

# DESERT LOCUST BULLETIN

FAO Emergency Centre for Locust Operations



No. 359

(2 September 2008)



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

The Desert Locust situation remained calm during August. Small-scale breeding commenced in the summer breeding areas in Mauritania and is likely to be in progress in Mali, Niger, Chad, Sudan and Eritrea where good rains fell during the month. Surveys could not be carried out in Mali and Niger due to security concerns. Small-scale breeding also occurred along the Indo-Pakistan border. Although locust numbers increased slightly, they remained generally low and control operations were not required except in a few places in Algeria and Libya against hopper infestations that developed from local breeding. During the forecast period, breeding is expected to continue in the northern Sahel and along the Indo-Pakistan border but no significant developments are likely.

**Western Region.** This year's summer breeding in the Sahel commenced in early July when seasonal rains started and eggs were laid. Hatching occurred from mid-July onwards and, by August, low numbers of solitary hoppers were seen in southern Mauritania. A similar situation is likely in northern Mali and Niger but surveys could not be carried out in either country. Although ecological conditions were favourable for breeding in Chad, no locusts were seen during surveys in the northeast. During the forecast period, small-scale breeding will continue in the northern Sahel, causing locust numbers to increase

slightly. In Northwest Africa, ground teams treated 4,000 ha of solitary hoppers in central Libya that developed from local breeding after rainfall in May. Any escapees could fledge and move as adults to the northern Sahel. In Algeria, 15 ha of hopper groups were treated in the central Sahara. In both countries, vegetation dried out and conditions are no longer favourable for breeding.

**Central Region.** Low numbers of solitary adults were present in the interior of Sudan during August. Although hoppers were not found, small-scale breeding is likely to be in progress as good rains have fallen in most areas. A similar situation is likely in western Eritrea. Locust numbers are expected to increase in both countries as small-scale breeding continues during the forecast period. Although locusts were not reported in other countries in the Region, small populations may be present on the Red Sea coast in Yemen and in the interior where small-scale breeding could occur in September.

**Eastern Region.** Monsoon rains continued to fall along both sides of the Indo-Pakistan border during August where ecological conditions remained favourable. Small-scale breeding was reported for the second consecutive month along the border in Pakistan and low numbers of solitary hoppers and adults were present in the Cholistan Desert. No locusts were seen during intensive surveys in adjacent areas of India. Small-scale breeding is expected to occur in both countries and cause 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, 00100 Rome, Italy. It is also available on the Internet.

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### Weather & Ecological Conditions in August 2008

**Seasonal rains during August maintained favourable ecological conditions for breeding in the northern Sahel in West Africa and Sudan, in western Eritrea, on the Red Sea coast in Yemen, and along the Indo/Pakistan border.**

In the **Western Region**, the Inter-Tropical Convergence Zone (ITCZ) oscillated between 16N and 20N during August, with occasional surges northwards to 25N over northern Mauritania, northwest Mali, and southern Algeria. Light to moderate rains fell in parts of the summer breeding areas in the northern Sahel in Mauritania (as far north as Tidjikja), Mali (north and west of Tombouctou; the Adrar des Iforas and Tamesna), Niger (Tamesna and Air Mountains), Chad (to 18N) and in southern Algeria (south of Tamanrasset). Consequently, ecological conditions continued to remain favourable or became favourable for breeding in all of these areas. During the last decade of August, light to moderate rains also fell in northwest Mauritania. In Northwest Africa, light rain fell in parts of the Western Sahara. Vegetation dried out in central Libya and in the central Sahara in Algeria.

In the **Central Region**, seasonal rains continued to fall in the summer breeding areas in the interior of Sudan. Much of the rains west of the Nile were concentrated south of 15N although moderate rains fell north of Abu Uruq in the Baiyuda Desert (16-17N). Good rains also fell in eastern Sudan near Kassala, on the western side of the Red Sea Hills and in adjacent areas of the western lowlands in Eritrea. Consequently, ecological conditions remained favourable for breeding in all of these areas except in the Nile Valley of Sudan north of Shendi and on the western side of the Red Sea Hills where they were improving. In Yemen, light rains fell in parts of the interior during the first decade, mainly along the Saudi Arabia / Yemen border north of Hazar, in Wadi Hadhramaut and in southern Shabwah which may be sufficient for limited breeding. Good rains fell at the beginning and end of the month on the northern Tihama coastal plains of the Red Sea where ecological conditions are likely to be favourable for

breeding. Moderate rains may have fallen on the 9<sup>th</sup> in the eastern Empty Quarter near the border of Saudi Arabia and Oman. Ecological conditions may be favourable for breeding on the plateau in northwest Somalia and in adjacent areas of eastern Ethiopia near Jijiga and Dire Dawa where light (Karan) rains fell at times.

