

warning level: **CAUTION** (Horn of Africa)

# DESERT LOCUST BULLETIN

FAO Emergency Centre for Locust Operations



No. 357

(2 July 2008)



## General Situation during June 2008 Forecast until mid-August 2008

The Desert Locust situation was calm during June but there is a possibility that a few undetected swarms may have persisted in the Ethiopian Highlands, which could move towards northern Somalia. In the spring breeding areas, ground control operations ended against groups of hoppers in southeast Iran while small residual populations persisted in western Pakistan. Limited control was also carried out against groups of adults in the Algerian Sahara. Local breeding occurred in southern Egypt, near the Indian border in Pakistan and perhaps in eastern Ethiopia. So far, only low numbers of adults have been reported in the summer breeding areas of the Sahel in West Africa, the Arabian Peninsula and in southwest Asia. If more rains fall during the forecast period, small-scale breeding will cause locust numbers to increase slightly in the Sahel between Mauritania and Eritrea, along both sides of the Indo-Pakistan border, and to a lesser extent in the interior of Yemen. Regular surveys should be carried out in all of these areas.

**Western Region.** The situation continued to be calm during June. Low numbers of solitary adults were present in the central Sahara in **Algeria** that, in the coming weeks, could drift south into the northern Sahel. Isolated adults were seen in **Niger** on the southern Tamesna plains and in the Tenere Desert, which suggests that scattered locusts may be present throughout the area. Although surveys were not

carried out in the other Sahelian countries, ecological conditions were dry and the seasonal rains have only reached the very southern portion of the breeding area. Hence, very few locusts are likely to be present but numbers will increase slightly after the rains reach further north in southern **Mauritania**, northern **Mali** and **Niger**, southern **Algeria**, and eastern **Chad**. Only limited surveys are likely to be possible this summer in some of these areas due to insecurity.

**Central Region.** The situation returned to calm in June due to an apparent lack of locust activity in eastern **Ethiopia** where a few swarms may have remained undetected in the Harar highlands and small-scale breeding may have occurred in parts of the Ogaden. Consequently, there is a low to moderate risk that a few small swarms could move towards the Ogaden and northern **Somalia** in early July. Breeding could still occur in the Ogaden if more rains fall. Local breeding occurred in June near Lake Nasser in southern **Egypt** where scattered adults are likely to persist. Scattered adults were also present in the interior of **Yemen**. During the forecast period, small-scale breeding in the interior of **Sudan**, western **Eritrea** and **Yemen** will cause locust numbers to increase slightly.

**Eastern Region.** Ground control operations were undertaken in early June against a few groups of hoppers that remained in southeast **Iran**, and small residual populations were present in Baluchistan in western **Pakistan**. In the summer breeding areas along the Indo-Pakistan border, early breeding occurred in Pakistan where low numbers of hoppers and scattered adults were seen. So far, no locusts were reported from adjacent areas in **India**. During the forecast period, small-scale breeding will occur along both sides of the Indo-Pakistan border, causing locust numbers to increase slightly.

The FAO Desert Bulletin is issued monthly, supplemented by Updates during periods of increased Desert Locust activity, and is distributed by e-mail, FAO pouch and airmail by the Locusts and Other Migratory Pests Group, AGP Division, FAO, 00153 Rome, Italy. It is also available on the Internet.

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### Weather & Ecological Conditions in June 2008

**Seasonal rains began during June in the summer breeding areas in the Sahel in West Africa and Sudan, in western Eritrea and along the Indo/Pakistan border but more rainfall is needed before ecological conditions become suitable for breeding.**

In the **Western Region**, the Inter-Tropical Convergence Zone (ITCZ) continued to move northwards in West Africa, reaching 18-20N. Consequently, seasonal rains commenced during June in parts of the Sahel and some of the rains reached the southern portion of the summer breeding areas in southeastern Mauritania (from Kiffa to Timbedra), in the southern Adrar des Iforas and central Mali (Kidal to Gourma), in the Tamesna and Air Mountains in Niger, and in eastern Chad (from Abeche to Kalait). Ecological conditions improved in these areas but more rains will be needed before breeding can occur. In Northwest Africa, no significant rains fell and only light showers may have fallen during the first decade of June in parts of western Libya and at the end of the month along the border of Mali and Algeria. Therefore, ecological conditions were not favourable for locust survival or breeding except in Algeria in irrigated areas in the central Sahara near Adrar and in some wadis in the Hoggar Mountains.

