

# DESERT LOCUST BULLETIN

FAO Emergency Centre for Locust Operations



No. 313

(3 November 2004)



## General Situation during October 2004 Forecast until mid-December 2004

The Desert Locust situation remained extremely serious during October. There has been a significant redistribution of populations from West to Northwest Africa. As vegetation dried out, numerous swarms left the summer breeding areas in the Sahel, West Africa and invaded Morocco and Algeria. Some swarms arrived in the Cape Verde Islands. A few swarms also reached the Mediterranean coast near the Libyan and Egyptian border and crossed the sea to Crete, and probably to Cyprus and the Lebanon. Aerial and ground control operations continued in the Sahel and intensive operations were launched in Morocco and Algeria and started in Libya and Egypt. The situation should continue to improve in the Sahel but it is likely to deteriorate further in Northwest Africa as more swarms arrive during November.

**Western Region.** Numerous immature swarms continued to form in Senegal, southern Mauritania, Mali and Niger during October. Smaller infestations were present in Burkina Faso, Chad and the Cape Verde islands. Vegetation rapidly dried out in many areas and swarms moved north into northwest Mauritania and Western Sahara where it was dry. Consequently, swarms have continued further north and reached the southern foothills of the Atlas Mountains in Morocco and Algeria. Swarms also moved into northern Mali and Niger, and southern Algeria where breeding was in progress.

Unusually strong and persistent southwesterly winds at mid-month carried a few small swarms to the Mediterranean coast in northeastern Libya and to the island of Crete in Greece. By the end of the month, infestations had declined in the Sahelian zone in Senegal, Mali, Burkina Faso, Niger and Chad. Control operations treated one million ha in the region during October. If rainfall occurs in northwest Mauritania and Western Sahara, many of the swarms will stay there, mature and lay eggs that will hatch and form bands. If rains do not fall, the swarms will continue north and arrive in Morocco and Algeria during November where they will concentrate along the southern side of the Atlas Mountains and probably remain immature until spring, 2005. In this case, control teams will have about four months to reduce locust infestations before the swarms mature and lay eggs.

**Central Region.** Control operations treated a few small groups of hoppers and adults on the Red Sea coast in Yemen in early October. Only a few adults were present west of the Nile River in Sudan and no locusts were seen on the western coast of the Red Sea. At the end of the month, small immature swarms were reported on the Mediterranean coast in northwest Egypt. This was associated with the locusts that arrived in adjacent areas in northeastern Libya. There were also unconfirmed reports of swarms on Cyprus and in the Lebanon, again brought by strong southwesterly winds.

**Eastern Region.** Isolated adults were present in the summer breeding areas in Pakistan near the Indian border. No significant developments are likely.

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

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### Weather & Ecological Conditions in October 2004

In the **Western Region**, the Inter-Tropical Convergence Zone (ITCZ) was further south than normal during October, oscillating between 10N and 15N and occasionally reaching 18N in the first decade. Consequently, the rainy season in the Sahel came to end by about mid October and vegetation continued to dry out in all areas. In Mauritania, limited areas of green vegetation were present in the northwest near Atar. In northern Mali, vegetation was green in the Adrar des Iforas between Kidal and Tessalit. In Niger, good conditions persisted in Tamesna and eastern Air. In Northwest Africa, conditions were generally dry south of the Atlas Mountains in Morocco and Algeria. In the southern Algerian Sahara, green vegetation was present in several wadis southwest of Tamanrasset and along the Mali border. In Chad, vegetation was drying out except in the northeast where favourable conditions persisted near Fada. Unusually strong southwesterly winds persisted for several days during the month over the Algerian and Libyan Sahara.

In the **Central Region**, moderate rainfall occurred in early October in western Sudan followed by similar showers in central and eastern regions. Light to moderate rain fell along both sides of the Red Sea in Eritrea and Yemen, and extended to Jizan, Saudi Arabia. Consequently, breeding conditions were favourable in Yemen and were improving in Eritrea.

In the **Eastern Region**, moderate to heavy rain fell along the Indo-Pakistan border.



### Area Treated

More than 1 million ha were treated in October, bringing the total treated so far this summer in West Africa to 1.6 million ha. In all, 8.3 million ha have been treated since the beginning of the upsurge in October 2003.

