

warning level: **CALM**

# DESERT LOCUST BULLETIN

FAO Emergency Centre for Locust Operations



No. 372

(1 Oct 2009)



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

The Desert Locust situation remained calm during September. Good rains fell in most of the summer breeding area in the northern Sahel between Mauritania and western Eritrea in early September but decreased thereafter. Small-scale breeding caused locust numbers to increase in Mauritania and limited control operations were carried out. Breeding probably occurred in parts of the northern Sahel from Mali to western Eritrea but surveys were only carried out in Chad where low numbers of adults were seen. The forecast period is one in which summer generation adults move to the autumn breeding areas in northwest Mauritania and winter breeding areas along both sides of the Red Sea. This year, small-scale movement and breeding is expected to occur in both areas. In Southwest Asia, the seasonal monsoon was unusually poor in the summer breeding areas along both sides of the Indo-Pakistan border and, as a result, there was no significant locust activity this year.

**Western Region.** Small-scale breeding continued during September in the summer breeding areas of central and southern Mauritania, causing locust numbers to increase east of Nouakchott and limited control operations were undertaken. As vegetation dries out in October, adults are expected to move from the south and southeast and appear in areas of recent rainfall in the northwest. Breeding is likely to commence in the northwest and continue east of Nouakchott, giving rise to more locusts that could

concentrate and form small groups. Isolated adults were present in Chad and low numbers of adults were probably present in northern Mali and Niger but surveys could not be carried out due to continued insecurity. During the forecast period, breeding will end in the northern Sahel and only low numbers of adults are likely to persist in parts of northern Mali, northern Niger and eastern Chad. Although locusts were not reported in Northwest Africa, scattered adults could appear in central and southern Algeria where good rains fell in September.

**Central Region.** Although good rains fell in early September in the summer breeding areas in Sudan and western Eritrea where low numbers of solitary adults were probably present and breeding on a small-scale, surveys were not carried out. No locusts were seen during surveys carried out in Egypt, Saudi Arabia, Oman and on the northern Red Sea coast in Eritrea. During the forecast period, low numbers of adults will move from the summer breeding areas in Sudan and western Eritrea to the Red Sea coast where breeding usually occurs during the winter. Small-scale breeding could commence earlier than usual on the coast of Eritrea, Djibouti, Yemen and Saudi Arabia where unusually heavy rains fell in late August. Regular surveys should be undertaken in all countries to monitor the situation.

**Eastern Region.** Very little rain fell during September in the summer breeding areas along both sides of the Indo-Pakistan border for the second consecutive month. Consequently, ecological conditions were unusually dry and not favourable for breeding, and only isolated solitary adults were seen in the Cholistan Desert in Pakistan. No locusts were seen during surveys along the coast in southern Iran. No significant developments are likely in the Region during the forecast period.

The FAO Desert Locust Bulletin is issued every month by the Desert Locust Information Service, AGP Division (Rome, Italy). It is supplemented by Alerts and Updates during periods of increased Desert Locust activity. All products are distributed by e-mail and made available on the Internet.

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### Weather & Ecological Conditions in September 2009

**Ecological conditions were favourable for breeding in the northern Sahel in West Africa and Sudan where good rains fell until about mid-September. Ecological conditions are expected to be improving along both sides of southern Red Sea coast from earlier rains. The monsoon has come to an early end this year along the Indo-Pakistan border and conditions were drying out.**

In the **Western Region**, the Inter-Tropical Convergence Zone (ITCZ) oscillated around 20N over West Africa during the first half of September. At times, the ITCZ surged north to 25N and reached southern Algeria. Consequently, good rains fell during the first decade in the summer breeding areas of Mauritania, the Air Mountains in Niger, and in Chad. These rains extended further north than usual and reached northern Mauritania, northwest Mali, and parts of the Sahara in central Algeria. During the second half of the month, the ITCZ moved gradually southwards to 15N and there was a noticeable decline in rainfall in the northern Sahel, except for Mauritania where good rains continued to fall mainly in the west and to a lesser extent in parts of the south and southeast. Despite the decline in rainfall after the first decade, vegetation stayed green and ecological conditions remained favorable for breeding in most of the summer breeding areas in the northern Sahel from Mauritania to eastern Chad.

