

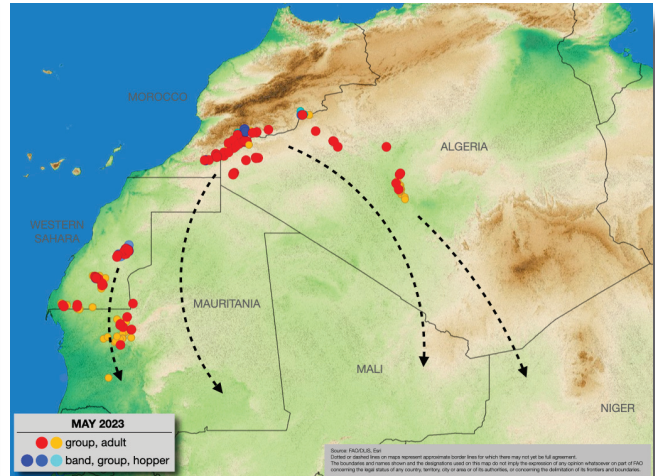
# Desert Locust Bulletin

## General situation during May 2023 Forecast until mid-July 2023

### WESTERN REGION: CAUTION

**SITUATION.** Groups of hoppers and adults as well as bands south of the Atlas Mountains in **Morocco** and **Western Sahara**, with the total treated area (29 453 ha). Adult groups in western **Algeria** (475 ha) and some moved to the central Sahara. Small groups of adults crossed into the northern border of **Mauritania** (259 ha).

**FORECAST.** Any locust groups that are not controlled in the northwest will move south to the northern Sahel in **Mauritania** and perhaps southern **Algeria**, northern **Mali**, and **Niger** where they are likely to disperse. Summer rains should start from the third week of June with breeding shortly thereafter with hatching in July. Small-scale breeding can also occur in **Chad** starting in July.



### CAUTION IN WESTERN REGION

Control operations increased during the spring season in Northwest Africa and Saudi Arabia in May. In Saudi Arabia, breeding continued on the central and northern Red Sea coast as well as in the interior where hopper groups and bands and immature adult groups were controlled by air and ground. As temperature increases and no rains are expected, adult groups should decline due to the control. In Yemen, small-scale breeding may occur in the interior. In Northwest Africa, hopper groups and bands and immature adult groups occurred south of the Atlas Mountains in Morocco as well as further south in Western Sahara. Some of the immature adult groups arrived in western Algeria and northern Mauritania. Control was carried out in all areas. During the forecast, any adult groups that are not controlled in the northwest will move south in June to southern Mauritania where they are likely to disperse as scattered adults. The summer rains are expected to begin in the northern Sahel early this year in about mid-June, which means that breeding should start in early July. A few groups could also scatter and breed in southern Algeria, northern Mali, and Niger. Elsewhere, small-scale breeding may occur in the interior of Sudan and western Eritrea once rainfall starts.

### CENTRAL REGION: CAUTION

**SITUATION.** Groups of hoppers and adults as well as bands on the Red Sea coast and interior in **Saudi Arabia** (17 745 ha treated). Scattered hoppers and adults on the Red Sea coast of **Eritrea**; isolated adults in southeast **Egypt**, the interior of **Yemen**, and northwest **Somalia**.

**FORECAST.** Adult groups should decrease in the Red Sea coast of **Saudi Arabia** but will continue in the interior until the end of June, and then decrease due to temperature and no rainfall. Small-scale breeding may occur in the interior of **Yemen** while adults may appear on the Red Sea coast. Adults will finish in southeast **Egypt**, the Red Sea coast of **Eritrea**, and northwest **Somalia**.

### EASTERN REGION: CALM

**SITUATION.** No locusts present.

**FORECAST.** The summer season and the onset of the monsoon are predictable to be drier than normal along both sides of the Indo-Pakistan border. Consequently, very few breeding is expected and no significant developments are likely.

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 May 2023

There were a few days of rainfall in the interior of Saudi Arabia.

### WESTERN REGION

In Northwest Africa, no rain was seen south of the Atlas Mountains in Morocco, Algeria, and Libya during the spring season. During the last week of the month, light rains may have fallen for a few days from the northwest and northern Mauritania to the Adrar Settouf of the southern part of Western Sahara. Annual vegetation was drying out in many parts of Western Sahara and the Draa valley south of the Atlas Mountains. However, vegetation is green in parts of the irrigated areas near the Adrar in the central Sahara. In the northern Sahel, the first rainfall of the pre-summer season occurred on 27 May throughout southern Mauritania, however, vegetation was still dry. Weather models suggest that the summer season rains will start in the Sahel during June this year rather than in July.

