

warning level: **CAUTION**

# DESERT LOCUST BULLETIN

FAO Emergency Centre for Locust Operations



No. 427



**General Situation during April 2014  
Forecast until mid-June 2014**

(5 May 2014)

The Desert Locust situation continued to improve during April along both sides of the Red Sea due to control operations and drying conditions in Sudan, Eritrea and Saudi Arabia. Adult groups moved into the interior of Saudi Arabia where one generation of breeding is expected. Several swarms moved from northwest Somalia into eastern Ethiopia where, despite aerial and ground control operations, breeding is likely to occur and hopper bands could form during the forecast period. Smaller-scale breeding occurred in northern Oman and southeast Iran, causing small hopper groups to form. Unusually dry conditions prevailed in Northwest Africa.

**Western Region.** The situation remained calm during April. No significant rain fell in the spring breeding areas south of the Atlas Mountains in Northwest Africa. Consequently, ecological conditions remained unfavourable and only isolated solitary adults were seen in northeast Morocco. Dry conditions prevailed in the northern Sahel of West Africa. No significant developments are expected.

**Central Region.** Locust infestations continued to decline in winter breeding areas along both sides of the Red Sea due to control operations and drying conditions. Aerial and ground control operations were carried out in Saudi Arabia, and adult groups moved into the spring breeding areas of the interior where

they laid eggs. In northeast Sudan, adults formed groups and a few small swarms that were treated by ground teams. Control operations finished in Yemen and Eritrea. In Yemen, small-scale breeding may occur in the interior, causing locust numbers to increase slightly. Numerous swarms moved from northwest Somalia to eastern Ethiopia where aerial and ground control operations were undertaken, and hatching and the formation of hopper groups and bands are expected in May. Small-scale breeding is in progress and is likely to continue in northern Oman where small hopper groups formed. As vegetation dries out, locusts may form more small groups.

**Eastern Region.** The situation remained calm in April. Small-scale breeding was in progress in coastal and interior areas of southeast Iran and limited control operations were undertaken. During the forecast period, hatching will cause locust numbers to increase slightly. As vegetation dries out, small groups may form. Although locusts were not seen in adjacent areas of western Pakistan, small-scale breeding may occur in May.

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.

**Telephone:** +39 06 570 52420 (7 days/week, 24 hr)

**Facsimile:** +39 06 570 55271

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

**Internet:** [www.fao.org/ag/locusts](http://www.fao.org/ag/locusts)

**Facebook:** [www.facebook.com/faolocust](http://www.facebook.com/faolocust)

**Twitter:** [twitter.com/faolocust](http://twitter.com/faolocust)



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### Weather & Ecological Conditions in April 2014

**Vegetation continued to dry out in winter breeding areas along the Red Sea coasts. Good rains fell in parts of the spring breeding areas in the interior of the Arabian Peninsula, the Horn of Africa, and Southwest Asia. Early rains fell in the summer breeding areas in eastern Sudan and along the Indo-Pakistan border.**

In the **Western Region**, no significant rain fell in the spring breeding areas of Northwest Africa during April. In Algeria, only light rains fell near Bechar. Consequently, vegetation was drying out and ecological conditions were not favourable for breeding except near Bechar and In Salah, and near irrigated areas in the Adrar area. Temperatures increased in the south where it remained dry. In Morocco, small areas of green vegetation persisted in the Ziz-Ghris Valley and in the northeast. Dry conditions prevailed in the northern Sahel of West Africa.

In the **Central Region**, vegetation continued to dry out and temperatures increased in the winter breeding areas along both sides of the Red Sea and on the northwest coast of Somalia during April. In Eritrea, small areas of green vegetation persisted on the southern coast between Ghelaelo and Tio. Good rains fell over parts of the plateau in northwest Somalia and eastern Ethiopia during the first decade of April, causing ecological conditions to become favourable for breeding primarily in Ethiopia between Ayasha and Jijiga and, to a lesser extent, in parts of northwest Somalia. In Yemen, moderate rains fell early in the month in the interior spring breeding areas of Hadhramaut, Shabwah, Marib and Al Jawf. In Saudi Arabia, light rains may have fallen at times in the interior spring breeding areas during the second half of the month. In Oman, good rains fell early in the month in parts of the northwest where ecological conditions were favourable for breeding. In eastern Sudan, heavy rains fell in summer breeding areas on the western side of the Red Sea Hills between Derudeb and Sinkat.

