

DESERT LOCUST BULLETIN

FAO Emergency Centre for Locust Operations



No. 220
(2 Jan 1997)



General Situation during December 1996 Forecast until mid-February 1997

Several small Desert Locust swarms moved into southern Morocco and a few entered the Souss Valley during December. Small infestations are present in northern Mauritania. Control operations are in progress in both countries. Low numbers of adults were reported along the Red Sea coastal plains of Saudi Arabia, Egypt, Sudan and Eritrea. During the forecast period, adults will slowly mature in North-West Africa while those on both sides of the Red Sea are expected to lay eggs.

In North-West Africa, several swarms appeared in southern Morocco south of the Atlas Mountains from early December onwards. A few of these continued north and entered the southern part of the Souss Valley. Ground and aerial control operations are underway and treated more than 9,000 ha during the first half of the month. Although current infestations are limited to a small area near the coast, some swarms could move east along the southern side of the Atlas Mountains towards Algeria. Adults will slowly mature and may start to lay eggs by the end of the forecast period. Only scattered adults were reported in western and central Algeria.

In West Africa, small populations of immature adults and a few swarms were present in north-western and northern Mauritania. Some of the swarms were seen moving north towards Morocco and Algeria. There were a few reports of swarms moving south along the coast to the Senegal River Valley where a few swarms were seen. Small scale control operations are in progress. However, the threat of large numbers of swarms entering Senegal is assessed to be very low. Due to low temperatures, adults are expected to persist in parts of northern Mauritania and slowly mature. These may start laying eggs by the end of the forecast period.

In the Central Region, low numbers of solitary adults were scattered along the coastal plains bordering the Red Sea in Saudi Arabia, southern Eritrea, Sudan and southern Egypt. As breeding conditions continue to remain favourable, egg laying is expected to occur with hoppers appearing during the forecast period.

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



Weather & Ecological Conditions during Dec 1996

Moderate to heavy rains fell over parts of southern Morocco where breeding conditions are improving. Light rains fell at times over the coastal plains of the Red Sea where conditions are already favourable for breeding. Light showers may have also occurred in parts of Baluchistan in Iran and Pakistan.

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, Other Migratory Pests and Emergency Operations Group, AGP Division, FAO, 00100 Rome, Italy.

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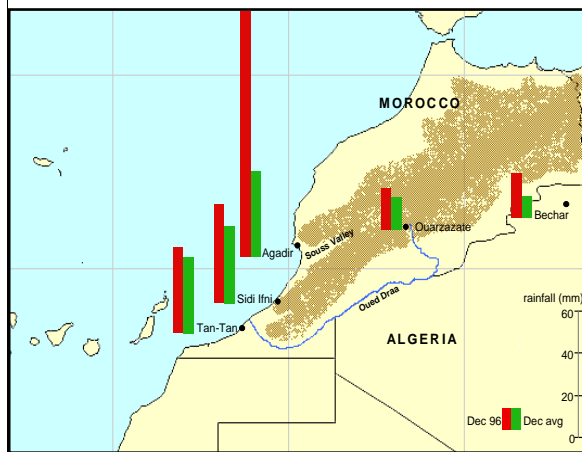
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The weather in **North-West Africa** was dominated by several eastward-moving Mediterranean depressions, which produced above average rains on the western coastal plains of Morocco (Agadir 125 mm; Sidi Ifni 47 mm) and on the southern side of the Atlas Mountains (Ouarzazate 20 mm) extending to Algeria (Bechar 21 mm). Further to the east, the depressions gave rain in Tunisia and the northern part of Libya. Daytime temperatures were generally around 20 degrees C, but were considerably warmer during periods of southerly winds associated with the passage of a depression. These were often warm enough to allow migration north towards the Atlas Mountains. The south of Algeria and Libya may have received a little rain from a large cloud band which passed over this area in the first and last dekads of the month. Green vegetation and favourable breeding conditions were mainly confined to coastal areas of Morocco from Tan-Tan to Agadir.

The Inter-Tropical Convergence Zone (ITCZ) in West Africa fluctuated between 7-12N on the west coast and between 5-10N further to the east. Prevailing winds over the interior of the region were from the east to north-east, except when deep Mediterranean depressions imposed a more southerly wind. Cloud bands in the beginning and end of the month from southern Mauritania and Senegal, over central Mali, to the north of Niger may have produced a few light and localized showers. Vegetation is dry or drying out in most locust areas. Temperatures fluctuated generally between 15-27 degrees C.

