

# DESERT LOCUST BULLETIN

FAO Emergency Centre for Locust Operations



No. 302

(2 December 2003)



## General Situation during November 2003 Forecast until mid-January 2004

The Desert Locust situation remained serious as outbreaks continued in Mauritania, Mali, Niger and Sudan where hopper and adult groups as well as a few bands and swarms formed during November. Although control operations were in progress in all areas, locust groups and a few swarms invaded North West Africa and laid eggs that started to hatch by the end of November. In the Central Region, several swarms crossed the Red Sea from northeast Sudan to the coast of Saudi Arabia and laid eggs. During the forecast period, locust numbers will increase in northern Mauritania, southern Morocco, and along the Red Sea coastal plains of Saudi Arabia, Sudan, Egypt and possibly Eritrea. If good rains fall during the winter in these areas, and surveys and control operations are not extremely thorough, a potentially dangerous situation could develop by the spring.

**Western Region.** In early November, mature adults and groups moved into a large area of southern Morocco, northern Mauritania and western Algeria and laid eggs. Three swarms were also reported in southern Morocco. Adult groups moved north from Mali and Niger into southern and eastern Algeria. Groups of adults laid eggs in southwestern Libya, and hatching and band formation occurred in eastern Algeria in mid November. Hatching started in Mauritania and Morocco by the end of the month. A few hopper bands formed in northern Senegal. Control operations were conducted in all the above countries and continued in the outbreaks areas in

northwestern Mauritania, northern Mali and northern Niger against hopper and adult groups. By the end of the month, bands had formed in some of these areas where conditions remained favourable. Elsewhere, scattered adults were seen in northwestern and southeastern Libya. More hatching and band formation will occur in northern Mauritania, southern Morocco and western Algeria during the forecast period but locust maturation may be delayed by low temperatures.

**Central Region.** Although ground control operations continued during November against hopper and adult groups in the summer breeding areas of Sudan, adults started to move out of these areas towards the north and the northeast. Adults appeared in the Tokar Delta on the Red Sea coast of Sudan by mid month, groups were laying eggs in southern Egypt and several swarms invaded the coastal plains north of Jeddah, Saudi Arabia and laid. Control operations were mounted in Egypt and Saudi Arabia. So far, good rains have only fallen on the northern coastal plains in Saudi Arabia where conditions are favourable for breeding. Little rain has so far occurred on the coast of Sudan and Egypt where conditions are only just starting to improve. Elsewhere, scattered adults were present in the Western Desert in Egypt and on the Red Sea coastal plains in Yemen. More adults, including a few swarms, are expected to appear on both sides of the Red Sea. Hopper bands are likely to form on the Saudi Arabian coast and breeding should commence on the coasts of Sudan and Egypt in the coming weeks.

**Eastern Region.** Isolated mature adults persisted in the summer breeding areas along the border of Pakistan and India. Locust numbers will decline as vegetation continues to dry out. No significant developments are expected.

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 November 2003

**Breeding conditions improved over a large part of North West Africa from western Mauritania to Morocco and western Algeria where unusually heavy rains fell in October. Conditions also improved along part of the Red Sea coast in Saudi Arabia and are slowly getting better on the coasts of Sudan and Egypt. Green vegetation persisted in parts of Mauritania, Mali, Niger and Sudan.**

