

# DESERT LOCUST BULLETIN

FAO Emergency Centre for Locust Operations



No. 308



General Situation during May 2004  
Forecast until mid-July 2004

(2 June 2004)

The Desert Locust situation is very worrying despite intensive control operations carried out in Northwest Africa during May. So far in 2004, more hectares have been treated than in any year since the last plague of 1987-89. Nevertheless, a significant redistribution of populations is expected to occur in June as swarms that form in Morocco, Algeria, Tunisia and Libya move south and invade Mauritania, Mali, Niger, Chad and perhaps western Sudan. Although the scale of the invasion is difficult to estimate with precision because it depends on the success of survey and control operations in Northwest Africa, there is a risk that a substantial number of swarms could appear in the Sahel in June and July and threaten initial summer crops planted on the first rains. Appropriate preparations for locust survey and control should be made immediately in these countries. International assistance is urgently required to supplement the major efforts already made and to prevent the situation from developing into a plague.

**Western Region.** The spring breeding in Northwest Africa, being the second successful season of gregarious breeding, following that which occurred in Mauritania and Western Sahara from October onwards, means that an upsurge can be considered as underway in the region. Large-scale aerial and ground control operations continued during May in Morocco, Algeria, Tunisia and Libya where

widespread hatching and band formation occurred south of the Atlas Mountains. By mid-month, hoppers had started to fledge and the immature adults were beginning to form new groups and swarms. This process is expected to continue during June while, at the same time, swarms will start to move south towards the summer breeding areas in the Sahel where they are likely to arrive from about mid-June onwards in Mauritania, Mali, Niger, Chad and perhaps northern Senegal. Adult groups and swarms that form in currently infested areas in central and northern Mauritania and in the Air Mountains in Niger will also move to the summer breeding areas. The swarms that arrive in the Sahel are expected to be highly mobile and may not be very cohesive. They could disperse over a large area, depending on rainfall distribution, rapidly mature and lay eggs. Consequently, it may be difficult to find and treat the initial populations before they breed.

**Central Region.** Limited control operations were undertaken against a few hopper bands along the Nile River in northern Sudan and small locust infestations were present in southern Egypt during May. Elsewhere in the region, the situation remained calm. During the forecast period, summer breeding will commence in the interior in Sudan with the onset of the seasonal rains. There is a moderate risk of swarms arriving from Northwest Africa, mainly in western Sudan and perhaps in northwestern Egypt.

**Eastern Region.** Drought conditions prevailed during May in the spring breeding areas in western Pakistan where only a few locusts were present and in eastern Iran. No significant developments are likely during the forecast period.

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 May 2004

**Ecological conditions remained favourable in the spring breeding areas in Northwest Africa where good rains fell in some places during May. Dry conditions persisted in the summer breeding areas in the Sahel in West Africa and Sudan where seasonal rains had not yet started in most areas. No significant rainfall was reported in the Central and Eastern Regions where breeding conditions were unsuitable.**

In the **Western Region**, good rains fell in several parts of Northwest Africa in conjunction with eastward-moving Mediterranean depressions during May. Unusually heavy rains fell at the end of the month along the southern side of the Atlas Mountains in Morocco at Figuig (100 mm) and lighter rains were reported between Ouarzazate and Bouarfa. Light rain fell a few times south of the Atlas Mountains in Algeria and Tunisia as well as in northwest and central Libya during the last decade of May. Consequently, ecological conditions remained favourable in the spring breeding areas but were starting to dry out by the end of the month south of 30N in Morocco. In northern and central Mauritania, vegetation was starting to dry out in some places by the end of May. The Inter-Tropical Convergence Zone (ITCZ) continued its seasonal movement northwards in the Sahel, oscillating between 10N and 15N and, at times, reaching 18N over eastern Mali and 19N over eastern Niger. As a result, light rain fell on 17 and 19 May on the edge of southern Tamesna, Niger (Tahoua and Agadez) and some wadis flooded in the southeastern Air. Heavy showers were reported in Niamey on 19 May (64 mm) in addition to the unusually heavy rains on 30 April (123 mm). In Chad, moderate rains fell in the east near Abeche on the 19th and significant clouds were present over Tibesti in the northwest on the 25th. By the end of the month, there were indications that seasonal rains were commencing in parts of the Sahel, namely Kiffa and Aïoun El Atrous in southern Mauritania, Nara in western Mali and Tahoua in Niger. Nevertheless, dry vegetation persisted in most summer breeding areas except in parts of Timetrine in northern Mali and in the southeastern Air Mountains, Niger.

