

warning level: **CAUTION**

# DESERT LOCUST BULLETIN

FAO Emergency Centre for Locust Operations



No. 450



**General Situation during March 2016  
Forecast until mid-May 2016**

(5.04.2016)

A potentially dangerous situation developed during March in Yemen where hopper bands and at least one swarm formed in areas that received heavy rains last November. As survey and control operations are limited by insecurity, locust numbers are expected to increase further, giving rise to more adult groups and swarms that are likely to move along the coast and into the interior, possibly reaching spring breeding areas in central Saudi Arabia, northern Oman and southeast Iran. These countries should take the necessary precautionary measures. In Northwest Africa, hundreds of small hopper bands formed in the southern part of the Western Sahara in southern Morocco and hopper groups formed in adjacent areas of northern Mauritania. Control operations were carried out in both areas. Adult groups and perhaps a few small swarms could form and move to spring breeding areas south of the Atlas Mountains in Morocco and Algeria. Strict vigilance is required in all areas.

**Western Region.** Numerous hopper groups and bands formed during March in the southern portion of the **Western Sahara in Morocco** and in northern **Mauritania**, respectively. Control operations continued to increase in Morocco (5,095 ha) but declined in Mauritanian (659 ha). As vegetation dries out, more hopper groups and bands are likely to form as well as adult groups and perhaps a few small swarms that could move to spring breeding areas south of the

Atlas Mountains in Morocco and Algeria, and breed. Elsewhere, the situation remained calm. Low numbers of solitary adults were present in central **Algeria**, northern **Mali** and **Niger**, and copulating adults were seen in southwest **Libya**.

**Central Region.** Groups of hoppers and adults as well as hopper bands and at least one swarm formed on the southern coast of **Yemen** in March where heavy rains associated with two cyclones fell last November. The extent of current breeding is not well known because survey teams cannot access most areas due to prevailing insecurity. As vegetation dries out along the coast, more groups, bands and swarms are likely to form. There is a moderate risk that adult groups and a few small swarms will move along the coast and into the interior of southern Yemen, perhaps reaching spring breeding areas in the interior of central **Saudi Arabia** and northern **Oman**. Elsewhere, the situation remained calm and no locusts were reported except for limited local breeding in northeast Oman.

**Eastern Region.** The situation remained calm during March and no locusts were reported in the region. However, low numbers of adults are likely to breed on a small scale in areas of recent rains in southeast **Iran** and southwest **Pakistan**. There is a low threat that a few small swarms from southern Yemen could arrive in 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.

**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)



No. 450

## DESERT LOCUST BULLETIN



### Area Treated

Mauritania	659 ha (Mar)
Morocco	5,095 ha (Mar)



### Weather & Ecological Conditions in March 2016

**Vegetation began drying out in parts of Northwest Africa due to a lack of rainfall in March. Breeding conditions became unfavourable in winter areas along both sides of the Red Sea. Good rains fell in spring breeding areas of Saudi Arabia, Yemen, Oman, Iran and Pakistan.**

In the **Western Region**, no significant rain fell during March. Consequently, vegetation began to dry out in northern Mauritania near Bir Moghreïn, in parts of the western and southern Sahara in Algeria, and in the Adrar Settouf area of Western Sahara in southern Morocco where only small patches of green vegetation remained by the end of the month. On the other hand, vegetation stayed green near Zouerate, Mauritania, in the central Sahara of Algeria and in some places of southwest Libya north of Ghat. Dry conditions prevailed in the northern Sahel of West Africa.

In the **Central Region**, good rains fell in parts of the spring breeding areas during March. Unusually heavy rains fell in UAE and in the northern interior and coastal areas of Oman on 7-10 March, causing flooding in some places. Light rains fell in eastern Ethiopia during the first two decades. In Yemen, light to moderate showers fell in parts of the interior between Marib and Thamud on 7-9 March. In Saudi Arabia, good rains fell in the southern portion of the spring breeding areas in the interior between Wadi Dawasir and Al Ahsa during the first and third decades. As a result, breeding conditions are expected to improve in all of the above-mentioned areas. Dry conditions prevailed in the winter breeding areas along both sides of the Red Sea.

