

warning level: **CALM**

# DESERT LOCUST BULLETIN

FAO Emergency Centre for Locust Operations



No. 370

(3 August 2009)



## General Situation during July 2009 Forecast until mid-September 2009

The locust situation became calm in all areas during July. Scattered adults were present in northwest Mauritania, Algeria and Sudan. National ground teams treated small infestations along the Algerian border in Morocco and in the highlands of Ethiopia. Low numbers of adults appeared in Pakistan near the Indian border. Seasonal rains fell in the summer breeding areas in the Sahel of West Africa, Sudan and Eritrea, and along both sides of the Indo-Pakistan border. During the forecast period, small-scale breeding in these areas will cause locust numbers to increase slightly but they should remain below threatening levels. Regular surveys should be carried out in all affected countries to monitor the situation carefully throughout the summer.

**Western Region.** The locust situation remained calm during July. Ground teams treated 250 ha of fledglings and immature solitary adults in Morocco near the Algerian border. Isolated mature solitary adults were present in northwest and southern Algeria. Local breeding occurred at one place in northwest Mauritania where scattered solitary adults were present in areas of previous rainfall. Surveys could not be carried out in Mali and Niger due to continuing insecurity. Good rains fell in the summer breeding areas of the northern Sahel between Mauritania and Chad, causing ecological conditions to become favourable in most areas. During the forecast period, small-scale breeding will cause locust numbers to increase slightly but remain below

threatening levels in the northern Sahel of Mauritania, Mali, Niger and Chad.

**Central Region.** Seasonal rains commenced during July in the summer breeding areas in the interior of Sudan and western Eritrea. Scattered solitary adults were present in some of these areas in Sudan. By the end of the month, ecological conditions had become favourable for breeding. Consequently, small-scale breeding will cause locust numbers to increase slightly but remain below threatening levels in both countries during the forecast period. Small locust infestations persisted and matured in northern Ethiopia where two small swarms were reported north of Addis Ababa and scattered solitary adults were seen about 100 km south of the Eritrean border. Ground teams were able to treat some of the infestations. No locusts were seen during surveys carried out in Saudi Arabia and Oman. No surveys were carried out elsewhere in the Region. Scattered solitary adults may be present on the Red Sea coast in Yemen where they could breed on a small scale during the forecast period in areas of recent rainfall.

**Eastern Region.** Scattered solitary adults appeared in the summer breeding areas in Pakistan near the Indian border in July. Monsoon rains arrived along both sides of the border, which caused ecological conditions to become favourable. Consequently, small-scale breeding will cause locust numbers to increase slightly but remain below threatening levels in Pakistan and India 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 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 July 2009

**Good rains fell in the summer breeding areas of the northern Sahel between Mauritania and Sudan that will allow small-scale breeding to occur. In Southwest Asia, monsoon rains reached the summer breeding areas along both sides of the Indo-Pakistan border, causing ecological conditions to become favourable for breeding.**

In the **Western Region**, good rains fell in the summer breeding areas of the northern Sahel between Mauritania and Chad, causing ecological conditions to become favourable in most areas. In Mauritania, summer rains commenced in the southeast (Hodh Ech Chargui and Hodh El Gharbi) in early July and progressively moved north and west towards Assaba, Rkiz (Trarza), Magta Lahjar (Brakna) and Tidjikja (Tagant). Vegetation also became green and ecological conditions were favourable for breeding in the north near Zouerate where unusually good rains fell in mid June and, to a lesser extent, near Bir Moghrein and between Akjoujt and Atar in the northwest. In Mali, good rains fell in southern Tamesna near Menaka in early July, followed by light to moderate rains northwest of Tombouctou, in the central Adrar des Iforas (Kidal to Aguelhoc) and in the Timetrine near Tadhak. In Niger, good rains fell in parts of the Tamesna (Tassara, In Abangharit and Tazerzait Plateau), the central and western Air Mountains, and in the northern Sahel north of Tahoua, Tanout and Diffa. In Chad, light to moderate rains fell in Biltine and southern Batha early in the month, and progressively moved further north in central and western areas, reaching northern Kanem and Batha by mid-month and Fada by the end of July. Good rains fell in southern Algeria between Tamanrasset and Bir Bou Mokhtar during the first decade of July. Ecological conditions improved along the borders of Mali and Niger between Tin Zaouatene and In Guezzam.

