

# DESERT LOCUST BULLETIN

FAO Emergency Centre for Locust Operations



No. 306



General Situation during March 2004  
Forecast until mid-May 2004

(2 April 2004)

The Desert Locust situation continues to remain extremely serious in Northwest Africa. During March, new hopper bands and swarms formed in northern Mauritania where limited resources hampered control operations. Consequently, numerous swarms moved to the spring breeding areas in Morocco and Algeria and laid eggs that started to hatch at the end of the month. Hopper bands will form during April and May in both countries and additional swarms are likely to arrive from Mauritania. Locusts declined along both sides of the Red Sea as a few swarms moved to northern Sudan and southern Egypt. Although control operations were in progress in all these countries, international assistance is urgently required to prevent the situation from deteriorating further.

**Western Region.** Hatching continued during March in northern Mauritania and numerous hopper bands and swarms formed. Significant damage to pasture, vegetable crops and date palms was reported from many places. More swarms moved to the spring breeding areas along the southern side of the Atlas Mountains in Morocco and Algeria in early March and again at the end of the month. Most of these laid eggs that began hatching in late March. Consequently numerous hopper bands will form in both countries during April and early May, and some swarms could develop by mid-May if temperatures are warm. More swarms are likely to arrive from northern Mauritania

during April as band and swarm formation continue there. Some swarms could move towards Tunisia and Libya and lay eggs. Thereafter, the risk should decline as swarms in northern Mauritania start moving towards the summer breeding areas in the south. Small hopper bands and swarms are expected to form in Niger where breeding occurred during March. Additional international assistance is immediately required to reduce the number of swarms that develop and eventually invade the Sahel in the summer. Good summer rains and further expansion of the locust populations could result in a major impact on food production and security in the Region.

**Central Region.** Locust numbers dramatically declined along the Red Sea coastal plains in Saudi Arabia due to control operations and easterly winds that carried swarms to northern Sudan and southern Egypt during the first week of March where they laid eggs. Hatching and small hopper bands will form in both countries in April and, by mid-May, a few swarms could develop. A small number of hopper and adult groups were present on the Red Sea coast near the Egyptian/Sudanese border in early March. No locusts were seen in the spring breeding areas in the interior of Saudi Arabia or elsewhere in the Region.

**Eastern Region.** A few isolated adults were present in the spring breeding areas in western Pakistan where conditions remained mostly dry and unfavourable. No locusts were reported and very little rain fell elsewhere in the Region during March.

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 March 2004

**Good rains fell in the spring breeding areas in Northwest Africa and in parts of northern Mauritania in March. This should allow breeding to continue in these areas. Vegetation has dried out along both sides of the Red Sea. So far, little rain has fallen in the spring breeding areas in Pakistan and Iran where it is dry.**

In the **Western Region**, good rains occurred during the first and last week of March in the spring breeding areas in northwest Africa. In Morocco, light to moderate rain fell along the Atlantic coast in Morocco between Essaouira and Tan-tan. Similar rains were reported over a large area south of the Atlas Mountains from the Draa Valley in Morocco to Algeria and southern Tunisia. Light rain occurred in the Western Sahara between Laayoune and Smara, and along the Algerian/Libyan border. On 25-27 March, light rain fell in northwestern and northern Mauritania. Cold northerly winds prevailed over the region during the first three weeks of the month. During the last week, southerly and southwesterly winds over Mauritania and the Western Sahara may have carried locusts into Morocco and western Algeria where breeding conditions remained favourable along the southern side of the Atlas Mountains. Green vegetation was present in northern Mauritania where conditions were suitable for breeding and locust survival, but it was progressively becoming drier south of Zouerate to Nouakchott. Vegetation was mainly dry in northern Mali and Niger except for some localized patches of green vegetation that persisted in the wadis in the Adrar des Iforas and the Air Mountains. Although daytime temperatures slowly increased during the month, low temperatures at night probably delayed locust hatching and maturation.