In the **Central Region**, good rains fell during May over coastal and interior areas of northwestern Somalia where vegetation was becoming green. In Sudan, moderate rainfall was reported in early May in the northern Red Sea Hills and light rain fell on the coast near Suakin. In Yemen, green vegetation was present in some parts of the summer breeding areas in the interior north of Ataq and Shabwah, in Wadi Hadhramaut and between Marib and Harib. Conditions were dry and unfavourable for breeding along the Red Sea coastal plains and in the summer breeding areas in the interior in Sudan. By the end of the first week of May, southwesterly winds associated with the Indian monsoon became established over the Horn of Africa and continued for the remainder of May.

In the **Eastern Region**, no significant rainfall was reported in the region for the fourth month in a row. Consequently, unfavourable ecological conditions persisted during May in the spring breeding areas in Baluchistan in western Pakistan and southeastern Iran.



### Area Treated

Since October 2003, nearly 2.9 million ha have been treated. Of this, control teams treated 880,000 ha in May as follows:

|            |            |                     |
|------------|------------|---------------------|
| Algeria    | 370,652 ha | (25 April - 24 May) |
| Egypt      | 1,433 ha   | (May)               |
| Libya      | 19,780 ha  | (21-30 April)       |
|            | 70,741 ha  | (1-24 May)          |
| Mauritania | 3,046 ha   | (21-30 April)       |
|            | 1,844 ha   | (1-20 May)          |
| Morocco    | 452,593 ha | (1-30 May)          |
| Sudan      | 6 ha       | (9-11 May)          |



### Desert Locust Situation and Forecast

( see also the summary on page 1 )

#### WESTERN REGION

##### **Mauritania**

##### • SITUATION

During May, swarms started to form in the north and centre where some damage occurred to oasis crops and pastures. Small to medium-sized swarms were seen moving south in Tiris-Zemmour and small-scale

breeding was in progress near Zouerate (2244N/1221W) where mid-instar hopper bands at densities of up to 450 hoppers/m<sup>2</sup> were present mixed with immature and mature groups of adults at densities up to 20,000/ha. A few of these adults were copulating and laying eggs. Small hopper patches and adult groups, at densities up to 60,000 adults/ha, were present near Ouadane (2056N/1137W) and in Inchiri. A few small swarms were also reported near Ouadane coming from the north. In the summer breeding areas, solitary adults at densities up to about 4,000/ha were seen at mid-month east of Nouakchott in the Aftout de Faye near Aguilal Faye (1827N/1444W) and isolated adults mixed with Tree Locust were present between Nema (1636N/0715W) and Oualata (1717N/0701W). Control operations treated 1,844 ha on 1-20 May.

• **FORECAST**

*Locust numbers will decrease in the north and centre as adults form groups and swarms that will move south to the summer breeding areas between Trarza and Hodh Chargui. From about mid-June onwards, a substantial number of adult groups and swarms from Northwest Africa are expected to appear in the south. The adults are likely to be highly mobile and could disperse over a large area, depending where rainfall occurs. Consequently, it may be difficult to treat the adults before egg laying. All efforts should be made to monitor the situation in the south.*

**Mali**

• **SITUATION**

A late report indicated that isolated adults were present during the second half of April at two places in the Adrar des Iforas.

During May, isolated adults were seen near Aguelhoc (1927N/0052E) on the 3rd. Isolated immature adults were present at a few places in Timetrine near Ti-n-kar (1926N/0022W) during the last decade of the month.