In the **Central Region**, good rains fell in the summer breeding areas in the interior of Sudan and western Eritrea as well as along the Red Sea coast in Yemen. During July, the rains moved progressively northwards in Sudan and by the end of the month they had reached north of Melit (Darfur), Hamrat Esh

Sheikh and Abu Uruq (North Kordofan) and Atbara (Nile State). Good rains fell along the Gash Barka and throughout the western lowlands in Eritrea. Consequently, ecological conditions improved in both countries and were favourable for breeding by the end of July. Good rains also fell in the highlands in northern Ethiopia. Vegetation continued to dry out on the plateau between Dire Dawa and Hargeisa but was green in northern Somalia near Hargeisa and Boroma from light showers that fell at times. In Yemen, light to moderate showers fell along the Red Sea coast and, to a lesser extent, in some places on the southern coast west of Aden.

In the **Eastern Region**, monsoon rains reached the summer breeding areas along the Indo-Pakistan border on about 3 July which is almost two weeks earlier than normal. Heavy showers fell in Tharparkar and Khipro deserts in Pakistan while good rains fell further north in Cholistan and throughout Rajasthan, India. Torrential rains (230 mm) fell in Karachi on 24-26 July, causing floods. In Iran, vegetation dried out along the southeast coast between Jask and the Pakistan border.



### Area Treated

Ethiopia	64 ha (July)
Morocco	1,807 ha (June, updated) 50 ha (July)



### Desert Locust Situation and Forecast

*( see also the summary on page 1 )*

#### WESTERN REGION

##### **Mauritania**

##### • SITUATION

In the north and northwest, isolated mature solitary adults were present in between Akjoujt (1945N/1421W) and Zouerate (2244N/1221W) in late June and throughout July. Most of the adults were concentrated near Zouerate where it rained in mid-June while only isolated adults were seen further north near Bir Moghrein (2510N/1135W). Small-scale breeding was detected in one area between Akjoujt and Atar (2032N/1308W) where isolated solitary first to third instar hoppers were seen on the 24<sup>th</sup>. In the summer breeding areas further south, a few individual mature adults were seen in Brakna in mid-July.

- **FORECAST**

*Small-scale breeding will cause locust numbers to increase slightly in the two Hodhs, Tagant, northern Assaba and Brakna, and Trarza. Nevertheless, locust numbers will remain below threatening levels.*

### **Mali**

- **SITUATION**

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

- **FORECAST**

*Small-scale breeding will cause locust numbers to increase slightly in parts of the Adrar des Iforas and Tamesna, and to a lesser extent in the Tilemsi Valley and Timetrine. Nevertheless, locust numbers will remain below threatening levels.*

### **Niger**

- **SITUATION**

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

- **Forecast**

*Small-scale breeding will cause locust numbers to increase slightly in the northern Sahel, Tamesna, and in the southern Air Mountains. Nevertheless, locust numbers will remain below threatening levels.*

### **Chad**

- **SITUATION**

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

- **FORECAST**

*Small-scale breeding will cause locust numbers to increase slightly in Biltine, Ennedi and in northern Ouaddai, Batha and Kanem. Nevertheless, locust numbers will remain below threatening levels.*

### **Senegal**

- **SITUATION**

No reports were received during July.

