

warning level: **CALM**

# DESERT LOCUST BULLETIN

FAO Emergency Centre for Locust Operations



No. 371

(1 Sept 2009)



## General Situation during August 2009 Forecast until mid-October 2009

The Desert Locust situation remained calm during August. Although good rains fell in most of the summer breeding area in the northern Sahel between Mauritania and western Eritrea, only scattered hoppers were reported in Mauritania. Nevertheless, breeding is likely to be in progress in parts of northern Mali, Niger, Chad, Sudan and Eritrea. Breeding will continue during the forecast period, causing locusts to increase substantially in Mauritania and to a lesser extent in other countries where they should remain below threatening levels. Unusually heavy rains fell on the Red Sea coast in Eritrea, Djibouti and Yemen that could eventually lead to small-scale breeding. Only isolated adults were present along both sides of the Indo-Pakistan border because of poor monsoon rains. Unless further rains fall, no significant developments are expected in southwest Asia.

**Western Region.** The locust situation remained calm during August. Small-scale egg laying commenced in the summer breeding areas of central and southern Mauritania in about mid-July that gave rise to low numbers of hoppers during August. As good rains fell and solitary adults were scattered over much of the area, small-scale breeding will continue and cause locust numbers to increase significantly during September and October. By the end of the forecast period, locusts are likely to become concentrated in west and northwest Mauritania, increase in density and perhaps form a

few small groups that could lead to the development of a local outbreak. Small-scale breeding is probably underway and will continue in northern Mali and Niger but surveys could not be carried out to confirm this due to continued insecurity. In Northwest Africa, locust infestations declined and only isolated adults were reported in southern Algeria along the Malian border. No locusts were reported elsewhere in the Region.

**Central Region.** Despite good rains and favourable ecological conditions, only low numbers of solitary adults were present in the summer breeding areas in the interior of Sudan during August. Good rains also fell in adjacent areas of western Eritrea. Although breeding has yet to be detected, it is almost certainly in progress on a small-scale in both countries and will continue during the forecast period, causing locusts to increase slightly but remain below threatening levels. Unusually heavy rains fell in late August along the entire Red Sea coast in Eritrea and Yemen. Isolated adults were already present on the coast in Yemen and could appear in Eritrea, and small-scale breeding could occur in both countries. The situation remained unclear in northern Ethiopia where there were unconfirmed reports of a few swarms and some control was undertaken. No locusts were reported elsewhere in the Region.

**Eastern Region.** Poor monsoon rains during August have caused ecological conditions to be less favourable than normal in the summer breeding areas along both sides of the Indo-Pakistan border. Only isolated solitary adults were seen in the Cholistan Desert in Pakistan and in a few places in Rajasthan, India. Unless further rains fall, no significant developments are likely. No locusts were seen during surveys along the coast in southeast Iran.

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 August 2009

**Good rains fell in the northern Sahel between Mauritania and Eritrea that will allow breeding to continue during the forecast period. Unusually heavy rains fell in coastal areas on both sides of the southern Red Sea that could cause breeding conditions to improve. Very little rain fell along the Indo-Pakistan border.**

In the **Western Region**, the Inter-Tropical Convergence Zone (ITCZ) fluctuated between 16N and 20N over West Africa during August. At times, the ITCZ surged north to 21N and reached southern Algeria. Although good rains fell mainly in Mauritania and to a lesser extent in other countries, ecological conditions were favourable in most of the summer breeding areas in the Sahel. In Mauritania, good rains fell throughout the south as far north as Tidjikja. In Mali, rains were sporadic and fell in parts of the western Adrar des Iforas, Tilemsi Valley, and southern Tamesna as well as between Tombouctou and Araouane and near the Algerian border between Tadhak and Taoudenni. In Niger, ecological conditions were favourable for breeding in parts of the north, mainly in the Tamesna near In Abangharit, but were dry in northern and eastern areas of the Air Mountains because of patchy rainfall during August. In Chad, good rains fell in the northeast between Abeche and Fada, in the centre (Batha) and in the west (Kanem). In northwest Africa, a few isolated showers fell in southern Algeria near Tamanrasset. Ecological conditions were favourable for breeding in the extreme south of Algeria near the borders of Mali and Niger between Tin Zaouatene and In Guezzam.