• **FORECAST**

*A substantial number of adult groups and swarms are likely to arrive from Northwest Africa in Timetrine, Tilemsi Valley, Adrar des Iforas and Tamesna. Some of these populations may move further south to Gao, Tombouctou, Nara and Niore. The adults are likely to be highly mobile and could disperse over a large area, depending where rainfall occurs. Consequently, it may be difficult to treat them before egg laying. All efforts should be made to monitor the situation in these areas.*

**Niger**

• **SITUATION**

On 4 May, immature adults were seen flying in the Tamesna near In Abangharit (1754N/0559E). In the

southeastern Air Mountains, fledging occurred in early May and immature transiens and gregarious adults dispersed throughout the central and southern parts of the Air. At least three swarms were reported and adult groups caused damage to crops near Tabelot (1736N/0856E). During the last decade of May, mature adult groups were seen copulating and laying in W. Baouet (1805N/0914E). No control operations were undertaken during May.

• **FORECAST**

*Small groups and perhaps a few swarms will form in the southeastern Air Mountains, mature and lay eggs where conditions remain favourable. Some of these could move to the Tamesna. A substantial number of adult groups and swarms are likely to arrive from Northwest Africa in Tamesna, the Air and, perhaps, in the west near Tillaberi. The adults are likely to be highly mobile and could disperse over a large area, depending on where rainfall occurs. Consequently, it may be difficult to treat them before egg laying. All efforts should be made to monitor the situation in these areas.*

**Chad**

• **SITUATION**

No reports received.

• **FORECAST**

*There is a moderate risk of adult groups and swarms appearing from Northwest Africa in the Tibesti where recent rains may have fallen as well as in other summer breeding areas in Kanem, Batha, Biltine and the northeast. Once the summer rains commence, adults will mature rapidly and lay eggs. All efforts should be made to monitor the situation in these areas.*

**Senegal**

• **SITUATION**

No locusts were reported during May.

• **FORECAST**

*There is a moderate risk of adult groups and swarms arriving in the north if the Inter-Tropical Convergence Zone remains south of 15N. This risk will decrease as the ITCZ moves north into Mauritania.*

**Algeria**

• **SITUATION**

During May, widespread hatching and band formation commenced during the first week over



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a large area along the southern side of the Atlas Mountains stretching from Morocco to Tunisia. Mature adults were also seen throughout this area. Breeding was heaviest near Tindouf (2741N/0811W), Bechar (3135N/0217W), Ghardaia (3225N/0337E) and El Oued (3323N/0649E). By mid-month, hoppers had reached fifth instar and more than half of the country's provinces were reportedly infested. Fledging and the first groups of immature adults were reported on 16 May near Tindouf and 22 May near Ghardaia. Elsewhere, the hoppers were mainly second and third instar. Aerial and ground control operations treated 370,652 ha from 25 April to 24 May.

• **FORECAST**

*Hopper bands that escape control will form swarms along the southern side of the Atlas Mountains. Most of the swarms are expected to move south towards the summer breeding areas in the Sahel in West Africa while some could move further east across North Africa. Some adult groups and swarms are likely to appear in the south of the country where they could mature and eventually lay eggs if conditions are favourable.*

### **Morocco**

• **SITUATION**

During May, hatching and band formation continued south of the Atlas Mountains in the Draa Valley, the Hamada du Guir and in the northeast near Bouarfa (3230N/0159W). By mid-month, many of the hoppers had reached the fifth instar and fledging had started in the Draa Valley and groups of immature adults were forming. Mature swarms at densities of up to 50 adults/m<sup>2</sup> were reported moving within the northeast and some were seen in the Haut Atlas near Beni Mathar (3400N/0201W). By the end of the month, fledging and the formation of immature groups at densities of up to 200 adults/m<sup>2</sup> were in progress in the Anti-Atlas between Zagora (3019N/0550W), Ouarzazate (3057N/0650W) and Irhrem 2957N/0830W).

In the Western Sahara, new adults continued to form small immature groups near Bir Gandouz (2136N/1628W) in early May. Small infestations of third and fifth instar hopper groups were present in the Saquia Al Hamra area near Laayoune (2708N/1313W) at the end of the month.

Aerial and ground control operations treated 452,593 ha during 1-30 May.

