

warning level: **THREAT**

# DESERT LOCUST BULLETIN

FAO Emergency Centre for Locust Operations



No. 412



**General Situation during January 2013  
Forecast until mid-March 2013**

(4 Feb 2013)

The Desert Locust situation deteriorated further in the winter breeding areas along the Red Sea during January. Locust numbers increased substantially as eggs hatched and hoppers formed numerous groups and bands in southeast Egypt, Sudan, northeast Eritrea and in Saudi Arabia. Swarms were also reported in these countries. Control operations were undertaken, including aerial operations in Sudan and Saudi Arabia. There is a high risk that a second generation of breeding will occur in the coming months that will cause locust numbers to increase further. All efforts are required to control the infestations in order to reduce potential migration to the spring breeding areas in the interior of Saudi Arabia. In Northwest Africa, groups and at least one small swarm formed in the Western Sahara and moved into adjacent areas of northwest Mauritania, and control operations were undertaken. The situation remained calm in the Sahel of West Africa.

**Western Region.** The locust situation continued to improve in the region during January. Nevertheless, hopper groups and small bands formed in the southern **Western Sahara** that gave rise to small adult groups, which moved into adjacent areas of northwest **Mauritania** where at least one small swarm was reported near the coast. Limited control operations were carried out in **Morocco** and Mauritania. In **Algeria**, a few egg-laying adult groups were treated near irrigated areas in the central Sahara. In the

Sahel, locust numbers continued to decline in northern **Niger** where only isolated adults remained in the Air Mountains. During the forecast period, low numbers of locusts will persist in parts of northwest Mauritania, in adjacent areas of the Western Sahara, and in parts of northern **Mali** and Niger. An increasing number of adults are likely to appear along the southern side of the Atlas Mountains in Morocco and Algeria as temperatures warm up in March and small-scale breeding could occur in areas that receive rainfall.

**Central Region.** Locust numbers increased significantly during January along the coastal plains in southeast **Egypt**, **Sudan**, northeast **Eritrea**, and in **Saudi Arabia** where hopper bands and swarms formed. Although substantial control operations were carried out in Sudan, Saudi Arabia, and Egypt and, to a lesser extent, in Eritrea, a second generation of breeding is likely to occur during the forecast period that would cause locust numbers to increase further and more hopper bands and swarms to form. Survey and control operations must continue in order to reduce the number of infestations and their migration to the large and vast spring breeding areas in the interior of Saudi Arabia from March onwards. Elsewhere, isolated adults were present on the northern coast of **Oman** where small-scale breeding could occur if rains fall.

**Eastern Region.** No locusts were reported in the region during January. Low numbers of adults are likely to appear in a few areas on the coast of Baluchistan in western **Pakistan** and southeast **Iran**, and breed on a small scale in areas that receive rainfall. No significant developments are likely.

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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### Weather & Ecological Conditions in January 2013

**Although little rain fell during January, ecological conditions remained favourable in the winter breeding areas along both sides of the Red Sea and in parts of Northwest Africa.**

In the **Western Region**, very little rain fell in the region during January. Low temperatures prevailed in most areas, limiting Desert Locust migration and delaying maturation. Ecological conditions were favourable for breeding in the Adrar Settouf area of southern Western Sahara, in parts of western and central Algeria near Tindouf and Adrar, respectively, in a few wadis in the Hoggar Mountains and Tassili Plateau in the southeast, and in parts of northwest and northern Mauritania. Conditions were less favourable along the southern side of the Atlas Mountains in Morocco, including the Draa Valley. In the Sahel, vegetation continued to dry out in northern Mali, Niger and Chad. This may cause locusts to concentrate in the few places that remain green.

In the **Central Region**, showers fell at times during January along parts of the Red Sea coastal plains in Egypt, Sudan, Eritrea, Saudi Arabia and Yemen. Although the rains were mainly light and limited to relatively small areas, they should be sufficient to allow the continuation of green vegetation and breeding. Very little rain fell elsewhere in the region, including the winter breeding areas on both sides of the Gulf of Aden in southern Yemen and northwest Somalia.

In the **Eastern Region**, rain fell in parts of the spring breeding areas in southeastern Iran and western Pakistan during January, allowing ecological conditions to become sufficiently favourable for small-scale breeding. In Iran, moderate rain fell in the western part of the Jaz Murian Basin, and vegetation was becoming green there as well as on the southeastern coastal plains west of Chabahar.



### Area Treated

During January, control operations treated nearly 60,000 ha, compared to 32,000 ha in December.