In the **Central Region**, good rains fell in the summer breeding areas in the interior of Sudan during the first half of September but declined thereafter, especially in the last decade of the month. Rainfall was heaviest in North Kordofan while much less rain fell in Darfur and in the eastern part of the country. In Eritrea, good rains fell in the western lowlands during the first decade of September. Despite the declining rainfall, ecological conditions remained favourable for breeding in most areas of both countries. Light rains fell at times on the plateau in northern Somalia between Erigavo and Hargeisa, extending to the Harar Highlands in eastern Ethiopia. In Yemen, good rains fell along the Red Sea coast where ecological conditions are expected to be improving from heavy

rains that occurred in late August. Similarly, ecological conditions are also expected to be improving on the coast of Eritrea and northern Djibouti from the August rains.

In the **Eastern Region**, no significant rain fell during September in the summer breeding areas along both sides of the Indo-Pakistan border for the second consecutive month. It appears that the poor performance and early end of this year's monsoon is attributed to El Nino and has resulted in much less favourable ecological conditions than normal in Rajasthan and adjacent areas of Cholistan and Tharparkar deserts in Pakistan. Consequently, vegetation continued to dry out during the month in both countries.



### Area Treated

Mauritania 37 ha (11-15 September)



### Desert Locust Situation and Forecast

( see also the summary on page 1 )

#### WESTERN REGION

##### **Mauritania**

##### • SITUATION

During September, small-scale breeding continued in the central portion of the summer breeding areas between Aguilal Faye (1827N/1444W) and Moudjeria (1752N/1219W) where copulating adults and solitary hatchlings and hoppers of all instars were present. Solitary hoppers were starting to concentrate in a few places at densities up to 1-2 hoppers/m<sup>2</sup>. Lower numbers of solitary hoppers and adults were present in the two Hodhs. During the second decade, more hoppers and adults were seen west and northwest of Moudjeria. Hopper densities increased to about 200 hoppers/site and adult densities reached as high as 1,500 adults/ha. Ground control was undertaken at six places against solitary immature adults at densities of 100-400 adults/ha and hopper concentrations, covering 37 ha. During the third decade, locust densities continued to increase slightly, reaching 1,900 adults/ha at one location, as vegetation started to dry out in some places.

##### • FORECAST

*As vegetation dries out in the south and southeast, low numbers of adults will move towards areas of recent rainfall in the northwest. Locust numbers are expected to increase further between Aguilal Faye and*

*Moudjeria as the adults arrive and breeding continues on a small scale. This could lead to formation of small groups once vegetation dries out, forcing the hoppers and adults to concentrate in the remaining green vegetation and increase in density. The situation should be monitored very carefully.*

#### **Mali**

- **SITUATION**

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

- **FORECAST**

*Scattered adults are likely to be present and breeding in parts of the Adrar des Iforas, Tamesna, and the Tilemsi Valley, and to a lesser extent in Timetrine and south of Araouane. Unless further rains fall, small-scale breeding will come to an end and only low numbers of adults are likely to persist in some areas.*

#### **Niger**

- **SITUATION**

Although surveys could not be carried out during September, a few isolated immature solitary adults were seen in Agadez (1700N/0756E) on the 24<sup>th</sup>.

- **Forecast**

*Scattered adults are likely to be present and breeding in parts of the northern Sahel, Tamesna, and in the southern Air Mountains. Unless further rains fall, small-scale breeding will come to an end and only low numbers of adults are likely to persist in some areas.*

#### **Chad**

- **SITUATION**

During September, isolated mature solitary adults were seen at a few places in the east near Arada (1501N/2040E), Kalait (1550N/2054E) and Fada (1714N/2132E). No locusts were seen during surveys carried out in the west (Kanem) and in the centre (Batha).