In the **Central Region**, no rainfall was reported along the Red Sea coast during March. Although vegetation had dried out on the coastal plains in Egypt and Sudan, it remained green on the coast of Saudi Arabia between Jeddah and Yenbo. Light rain fell at times in the oases in the Western Desert in Egypt, on the plateau in northwestern Somalia, along the Persian Gulf, and on the Batinah coast in northern

Oman. Green vegetation was reported along the Nile River in northern Sudan and in the spring breeding areas in the interior of Saudi Arabia. Prevailing winds over the Red Sea were from the north except during the first five days of March when they were from the east. During this period, locusts may have moved from the coastal plains to the interior of northern Sudan and southern Egypt. Dry conditions persisted in northern Oman and along the Gulf of Aden coast in Yemen.

In the **Eastern Region**, no significant rainfall was reported in the region. Consequently, conditions were not especially favourable for breeding in the spring breeding areas in Baluchistan in western Pakistan and southeastern Iran.



### Area Treated

Since October, more than 1.15 million ha have been treated. Of this, control teams treated nearly 514,000 ha in March as follows:

|              |            |                  |
|--------------|------------|------------------|
| Algeria      | 3,665 ha   | (25-29 February) |
|              | 33,209 ha  | (1-23 March)     |
| Egypt        | 2,704 ha   | (1-15 March)     |
| Mauritania * | 20,267 ha  | (21-29 February) |
|              | 24,597 ha  | (1-29 March)     |
| Morocco      | 446,936 ha | (1-30 March)     |
| Niger        | 330 ha     | (29 February)    |
|              | 2,930 ha   | (1-5 March)      |
| Saudi Arabia | 285 ha     | (25-29 February) |
|              | 2,375 ha   | (1-30 March)     |
| Sudan        | 959 ha     | (4-21 March)     |

\* includes barrier treatments protecting 12,170 ha



### Desert Locust Situation and Forecast

( see also the summary on page 1 )

#### WESTERN REGION

##### **Mauritania**

##### • SITUATION

Although control operations continued during March against bands, swarms and groups of hoppers and adults in the north and northwest, not all of the infestations could be found and treated because of a lack of resources. More laying, hatching and band formation occurred throughout the month in Tiris-Zemmour near Bir Moghreïn (25°10'N/113°5'W), Ghalamane (24°56'N/112°4'W), M'haoudatt (22°55'N/120°0'W) and Zouerate (22°44'N/122°1'W), and in parts

of Adrar and Inchiri near Ouadane (2056N/1137W), between Akjoujt (1945N/1421W) and Atar (2032N/1308W). Hoppers of all stages were present and continued to mature throughout the month. Band densities were higher in Tiris-Zemmour (up to 1,500 hoppers/m<sup>2</sup>) compared to Adrar (350 hoppers/m<sup>2</sup>). Although most of the adults were immature, groups of mature adults were forming in Tiris-Zemmour and Inchiri, some of which were seen laying eggs. Immature and mature swarms, at densities up to 800 adults/m<sup>2</sup>, were reportedly flying northwards in Tiris-Zemmour, Adrar and Dakhlet Nouadhibou. Significant damage occurred to pasture crops in the north and to vegetables and date palms near Ouadane. Control operations treated 24,597 ha (full cover) and 233 ha (barrier) during March.

• **FORECAST**

*Hatching and the formation of groups, bands and swarms will continue throughout the forecast period in Tiris-Zemmour, Adrar and Inchiri. There is a still a risk that numerous swarms will form and move to the spring breeding areas in Morocco and Algeria primarily in April during periods of southerly and southwesterly winds. This risk should decline during May when some swarms could start to move south towards the summer breeding areas.*

**Mali**

• **SITUATION**

During the first decade of March, isolated immature adults were present in a few places in the northern Adrar des Iforas, eastern Tamesna and, to a lesser extent, in the Tilemsi Valley and Timetrine. Thereafter, no locusts were reported.