### CENTRAL REGION

During May, some rains fell in parts of Saudi Arabia, Yemen, Somalia, Ethiopia, and Eritrea. In Saudi Arabia, light rains fell during the first dekad in parts of the Asir Mountains, in the interior towards Riyadh during the second dekad, and a few days at the end of the month. In Yemen, moderate rains occurred in the highland while light rains fell in a few places in the interior. A few rains fell during parts of the month in the coastal and interior of northwest Somalia and the Afar and Somali areas of Ethiopia. Light rains may have fallen in parts of the Red Sea coast in Eritrea. As a result, annual vegetation was green in the interior of Saudi Arabia, the interior of Yemen, and northwest Somalia but was dry or drying out in the Red Sea coast of Saudi Arabia and southeastern Egypt.

### EASTERN REGION

Light rain fell in parts of the coastal and interior areas of Baluchistan in Pakistan during a few days in the first dekad of May. However, vegetation was dry in nearly all areas. Consequently, unfavourable breeding conditions prevailed throughout the region.



## Area Treated

Control operations were carried out during May:

Algeria	475 ha
Mauritania	259 ha
Morocco / Western Sahara	29 453 ha
Saudi Arabia	17 745 ha



## Desert Locust Situation and Forecast

### WESTERN REGION

#### ALGERIA

##### • SITUATION

During May, groups of immature solitary and transiens adults were present during the last dekad in the west near Tindouf (2741N/0811W) and some moved east to the central Sahara near Adrar (2753N/0017W). In addition, isolated immature and mature solitary adults continued to be seen between Adrar and Reggane (2643N/0010E) since March. No locusts were seen west of Tamanrasset (2250N/0528E) in the southern Sahara. Ground teams treated 475 ha.

##### • FORECAST

*Immature solitary adults and perhaps a few small groups will move south from the west and central Sahara to the southern Sahara near northern Mali and Niger. Summer rains should start from the third week of June and breeding could occur in July.*

#### BURKINA FASO

##### • SITUATION

No locusts were reported during May.

##### • FORECAST

*No significant developments are likely.*

#### CHAD

##### • SITUATION

No locusts were reported during May.

##### • FORECAST

*Given that the onset of the summer rains this year is likely to start early in June in the northern Sahel, low numbers of adults are likely to appear between Kanem and Fada and breed on a small scale in July.*

#### LIBYA

##### • SITUATION

No locusts were reported during May.

##### • FORECAST

*No significant developments are likely.*

#### MALI

##### • SITUATION

No locusts were reported during May.

##### • FORECAST

*Given that the onset of the summer rains this year is likely to start early in June in the northern Sahel, low numbers of adults are likely to appear in the Adrar des Iforas, Tilemsi Valley, Timetrine, and Tamesna and breed on a small scale in July.*

#### MAURITANIA

##### • SITUATION

During the end of the second dekad of May, about a dozen small groups of immature adults crossed the northern border between

Touajil (2211N/1241W) and Tmeimichat (2119N/1420W) and moved south to Atar (2032N/1308W). Some of the locusts fragmented and were scattered towards Akjoujt (1945N/1421W) and further south in Trarza at the end of the month. Ground teams treated 259 ha.

• FORECAST

*Small adult groups from Western Sahara, Morocco, and western Algeria are likely to arrive in the north and northwest and continue south where they will disperse as scattered adults between Trarza and Hodh Ech Chargui in the northern Sahel. Summer rains should begin in these areas from the third week of June and breeding could start with hatching in early July.*

## MOROCCO

• SITUATION

During May, mainly late instar scattered, groups, and a few bands of solitarious and transiens hoppers were present during the first dekad in Draa valley from Assa (2836N/0926W) to Tata (2944N/0758W) south of the Atlas Mountains and one smaller area southwest of Erfoud (3128N/0410W) near the Ziz-Ghris valley. Thereafter, more fledgling and immature solitarious and transiens adults and groups were seen during the rest of the month. Control operations treated 27 466 ha of which 19 400 ha were by air.

• FORECAST

*Vegetation south of the Atlas Mountains will continue to dry out and any locust groups that are not controlled will move south to Mauritania. No significant developments are likely after June.*

## WESTERN SAHARA

• SITUATION

During May, mainly third to fifth instar hoppers and small groups and bands were present in the Adrar Settouf near Oum Dreyga (2406N/1316W) and Aousserd (2233N/1419W) during the first dekad. Scattered immature adults and groups were seen in these areas as well as further south near Bir Gandouz (2136N/1628W) and Tichla (2138N/1453W) to the southern border. Ground teams treated 1 987 ha.

• FORECAST

*Vegetation will continue to dry out and any locust groups that are not controlled will move south to Mauritania. No significant developments are likely after June.*

## NIGER

• SITUATION

No locusts were reported during May.