In the **Eastern Region**, good rains fell in parts of the spring breeding areas in coastal and interior areas of southeast Iran and southwest Pakistan. This should cause ecological conditions to remain favourable for small-scale breeding.



### Desert Locust Situation and Forecast

( see also the summary on page 1 )

#### WESTERN REGION

##### **Mauritania**

###### • SITUATION

Immature and mature solitarious and *transiens* adults were present throughout March in the north between Zouerate (2244N/1221W) and Bir Moghreïn (2510N/1135W) at densities up to 3,200 adults/ha. During the first half of the month, adult groups continued to lay eggs near Zouerate while smaller infestations of solitarious and *transiens* adults were breeding south of Bir Moghreïn. Hatching occurred by mid-month, causing numerous small hopper groups to form near Zouerate at densities up to 900 hoppers/m<sup>2</sup>. At the end of the month, adults were regrouping as vegetation dried out in some areas. Ground teams treated 659 ha in March.

###### • FORECAST

*Hatching is likely to continue in Tiris Zemmour early in the forecast period. As vegetation dries out, small groups of hoppers and adults will continue to form mainly near Zouerate.*

##### **Mali**

###### • SITUATION

During March, immature and mature solitarious adults were seen in the Adrar des Iforas between Aguelhoc (1927N/0052E) and Tessalit (2011N/0102E) at Egharghar (1944N/0037E).

###### • FORECAST

*Low numbers of adults are likely to persist in parts of the Adrar des Iforas and perhaps Timetrine and the Tilemsi Valley.*

##### **Niger**

###### • SITUATION

On 1-2 March, isolated immature solitarious adults were seen at two places on the Tazerzait Plateau (1832N/0449E) where breeding occurred in February.

###### • FORECAST

*No significant developments are likely.*

##### **Chad**

###### • SITUATION

No locust activity was reported during March.

- **FORECAST**

*No significant developments are likely.*

### **Senegal**

- **SITUATION**

No locust activity was reported during March.

- **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 March, low numbers of mature solitarious adults were seen primarily in the central Sahara between Adrar (2753N/0017W) and In Salah (2712N/0229E), in the southern Sahara near Tamanrasset (2250N/0528E) and, to a lesser extent, southeast of Tindouf (2741N/0811W). Some adults were laying eggs near Adrar. No locusts were seen in the west between Tindouf and Bechar (3135N/0217W).

- **FORECAST**

*Small groups and perhaps a few small swarms from adjacent areas in Morocco and Mauritania could initially appear near Tindouf, move towards the central Sahara and breed, especially in any areas that receive rainfall.*

### **Morocco**

- **SITUATION**

During March, small groups of solitarious and *transiens* hoppers of all instars and immature and mature adults continued to form at increasing densities in the southern part of the Western Sahara between Tichla (2137N/1453W) and Aousserd (2233N/1419W). From the second decade onwards, hundreds of hopper bands formed between Aousserd (2233N/1419W) and Ma'Tallah (2223N/1502W). The bands were initially small and dense (up to 40 m<sup>2</sup> in size with up to 180 hoppers/m<sup>2</sup>) but then became larger and less dense (up to 1,800 m<sup>2</sup> in size with up to 80 hoppers/m<sup>2</sup>). Ground teams treated 5,095 ha in March.

- **FORECAST**

*Small hopper bands may still form in the Western Sahara between Tichla and Aousserd. As fledging occurs and vegetation dries out, the new adults are likely to form small groups and perhaps a few small swarms. Some of these locusts may move northeast to the Draa Valley and breed if rainfall occurs while*

*others may move into adjacent areas of Mauritania and Algeria.*

### **Libya**

- **SITUATION**

During March, low density solitarious adults were seen copulating northwest of Ghat (2459N/1011E) in W. Titaghsin (2531N/1001E) on 2 March. No locusts were seen during a subsequent survey in nearby areas at mid-month.

- **FORECAST**

*Small-scale breeding is likely to occur in the southwest near Ghat but locust numbers should remain low.*

### **Tunisia**

- **SITUATION**

No locust activity was reported during March.