• **FORECAST**

*Very low numbers of adults are likely to persist in the Adrar des Iforas, Tamesna, Tilemsi Valley and Timetrine where conditions remain favourable for survival. No significant developments are likely.*

**Niger**

• **SITUATION**

During the first decade of March, hopper groups declined in the Tafidet area (1817N/0923E) in the southeastern Air Mountains as most of the hoppers fledged. Consequently, immature and mature adults increased, reaching densities up to 10 adults/m<sup>2</sup>. Some of the adults were laying eggs. Hatching was reported in a few places and hoppers were forming groups at densities of 20-200 hoppers/m<sup>2</sup>. Ground control operations could only treat about half of the 6,400 ha that were estimated to be infested and no further surveys could be conducted due to a severe shortage of resources.

There were unconfirmed reports of many small swarms up to 100 km to the north as well as east

of the Air Mountains near Arishima (1930N/1030E). There were also unconfirmed swarm reports from Tamesna between Tahoua (1457N/0519E) and Agadez (1700N/0756E).

• **FORECAST**

*Hatching is almost certainly in progress in the southeastern Air Mountains and is likely to continue, causing small hopper groups and bands to form during April. These are expected to fledge and form small swarms by mid-May.*

**Chad**

• **SITUATION**

No reports received.

• **FORECAST**

*No significant developments are likely.*

**Senegal**

• **SITUATION**

No locusts were reported during March.

• **FORECAST**

*No significant developments are likely.*

**Algeria**

• **SITUATION**

During the last decade of February, groups and swarms of immature adults appeared near Tindouf (2742N/0810W) and in the spring breeding areas in the northern Sahara near Bechar (3135N/0217W). From the second week of March onwards, more immature and mature swarms appeared near Bechar and moved further east along the southern side of the Atlas Mountains to El Bayadh (3340N/0100E), Laghouat (3349N/0255E) and Ghardaia (3220N/0340E) and north into the foothills of the Atlas near Naama (3318N/0200W) and Djelfa (3443N/0314E). Locusts were also reported in the central Sahara near Adrar (2753N/0016W) and in the south near Tamanrasset (2250N/0528E). By mid-month, most of the groups and swarms were mature and were laying eggs. In some places, densities were as high as 120 adults/m<sup>2</sup> and 6,000/tree. Control operations were carried out in all of these areas, treating 36,874 ha from 25 February to 23 March.

• **FORECAST**

*Widespread laying will continue in the northern Sahara between Tindouf and Ghardaia, in the central Sahara near Adrar and in the south near Tamanrasset. Hatching and the formation of numerous*



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*hopper bands are expected to occur during April as temperatures warm up. There is a threat of additional swarms arriving into these areas during periods of westerly and southwesterly winds. Some of these swarms could spread further east towards Tunisia and Libya and lay eggs.*

### **Morocco**

#### • SITUATION

During March, numerous swarms continued to arrive from the south into the Draa Valley south of the Anti-Atlas Mountains, extending from the Atlantic coast near Tan-tan to the northeast of the country near Bouarfa (3230N/0159W). Most of the swarms were already mature and laid eggs upon arrival. From the second week onwards, swarms penetrated the Anti-Atlas Mountains and, by the third week, swarms were reported in the Souss Valley and near Ouarzazate (3057N/0650W). A few swarms were seen in the Atlas Mountains near Midelt (3241N/0443W) and on the northern side of the Atlas northeast of Marrakech (3149N/0800W). Swarm sizes were 1-6,000 ha and densities were as high as 200 locusts/m<sup>2</sup>. Scattered adults were seen on the coast north of the Atlas near Essaouira (3126N/0958W) and Chichawa (3135N/0847W). On 22 March, the first hatching was reported in the Draa Valley.

In the Western Sahara, late instar hopper bands continued to mature, fledge and form several swarms between the Mauritanian border and Guelta Zemmur (2508N/1223W) during March. An increasing number of swarms were reported further north along the coast to Laayoune (2708N/1313W) and inland to Smara (2644N/1142W). Some of these swarms may have moved towards the Atlas Mountains during the last week of March on strong southerly and southwesterly winds.

