



# FAO



## EMERGENCY CENTRE FOR LOCUST OPERATIONS

### DESERT LOCUST BULLETIN No. 209



#### GENERAL SITUATION DURING JANUARY 1996 FORECAST UNTIL MID-MARCH 1996

The most significant infestations reported to date were those in Saudi Arabia where previous laying resulted in hopper bands on the Tihama and control operations are still in progress. Ecological conditions are expected to remain favourable in several areas of the Arabian Peninsula. Additional hopper bands appeared on a relatively restricted area in the extreme south-west of Morocco. In Mauritania, control operations were concluded near Nouakchott and in Inchiri and a few small swarms moved north into the Tiris Zemmour where little control operations were undertaken due to the small size of the targets. Despite apparent improvements, careful monitoring of the situation will continue to be required.

Two swarms laid early in the month on the Red Sea coast of Saudi Arabia north of Jeddah and hopper bands started to form during the second half of January. Aerial and ground control operations were undertaken against these and hopper bands remaining south of Mecca, covering a total of more than 38,000 ha. The situation started to improve in some areas by the end of the month. On the western side of the Red Sea, no major infestations were reported as only scattered adults were present at a few places in south-eastern Egypt and one location north of Massawa in Eritrea. No locusts were reported during several surveys undertaken in Sudan. Any escapees on the eastern side of the Red Sea may breed again locally although some adult movement is expected to occur further north. If so, breeding in central Saudi Arabia is likely to occur by the end of the forecast period if temperatures warm up.

In Mauritania, limited control operations were undertaken near Nouakchott during the last dekad of December and in Inchiri in late December-early January, covering less than 1,600 ha. A few small swarms appeared in the Tiris Zemmour in a limited area south of Zouerate, but most of them were loose and could not be treated. Control operations covered about 2,000 ha and extensive survey continued. As a result, further migration towards North-West Africa may be on a small scale.

Favourable ecological conditions persisted in south-western Morocco where about 3,500 ha of hopper bands and young adults were treated from mid-December to mid-January. No locusts were reported from Algeria during December.

In South-West Asia, isolated adults were reported from the interior of Baluchistan of Pakistan. Isolated adults may be present in some areas of recent rains on the Makran coast and adjacent areas in Iran.

The FAO Desert Locust 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 Locust, Other Migratory Pests and Emergency Operations Group, AGP Division, FAO, 00100 Rome, Italy. It is also available on the Internet.

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## WEATHER & ECOLOGICAL CONDITIONS DURING JANUARY 1996

Based on field reports, METEOSAT and NOAA 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 January, several strong depressions were present over the Mediterranean and primarily northerly winds prevailed over North-West Africa and Mauritania. However, there were periods of southerly winds on the 8th, 15th-16th and 27th-28th during which some adults may have migrated north.

In West Africa, no rainfall occurred during the month. Green vegetation was limited to areas of run-off in western Tiris Zemmour of Mauritania and ecological conditions were favourable for breeding only south-east of Zouerate in the Magteir area. Temperatures started to increase, which is likely to allow any locust present to mature and breed. There were no indications of significant rains in other countries in the Region.

Although a few light rains were reported in North-West Africa during the month, favourable ecological conditions were reported to persist in southern Morocco. Dense clouds were often associated to Mediterranean depressions over the Atlas Mountains extending in the Bechar area and at times over the Central Sahara of Algeria; however, no significant rains were reported and conditions may be unfavourable in these areas.

On the western side of the Red Sea, clouds continued to be present primarily from Port Sudan to Massawa throughout January. As a result of heavy rains which fell in late December and early January on the southern Red Sea coast of Sudan (flood was reported near Adobana) green vegetation was present in most places between Tokar Delta and the Eritrean border. Conditions were dry further north in the Suakin area. In Eritrea, moderate rainfall occurred in the Massawa area and ecological conditions started to improve south of Massawa up to Arafale, whereas they remained dry north of Massawa. Significant rains were received during the first week of the month on the south-eastern coast of Egypt where favourable ecological conditions were reported. Little cloud activity over north-western Somalia suggested that no substantial rainfall occurred.

Heavy rains were received in Mecca and the southern Asir Mountains during the first dekad and favourable ecological conditions were reported on the southern Tihama. Cloud activity was visible throughout the month over the Arabian Peninsula and rainfall occurred several times in the northern and eastern part of the Peninsula. As a result of these and heavy rains that fell during December, ecological conditions are expected to be already favourable in northern Saudi Arabia, northern UAE and northern Oman. Cloud activity suggested that a few showers may have occurred primarily on the coastal plains east of Aden in Yemen.