In the **Western Region**, summer rains ended in the Sahel and very little rain fell elsewhere during November except for light showers in Algeria (Bechar in the north and near Adrar and Tamanrasset) and Morocco (Atlantic coast near Tan-Tan and Guelmim). Nevertheless because of the exceptional rains in October, breeding conditions improved over a large portion of the western Sahara extending from western Mauritania and southwestern Morocco to northern Mauritania, western Algeria and the Oued Draa Valley in Morocco. In Mauritania, vegetation was becoming green in northwestern Tiris Zemmour from Bir Moghrein to about 9W and throughout Inchiri. Green vegetation persisted between Akjoujt and Ouadane, and in parts of southern Adrar, northern Tagant, Brakna and Trarza. In Mali, vegetation was drying out in Timetrine, the Tilemsi Valley and throughout most of the Adrar des Iforas where only patches of green vegetation remain in some wadis. In Tamesna and the eastern Adrar des Iforas, conditions were still favourable for locust survival and limited breeding. In Niger, green vegetation persisted in most of Tamesna, including the northwest, and in western and southeastern Air. Rains fell in the latter area on the 13th. In Morocco, green vegetation developed over a widespread area from south of the Atlas Mountains to the extreme southwest. In Algeria, breeding conditions were favourable in the south (between Tamanrasset and the Mali/Niger borders), the southeast (near Illizi) and in the west (near Tindouf). Prevailing winds during November could have allowed locusts to move from Niger and Mali to Algeria on most days except for one (the 15th) when they may have moved from northern Mali to northern Mauritania. In Libya, vegetation was reported to be green and the soil was moist in the

northwest (Al Hamada Al Hamra and Ghadames) and in the southwest near Ghat.

In the **Central Region**, vegetation continued to dry out in the interior of Sudan where only small areas remained green in northwestern Northern Kordofan, the Baiyuda Desert, southwest of Khartoum and on the western side of the Red Sea Hills north of Haiya. Light rain fell on two occasions on the Red Sea coast in Sudan between Suakin and Port Sudan and during the last decade of the month on the southeastern coastal plains in Egypt between Abu Ramad and Shalatyn. Consequently, conditions were improving in these areas. Moderate to heavy rains fell twice during November along the Red Sea coastal plains in Saudi Arabia between Jeddah and Yenbo where breeding conditions were improving. Green vegetation persisted along the central Red Sea coastal plains in Yemen but was starting to dry out in some places because of a lack of rainfall. Dry conditions were reported along the coastal plains in Eritrea and southern Yemen. Light to moderate rain associated with a tropical storm from the Indian Ocean fell in a few places in northeastern Somalia and southeastern Ethiopia at mid month. Although winter rains were reported to have commenced on the northern Somali coastal plains west of Berbera, vegetation was still dry.

In the **Eastern Region**, dry weather prevailed along the Indo-Pakistan border where vegetation continued to dry out and conditions were not favourable for breeding.



### Area Treated

Algeria	2,450 ha	(1-19 November)
Egypt	613 ha	(November)
Libya	900 ha	(5-7 November)
Mali	3,361 ha	(1-20 November)
Mauritania *	12,689 ha	(1-30 November)
Morocco	8,873 ha	(8-30 November)
Niger	92 ha	(1-22 November)
Saudi Arabia	3,000 ha	(18-30 November)
Senegal	650 ha	(1-16 November)
Sudan	12,000 ha	(November est.)

\* includes barrier treatments protecting 8,956 ha



## Desert Locust Situation and Forecast

( see also the summary on page 1 )

### **WESTERN REGION**

#### **Mauritania**

##### **• SITUATION**

During November, infestations were present in three main areas. In the centre, late instar solitary and transiens hoppers and immature adults continued to form small groups in the Agane and Aoukar areas north of Boutilimit (1740N/1446E) and west of Moudjeria (1751N/1228W). This led to the development of a few immature swarms during the second decade. Mature adults and laying were also reported. By the end of the month, hopper bands had formed in the Agane area.

In the northwest, hatching continued during the first two decades in Inchiri, southern Adrar and Dakhlet Nouadhibou, causing bands to form by the end of the month. There were many local reports of mature adult groups moving towards the north throughout November.

In the north, dense mature adults and groups appeared in Tiris Zemmour near Bir Moghrein (2510N/1135W) at the beginning of the month and laid eggs. Later in the month, additional very dense laying groups were seen further east in the Ghallaman area, near Zouerate (2244N/1221W) and near Bir Moghrein. Hatching started at the end of the month north of Zouerate at Tenyemoumat (2318N/1231W). During November, control teams treated 3,733 ha (full coverage) and 8,956 ha (barrier).

