

# Desert Locust Bulletin

General situation during February 2023  
Forecast until mid-April 2023

## WESTERN REGION: CALM

**SITUATION.** A few mature groups of adults and some copulating in southern Western Sahara of **Morocco** (606 ha treated). No locusts were reported elsewhere in the region.

**FORECAST.** Some adults may stay in parts of the southern Western Sahara of **Morocco** where hatching may occur. However, most of the adults will move further north to Wadi Draa in Morocco while a few locusts may occur in central and southern **Algeria** and southwest **Libya**. Rains are supposed to fall in parts of the spring area where small-scale breeding may occur.

## CENTRAL REGION: CALM

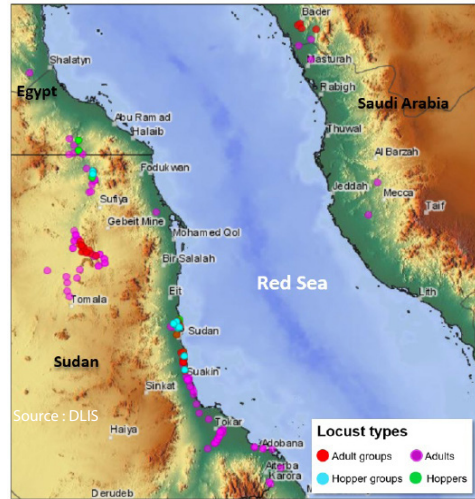
**SITUATION.** Small adult groups, some copulating and late instar hoppers in the coast and subcoastal area of the Red Sea in **Sudan** (3 826 ha treated); a few mature adult groups in the northern Red Sea coast of **Saudi Arabia** (410 ha); low numbers of hoppers and adults in southeast **Egypt** and adults on the Red Sea coast in **Yemen**.

**FORECAST.** Low numbers of locusts will decline on the Red Sea coast in **Sudan**, **Egypt**, **Eritrea**, **Saudi Arabia**, and **Yemen**. A few adults may move from the coast of Saudi Arabia to the interior where good rains and small-scale spring breeding could occur in March and April.

## EASTERN REGION: CALM

**SITUATION.** No locusts present.

**FORECAST.** A few locusts may occur on the coast of southeast **Iran** and southwest **Pakistan** and start breeding on a small scale during the spring.



## WINTER BREEDING WILL DECLINE

The Desert Locust situation continued to remain calm during February. Similar to January, scattered and small groups of adults remained in the southern Western Sahara of Morocco where some were copulating. Ground teams treated 606 ha. In Sudan, adult groups increased in the Red Sea coast and subcoastal areas as vegetation started to dry out and ground teams treated 3 826 ha. In Saudi Arabia, a few mature groups of adults were copulating on the northern Red Sea coast where 410 ha were treated. Low numbers of adults were present in southeast Egypt and the Red Sea coast of Yemen. In the Eastern Region, good rain fell on the coast of Iran for the second month in a row. During the forecast period, small hatching will occur in the southern Western Sahara of Morocco while scattered adults will move further north where rain is supposed to fall and small-scale spring breeding can occur. In Saudi Arabia, low numbers of adults are likely to move to the interior where good rains are supposed to fall there as well as on the coast of southeast Iran and southwest Pakistan during March and April. Consequently, spring breeding may occur on a small scale.

The FAO Desert Locust Bulletin is issued every month by the Desert Locust Information Service (DLIS) at FAO HQ in Rome, Italy. DLIS continuously monitors the global Desert Locust situation, weather and ecology to provide early warning based on survey and control results from affected countries, combined with remote sensing, historical data and models. The bulletin is supplemented by Alerts and Updates during periods of increased Desert Locust activity.

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## Weather & Ecological Conditions in February 2023

Good rains fell in the Western Sahara of Morocco, northwest Mauritania, and southwest Iran.

### WESTERN REGION

No significant rain fell in the region except for good rains on the 9-10th and 12-13th February in the southern part of the Western Sahara in Morocco and northwest Mauritania. Light rains fell on the 13-14th February further north from Wadi Draa to Errachidia south of the Atlas Mountain. Small areas of annual vegetation were still green in parts of the southern Western Sahara near the coast and in the interior. In the central Sahara of Algeria, annual vegetation was still green in the irrigated areas near the Adrar Valley.