	Current month	Campaign cumulative
Algeria	131,745 ha (1-31 Oct)	134,545 ha
Burkina Faso	3,839 ha (1-20 Oct)	16,286 ha
Cape Verde	497 ha (1-10 Oct)	1,013 ha
Chad	2,000 ha (23 Sep-2 Oct)	8,801 ha
Mali	106,582 ha (1-31 Oct)	347,351 ha
Mauritania	363,330 ha (1-31 Oct)	604,649 ha
Morocco	458,000 ha (1-31 Oct)	458,505 ha
Niger	96,383 ha (1-28 Oct)	200,080 ha
Senegal	378,636 ha (1-26 Oct)	642,350 ha
Libya	4,925 ha (2-31 Oct)	5,985 ha
Egypt	60 ha (30 Oct)	
Yemen	175 ha (1-4 Oct)	

*Note: Reporting delays and discrepancies may affect the accuracy of these figures.*



### Desert Locust Situation and Forecast

*( see also the summary on page 1 )*

#### WESTERN REGION

##### **Mauritania**

###### • SITUATION

During October, more swarms formed in the southwest where late instar hopper bands were present and moved along the Senegal River Valley. The situation improved in the southeast where vegetation was drying out and only a few late instar hoppers and bands mixed with adult groups were present and formed a limited number of immature swarms. Many of the swarms moved to the northwest where numerous large and dense swarms were seen in the Inchiri and Dakhlet Nouadhibou regions. Although some of the swarms near Atar (2032N/1308W) started to mature, the majority were immature and moved further north because of dry conditions. On the 18th, swarms were reported west of Zouerate (2244N/1221W). In the southeast, second generation hatching occurred southwest of Timbedra (1614N/0810W) near the Malian border during the second decade. During the third decade hoppers fledged at all but one site. Aerial and ground control operations treated 363,946 ha from 1-31 October.

###### • FORECAST

*Numerous swarms will continue to form primarily in the southwest and move to the north where they are likely to appear in Inchiri, Dakhlet Nouadhibou, Adrar and Tiris-Zemmour regions. If rain falls in these areas, the swarms will mature and lay eggs that will hatch and give rise to hopper bands; otherwise, the majority of the swarms will move to Northwest Africa. A smaller number of second generation swarms are likely to form in the southeast and move towards the north.*

## Senegal

### • SITUATION

During October, hopper bands continued to develop and numerous immature swarms formed in the north and centre. Swarms were also seen moving back and forth across the Senegal River Valley between Mauritania and Senegal. A few very large swarms, up to 800 km<sup>2</sup> in size with densities up to 150 adults/m<sup>2</sup>, were reported. Most of the bands consisted of late instar hoppers except for some early instar bands near Dakar. Infestations in the north extended as far east as Matam (1540N/1318W) while those in the centre were as far south as Tataquine (1427N/1638W), southeast of Dakar. During the second decade, nearly all of the hoppers in the north had fledged and formed swarms. As vegetation continued to dry out, more swarms moved north to Mauritania, causing swarm numbers to decrease in Senegal by the end of the month. Aerial and ground control operations treated 341,354 ha on 1-31 October.

### • FORECAST

*A few swarms may remain in the north and centre early in the forecast period but these are expected to move northwards. The threat of a reinvasion from Mali as well as the risk of swarms moving further south to the Casamance and Tambacounda regions in the south and southeast have diminished. Nevertheless, these areas should remain alert.*

## Mali

### • SITUATION

The situation improved in the Sahelian zone south of 16N as an increased number of swarms moved northwards during October. Immature swarms in the Mopti region were seen moving towards the northeast on 2-4th and were subsequently reported in the Gao region. By the end of the first decade and during the second decade, only a few small infestations of hoppers and fledglings mixed with immature adults were seen in the Mopti and Tombouctou regions. No locusts were seen in these areas after the 16th.

In the north, more immature swarms appeared during the first week of October in the Timetrine and the Adrar des Iforas, many of which were highly mobile and moving further north. Second to fourth instar hopper bands were present in the region. During the second and third decades, late instar bands were present and small immature groups and swarms were forming. So far, no locusts have been reported east of the Adrar des Iforas in the Tamesna. Aerial and ground control operations treated 106,582 ha from 1-31 October.

