Food and Agriculture Organization of the United Nations

No. 548 3 June 2024

Desert Locust Bulletin

General situation during May 2024
Forecast until mid-July 2024

WESTERN REGION: CALM

SITUATION. A few adults in central Sahara in **Algeria**.

FORECAST. The onset of summer rains could start by the end of June in the northern Sahel, followed by low numbers of adults and eventually limited small-scale breeding in southern **Mauritania**, northern **Mali** and **Niger**, and in central and northeast **Chad**.

CENTRAL REGION: CALM

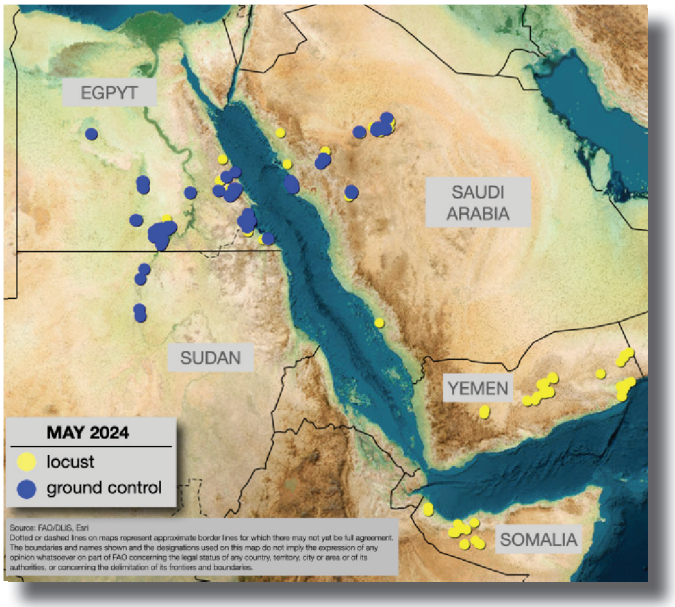
SITUATION. The second-generation winter breeding declined on the Red Sea coast of **Saudi Arabia** (3 252 ha treated) and **Egypt** (8 255 ha), while one generation of limited spring breeding occurred in both countries in the interior where there were some hoppers, groups and bands. A few adult groups were seen along the northern Nile Valley of **Sudan** (190 ha). Scattered adults were present in northwest **Somalia** and eastern **Yemen**.

FORECAST. Locusts will decline as spring breeding will finish in June in **Saudi Arabia**, **Egypt** and northern **Somalia** but there is still a risk of cyclone activity along the Gulf of Aden and Arabian Sea. During the summer, above-normal rain should start after mid-June from West Darfur of **Sudan** to the western lowlands of **Eritrea** as well as the interior of **Yemen**, followed by the first generation of small-scale breeding.

EASTERN REGION: CALM

SITUATION. A few isolated adults in southeast **Iran**.

FORECAST. There is a risk of cyclone activity along the Arabian Sea in June. During summer, above-normal rains are expected along the **Indo-Pakistan** monsoon where low numbers of adults should appear and one generation of small-scale breeding could start in July.



ALL OUTBREAKS ENDED

In May, the second-generation winter breeding declined on the Red Sea coast, while one generation of limited spring breeding and control occurred in the interior of Saudi Arabia and Egypt with the presence of hoppers, several groups and some bands. A few adult groups were observed in the northern Nile Valley of Sudan, and low numbers of adults were present in northwest Somalia and eastern Yemen. Isolated adults were seen in southeast Iran and the central Sahara of Algeria. The forecast indicates that there is a continued risk of cyclone activity in June along the Gulf of Aden and the Arabian Peninsula. Weather models continue to predict above-average rainfall will occur by the end of June in the northern Sahel region of southern Mauritania, northern Mali and Niger, central and northeast Chad, West Darfur of Sudan, and the western lowlands of Eritrea as well as the interior of Yemen. This will follow with one generation of small-scale breeding in the central region and limited breeding in the western region during the summer. In India and Pakistan, pre-monsoon rain may occur in June, followed by monsoon where one generation of limited breeding will occur between July and September.

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.

Internet: www.fao.org/locust-watch **E-mail:** eclo@fao.org / faodlislocust@gmail.com **Facebook/X:** faolocust

Weather & Ecological Conditions in May 2024

Good rain fell along parts of the eastern Arabian Peninsula, southwest Iran and the Horn of Africa during the first dekad.

WESTERN REGION

During May, there was perhaps light rain during the first dekad along the Hoggar Mountains north of Tamanrasset to Illizi in the east of Algeria as well as southwest of Libya. This continued during the second dekad in the Hoggar Mountains as well as in the central Sahara north of In Salah and in the southwest near Chenachene. In the northern Sahel of West Africa, there was abnormal light rain during the second dekad from southeast Mauritania near Nema to southwest Mali from Nara to Araouane in the north to Niger west of Tahoua before the summer season. Annual vegetation continued to be dry except for a few irrigated areas in the central and southern Sahara of Algeria.

