



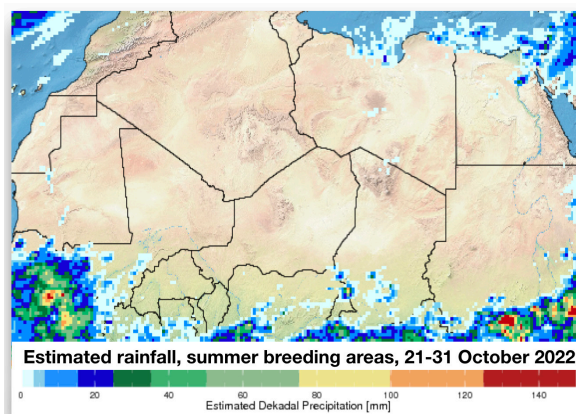
## Desert Locust Bulletin

General situation during October 2022  
Forecast until mid-December 2022

### WESTERN REGION: CALM

**SITUATION.** In parts of northwest **Mauritania**, a few groups of mature adults were copulating and a transiens hoppers were seen. Low numbers of adults and a few hoppers were seen in western **Mauritania** and **Niger** while **Chad** had only adults.

**FORECAST.** Locust numbers will decrease in the northern Sahel of **Mauritania**, **Niger**, and **Chad** and increase slightly in the northwest of **Mauritania** where breeding will occur and a few more groups can form.



### CENTRAL REGION: CALM

**SITUATION.** In **Sudan**, a group of mature adults were seen on the west of the Red Sea Hills and low numbers of adults, include hoppers at one place were west of the Nile Valley. In the Red Sea coast, low numbers of adults and a few hoppers were seen in **Yemen** and less in **Eritrea**.

**FORECAST.** Locust numbers will increase slightly on the Red Sea coast of **Sudan**, **Eritrea**, **Yemen** and appear in **Saudi Arabia** and perhaps southeast **Egypt**. Small-scale breeding is expected to remain low in the winter area and no significant developments are likely.

### SITUATION IS CALM

The Desert Locust situation continued to remain calm during October. Rain had finished and summer breeding was nearly none. Low numbers of solitarious adults and a few hoppers were seen in parts of Mauritania, Niger, Chad, Sudan, and Yemen. In northwest Mauritania, few groups of copulating adults and transiens hoppers occurred and 213 ha were treated. In Sudan, one group of adults were seen on the west of the Red Sea Hills. In pre-winter areas, light rain fell at time on the Red Sea coast of Yemen and started to rain in the parts of the coast of Sudan, Eritrea, and Saudi Arabia. No rain or locusts were in Southwest Asia. During the forecast, locust numbers will appear and increase slightly in the Red Sea coast of Sudan, Eritrea, Yemen, Saudi Arabia, and maybe southeast Egypt and the coast of northwestern Somalia. Small-scale breeding is locally to start but should remain low in the winter area and no significant developments are likely. In northwest Mauritania, breeding will occur and a few more groups can form.

### EASTERN REGION: CALM

**SITUATION.** The situation remained calm in the region during October.

**FORECAST.** No significant developments are likely.



## Weather & Ecological Conditions in October 2022

Some rain fell in the northwest and northern Mauritania and in a few parts of the winter breeding areas on Red Sea coast.

### WESTERN REGION

The Inter-Tropical Convergence Zone (ITCZ) during the first decade of October was further north than normal in Mauritania (315 km), Mali (350 km), Niger (130 km), and Chad (420 km). This also occurred in the second decade in southeast Mauritania (250 km) and northeast Chad (210 km). By mid-month, the ITCZ was well south of the breeding areas in the northern Sahel and the summer had finished. Consequently, little rain fell between Mauritania and Chad except for light showers in the northwest and north of Mauritania. By the end of the month, vegetation was starting to dry out in almost all places except in northwest Mauritania where it remained green.

