

warning level: **CAUTION**

# DESERT LOCUST BULLETIN

FAO Emergency Centre for Locust Operations



No. 448

(3.02.2016)



## General Situation during January 2016 Forecast until mid-March 2016

**Desert Locust breeding continued during January in north and northwest Mauritania and in adjacent areas of Western Sahara where locusts formed small groups. Limited ground control operations were carried out in these areas. Breeding is likely to continue during the forecast period, which may cause a further increase in locust numbers and the formation of hopper and adult groups. As temperatures increase, some adults may move to spring breeding areas south of the Atlas Mountains in Morocco and Algeria. Only low numbers of locusts persisted in parts of the winter breeding areas along both sides of the Red Sea and Gulf of Aden in Sudan, Eritrea Saudi Arabia, Yemen and northern Somalia. Unless further rains fall, breeding should decline in these areas. The situation remained calm in southwest Asia.**

**Western Region.** Locust activity during January remained confined to **Mauritania** and **Western Sahara** in southern **Morocco**. Breeding increased in northern Mauritania and egg-laying commenced in adjacent areas of Western Sahara. A few small groups of adults formed and limited ground control operations were carried out in both areas. A second generation of breeding is expected to cause locust numbers to increase during the forecast period in Mauritania while hatching will commence in Western Sahara. Solitarious adults were seen along the Mauritanian border in western **Algeria**. As temperatures increase,

some adults may appear south of the Atlas Mountains in Algeria and Morocco, and eventually breed. Elsewhere, the situation remained calm.

**Central Region.** The situation remained calm during January. Low numbers of adults persisted in a few places of the winter breeding areas along both sides of the Red Sea coast in **Sudan, Eritrea, Saudi Arabia** and **Yemen** where small-scale breeding was underway but limited due to poor rainfall. Isolated adults were present on the northwest coast in northern **Somalia**. Unless further rains fall, small-scale breeding is expected to decline by the end of the forecast period in the winter breeding areas. The situation is less clear in the interior of southern Yemen where ecological conditions are expected to be favourable as a result of two cyclones in November. Even if breeding is in progress, most of the locust populations are expected to remain in these areas as long as vegetation remains green.

**Eastern Region.** The situation remained calm during January. No locusts were reported in the region. Low numbers of adults are likely to appear in southeast **Iran** and southwest **Pakistan**. Small-scale breeding may occur in the Jaz Murian Basin of Iran in areas of recent rainfall. If swarms form in southern Yemen, there is a low threat that some of these could move to southeast Iran.

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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## Desert Locust Situation and Forecast

( see also the summary on page 1 )

### DESERT LOCUST BULLETIN



#### Weather & Ecological Conditions in January 2016

**Very little rain fell during January in the winter breeding areas along both sides of the Red Sea and Gulf of Aden where conditions were favourable on a limited scale. Ecological conditions remained favourable for breeding in northern Mauritania and Western Sahara from previous rainfall.**

In the **Western Region**, very little rain fell during January. Nevertheless, ecological conditions remained favourable for breeding in northern and northwest Mauritania (Tiris-Zemmour, Dakhlet Nouadhibou, Inchiri and Adrar) and in adjacent areas of Western Sahara where unusually heavy rains fell in September and October. Rain fell in southeast Mauritania but this is not likely to affect Desert Locust at this time of year.

In the **Central Region**, very little rain fell during January in winter breeding areas along both sides of the Red Sea and Gulf of Aden. Consequently, ecological conditions were favourable for breeding in only a few localized and small areas along the coast in Sudan, Eritrea, Saudi Arabia, Yemen and northwest Somalia. At the end of the month, good rains fell in coastal and subcoastal areas of northwest Somalia. Vegetation remained green in interior and coastal areas of Hadhramaut of southern Yemen from heavy rains associated with two cyclones in November

In the **Eastern Region**, goods rains of up to 50 mm or more fell in the western portion of the Jaz Murian Basin in southeast Iran in early January, causing flooding in some places. As a result, annual vegetation will continue to become green and breeding conditions will improve. While green vegetation persisted in the Shooli Valley south of Turbat in southwest Pakistan, spring breeding areas remained mostly dry and unfavourable.