CENTRAL REGION

During May, light to moderate rains fell in the eastern province of Saudi Arabia including the Empty Quarter from Sharawrah in the south to northwest UAE during the first dekad. Light rain fell in parts of the northern interior near Hail and in the southern part south Wadi Dawasir. In the second dekad, light rain fell in the Hijaz and Asir mountains south of Medinah. In Yemen, light rains fell during the first dekad in the highland and parts of the interior near Bayhad, Shabwah, and Wadi Hadhramaut as well as some eastern coast and interior of Al Maharah province and southwest Oman. During the second dekad, light rain fell in a few places in the Red Sea coast. In the Horn of Africa, there was light rain in northwest Somalia and moderate rain in the northeast during the first dekad. In Ethiopia, good rains fell in the Afar and Somali regions during the first and second dekads while heavy rains occurred in the north near Tigray and Amhara in the second dekad. Some abnormal rains occurred in the interior of eastern Sudan near Derudeb and parts of the Eritrea highlands. Vegetation was green in the interior of Yemen, northern Somalia, and parts of the Nile Valley in southern Egypt and Sudan but was drying out along the coastal and interior of Saudi Arabia.

EASTERN REGION

During May, moderate rain fell in southwest Iran from Abadan to Bandar Abbas in the first dekad and near Bushehr during the second dekad. In southwest Pakistan, only slight rain fell in a few places during the second dekad. In India, light pre-monsoon rain fell in parts of Rajasthan and Gujarat. No rain occurred after that. Annual vegetation continued to be dry during the spring except in southeast Iran where some areas were still green.

Area Treated

Control operations decreased in May to 11 697 ha compared to 23 071 ha in April.

Egypt	8 255 ha
Saudi Arabia	3 252 ha
Sudan	190 ha

Desert Locust Situation and Forecast

WESTERN REGION

The onset of summer rains could start by the end of June in the northern Sahel from south Mauritania to northeast Chad, followed by low numbers of locusts and eventually a limited small-scale breeding.

Algeria

• **SITUATION**

During May, isolated immature solitarious adults were seen at one place in the central Sahara near Adrar (2753N/0017W).

• **FORECAST**

No significant developments are likely.

Burkina Faso

• **SITUATION**

No locusts were reported during May.

• **FORECAST**

No significant developments are likely.

Chad

• **SITUATION**

No locusts were reported during May.

• **FORECAST**

The onset of summer rains could start by the end of June, followed by low numbers of adults to appear between Kanem and Fada and eventually a limited small-scale breeding. No significant developments are likely.

Libya

• **SITUATION**

During May, there was an unconfirmed report of locusts in the central area south of Sabha (2704N/1425E) close to a farm near Magedul (2555N/1506E) at the end of the month.

• **FORECAST**

No significant developments are likely.

Mali

• **SITUATION**

No locusts were reported during May.

• **FORECAST**

The onset of summer rains could start by the end of June, followed by low numbers of adults to appear in the northeast and eventually a limited small-scale breeding. No significant developments are likely.

Mauritania

• **SITUATION**

No locust reports were received in May.

• **FORECAST**

The onset of summer rains could start by the end of June, followed by low numbers of adults to appear in the south and eventually a limited small-scale breeding. No significant developments are likely.

Morocco

• **SITUATION**

During May, no locusts were seen south of the Atlas Mountains in the Draa Valley from Assa (2836N/0926W) to Zagora (3019N/0550W), the Ziz-Ghris Valley, and in the northeast near Bouarfa (3232N/0159W).

• **FORECAST**

No significant developments are likely.

Niger

• **SITUATION**

No locusts were reported during May.

• **FORECAST**

The onset of summer rains could start by the end of June in the northern Sahel, followed by low numbers of adults to appear in the central pasture areas and on the Tamesna Plains and eventually a limited small-scale breeding. No significant developments are likely.

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, Cabo Verde, Cameroon, Côte d'Ivoire, Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Nigeria, Sierra Leone, and Togo

• **FORECAST**

No significant developments are likely.

CENTRAL REGION

Locusts will decline as spring breeding has finished. There is still a risk of cyclone activity along the Gulf of Aden and Arabian Sea in June. During the summer, above-normal rain should start after mid-June in Sudan, Eritrea, and Yemen followed by the first generation of small-scale breeding.

Djibouti

• **SITUATION**

No locust reports were received in May.

• **FORECAST**

No significant developments are likely.