### CENTRAL REGION

The Inter-Tropical Convergence Zone (ITCZ) was 200 km farther north than normal on the western side of the Nile in Sudan during the first two decades of October. During the third decade, ITCZ was well south of the breeding areas in the northern Sahel. Consequently, the summer rains had finished except for light rain during the first and third decades between the Nile Valley and the west of the Red Sea Hill and in the Nile Valley during the second decade. Vegetation was drying out in all areas. During the winter breeding on the Red Sea coast, light rain fell at time in parts of Yemen, southwest Saudi Arabia, central Eritrea and, during the last decade in south Sudan. In northwest Somalia, vegetation increases on the plateau.

### EASTERN REGION

No significant rains fell in the region during October. Consequently, vegetation was dry in Cholistan, Pakistan but remained green in Tharparkar and Nara. In India, vegetation was starting to dry out in Rajasthan and Gujarat.



## Area Treated

Control operations were carried out during October:

Mauritania 213 ha



## Desert Locust Situation and Forecast

### WESTERN REGION

#### ALGERIA

##### • SITUATION

No locusts were reported during October.

##### • FORECAST

*No significant developments are likely.*

#### CHAD

##### • SITUATION

During October, isolated immature and mature solitarious adults were present in some sites to the west and north of Mao (1406N/1511E) in Kanem, mature adults in north of Batha, near Arada (1501N/2040E) in Biltine, as well as near Kalait (1550N/2054E) and the Sudan border near Amdjarass (1604N/2250E). Elsewhere no locust presence was reported.

##### • FORECAST

*Isolated solitarious hoppers and adults from Kanem to Fada will decrease and no significant developments are likely.*

#### LIBYA

##### • SITUATION

No locusts were reported during October.

##### • FORECAST

*No significant developments are likely.*

#### MALI

##### • SITUATION

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

##### • FORECAST

*Low numbers of solitarious hoppers and adults are likely to decrease in Timetrine, Adrar des Iforas, and Tamesna from November.*

#### MAURITANIA

##### • SITUATION

During October, mainly mature solitarious adults with few copulating groups and two groups of 1<sup>st</sup> to 5<sup>th</sup> instars transient hoppers were seen from Akjoujt (1945N/1421W) to Atar (2032N/1308W) in the northwest. Ground control treated 213 ha. Further south, mainly isolated immature and a few mature solitarious adults were present from Nouakchott (1809N/1558W) to Moudjeria (1752N/1219W). Isolated 5<sup>th</sup> solitarious hoppers were seen near Nouakchott.

##### • FORECAST

*Low numbers of solitarious hoppers and adults will decrease in the south but will increase slightly in the northwest near Inchiri and southwest Adrar. Laying is likely to occur, and hoppers and adults will form small groups in some places.*

## MOROCCO

### • SITUATION

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

### • FORECAST

*No significant developments are likely.*

## NIGER

### • SITUATION

During October, isolated immature and mature solitary adults were present, mixed with solitary hoppers at a few sites of the northwest near In Abangharit (1745N/0559E) in Agadez. Scattered immature solitary adults and hoppers and two adults groups seen north of Tasker (1507N/1041E) in Zinder.

### • FORECAST

*Low numbers of solitary hoppers and adults are likely to decrease in Tamesna and Tasker.*

## SENEGAL

### • SITUATION

No locusts were reported during October.

### • FORECAST

*No significant developments are likely.*

## TUNISIA

### • SITUATION

No locusts were reported during October.

### • 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 locusts were reported during October.

#### • FORECAST

*No significant developments are likely.*

### EGYPT

#### • SITUATION

No locusts were reported during October during the surveys conducted in the southeast near Abu-Ramad (2224N/3624E), west of Shalatyn (2308N/3535E), west of Berenice (2359N/3524E), as well as west of Lake Nasser near Tushka (2247N/3126E).

#### • FORECAST

*No significant developments are likely.*

## ERITREA

### • SITUATION

During late October, a few isolated immature and mature solitary adults and a five instar hoppers were seen on the central Red Sea coast near Wekiro (1548N/3918E). No locusts were seen north of Embere (1628N/3856E).