### CENTRAL REGION

No significant rain fell in the region. In Sudan, annual vegetation was still green on the coast but was drying out in the northeast subcoastal area. Vegetation was drying out in southeast Egypt except for a few places in the subcoastal area near the border with Sudan. In the east side of the Red Sea, annual vegetation remained green along the coast from the central coast of Yemen to the northern coast of Saudi Arabia near Al Wajh. However, vegetation was drying out in Saudi Arabia from Jizan in the south to Yenbo in the north. In northwest Somalia, annual vegetation was green in a few parts of the coast, escarpment, and the plateau.

### EASTERN REGION

Good rains fell on the coast in southwest Iran during several days in the month. Annual vegetation started to become green in a few places near Bushehr however locusts are not likely to be there. No rain or vegetation occurred in other parts of southeast Iran and southwest Pakistan.



## Area Treated

Control operations were carried out during February:

Morocco	606 ha
Saudi Arabia	410 ha
Sudan	3 826 ha



## Desert Locust Situation and Forecast

### WESTERN REGION

#### ALGERIA

##### • SITUATION

During February, no locusts were seen in the central Sahara near Adrar (2753N/0017W) and west of Tamanrasset (2250N/0528E) in southern Sahara.

##### • FORECAST

*A few locusts may occur in the central and southern Sahara if light rainfall occurs for spring breeding.*

#### CHAD

##### • SITUATION

No locusts were reported during February.

##### • FORECAST

*No significant developments are likely.*

#### LIBYA

##### • SITUATION

No locusts were reported during February.

##### • FORECAST

*A few locusts may occur in the southwest if light rainfall occurs for spring breeding.*

#### MALI

##### • SITUATION

No locusts were reported during February.

##### • FORECAST

*No significant developments are likely.*

#### MAURITANIA

##### • SITUATION

No locusts were reported during February.

##### • FORECAST

*A few locusts are likely to be present and remain in the northwest and further north in Tiris-Zemmour.*

#### MOROCCO

##### • SITUATION

During February, scattered immature and mature solitarious adults remained in Western Sahara from the south of Bir Gandouz (2136N/1628W) and Tichla (2138N/1453W) to Dakhla (2342N/1555W) and Bir Anzarane (2353N/1431W) in the north. Some of the adults were copulating and a few mature groups were seen in some places. In addition, there were a few scattered late instar hoppers near Tichla in the first week. Ground teams treated 606 ha near the interior and on the coast.

##### • FORECAST

*While some adults may stay in parts of the Adrar Settouf of Western Sahara where hatching may occur, most adults are likely to move further north to Wadi Draa as temperatures increase in March and light rains may occur for spring breeding.*

## NIGER

### • SITUATION

No locusts were reported during February.

### • FORECAST

*No significant developments are likely.*

## SENEGAL

### • SITUATION

No locusts were reported during February.

### • FORECAST

*No significant developments are likely.*

## TUNISIA

### • SITUATION

No locusts were reported during February.

### • FORECAST

*No significant developments are likely.*

## **BENIN, BURKINA FASO, CAMEROON, CAPE VERDE, CÔTE D'IVOIRE, GAMBIA, GHANA, GUINEA, GUINEA BISSAU, LIBERIA, NIGERIA, SIERRA LEONE, AND TOGO**

### • FORECAST

*No significant developments are likely.*

## CENTRAL REGION

### DJIBOUTI

#### • SITUATION

No locust reports were received in February.

#### • FORECAST

*No significant developments are likely.*

### EGYPT

#### • SITUATION

During February, a few isolated second to third solitary hopper and immature solitary adults were seen during the last week in the southeast coast to the west of Halaib (2213N/3638E) near Wadi Diib. A few mature adults were seen further north near Shalatyn (2308N/3535E). No locusts were seen in the subcoastal area of Abraç (2323N/3451E) and El Sheikh El Shazly (2412N/3438E), and the Nile Valley near Abu Simbel (2219N/3138E) and Tushka (2247N/3126E).

#### • FORECAST

*Locusts will decline in the southeast and no significant developments are likely.*

### ERITREA

#### • SITUATION

No locusts were seen or reported during February.

#### • FORECAST

*Any locusts in the central and northern Red Sea coastal plains will decline as conditions become dry as no significant developments are likely.*

## ETHIOPIA

### • SITUATION

No locusts were seen or reported during February.

### • FORECAST

*No significant developments are likely.*

## OMAN

### • SITUATION

During February, no locusts were seen near Musandam Peninsula, on the Batinah coast, the northern interior, and Dhofar in the south.