Aerial and ground control operations treated 446,936 ha on 1-30 March.

#### • FORECAST

*Although breeding is expected to come to an end in the Western Sahara during the forecast period, a few more swarms are likely to form and move north towards the Atlas Mountains and lay eggs. Additional swarms from northern Mauritania are likely to arrive in the spring breeding areas during April; thereafter, the threat should be reduced. As temperatures warm up, hatching will increase in the Draa Valley and*

*numerous hopper bands will form. If temperatures are unusually warm, fledging could commence at the end of the forecast period.*

### **Libyan Arab Jamahiriya**

#### • SITUATION

No reports received.

#### • FORECAST

*Low numbers of locusts may be present near Ghat and in the Al Hamada Al Hamra. There is a low risk of adult groups and swarms appearing from the west.*

### **Tunisia**

#### • SITUATION

No reports received.

#### • FORECAST

*There is a low risk of adult groups and swarms appearing from the west and breeding in areas of recent rainfall in the south.*

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

#### • FORECAST

*No significant developments are likely.*

### **ATLANTIC OCEAN**

On the morning of 25 March, several dozen locusts were reported landing on a ship just off the coast of the Western Sahara at 2612N/1533W. It is not clear if these were Desert Locust. Nevertheless, winds associated with a low-pressure system in the same area may have brought them from the Canary Islands where there was an unconfirmed report of locusts in late February.

### **CENTRAL REGION**

#### **Sudan**

#### • SITUATION

On the Red Sea coastal plains, a few groups of late instar hoppers and immature gregarious adults were present in the north a few kilometres south of the Egyptian border during the first week of March. Control operations treated 45 ha. No locusts were seen elsewhere on the coast during the month.

In northern Sudan, several groups and swarms of mature adults appeared in irrigated crops along the Nile River near Dongola (1910N/3027E) on 1 March and for several days afterwards. These probably came from the Red Sea coast on easterly winds up to 5 March. The swarms were 20-165 ha in size at densities up to 3 adults/m<sup>2</sup> and many were seen laying eggs. A mixture of immature and mature solitary and transiens adults were also reported in the same area. By the end of the month, hatching was in progress and small high-density hopper bands were forming.

Southeast of Dongola, groups of fifth instar hoppers and fledglings mixed with laying swarms were present at several places along the Nile near Abu Hamed (1932N/3320E) at mid-month. This suggests that there was undetected egg laying in mid-January and hatching in early February in the area. Control operations were undertaken in both areas and treated 914 ha up to 28 March.

• **FORECAST**

*Hatching and band formation will continue near Dongola, and fledging and swarm formation will start during the first half of May. Hatching and band formation will commence near Abu Hamed in early April and, by the end of the forecast period, a few swarms could form. No further developments are expected on the Red Sea coastal plains.*

**Eritrea**

• **SITUATION**

No reports received.

• **FORECAST**

*A few isolated adults may be present on the northern coastal plains near Shieb and Mehimet. No significant developments are likely.*

**Somalia**

• **SITUATION**

There were several unconfirmed reports of locusts on the northwestern coastal plains west of Berbera (1028N/4502E) on 18 March. More details are awaited.

• **FORECAST**

*Limited breeding may occur along the northwestern coastal plains, especially if additional rains fall.*

**Ethiopia**

• **SITUATION**

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

• **FORECAST**

*No significant developments are likely.*

**Djibouti**

• **SITUATION**

No reports received.

• **FORECAST**

*No significant developments are likely.*

**Egypt**

• **SITUATION**

On the southeastern coast of the Red Sea, groups of late instar transiens hoppers and fledglings at densities of 10-30 hoppers/m<sup>2</sup> were present during the first decade of March near Abu Ramad (2224N/3624E). Solitarious and transiens adults at densities up to 4/m<sup>2</sup> were maturing in several nearby wadis.