### • FORECAST

*Locust numbers are likely to increase and breed in the Red Sea coastal plains.*

## ETHIOPIA

### • SITUATION

During October, no locusts were seen in Somali Region from Dire Dawa (0935N/4150E) to Ayasha (1045N/4234E), near Jijiga (0922N/4250E), in Afar region, and in the south near Teltele (0504N/3723E).

### • FORECAST

*No significant developments are likely.*

## KENYA

### • SITUATION

No locust reports were received and no locusts were reported in October.

### • FORECAST

*No significant developments are likely.*

## OMAN

### • SITUATION

During October, no locusts were seen during the surveys on the Musandam Peninsula, on the Batinah coast north of Sohar (2421N/5644E), in the northern interior near Buraimi, north of Ibri (2314N/5630E), near Nizwa (2255N/5731E) and Adam (2223N/5731E).

### • FORECAST

*No significant developments are likely.*

## SAUDI ARABIA

### • SITUATION

During October, no locusts were seen in Red Sea coast from Yanbo (2405N/3802E) to Jizan (1656N/4233E), and in the southwest interior near Najran (1729N/4408E).

### • FORECAST

*A few locusts will appear in center and south of the Red Sea coastal plains in November.*

## SOMALIA

### • SITUATION

No locusts were reported in surveyed areas during October.

### • FORECAST

*No significant developments are likely.*

## SUDAN

### • SITUATION

During October, mature solitary adults were seen at some places in the Red Sea state near Derudeb (1731N/3607E),

Haiya (1820N/3621E) where breeding groups were seen, and near Sinkat (1855N/3648E), in the Nile state where solitary hoppers were seen at one place, in North Darfur state near AlFashir (1337N/2522E), and at few sites in North Kordofan state. Elsewhere, no more locusts seen in the other survey areas in Khartoum and in most sites in Northern state.

• **FORECAST**

*Low numbers of solitary hoppers and adults will decline in the summer breeding areas and will move to the Red Sea winter areas where breeding will occur.*

## YEMEN

• **SITUATION**

During October, intensive surveys were conducted on the Red Sea coastal plains and the interior areas. Solitary immature and mature adults were seen on the central parts of the Red Sea coast from south of Hodeida (1450N/4258E) to Suq Abs (1600N/4312E) and in the interior in Hadhramaut Valley near Hawra (1542N/4817E) and north of Sayun (1559N/4844E). Elsewhere, no more locusts were seen during the surveys conducted in several areas in Shabwah, Hadhramaut and Al-Mahrah.

• **FORECAST**

*Low numbers of solitary adults will decrease in the interior but increase on the Red Sea coastal plains where breeding will increase slightly.*

## 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 October.

• **FORECAST**

*No significant developments are likely.*

### INDIA

• **SITUATION**

No locusts were seen in October during the intensive surveys in Rajasthan and Gujarat.

• **FORECAST**

*No significant developments are likely.*

### IRAN

• **SITUATION**

No locusts were reported in October during surveys conducted in Sistan and Baluchistan, Hormozgan, Fars, Kerman, Khuzestan, and South Khorasan provinces.

• **FORECAST**

*No significant developments are likely.*

## PAKISTAN

• **SITUATION**

No locust reports were received in October and no locusts were seen by surveys in Tharparkar, Nara, Cholistan, and Uthal.

• **FORECAST**

*No significant developments are likely.*



## 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 [faodislocust@gmail.com](mailto:faodislocust@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>

## 2022–2023 calendar

- **CLCPRO-CRC.** Interregional workshop on the applied research, Tunisia (8–11 November)
- **CLCPRO.** 10<sup>th</sup> session, Algiers, Algeria (27 November–1 December)
- **SWAC.** Desert Locust Information Officer workshop (postponement)
- **SWAC.** 33<sup>rd</sup> session (postponement)
- **DLCC.** 42<sup>nd</sup> session (March, Kenya, tbc)



