

warning level: **CAUTION**

# DESERT LOCUST BULLETIN

FAO Emergency Centre for Locust Operations



No. 437



**General Situation during February 2015  
Forecast until mid-April 2015**

(3.3.2015)

The Desert Locust situation remained serious along the Red Sea coast in Sudan and Eritrea during February where control operations were carried out against numerous hopper bands, adult groups and swarms. Smaller scale operations were undertaken in Saudi Arabia. Locusts that escape detection or control will form adult groups and small swarms that are likely to move to the Eritrean Highlands and the interior of northern Sudan and Saudi Arabia. If locusts reach the interior of Saudi Arabia and the Nile Valley in northern Sudan, breeding could commence by April. Elsewhere, ecological conditions improved in the spring breeding areas of Northwest Africa and Southwest Asia where small-scale breeding is likely.

**Western Region.** The situation remained calm in February as no locusts were reported in the region. During the forecast period, low numbers of adults are likely to appear in the spring breeding areas south of the Atlas Mountains in **Morocco** and **Algeria**, and perhaps in the northern **Western Sahara**, northern **Mauritania** and in southwest **Libya**. Small-scale breeding is expected to occur as temperatures warm up and if rains fall.

**Central Region.** Numerous hopper bands and adult groups formed during February as a result of winter breeding on the Red Sea coast of **Sudan** and **Eritrea**. Aerial and ground control operations increased in Sudan while ground operations were in progress in

Eritrea where immature swarms formed on the central coast. As vegetation dries out on the coast, more adult groups and small swarms are likely to form that are expected to move inland to the Eritrean Highlands and the Nile Valley in northern Sudan. Limited ground and aerial operations continued on the central Red Sea coast in **Saudi Arabia** against hopper bands and adult groups. As vegetation dries out, small groups of adults are likely to form and move to the interior where small-scale breeding will occur if rains fall. Isolated adults are likely to be present in a few places along the Red Sea and Gulf of Aden coasts in **Yemen**.

**Eastern Region.** The situation remained calm and no locusts were reported during February. Light rains fell in parts of the spring breeding areas in southeast **Iran** and southwest **Pakistan** should allow for limited breeding 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 are available on the Internet.

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No. 437

## DESERT LOCUST BULLETIN



## Area Treated

|              |                          |
|--------------|--------------------------|
| Eritrea      | 3,870 ha (February)      |
| Saudi Arabia | 2,570 ha (1-25 February) |
| Sudan        | 41,018 ha (February)     |



## Weather & Ecological Conditions in February 2015

**Vegetation was drying out in winter breeding areas along both sides of the Red Sea in the absence of rainfall. Ecological conditions continued to improve in parts of the spring breeding areas in Northwest Africa and Southwest Asia.**

In the **Western Region**, rain fell in parts of the spring breeding areas in Northwest Africa. In Morocco, good rains fell south of the Atlas Mountains in the northeast near Bouarfa and in adjacent areas of Algeria near Bechar and W. Saoura. Light rains fell in the eastern and southern Algerian Sahara near Illizi and Tamanrasset. Breeding conditions continued to improve in the Ziz-Ghris and Draa Valleys in Morocco and in W. Saoura in Algeria. Vegetation became green in northern parts of Western Sahara between Laayoune and Guelta Zemmur and in W. Sakia Al Hamra. In Libya, small areas were becoming green in the southwest near Ghat and in central areas near Al Haruj. Mainly dry conditions prevailed in the Sahel except in parts of northern Mauritania where breeding conditions improved and were favourable near Bir Moghreïn. In northern Mali, green vegetation persisted in a few small, localized areas near Aguelhoc and Inabag (Timetrine) that may be sufficient for locust survival.

In the **Central Region**, no significant rain fell in the winter breeding areas along both sides of the Red Sea in February. Consequently, vegetation was drying out in most areas except on the Eritrean coast north of Mersa Gulbub and on the southern coastal plains of Sudan near the Eritrean border. Elsewhere in the region, no rain fell and dry conditions persisted.

In the **Eastern Region**, rain fell at times in parts of the spring breeding areas in southeast Iran and southwest Pakistan. In Pakistan, light showers fell north of Panjgur and near Turbat during the first decade and along the coast during the third decade. In Iran, light rains fell in parts of the Jaz Murian Basin for the fourth consecutive month. Consequently, ecological conditions are likely to improve as temperatures warm up.



## Desert Locust Situation and Forecast

( see also the summary on page 1 )

### WESTERN REGION

#### **Mauritania**

##### • SITUATION

During the first half of February, no locusts were seen during surveys carried out in the north between Zouerate (2244N/1221W) and Bir Moghreïn (2510N/1135W).