- **FORECAST**

*Small-scale breeding may be in progress in parts of Biltine and Ennedi. Unless further rains fall, breeding will come to an end and only low numbers of adults are likely to persist in some areas.*

#### **Senegal**

- **SITUATION**

No reports were received during September.

- **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 September, no locusts were seen during surveys in the extreme south close to the Malian border near Bir Bou Mokhtar (2120N/0056E) and Tin Zaouatene (1957N/0258E), and near In Guezzam (1937N/0552E) and the Niger border.

- **FORECAST**

*Low numbers of adults may appear in areas of recent rainfall in parts of the central and southern Sahara.*

#### **Morocco**

- **SITUATION**

No surveys were carried out and no locusts were reported during September. However, isolated solitary hoppers and adults were seen in northeast Western Sahara near Bir Lahlou (2619N/0933W) and a few solitary adults were seen in the southeast near Agwanit (2212N/1309W).

- **FORECAST**

*No significant developments are likely.*

#### **Libyan Arab Jamahiriya**

- **SITUATION**

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

- **FORECAST**

*No significant developments are likely.*

#### **Tunisia**

- **SITUATION**

No reports were received during September.

- **FORECAST**

*No significant developments are likely.*

#### **CENTRAL REGION**

##### **Sudan**

- **SITUATION**

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



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### • FORECAST

*Scattered adults are likely to be present and breeding on a small scale in North Kordofan and parts of Darfur, Khartoum, Kassala, and along the Nile River in Northern and River Nile states. Unless further rains fall, breeding will end and low numbers of adults are expected to move gradually towards the winter breeding areas on the Red Sea coast.*

### Eritrea

#### • SITUATION

No locusts were seen during surveys on the Red Sea coast in the first week of September between Sheib (1551N/3903E) and the Sudanese border.

#### • FORECAST

*Scattered adults are likely to be 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). Unless further rains fall, breeding will end and low numbers of adults are expected to move gradually towards the winter breeding areas on the Red Sea coast where they could appear in areas of recent rain and breed on a small scale.*

### Ethiopia

#### • SITUATION

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

#### • FORECAST

*No significant developments are likely.*

### Djibouti

#### • SITUATION

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

#### • FORECAST

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

### Somalia

#### • SITUATION

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

#### • FORECAST

*Low numbers of adults could appear in areas of*

*recent rainfall on the plateau between Hargeisa and Erigavo.*

### Egypt

#### • SITUATION

During September, scattered immature solitary adults were seen at one place between Abu Simbel (2219N/3138E) and Tushka (2247N/3126E). Elsewhere, no locusts were seen during surveys carried out in the Western Desert near Sh. Oweinat (2219N/2845E), along Lake Nasser to Garf Husein (2317N/3252E), and on the Red Sea coast between Shalatyn (2308N/3535E) and the Sudanese border.

#### • FORECAST

*No significant developments are likely.*

### Saudi Arabia

#### • SITUATION

During September, no locusts were seen during surveys on the Red Sea coast north of Jeddah (2130N/3910E) and near Jizan (1656N/4233E), in the interior south of Buraydah (2621N/4358E), and near the borders of Jordan and Kuwait.

#### • FORECAST

*Low numbers of adults could appear and breed on a small scale in areas of recent rainfall on the southern coast of the Red Sea near Jizan.*

### Yemen

#### • SITUATION

No reports were received during September.

#### • FORECAST

*Scattered adults are likely to be present and breeding on a small scale on the Red Sea coast. Small-scale breeding is expected to continue during the forecast period, causing locust numbers to increase slightly but remain below threatening levels. Regular surveys should be undertaken to monitor the situation.*

### Oman

#### • SITUATION

During September, no locusts were seen during surveys carried out in the northern interior of Dhahera between Ibri (2314N/5630E) and Buraimi (2415N/5547E).