In the **Eastern Region**, monsoon rains continued during August in the summer breeding areas along both sides of the Indo-Pakistan border. Rainfall was heaviest during the first decade in central and northern Rajasthan in India, extending to Cholistan in Pakistan. Light to moderate rains fell in the interior of Baluchistan in western Pakistan and in southeast Iran near Iranshahr. During the second decade, rainfall was concentrated mainly in southwest Rajasthan and northeast Gujarat, and in the Tharparkar Desert in Pakistan. Very little rain fell during the last decade and was limited to central Rajasthan. Consequently, ecological conditions remained favourable for breeding in Cholistan and Rajasthan, improved slightly in Tharparkar but were dry and unfavourable in southeast Iran.



### Area Treated

Algeria	15 ha (August)
Libya	4,000 ha (26 July – 13 August)



### Desert Locust Situation and Forecast

( see also the summary on page 1 )

#### WESTERN REGION

##### **Mauritania**

##### • SITUATION

Small-scale breeding in Hodh Ech Chargui south of 18N and to a lesser extent northwest of Kiffa (1638N/1124W) in Assaba caused locust numbers to increase slightly in August. Egg laying commenced in early July, followed by hatching from mid-July onwards. Consequently, low numbers of solitary hoppers of all instars were present in both regions during August while solitary adults continued to lay eggs. Immature and mature solitary adults were seen in Hodh El Gharbi north of Aioun El Atrous (1639N/0936W), west of Tidjikja (1833N/1126W) in western Tagant, and north of Magta Lahjar (1730N/1305W) in northwest Brakna and Trarza.

##### • FORECAST

*Small-scale breeding will continue in the south and commence in central areas, causing locust numbers*

to increase. Breeding could occur in the west (Trarza) if more rains fall during the forecast period.

#### **Mali**

##### • SITUATION

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

##### • FORECAST

Scattered locusts are likely to be present and breeding in parts of the Adrar des Iforas, Tamesna and north and west of Tombouctou. Small-scale breeding will continue during the forecast period, causing locust numbers to increase slightly.

#### **Niger**

##### • SITUATION

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

##### • FORECAST

Low numbers of locusts are likely to be present and breeding in parts of the Air Mountains, Tenere and Tamesna as well as in the northern Sahelian zone. Small-scale breeding will continue during the forecast period, causing locust numbers to increase slightly. There is a low risk that some adults may appear from the north.

#### **Chad**

##### • SITUATION

No locusts were seen during surveys carried out in August in Wadi Fira, Salal, Kalait and Fada regions.

##### • FORECAST

Low numbers of locusts are likely to be present and breeding in the east and northeast between Abeche and Fada. Small-scale breeding will continue during the forecast period, causing locust numbers to increase slightly. There is a low risk that some adults may appear from the north.

#### **Senegal**

##### • SITUATION

During August, no locusts were seen during surveys in the north.

##### • 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, low numbers of immature and mature solitary adults persisted near irrigated

areas and oases in the central Sahara northeast of Adrar (2753N/0017W). Ground teams treated 15 ha of low-density groups of fourth and fifth instar solitary hoppers on the 2<sup>nd</sup>. No locusts were seen during surveys near Tamanrasset (2250N/0528E), and between Djanet (2434N/0930E) and Illizi (2630N/0825E).

##### • FORECAST

Limited breeding could occur in areas of recent rainfall south of Tamanrasset, causing locust numbers to increase slightly.

#### **Morocco**

##### • SITUATION

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

##### • FORECAST

No significant developments are likely.