In Eastern Africa, northerly winds prevailed over the interior of Sudan. Orographic clouds formed in the coastal areas of Sudan, Ethiopia and Eritrea where wind coming from the Red Sea was forced to rise on the mountain slopes. Some rain may have fallen in these areas; Djibouti reported a total of 28 mm. During the month, a large convergent area was located over Ethiopia where convective clouds were visible for most of the time. However, no rains have been reported from this area. Some localised rain may have fallen in some parts of the coastal plains of northern Somalia. Conditions are expected to continue to be favourable for breeding along the coastal plains of the Red Sea.

The weather of the **Near East** was influenced by a series of upper-air ridges and troughs passing eastward over northern areas. The convergent airflow on the east side of the troughs caused rain to fall north of 25N in the beginning and end of the month. The Red Sea coastal areas of southern Egypt and Saudi Arabia to the Aden coastal plains of Yemen may have received light rainfall resulting from orographic lifting of winds coming from the sea. While prevailing winds over the interior of Saudi Arabia were from the south-east, winds over the southern parts of the Arabian Peninsula were from the north-east. A depression over the Arabian Sea in the last dekad produced significant rain in coastal areas of central and southern Oman (Masirah 22 mm; Raysut 97 mm). Conditions are expected to be favourable for breeding along the coastal plains of the Red Sea and perhaps on the Aden coastal plains.

In South-West Asia cold northern winds probably inhibited any locust activity in Pakistan and India. Although no reports of rainfall were received, some rain associated with an upper-air trough may have fallen over coastal and interior areas of Baluchistan in Iran and Pakistan during the third week of the month.



Area Treated

Mauritania	1,071 ha(December)
Morocco	9,174 ha(1-15 December)



Desert Locust Situation and Forecast

WEST AFRICA

Mauritania

• SITUATION

Late information confirms a northern movement of immature swarms in mid October in northern Mauritania near Guelb Er Richat (2107N/1124W) and also in late November near Nouakchott, Atar (2031N/1303W) and in Tiris Zemmour.

During the first dekad of December, small populations of immature adults were present near Nouakchott and south-west of Akjoujt (1945N/1424W). Several small immature swarms were present in the Amatlich area south of Atar and to the west of Tidjikja (1829N/1139W) in western Tagant. These varied in size from 5 to 70 ha at densities up to 20 adults per sq. metre. Some of these were reported to be settled in crops near Amatlich. Others were seen moving towards the north. Control teams treated nearly 400 ha in both areas. In the north, two small mature groups of adults were seen in the El Hank area at 2349N/0719 on the 7th.

During the last two dekads, infestations persisted in the above areas but had gradually declined by the end of the month. Control operations were carried out against a few immature groups and swarms were treated south of Atar and near Nouakchott. There were several reports of immature swarms moving south along the coast from Nouakchott to the Senegal River Valley from mid month onwards. A swarm was reported on trees west of Aioun El Atrous (1640N/0937W) on the 15th which was later seen moving northwards. Another swarm was seen near Kiffa (1635N/1125W) on the 27th. There were several other reports from northern Mauritania of immature swarms flying north between Guelb Er Richat and Zouerate (2244N/1221W), and isolated adults were seen near Bir Moghreïn (2510N/1135W). A total of 678 ha were treated during the period.

• **FORECAST**

Small infestations of adults will persist near Nouakchott and in parts of Inchiri. Adults and a few swarms will also persist between Tidjikja and Zouerate and further north in the El Hank area. Adults will slowly mature during the forecast period. Some swarms may move further north, especially during periods of warm southerly and south-westerly winds associated with eastward moving depressions over the Mediterranean. If rainfall occurs and temperatures are warm, some laying may occur by the end of the forecast period.

Mali

• **FORECAST**

Isolated adults may be present and will persist in some parts of the Adrar des Iforas.

Niger

• **SITUATION**

Previous infestations in Tamesna were reported to be decreasing by late November and early December and most had fledged into immature adults. A few third to fifth instar hoppers persisted at Iguidi (1750N/0558E). Scattered immature adults were seen at In Zinkad (1807N/0546E) at densities up to 500 per ha and in the

Iguidi area at densities of 1,000-1,500 per ha in areas of 200-500 ha up to 8 December.

• **FORECAST**

Low numbers of adults are expected to persist in a few areas of central Tamesna.

Senegal

• **FORECAST**

There is a low risk of a few small swarms appearing in the Senegal River Valley from the north early in the forecast period. These are likely to move south on prevailing winds.

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

• **FORECAST**

No significant developments are likely.