##### • FORECAST

*As temperatures warm up, isolated adults may appear in the north near Bir Moghreïn and breed on a small scale if more rainfall occurs.*

#### **Mali**

##### • SITUATION

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

##### • FORECAST

*Low numbers of adults may be present and are expected to persist in parts of the Adrar des Iforas and Timetrine.*

#### **Niger**

##### • SITUATION

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

##### • FORECAST

*Isolated adults may be present in parts of the Air Mountains where they are likely to persist in areas that remain green. No significant developments are likely.*

#### **Chad**

##### • SITUATION

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

##### • FORECAST

*No significant developments are likely.*

#### **Senegal**

##### • SITUATION

No reports were received during February.

##### • 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 February, no locusts were seen during surveys carried out in the central and southern Sahara between Beni Abbes (3011N/0214W) and Bechar (3135N/0217W), and near Adrar (2753N/0017W), Illizi (2630N/0825E) and Tamanrasset (2250N/0528E).

• **FORECAST**

*As temperatures warm up in the central and southern Sahara, low numbers of adults may appear and breed on a small scale in any areas that receive rainfall.*

**Morocco**

• **SITUATION**

During the first decade of February, no locusts were seen during surveys carried out in the northern portion of the Western Sahara along the coast near Boujdour (2607N/1429W), and in the interior near Guelta Zemmur (2508N/1222W) and along W. Sakia Al Hamra from west of Smara (2644N/1140W) to north of Bir Lahlou (2619N/0933W).

• **FORECAST**

*As temperatures warm up, low numbers of adults may appear south of the Atlas Mountains in the Draa and Ziz-Ghris valleys and in northern Western Sahara, and breed on a small scale.*

**Libya**

• **SITUATION**

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

• **FORECAST**

*Low numbers of adults may appear in the southwest as temperatures warm up and breed on a small scale if rainfall occurs.*

**Tunisia**

• **SITUATION**

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

• **FORECAST**

*No significant developments are likely.*

**CENTRAL REGION**

**Sudan**

• **SITUATION**

During the first half of February, immature and mature adults formed numerous groups on the central coast between Tokar Delta and Port Sudan

(1938N/3713E) and on the southern coast between Aqiq (1813N/3811E) and the Eritrean border. Late instar hopper bands were also present north of Port Sudan and northwest of Eit (2009N/3706E). After mid-month, hopper bands and adult groups declined on the central coast while late instar bands persisted at the end of the month in the south where adults formed more immature and mature groups and several swarms. Control operations increased in February, treating 41,018 ha of which 27,075 ha were by air.

• **FORECAST**

*Adults that are not detected or controlled will form small groups and swarms that could move inland towards the Nile Valley in River Nile and Northern States where they will mature and eventually lay eggs. Adult groups and a few small swarms may arrive on the coast from adjacent areas in Eritrea.*

**Eritrea**

• **SITUATION**

During February, immature adults formed numerous groups on the northern coastal plains between Mehimet (1723N/3833E) and Karora (1745N/3820E) and on the central coast to the north and south of Embere (1628N/3856E). Some of the groups were maturing in the north where hopper groups continued to be present. Numerous small immature swarms formed on the central coast and a few moved inland towards Naro (1626N/3840E) and Nakfa (1640N/3828E). Control operations treated 3,870 ha during the month.

• **FORECAST**

*Adult groups and small swarms will continue to form on the northern and central coast in March. Once vegetation dries out, they are likely to move into the highlands and north along the coast into Sudan.*

**Ethiopia**

• **SITUATION**

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

• **FORECAST**

*No significant developments are likely.*

**Djibouti**

• **SITUATION**

No reports were received during February.

• **FORECAST**

*No significant developments are likely.*



No. 437



No. 437

## DESERT LOCUST BULLETIN

---

### **Somalia**

#### • SITUATION

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

#### • FORECAST

*No significant developments are likely.*

### **Egypt**

#### • SITUATION

No locusts were seen during surveys conducted in February on the Red Sea coast between El Sheikh El Shazly (2412N/3438E) and the Sudan border and in the interior near Lake Nasser.

#### • FORECAST

*No significant developments are likely.*

### **Saudi Arabia**

#### • SITUATION

During February, numerous hopper bands were present on the central coast between Mecca (2125N/3949E) and Thuwal (2215N/3906E) and, to a lesser extent, on the coast north of Yenbo (2405N/3802E). Immature adults were seen near Thuwal and several groups formed at mid-month. Control operations treated 2,570 ha of which 440 ha were by air. No locusts were seen near Lith (2008N/4016E), Qunfidah (1909N/4107E) and Jizan (1656N/4233E).