Egypt

• **SITUATION**

During May, second-generation late instar hoppers and groups, and some immature adults and groups continued to decline on the southeast Red Sea coast near Abu Ramad (2224N/3624E), Shalatyn (2308N/3535E), and Marsa Alam (2504N/3454E) as well as subcoastal areas west of El Sheikh El Shazly (2412N/3438E). Very few locusts were seen during the last dekad. In the southern interior, there were a few groups and bands of mid to late instar hoppers and fledgling west of the Nile Valley near Tushka (2247N/3126E) and in the Western Desert close to Baris (2448N/3035E), south of Darb Al-Arbain (2357N/3018E) and perhaps for further north towards Farafra (2710N/2818E). During the second half of the month, there were a few immature adult groups and one small maturing swarm near Tushka. Control operations treated 8 255 ha.

• **FORECAST**

Locusts will continue to decrease along the southeastern Red Sea coast, Nile Valley and Western Desert. As adults and perhaps a few small groups move south to the Nile Valley in northern Sudan, no significant developments are likely after the end of June.

Eritrea

• **SITUATION**

No locusts were reported during May.

• **FORECAST**

The onset of summer rain could start from mid-June onwards followed by low numbers of adults in the western lowland. Solitarious adults are likely to appear where a generation of small-scale breeding is expected in July. No significant developments are likely.

Ethiopia

• **SITUATION**

During May, no locusts were seen in the east from west of Dire Dawa (0935N/4150E) to Ayasha (1045N/4234E) and the Djibouti border.

• **FORECAST**

No significant developments are likely.

Oman

• **SITUATION**

During May, no locusts were seen along the Batinah coast and in the northern interior between Ibri (2314N/5630E) and

Adam (2223N/5731E).

• **FORECAST**

There is a possibility for a generation of limited breeding during the spring in the northern interior, along the Batinah coast, and perhaps the southeast near Yemen in June where there is also a risk of cyclone activity along the Arabian Sea.

Saudi Arabia

• **SITUATION**

During May, scattered and groups of fledgling and immature adults finished during the first week on the northern Red Sea coast near Umm Lajj (2501N/3716E) while isolated solitarious adults were seen further south at one place near Qunfidah on the 11th. On the eastern side of the Hijaz Mountains, a few mid-instar hopper groups were seen north of Medinah (2430N/3935E) while transiens and gregarious hoppers and immature adults were present to the east. Further east in the interior close to Hail (2731N/4141E), there were mid-instar hoppers, groups and bands seen just after mid-month. This was due to one generation of spring breeding where laying occurred in the first few days of April with hatching at mid-month. No locusts were seen on the coast near Jizan (1656N/4233E) and in the interior west and south of Gassim (2621N/4358E) as well as south of Kuwait Control operations treated 3 252 ha.

• **FORECAST**

Late instar hoppers and fledglings will continue during the first three weeks of June while immature adults will start to move south towards the interior of Yemen. Locusts will decline and no significant developments are likely.

Somalia

• **SITUATION**

During May, a few scattered mature solitarious adults were present on the northwest coast close to Silil (1058N/4326E), near the escarpment south of Berbera (1028N/4502E), and in the plateau near Burao (0931N/4533E). At the end of the month, isolated mid-instar solitarious hoppers were seen west of Burao, which means that laying occurred at the end of April. In the northeast, no locusts were seen near Las Anod (0828N/4721E) and east of Erigavo (1040N/4720E) in Puntland as well as further south near Dusa Mareb (0532N/4623E).

• **FORECAST**

The one generation of very limited spring breeding in the interior will continue during June where fledgling will occur after the second half of June. Locusts will decline and no significant developments are likely.

Sudan

• **SITUATION**

During May, a few small immature adult groups were seen on the northern Nile Valley between Dongola (1910N/3027E) and the Egyptian border during the first and third decade of the month. Control operations treated 190 ha.

• **FORECAST**

Locusts along the northern Nile Valley, as well as those from southern Egypt, will move south towards the River Nile and Northern Kordofan regions. The onset of summer rain could start from mid-June onwards between West Darfur to Kassala. Solitarious adults will appear and become mature and lay. The first generation of small-scale breeding is expected to occur with hatching and scattered solitarious hoppers in July.

Yemen

• **SITUATION**

During May, isolated and scattered mature solitarious adults were present in the eastern coast near Al Ghaydah (1612N/5210E) and the interior near Shehan (1746N/5229E), the Hadhramaut Valley near Sayun (1559N/4844E), the northern plateau south of Minwakh (1650N/4812E), and further west towards Bayhan (1452N/4545E). The situation and surveys along the Red Sea coast continue to be unknown.

• **FORECAST**

The one generation of limited spring breeding in the interior might continue during June. More rainfall is expected during July and August. As a result, adults will mature and a generation of summer breeding can occur between Al Hazm, Bayhan, Shabwah, Hadhramaut Valley and the northern plateau with laying starting during the second half of July onwards. There is also a risk of cyclone activity along the Gulf of Aden in June.