In the **Central Region**, light rains fell in the summer breeding areas in the interior of Sudan and Eritrea south of 15N. Rainfall was heaviest in West Darfur, North Kordofan (Hamrat Esh Sheikh to Sodiri) and near Khartoum. Consequently, ecological conditions were starting to improve but more rains are probably needed before breeding can occur. In Ethiopia, light rains fell in northwest Ogaden and in the Harar Highlands but no rains fell in the rest of eastern Ethiopia. Nevertheless, green vegetation was present in parts of the Ogaden and ecological conditions were probably suitable for small-scale breeding north of the Shabele River. Light rains fell along parts of the Red Sea coast between Qunfidah, Saudi Arabia and Bab el Mandeb in Yemen as well as on the coastal plains near Aden at times during the first decade of June. Some of these showers also reached parts of

the summer breeding area in the interior of Shabwah, Yemen but conditions were generally dry except in a few wadis and farms that contained green vegetation. In northern Somalia, light rains fell near Hargeisa and the surrounding plateau and escarpment during the first week of June but vegetation continued to dry out in all regions.

In the **Eastern Region**, light to moderate rains fell at times during the first week of June in the spring breeding area between Iranshahr, Iran and Khuzdar, Pakistan. As vegetation was already nearly dry, these rains are not expected to have an impact on locusts. Light to moderate rains fell at times during the first half of June in the summer breeding areas along both sides of the Indo-Pakistan border where ecological conditions were improving. Rainfall was heaviest in the central (Jaisalmer, India to Rohri, Pakistan) and northern (Bikaner, India to Bahawalpur, Pakistan) areas. Little rain fell in these areas during the second half of June.



### Area Treated

Algeria	50 ha (June)
Iran	1,100 ha (March, updated)
	4,082 ha (April, updated)
	17,999 ha (May, updated)
	310 ha (June)
Pakistan	145 ha (16-31 May)



### Desert Locust Situation and Forecast

( see also the summary on page 1 )

#### WESTERN REGION

##### **Mauritania**

###### • SITUATION

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

###### • FORECAST

*Scattered adults are likely to be present in the summer breeding areas in the south. Small-scale breeding during the forecast period will cause locust numbers to increase slightly.*

##### **Mali**

###### • SITUATION

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

###### • FORECAST

*Scattered locusts are likely to be present and will persist in parts of the Adrar des Iforas where small-*

scale breeding will occur in areas that receive rainfall.

### **Niger**

#### • SITUATION

During June, isolated mature solitary adults were reported to be present in southern Tamesna west and northwest of Agadez (1700N/0756E) at Agharous (1705N/0755E) and Abdelajouad (1757N/0711E). A few adults were also reported in the Tenere Desert near Fachi oasis (1806N/1134E) and Arbre du Ténéré (1745N/1004E).

#### • FORECAST

*Low numbers of locusts are likely to be present and will persist in southern parts of the Air Mountains and Tamesna as well as in the northern Sahelian zone. Small-scale breeding will occur in areas that receive rainfall, causing locust numbers to increase slightly.*

### **Chad**

#### • SITUATION

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

#### • FORECAST

*Low numbers of locusts are likely to be present in the east and northeast between Abeche and Fada where they will breed in areas that receive rainfall.*

### **Senegal**

#### • SITUATION

No locusts were reported in June.

#### • FORECAST

*No significant developments are likely.*

**Benin, Burkina Faso, Cameroon, Cape Verde, Côte d'Ivoire, Gambia, Ghana, Guinea, Guinea Bissau, Liberia, Nigeria, Sierra Leone and Togo**

#### • FORECAST

*No significant developments are likely.*

### **Algeria**

#### • SITUATION

During June, scattered immature and mature solitary adults persisted in irrigated areas of the central Sahara near Adrar (2753N/0017W) and in several wadis in the Ahnet and Mouydir regions northwest of Tamanrasset (2250N/0528E). Compared to May, locust densities increased slightly to 800 adults/ha and adult groups were reported at one place northwest of Tamanrasset. Ground teams treated 50 ha. No locusts were seen northwest of Illizi (2630N/0825E) or near Djanet (2434N/0930E).

