

warning level: CALM

# DESERT LOCUST BULLETIN

FAO Emergency Centre for Locust Operations



General Situation during June 2011  
Forecast until mid-August 2011



No. 393

(4 July 2011)

Desert Locust infestations declined during June in all areas due to ongoing control operations and drying vegetation. In the Central Region, ground teams treated residual infestations on the Red Sea coast in Saudi Arabia. There were no reports of locusts moving into the interior of the country or into Yemen. In the Eastern Region, a small swarm was treated in Iran and ground teams treated local infestations in western Pakistan. In the Western Region, local infestations were treated in Algeria and the Western Sahara. Seasonal rains commenced in some of the summer breeding areas of the northern Sahel from Mauritania to Eritrea as well as along parts of the Indo-Pakistan border. Small-scale breeding will cause locust numbers to increase in these areas during the forecast period.

**Western Region.** Limited ground control operations were carried out against locally bred infestations in the central Sahara of **Algeria** (65 ha) and in the **Western Sahara** (153 ha). Previous infestations in northwest **Mauritania** declined due to drying vegetation. Although no locusts were reported elsewhere in the Region, good rains started to fall in the summer breeding areas in southern and central Mauritania, northern **Mali** and **Niger**, and in parts of western **Chad**. Annual vegetation was already starting to become green in some places. Scattered adults will appear in these areas in July. Small-scale breeding will occur, causing locust numbers to increase, especially in the Tamesna of Niger where the heaviest rains have been received so far.

**Central Region.** Ground control operations concluded on the Red Sea coast in **Saudi Arabia** (900 ha) in early June and locust infestations declined on the Red Sea coast in **Egypt**. No locusts were reported in the interior of the Arabian Peninsula. Consequently, the threat of locust movement to the interior of **Yemen** is now reduced but there remains a low risk of small populations moving into the summer breeding areas of the interior of **Sudan**. Scattered adults were reported in parts of northern Sudan from mid-month onwards. Small-scale breeding will cause locust numbers to increase in Sudan and western **Eritrea** where seasonal rains have already commenced. In the Horn of Africa, drought conditions prevailed in **Djibouti**, **Somalia** and southern and eastern **Ethiopia**.

**Eastern Region.** Ground teams continued to treat adult groups and scattered hoppers in the northern part of Baluchistan in western **Pakistan** (2,905 ha). A small swarm (3 ha) was also treated in southeast **Iran**. Scattered adults appeared in the summer breeding areas on the Indo-Pakistan border in Cholistan, Pakistan and Rajasthan, **India** as well as small groups of hoppers in Rajasthan. During the forecast period, more adults and perhaps a few small groups will appear along both sides of the Indo-Pakistan border and breed on a small scale, causing locust numbers to increase.

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 June 2011

**Seasonal rains commenced in the summer breeding areas of the northern Sahel between Mauritania and Eritrea as well as along parts of the Indo-Pakistan border. Ecological conditions will improve to allow small-scale breeding during the forecast period.**

In the **Western Region**, seasonal rains commenced in parts of the summer breeding areas in the northern Sahel of West Africa during June, which will allow ecological conditions to improve for small-scale breeding. The Inter-Tropical Convergence Zone (ITCZ) moved progressively northwards over West Africa during the month. By the end of June, it had reached the Malian border in Mauritania, the central Adrar des Iforas in Mali, central Tamesna in Niger and central Chad. Its position was slightly further north than normal over Mali and Niger while slightly further south than normal over Mauritania. As a result, light rains fell in parts of the summer breeding areas in Mauritania from mid-month onwards in southwest Adrar (Atar to Chinguetti), in Hodh El Gharbi (Tamchekket to Aioun) and in southern Hodh Ech Chargui (Timbedra to Nema). In Mali, good rains fell in the southern Adrar des Iforas from Gao to Kidal and Tin Essako. At mid-month, light rain fell in southern Tamesna and in the northern Adrar des Iforas from Tessalit to the Algerian border. During the last decade, light rains fell in Timetrine between Araouane and Tadhak. In Niger, light to moderate rains fell in Tamesna, Air Mountains and the northern Sahel, causing floods in some wadis. Annual vegetation was already becoming green in some places. Mainly dry conditions persisted in Chad except in parts of Kanem where light rains fell. In Northwest Africa, green vegetation persisted in northeast Morocco near Bouarfa. Vegetation was becoming green from recent rains in the northeastern part of Western Sahara near Al Mahbes. In Algeria, dry conditions prevailed in the central Sahara. Good rains fell in the extreme south along the Niger and Mali borders where ecological conditions are expected to improve.