Control operations treated 140 ha up on 1-10 March.

Several immature and mature swarms appeared along the Lake Nasser shoreline and dispersed into many farms near Abu Simbel (2219N/3138E), Tushka (2254N/3135E), Garf Husein (2246N/3225E), Allaqi (2240N/3255E) and Adendad (2212N/3134E) during the first week of March. These probably came from the Red Sea coast and northern Sudan. Some of the swarms were copulating by mid-month. Control operations treated 2,162 ha up to 15 March.

In the Western Desert, solitarious mature adults appeared during the first half of March in several oases: Dakhla (2530N/2900E) from the 1st onwards, Kharga (2525N/3034E) on the 4th, south of Bahariya (2821N/2851E) on the 8th, and north of Darb Al-Arbain (2357N/3018E) on 13 March. Adult densities were up to 3/m<sup>2</sup> except at Bahariya where 750 adults/ha were reported. Copulating adults were reported from Kharga and Dakhla. Control operations treated 364 ha up to 15 March.

• **FORECAST**

*Locust numbers will decline on the Red Sea coast as vegetation dries out. Hatching will almost certainly occur near Lake Nasser and in the oases of Kharga and Dakhla in early April causing small hopper groups and bands to form. These are likely to fledge and small swarms could form by mid-May. Limited breeding may occur in the other oases in the Western Desert.*

**Saudi Arabia**

• **SITUATION**

In late February and early March, there was a dramatic decline in locust infestations along the northern Red Sea coast between Jeddah and Yenbo (2405N/3802E). This coincided with several days of easterly winds that may have carried adult groups and a few swarms westwards across the Red Sea. Thereafter, only scattered immature and mature adults were reported on the coast between Jeddah and Rabigh (2247N/3901E) and near Yenbo. In the latter area, some adults were copulating during the first week of March and, at mid-month, a few very small first instar hopper bands at densities up to 80 hoppers/m<sup>2</sup> were present. By the end of the month, some of the hoppers had reached the third instar stage. Control operations treated 2,375 ha during March of which 1,890 ha were treated by air on 1-3 March.



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No locusts were seen during surveys carried out in the spring breeding areas in the interior between Zalim (2248N/4210E) and Riyadh.

• **FORECAST**

*Locust numbers may increase slightly in areas of recent breeding near Yenbo where a few groups could form. Scattered adults will persist in a few places along the coast between Jeddah and Yenbo. Small-scale breeding may be in progress in the spring breeding areas in the interior where a few adult groups could form.*

### Yemen

• **SITUATION**

No locusts were seen during surveys carried out on the coastal plains west and east of Aden during March.

• **FORECAST**

*Small-scale breeding may occur on the Red Sea coastal plains near Hodeidah where scattered adults are probably present. No significant developments are likely.*

### Oman

• **SITUATION**

No locusts were seen during surveys carried out on the northern coast and interior during March.

• **FORECAST**

*A few isolated adults may appear on the Batinah coast and breed on a small scale if conditions become favourable.*

### Jordan

• **SITUATION**

No reports received.

• **FORECAST**

*There is a low risk that a few adult groups could appear from the interior of Saudi Arabia during periods of warm southwesterly winds associated with depressions over northern Arabia.*

### Iraq

• **SITUATION**

No reports received.

• **FORECAST**

*There is a low risk that a few adult groups could appear from the interior of Saudi Arabia during periods of warm southwesterly winds associated with*

*depressions over northern Arabia.*

### Kuwait

• **SITUATION**

No reports received.

• **FORECAST**

*There is a low risk that a few adult groups could appear from the interior of Saudi Arabia during periods of warm southwesterly and westerly winds associated with depressions over northern Arabia.*

### Bahrain, Israel, Kenya, Qatar, Syria Arab Republic, Tanzania, Turkey, UAE and Uganda

• **FORECAST**

*No significant developments are likely.*

### EASTERN REGION

#### Iran

• **SITUATION**

No locusts were seen during surveys carried out during the first half of March on the southern coast between Bushehr (2854N/5050E) and Bander-e Lengheh (2634N/5452E), the southeastern coast near Jask (2540N/5746E), in the interior of Kerman and east of Iranshahr (2715N/6141E) in Sistan-Baluchistan.