#### Area Treated

Mauritania	130 ha (Jan)
Morocco	301 ha (Jan)

#### WESTERN REGION

##### Mauritania

###### • SITUATION

During January, breeding increased in the north between Zouerate (2244N/1221W), Bir Moghrein (2510N/1135W) and Ghallaman (2410N/0952W), and declined in the northwest between Akjoujt (1945N/1421W), Atar (2032N/1308W) and Tmeimichat (2119N/1420W). Small patches of solitarious and *transiens* hoppers of all instars were present at densities up to 30 hoppers/m<sup>2</sup>, and scattered solitarious and *transiens* adults were maturing with densities up to 6,800 adults/ha. A few small groups of hoppers and immature adults formed northwest of Atar and near Zouerate while only scattered adults were present in Dakhlet Nouadhibou. Adults were copulating and laying eggs during the first week near Atar and at mid-month near Zouerate. Ground teams treated 130 ha in January.

###### • FORECAST

*A second generation of breeding is expected to cause locust numbers to increase further in Tiris Zemmour and Dakhlet Nouadhibou where small groups and perhaps a few hopper bands may form in some areas.*

##### Mali

###### • SITUATION

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

###### • FORECAST

*Low numbers of locusts are likely to be present and may persist in parts of Timetrine, Tilemsi Valley and the Adrar des Iforas.*

##### Niger

###### • SITUATION

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

###### • FORECAST

*Low numbers of adults may persist in parts of the Air Mountains.*

##### Chad

###### • SITUATION

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

###### • FORECAST

*No significant developments are likely.*

## Senegal

### • SITUATION

No reports were received 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, a few immature solitary adults were present south of Tindouf (2741N/0811W) along the Mauritanian border. No locusts were seen during surveys in the central Sahara near Adrar (2753N/0017W) and in the east near Illizi (2630N/0825E).

### • FORECAST

*Scattered adults may be present or could appear in the west between Tindouf and Beni Abbas, in the central Sahara near irrigated areas in the Adrar region, in runoff areas to the south and west of the Hoggar Mountains, and in the extreme south near the Mali border. Small-scale breeding may occur in these areas, especially in the west where unusually good rains fell in October.*

## Morocco

### • SITUATION

During January, low numbers of solitary adults, at densities up to 200 adults/ha, were maturing in the Western Sahara between Aousserd (2233N/1419W), Tichla (2137N/1453W) and Bir Gandouz (2136N/1628W). Small groups of mature adults, at densities up to 2 adults/m<sup>2</sup>, formed after mid-month and were copulating in several areas. Ground control teams treated 301 ha during January. No locusts were seen further north between Guelta Zemmur (2508N/1222W) and east of Haouza (2707N/1112W) in W. Sakia El Hamra.

### • FORECAST

*Egg-laying and hatching will cause locust numbers to increase in areas of recent rainfall in the Western Sahara and small groups of hoppers and adults are likely to form.*

## Libya

### • SITUATION

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

### • FORECAST

*Isolated adults may appear in the southwest near Ghat and breed on a small scale in areas that received rainfall last autumn.*

## Tunisia

### • SITUATION

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

### • FORECAST

*No significant developments are likely.*

## CENTRAL REGION

### Sudan

### • SITUATION

During January, isolated mature solitary adults were present at a few places in the Tokar Delta (1827N/3741E) and Khor Baraka. No locusts were seen elsewhere along the coast or in the northeast along Wadi Oko/Diib between Tomala (2002N/3551E) and the Egyptian border.

### • FORECAST

*Low numbers of adults will persist and breed on a small scale in Tokar Delta and perhaps elsewhere along the Red Sea coastal plains and in Wadi Oko/Diib.*

### Eritrea

### • SITUATION

During January, isolated mature solitary adults were present at a few places on the northern coast of the Red Sea near Mehimet (1723N/3833E) where a few adults were seen copulating. No locusts were seen elsewhere on the coast to Massawa (1537N/3928E).

### • FORECAST

*Scattered adults will persist on the Red Sea coastal plains where small-scale breeding is expected to cause locust numbers to increase slightly between Sheib and Karora. Hatching is likely to occur in early February near Mehimet.*

### Ethiopia

### • SITUATION

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

### • FORECAST

*No significant developments are likely.*



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### Djibouti

- SITUATION

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

- FORECAST

*No significant developments are likely.*

### Somalia

- SITUATION

During January, isolated mature solitary adults were seen at one location on the northwest coast near Lughaye (1041N/4356E).