Ecological conditions were improving on the south-eastern coast of Baluchistan of Iran as a result of moderate rains received near Chabahar in late December. Favourable ecological conditions are expected to persist on the Makran coast of Pakistan as a result of rainfall during December. Dry conditions were persisting in Rajasthan of India, although a few light rainfall occurred.



### AREA TREATED

Mauritania	567 ha	(21-31 December)
	3,080 ha	(1-22 January)
Morocco	2,868 ha	(16-31 December)
	705 ha	(1-15 January)
Saudi Arabia	38,758 ha	(January)



## DESERT LOCUST SITUATION

Please see the last section of this Bulletin for a definition of terms used in reporting the current locust situation.

### WEST AFRICA

#### MAURITANIA

During the last dekad of December, control operations were concluded near Nouakchott where a very small maturing swarm was treated over 30 ha on the 22nd. In north-western Inchiri, late instar hoppers at a high density mixed with young adults were reported in the Tijirit area primarily at 2042N/1430W where aerial control operations covered a total of 537 ha at the end of the dekad. Small numbers of fourth instar hoppers mixed with immature adults persisted in the Amatlich area over 40 ha at 1949N/1339W during the same period. Elsewhere, a few isolated adults were reported at several places up to 50 km north-east of Nouakchott, between east of Akjoujt (1950N/1402W) and north of Atar (2056N/1254W), and near Zouerate (2244N/1228W).

During January, control operations were concluded in the Tijirit area where 1,000 ha of young immature adults mixed with fifth instar hoppers were treated by air on the 1st-2nd. Further north, a few small maturing swarms appeared south-east of Zouerate during the third week of the month. A total of four were reported in this area during ground and helicopter surveys throughout the month, out of which only two were suitable targets; a total of 2,080 ha were treated by air and by ground on the 20th and 22nd. Another loose immature swarm was reported by a nomad north of Tmimichat (2125N/1415W) on the 30th. Isolated adults were seen near Atar, Zouerate and as far north as Bir Mogrein (2513N/1134W) during the first two dekads of January, and during helicopter surveys in eastern Tiris Zemmour, a few solitary adults were seen only at 2340N/0824W on the 5th.

By the end of the month, most reports were from the Magteir area (ca. 2150N/1140W) where isolated mature adults, some of them copulating, were seen over 100 ha at a density of 300 per ha. One fifth instar hopper was also reported. No locusts were observed near Nouakchott and in the Amatlich and Tijirit areas.

**No locust information was received from other countries in the Region up to 31 January.**

### NORTH-WEST AFRICA

#### MOROCCO

During the second half of December, small third to fifth instar bands of hoppers were reported in 19 places in the extreme south-west within an area between ca. 2220-2315N/1410-1600W and at one location near the coast at Ris Gtaa Sfa (2254N/1614W). At the end of the month, fledglings commenced to appear. This suggested a possible movement of adults which could have occurred from the south during October. Infested areas were ranging between 5 and 500 ha, with an average of 150 ha. A total of 2,868 ha were treated by ground.

During the first half of January, ground control operations continued on a smaller scale within the same area against fifth instar hoppers and young immature adults. A total of 705 ha were treated in 12 places.

#### ALGERIA

No locusts were reported during December.

**No locust information was received from other countries in the Region up to 31 January.**

### EASTERN AFRICA

#### SUDAN

No locusts were reported during aerial and ground surveys south of Tokar Delta near Adobana (1808N/3815E) and in the adjacent areas of the interior near Baran (1748N/3732E) on 20-25 December.

In January, no locusts were reported near Adobana and Aitarba (1755N/3821E) on the 2nd-13th, and between north of Suakin (1913N/3712E) and north of Port Sudan (1949N/3710E) on the 9th.

**ERITREA**

During January, no locusts were seen during an aerial survey north of Massawa up to Wadi Malecte (1712N/3840E) on the 3rd-4th and south of Massawa up to Bada (1440/4010E) on the 5th. During ground surveys on the 6th-15th, scattered solitary adults were present within cultivated areas near Mersa Cuba (1615N/3910E) but no locusts were seen elsewhere in the coastal areas north of Massawa up to Mersa Gulbub (1624N/3910E) and in the Barka Province near Cheru (1532N/3712E). No locusts were reported on the 31st.

**No locust information was received from other countries in the Region up to 31 January.**

## NEAR EAST

**EGYPT**

Scattered mature adults were reported in several wadis on the south-eastern Red Sea coast near Halaib (2213N/3638E) and within cultivated areas of the interior at Tomaj (2246N/3210E) and Allaqi (2253N/3305E) on 5 January.