• FORECAST

*Given that the onset of the summer rains this year is likely to start early in June in the northern Sahel, low numbers of adults are likely to appear in the central pasture areas and on the Tamesna Plains and breed on a small scale in July.*

## SENEGAL

• SITUATION

No locusts were reported during May.

• FORECAST

*No significant developments are likely.*

## TUNISIA

• SITUATION

No locusts were reported during May.

• FORECAST

*No significant developments are likely.*

## BENIN, 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 May.

• FORECAST

*No significant developments are likely.*

### EGYPT

• SITUATION

During May, isolated mature adults were seen in a few places near Shalatyn (2308N/3535E) on the southeast Red Sea coast. They were a few isolated immature and mature solitarious adults close to the Nile Valley near Garf Husein (2317N/3252E) and farms near Abu Simbel (2219N/3138E), Tushka (2247N/3126E) and Sh. Oweinat (2219N/2845E). No locusts were seen elsewhere in the southeast Red Sea coast and subcoastal areas, in the Western Desert near Farafra (2710N/2818E), and in the northwest near Siwa (2912N/2531E) and Salum (3131N/2509E).

• FORECAST

*Adults will decline in the southeast Red Sea coastal area. Isolated adults may remain in a few places near the Nile Valley in the south and in the Western Desert. No significant developments are likely.*

### ERITREA

• SITUATION

During the last week of May, scattered immature and mature solitarious adults were seen on the central and northern Red Sea coast from Wekiro (1548N/3918E) to Karora (1745N/3820E) and the border with Sudan. Breeding occurred during the month with hatching starting during the three weeks where early instar solitarious hoppers were scattered with a few transiens groups.

• FORECAST

*Hoppers and adults will continue on the Red Sea coastal area during June but then should decline as temperature increases. No significant developments are likely.*

## **ETHIOPIA**

### • SITUATION

During May, no locusts were seen in the Afar region between Mile (1125N/4046E) and Chifra (1136N/4001E) and the Somali region near Jijiga (0922N/4250E) and from Dire Dawa (0935N/4150E) to Ayasha (1045N/4234E).

### • FORECAST

*No significant developments are likely.*

## **OMAN**

### • SITUATION

During May, no locusts were seen on the Musandam Peninsula, northern Batinah coast near As-Suwayda (3242N/3634E), in the interior from Buraimi (2415N/5547E) to Adam (2223N/5731E), and in the south from Thumrait (1736N/5401E) to Maziuna (1750N/5239E).

### • FORECAST

*No significant developments are likely.*

## **SAUDI ARABIA**

### • SITUATION

During May, groups of immature gregarious adults were seen on the central coast of the Red Sea between Jeddah (2130N/3910E) and Lith (2008N/4016E) and in the northern coast from Bader (2346N/3847E) to Masturah (2309N/3851E) while transiens were seen further north near Umm Lajj (2501N/3716E). Fifth instar hoppers and fledgling ended in the first few days of the northern coast but continued near Lith until the end of the month. Most of them were groups although there were some bands near Bader and Lith. During the last dekad, no further locusts were on the northern coast. In the interior, hatching occurred about 100 km east of Medinah near Hinakiyah (2453N/4033E) from the last week of March and hopper groups and bands continued during April and May. Fledgling started about mid-May and there were groups of immature gregarious adults during the second half of the month. About 200 km further east, hopper groups and bands hatched during the first half of May. Control operations treated 17 745 ha of which 400 ha were by air. Elsewhere, no locusts were seen in the northern interior near Al Jawf (2948N/3952E).

### • FORECAST

*Groups of gregarious adults should decrease on the Red Sea coast but will continue in the interior where fledgling will continue until the end of June. Adult gregarious groups should decrease and move south by July due to temperature increases and no rainfall.*

## **SOMALIA**

### • SITUATION

During May, isolated mature solitary adults were seen at one place on the northwest coast south of Zeylac (1121N/4328E). No locusts were seen on the escarpment and plateau west of Hargeisa (0931N/4402E).

### • FORECAST

*Adults will decline in the coastal, escarpment and plateau areas. No significant developments are likely.*

## **SUDAN**

### • SITUATION

No locust reports were received in May.

### • FORECAST

*A few locusts may appear near cropping areas in the Nile Valley between Shendi and Dongola. No significant developments are likely.*

## **YEMEN**

### • SITUATION

During May, a few isolated immature and mature solitary adults were seen in the interior near Al Hazm (1610N/4446E). No locusts were seen elsewhere in the interior near Marib (1527N/4519E) and in the highlands near Sana'a (1521N/4412E).