Egypt	10,792 ha (January)
Eritrea	700 ha (26 Dec - 4 January)
Mauritania	2,282 ha (January)
Morocco	2,156 ha (January)
Saudi Arabia	19,615 ha (January)
Sudan	23,352 ha (January)



### Desert Locust Situation and Forecast

( see also the summary on page 1 )

#### WESTERN REGION

##### **Mauritania**

###### • SITUATION

During the first half of January, the situation continued to improve as locust infestations declined in the northwest and centre of the country where only low numbers of mainly immature solitary adults were present near Tidjikja (1833N/1126W), between Akjoujt (1945N/1421W) and Atar (2032N/1308W), on the coast near the Ban d'Arguin National Park, and in the extreme north near Bir Moghreïn (2510N/1135W). Third to fifth instar hoppers were present near Akjoujt. During the third week, small groups and swarmlets of immature *transiens* adults, at densities up to 8,000 adults/ha, appeared in the Nouadhibou area of the northwest from adjacent areas of Western Sahara. Ground teams treated 2,282 ha in January.

###### • FORECAST

*Locusts will slowly mature in the northwest and could lay eggs in any areas that remain suitable. Hatching may occur by the end of the forecast period, giving rise to small groups of hoppers.*

##### **Mali**

###### • SITUATION

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

###### • FORECAST

*Low numbers of adults are likely to be present and could persist in a few areas of the Adrar des Iforas and Tamesna. No significant developments are likely.*

##### **Niger**

###### • SITUATION

During January, locust numbers continued to decline and the situation improved. Only isolated immature solitary, *transiens* and gregarious adults were present in parts of the Air Mountains

northeast of Iferouane (1905N/0824E), between Arlit (1843N/0721E) and Agadez (1700N/0756E), and on the Tamesna Plains near Tassara (1650N/0550E). Small-scale breeding occurred in the Air where mainly third instar solitary hoppers were seen at mid-month.

- **FORECAST**

*Low numbers of locusts will persist and could form a few small groups in the Air Mountains and, to a lesser extent, in Tamesna. A few small groups could move northwards during periods of warm southerly winds.*

### **Chad**

- **SITUATION**

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

- **FORECAST**

*A few adults may be present and could persist in parts of the northeast. No significant developments are likely.*

### **Senegal**

- **SITUATION**

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

- **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 January, ground teams treated 27 ha of solitary and *transiens* adult groups that were copulating in irrigated areas in the central Sahara near Adrar (2753N/0017W). No locusts were seen near Djanet (2434N/0930E), Tamanrasset (2250N/0528E) and Tindouf (2741N/0811W).

- **FORECAST**

*Small-scale breeding may continue near irrigated areas in the central Sahara. During periods of warm southerly winds, there is a low risk of a few small groups of adults arriving from infestations that could remain in the northern Sahel. As temperatures warm up in March, an increasing number of adults are likely to appear along the southern side of the Atlas Mountains where small-scale breeding could occur.*

### **Morocco**

- **SITUATION**

During the first decade of January, late instar hopper groups, a few small low-density bands

and groups of immature adults, at densities up to 10,000 adults/ha, were present in the Adrar Settouf area of southern Western Sahara near Ma'Tallah (2223N/1502W). Groups of immature adults were also present along the coast near Dakhla (2342N/1555W) while scattered mature adults were seen further north towards Guelta Zemmur (2508N/1222W). Locust infestations declined from mid-month onwards. Mainly low numbers of mature solitary adults persisted along the southern side of the Atlas Mountains in Oued Draa near Guelmim (2859N/1003W) and in the northeast near Figuig (3207N/0113W). Control teams treated 2,156 ha in January.

- **FORECAST**

*A limited number of adult groups may continue to form in the Adrar Settouf, slowly mature and lay eggs that could hatch and give rise to small hopper groups by the end of the forecast period. As temperatures warm up in March, an increasing number of adults are likely to appear along the southern side of the Atlas Mountains where small-scale breeding could occur.*

### **Libya**

- **SITUATION**

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

- **FORECAST**

*Scattered adults are likely to be present in the southwest where they will slowly mature and breed if rains fall. During periods of warm southerly winds, a few small groups of adults could arrive in western and central areas from infestations that could remain in the northern Sahel.*

### **Tunisia**

- **SITUATION**

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

- **FORECAST**

*No significant developments are likely.*

## **CENTRAL REGION**

### **Sudan**

- **SITUATION**

The situation deteriorated in January as breeding continued on the northern coastal plains of the Red Sea between Oseif (2146N/3651E) and the Egyptian border where adults groups laid eggs in early January,



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and in adjacent areas of the interior in Wadi Diib along the western side of the Red Sea Hills where adults and at least two swarms laid eggs at mid-month. Hopper groups and numerous small bands continued to form in both areas. Fledgling commenced at mid-month and at least one immature swarm of 4 km<sup>2</sup> formed. Gregarious adults were seen copulating in Wadi Diib at the end of January. Hopper groups were seen south of Wadi Diib in Wadi Oko near Tomala (2002N/3551E). Isolated mature solitarious adults were present on the central coast near Port Sudan (1938N/3713E) and on the southern coast in the Tokar Delta (1827N/3741E). At mid-month, a few mature adult groups and three very small swarms laid eggs along the Eritrean border near Karora (1745N/3820E) and first to third instar hopper bands were present at the end of January. Control teams treated 23,352 ha, including 5,980 ha by air, in January.