In the **Eastern Region**, scattered showers fell in parts of the spring breeding areas during April.

In southeast Iran, good rains fell during the second decade in the Suran-Saravan valleys, and light rain fell in parts of the Jaz Murian Basin. In western Pakistan, good rains fell in central areas of Baluchistan during the second decade. Ecological conditions remained favourable in southeast Iran from March rains and became favourable for small-scale breeding in western Pakistan during April. Pre-monsoon rains fell in summer breeding areas along both sides of the Indo-Pakistan border during the last two decades of April. Consequently, ecological conditions could improve to allow early breeding.



### Area Treated

Control operations in April treated nearly the same as in March.

Eritrea	105 ha (April)
Ethiopia	2,370 ha (April)
Iran	600 ha (April)
Oman	130 ha (April)
Saudi Arabia	19,994 ha (April)
Sudan	3,620 ha (1-16 April)



### 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 April.

###### • FORECAST

*No significant developments are likely.*

##### **Mali**

###### • SITUATION

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

###### • FORECAST

*Low numbers of locusts may be present and could persist in parts of the Adrar des Iforas.*

##### **Niger**

###### • SITUATION

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

###### • FORECAST

*Low numbers of locusts may be present and could persist in a few places in the Air Mountains.*

## Chad

### • SITUATION

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

### • FORECAST

*No significant developments are likely.*

## Senegal

### • SITUATION

No reports were received during May.

### • 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

No locusts were seen during surveys carried out near Bechar (3135N/0217W), Adrar (2753N/0017W), and In Salah (2712N/0229E) in April.

### • FORECAST

*Unless further rains fall in the spring breeding areas, no significant developments are likely.*

## Morocco

### • SITUATION

During April, isolated mature solitary adults were present in the northeast near Bouarfa (3232N/0159W) and a few immature adults were seen in Guelmim (2859N/1003W).

### • FORECAST

*Unless further rains fall in the spring breeding areas, no significant developments are likely.*

## Libya

### • SITUATION

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

### • FORECAST

*Unless further rains fall in the spring breeding areas, no significant developments are likely.*

## Tunisia

### • SITUATION

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

### • FORECAST

*No significant developments are likely.*

## CENTRAL REGION

### Sudan

#### • SITUATION

During the first half of April, hopper groups and a few small immature adult groups and swarms formed in Wadi Oko/Diib between Tomala (2002N/3551E) and Sufiya (2119N/3613E). Ground teams treated 3,620 ha. Isolated mature solitary adults persisted in the Tokar Delta. No locusts were seen elsewhere on the coast.

#### • FORECAST

*Locust numbers will decline in the northeast but are likely to increase in the Nile Valley between Abu Hamed and Dongola as adults and small groups appear from the northeast and breed near irrigated schemes. Hatching is expected and hopper groups and small bands may form.*

### Eritrea

#### • SITUATION

During April, locust infestations declined along the Red Sea coast. Control operations finished in the Ghelaelo (1507N/4004E) area on the 14<sup>th</sup> but continued against third and fourth instar gregarious hoppers and immature gregarious adults near Tio (1441N/4057E). Ground teams treated 105 ha during the month.

#### • FORECAST

*No significant developments are likely.*

### Ethiopia

#### • SITUATION

During April, numerous immature swarms, varying in size from 1 to 20 km<sup>2</sup>, arrived primarily in Awbere (0947N/4311E) district from northwest Somalia. As the swarms were highly mobile, they spread into adjacent areas between Jijiga (0922N/4250E), Dire Dawa (0935N/4150E), and Ayasha (1045N/4234E). Some of the swarms were maturing and starting to copulate. Control operations treated 2,370 ha of which 2,190 ha were by air. At the end of the month, there was an unconfirmed report of a swarm in the highlands near Nazareth (0832N/3916E).