In the **Central Region**, seasonal rains commenced in parts of the summer breeding area in the interior

of Sudan from mid-June onwards. Light rain fell between Kassala and the eastern portion of the Baiyuda Desert, and on the western side of the Red Sea Hills near Derudeb. By the end of the month, the northern movement of the summer rains associated with the ITCZ position had reached El Obeid, En Nahud and El Fasher. This was slightly further south than in normal years. In Eritrea, light rains fell in the southern and central portions of the western lowlands. Consequently, ecological conditions will improve for breeding in all of these areas. In Yemen, light to moderate rain fell at times on the Red Sea coast but the interior remained dry. Dry conditions also prevailed in the Horn of Africa where drought conditions were affecting Djibouti, Somalia, and southern and eastern Ethiopia.

In the **Eastern Region**, vegetation continued to dry out in the spring breeding areas of Baluchistan in western Pakistan and southeast Iran during June. Light to moderate rains associated with the summer monsoon reached Gujarat and eastern Rajasthan during the third decade of the month. Some rains extended to the Indo-Pakistan border area between the Rajasthan Canal and Rahimyar Khan, Pakistan.



### Area Treated

Algeria	65 ha (June)
Iran	3 ha (June)
Morocco	153 ha (June)
Pakistan	2,905 ha (June)
Saudi Arabia	900 ha (June)



### Desert Locust Situation and Forecast

( see also the summary on page 1 )

#### WESTERN REGION

##### **Mauritania**

- **SITUATION**

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

- **FORECAST**

*Scattered adults are likely to appear in areas of recent rainfall in southwest Adrar between Atar and Chinguetti and in Hodh Ech Chargui and Hodh El Gharbi. Small-scale breeding will cause locust numbers to increase during the forecast period.*

## **Mali**

### • SITUATION

On 20 June, nomads reported seeing scattered solitarious adults at a few places in the western Adrar des Iforas near Aguelhoc (1927N/0052E).

### • FORECAST

*Small-scale breeding will cause locust numbers to increase in the Tilemsi Valley, Adrar des Iforas, Tamesna and Timetrine.*

## **Niger**

### • SITUATION

During June, scattered immature and mature solitarious adults were seen at a half dozen places in eastern Tamesna between Agadez (1700N/0756E) and Arlit (1843N/0721E). Copulating was reported at one location on the 9<sup>th</sup>.

### • FORECAST

*Small-scale breeding will cause locust numbers to increase in Tamesna and the northern Sahel.*

## **Chad**

### • SITUATION

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

### • FORECAST

*Isolated adults are likely to appear in the northern parts of Kanem, Batha and Biltine as well as in parts of BET. Small-scale breeding will cause locust numbers to increase in these areas once the seasonal rains commence.*

## **Senegal**

### • SITUATION

No reports were received during June.

### • FORECAST

*No significant developments are likely.*

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

### • FORECAST

*No significant developments are likely.*

## **Algeria**

### • SITUATION

During June, locust numbers declined in the central Sahara. Immature solitarious adults were present in Wadi Saoura near Beni Abbes (3011N/0214W) and mature adults were seen to the west near Tabelbala (3003N/0201W). In the Adrar area (2753N/0017W), small hopper concentrations persisted near irrigated crops. Control teams treated 65 ha in June. No locusts were seen west of Tamanrasset (2250N/0528E).