• **FORECAST**

*Although the risk of a few adult groups appearing in coastal areas of Bushehr Province from the interior of Saudi Arabia is now reduced, there is still a chance that this could occur during periods of warm southwesterly and westerly winds associated with depressions over northern Arabia. Scattered adults may be present in parts of Sistan-Baluchistan where breeding could occur if conditions are favourable.*

#### Pakistan

• **SITUATION**

During the second half of February and first half of March, isolated adults were present in the spring breeding areas in Baluchistan along the coast near Gwadar (2508N/6219E) and in adjacent inland areas near Turbat (2600N/6303E). Isolated adults were also seen further east near Lasbela (2612N/6620E).

• **FORECAST**

*Scattered adults will persist and increase on the coast and in the interior of Baluchistan. Small-scale breeding will occur during the forecast period in areas where conditions are favourable.*

#### India

• **SITUATION**

No locusts were reported from mid-February to 23 March.

• **FORECAST**

*No significant developments are likely.*

## Afghanistan

### • SITUATION

No reports received.

### • FORECAST

*No significant developments are likely.*

**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.



## Announcements

**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 and Central Regions are available on the Internet at: [www.fao.org/news/global/locusts/outbreakpix04.htm](http://www.fao.org/news/global/locusts/outbreakpix04.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):

- *EMPRES/CR Workshop on the Use of Green Muscle and PAN to control Desert Locust hopper bands* (English)
- *2nd EMPRES/WR Liaison Officer Meeting report* (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)).

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

- **Donors Meeting.** The urgent need for assistance in Northwest Africa, FAO Rome, 8 April
- **CRC.** 24th session of the Commission and 26th session of the Executive Committee, Jeddah (Saudi Arabia), 17-21 April
- **Desert Locust Technical Group Workshop.** 8th meeting, Nouakchott (Mauritania), 2-7 May
- **CLCPRO.** 1st Executive Committee, Niamey (Niger), 14-18 June
- **SW Asia Commission.** 24th session, Kabul (Afghanistan), October
- **Pesticide Referee Group.** 8th meeting, Rome, postponed to later in 2004

**Urgent donor appeal.** FAO launched an appeal to donors on 23 February for \$6 million, which is urgently needed to support Desert Locust control operations in Mauritania, and another \$3 million for Mali, Niger and Chad, in order to prevent the early stages of the current upsurge from developing into a plague. More details are available at: [www.fao.org/news/global/locusts/040223AppealE.htm](http://www.fao.org/news/global/locusts/040223AppealE.htm).

**Press release.** On 23 March, FAO issued a Press Release in English, French and Arabic on the extremely serious Desert Locust situation. More details are available at: <http://www.fao.org/newsroom/en/news/2004/39481/index.html>



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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**