#### • FORECAST

*Limited breeding could occur in parts of the central Sahara near Adrar, Djanet and Tamanrasset. Locust numbers are likely to increase south of Tamanrasset as adults move from the central to the southern*

*Sahara where they will breed on a small scale if rainfall occurs.*

### **Morocco**

#### • SITUATION

No reports received.

#### • FORECAST

*No significant developments are likely.*

### **Libyan Arab Jamahiriya**

#### • SITUATION

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

#### • FORECAST

*Scattered adults may be present in the southwest between Ghat and Sabha where small-scale breeding could occur in areas of recent rainfall.*

### **Tunisia**

#### • SITUATION

No reports were received during June.

#### • FORECAST

*No significant developments are likely.*

## **CENTRAL REGION**

### **Sudan**

#### • SITUATION

In mid-June, low numbers of solitary mature adults were present along the Nile Valley between Atbara (1742N/3400E) and Abu Hamed (1932N/3320E) at densities of 100-450 adults/ha.

#### • FORECAST

*Small-scale breeding and low numbers of locusts are likely to persist in crops in the Nile Valley in the north. Scattered adults are likely to be present in Darfur, Kordofan, White Nile and Kassala states. Small-scale breeding during the forecast period will cause locust numbers to increase slightly in areas that receive rainfall.*

### **Eritrea**

#### • SITUATION

No locusts were seen during a survey in the western lowlands on 20-23 June.

#### • FORECAST

*Low numbers of adults could appear in the northern part of the western lowlands and breed in areas that receive rainfall.*



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### Ethiopia

- SITUATION

No locusts were seen during surveys carried out in early June in the highlands southwest of Dire Dawa (0935N/4150E). No surveys were carried out in the Ogaden except at one place between Kebri Dehar (0644N/4416E) and K'efalo (0537N/4408E) in late June where locusts were absent.

- FORECAST

*Low numbers of locusts may be present in the Ogaden but breeding will be limited unless further rains fall. There is a low to moderate risk that a few small swarms are present in the Harar Highlands, which could move to the Ogaden and northern Somalia early in the forecast period.*

### Djibouti

- SITUATION

No reports received.

- FORECAST

*No significant developments are likely.*

### Somalia

- SITUATION

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

- FORECAST

*Scattered adults may be present on the plateau between Boroma and Hargeisa where small-scale breeding could occur in areas of recent rainfall. There is a low to moderate risk that a few small swarms could appear from eastern Ethiopia early in the forecast period.*

### Egypt

- SITUATION

During June, scattered immature and mature solitary adults were present at a few places along the Lake Nasser shoreline near Abu Simbel (2219N/3138E) and south of Aswan (2405N/3256E). Isolated first to fourth instar solitary hoppers were also seen near Abu Simbel. No locusts were present in the Western Desert near Sh. Oweinat (2219N/2845E).

- FORECAST

*Low numbers of locusts may persist near Lake Nasser. No significant developments are likely.*

### Saudi Arabia

- SITUATION

No locusts were seen during surveys carried out on the Red Sea coast and in the interior during June.

- FORECAST

*No significant developments are likely.*

### Yemen

- SITUATION

During June, scattered mature solitary adults were seen at three locations in the summer breeding areas in the southern part of the Shabwah interior between Bayhan (1452N/4545E) and Ataq (1435N/4649E). No locusts were seen elsewhere in the interior between Marib (1527N/4519E) and Thamud (1717N/4955E).

- FORECAST

*Small-scale breeding could occur in the interior in areas of recent rainfall, causing locust numbers to increase slightly.*

### Oman

- SITUATION

No reports received.

- FORECAST

*No significant developments are likely.*

### Bahrain, Iraq, Israel, Jordan, Kenya, Kuwait, Lebanon, Palestine, Qatar, Syria, Tanzania, Turkey, Uganda and UAE

- FORECAST

*No significant developments are likely.*

## EASTERN REGION

### Iran

- SITUATION

A late report indicated that ground teams treated 18,000 ha of hopper groups and bands that were present during May in the Jaz Murian basin east of Kahnuj (2757N/5742E).

During the first week of June, ground control operations were carried out against 310ha of groups of late instar hoppers and mature gregarious adults at four places in the interior of Sistan-Baluchistan near Bampur (2711N/6028E). The adults were seen laying eggs. On the southeastern coast, isolated late instar solitary hoppers were seen near Chabahar (2517N/6036E) on 1 June and isolated mature solitary adults were present at a few nearby places during the last week of the month.