- **FORECAST**

*A second generation of breeding could cause locust numbers to increase significantly along the Red Sea coast and in subcoastal areas near the Egyptian and Eritrean borders, especially if additional rains fall. Small hopper bands and swarms are expected to form. All efforts are required to control the infestations to prevent any movement across the Red Sea or further south along the coastal plains.*

### **Eritrea**

- **SITUATION**

A late report indicated control operations were carried out against solitarious hoppers and groups of immature and mature adults on the northern coast of the Red Sea between Mehimet (1723N/3833E) and the Sudanese border from 26 December to 4 January, treating 700 ha. On 29 January, a 200ha immature settled swarm and hopper bands of all instars were seen in Wadi Gatmi (1752N/3830E) and nearby areas during a joint Sudan/Eritrea survey.

- **FORECAST**

*Locust numbers will increase and small hopper groups and bands will form on the northern coast between Mehimet and the Sudanese border. Fledging will occur and small swarms may form. Another generation of breeding could commence during the forecast period. Locust infestations are likely to extend further south along the coast towards Massawa.*

### **Ethiopia**

- **SITUATION**

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

- **FORECAST**

*No significant developments are likely.*

### **Djibouti**

- **SITUATION**

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

- **FORECAST**

*No significant developments are likely.*

### **Somalia**

- **SITUATION**

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

- **FORECAST**

*Isolated adults may appear in areas of recent rainfall on the northwest coast and breed on a small scale if rains occur.*

### **Egypt**

- **SITUATION**

In early January, high-density groups of mature adults continued to lay eggs in the Abraq area in the Red Sea Hills west of Berenice (2359N/3524E). Numerous high-density hopper bands were present near Abraq and on the Red Sea coast between Berenice and the Sudanese border. By the end of the month, fledging occurred and immature adults were forming groups. Control teams treated 10,792 ha in January.

- **FORECAST**

*Hopper bands, adult groups and small swarms will form on the Red Sea coast between Berenice and the Sudanese border. If additional rains fall and conditions remain favourable, a second generation of breeding could occur, causing locusts numbers to increase significantly. All efforts are required to control the infestations to prevent any movement across the Red Sea or further south along the coastal plains.*

### **Saudi Arabia**

- **SITUATION**

During January, hopper groups and bands of all instars continued to form on the Red Sea coastal plains mainly in the north between Jeddah (2130N/3910E) and Yenbo (2405N/3802E) and, to a lesser extent, on the central coast near Lith (2008N/4016E). A few mature adult groups were seen further south near Qunfidah (1909N/4107E). Groups of gregarious adults laid eggs early in the month near Lith while swarms laid eggs at the end of January on the north coast near Bader (2346N/3847E) and



Rabigh (2247N/3901E). Control operations treated 19,615 ha, including 6,480 ha by air, in January.

• **FORECAST**

*Hopper bands, adult groups and small swarms will form on the Red Sea coast between Qunfidah and Yenbo. If additional rains fall and conditions remain favourable, a second generation of breeding could occur, causing locusts numbers to increase significantly.*

**Yemen**

• **SITUATION**

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

• **FORECAST**

*Low numbers of adults are likely to be present in parts of the winter breeding areas on the Red Sea and Gulf of Aden coast and will breed on a small scale in areas that receive rainfall.*

**Oman**

• **SITUATION**

During January, isolated immature solitary adults were present on the Batinah coast near Jamma (2333N/5733E). No locusts were seen elsewhere during surveys carried out in Dhahera, Dakhliya, and Sharqiya regions of the north.

• **FORECAST**

*Low numbers of adults are likely to persist on the Batinah coast and breed on a small-scale if rainfall occurs.*

**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 January, no locusts were seen during surveys carried out in the western part of the Jaz Murian Basin near Ghale Ganj (2731N/5752E) and on the southeastern coast west of Chabahar (2517N/6036E).

• **FORECAST**

*Low numbers of adults are expected to appear in a few areas on the southeastern coastal plains and in the Jaz Murian Basin. Small-scale breeding will occur in areas that receive rainfall.*

**Pakistan**

• **SITUATION**

No reports were received during January.