#### **Libyan Arab Jamahiriya**

##### • SITUATION

Good rains in central Libya during the second half of May allowed breeding to occur in drainage areas in the Al Haruj Al Aswad plateau (ca. 2730N/1730E) where eggs laid in the second half of June hatched by early July. Consequently, low densities of fourth and fifth instar solitary hoppers mixed with fledglings at densities of up to 500 locusts/ha were present from late July onwards. Ground teams treated 4,000 ha between 26 July and 13 August.

##### • FORECAST

Further breeding is unlikely; however, any escapees from earlier breeding that may have occurred between Ghat and Al Haruj Al Aswad will fledge and are likely to move as adults south to the Sahel.

#### **Tunisia**

##### • SITUATION

No reports were received during August.

##### • FORECAST

No significant developments are likely.

#### **CENTRAL REGION**

##### **Sudan**

##### • SITUATION

During August, isolated immature solitary adults at densities up to 150 adults/ha were seen in North Kordofan between Sodiri (1423N/2906E) and Umm Saiyala (1426N/3112E) from the first week of the



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month onwards. Isolated mature solitary adults were seen at mid-month in the Baiyuda Desert northwest of Shendi (1641N/3322E). No locusts were seen during surveys carried out in White Nile and Red Sea States.

- **FORECAST**

*Small-scale breeding is likely to be in progress and continue during the forecast period in West and North Darfur, West and North Kordofan, White Nile, Khartoum, Nile and Kassala states, causing locust numbers to increase slightly.*

### **Eritrea**

- **SITUATION**

No reports were received during August.

- **FORECAST**

*Low numbers of adults are likely to be present and breeding on a small scale in parts of the western lowlands. Small-scale breeding is expected to continue during the forecast period, causing locust numbers to increase slightly.*

### **Ethiopia**

- **SITUATION**

No locusts were seen during surveys carried out in the second week of August between Harar (0919N/4206E) and Jijiga (0922N/4250E) as well as in the highlands to the southwest.

- **FORECAST**

*Low numbers of locusts may be present in the Ogaden but breeding is unlikely unless further rains fall.*

### **Djibouti**

- **SITUATION**

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

- **FORECAST**

*No significant developments are likely.*

### **Somalia**

- **SITUATION**

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

- **FORECAST**

*Scattered adults may be present on the plateau between Boroma and Hargeisa and breed on a small-scale if more rainfall occurs.*

### **Egypt**

- **SITUATION**

No locusts were seen during surveys carried out in the second week of August in the Western Desert near Sh. Oweinat (2219N/2845E).

- **FORECAST**

*No significant developments are likely.*

### **Saudi Arabia**

- **SITUATION**

No locusts were seen during surveys carried out in August on the Red Sea coast between Rabigh (2247N/3901E) and Khamis Mushait (1819N/4245E) and in the northern interior region of Al Jawf.

- **FORECAST**

*There is a low risk that low numbers of adults could appear in areas of recent rainfall in the eastern Empty Quarter south of Shawalah. No significant developments are likely.*

### **Yemen**

- **SITUATION**

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

- **FORECAST**

*Scattered adults may be present and breeding in areas of recent rainfall on the Red Sea coast and, to a lesser extent, in the interior. Small-scale breeding could continue during the forecast period, mainly on the Red Sea coast and cause locust numbers to increase slightly.*

### **Oman**

- **SITUATION**

No locusts were seen during surveys carried out in the northern interior near Buraimi (2415N/5547E) and on the Batinah coast near Jamma (2333N/5733E) in 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**

A late report indicated that isolated immature and mature solitary adults were present on the southeast coast near Chabahar (2517N/6036E) on 12 July. No locusts were seen in the same area during August.

- **FORECAST**

*No significant developments are likely.*

### **Pakistan**

- **SITUATION**

A late report indicated that isolated immature and mature solitary adults were seen during the last half of July in 19 places in the Cholistan Desert southeast of Bahawalpur (2924N/7147E).

During the first half of August, locust infestations increased slightly in Cholistan where immature and mature solitary adults were reported from 38 places at densities up to 250 adults/ha. Small-scale breeding was underway, adults were copulating and isolated solitary hoppers of all instars were seen at a few places along the Indian border. No locusts were seen during surveys in the Tharparkar Desert.