#### • FORECAST

*Locust infestations will continue to decline on the Red Sea coast. As vegetation dries out, small groups of adults are likely to form and move to the Hail and Gassim areas of the interior where small-scale breeding will occur if rains fall.*

### **Yemen**

#### • SITUATION

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

#### • FORECAST

*Unless further rainfall occurs, breeding is expected to decline on the Red Sea and Gulf of Aden coastal plains and only isolated adults are likely to persist in some places.*

### **Oman**

#### • SITUATION

During February, no locusts were seen during surveys on the northern Batinah coast, the Musandam Peninsula, in the northern interior near Buraimi (2415N/5547E), Nizwa (2255N/5731E) and Adam (2223N/5731E), and in the southern region of Dhofar near Thumrait (1736N/5401E).

#### • FORECAST

*Low numbers of adults may appear on the Batinah coast and perhaps in Sharqiya and on the central coast, and breed on a small scale if rainfall occurs.*

### **Bahrain, Iraq, Israel, Jordan, Kenya, Kuwait, Lebanon, Palestine, Qatar, Syria, Tanzania, Turkey, UAE and Uganda**

#### • FORECAST

*No significant developments are likely.*

## **EASTERN REGION**

### **Iran**

#### • SITUATION

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

#### • FORECAST

*Low numbers of adults are likely to appear on the southeast coast between Jask and Chabahar and in the Jaz Murian Basin of the interior. Once temperatures increase, small-scale breeding is expected to occur in areas of recent rainfall in Jaz Murian.*

### **Pakistan**

#### • SITUATION

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

#### • FORECAST

*Isolated adults may appear in coastal areas of Baluchistan and breed on a small scale in areas that receive rainfall.*

### **India**

#### • SITUATION

No locusts were seen during surveys carried out in Rajasthan during February.

#### • 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/ECLC Desert Locust Information Service (eclc@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.

**Locust tools and resources.** FAO has developed a number of tools that National locust information officers and other interested individuals can use for Desert Locust early warning and management:

- **MODIS.** Vegetation imagery every 16 days ([http://iridl.Ideo.columbia.edu/maproom/.Food\\_Security/Locusts/Regional/MODIS/index.html](http://iridl.Ideo.columbia.edu/maproom/.Food_Security/Locusts/Regional/MODIS/index.html))
- **MODIS.** Daily rainfall imagery in real time ([http://iridl.Ideo.columbia.edu/maproom/.Food\\_Security/Locusts/index.html](http://iridl.Ideo.columbia.edu/maproom/.Food_Security/Locusts/index.html))
- **RFE.** Rainfall estimates every day, decade and month ([http://iridl.Ideo.columbia.edu/maproom/.Food\\_Security/Locusts/index.html](http://iridl.Ideo.columbia.edu/maproom/.Food_Security/Locusts/index.html))
- **Greenness maps.** Dynamic maps of green vegetation evolution every decade ([http://iridl.Ideo.columbia.edu/maproom/Food\\_Security/Locusts/Regional/greenness.html](http://iridl.Ideo.columbia.edu/maproom/Food_Security/Locusts/Regional/greenness.html))
- **eLocust3 training videos.** A set of 15 introductory training videos are available on YouTube: [https://www.youtube.com/playlist?list=P\\_LjxRk5CAwvG\\_0iFxfjZ5C2fLByF3jvhHOx](https://www.youtube.com/playlist?list=P_LjxRk5CAwvG_0iFxfjZ5C2fLByF3jvhHOx)
- **RAMSESV4 training videos.** A set of basic training videos are available on YouTube: <https://www.youtube.com/playlist?list=PLjxRk5CAwvG-PximOs9lCMxzZtYU93tvb>

- **FAODLIS Google site.** A platform for sharing problems, solutions, tips and files for eLocust2, eLocust2Mapper, RAMSES and remote sensing (<https://sites.google.com/site/faodlis>)
- **FAOLOLUST Twitter.** The very latest updates are posted on Twitter (<http://www.twitter.com/faolocust>)
- **FAOLocust Facebook.** A social means of information exchange using Facebook (<http://www.facebook.com/faolocust>)
- **Slideshare.** Locust presentations and photos available for viewing and download (<http://www.slideshare.net/faolocust>)
- **eLERT.** A dynamic and interactive online database of resources for locust emergencies (<http://sites.google.com/site/elertsite>)

**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
- **eLocust3.** Activities – DLIS
- **RAMSESV4.** Activities – DLIS
- **DLIS Locust Information Officer / Trainee.** Activities – DLIS
- **SWAC 29<sup>th</sup> Session report.** Publications – Reports
- **CRC 29<sup>th</sup> Session report.** Publications – Reports
- **DLIS Information sheet.** Information – FCC/EMPRES

**2015 events.** The following activities are scheduled or planned:

- **SWAC.** 21<sup>st</sup> annual Iran/Pakistan Joint Survey (5-25 April)