### • FORECAST

*Some rain may fall, and isolated locusts could be found in the northern interior and coast areas where spring breeding may occur on a small scale. No significant developments are likely.*

## SAUDI ARABIA

### • SITUATION

During February, a few immature and mature solitary adults were seen on the coast near Jeddah (2130N/3910E) while some mature groups were copulating further north between Masturah (2309N/3851E) and Bader (2346N/3847E). Ground teams treated 410 ha. Elsewhere, no locusts were seen on the coast from Jizan (1656N/4233E) in the south to Al Wajh (2615N/3627E) in the north.

### • FORECAST

*Limited hatching and hopper groups will occur in the northern Red Sea coast where rain is supposed to fall there as well as in the interior. Consequently, low numbers of adults are likely to move to the interior where spring breeding could start on a small scale.*

## SOMALIA

### • SITUATION

During February, no locusts were seen by surveys in the coast, escarpment, and the plateau of Somaliland as well as in the northeast coast near Bosaso (1118N/4910E) and further south in the central area near Galkayo (0646N/4725E).

### • FORECAST

*No significant developments are likely.*

## SUDAN

### • SITUATION

During February, groups of immature, mature, and copulating adults occurred on the Red Sea coast from Suakin (1906N/3719E) to Port Sudan (1938N/3713E) and in the northeast subcoastal coast from Tomala (2002N/3551E) to the border of Egypt. Further south, scattered mature solitary adults were seen in Tokar (1827N/3741E) and the south coast near Aqiq (1813N/3811E) and Karora (1745N/3820E). A few scattered solitary late instar hoppers and groups were still present on the central coast and near Wadi Oko/Diib in the northeast. Ground teams treated 3 826 ha on the central coast and in Wadi Oko.

### • FORECAST

*Locust numbers will decline along the Red Sea coastal plain*

and subcoastal areas as conditions become dry.

## YEMEN

### • SITUATION

During February, scattered immature and mature solitary adults were present in a few places on the Red Sea coast near Bajil (1458N/4314E) in the central and near Suq Abs (1600N/4312E) in the north.

### • FORECAST

*Low numbers of breeding could occur on the Red Sea coast if more rain falls.*

## BAHRAIN, D.R. CONGO, IRAQ, ISRAEL, JORDAN, KUWAIT, LEBANON, PALESTINE, QATAR, SOUTH SUDAN, SYRIA, TANZANIA, TURKEY, UGANDA, AND UAE

### • FORECAST

*No significant developments are likely.*

## EASTERN REGION

### AFGHANISTAN

#### • SITUATION

No locust reports were received in February.

#### • FORECAST

*No significant developments are likely.*

### INDIA

#### • SITUATION

No locusts were seen by surveys in Rajasthan and Gujarat during February.

#### • FORECAST

*No significant developments are likely.*

### IRAN

#### • SITUATION

No locusts were seen by surveys in the south and northeast during February.

#### • FORECAST

*A few locusts may occur on the southeast coast where spring breeding should start on a small scale.*

### PAKISTAN

#### • SITUATION

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

#### • FORECAST

*A few locusts may occur on the southwest coast of Baluchistan where spring breeding should start on a small scale.*



## Announcements

### Locust warning levels

A colour-coded scheme indicates the alert level, perceived risk, or threat of current Desert Locust infestations to crops, and appropriate response:

- **Green** – calm situation (low alert); no threat to crops (*maintain regular monitoring*)
- **Yellow** – cautious situation (moderate alert); potential threat to crops (*increased vigilance, control may be needed*)
- **Orange** – serious situation (high alert); threat to crops (*survey and control must be undertaken*)
- **Red** – dangerous situation (very high alert); significant threat to crops (*intensive survey and control operations must be conducted*)

The scheme is applied to the Locust Watch web page and to the monthly bulletins and updates.

### Locust reporting

**RAMSES data.** Countries should connect to the Internet and backup the RAMSES database whenever data are added or changed; do not wait until the end of the month.

**Bulletins.** Affected countries are encouraged to prepare decadal, fortnightly, or monthly bulletins that summarize and analyze the situation, and share them with other countries.

**Reporting.** All information should be sent by e-mail to the FAO Desert Locust Information Service ([eclo@fao.org](mailto:eclo@fao.org) and [faodlislocust@gmail.com](mailto:faodlislocust@gmail.com)). Reports received by the first day of the new month will be included in the FAO Desert Locust Bulletin; otherwise, they will not appear until the following month. Reports should be sent even if no locusts were found or if no surveys were conducted.