- **FORECAST**

*Small-scale breeding will continue in the Cholistan Desert near the Indian border and is likely to occur in the Tharparkar Desert, causing locust numbers to increase slightly.*

### **India**

- **SITUATION**

During August, no locusts were seen during surveys carried out in central and western Rajasthan and in northern Gujarat.

- **FORECAST**

*Small-scale breeding is likely to occur in Rajasthan and cause locust numbers to increase slightly.*

### **Afghanistan**

- **SITUATION**

No reports received.

- **FORECAST**

*No significant developments are likely.*

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 ([eclo@fao.org](mailto:eclo@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](mailto: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)
  - **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.



## **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 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 ([eclo@fao.org](mailto:eclo@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



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

- **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.

##### **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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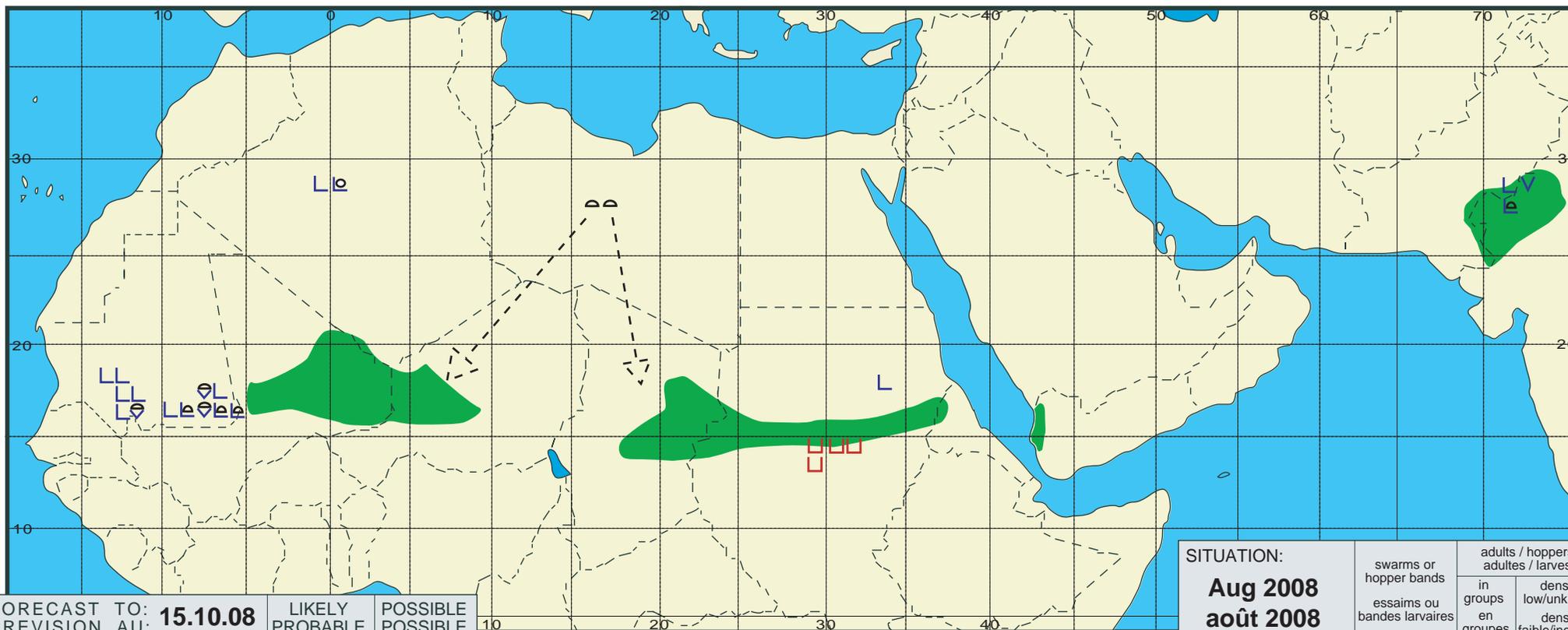
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# Desert Locust Summary

## Criquet pèlerin - Situation résumée

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FORECAST TO: **15.10.08**  
PREVISION AU: **15.10.08**

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:

**Aug 2008**  
**août 2008**

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)	◼	◼	◼