- FORECAST

*Scattered adults are likely to persist on the northwest coastal plains and breed on a small scale if rainfall occurs.*

### Egypt

- SITUATION

During January, no locusts were seen near Lake Nasser in the Abu Simbel (2219N/3138E), Tushka (2247N/3126E), Garf Husein (2317N/3252E) and Allaqi (2238N/3315E) areas, on the Red Sea coast between Berenice (2359N/3524E) and the Sudan border, and in subcoastal areas near El Sheikh El Shazly (2412N/3438E) and Abra q (2323N/3451E).

- FORECAST

*Isolated adults may be present on the Red Sea coastal plains and subcoastal areas between Shalatyn and Halaib where small-scale breeding could occur if further rains fall.*

### Saudi Arabia

- SITUATION

During January, isolated mature solitary adults were present on the central Red Sea coastal plains near Qunfidah (1909N/4107E) and at one place near Yenbo (2405N/3802E). No locusts were seen elsewhere during surveys along the coast.

- FORECAST

*Small-scale breeding is likely to be in progress near Qunfidah and will continue during the forecast period. Low numbers of adults may be present elsewhere on the Red Sea coastal plains between Jizan and Duba where small-scale breeding could occur in areas that receive rainfall.*

### Yemen

- SITUATION

During January, low numbers of immature and mature solitary adults were present on the Red Sea coastal plains between Bayt Al Faqih (1430N/4317E) and Suq Abs (1600N/4312E). Insecurity prevented surveys further north on the coast.

- FORECAST

*Low numbers of locusts will persist on the Red Sea coastal plains and small-scale breeding will occur if additional rains fall. Locusts may be present and breeding in coastal and interior areas of Hadhramaut where heavy rains fell from cyclones Chapala and Megh in November.*

### Oman

- SITUATION

No locusts were seen during surveys in January on the Batinah coast in the north and near the Yemen border in the south.

- FORECAST

*No significant developments are likely.*

### 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 locusts were seen on the southeast coast near Jask (2540N/5746E) during January.

- FORECAST

*Low numbers of adults are likely to appear in areas of recent rainfall in the Jaz Murian Basin and breed on a small-scale in recently flooded areas. Scattered adults may also appear on the southeast coast. If swarms form in southern Yemen, there is a low threat that some of these could move to southeast Iran.*

#### Pakistan

- SITUATION

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

- FORECAST

*Low numbers of adults may appear in coastal areas of Baluchistan where small-scale breeding could occur in places that receive rainfall.*

#### India

- SITUATION

No locusts were seen during surveys carried out in Rajasthan and Gujarat 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/ECLo Desert Locust Information Service (ecllo@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/index.html](http://iridl.Ideo.columbia.edu/maproom/.Food_Security/.Locusts/index.html))

[Ideo.columbia.edu/maproom/Food\\_Security/Locusts/Regional/greenness.html](http://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=PLf7Fc-oGpFHEdv1jAPaF02TCfpcnYoFQT>
- **RAMSESv4 training videos.** A set of basic training videos are available on YouTube: <https://www.youtube.com/playlist?list=PLf7Fc-oGpFHGyzXqE22j8-mPDhhGNq5So>
- **RAMSESv4 and eLocust3 updates.** Updates can be downloaded from <https://sites.google.com/site/rv4elocust3updates/home>
- **FAOLOCUST 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:

- **Press release.** Cyclones and Desert Locust (11 November) – Archives (Bulletins 2015)
- **Seasonal forecast.** Desert Locust winter/spring forecast (Dec 2015 – May 2016) – Information (Current threats)
- **Pesticide Referee Group follow-up.** Final report of the Recommendations of the Stakeholder Workshop on the Procurement and Supply of Pesticide for Locust Control, Rome (2-3 September) – Publications (Reports by Topic, Miscellaneous)
- **Biopesticide and ULV spraying videos.** New multilingual videos on advocacy and operational use of biopesticides, and ULV spraying in locust control – Activities (Environment and human health)



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**2016 events.** The following activities are scheduled or planned:

- **CLCPRO.** Expert group meeting to calculate the amount of the locust risk regional management fund and the practicalities of its use, Dakar, Senegal (24-26 February)
- **SWAC.** 22<sup>nd</sup> Desert Locust joint survey in the spring breeding areas of Iran and Pakistan (5-28 April)
- **CLCPRO.** Regional training of trainers on spraying techniques, Agadir, Morocco (11-15 April)
- **CRC/SWAC.** 8<sup>th</sup> inter-regional workshop for Desert Locust information officers, Cairo, Egypt (22-26 May)
- **CLCPRO.** 8<sup>th</sup> session, N'Djamena, Chad (18-22 July)
- **SWAC.** Regional contingency planning workshop, Tehran, Iran (November) [to be confirmed]
- **SWAC.** 30<sup>th</sup> session, Kabul, Afghanistan (12-14 December) [to be confirmed]