### • FORECAST

*Swarms will continue to form in the north (Timetrine, Tilemsi Valley and Adrar des Iforas). While most of these swarms are likely to move to Northwest Africa,*

*some will remain in the north and, if conditions remain favourable there, mature and eventually lay eggs. Hopper bands may be present in parts of Tamesna and, if so, swarms will form there during the forecast period and move further north.*

## Burkina Faso

### • SITUATION

During October, locust infestations declined in the northern region and the situation improved as swarms emigrated. No swarms were reported after 3 October but from 7-12 October remnants of the swarms were being controlled. No locusts were seen during surveys after the 15th. Control operations treated 3,839 ha from 1-20 October.

### • FORECAST

*There is a risk that a few swarms from adjacent areas in Niger and Mali may transit through northern areas. No further breeding or developments are expected.*

## Niger

### • SITUATION

During the first week of October, many immature swarms appeared in the west near Tillabéri (1428N/0127E) and the Burkina Faso border. Hatching and band formation continued in the west near Filingué (1421N/0319E) and in the Sahelian zone near Dakoro (1430N/0645E) and Tanout (1505N/0850E) where crop damage was reported. Adult groups were reported east of Diffa (1318N/1236E). Mainly third and fourth instar hopper groups and bands were present in Tamesna between Tahoua (1457N/0519E) and Tassara (1650N/0550E). Immature swarms were seen moving northwards and had reached the Air Mountains.

During the remainder of the month, hopper bands continued to develop in the Sahelian zone in the west and centre and were fledging during the last decade of October. Further north, immature swarms were forming in Tamesna during the third decade. In the Air Mountains, hopper bands were present in the southeast and immature swarms were seen on the Talak Plains east of Arlit (1843N/0721E) where crop damage was reported. Aerial and ground control operations treated 96,383 ha from 1-28 October.

### • FORECAST

*Locust infestations will decline in the Sahelian zone as swarms form and move to the north. Although most*



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*of these swarms will continue towards Northwest Africa, some will remain in the Air Mountains and, if conditions remain favourable there, the swarms will mature and eventually lay eggs.*

### Chad

#### • SITUATION

In late September, immature and mature swarms at densities up to 105 adults/m<sup>2</sup> were present in the western region of Kanem near the Bahr El Ghazal (ca. 1400N/1630E). Some of the swarms were mobile while others were laying eggs. In the central region of Batha, late instar hoppers at densities of 5-150/m<sup>2</sup> and fledglings mixed with groups of immature and mature adults that were forming swarms were present between Djedaa (1331N/1834E) and Haraz-Djombo (1357N/1926E). In the east, immature adults were present at densities up to 80/m<sup>2</sup> near Arada (1501N/2040E), and hoppers and immature adults were seen near Kalait (1550N/2054E). Ground teams treated 2,000 ha.

During the first half of October, laying continued in Kanem but infestations declined in Batha where only solitarious and transiens adults remained. Immature and mature swarms, perhaps from Batha, were reported south of Fada (1714N/2132E) in the northeast. Some of these were laying eggs. No control operations were carried out during the period.

#### • FORECAST

*Hatching and band formation will occur in parts of Kanem and in the northeast near Fada in November. Low to moderate numbers of adult groups and swarms are likely to form during December in these areas.*

### Cape Verde Islands

#### • SITUATION

During October, small mature swarms were reported on Fogo, Santiago, Maio, Boa Vista, Sao Nicolau and Santo Antao islands. These swarms are likely to have formed and matured rapidly from local breeding mixed with immature swarms that arrived in late September from West Africa. Many of the swarms were highly mobile and appeared to be moving between the islands. Swarms were seen laying eggs on all of the islands and hatching was reported on Santiago and Sao Nicolau. Elsewhere, isolated solitarious adults were seen on Sao Vicente island. Ground teams treated 497 ha from 1-10 October.

#### • FORECAST

*Swarms are likely to continue to move between the islands at times. Hatching and band formation will occur on most of the islands. There remains a moderate risk that a few swarms could arrive from summer breeding areas in West Africa during periods of easterly winds.*

### Gambia

#### • FORECAST

*There is a low risk that a few groups or swarms may arrive from the north as the Inter-Tropical Convergence Zone moves southward.*

### Guinea Bissau

#### • FORECAST

*There is a very low risk that a few locusts could arrive from the north as the Inter-Tropical Convergence Zone moves southward.*

### Guinea

#### • FORECAST

*There is a very low risk that a few locusts could arrive from the north as the Inter-Tropical Convergence Zone moves southward.*

### Atlantic Ocean

On 10 October, several groups of about 100 locusts each were seen on a ship about 40 km off the coast of southern Senegal at 1215N/1755W.