NORTH-WEST AFRICA

Morocco

• **SITUATION**

During the first half of December, several small low to medium density immature swarms arrived south of Agadir in the Goulmime (2856N/1004W) area. Infestations were scattered north of Oued Draa between Tan-Tan (2830N/1120W) and Fom El Hassane (2859N/0855W). Some swarms reached the southern side of the Anti-Atlas Mountains. Swarms varied in density from 1-60 adults per sq. metre; most were less than 10. Swarm size ranged from 40 ha to 30 sq. km, although most were less than 3 sq. km. On the 13th, two small swarms entered the southern Souss Valley north of Tiznit (2952N/0944W). Aerial and ground control operations treated more than 9,000 ha during the period.

• **FORECAST**

Additional swarm movement is expected further east and north-east along the southern side of the Atlas Mountains towards the Algerian border. Some of these swarms may move further north along the coast into the Souss Valley. Movement is most likely to occur during periods of warm southerly and south-westerly winds associated with eastward moving depressions over the Mediterranean. Adults and swarms will slowly mature and start laying towards the end of the forecast period.



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Algeria

• SITUATION

Scattered transiens adults were seen in the Ahnet region west of the Hoggar Mountains at 2458N/0313E on 7 December. One immature gregarious adult was reported near the Moroccan border north-east of Tindouf at Oum Lassel (2837N/0634W) on the 10th.

• FORECAST

There is a moderate risk of immature adults and a few small swarms appearing south of the Moroccan border between Tindouf and Bechar. This is most likely to occur during periods of warm southerly and south-westerly winds associated with eastward moving depressions over the Mediterranean. Similar populations may also appear south of Tindouf from adjacent areas in northern Mauritania. Low numbers of adults are expected to persist in a few places of the central and southern Sahara. Adults will slowly mature and could start laying by the end of the forecast period.

Tunisia

• FORECAST

Scattered adults may be present in a few places of the south where they could breed in areas of 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

• SITUATION

A late report indicated that scattered immature adults at densities of 175-550 adults per ha were present at several places in the Tokar Delta on 3 November and again on the 30th at densities of 100-500 per ha. No locusts were seen during surveys along the coastal plains from Tokar to Suakin and north of Port Sudan nor in adjacent subcoastal areas of Wadi Oko/Diib up to 17 December.

• FORECAST

Low numbers of adults will persist in the Tokar Delta and in a few places along the Red Sea coastal plains south to Karora and north to Suakin. These are expected to lay eggs and hoppers should appear during

the forecast period. Scattered adults may be present further north towards the Egyptian border and in adjacent interior areas of Wadi Oko/Diib where they may be breeding.

Eritrea

• SITUATION

Scattered solitary adults were reported on the southern coast west of Assab at Debaysima (1243N/4217E) on 50 ha on 18 December. No locusts were seen elsewhere on the coastal plains during surveys at mid month.

• FORECAST

Low numbers of adults are likely to be present and breeding in a few places along the Red Sea coastal plains from Assab to Karora. As a result, hoppers are likely to appear during the forecast period.

Ethiopia

• SITUATION

No locusts were seen during surveys carried out in the south-east near Jijiga (0920N/4240E) and Degebur (0820N/4340E) on 18-25 December.

• FORECAST

No significant developments are likely.

Somalia

• SITUATION

Isolated mature adults were only seen at Biyo Dader (1020N/4522E) and Hodmo (1040N/4618E) on 4 and 6 December, respectively, during surveys along the northern coast and in the interior east of Berbera.

• 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

Scattered mature adults at densities of up to 20 per ha were reported at a few locations during December on the Red Sea coastal plains and near the foothills of the Asir Mountains. These were present between Qunfidah (1909N/4107E) and Lith (2010N/4020E), in the Mecca (2126N/3949E) area and up to about 90 km north of Jeddah (2130N/3910E). Similar populations were also seen on the eastern side of the Asir Mountains just east of Taif (2115N/4021E).

• FORECAST

Low numbers of adults will persist along the Red Sea coastal plains and in subcoastal areas from Jizan to

north of Jeddah where they are expected to lay eggs. As a result, hoppers are likely to appear during the forecast period. Similar populations may be present further north along the coastal plains to Al-Wajh.

Yemen

- FORECAST

Low numbers of adults are likely to be present and breeding in places along the Red Sea coastal plains. As a result, hoppers are likely to appear during the forecast period. Smaller infestations may be present on the Gulf of Aden plains.

Egypt

- SITUATION

Isolated mature adults, up to 10 per location, were present at several places on the southern Red Sea coastal plains and adjacent interior areas between Halaib (2212N/3635E) and Shalatein (2308N/3536E) up to 20 December. No locusts were seen during surveys in the Nile River Valley, the central Red Sea coast and the Sinai Peninsula.