- FORECAST

*Although limited hatching could occur near Bampur, locust numbers will decline in the southeast as vegetation dries out.*

## Pakistan

### • SITUATION

Late reports indicated that isolated mature solitary adults were present near Khuzdar (2749N/6639E) and Uthal (2548N/6637E) during the first half of May. Ground teams treated 35 ha of scattered immature solitary adults and 110 ha of solitary hoppers of all instars near Kharan (2832N/6526E) during the second half of May.

During the first half of June, scattered immature and mature solitary adults persisted near Kharan. In the summer breeding areas, scattered second to fifth instar solitary hoppers were present in the Cholistan Desert southeast of Bahawalpur (2924N/7147E), and isolated immature and mature solitary adults were present in several places in Cholistan and Khipro deserts. No locusts were seen in the Tharparkar Desert.

### • FORECAST

*Small-scale breeding in Tharparkar, Khipro and Cholistan deserts will cause locust numbers to increase slightly during the summer.*

## India

### • SITUATION

No locusts were seen during surveys carried out in Rajasthan and Gujarat during June.

### • FORECAST

*Small-scale breeding in Rajasthan will cause locust numbers to increase slightly during the summer*

## Afghanistan

### • SITUATION

No reports received.

### • FORECAST

*No significant developments are likely.*



## Announcements

**Locust reporting.** During recession periods, countries should report at least once/month and send RAMSES data with a brief interpretation. During caution (yellow) and threat (orange) periods, locust outbreaks, upsurges and plagues, RAMSES output files with a brief interpretation should be sent at least twice/week within 48 hours of the last survey. Affected countries are also encouraged to prepare decadal bulletins summarizing the situation. All information should be sent by e-mail to the FAO/ECLO Desert Locust Information Service (ecl@fao.org). Information received by the end of the month will be included in the FAO Desert Locust 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.

**Desert Locust warning levels.** A colour-coded scheme indicates the seriousness of the current Desert Locust situation: green for *calm*, yellow for *caution*, orange for *threat* and red for *danger*. The scheme is applied to the Locust Watch web page and to the monthly bulletin's header. The levels indicate the perceived risk or threat of current Desert Locust infestations to crops and appropriate actions are suggested for each level.

**Climate change.** Potential impacts of climate change on Desert Locust are under discussion. More details can be found on Locust Watch in the Activities section (<http://www.fao.org/ag/locusts/en/activ/index.html>).

**Google group.** FAO DLIS has established a Google group for national locust information officers to exchange opinions and share experiences regarding data management and analysis, GIS, eLocust2 and satellite imagery. Interested information officers should contact DLIS (ecl@fao.org) for details.

**MODIS imagery.** Columbia University's International Research Institute for Climate and Society (IRI) provides 16-day 250-metre resolution MODIS imagery as well as daily and decadal rainfall imagery for monitoring breeding conditions in the Desert Locust recession area. These products can be downloaded in different formats suitable for GIS at: [http://iridl.ldeo.columbia.edu/maproom/Food\\_Security/Locusts/index.html](http://iridl.ldeo.columbia.edu/maproom/Food_Security/Locusts/index.html). Comments and questions can be addressed to Pietro Ceccato (pceccato@iri.columbia.edu).

**New information on Locust Watch.** Recent additions to the web site are:

- **Locust risk.** The current risk map was updated (home page)
  - **2008 Iran/Pakistan joint survey.** Results and photos from the annual 30-day survey (Publications – Reports section)
  - **Master Trainers Manual.** The sessions and overheads for eLocust2 were updated (Publications – Documents section)
- Links to the above information can be found in the *Latest Additions* section on Locust Watch.



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**2008 events.** The following activities are scheduled:

- **CRC.** 26<sup>th</sup> Session and 30<sup>th</sup> Executive Committee meeting, Muscat (26-30 July)
- **CLCPRO.** 5<sup>th</sup> Executive Committee meeting, Ouagadougou (20-22 October, to be confirmed)
- **EMPRES/WR.** 7<sup>th</sup> Liaison Officers meeting, Niamey (24-28 November, to be confirmed)
- **EMPRES/WR.** 4<sup>th</sup> Steering Committee meeting, Niamey (1-3 December, to be confirmed)
- **SWAC.** 26<sup>th</sup> Session, Kabul (15-17 December)



### 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.

#### **WARNING LEVELS**

##### **GREEN**

- Calm. No threat to crops. Maintain regular surveys and monitoring.