### eLocust3 digital tools

In addition to the original eLocust3 tablet, FAO has three free tools for data collection in the field:

- eLocust3m – a smartphone app for survey and control data, developed with PlantVillage (download: <http://tiny.cc/eL3m>; how-to-use videos: <http://tiny.cc/eL3mVideos>)
- eLocust3g – a GPS app for emergencies, developed with Garmin (<http://tiny.cc/eLocust3g>)
- eLocust3w – an Internet form for emergencies, developed in Kobo (<http://tiny.cc/eLocust3w>)

The geo-referenced data collected by these tools feed into FAO's global early warning system and are critical for real-time monitoring, near instant analysis, and planning field operations in each country.

[<http://www.fao.org/ag/locusts/en/activ/2573/eL3suite/index.html>]

### Standard Operating Procedures (SOPs)

FAO has developed pocket-sized SOPs for use in the field on Desert Locust biology, survey, and control, including instructions on how to use eLocust3 tools, that are available in different

languages.

[<http://www.fao.org/ag/locusts/en/publicat/gl/sops/index.html>]

## Community awareness

As communities have an important role to play in Desert Locust management, FAO has developed:

- Posters – six simple, easy to understand posters, providing basic messaging on pesticide containers, safety measures, pesticide exposure, farmer advice, Desert Locust, and following instructions, which can be edited (<http://www.fao.org/ag/locusts/en/publicat/2581/index.html>)
- Animation – a simple SWABO animation for all readers that clearly explains about the dangers of Desert Locust (<https://www.youtube.com/watch?v=3TOhuA-v1m4>)

## Publicly available locust data

Desert Locust survey and control data are available for research and other non-commercial purposes:

- FAO Locust Hub (<https://locust-hub-hqfao.hub.arcgis.com>)
- FAO Hand-in-Hand (<https://data.apps.fao.org>)

## Real-time evaluation report

The full report of the *2020–2021 Desert Locust upsurge real-time evaluation* is available: <http://tiny.cc/RTE2022>

## 2023 calendar

- **DLCC.** 42<sup>nd</sup> session (13–17 March, Nairobi, Kenya)



## 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

#### Moderate

- 21–50 mm

#### Heavy

- more than 50 mm

### 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

### Other reporting terms

#### Breeding

- The process of reproduction from copulation to fledging

### **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*. Low alert. No threat to crops; maintain regular surveys and monitoring

### **Yellow**

- *Caution*. Moderate alert. Potential threat to crops; increased vigilance is required; control operations may be needed

### **Orange**

- *Serious*. High alert. Threat to crops; survey and control operations must be undertaken

### **Red**

- *Danger*. Very high alert. 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 upsurges and plagues only: Benin, Burkina Faso, Cameroon, Cape Verde, Côte d'Ivoire, Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Nigeria, Sierre Leone and Togo

### **Central**

- Locust-affected countries along the Red Sea: Djibouti, Egypt, Eritrea, Ethiopia, Oman, Saudi Arabia, Somalia, Sudan, Yemen; during upsurges and plagues only: Bahrain, D.R. Congo, Iraq, Israel, Jordan, Kenya, Kuwait, Lebanon, Palestine, Qatar, South Sudan, Syria, Tanzania, Turkey, UAE and Uganda

### **Eastern**

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



## Useful tools and resources

**FAO Locust Watch.** Information, maps, activities, publications, archives, FAQs, links  
<http://www.fao.org/ag/locusts>

**FAO/ESRI Locust Hub.** Desert Locust maps and data download, and emergency response progress  
<https://locust-hub-hqfao.hub.arcgis.com>

**FAO regional commissions.** Western Region (CLCPRO), Central Region (CRC), South-West Asia (SWAC)  
<http://www.fao.org/ag/locusts>

**IRI 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)

**IRI 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)

**NASA WORLDVIEW.** Satellite imagery in real time  
<https://worldview.earthdata.nasa.gov>

**Windy.** Real time rainfall, winds and temperatures for locust migration  
<http://www.windy.com>

**eLocust3 suite.** Digital tools for data collection in the field (mobile app, web form, GPS)  
<http://www.fao.org/ag/locusts/en/activ/DLIS/eL3suite/index.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.** Installer, updates, videos, inventory and support  
<https://sites.google.com/site/rv4elocust3updates/home>