### Benin, Cameroon, Cote d'Ivoire, Ghana, Liberia, Nigeria, Sierra Leone and Togo

#### • FORECAST

*No significant developments are likely.*

### Algeria

#### • SITUATION

In late September, immature swarms at a density of 20 adults/m<sup>2</sup> were seen between Djanet (2434N/0930E) and Illizi (2630N/0825E) on the 29th and control operations were conducted.

During the first decade of October, immature swarms appeared in the extreme south along the Malian border near Bir Bou Mokhtar (2120N/0056E) and the Nigerian border near In Guezzam (1937N/0552E) where breeding was in progress and hoppers were forming groups. Many of the swarms continued north beyond Tamanrasset (2250N/0528E). Other immature adults and swarms appeared in the northwest near Tindouf (2741N/0811W), in the Saoura Valley near Beni Abbes (3011N/0214W) and in the Tlemcen (ca. 3452N/0119W) region. During the second and third decades, more immature swarms arrived in these areas and moved northeast along the Moroccan border near Ain Sefra (3245N/0035W). On

the 19th, swarms were reported south of Ghardaia (3225N/0337E) and on the 22nd near Ouargla. (3157N/0520E). Solely scattered immature adults were reported farther north on the high plateaux near Tébessa, Khenchela, Mascara and Sidi-Bel Abbès during the third decade of October. Aerial and ground control operations treated 131,745 ha from 1-31 October.

• **FORECAST**

*Swarm formation will continue in the south along the borders of Mali and Niger. These swarms and other swarms from the Sahel will move north towards the Atlas Mountains. The swarms are likely to concentrate in favourable areas along the southern foothills between the Moroccan and Tunisian borders where they will probably remain immature. Other swarms could appear in the east along the border with Libya and a few swarms could stay in the central Sahara (Tadmait Plateau and Ahnet areas) and, if rainfall occurs, mature and lay eggs.*

**Morocco**

• **SITUATION**

During the first decade of October, many small immature swarms at densities up to 40 adults/m<sup>2</sup> and coming from the southeast appeared along the southern side of the Atlas Mountains between Errachidia (3154N/0425W) and Ouarzazate (3057N/0650W). In the Western Sahara, immature groups arrived from the south in the Bir Gandouz (2136N/1628W) and Awssard (2240N/1410W) regions and progressively moved to the north, reaching Zag (2801N/0918W) on the 8th.

During the second decade, more immature swarms appeared in the Western Sahara and moved to the Draa Valley and the southern side of the Atlas Mountains where they were present between Guelmim (2859N/1003W) and Bouarfa (3232N/0159W) as well as in the Souss Valley. Aerial and ground control operations treated approximately 458,000 ha from 1-31 October.

• **FORECAST**

*Numerous swarms are likely to appear in Western Sahara from summer breeding areas in the Sahel and move to the Draa Valley and the southern foothills of the Atlas Mountains where they are expected to remain immature for several months. If rain falls in the Western Sahara, some of these swarms will remain there, mature and lay eggs that will hatch and form bands.*

**Libyan Arab Jamahiriya**

• **SITUATION**

Swarms that reached southwestern Libya at the end of September were controlled early in October. A new invasion of southwestern Libya occurred from 14-17

October and these highly mobile immature swarms continued northwards to reach the northwestern coast. Some also crossed the frontier into Tunisia and Algeria. Aerial and ground control treated 4925 ha from 2-30 October. From 27-31 October, a third wave of swarms entered Libya on unusually strong and persistent southwesterly winds and reached the northeastern Mediterranean coast near Tubruk (3206N/2356E).

• **Forecast**

*More swarms from the summer breeding areas in the Sahel are expected to appear in the west from Ghat to Ghadames and the Hamada al Hamra during November. The adults are expected to remain immature for several months.*

**Tunisia**

• **SITUATION**

There were reports of immature swarms in the extreme south on about 27 October. Further details are awaited.