##### **• FORECAST**

*Breeding will continue in the north and northwest (Tiris Zemmour, Inchiri, Dakhlet Nouadhibou) where hopper groups and bands will form. Adults will continue to form groups and small swarms in central areas (Agane and the Aoukars). Although most of these are expected to move further north during periods of warm southerly winds, some may persist and perhaps breed in areas that remain green. Hoppers and adults will slowly mature if temperatures are low. There is a risk that additional adult groups and perhaps a few small swarms may arrive in Tiris Zemmour from northern Mali.*

#### **Mali**

##### **• SITUATION**

During the first half of November, locust infestations were present in Timetrine, the Adrar des Iforas and northwestern Tamesna. In Timetrine, transiens hoppers and immature adults were present and, in some places, were forming groups. High densities of transiens adults, up to 10,000/ha, and a fifth instar hopper band, were treated at one place on the 10th.

In the Adrar des Iforas, scattered solitary immature and mature adults, at densities up to 1,000/ha, were present between Kidal (1827N/0125E) and the Algerian border. In Tamesna, hoppers were forming small bands at densities up to 2,000 hoppers/m<sup>2</sup> on the eastern side of the Adrar des Iforas south of Tin Essako (1826N/0229E). In most cases, these were mixed with immature and mature adults, some of which were copulating and laying eggs, at densities of up to 4 adults/m<sup>2</sup>. Ground control operations treated 3,361 ha on 1-20 November.

##### **• FORECAST**

*Small swarms may form from current infestations. As vegetation dries out, most of the adults will move towards the north and northwest during periods of southerly and southeasterly winds while others will persist in vegetation that remains green and slowly mature due to low temperatures. At the same time, another generation of breeding is likely to occur early in the forecast period with hoppers appearing by early December in Tamesna where they will form small groups and bands and slowly mature.*

#### **Niger**

##### **• SITUATION**

During November, adults were forming groups and hopper patches were present in Tamesna and the southeastern Air Mountains. In Tamesna, immature adults and groups mixed with solitary and transiens hoppers of all instars were seen northwest of In Abangharit (1754N/0559E). Hopper densities at a few places were as high as 100/m<sup>2</sup>. Some of the adults had become mature and laying was reported at one place on the 8th. In southeastern Air, mostly mature adults and groups were present in the wadis flowing out of the hills towards the plains. Adults and groups at densities of up to 12 locusts/m<sup>2</sup> were seen laying eggs at several locations in early November. Control operations treated 32 ha of mature adults in the Air near Tchigzerine (1858N/0927E) and, on the 22nd, 60 ha of first and second instar hoppers near Tchibalaghlague (1730N/0917E).

##### **• FORECAST**

*Another generation of breeding is likely to occur early in the forecast period with hoppers appearing from early December onwards in northwestern Tamesna and southeastern Air. As vegetation dries out, groups and small bands are likely to form, mainly in the Air, and adults are likely to move northwards*



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*during periods of southerly winds. Locust maturation will be delayed if temperatures are low.*

### Chad

#### • SITUATION

No reports received.

#### • FORECAST

*Low numbers of locusts may be present in the northeast between Biltine and Ennedi but these will decline as vegetation dries out. No significant developments are expected.*

### Senegal

#### • SITUATION

During the first half of November, hopper groups of all instars mixed with fledglings and immature adults were present at several places south of Richard Toll (1626N/1541W) along the western side of Lake Guier. Hoppers were both solitary and transiens at densities up to 12/m<sup>2</sup> while adults were primarily solitary. Hoppers were seen at two places on the northeastern side of Lake Guier at mid month. Ground control operations treated 650 ha on 1-16 November.