### • FORECAST

*Low numbers of adults are likely to appear in the*

*southern Sahara and breed on a small scale in areas of recent rainfall.*

## **Morocco**

### • SITUATION

During June, locust infestations declined in the northeast early in the month and only isolated mature solitarious adults were seen in a few places north of Bouarfa (3232N/0159W) near Naama (3318N/0200W).

In the Western Sahara, second to fifth instar *transiens* hoppers from May breeding formed groups, at densities up to 31 hoppers/m<sup>2</sup>, in several places southwest of Al Mahbes (2724N/0904W) during the second half of June. Ground teams treated 153 ha.

### • FORECAST

*Locust numbers will decline in the Western Sahara. No significant developments are likely.*

## **Libyan Arab Jamahiriya**

### • SITUATION

No reports were received during June.

### • FORECAST

*A few solitarious adults may be present and could persist near Ghat. No significant developments are likely.*

## **Tunisia**

### • SITUATION

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

### • FORECAST

*No significant developments are likely.*

## **CENTRAL REGION**

### **Sudan**

### • SITUATION

During June, surveys commenced in some of the summer breeding areas of the interior. Scattered immature and mature solitarious adults were seen at densities up to 100 adults/ha from mid-month onwards at two places in the Baiyuda Desert between Khartoum (1533N/3235E) and Merowe (1830N/3149E), on the western side of the Red Sea Hills near Derudeb (1731N/3607E), in North Kordofan near Umm Saiyala (1426N/3112E), and along the Nile River between Shendi (1641N/3322E) and Atbara (1742N/3400E) and near Abu Hamed (1932N/3320E).



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### • FORECAST

*Scattered adults will appear throughout the summer breeding areas in the interior, perhaps supplemented by small populations from Saudi Arabia early in the forecast period. Small-scale breeding will cause locust numbers to increase in North Darfur, North Kordofan, White Nile, River Nile, Northern, Kassala and Red Sea states.*

### Eritrea

#### • SITUATION

No locusts were seen on the central Red Sea coast between Sheib (1551N/3903E) and Mersa Gulbul (1633N/3908E) on 3-6 June.

#### • FORECAST

*Scattered adults are likely to appear in the western lowlands and breed on a small-scale in areas of recent rainfall along Khor Baraka. Regular surveys should be carried out during the summer.*

### Ethiopia

#### • SITUATION

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

#### • FORECAST

*No significant developments are likely.*

### Djibouti

#### • SITUATION

No reports were received during June.

#### • FORECAST

*No significant developments are likely.*

### Somalia

#### • SITUATION

No reports were received during June.

#### • FORECAST

*No significant developments are likely.*

### Egypt

#### • SITUATION

During June, locust numbers declined on the Red Sea coast where isolated mature *transiens* adults were seen at only one location between Shalatyn (2308N/3535E) and Abu Ramad (2224N/3624E). No locusts were seen on the eastern side of Lake Nasser near Garf Husein (2317N/3252E).

### • FORECAST

*No significant developments are likely.*

### Saudi Arabia

#### • SITUATION

Ground control operations ended on the Red Sea coast after the first week of June, having treated 900 ha of medium density infestations of scattered immature solitarious adults near Lith (2008N/4016E) and Umm Lajj (2501N/3716E). No locusts were seen in the spring breeding areas of the interior. No surveys were conducted after mid-month.

### • FORECAST

*Locust numbers will decline on the Red Sea coast. No significant developments are likely.*

### Yemen

#### • SITUATION

Locust surveys could not be carried out during June and no locusts were reported.