**FAOLocust Twitter.** The very latest updates posted as tweets  
<http://www.twitter.com/faolocust>

**FAOLocust Facebook.** Information exchange using social media  
<http://www.facebook.com/faolocust>

**FAOLocust Slideshare.** Locust presentations and photos  
<http://www.slideshare.net/faolocust>

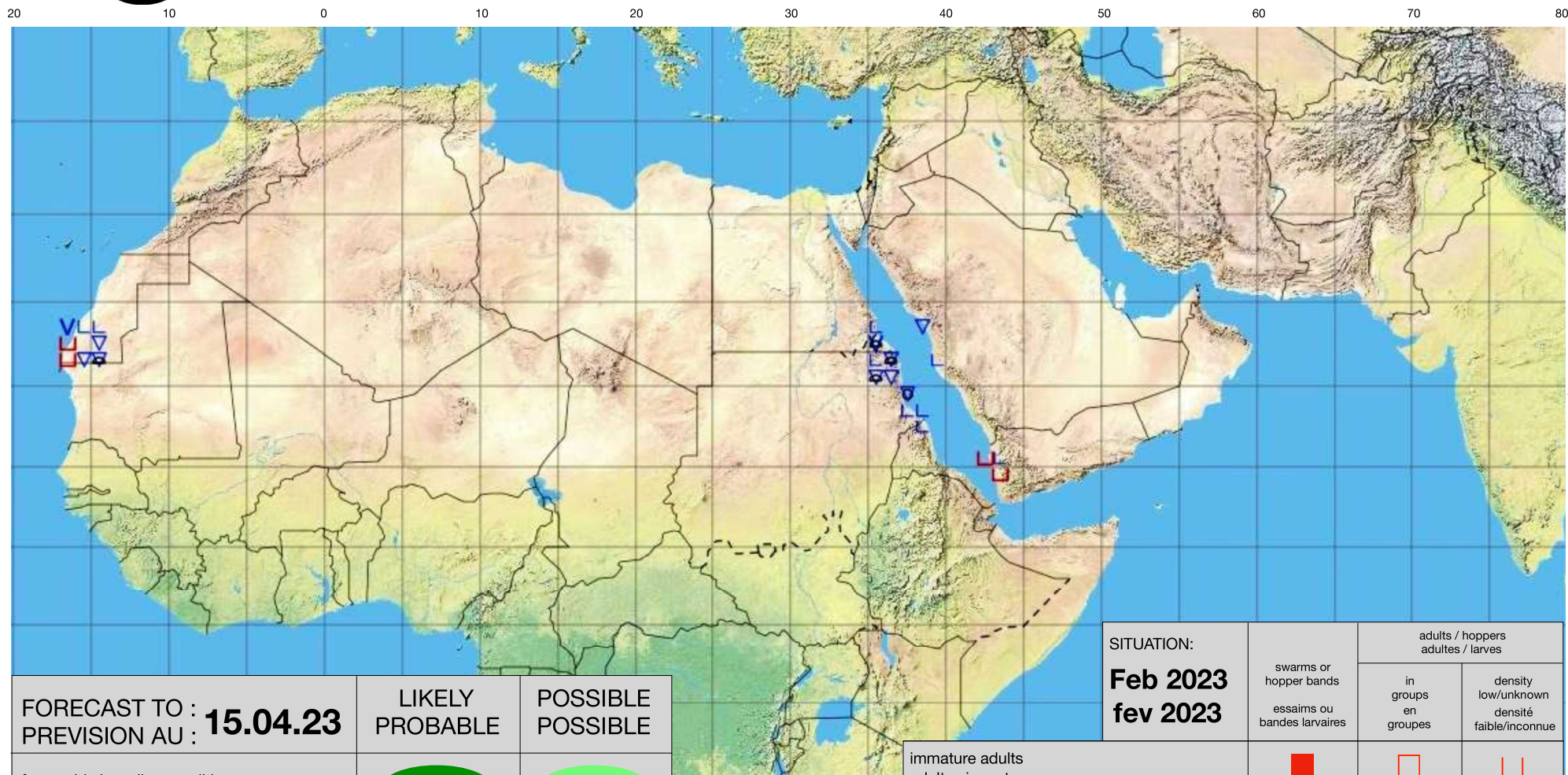
**eLERT.** Online database of resources and technical specifications for locust emergencies  
<http://sites.google.com/site/elertsite>


























# Desert Locust Summary

## Criquet pèlerin – Situation résumée

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FORECAST TO : PREVISION AU :	LIKELY PROBABLE	POSSIBLE POSSIBLE
15.04.23		
favourable breeding conditions conditions favorables à la reproduction		
major swarm(s) essaim(s) important(s)		
minor swarms(s) essaim(s) limité(s)		
non swarming adults adults non essaimant		

SITUATION: Feb 2023 fev 2023	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 partially 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 example) larves et adultes (symboles combinés)	