• **FORECAST**

*Hopper bands that escape control will form swarms along the southern side of the Atlas Mountains. Most of the swarms are expected to move south towards the summer breeding areas in the Sahel in West Africa while some could move further east across North Africa.*

### **Libyan Arab Jamahiriya**

• **SITUATION**

During the last decade of April and the first decade of May, mature swarms continued to arrive from the west and laid eggs in the northwest between Nalut (3152N/1058E) and Ghadames (3010N/0930E). Some swarms moved along the coastal plains east of Tripoli to Al Khums (3239N/1415E) while others moved inland to the northern Al Hamada Al Hamra, reaching Bani Waled (3143N/1401E). Hatching from previous laying started during the third week of April near the Tunisian border. Second instar hopper bands were first reported on the 26th near Nalut and on 2 May near Ghadames. Hoppers developed throughout May and, by the end of the month, some fifth instars were reported and new hatchlings were seen on the coast. Ground and aerial control operations treated 90,521 ha from 21 April to 24 May.

• **FORECAST**

*Hopper bands that escape control will form swarms in the northwest from early June onwards. As further breeding is extremely unlikely, the swarms are expected to move south towards the summer breeding areas in the Sahel in West Africa. There is a risk that some could also move east to Egypt and southeast to Sudan.*

### **Tunisia**

• **SITUATION**

Late reports indicated that swarms started arriving from the west on 28 March in the south near Tataouine (3256N/1027E) and Kebili (3342N/0858E). Other swarms reached Gabes (3353N/1007E), Medenine (3321N/1030E), Tozeur (3355N/0808E), Gafsa (3425N/0847E), Sidi Bouzid (3501N/0930E), and further north in the centre near Sfax (3444N/1045E), Kairouan (3540N/1006E) and Kasserine (3510N/0849E). Shortly after arrival, the swarms laid eggs that began hatching in late April and early May and hoppers formed numerous bands. Breeding was heaviest in the south near Tataouine and Kebili where, by the third decade of May, hoppers had reached third and fifth instar respectively. Control operations treated 79,943 ha up to 18 May.

• **FORECAST**

*Hopper bands that escape control will form swarms in the centre and south during June. As further breeding is extremely unlikely, the swarms are expected to move south towards the summer breeding areas in the Sahel in West Africa. There is a risk that some could also move east to Libya.*

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

• **FORECAST**

*No significant developments are likely.*

**MEDITERRANEAN SEA**

On 13 May, there was a report of two yellow locusts on a ship south of Sicily, Italy at 3628N/1452E, suggesting that a few locusts may have been blown out to sea from the northern coast of Africa.

**CENTRAL REGION**

**Sudan**

• **SITUATION**

During May, ten bands of fifth instar hoppers, at densities up to 20 hoppers/m<sup>2</sup>, and fledglings were present in the north near Dongola at Beja (1958N/3035E). Ground control operations treated 6 ha on 9-11 May. No locusts were reported elsewhere in the north during the month.

• **FORECAST**

*Scattered adults and perhaps a few small groups will appear in the summer breeding areas in Northern Darfur, Northern Kordofan and White Nile States from the north and lay eggs with the onset of the seasonal rains. There is a moderate risk that adult groups and swarms will arrive in Northern Darfur from Northwest Africa during July. All efforts should be made to monitor the situation in these areas.*

**Eritrea**

• **SITUATION**

No reports received.

• **FORECAST**

*No significant developments are likely.*

**Somalia**

• **SITUATION**

No locusts were seen during surveys carried out on the northwestern coast and escarpment on 16-20 April and between Hargeisa (0931N/4402E) and Burao (0931N/4533E) on 14-16 May.

• **FORECAST**

*Isolated adults may be present in a few places on the plateau between Hargeisa and Boroma where small-scale breeding could occur in areas of recent rainfall.*

**Ethiopia**

• **SITUATION**

No locusts were seen during surveys carried out between Dire Dawa (0935N/4150E) and the northern Somali border in May.

• **FORECAST**

*No significant developments are likely.*

**Djibouti**

• **SITUATION**

No reports received.

• **FORECAST**

*No significant developments are likely.*

**Egypt**

• **SITUATION**

During May, hatching occurred near Dakhla Oasis (2530N/2900E) and along the Lake Nasser shoreline near Garf Husein (2317N/3252E), Kalabasha (2328N/3232E) and Sheniara (2340N/3231E). Hoppers formed groups, at densities up to 30 hoppers/m<sup>2</sup>. Scattered first to fourth instar hoppers and immature and mature adults mixed with African Migratory Locust were present in agricultural areas at Sh. Oweinat (2219N/2845E). Isolated mature adults were present in Garb El-Mawhoob (2546N/2837E). No locusts were seen on the northern coast, near Siwa and elsewhere in the Western Desert. Ground control operations treated 1,433 ha during May.

