.

Eritrea

• SITUATION

No locusts were reported up to 18 November on the Red Sea coastal plains. A few isolated adults were seen in Asmara on the 15th and 17th.

• FORECAST

Low to moderate numbers of adults and perhaps a few groups are likely to be present and breeding in places along the Red Sea coastal plains from Assab to Karora that received rainfall during November. As a result, hoppers are likely to appear from December onwards and may form a few small bands.

Ethiopia

• SITUATION

A late report stated that no locusts were seen during surveys carried out in Tigray province and in the Railway area and adjacent areas of northern Harerge province on 21-26 October.

• FORECAST

No significant developments are likely.

Somalia

• SITUATION

Isolated adults were only seen at two places (1015N/4420E and 1037N/4325E) during surveys on the north-western coastal plains and interior areas on 13-18 November.

• FORECAST

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

Djibouti, Kenya, Tanzania and Uganda

• FORECAST

No significant developments are likely.

NEAR EAST

Saudi Arabia

• SITUATION

No locusts were reported during November.

• FORECAST

Low to moderate numbers of adults and perhaps a few groups are likely to be present and breeding in

places along the Red Sea coastal plains from Jizan to Al-Wajh that received rainfall during November. As a result, hoppers are likely to appear from December onwards and may form a few small bands.

Yemen

- SITUATION

Control operations continued against immature adults at several locations in the Shabwa Governorate up to 8 November. Operations in other Governorates finished by late October and no locusts were reported to be present. No locusts were reported on the Red Sea coastal plains as of mid November.

- FORECAST

Low to moderate numbers of adults and perhaps a few groups are likely to be present and breeding in places along the Red Sea coastal plains that received rainfall during November. As a result, hoppers are likely to appear from December onwards and may form a few small bands. Smaller infestations may be present on the Gulf of Aden plains.

Egypt

- SITUATION

No locusts were seen during surveys in the Nile River Valley from Lake Nassar to Qena and in the Western Desert at Kharga oasis up to 12 November.

- FORECAST

Low to moderate numbers of adults may be present and breeding in places along the central and southern Red Sea coastal plains and in adjacent interior areas that received rainfall during November. As a result, hoppers may appear from mid December onwards.

Kuwait

- SITUATION

No locusts were reported during October.

- FORECAST

No significant developments are likely.

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

- FORECAST

No significant developments are likely.

SOUTH-WEST ASIA

Pakistan

- SITUATION

No locusts were reported during November.

- FORECAST

Low numbers of adults are likely to appear in coastal and perhaps interior areas of Baluchistan. If temperatures remain unusually warm, some of these could lay during the forecast period near Panjgur and, if additional rainfall occurs, elsewhere in Baluchistan.

India

- SITUATION

No locusts were seen during surveys carried out in November.

- FORECAST

Low numbers of solitary adults may persist in a few places of Rajasthan.

Iran

- FORECAST

Low numbers of adults may appear in coastal and interior areas of Baluchistan.

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.

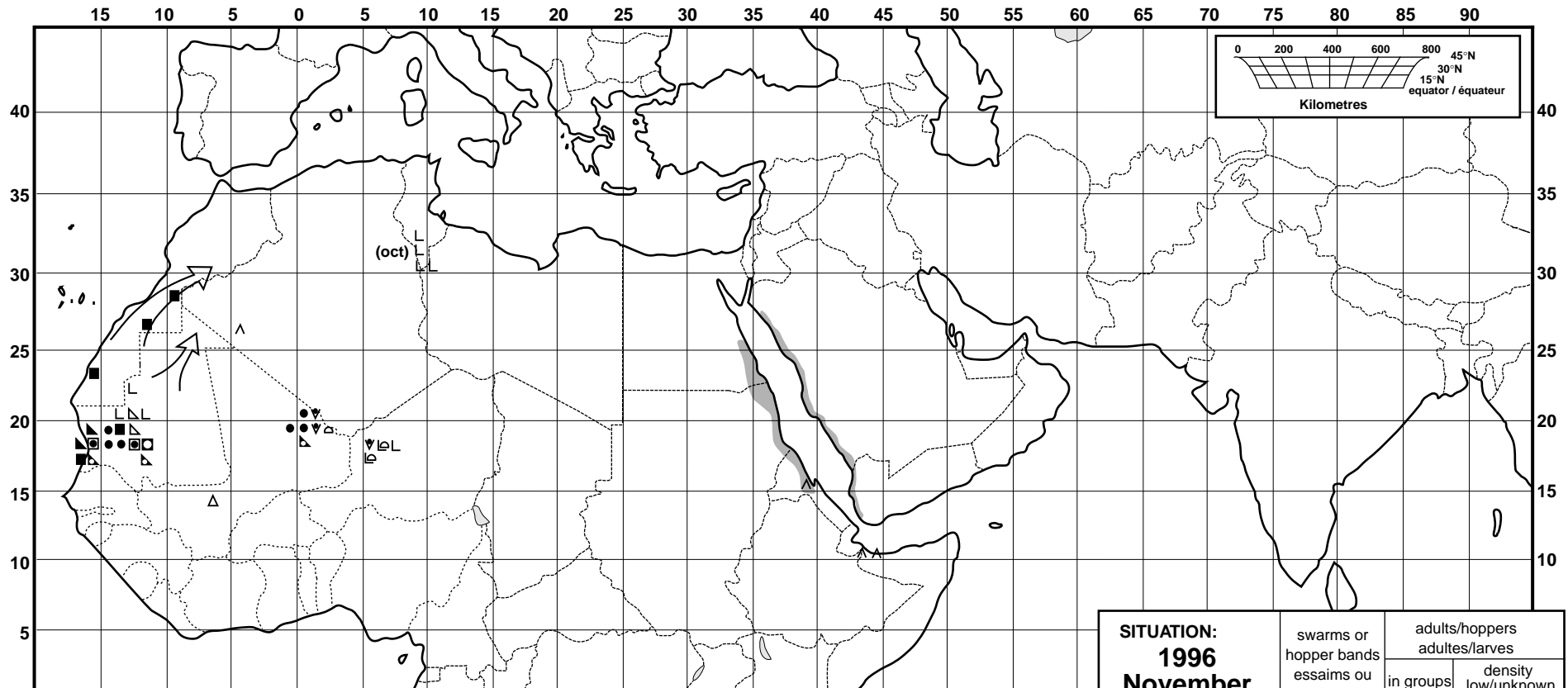
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Desert Locust summary

Criquet pèlerin situation résumée

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FORECAST TO: PREVISION AU:	15.1.97	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 November novembre	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)			