- **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 July, isolated mature solitary adults were present in the west near Tindouf, Bechar (3135N/0217W) and Beni Abbes (3011N/0214W), and in the south between Tamanrasset (2250N/0528E) and the borders of Mali, between Bir Bou Mokhtar

(2120N/0056E) and Tin Zaouatene (1958N/0258E), and Niger near In Guezzam (1937N/0552E).

- **FORECAST**

*Small-scale breeding could occur in areas of recent rainfall in the south between Tamanrasset, Tin Zaouatene and In Guezzam, causing locust numbers to increase slightly but remain below threatening levels.*

### **Morocco**

- **SITUATION**

Ground teams treated 250 ha of fledglings and immature adults on 26-30 June south of the Atlas Mountains near the border of Algeria.

During the first decade of July, immature solitary adults persisted in a few places in the northeast near Figuig (3207N/0113W) at densities up to 3,000 adults/ha. Ground teams treated 50 ha. In the Draa Valley, immature solitary adults were seen at densities of 1-2 adults/m<sup>2</sup> southeast of Tata (2944N/0758W) near the Algerian border.

In Western Sahara, scattered solitary hoppers and adults were seen in the northeast near Bir Lahlou (2619N/0933W) during the last decade of July.

- **FORECAST**

*Locust numbers will continue to decline along the Algerian border as vegetation dries out. Scattered adults may appear in the southern parts of Western Sahara at the end of the forecast period.*

### **Libyan Arab Jamahiriya**

- **SITUATION**

No reports were received during July.

- **FORECAST**

*No significant developments are likely.*

### **Tunisia**

- **SITUATION**

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

- **FORECAST**

*No significant developments are likely.*

### **CENTRAL REGION**

#### **Sudan**

- **SITUATION**

During July, scattered immature and mature solitary adults were present in parts of the summer breeding areas in North Kordofan between En Nahud



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(1246N/2828E), Sodiri (1423N/2906E) and Umm Saiyala (1426N/3112E) as well along the Nile River in the Northern and River Nile states near Dongola (1910N/3027E), Merowe (1830N/3149E), Abu Hamed (1932N/3320E), Berber (1801N/3400E) and Ed Damer (1734N/3358E). No locusts were seen on the western side of the Red Sea Hills between Kassala (1527N/3623E) and Haiya (1820N/3621E).

• **FORECAST**

*Small-scale breeding will cause locust numbers to increase slightly in North Darfur, North Kordofan, Khartoum, Kassala, along the Nile River in Northern and River Nile states, and in the northern parts of West Darfur, West Kordofan and White Nile states. Nevertheless, locust numbers will remain below threatening levels.*

### **Eritrea**

• **SITUATION**

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

No locusts were seen during surveys carried out in the western lowlands from the Ethiopian border to about 1545N in the second week of July.

• **FORECAST**

*Small-scale breeding will occur in the western lowlands and along the Gash Barka, causing locust numbers to increase slightly but remain below threatening levels.*

### **Ethiopia**

• **SITUATION**

During July, scattered immature and mature solitary adults were seen at two places in central Tigray on the 9<sup>th</sup>. Two low-density mature swarms of 2.5 km<sup>2</sup> and 5.4 km<sup>2</sup> were seen about 300 km north of Addis Ababa (0858N/3847E) in the northeast highlands in South Wello on the 21<sup>st</sup>. These infestations are likely to have originated from immature swarms that moved into the highlands during June. Ground teams treated 64 ha in South Wello.

• **FORECAST**

*Scattered adults that originated from swarms in July may persist in the northern highlands and perhaps breed on a small scale.*

### **Djibouti**

• **SITUATION**

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

• **FORECAST**

*No significant developments are likely.*

### **Somalia**

• **SITUATION**

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

• **FORECAST**

*Scattered adults may be present and could persist in areas of recent rainfall on the plateau between Hargeisa and Boroma.*

### **Egypt**

• **SITUATION**

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

• **FORECAST**

*No significant developments are likely.*

### **Saudi Arabia**

• **SITUATION**

During July, no locusts were seen during surveys carried out on the Red Sea coast near Rabigh (2247N/3901E), in the Asir Mountains near Khamis Mushait (1819N/4245E) and in the spring breeding areas of the interior in the extreme north near the border of Jordan and between Buraydah (2621N/4358E) and the Persian Gulf.