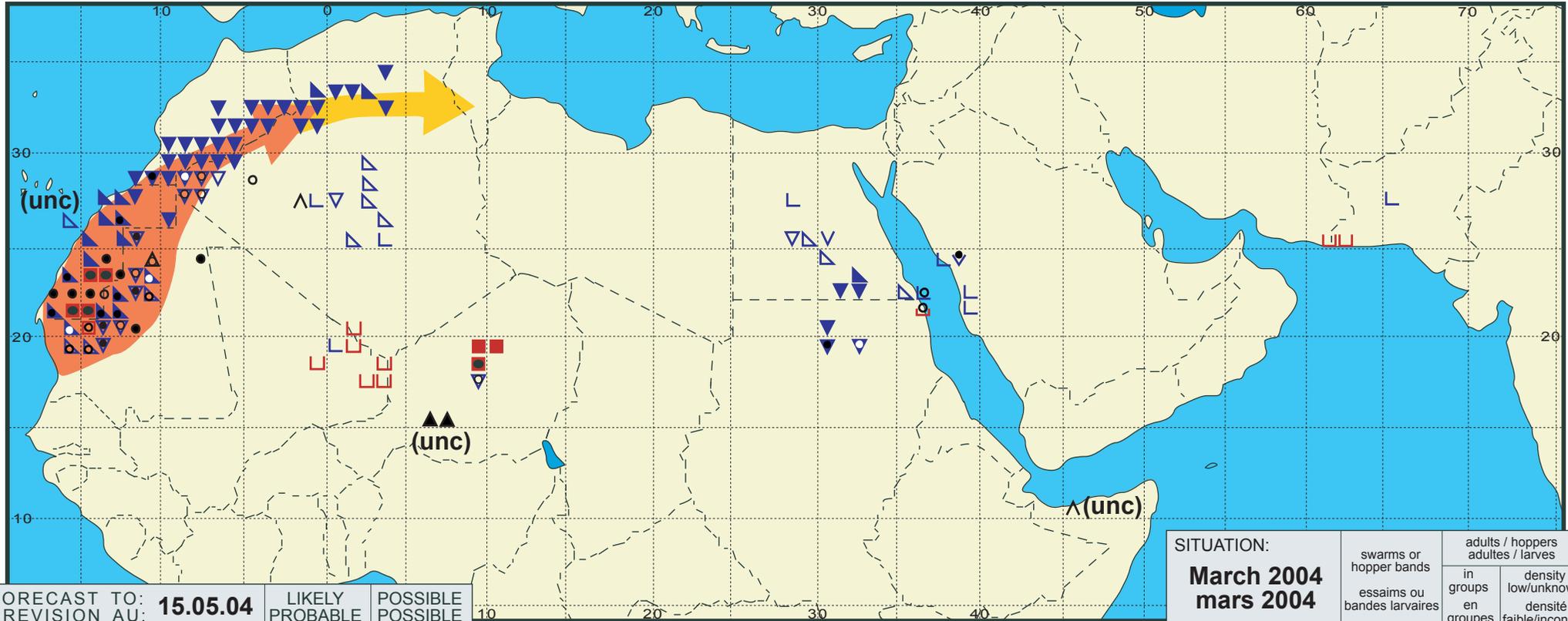
- locust-affected countries in South-West Asia: Afghanistan, India, Iran and Pakistan.



# Desert Locust Summary

## Criquet pèlerin - Situation résumée

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| FORECAST TO:<br>PREVISION AU: <b>15.05.04</b>                             | LIKELY<br>PROBABLE | POSSIBLE<br>POSSIBLE |
|---|--------------------|----------------------|
| favourable breeding conditions<br>conditions favorables à la reproduction |                    |                      |
| major swarm(s)<br>essaim(s) important(s)                                  |                    |                      |
| minor swarm(s)<br>essaim(s) limité(s)                                     |                    |                      |
| non swarming adults<br>adultes non essaimant                              |                    |                      |

| SITUATION:<br><b>March 2004</b><br><b>mars 2004</b> | swarms or<br>hopper bands      | adults / hoppers<br>adultes / larves |  |
|---|--------------------------------|--------------------------------------|--|
|   | essaims ou<br>bandes larvaires | in<br>groups<br>en<br>groupes        | density<br>low/unknown<br>densité<br>faible/inconnue |

|   |  |  |  |
|---|--|--|--|
| immature adults<br>adultes immatures  |  |  |  |
| mature or partly mature adults<br>adultes matures ou partiellement matures                  |  |  |  |
| adults, maturity unknown<br>adultes, maturité inconnue                                      |  |  |  |
| egg laying or eggs<br>pontes ou œufs  |  |  |  |
| hoppers<br>larves   |  |  |  |
| hoppers & adults (combined symbol example)<br>larves et adultes (exemple symboles combinés) |  |  |  |