### 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 AREAS**

- July - September/October (Sahel of West Africa, Sudan, western Eritrea; Indo-Pakistan border)

##### **WINTER RAINS AND BREEDING AREAS**

- October - January/February (Red Sea and Gulf of Aden coasts; northwest Mauritania, Western Sahara)

##### **SPRING RAINS AND BREEDING AREAS**

- February - June/July (Northwest Africa, Arabian Peninsula interior, Somali plateau, Iran/Pakistan border)

##### **RECESSION**

- period without widespread and heavy infestations by swarms.

##### **REMISSION**

- period of deep recession marked by the complete absence of gregarious populations.

##### **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.

##### **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.

### **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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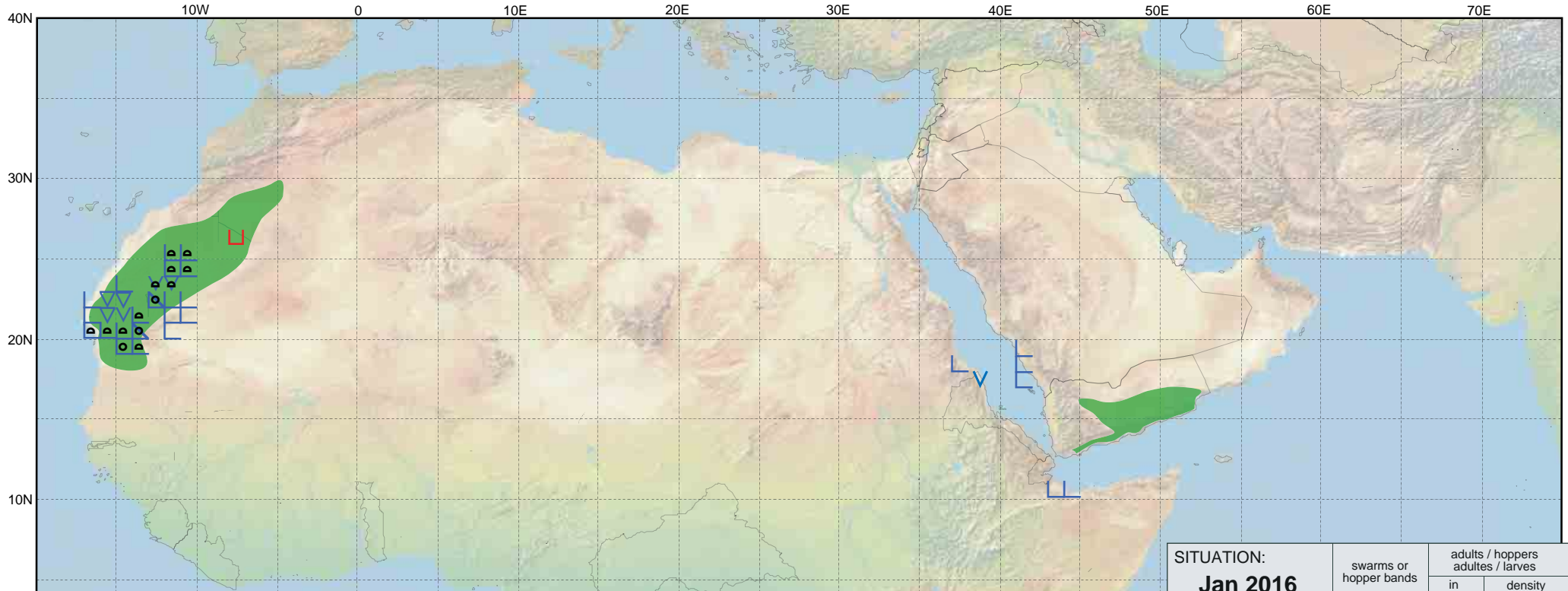
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# Desert Locust Summary

## Criquet pèlerin - Situation résumée

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FORECAST TO: PREVISION AU:	<b>15.03.16</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			

<b>SITUATION:</b> <b>Jan 2016</b> <b>jan 2016</b>	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)			