• **FORECAST**

*No significant developments are likely.*

### **Yemen**

• **SITUATION**

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

• **FORECAST**

*Scattered adults may be present and will persist in areas of recent rainfall on the Tihama coast. Regular surveys are recommended in all areas.*

### **Oman**

• **SITUATION**

During July, no locusts were seen during surveys carried out on the northern coast near Jamma (2333N/5733E) and on the coast northwest of Sur (2234N/5930E).

• **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

During July, no locusts were seen during surveys on the southeast coast near Jask (2540N/5746E) and Chabahar (2517N/6036E), and in the interior near Bampur (2711N/6028E).

• FORECAST

*No significant developments are likely.*

**Pakistan**

• SITUATION

During the second half of June, isolated immature and mature solitarious adults were seen in the spring breeding areas of Baluchistan near Panjgur (2658N/6406E) and Pasni (2515N/6328E), and in the summer breeding areas south of Bahawalpur (2924N/7147E). No locusts were seen during surveys carried out on the coast of Baluchistan on 18 to 26 June.

During the first half of July, isolated mature solitarious adults were present at a few places near the border of India in Cholistan south of Bahawalpur and Rahimyar Khan (2822N/7020E), and in the Khipro Desert northeast of Mirpurkhas (2533N/6905E).

• Forecast

*Small-scale breeding in parts of Tharparkar, Khipro and Cholistan will cause locust numbers to increase slightly but remain below threatening levels.*

**India**

• SITUATION

No locusts were seen during surveys in Rajasthan and Gujarat during July.

• FORECAST

*Low numbers of adults are likely to be present in parts of Gujarat and Rajasthan. Small-scale breeding is expected to occur, causing locust numbers to increase slightly but remain below threatening levels.*

**Afghanistan**

• SITUATION

No reports received.

• FORECAST

*No significant developments are likely.*

 **Announcements**

**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.

**Locust reporting.** During calm (green) periods, countries should report at least once/month and send RAMSES data with a brief interpretation. During caution (yellow), threat (orange) and danger (red) periods, often associated with locust outbreaks, upsurges and plagues, RAMSES output files with a brief interpretation should be sent at least twice/week within 48 hours of the latest survey. Affected countries are also encouraged to prepare decadal bulletins summarizing the situation. All information should be sent by e-mail to the FAO/ECLD Desert Locust Information Service (eclod@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.

**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 (eclod@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). The site is available in English and French. Address comments and questions to Pietro Ceccato (pceccato@iri.columbia.edu).



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**New information on Locust Watch.** Recent additions to the web site ([www.fao.org/ag/locusts](http://www.fao.org/ag/locusts)) are:

- **EMPRES/WR evaluation report (2006-08).** Publications section – Reports
- **39<sup>th</sup> session DLCC final report.** Publications section – Reports
- **2009 Iran/Pakistan Joint survey results.** Publications section – Reports
- **Desert Locust Survey & Control Form updated.** Publications section – Forms
- **Internet catalogue of the Pesticide Referee Group database.** Activities section – Environment and health
- **Desert Locust situation updates.** Archives Section – Briefs

**2009 events.** The following activities are scheduled or planned:

- **EMPRES/WR Research.** Regional workshop on Desert Locust research, Dakar (5-9 October)
- **EMPRES/WR Liaison Officers.** 8<sup>th</sup> EMPRES Liaison Officers meeting (mid-December, tentative)
- **EMPRES/WR Steering Committee.** 4<sup>th</sup> EMPRES Steering Committee meeting (mid-December, tentative)