## 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).



No. 437



No. 437

## DESERT LOCUST BULLETIN

---

### **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.

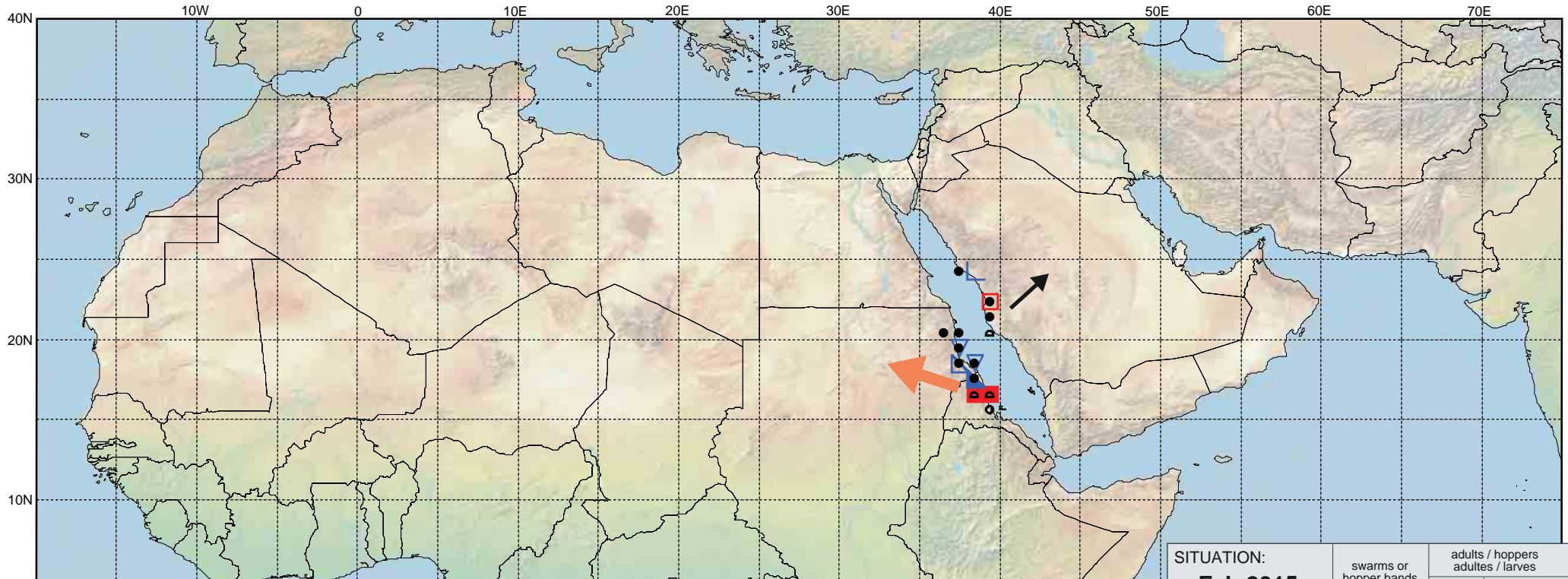
#### **EASTERN**

- locust-affected countries in South-West Asia: Afghanistan, India, Iran and Pakistan.



# Desert Locust Summary

## Criquet pèlerin - Situation résumée



|                                                                           |                 |                    |                      |
|---------------------------------------------------------------------------|-----------------|--------------------|----------------------|
| FORECAST TO:<br>PREVISION AU:                                             | <b>15.04.15</b> | LIKELY<br>PROBABLE | POSSIBLE<br>POSSIBLE |
| favourable breeding conditions<br>conditions favorables à la reproduction |                 |                    |                      |
| major swarm(s)<br>essaim(s) important(s)                                  |                 |                    |                      |
| minor swarm(s)<br>essaim(s) limité(s)                                     |                 |                    |                      |
| non swarming adults<br>adultes non essaimant                              |                 |                    |                      |

|                                                                                             |                                                             |                                      |                                                      |
|---------------------------------------------------------------------------------------------|-------------------------------------------------------------|--------------------------------------|------------------------------------------------------|
| SITUATION:<br><b>Feb 2015</b><br><b>fév 2015</b>                                            | swarms or<br>hopper bands<br>essaims ou<br>bandes larvaires | adults / hoppers<br>adultes / larves |                                                      |
|                                                                                             |                                                             | in<br>groups<br>en<br>groupes        | density<br>low/unknown<br>densité<br>faible/inconnue |
| immature adults<br>adultes immatures                                                        |                                                             |                                      |                                                      |
| mature or partly mature adults<br>adultes matures ou partiellement matures                  |                                                             |                                      |                                                      |
| adults, maturity unknown<br>adultes, maturité inconnue                                      |                                                             |                                      |                                                      |
| egg laying or eggs<br>pontes ou œufs                                                        |                                                             |                                      |                                                      |
| hoppers<br>larves                                                                           |                                                             |                                      |                                                      |
| hoppers & adults (combined symbol example)<br>larves et adultes (exemple symboles combinés) |                                                             |                                      |                                                      |