• **FORECAST**

*A few small groups of hoppers and adults are expected to form in Dakhla Oasis and along Lake Nasser. Most of the adults are likely to move south towards the summer breeding areas in Sudan. There is a low risk of swarms arriving in the northwest from Libya.*

**Saudi Arabia**

• **SITUATION**

No reports received.

• **FORECAST**

*A few isolated adults may be present on the Red Sea coastal plains north of Jeddah in previously infested areas. Low numbers of adults may be present in the spring breeding areas. During the forecast period, locust numbers will decline in both areas and no significant developments are likely.*



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### Yemen

#### • SITUATION

No locusts were seen during surveys carried out in the summer breeding areas in the interior between Marib, Ataq and Wadi Hadhramaut during May.

#### • FORECAST

*Locusts may appear in the interior between Marib and Ataq and lay eggs if conditions remain favourable.*

### Oman

#### • SITUATION

No locusts were seen during surveys carried out in the north in May.

#### • 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 during a joint Iran/Pakistan survey carried out in the spring breeding areas in the southeast during the second half of April.

#### • FORECAST

*No significant developments are likely.*

#### Pakistan

#### • SITUATION

During the second half of April and the first half of May, isolated mature adults at densities up to 40/ha were present in a few places along the coast of Baluchistan between Gwadar (2508N/6219E) and Pasni (2513N/6330E) and inland near Turbat (2600N/6303E).

#### • FORECAST

*Locust numbers will continue to decline in Baluchistan. A few locusts may start to appear in the summer breeding areas along the Indian border. No significant developments are likely.*

#### India

#### • SITUATION

No locusts were reported from late April to mid-May.

#### • 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.

**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 [ecl@fao.org](mailto:ecl@fao.org).

**eLocust.** A new French version of eLocust for data collection and transmission in the Western Region is available at [www.fao.org/news/global/locusts/eltdown.htm](http://www.fao.org/news/global/locusts/eltdown.htm). More details can be found at: [www.fao.org/news/global/locusts/elocust.htm](http://www.fao.org/news/global/locusts/elocust.htm).

**Upsurge photos.** Pictures of the recent 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)

**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):

- *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
- *Desert Locust Joint Survey in the Spring Breeding Areas of Pakistan and the I.R. Iran* (April 2004)

**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:

- **CLCPRO.** 1st Executive Committee meeting, Niamey (Niger), 16-20 June
- **SW Asia Commission.** 24th session, Delhi (India), September
- **Pesticide Referee Group.** 9th meeting, Rome, postponed to later in 2004
- **Desert Locust Control Committee.** 38th session, Rome (November, under consideration)
- **EMPRES/CR.** 12th Liaison Officers meeting, Asmara (Eritrea), 6-10 December
- **EMPRES/WR.** 3rd Liaison Officers meeting, Dakar (Senegal), December

**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).

At a donor meeting held in Rome on 8 April and chaired by the Director-General, the original appeal for \$9 million was increased by a further \$8 million to provide further assistance to Northwest and West Africa. More details are available at: <http://www.fao.org/news/global/locusts/presweb.pdf>.

**Visit of the President of Senegal, H.E. Mr. Abdoulaye Wade to FAO.** The President of Senegal made an official visit to FAO on 12 May 2004. Various special programmes that are being carried out by FAO were presented to him, including the Emergency Prevention System for Transboundary Animal and Plant Pests and Diseases Programme (EMPRES), which has two components, one on animal diseases and the other on the Desert Locust. The President asked several questions about the Desert Locust in respect of how preventive control might be achieved, the status of the current emergency upsurge in locust populations, and the possible side effects on the environment. The President suggested that in view of the seriousness of the situation, its likely developments and the potential threat to agricultural production in West and Northwest Africa, it might be appropriate if a summit meeting between Heads of State of the nine countries be held to discuss the measures that need to be taken to overcome the problem. FAO's Director-General has offered to provide technical assistance to any such event that the countries may agree on.