In the **Central Region**, good rains fell during August in the summer breeding areas in the interior of Sudan and western Eritrea. In Sudan, the rains reached as far north as about 15N in North Darfur and about 17N in North Kordofan. During the last decade of the month, good rains fell in northeast Sudan between the Nile Valley and the Red Sea Hills. In Eritrea, good rains fell throughout the western lowlands and along the Gash Barka, reaching as far north as the Sudanese border. Consequently, ecological conditions were favourable in most of the summer breeding

areas of both countries. Vegetation was dry in most areas of Saudi Arabia and Yemen except in a few places on the Tihama in Yemen where vegetation was becoming green. On 25 August, unusually heavy showers fell along the entire length of the Red Sea coast in Eritrea, Djibouti and Yemen from Aqiq, Sudan to Obock, Djibouti and from Jizan, Saudi Arabia to Aden, Yemen. This is expected to give rise to favourable ecological conditions for breeding. Light showers may have fallen at times on the plateau in northwest Somalia between Boroma, Somalia and Dire-Dawa, Ethiopia. Light to heavy showers fell locally at times during the second half of August in parts of the northern interior in Oman.

In the **Eastern Region**, very little rain fell in the summer breeding areas along both sides of the Indo-Pakistan border during August. The poor performance of this year's monsoon is attributed to El Nino and has resulted in less favourable ecological conditions than normal in Rajasthan and adjacent areas of Cholistan, Khipro and Tharparkar deserts in Pakistan.



### Area Treated

Ethiopia 154 ha (August)



### Desert Locust Situation and Forecast

( see also the summary on page 1 )

#### WESTERN REGION

##### **Mauritania**

##### • SITUATION

During August, small-scale breeding occurred in the central portion of the summer breeding area between Aguilal Faye (1827N/1444W) and Moudjeria (1752N/1219W) where adults laid eggs from mid-July onwards after good rains that fell in late June and again in late July. Hatching commenced by the end of July and continued during August, giving rise to low numbers of solitary hoppers at densities of up to about 300 hoppers per site. A few hoppers began fledging in the last week of August. Immature adults were also present in the same area, probably having arrived from earlier breeding in the north. Isolated breeding was reported at a few places in the southeast (the two Hodhs) north of Timbedra (1614N/0809W) and Aioun El Atrous (1639N/0936W), and in southwest Adrar between Akjoujt (1945N/1421W) and Atar (2032N/1308W). Scattered

mature solitary adults, at densities up to 200 adults/ha, were dispersed throughout the area from Aguilal Faye to east of Nema (1636N/0715W). Some of the adults were seen laying eggs.

• **FORECAST**

*Small-scale breeding will continue and extend to western and eastern parts of the summer breeding areas, causing locust numbers to increase substantially in Trarza, southwest Adrar, northern Brakna and Assaba, Tagant and the two Hodhs. Once vegetation begins to dry out towards the end of the forecast period, adults will concentrate in western and northwestern areas, locust densities are likely to increase and small groups could form.*

**Mali**

• **SITUATION**

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

• **FORECAST**

*Scattered adults are likely to be present and will persist in parts of the Adrar des Iforas, Tamesna, and the Tilemsi Valley, and to a lesser extent in Timetrine and south of Araouane. Small-scale breeding will cause locust numbers to increase slightly in these areas but remain below threatening levels.*

**Niger**

• **SITUATION**

Although no surveys were carried out during August, isolated immature and mature solitary adults mixed with a few second and third instar hoppers were reported at one place in the northern Sahel between Tanout (1505N/0850E) and Zinder (1346N/0858E).

• **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**

During August, no locusts were seen during surveys carried out in the west (Kanem) and in the east (Biltine) as far north as Kalait (1550N/2054E).

• **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 August.

• **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 August, isolated mature solitary adults were present along the Malian border near Tin Zaouatene (1957N/0258E). No locusts were seen during surveys carried out in the central Sahara near Adrar and in the south near Tamanrasset (2250N/0528E), Bir Bou Mokhtar (2120N/0056E) and In Guezzam (1937N/0552E).

• **FORECAST**

*Small-scale breeding is likely to occur along the Malian border near Tin Zaouatene, causing locust numbers to increase slightly but remain below threatening levels.*

**Morocco**

• **SITUATION**

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

• **FORECAST**

*No significant developments are likely.*

**Libyan Arab Jamahiriya**

• **SITUATION**

No reports were received during August.