#### • FORECAST

*Locust numbers are expected to decline in the north as conditions become dry. Nevertheless, a few adults may persist.*

### Algeria

#### • SITUATION

During November, locusts dispersed in many parts of the Sahara and were present in five main areas. In the west, mature adults at densities up to 180 locusts/ha were reported at numerous places near the Mauritanian/Moroccan border and Tindouf (2742N/0810W) from 4 November onwards, covering about 1,150 ha. In the central Sahara, ground control operations continued against mature adults and groups at densities up to 1,100/ha near Adrar (2753N/0016W), treating 1,027 ha. In the Mouydir region north of Tamanrasset (2250N/0528E), 190 ha of immature and mature adults and groups at densities up to 10/m<sup>2</sup> were treated. In the Ahnet area west of Tamanrasset, control teams treated 300 ha of mostly mature adults at densities up to 1,000/ha. In the southeast, groups of fledglings, immature and mature adults were present during the first two decades of November near Illizi (2630N0825E) at densities up to 50/m<sup>2</sup>. Some of the

adults were seen laying eggs. On the 15th, first instar bands at densities of up to 500 or more hoppers/m<sup>2</sup> were reported from three places. Elsewhere, isolated mature adults were seen close to the border of Niger near In Guezzam (1937N/0552E) on the 17th. Control operations treated 933 ha near Illizi up to the 19th. In all, 2,450 ha were treated on 1-21 November.

#### • FORECAST

*Locust numbers will continue to increase as adults lay their eggs in favourable areas near Tindouf, Adrar, Mouydir, Ahnet and Illizi. Although hatching and the formation of small hopper groups and bands are expected to occur in these areas during the forecast period, hopper maturation will be delayed if temperatures are low. New adults from current breeding in the Illizi area may appear by the end of the forecast period, depending on temperatures. Additional adults, small groups and perhaps a few swarms may arrive from Mali and Niger during periods of warm southerly winds.*

### Morocco

#### • SITUATION

Three small maturing swarms invaded the southwest near Awssard (2240N/1410W) and Tichla (2135N/1458W) on 7 November probably coming from nearby infestations in northwestern Mauritania. Aerial and ground control operations started the next day and treated 1,470 ha. From the second decade onwards, small, low to medium density groups of mature solitary and transiens adults continued to arrive, dispersed and laid eggs throughout the southwest between Tichla (near the Mauritanian border), Smara (2644N/1142W) and the Algerian border. The size of the infested areas varied from 400 m<sup>2</sup> to 900 ha, and densities were as high as 15 adults/m<sup>2</sup>. Hatching started on 30 November near Tichla where small first instar hopper patches were forming. Isolated solitary immature adults were seen along Oued Draa and in the northeast near Bouarfa (3230N/0159W). Aerial and ground control operations treated 8,873 ha on 8-30 November, mostly in the Adrar Souttouf region in the southwest.

#### • FORECAST

*Locust numbers will increase further as breeding and hatching continues in southern areas that received rainfall during October. Although small hopper groups and bands will form, hopper maturation will be delayed if temperatures are low. Additional adults, small groups and perhaps a few swarms may arrive from Mauritania during periods of warm southerly winds.*

### Libyan Arab Jamahiriya

#### • SITUATION

During the first week of November, ground control

operations treated 900 ha of mature adult groups that were copulating at densities of 2-5 adults/m<sup>2</sup> northwest of Ghat (2459N/1011E). Isolated mature adults were present south of Ghadames (3010N/0930E) and in the Al Hamada Al Hamra. In the southeast, scattered gregarious adults, at densities up to 15/tree were seen between Kufra (2411N/2315E) and Jebel Uweinat (2154N/2458E) on the 9-17th.

• **FORECAST**

*Small-scale breeding is likely to be in progress in the southwest near Ghat where hatching is expected and hoppers will only mature slowly because of low temperatures. There is a possibility that small groups could form if locust numbers are sufficiently high. Limited breeding could also occur near Ghadames and in the Al Hamada Al Hamra. These may be augmented by locusts arriving from nearby areas in eastern Algeria during periods of warm southwesterly winds. Low numbers of adults may persist in the northwest near Ghadames and in the southeast near Jebel Uweinat.*

**Tunisia**

• **SITUATION**

No reports received.