### 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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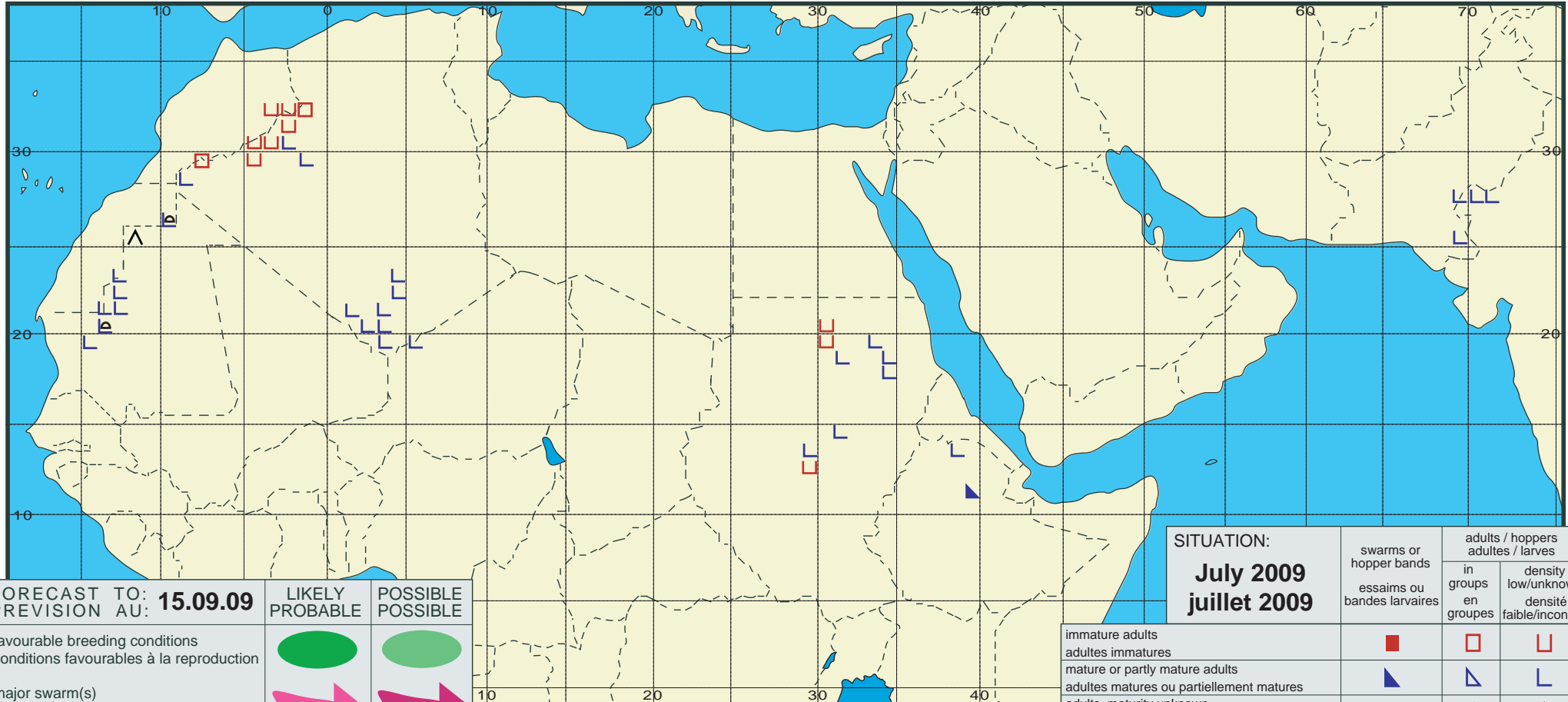
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# Desert Locust Summary

## Criquet pèlerin - Situation résumée

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FORECAST TO: PREVISION AU: <b>15.09.09</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>July 2009</b> <b>juillet 2009</b>	swarms or hopper bands essaims ou bandes larvaires	adults / hoppers adultes / larves	
		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)			