#### • FORECAST

*There is a low possibility that a few more swarms may appear from northwest Somalia early in the forecast period between Jijiga, Dire Dawa and Ayasha, perhaps reaching the Harar Highlands and the Rift Valley. Breeding is likely to occur in these*



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*areas with hatching in May. Hoppers are likely to form groups and small hopper bands.*

### Djibouti

#### • SITUATION

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

#### • FORECAST

*No significant developments are likely.*

### Somalia

#### • SITUATION

On 2-4 April and again on 10-12 April, a few immature swarms were seen on the plateau near Boroma (0956N/4313E), Hargeisa (0931N/4402E), and west of Burao (0931N/4533E) moving southwest towards eastern Ethiopia. On the 18<sup>th</sup> and 21<sup>st</sup>, an immature swarm was seen near Gabiley (0942N/4338E). During the last decade of the month, no locusts were seen during surveys carried out on the coast and plateau except for 5 ha of gregarious mid-instar hoppers at densities up to 20 hoppers/m<sup>2</sup> on the northwest coast near Lughaye (1041N/4356E).

#### • FORECAST

*There is a low possibility that a few more swarms may be reported on the plateau early in the forecast period moving towards eastern Ethiopia. Although small-scale breeding could occur in areas of recent rainfall, the situation is expected to remain calm.*

### Egypt

#### • SITUATION

No locusts were seen in April during surveys carried out on the Red Sea coast and in subcoastal areas between Berenice (2359N/3524E) and the Sudan border, along both sides of Lake Nasser in the Allaqi, Garf Husein (2317N/3252E), Abu Simbel (2219N/3138E) and Tushka (2247N/3126E) areas, and in the northwest near Siwa (2912N/2531E) and Salum (3131N/2509E).

#### • FORECAST

*No significant developments are likely.*

### Saudi Arabia

#### • SITUATION

During April, control operations continued against hopper bands and adult groups mainly on the northern Red Sea coastal plains between Yenbo

(2405N/3802E) and Al Wajh (2615N/3627E) and adjacent subcoastal areas in the Asir Mountains. Smaller infestations were present on the central coast between Lith (2008N/4016E) and Qunfidah (1909N/4107E), on the extreme northern coast near Jordan, and in the Asir Mountains near Taif (2115N/4021E). Adult groups moved from the Tabuk and Medinah regions to the interior and laid eggs from east of Khaybar (2542N/3917E) to Hail (2731N/4141E) and, to a lesser extent, near Al Jawf (2948N/3952E). Control operations treated 19,994 ha in April, of which 3,400 ha were by air.

#### • FORECAST

*Locust infestations will decline on the Red Sea coastal plains but will increase in the interior areas of Al Jawf, Hail and perhaps Gassim as hatching occurs and hoppers form bands.*

### Yemen

#### • SITUATION

During the first two decades of April, low numbers of immature and mature solitarious adults were present on the central coast near Hodeidah (1450N/4258E) and, to a lesser extent, on the northern Red Sea coastal plains near Midi (1619N/4248E) and on the Gulf of Aden coast near Am Rija (1302N/4434E).

#### • FORECAST

*Locust numbers will continue to decline on the coastal plains of the Red Sea and Gulf of Aden. Scattered adults and perhaps a few small groups may be appear in the spring breeding areas of the interior and lay eggs in areas of recent rainfall that will hatch during the forecast period, causing locust numbers to increase slightly.*

### Oman

#### • SITUATION

During April, small-scale breeding was in progress in the northern interior near Ibri (2314N/5630E) as *transiens* and gregarious adults continued to lay eggs, and groups of mid to late instar hoppers formed. Scattered solitarious adults were maturing throughout the area as well as further east in the Dakhiliya and Sharqiya regions between Adam (2223N/5731E) and Al Qabel (2234N/5843E). More groups of solitarious and gregarious hoppers of all instars at densities up to 3 hoppers/m<sup>2</sup> were seen near Ibri during the last decade. Control operations commenced on the 30<sup>th</sup> in farms, treating 130 ha.