## 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>

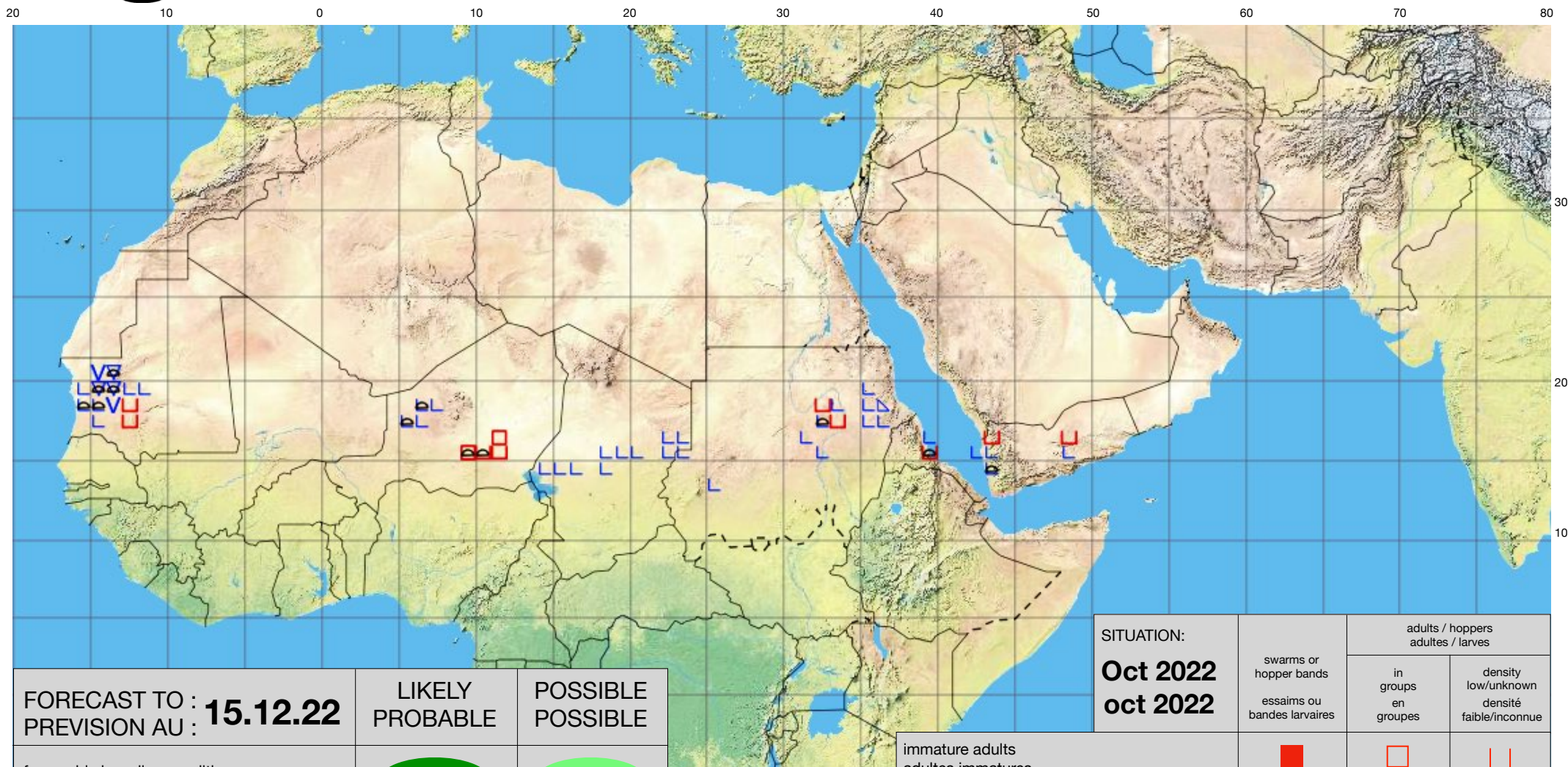
**eLERT.** Online database of resources and technical specifications for locust emergencies  
<http://sites.google.com/site/elertsite>



# Desert Locust Summary

## Criquet pèlerin – Situation résumée

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FORECAST TO :  
PREVISION AU : **15.12.22**

LIKELY  
PROBABLE

POSSIBLE  
POSSIBLE

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:  
**Oct 2022**  
**oct 2022**

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)