• **FORECAST**

*No significant developments are likely.*

**Tunisia**

• **SITUATION**

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

• **FORECAST**

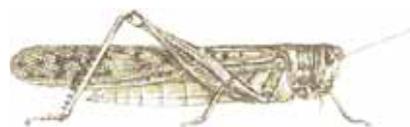
*No significant developments are likely.*

**CENTRAL REGION**

**Sudan**

• **SITUATION**

During August, scattered immature and mature solitary adults were present at densities of up to



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400 adults/ha in North Kordofan west of Khartoum (1533N/3235E) and Umm Saiyala (1426N/3112E), and in the north along the Nile River near Berber (1801N/3400E), Merowe (1830N/3149E) and Dongola (1910N/3027E). No locusts were seen during surveys carried out elsewhere in North Kordofan, Northern and River Nile states or in White Nile, Khartoum and Kassala states.

- **FORECAST**

*Small-scale breeding will continue to cause locust numbers to increase 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**

In late July, no locusts were seen during surveys carried out on the Red Sea coast between Sheib (1551N/3903E) and the Sudanese border from the 28<sup>th</sup> to the 31<sup>st</sup>.

During August, no locusts were seen during surveys carried out in the southern part of the western lowlands between Teseney (1506N/3639E) and the Ethiopian border from the 20<sup>th</sup> to the 23<sup>rd</sup>.

- **FORECAST**

*Scattered adults are almost certainly present and breeding on a small scale along the Gash Barka in the northern part of the western lowlands between Teseney and the Sudanese border (1705N). Consequently, locust numbers will increase during the forecast period but should remain below threatening levels. Scattered adults could appear in areas of recent rain on the Red Sea coast and eventually breed on a small scale. Regular surveys are recommended in these areas to monitor and clarify the situation.*

### **Ethiopia**

- **SITUATION**

During August, surveys were conducted in the northeast where swarms had previously been reported. Ground teams treated 154 ha. There were still unconfirmed reports of some swarms that disappeared in remote and inaccessible areas of northwest Afar region. Further details are awaited.

- **FORECAST**

*Scattered adults may persist and breed in the northern highlands.*

### **Djibouti**

- **SITUATION**

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

- **FORECAST**

*Low numbers of adults could appear by late September in areas of recent rainfall on the northern coast between Obock and the Eritrean border. Surveys should be undertaken to clarify the situation.*

### **Somalia**

- **SITUATION**

No reports were received during August.

- **FORECAST**

*No significant developments are likely.*

### **Egypt**

- **SITUATION**

During August, no locusts were seen during surveys carried out in the Western Desert near Sh. Oweinat (2219N/2845E), Baris (2448N/3035E), along Lake Nasser near Tushka (2247N/3126E), Abu Simbel (2219N/3138E), and Garf Husein (2317N/3252E), and on the Red Sea coast between Berenice (2359N/3524E) and the Sudanese border.

- **FORECAST**

*No significant developments are likely.*

### **Saudi Arabia**

- **SITUATION**

During August, no locusts were seen during surveys carried out on the central Red Sea coast between Jeddah (2130N/3910E) and Rabigh (2247N/3901E), in the Asir Mountains near Khamis Mushait (1819N/4245E), and in the interior near Buraydah (2621N/4358E).

- **FORECAST**

*No significant developments are likely.*

### **Yemen**

- **SITUATION**

During the first week of August, isolated immature and mature solitary adults were seen on the northern Tihama of the Red Sea coast near Midi (1619N/4248E) and on the central Tihama near Bajil (1458N/4314E) and south of Hodeidah (1450N/4258E). No locusts were seen during surveys carried out near Aden (1250N/4503E).

- **FORECAST**

*Small-scale breeding will cause locust numbers to increase slightly but remain below threatening levels*

*in areas of recent rainfall on the Red Sea coast.  
Regular surveys are recommended.*

#### **Oman**

- **SITUATION**

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

- **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 August, no locusts were seen on the southeast coast near Jask (2540N/5746E) and Chabahar (2517N/6036E).

- **FORECAST**

*No significant developments are likely.*

##### **Pakistan**

- **SITUATION**

During the second half of July, scattered immature and mature solitary adults at densities of up to 100 adults/ha were present at 25 places in Cholistan and to a lesser degree in Khipro and Tharparkar.

During the first half of August, locust densities declined to 50 adults/ha and only seven locations in Cholistan reported locusts, mainly along the Indian border south of Bahawalpur (2924N/7147E) and Rahimyar Khan (2822N/7020E).