- FORECAST

Low numbers of adults are expected to persist and breed on the southern Red Sea coastal plains and in adjacent interior areas. As a result, hoppers are likely appear during the forecast period.

Kuwait

- SITUATION

No locusts were reported during November.

- 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 December.

- FORECAST

Low numbers of adults may be present in coastal and 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 December.

- FORECAST

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

Iran

- FORECAST

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

Afghanistan

- FORECAST

No significant developments are likely.



Announcements

The Migratory Pests Group would like to wish everyone a very happy and healthy New Year.

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

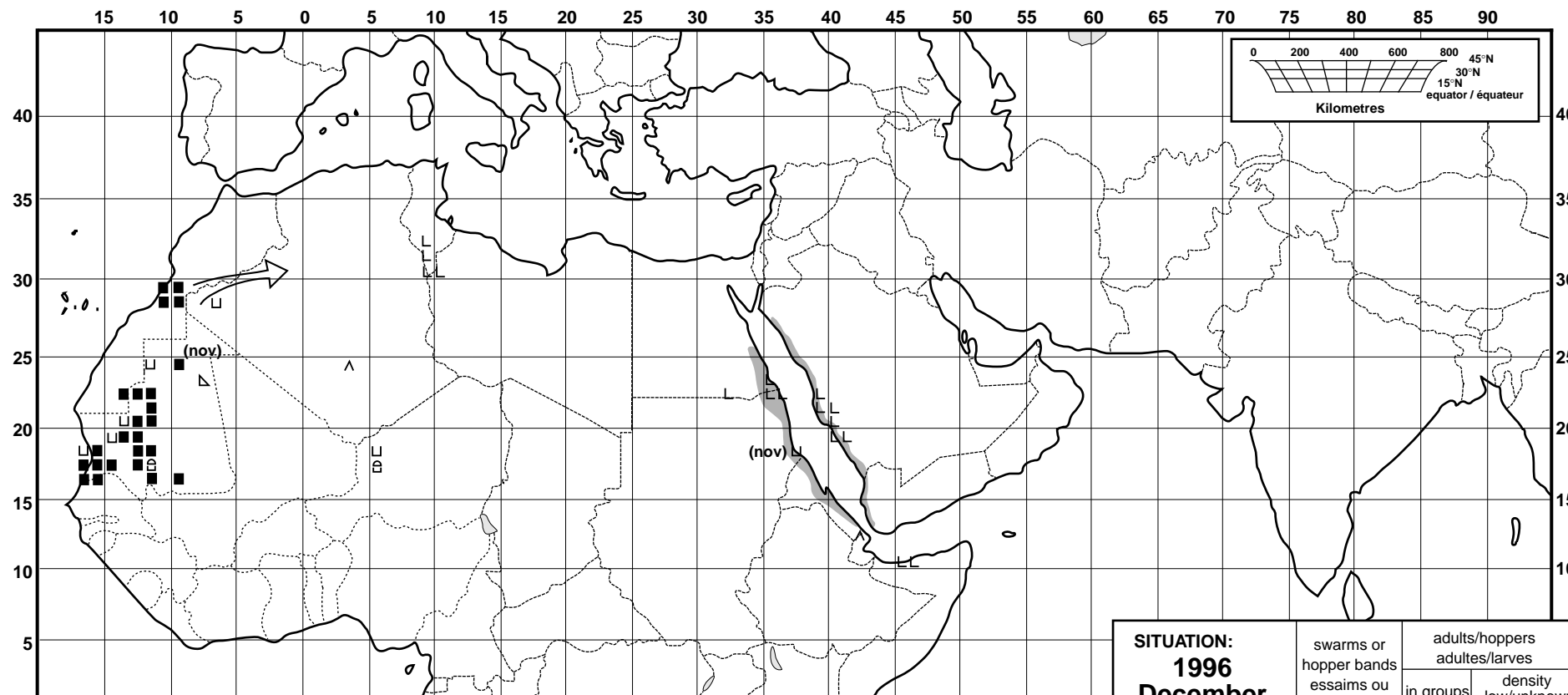
- a period following a recession marked initially by a very large increase in locust numbers and contemporaneous outbreaks followed by the production of two or more successive seasons of transient-to-gregarious breeding in complimentary seasonal breeding areas in the same or neighbouring Desert Locust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

issued: 2 January 1997



Desert Locust summary Criquet pèlerin situation résumée

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FORECAST TO: PREVISION AU:	15.2.97	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 December decembre	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)	◼	◼	◼