• **FORECAST**

*No significant developments are likely.*

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

• **FORECAST**

*No significant developments are likely.*

**CENTRAL REGION**

**Sudan**

• **SITUATION**

Ground control operations continued during November against groups of hoppers and immature adults in the summer breeding areas in northwestern Northern Kordofan, southwest of Khartoum and near the Atbara River. Hatching was reported in the Atbara area up to 19 November by which time many of the adults had moved further east towards Haiya (1820N/3621E) on the western side of the Red Sea Hills. Breeding was in progress near Haiya where one 20 ha medium density late instar hopper band was reported on the 12th. In the far north, adults were maturing along the Nile River near Karima (1832N/3148E) and Dongola (1910N/3027E). Laying was reported near the latter on the 6th. Adults were first reported on the Red Sea coastal plains on 13 November in the Tokar Delta where scattered immature and mature adults were present at densities of 100-600/ha. No locusts were seen elsewhere on the Red Sea coastal plains or in the adjacent subcoastal areas in Wadi Oko/Diib on the 13-19th. Control operations treated an

estimated 12,000 ha during November in the summer breeding areas.

• **FORECAST**

*The situation should improve in the summer breeding areas where breeding is likely to decline and adults will form small groups and perhaps a few swarms. As vegetation dries out, most of these will move towards the Red Sea coast but a few may remain and lay in areas that stay green, especially on the western side of the Red Sea Hills. Locust numbers will certainly increase on the Red Sea coastal plains as adults arrive from the interior and breed in areas of recent rainfall. Consequently, hopper groups and small bands may form during the forecast period along the coast. If good rains occur, breeding is likely to intensify, causing locust numbers to increase significantly.*

**Eritrea**

• **SITUATION**

No locusts were seen on the southern coastal plains of the Red Sea between Massawa (1537N/3928E) and the Djibouti border on 6-14 November.

• **FORECAST**

*If rains fall, small-scale breeding is likely to occur on the Red Sea coastal plains causing locust numbers to increase during the forecast period. This may be supplemented by adults and perhaps a few small groups appearing from adjacent areas in Sudan.*

**Somalia**

• **SITUATION**

No locusts were seen during surveys on the plateau between Boroma (0956N/4313E) and Burao (0931N/4533E) on 10-14 November.

• **FORECAST**

*Isolated adults may start to appear on the coastal plains west of Berbera if rainfall occurs.*

**Ethiopia**

• **SITUATION**

No locusts were seen during surveys in the southeast between Dire Dawa (0935N/4150E) and the Somali border on 10-16 November.

• **FORECAST**

*No significant developments are likely.*



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### Djibouti

#### • SITUATION

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

#### • FORECAST

*No significant developments are likely.*

### Egypt

#### • SITUATION

During the first three weeks of November, immature and mature transiens adults at densities of up to 6,000 adults/ha persisted in crops and natural vegetation along the western and eastern shores of Lake Nasser and in Tushka (2247N/3126E). The mature adults were copulating. Locusts were also seen at a few places in the Western Desert near Baris (2439N/3035E). Ground control operations treated 613 ha near Lake Nasser between Abu Simbel (2219N/3138E) and Garf Husein (2317N/3252E) and in the Western Desert.

#### • FORECAST

*Small-scale breeding is expected to occur along the shores of Lake Nasser and near W. Allaqi where hopper groups are likely to form during the forecast period. Adults and perhaps a few small groups are likely to appear on the southeastern coastal plains of the Red Sea between Shalatyn and Abu Ramad and breed in areas of recent rainfall.*

### Saudi Arabia

#### • SITUATION

On 18-20 November, several mature swarms, at densities of 2-15 adults/m<sup>2</sup>, reportedly invaded the Red Sea coastal plains north of Jeddah near Thuwal (2215N/3906E) and Rabigh (2247N/3901E) and laid eggs. Ground control was immediately carried out at four locations, treating 990 ha. On the 22nd, one swarm of a density of 15-20 adults/m<sup>2</sup> appeared near Umm Lajj (2501N/3716E) and dispersed within an area of 20 km<sup>2</sup>. All of these swarms probably originated from the current outbreak in northeastern Sudan. Laying by mature swarms at densities up to 100 adults/m<sup>2</sup> continued for the remainder of the month between Thuwal and Rabigh. Aerial and ground control operations treated nearly 3,000 ha on 18-30 November.