**Press release.** On 26 May, FAO issued a Press Release in English, French and Arabic on the very serious Desert Locust situation. More details are

available at: <http://www.fao.org/newsroom/en/news/2004/43347/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.



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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.

### **SUMMER RAINS AND BREEDING**

- July - September/October

### **WINTER RAINS AND BREEDING**

- October - January/February

### **SPRING RAINS AND BREEDING**

- February - June/July

### **RECESSION**

- period without widespread and heavy infestations by swarms.

### **REMISSION**

- period of deep recession marked by the complete absence of gregarious populations.

### **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.

### **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.

## **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

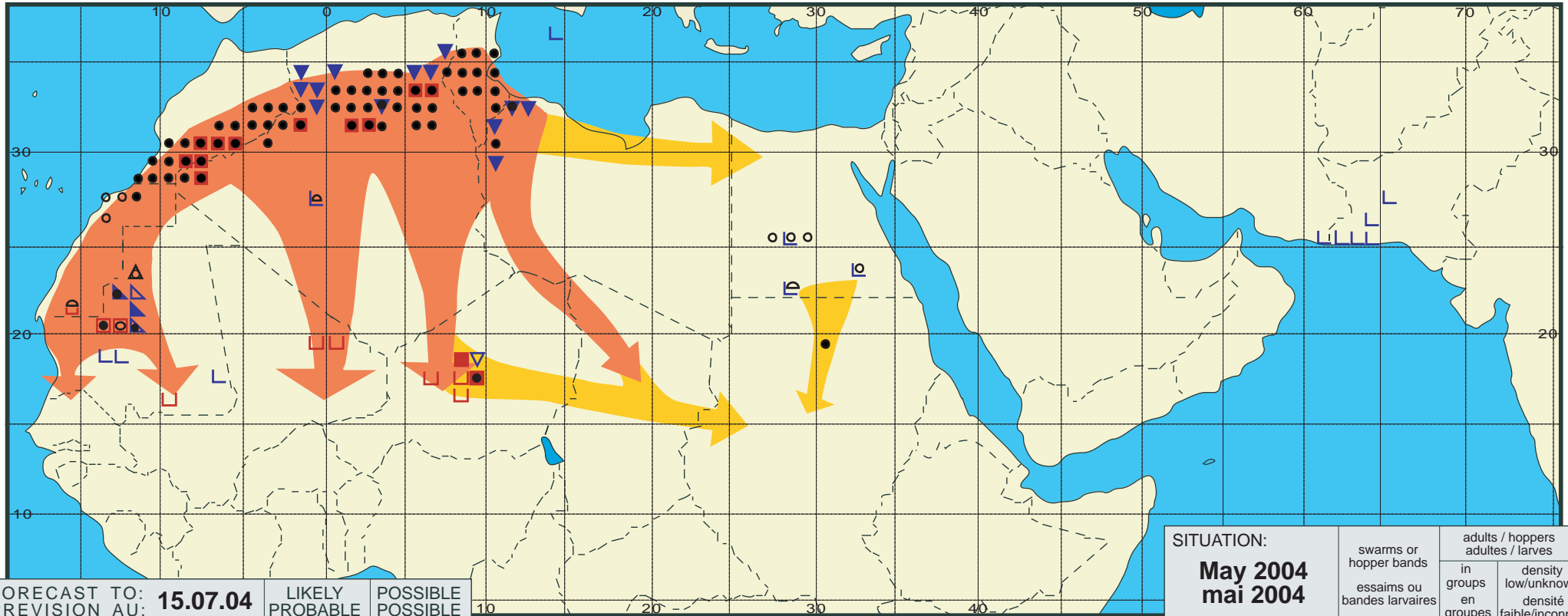




# Desert Locust Summary

## Criquet pèlerin - Situation résumée

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| FORECAST TO:<br>PREVISION AU: <b>15.07.04</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>May 2004<br/>mai 2004</b>  | swarms or<br>hopper bands<br>essaims ou<br>bandes larvaires | adults / hoppers<br>adultes / larves |  |
|---|---|--------------------------------------|--|
|   |   | 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) |   |                                      |  |

|   |  |  |  |
|---|--|--|--|
| 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) |  |  |  |