- **FORECAST**

*No significant developments are likely.*

## **CENTRAL REGION**

### **Sudan**

- **SITUATION**

During March, no locusts were seen during surveys on the Red Sea coastal plains between Suakin (1906N/3719E) and the Eritrean border.

- **FORECAST**

*Isolated adults may appear and breed on a small scale along the Nile Valley in Northern and River Nile states. No significant developments are likely.*

### **Eritrea**

- **SITUATION**

During March, no locusts were seen during surveys on the Red Sea coastal plains near Massawa (1537N/3928E).

- **FORECAST**

*No significant developments are likely.*

### **Ethiopia**

- **SITUATION**

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

- **FORECAST**

*No significant developments are likely.*



No. 450



No. 450

## DESERT LOCUST BULLETIN

### Djibouti

#### • SITUATION

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

#### • FORECAST

*No significant developments are likely.*

### Somalia

#### • SITUATION

During March, no locusts were seen during surveys carried out on the escarpment between Boroma (0956N/4313E) and the coast, and on the coastal plains from the Djibouti border to Berbera (1028N/4502E).

#### • FORECAST

*No significant developments are likely.*

### Egypt

#### • SITUATION

During March, isolated immature solitarious adults were seen at one place in the southeast between El Sheikh El Shazly (2412N/3438E) and Abraç (2323N/3451E). No locusts were seen on the Red Sea coast between Berenice and the Sudan border, along both sides of Lake Nasser, near the Nile River south of Qena (2609N/3243E), and near the oases of Baris (2448N/3035E), Abu Mingar (2630N/2740E), Farafra (2710N/2818E) and Bahariya (2821N/2851E) in the Western Desert.

#### • FORECAST

*No significant developments are likely.*

### Saudi Arabia

#### • SITUATION

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

#### • FORECAST

*There is a low to moderate risk of a few small swarms arriving in the Najran area from southern Yemen that could move to areas of recent rainfall between Wadi Dawasir, Riyadh and Al Ahsa.*

### Yemen

#### • SITUATION

During March, *transiens* and gregarious hoppers of all instars were forming numerous small groups and bands along a 120 km stretch of the southern coast between Arkha (1340N/4724E) and Bir Ali

(1401N/4820E) from undetected breeding in February. A few adults continued to lay eggs during the first half of the month. Fledging was underway and immature *transiens* and gregarious adults formed small groups and at least one immature swarm that was seen flying between Arkha and Morais (1341N/4725E) on the 31<sup>st</sup>.

#### • FORECAST

*Breeding will continue along the southern coast and is likely to be in progress in the interior between Marib and Thamud. Hatching and the formation of hopper bands, groups of hoppers and adults, and small swarms are expected to occur on the coast. As vegetation dries out, adult groups and a few small swarms will move along the coast and into the interior, and breed in areas of recent rainfall.*

### Oman

#### • SITUATION

During March, isolated mature solitarious adults were laying eggs in the northern Sharqiya region near Bidiya (2222N/5856E). No locusts were seen elsewhere in the northern interior and coastal areas and in the south between Thumrait (1736N/5401E) and Shehan (1746N/5229E).

#### • FORECAST

*Scattered adults may be present in parts of the northern interior and coast where small scale breeding is likely in areas of recent rainfall. Limited hatching will occur early in the forecast period in northern Sharqiya. There is a low to moderate risk that groups and perhaps a few small swarms could appear in the south from Yemen and move northwards to areas of recent rainfall where breeding could take place.*

### UAE

#### • FORECAST

*There is a low risk that a few small swarms from Yemen may appear in areas of recent rainfall. If so, most of them are expected to transit the country and continue towards southeast Iran.*

**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

During March, no locusts were seen on the southeast coast between Jask (2540N/5746E) and Chabahar (2517N/6036E), and in the interior near Iranshahr (2712N/6042E).

- **FORECAST**

*Low numbers of adults are likely to appear and breed on a small scale in areas of recent rainfall in the Jaz Murian Basin and on the southeast coast. There is a low risk that a few small swarms may appear from southern Yemen.*

### **Pakistan**

- **SITUATION**

No reports were received during March.