#### • FORECAST

*In early May, small-scale hatching will continue and fledging will commence in Dhahera, causing locust numbers to increase. Thereafter, hoppers and adults are likely to concentrate as vegetation dries out and form small groups. Limited breeding may also occur in parts of Dakhiliya and Sharqiya.*



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

In late March and early April, scattered mature solitarious and *transiens* adults were present on about 1,000 ha at densities of up to 5 adults/m<sup>2</sup> and laying eggs in areas of heavy rainfall on the southeast coast near Jask (2540N/5746E). Hatching occurred during the second decade of the month and low numbers of solitarious hoppers were seen. Ground teams treated 600 ha on 21-30 April. In the Jaz Murian Basin, scattered immature and mature solitarious adults were present and breeding at a few places near Kahnuj (2757N/5742E).

• FORECAST

*Small-scale breeding will continue in coastal and interior areas of the southeast, causing locust numbers to increase slightly. As vegetation dries out, small groups may form by the end of the forecast period.*

**Pakistan**

• SITUATION

No locusts were seen during surveys carried out in the spring breeding areas of Baluchistan in April.

• FORECAST

*Low numbers of adults may be present in parts of Baluchistan where small-scale breeding could occur in areas of recent rainfall. Low numbers of adults are likely to appear in summer breeding areas of Bahawalpur and Rahimyar Khan where recent rainfall may allow early breeding to occur.*

**India**

• SITUATION

During April, no locusts were seen during surveys carried out in Rajasthan and Gujarat.

• FORECAST

*Low numbers of adults are likely to appear in Jaisalmer and Bikaner districts where recent rainfall may allow early breeding to occur.*

**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/ECLD Desert Locust Information Service (eclod@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.ldeo.columbia.edu/maproom/.Food\\_Security/Locusts/Regional/.MODIS/index.html](http://iridl.ldeo.columbia.edu/maproom/.Food_Security/Locusts/Regional/.MODIS/index.html))
- **MODIS.** Daily rainfall imagery in real time ([http://iridl.ldeo.columbia.edu/maproom/.Food\\_Security/Locusts/index.html](http://iridl.ldeo.columbia.edu/maproom/.Food_Security/Locusts/index.html))
- **RFE.** Rainfall estimates every day, decade and month ([http://iridl.ldeo.columbia.edu/maproom/.Food\\_Security/Locusts/index.html](http://iridl.ldeo.columbia.edu/maproom/.Food_Security/Locusts/index.html))
- **Greenness maps.** Dynamic maps of green vegetation evolution every decade ([http://iridl.ldeo.columbia.edu/maproom/Food\\_Security/Locusts/Regional/greenness.html](http://iridl.ldeo.columbia.edu/maproom/Food_Security/Locusts/Regional/greenness.html))



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- **CLCPRO.** 9<sup>th</sup> Executive Committee meeting and 7<sup>th</sup> Session of the Commission, Nouakchott, Mauritania (22-26 June)
- **CRC.** 29<sup>th</sup> Session of the Commission, UAE (November)
- **SWAC.** 29<sup>th</sup> Session (50<sup>th</sup> anniversary) of the Commission, Tehran, Iran (15-18 December)

- **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>)
- **FAOLOUST 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
- **Current threats updates.** Information

**eLocust3.** New introductory training videos are now available:

- eLocust3 in the field ([http://www.youtube.com/watch?v=JX5-b5u\\_nlc](http://www.youtube.com/watch?v=JX5-b5u_nlc))
- eLocust3 antenna ([http://www.youtube.com/watch?v=qk9\\_pIFi2s0](http://www.youtube.com/watch?v=qk9_pIFi2s0))
- eLocust3 charging (<http://www.youtube.com/watch?v=KoubKeCMIYQ>)
- eLocust3 new report (<http://www.youtube.com/watch?v=5BqpM6R4jJ8>)
- eLocust3 photos ([http://www.youtube.com/watch?v=xsO-F7ALF\\_0](http://www.youtube.com/watch?v=xsO-F7ALF_0))
- eLocust3 reports list (<http://www.youtube.com/watch?v=SoYCncytSsk>)
- eLocust3 settings (<http://www.youtube.com/watch?v=4XtdM0aJn5Q>)

**2014 events.** The following activities are scheduled or planned:

- **CLCPRO/CRC/SWAC.** Inter-regional Locust Information Officers workshop, Agadir, Morocco (19-23 May)
- **CRC.** 1<sup>st</sup> Sub-regional workshop on maintaining Desert Locust sprayers for non-frontline countries, Ismailia, Egypt (25-28 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.