**SAUDI ARABIA**

In early January, aerial control operations covered 1,800 ha of laying swarms, up to 80 adults per sq. m., at two places near Rabigh (2242N/3910E) on the 4th and the 6th. Some adults were reported to have laid before being treated and aerial control operations were subsequently undertaken over 4,100 ha of hoppers of first and second instars during the second half of the month. First to fourth instar hoppers, at a maximum density of 25 per sq. m. were reported at seven locations between Nawan (1928N/4110E) and Mecca from the 6th to the last dekad of the month. Ground control operations covered a total of 32,858 ha of bands in this area. No locusts were reported near Jizan (1655N/4230E) on the 8th and near Nawan by the end of the month.

**No locust information was received from other countries in the Region up to 31 January.**

## SOUTH-WEST ASIA

**IRAN**

A late report was received stating that a few isolated mature adults were present on the south-eastern coast of Baluchistan at three locations near Poshti (2527N/5930E) on 16 November.

One hopper was seen in the same area at Kachow (2512N/6105E) and no locusts were seen at five other locations east of Chabahar on 10 January.

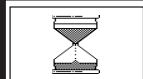
**PAKISTAN**

During the second half of December, isolated adults were reported at two places in the interior of Baluchistan, with a maximum of two adults seen at Shimshi (2751N/6513E) in Kharan district on the 20th.

**INDIA**

No locusts were reported during the second half of December and the first half of January.

**No locust information was received from other countries in the Region up to 31 January.**



## FORECAST UNTIL MID-MARCH 1996

Forecasting terms used in this section to indicate the chances of a particular event happening are indicated below; every term is arranged within each category from most to least probable:

high probability	will, probably, almost certain, likely, expected
medium probability	may, might
low probability	possibly, perhaps, unlikely

### WEST AFRICA

#### MAURITANIA

Low numbers of hoppers will almost certainly appear in the Magteir area where additional breeding may occur with any adults, perhaps forming a few groups or small swarms, present in the Tiris Zemmour. However, this is expected to be on a small scale and adults are more likely to continue to move further north.

#### MALI

A few isolated adults are expected to persist in Adrar des Iforas.

#### NIGER

A few isolated adults are expected to persist west of the Air.

#### BURKINA FASO, CAMEROON, CAPE VERDE, CHAD, GAMBIA, GUINEA BISSAU, GUINEA CONAKRY and SENEGAL

No significant developments are likely.

### NORTH-WEST AFRICA

#### MOROCCO

Additional breeding may occur in the extreme south-west with any adults arriving from the south, although this is not expected to be on a large scale. Adult groups, perhaps a few small swarms, are likely to appear further north to the south of the Atlas Mountains and lay in areas of recent rains if temperatures increase.

#### ALGERIA

Small numbers of adults may have reached the Tindouf area from the south during periods of warm southerly winds associated with Mediterranean depressions. Adult groups, perhaps a few small swarms, are likely to appear south of the Atlas Mountains and lay in areas of recent rains if temperatures increase. A few isolated adults are expected to be present in the Central Sahara and breed if rainfall occurs.

#### LIBYA and TUNISIA

No significant developments are likely.

### EASTERN AFRICA

#### SUDAN

Isolated adults are likely to be present on the southern Red Sea coast and breed in areas that received rainfall. A few isolated adults may be present in Wadi Oko/Diib.

#### ERITREA

Isolated adults are likely to persist on the Red Sea coast north of Massawa and breed if rainfall occurs. Isolated adults may be present and breeding on the coastal plains between Massawa and Arafale.

#### SOMALIA

A few isolated adults are likely to be present on the north-western coastal areas.

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

No significant developments are likely.

**NEAR EAST****EGYPT**

Scattered adults are expected to persist in the extreme south-west and breed in areas of recent rains.

**SAUDI ARABIA**

Some adult groups, perhaps a few small swarms, are expected to form with any escapee from control operations in the Red Sea areas. These are expected to mature and breed along the coast. There is also a possibility of a gradual movement further north and breeding on a small, possibly moderate, scale is likely to occur in northern central regions by the end of the forecast period if temperatures increase.

**YEMEN**

Isolated adults may be present on the Tihama and coastal plains of Aden and breed in areas that received rainfall.

**OMAN**

Isolated adults may be present on the northern Batinah and in the Buraimi area.

**UAE**

Isolated may be present in the Fujayrah.

**BAHREIN, IRAQ, ISRAEL, JORDAN, KUWAIT, LEBANON, QATAR, SYRIA and TURKEY**

No significant developments are likely.

**SOUTH-WEST ASIA****IRAN**

A few isolated adults are expected to be present on the south-eastern coast of Baluchistan.

**PAKISTAN**

A few isolated adults are expected to be present on the Makran coast where they may start to breed by the end of the forecast period. Isolated adults may persist in a few places in the interior of Baluchistan.