- **Forecast**

*Unless further rains fall, breeding will decline in Tharparkar, Khipro and Cholistan, and no significant developments are likely.*

##### **India**

- **SITUATION**

During August, a single solitary adult was seen near Jodhpur (2618N/7308E) and isolated mature adults were seen at two places near the Pakistani border northwest of Barmer (2543N/7125E).

- **FORECAST**

*Unless further rains fall, breeding will decline in Rajasthan and Gujarat, and no significant developments are likely.*

#### **Afghanistan**

- **SITUATION**

No reports received.

- **FORECAST**

*No significant developments are likely.*

## **Announcements**



## **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



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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).

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

- **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
- **Locust Information officer training at FAO.** Activities Section – DLIS

**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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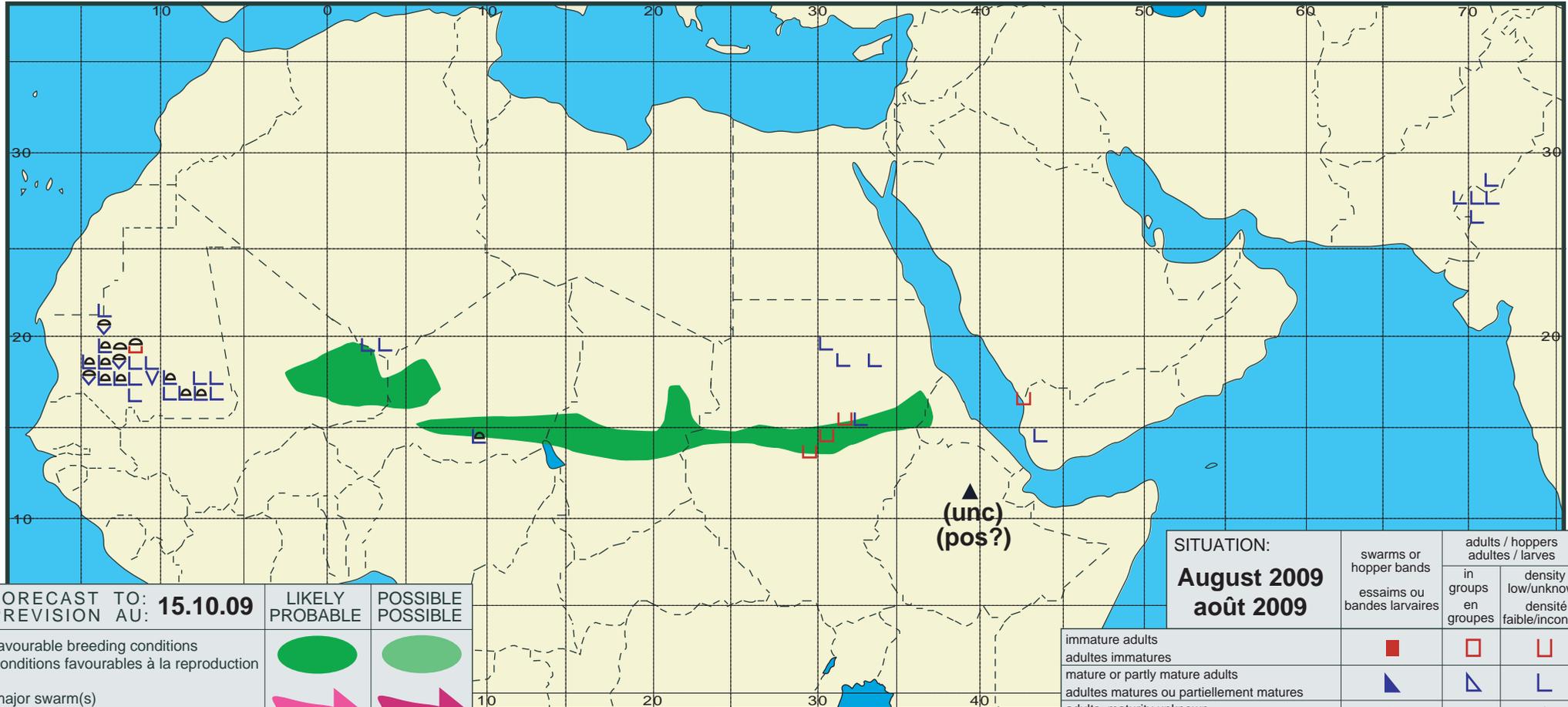
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# Desert Locust Summary

## Criquet pèlerin - Situation résumée

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FORECAST TO: PREVISION AU: <b>15.10.09</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:  
**August 2009**  
**août 2009**

	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)			