• **Forecast**

*Low numbers of adults are expected to appear in a few areas on the coast and interior of Baluchistan. Small-scale breeding will occur in areas that receive rainfall.*

**India**

• **SITUATION**

No locusts were seen during surveys carried out during January.

• **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.



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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://www.devocast.eu/user/images/dl/Form.do>)
- **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>)
- **FAOLOCAST 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>)

**SWAC website.** The FAO Commission for Controlling the Desert Locust in South-West Asia (SWAC) website (<http://www.fao.org/ag/locusts/> SWAC) is now available in French.

**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
- **Sahel crisis.** Information Section
- **28<sup>th</sup> session of SWAC final report.** Publications Section – Reports

**2013 events.** The following activities are scheduled or planned:

- **CRC/SWAC.** Inter-regional Locust information officers workshop, Cairo, Egypt (22-25 April)
- **CLCPRO/EMPRES-RO.** Western Region Locust information officers workshop, Niamey, Niger (May)



## 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.

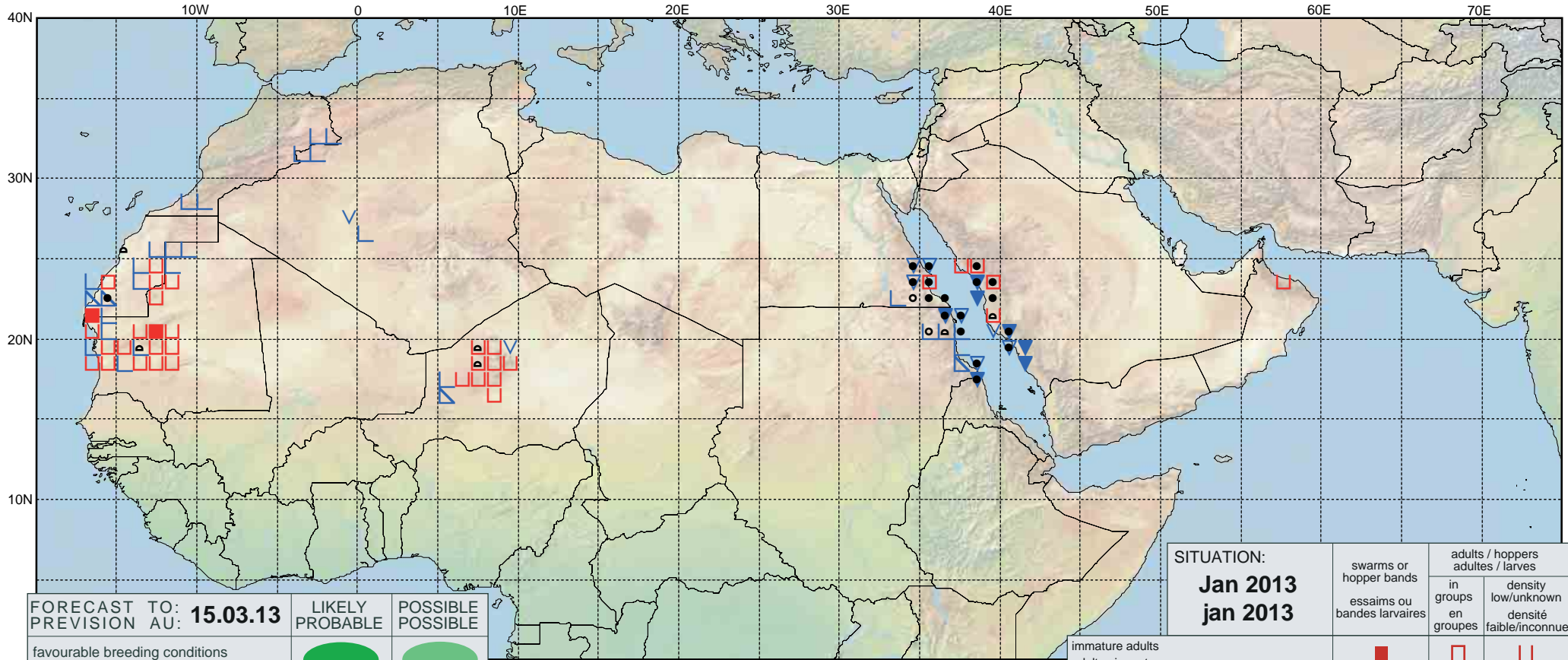


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# Desert Locust Summary

## Criquet pèlerin - Situation résumée



FORECAST TO: PREVISION AU:	<b>15.03.13</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>Jan 2013</b> jan 2013	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)			