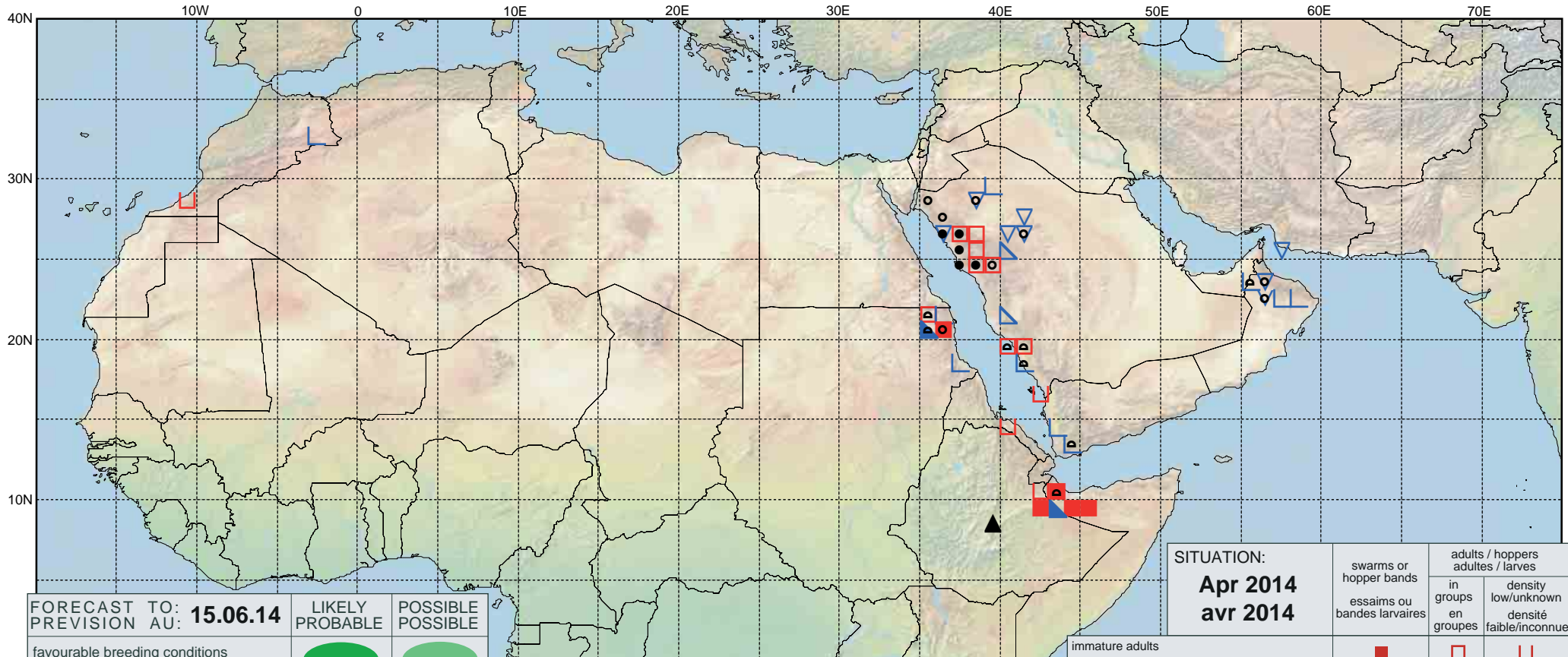


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# Desert Locust Summary

## Criquet pèlerin - Situation résumée



FORECAST TO: PREVISION AU:	<b>15.06.14</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>Apr 2014</b> <b>avr 2014</b>	swarms or hopper bands	adults / hoppers adultes / larves	
	essaims ou bandes larvaires	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)			