- **FORECAST**

*Low numbers of adults may appear and breed on a small scale in coastal and interior areas of Baluchistan that have received recent rainfall.*

### **India**

- **SITUATION**

No locusts were seen during surveys carried out in Rajasthan and Gujarat during March.

- **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 (ecl@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))
- **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>)



No. 450

DESERT LOCUST BULLETIN



No. 450

## DESERT LOCUST BULLETIN

**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 update, 25 March.**  
Archives – Briefs

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

- **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, Dakar, Senegal (18-22 July)
- **SWAC.** Regional contingency planning workshop, Tehran, Iran (20-23 November)
- **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.



No. 450

DESERT LOCUST BULLETIN

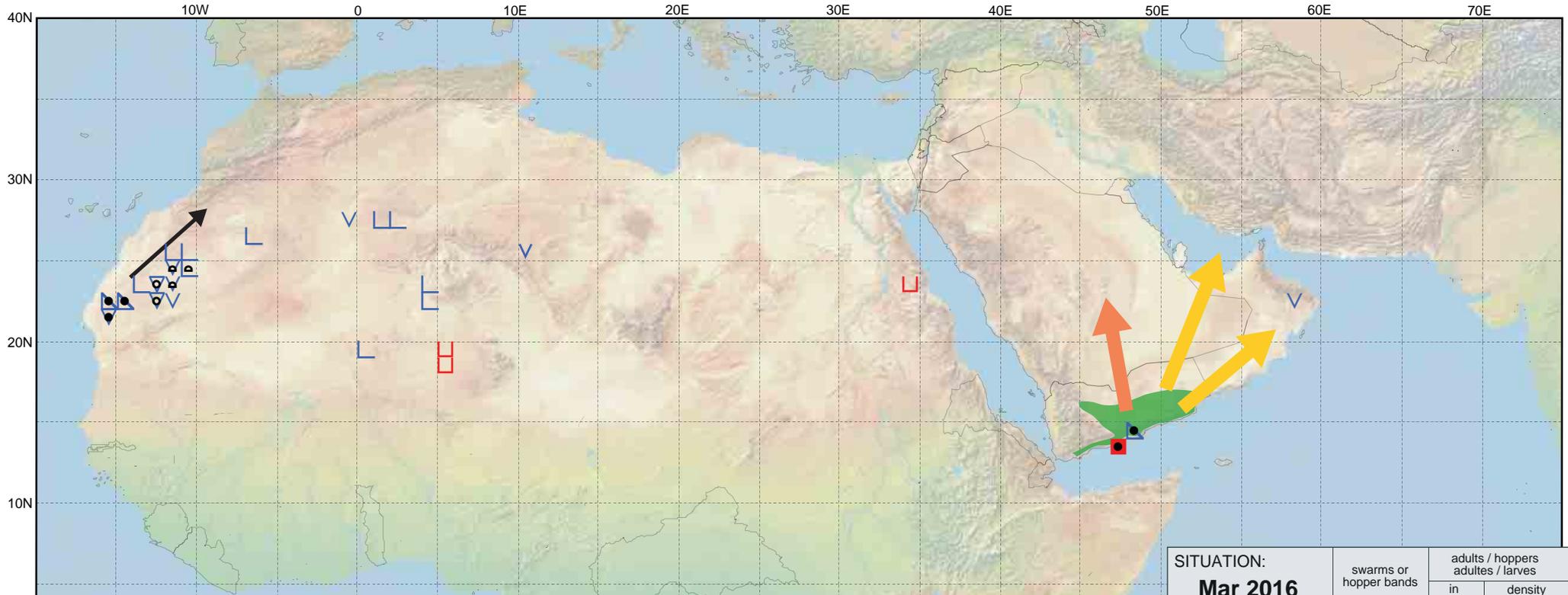
page 7 of 8



# Desert Locust Summary

## Criquet pèlerin - Situation résumée

450 



FORECAST TO: PREVISION AU:	LIKELY PROBABLE	POSSIBLE POSSIBLE
15.05.16		
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: Mar 2016 mar 2016	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)		