#### • 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**

No locusts were seen during surveys carried out on the southeast coast near Bander-e Lengheh (2634N/5452E), Jask (2540N/5746E), and Chabahar (2517N/6036E) in September.

#### **• FORECAST**

*No significant developments are likely.*

### **Pakistan**

#### **• SITUATION**

During the second half of August, isolated mature solitary adults were seen at 13 places in Khairpur and southern Cholistan south of Rohri (2739N/6857E) and Rahimyar Khan (2822N/7020E).

During the first half of September, low numbers of mature solitary adults persisted in the above areas.

#### **• Forecast**

*No significant developments are likely.*

### **India**

#### **• SITUATION**

During September, an isolated mature solitary adult was seen near Barmer (2543N/7125E) on the 11<sup>th</sup>. No locusts were seen elsewhere during intensive surveys carried out in the summer breeding areas in Rajasthan and Gujarat.

#### **• FORECAST**

*No significant developments are likely.*

### **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/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.

**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). 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)



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- **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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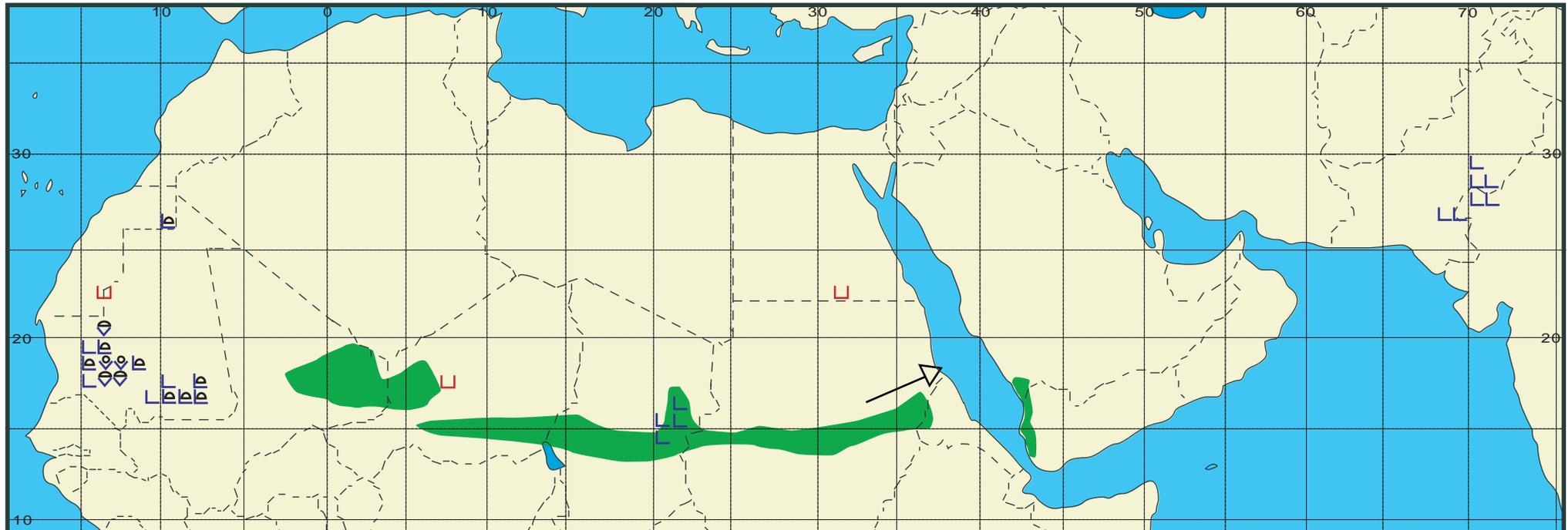
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# Desert Locust Summary

## Criquet pèlerin - Situation résumée

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FORECAST TO: PREVISION AU: <b>15.11.09</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>Sept 2009</b> <b>sept 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)			