#### • FORECAST

*Locust numbers will increase on the central and*

*northern Red Sea coastal plains near Thuwal and Rabigh where laying is in progress. Hatching will start in early December and small hopper bands will form throughout the forecast period. Adults are likely to be dispersed further north on the coastal plains near Umm Lajj and will mature and lay eggs. There is a risk that additional adults and small swarms may arrive on the coastal plains from the western side of the Red Sea and lay eggs in areas that receive rainfall.*

### Yemen

#### • SITUATION

A few solitary mature adults persisted on the central Red Sea coastal plains between Hodeidah (1450N/4258E) and Bayt Al Faqih (1430N/4317E) on 7-12 November. Solitary adults were also seen at two places on the coastal plains northwest of Aden (1250N/4503E).

#### • FORECAST

*Small-scale breeding is expected to occur on the Red Sea coastal plains, causing locust numbers to increase but remain below threatening levels. The risk of adults appearing from the western side of the Red Sea is low.*

### Oman

#### • SITUATION

No reports received.

#### • 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 reports received.

#### • FORECAST

*No significant developments are likely.*

### Pakistan

#### • SITUATION

During the second half of October, isolated mature adults persisted at 18 places in Cholistan and Tharparkar deserts. Higher densities of immature adults, up to 660/ha, were seen at two of these locations. Isolated mature adults were also seen at five places west of Karachi in Lasbela and isolated second to fourth instar hoppers were seen at two locations.

During the first half of November, isolated mature adults were present at 22 places near the Indian

border in Cholistan and Tharparkar deserts.

• **FORECAST**

*Locust numbers will decline along the Indo-Pakistan border as vegetation dries out. A few adults may move west towards the spring breeding areas in Baluchistan while others could persist in Lasbela.*

**India**

• **SITUATION**

During the second half of October, isolated adults were seen at five places in Rajasthan near Jaisalmer (2652N/7055E) and Barmer (2543N/7125E).

During the first half of November, isolated mature adults persisted in the above areas and were reported from 17 places.

• **FORECAST**

*Locust numbers will decline as vegetation dries out. 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.

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

**eLocust.** Updated details of a new system for recording and transmitting locust survey and control data collected in the field as well as country maps can be found on the Internet at: [www.fao.org/news/global/locusts/elocust.htm](http://www.fao.org/news/global/locusts/elocust.htm)

**Outbreak photos.** Pictures of the recent outbreaks in the Western Region are available on the Internet at: [www.fao.org/news/global/locusts/outbreakpix.htm](http://www.fao.org/news/global/locusts/outbreakpix.htm)

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

- *Technical Series No. 30: Population dynamics* (English)
- *Technical Series No. 31: Biogéographie du Criquet pèlerin en Mauritanie* (French)

**Desert Locust Guidelines.** The French and Arabic versions of the *Desert Locust Guidelines* are now available as well as the English version of *Volume VI. Safety and Environmental Precautions* and an updated index. These can be downloaded from the Internet at: [www.fao.org/news/global/locusts/pubs1.htm](http://www.fao.org/news/global/locusts/pubs1.htm). Please contact the Locust Group if you would like to receive hard copies.

**Desert Locust research award.** The FAO Commission for Controlling the Desert Locust in the Central Region (CRC) is pleased to announce a cash award for outstanding research on Desert Locust. For more details, please contact the CRC Office in Cairo ([munir.butrous@fao.org](mailto:munir.butrous@fao.org)).