### • FORECAST

*Scattered adults and perhaps a few small groups may appear early in the forecast period in the interior between Marib and Thamud. Scattered adults may be present in areas of recent rainfall on the Red Sea coast.*

### Oman

#### • SITUATION

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

### • 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 June, a very small mature swarm appeared on the 7<sup>th</sup> from the east in Zaboli (2707N/6140E) and was copulating. Ground teams treated 3 ha. No locusts were seen in the interior near Iranshahr (2712N/6042E) and on the southeast coast near Jask (2540N/5746E) and Chabahar (2517N/6036E).

### • FORECAST

*Locust numbers will decline in the spring breeding areas in the southeast. No significant developments are likely.*

## Pakistan

### • SITUATION

During the first fortnight of June, groups of second to fourth instar solitarious hoppers were found southwest of Nushki (2933N/6601E) and groups of mainly immature solitarious and *transiens* adults persisted at about a dozen places in the Kharan Valley (2832N/6526E) in northern Baluchistan. By mid-month, adults were becoming mature and densities reached 800 adults/ha. Copulating was reported at one location. Control teams treated 2,720 ha during the period.

During the second half of June, scattered fourth and fifth instar hoppers were present near Nushki and scattered mature solitarious and *transiens* adults persisted in the Kharan Valley. Control teams treated 185 ha. During the last week of June, mature solitarious adults appeared in the summer breeding areas along the Indian border south of Rahimyar Khan (2822N/7020E) and southeast of Bahawalpur (2924N/7147E).

### • Forecast

*Locust numbers will decline in northern Baluchistan due to control operations and drying vegetation. More adults and perhaps a few small groups will appear in the summer breeding areas of Cholistan and Tharparkar. Small-scale breeding will cause locust numbers to increase along the Indian border.*

## India

### • SITUATION

On 6 June, small groups of solitarious hoppers were present at three near the Pakistani border north and northwest of Jaisalmer (2652N/7055E). Solitarious adults were also seen laying eggs. No locusts were reported during the remainder of the month.

### • FORECAST

*More adults and perhaps a few small groups will appear in the summer breeding areas of Rajasthan and Gujarat. Small-scale breeding will cause locust numbers to increase throughout the forecast period.*

## 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 ([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 following month. Reports should be sent even if no locusts were found or if no surveys were conducted.

**Google site.** FAO DLIS has created a Google site (<https://sites.google.com/site/faodlis>) for national locust information officers to share problems, solutions and tips in using new technologies (eLocust2, eLocust2Mapper, RAMSES, remote sensing) and to make available the latest files for downloading. The site replaces the FAODLIS Google group, which will no longer be maintained. Interested users should contact Keith Cressman ([keith.cressman@fao.org](mailto:keith.cressman@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.ideo.columbia.edu/maproom/.Food\\_Security/.Locusts/index.html](http://iridl.ideo.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](mailto:pceccato@iri.columbia.edu)).

**Greenness maps.** Geo-referenced dynamic greenness maps that show the evolution of green vegetation in the Desert Locust recession area for



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three months can be downloaded every ten days from DevCoCast (<http://www.devcoast.eu/user/images/dl/Form.do>). The new product was developed by the Université catholique de Louvain and the Flemish Institute for Technical Research in Belgium and funded by the Belgium Science Policy Office. The maps can be used in a GIS to help guide survey teams and in locust analysis and forecasting.

**Twitter.** FAO DLIS disseminates updates on the Desert Locust situation via Twitter, a social media service. The updates can be followed on some mobile phones in some countries (send an SMS to 40404: 'Follow faolocust' (no quotes) and through the Internet (<http://twitter.com/faolocust>) by searching on 'DesertLocust'.

**eLERT.** The Locust Group has created a dynamic and interactive online reference database that can be used to respond to assistance needs in a fast evolving locust emergency. It provides information on pesticides, equipment, suppliers, environmental monitoring, contracts, and contacts. The eLERT should help agencies to act more effectively in coping with locust threats. Visit eLert at <http://sites.google.com/site/elertsite>.