### • FORECAST

*Solitary breeding may occur on a small scale in parts of the interior near Al Hazm, Marib, Ataq, and the Hadhramaut Valley while some locusts may appear on the northern Red Sea coast.*

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

### • FORECAST

*No significant developments are likely.*

## **EASTERN REGION**

### **AFGHANISTAN**

#### • SITUATION

No locusts were reported during May.

#### • FORECAST

*No significant developments are likely.*

### **INDIA**

#### • SITUATION

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

#### • FORECAST

*Drier than normal conditions are expected during the summer. Consequently, breeding is not likely to occur, and no significant developments are likely.*

### **IRAN**

#### • SITUATION

During May, no locusts were seen in the interior of the Fars region of the south and a few places in the coastal and interior areas of the southeast.

#### • FORECAST

*No significant developments are likely.*

## PAKISTAN

### • SITUATION

During May, no locusts were seen in the coastal and interior areas of Baluchistan.

### • FORECAST

*Drier than normal conditions are expected during the summer. Consequently, breeding is not likely to occur, and 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 [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>)

### 2023 calendar

- **CLCPRO.** Regional workshop to elaborate the 5<sup>th</sup> regional training plan (2023–2026), Oran, Algeria (5–9 June)
- **CLCPRO.** Validation of the prototype regional risk map model developed by CIRAD, Oran, Algeria (10 June)



## 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>

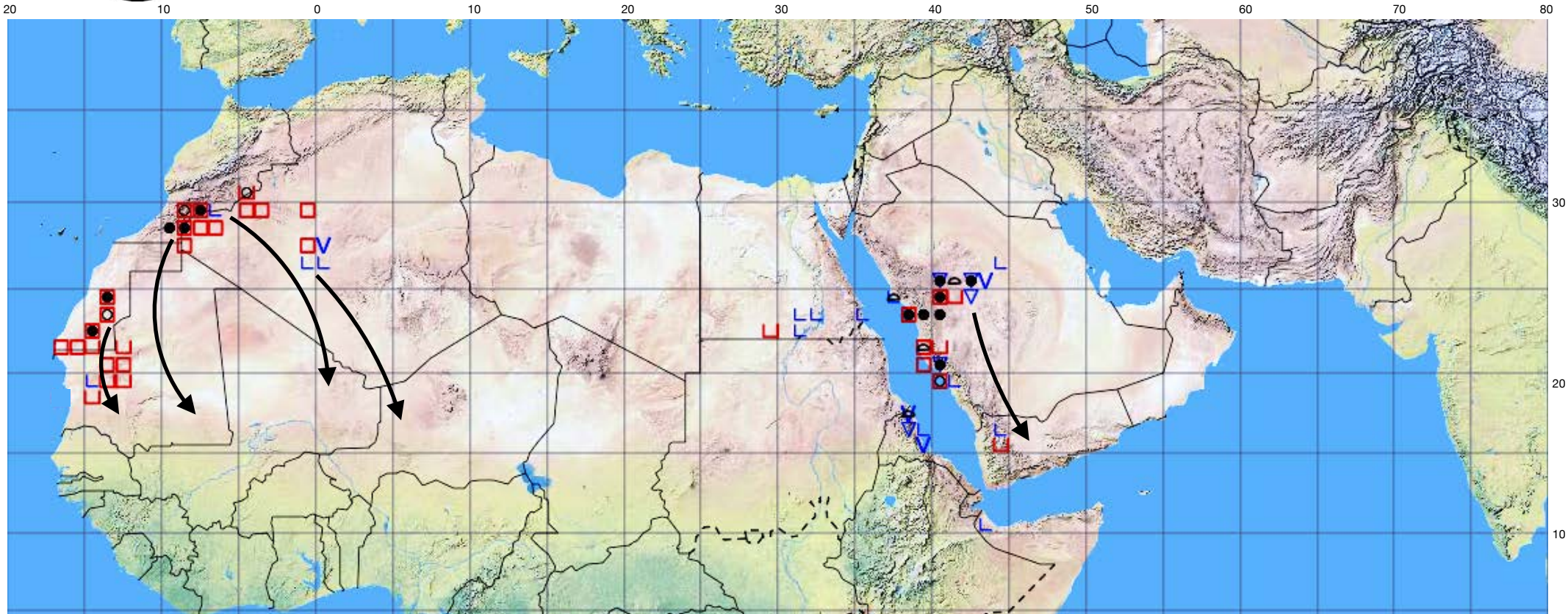
**FAOLocust Slideshare.** Locust presentations and photos  
<http://www.slideshare.net/faolocust>

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



# Desert Locust Summary

## Criquet pèlerin – Situation résumée



<b>FORECAST TO :</b> <b>PREVISION AU :</b> <b>15.07.23</b>	<b>LIKELY PROBABLE</b>	<b>POSSIBLE POSSIBLE</b>
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:  
**May 2023**  
**mai 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)			