**INDIA**

A few isolated adults may persist in Rajasthan.

**AFGHANISTAN**

No significant developments are likely.

**ANNOUNCEMENT**

We wish to announce with deep regret the death of Colonel Moha Layid who directed as Deputy Co-ordinator Desert Locust operations in Morocco since 1987. We wish to express our condolences to his family and his Government.



## GLOSSARY OF TERMS

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

### Non-gregarious adults and hoppers

isolated	very few present and no mutual reaction occurring; 0 - 1 adult per 400 m foot transect (or less than 25 per ha). Other terms: a few.	
scattered	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). other terms: some, low numbers.	
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 sq. km	band: 1 - 25 sq. m.
small	swarm: 1 - 10 sq. km	band: 25 - 2,500 sq. m.
medium	swarm: 10 - 100 sq. km	band: 2,500 sq. m - 10 ha
large	swarm: 100 - 500 sq. km	band: 10 - 50 ha
very large	swarm: more than 500 sq. km	band: more than 50 ha

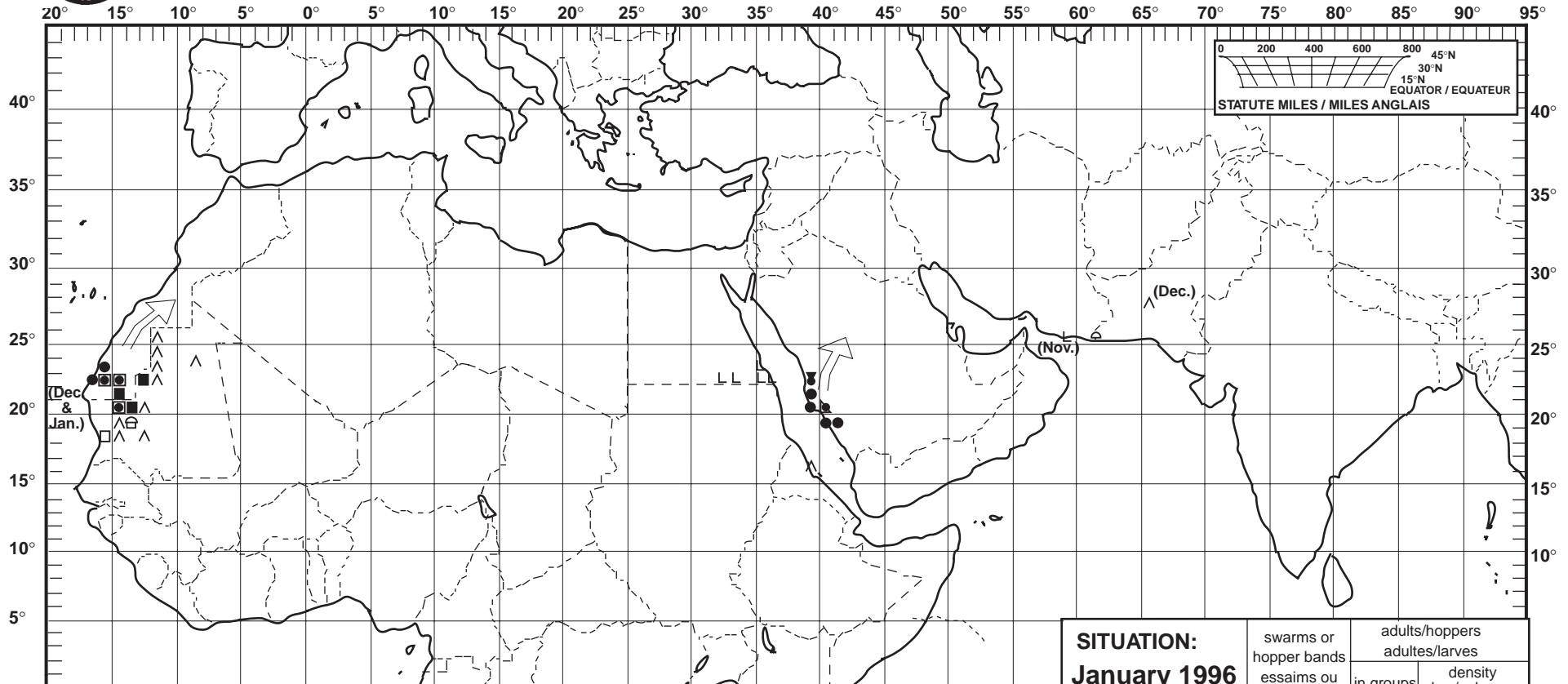
### Other reporting terms

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

## No. 209



FORECAST TO: PREVISION AU: <b>15.3.96</b>	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: <b>January 1996 janvier 1996</b>	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)			