**EMPRES/CRC web site.** The EMPRES / Central Region Commission (CRC) web site can be found at <http://crc-empres.org>. Please note that the address in Bulletin No. 392 was incorrect.

- 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 situation updates.** Archives Section – Briefs
  - **Desert Locust risk map.** Archives Section – Risk maps
  - **Summer 2011 forecast.** Home page
  - **CRC/SWAC locust information officer workshop.** Activities Section – Workshop/Inter-regional
  - **Iran/Pakistan 2011 Joint survey results.** Publications Section – Reports
  - **Greenness maps.** Activities Section – DLIS
  - **Twitter.** Home page link
  - **eLERT.** Information Section

**2011 events.** The following activities are scheduled or planned:

- **DLCC.** 40<sup>th</sup> session, Cairo, Egypt (to be confirmed)
- **EMPRES/WR.** 10<sup>th</sup> Liaison Officer meeting, N'Djamena, Chad (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.

#### **PLAQUE**

- 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.



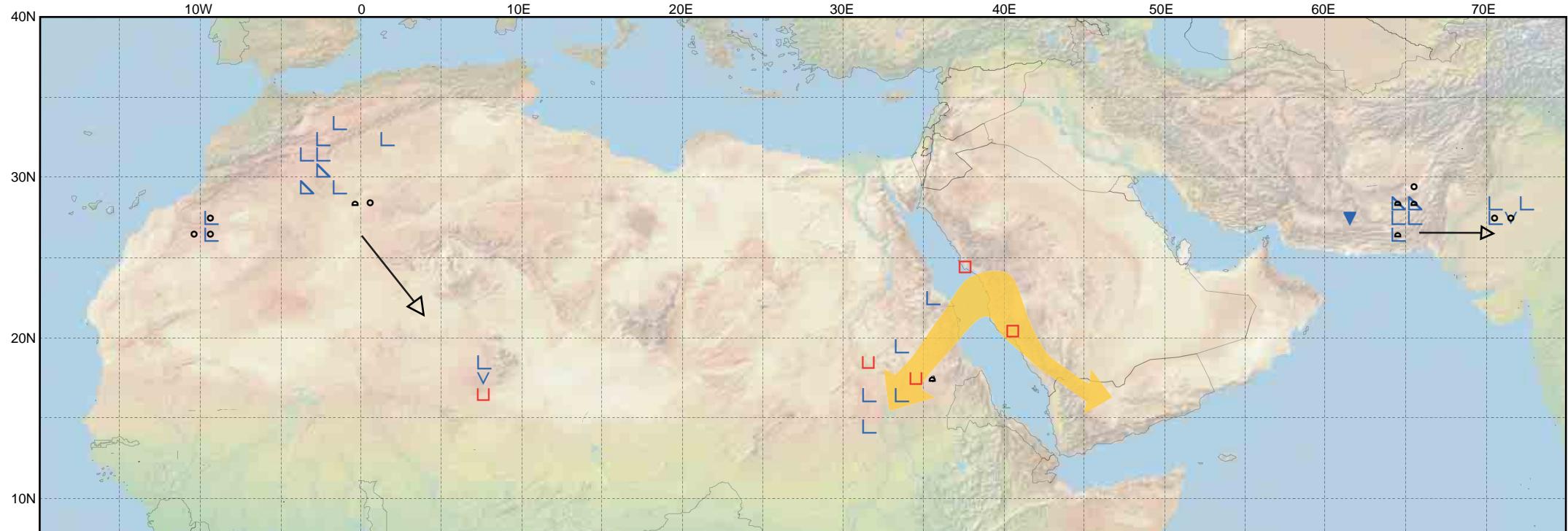
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# Desert Locust Summary

## Criquet pèlerin - Situation résumée

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FORECAST TO: PREVISION AU: 15.08.11	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: June 2011 juin 2011	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)	□	□	□