• **FORECAST**

*More swarms may appear in the south during November. The adults are expected to remain immature for several months.*

**Greece**

• **SITUATION**

On about 16 October, swarmlets of immature adults appeared in western Crete (ca. 3500N/2330E). Similar populations were seen in the centre and south of the island up to the 21st. These swarmlets probably arrived from the Libyan mainland on unusually strong and persistent southwesterly winds.

• **FORECAST**

*No significant developments are likely.*

**CENTRAL REGION**

**Sudan**

• **SITUATION**

During the first and last weeks of October, isolated mature adults were seen in a few places in Northern Kordofan between El Obeid (1311N/3010E) and Sodiri (1423N/2906E). No locusts were seen along the Atbara River or on the Red Sea coastal plains between Port Sudan and the Tokar Delta.

• **FORECAST**

*Scattered adults may appear between the Atbara River and the Red Sea Hills as locust numbers decline*



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*in the summer breeding areas further west. Scattered adults are likely to appear on the Red Sea coastal plains between Port Sudan and Karora and breed on a small scale if rainfall occurs.*

### Eritrea

#### • SITUATION

No locusts were seen during surveys carried out along nearly the entire Red Sea coastal plains from Embere (1628N/3856E) in the north to the Djibouti border in the south from 16 to 24 October.

#### • FORECAST

*Isolated adults may appear on the northern coastal plains of the Red Sea and breed on a small scale if rainfall occurs.*

### Somalia

#### • SITUATION

No locusts were seen during surveys carried out in the northwest in October.

#### • FORECAST

*No significant developments are likely.*

### Ethiopia

#### • SITUATION

No surveys were carried out and no locusts were reported during October.

#### • FORECAST

*No significant developments are likely.*

### Djibouti

#### • SITUATION

No reports received.

#### • FORECAST

*No significant developments are likely.*

### Egypt

#### • SITUATION

A report was received on 28 October indicating that an immature swarm and numerous immature groups were seen in the northwest on the Mediterranean coast near Salum (3131N/2509E) and the Libyan border. On 31 October immature swarms were reported near El Baharia (29 28N/29 32E) and El Faioum (29 19N/30 50E). Ground control is in progress in all three areas.

#### • Forecast

*The locusts in the northwest are likely to disperse and eventually drift further east towards the Red Sea. A few adults may appear on the Red Sea coastal plains and sub-coastal areas between Shalatyn and Halaib where small-scale breeding could occur in areas of recent rainfall. No significant developments are likely.*

### Saudi Arabia

#### • SITUATION

No locusts were reported during October.

#### • FORECAST

*Scattered adults are likely to be present near Jizan where additional breeding could occur in areas of recent rainfall.*

### Yemen

#### • SITUATION

During October, solitary and transiens late instar hoppers and immature and mature adults were present on the northern Red Sea coastal plains between Al Zuhrah (1541N/4300E) and Midi (1619N/4248E) where infestations were seen in September. Densities of 3-10 hoppers/m<sup>2</sup> and 500-1,125 adults/ha were reported during the first few days of the month but then subsequently declined after ground control teams had treated 175 ha from 1-4 October. Further small-scale hatching occurred at the end of the month. Elsewhere, solitary mature adults were seen on the coast east of Hodeidah (1450N/4258E). No locusts were seen on the coastal plains near Aden (1250N/4503E) or in the interior near Marib (1525N/4521E).

#### • FORECAST

*Additional breeding could occur in areas of recent rainfall on the Red Sea coastal plains, causing locust numbers to gradually increase.*

### Oman

#### • SITUATION

No locusts were seen during a survey in the Musandam Peninsula and none was reported elsewhere in Oman during October.

#### • FORECAST

*No significant developments are likely.*

### Cyprus

There was an unconfirmed report that an immature Desert Locust swarm reached the west coast of Cyprus on 31 October and spread inland on 1 November when control began.

#### FORECAST

*No significant developments are likely.*

## Lebanon

There was an unconfirmed report that an immature Desert Locust swarm reached the Lebanon at the end of October. Control is in progress.

### FORECAST

*No significant developments are likely.*

**Bahrain, Iraq, Israel, Jordan, Kenya, Kuwait, Qatar, Syria Arab Republic, Tanzania, Turkey, UAE and Uganda**

### • FORECAST

*No significant developments are likely.*

## EASTERN REGION

### Iran

#### • SITUATION

No locusts were seen along the southern coastal plains near Bandar Abbas and Jask in mid October.