**2003-2004 events.** The following meetings are scheduled:

- **EMPRES/WR.** 2nd Liaison Officers meeting, Agadir (Morocco), 15-19 December
- **Pesticide Referee Group.** 8th meeting, Rome, 26-29 January
- **Desert Locust Technical Group Workshop.** 8th meeting, Nouakchott (Mauritania), 7-11 March (provisional)
- **CRC.** 24th session of the Commission and 26th session of the Executive Committee, Jeddah (Saudi Arabia), 17-22 April
- **CLCPRO.** 1st Executive Committee, Niamey (Niger), May or June
- **SW Asia Commission.** 24th session, Kabul (Afghanistan), October



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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/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, Guidea 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**

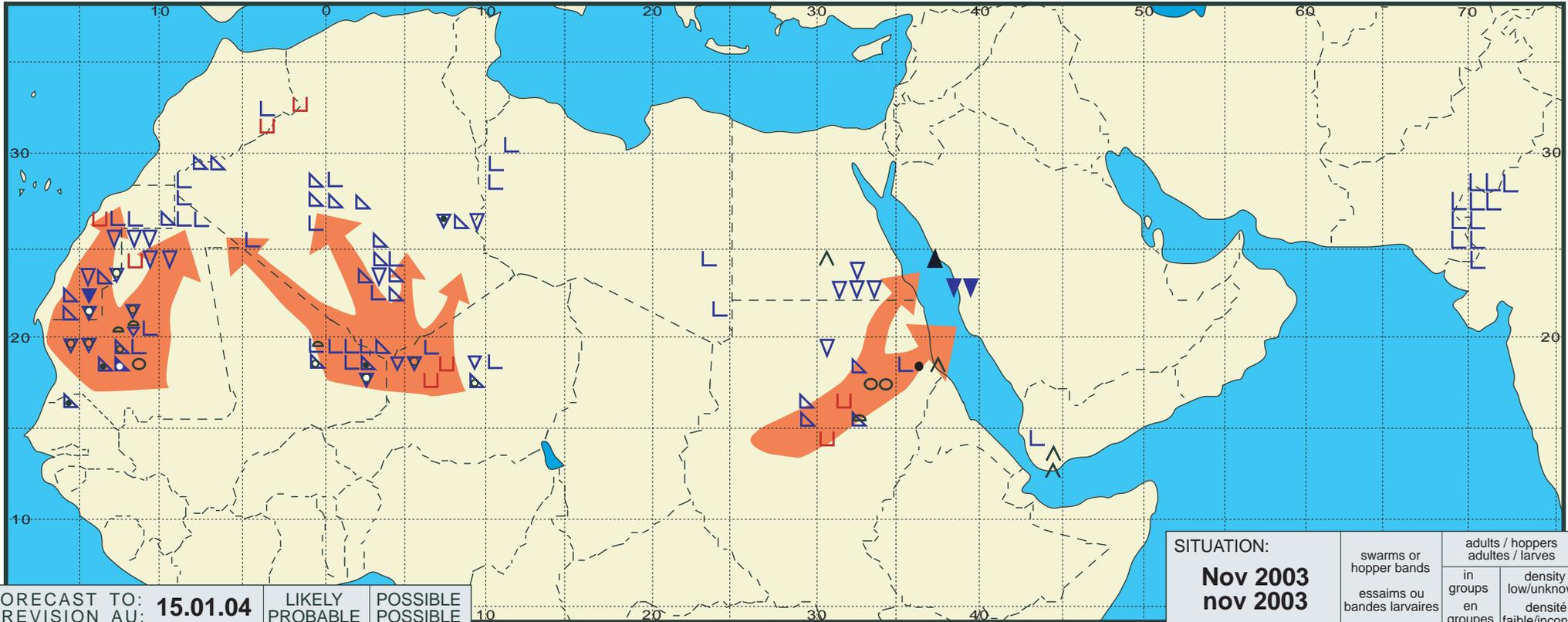
- locust-affected countries in South-West Asia: Afghanistan, India, Iran and Pakistan.



# Desert Locust Summary

## Criquet pèlerin - Situation résumée

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FORECAST TO: PREVISION AU: <b>15.01.04</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>Nov 2003 nov 2003</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)			