##### **YELLOW**

- Caution. Potential threat to crops. Increased vigilance is required; control operations may be needed.

##### **ORANGE**

- Threat. Threat to crops. Survey and control operations must be undertaken.

##### **RED**

- Danger. Significant threat to crops. Intensive survey and control operations must be undertaken.

## **REGIONS**

### **WESTERN**

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

### **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.



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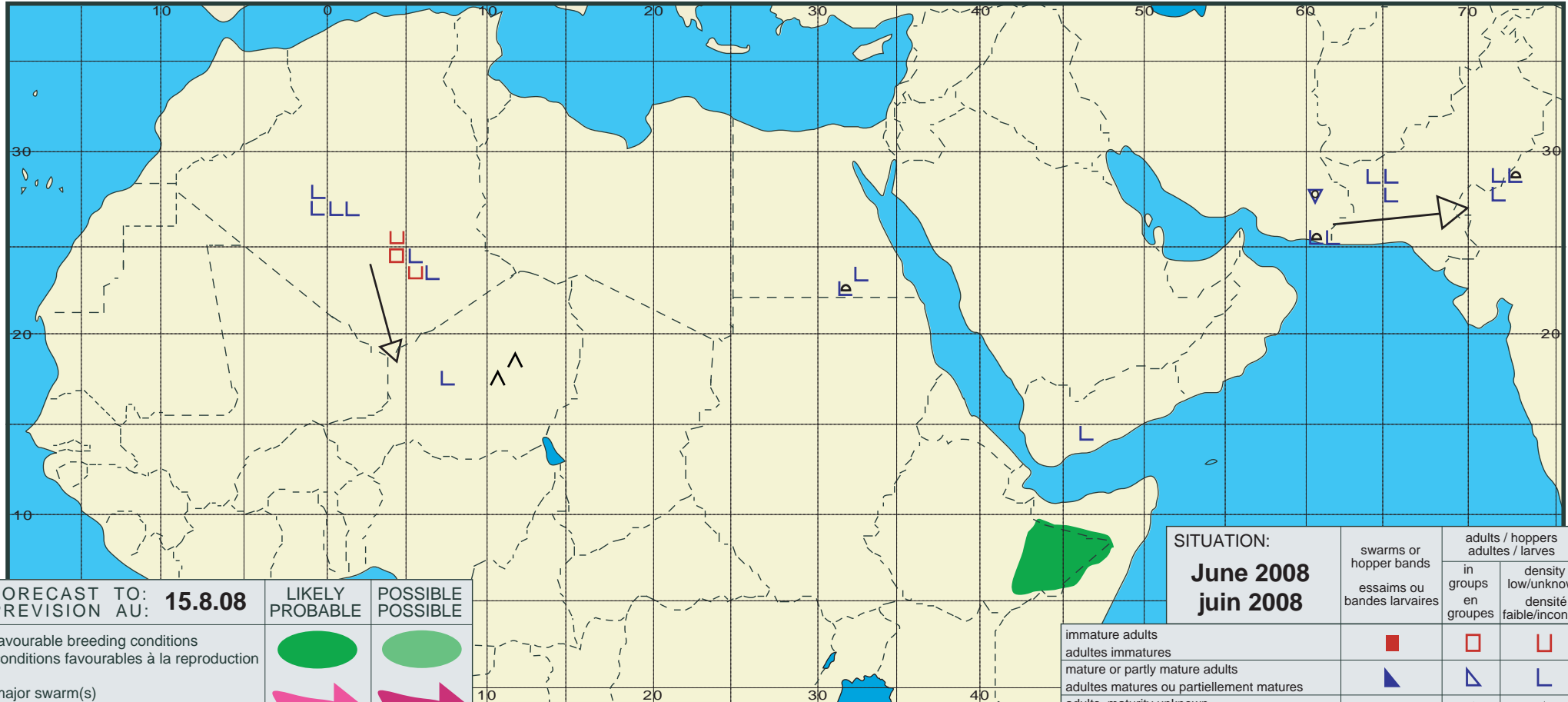
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# Desert Locust Summary

## Criquet pèlerin - Situation résumée

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FORECAST TO: PREVISION AU:	<b>15.8.08</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			

<b>SITUATION:</b> <b>June 2008</b> <b>juin 2008</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)			