#### • FORECAST

*No significant developments are likely.*

### Pakistan

#### • SITUATION

During the second half of September and first half of October, isolated mature adults persisted along the Indian border in Khairpur and Cholistan Deserts.

#### • FORECAST

*No significant developments are likely.*

### India

#### • SITUATION

No locusts were seen during the first half of October.

#### • FORECAST

*No significant developments are likely.*

### Afghanistan

#### • SITUATION

No reports received.

#### • FORECAST

*No significant developments are likely.*



## Announcements

**Locust reporting.** Affected countries are kindly reminded to make sure that all locust situation reports are sent to FAO HQ by the 28th day of the month so the information can be included in the FAO bulletin for the current month; otherwise, it will not appear until the following month. Reports should be sent even if no locusts were found or if no surveys were conducted.

**During emergencies, RAMSES data should be transmitted twice/week and situation summaries should be sent every ten days.**

**Reporting by e-mail.** After each survey or control operation, affected countries should send completed *FAO Desert Locust Survey and Control Forms* or the RAMSES output file with a brief interpretation of the results by e-mail to [eclo@fao.org](mailto:eclo@fao.org).

**Locust archives.** Desert Locust reports received by FAO from affected countries from 1952 to the present are available on a series of four CDs in PDF. Please contact the Locust Group for more details.

**Upsurge photos.** Pictures of the current upsurge in the Western Region are available on the Internet at: [www.fao.org/news/global/locusts/outbreakpix04.htm](http://www.fao.org/news/global/locusts/outbreakpix04.htm)

**Desert Locust booklet.** FAO has produced a booklet for the general public and donor community entitled *Hunger in their wake: Inside the battle against the Desert Locust*, available for download at: [www.fao.org/news/global/locusts/pubs1.htm](http://www.fao.org/news/global/locusts/pubs1.htm)

**Publications on the Internet.** New FAO publications and meeting reports are available for downloading at [www.fao.org/news/global/locusts/pubslst.htm](http://www.fao.org/news/global/locusts/pubslst.htm):

- Contingency planning spreadsheets and simulations for outbreaks, upsurges and plagues (English, French)
- 8th Desert Locust Control Committee Technical Group meeting report (English, French)
- FAO Desert Locust Standard Operating Procedures (SOP) for survey, control and aerial operations (English, Arabic)
- FAO Desert Locust Guidelines – Arabic version in PDF is now available for downloading

**Assistance provided.** Details of assistance provided by donors to the current locust campaign are available on the Internet at: [www.fao.org/news/global/locusts/donors/donors.htm](http://www.fao.org/news/global/locusts/donors/donors.htm).

**2004-05 events.** The following meetings are scheduled:

- **Desert Locust Control Committee.** Extraordinary session, Rome 29 November – 2 December
- **EMPRES/WR.** 3rd Liaison Officers meeting, Dakar (Senegal), postponed



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- **SW Asia Commission.** 24th session, Delhi (India), 10-14 January 2005

**Press release.** Several press releases on the current Desert Locust emergency have been recently issued by FAO. These are available at: <http://www.fao.org/newsroom/en/index.html>.



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

##### **SCATTERED (SOME, LOW NUMBERS)**

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

##### **GROUP**

- forming ground or basking groups;
- 20+ adults/400 m foot transect (or 500+/ha).

#### **ADULT SWARM AND HOPPER BAND SIZES**

##### **VERY SMALL**

- swarm: less than 1 km<sup>2</sup>      • band: 1 - 25 m<sup>2</sup>

##### **SMALL**

- swarm: 1 - 10 km<sup>2</sup>              • band: 25 - 2,500 m<sup>2</sup>

##### **MEDIUM**

- swarm: 10 - 100 km<sup>2</sup>          • band: 2,500 m<sup>2</sup> - 10 ha

##### **LARGE**

- swarm: 100 - 500 km<sup>2</sup>        • band: 10 - 50 ha

##### **VERY LARGE**

- swarm: 500+ km<sup>2</sup>              • 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.

##### **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.

##### **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.

#### **REGIONS**

##### **WESTERN**

- locust-affected countries in West and North-West Africa: Algeria, Chad, Libya, Mali, Mauritania, Morocco, Senegal, Tunisia; during plagues only: Burkino Faso, Cape Verde, Gambia, Guinea Bissau and Guinea Conakry.

##### **CENTRAL**

- locust-affected countries along the Red Sea: Djibouti, Egypt, Eritrea, Ethiopia, Oman, Saudi Arabia, Somalia, Sudan, Yemen; during plagues only: Bahrain, Iraq, Israel, Jordan, Kenya, Kuwait, Qatar, Syria, Tanzania, Turkey, UAE and Uganda.

##### **EASTERN**

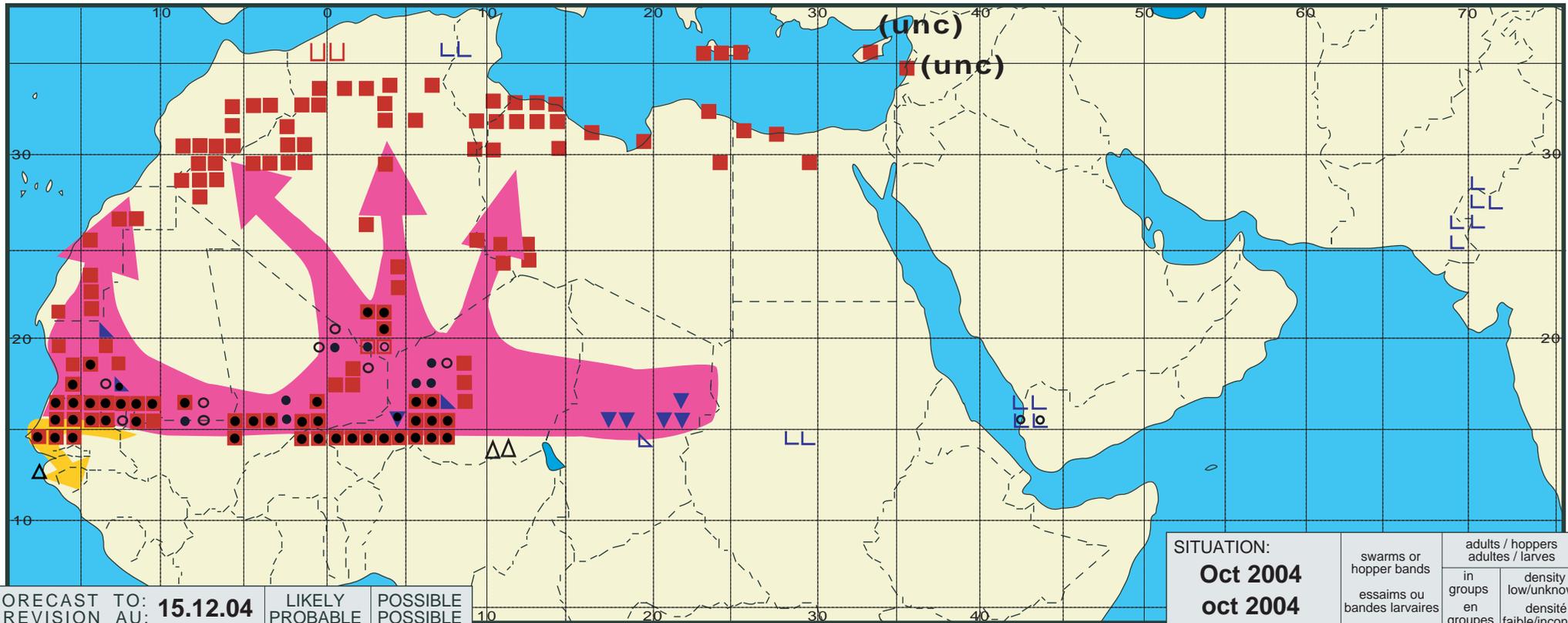
- locust-affected countries in South-West Asia: Afghanistan, India, Iran and Pakistan.



# Desert Locust Summary

## Criquet pèlerin - Situation résumée

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FORECAST TO: PREVISION AU: <b>15.12.04</b>	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: <b>Oct 2004</b> <b>oct 2004</b>	swarms or hopper bands	adults / hoppers adultes / larves	
	essaims ou bandes larvaires	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)			