Bahrain, Democratic Republic of the Congo, Iraq, Israel, Jordan, Kenya, Kuwait, Lebanon, Palestine, Qatar, South Sudan, Syrian Arab Republic, Türkiye, Uganda, United Arab Emirates, and United Republic of Tanzania

• **FORECAST**

No significant developments are likely.

EASTERN REGION

Although surveys did not find locust in May, probably one small generation of breeding occurred in southeast Iran and southwest Pakistan during the spring. There is still a risk of cyclone activity along the Arabian Sea in June. Above-normal rains are expected in the summer breeding areas during the monsoon of the Indo-Pakistan border.

Afghanistan

• **SITUATION**

No locust reports were received in May.

• **FORECAST**

No significant developments are likely.

India

• **SITUATION**

During May, no locusts were seen in Rajasthan and Gujarat.

• **FORECAST**

Pre-monsoon rain may occur in June followed by monsoon where one generation of limited breeding will occur between

July and September in Rajasthan and Gujarat. As a result, locust numbers are not expected to increase significantly; however, this could change as the Arabian Sea may experience heightened cyclone activity in June.

Islamic Republic of Iran

• SITUATION

During May, isolated mature solitarious adults were seen at three places in the interior of Jaz Murian Basis in the southeast. No locusts were seen along the southeast coastal area near Chabahar (2517N/6036E), the southwest coast from Abadan (3021N/4817E) to Bushehr (2854N/5050E), and in the interior near Shiraz (2936N/5234E).

• FORECAST

No significant developments are likely.

Pakistan

• SITUATION

No locusts were reported during May.

• FORECAST

Pre-monsoon rain may occur in June followed by monsoon where one generation of limited breeding will occur between July and September from Tharparkar to Cholistan. As a result, locust numbers are not expected to increase significantly; however, this could change as the Arabian Sea may experience heightened cyclone activity in June.

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 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 and 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 (Android: play.google.com; iOS: appl.apple.com; how-to-use videos: tiny.cc/eL3mVideos)
- eLocust3g – a GPS app for emergencies, developed with Garmin (tiny.cc/eLocust3g)
- eLocust3w – an Internet form for emergencies, developed in Kobo (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.

[www.fao.org/ag/locusts/en/activ/2573/eL3suite/index.html]

Standard Operating Procedures (SOPs)

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

[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 (www.fao.org/ag/locusts/en/publicat/2581/index.html)
- Animation – a simple SWABO animation for all readers to learn about the world's most dangerous migratory pest (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 (locust-hub-hqfao.hub.arcgis.com/)
- FAO Hand-in-Hand (data.apps.fao.org/)

2024 calendar

- **CLCPRO.** Desert Locust Information Officer workshop, Dakar, Senegal (1–5 July)
- **CLCPRO.** Simulation exercise for the national locust emergency plans, Chad (25–29 August)

- **CRC.** Locust pesticide management system workshop, Muscat, Oman (1–5 September)
- **CLCPRO/CRC.** Survey training of dLocust drones, Mauritania (1–10 October)
- **CLCPRO.** 11th Session and 17th Executive Committee, Marrakech, Morocco (21–25 October)
- **CRC.** 33rd Session and 37th Executive Committee, Cairo, Egypt (24–28 November)

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^2
- band: 1–25 m^2

Small
- swarm: 1–10 km^2
- band: 25–2,500 m^2

Medium
- swarm: 10–100 km^2
- band: 2,500 m^2 – 10 ha

Large
- swarm: 100–500 km^2
- band: 10–50 ha

Very large
- swarm: 500+ km^2
- 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.

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 and Gulf of Aden: 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/DLIS Locust Watch. Information, maps, activities, publications, archives, FAQs, links
http://www.fao.org/locust-watch

IRI RFE. Rainfall estimates every day, dekad and month
http://iridl.ldeo.columbia.edu/maproom/.Food_Security/.Locusts/index.html

JRC Greenness maps. Dynamic maps of green vegetation evolution every dekad
https://locust.cgls.dev/s/6ddC96njJcRxZy7

Lobelia Soil moisture maps. Dynamic maps of soil moisture detected every dekad
https://fao-locust.lobelia.earth

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

NOAA. HYSPLIT locust forecast trajectory model
https://locusts.arl.noaa.gov

Ventusky. Real time rainfall, winds and temperatures for locust migration
http://www.ventusky.com

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

Zoom Earth. Real time rainfall, winds and temperatures for locust migration
https://zoom.earth

eLocust3 suite. Digital tools for data collection in the field (mobile app, web form, GPS)
http://www.fao.org/locust-watch/activities

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 Facebook. Information exchange using social media
http://www.facebook.com/faolocust

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

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

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

Desert Locust Summary
Criquet pèlerin – Situation résumée

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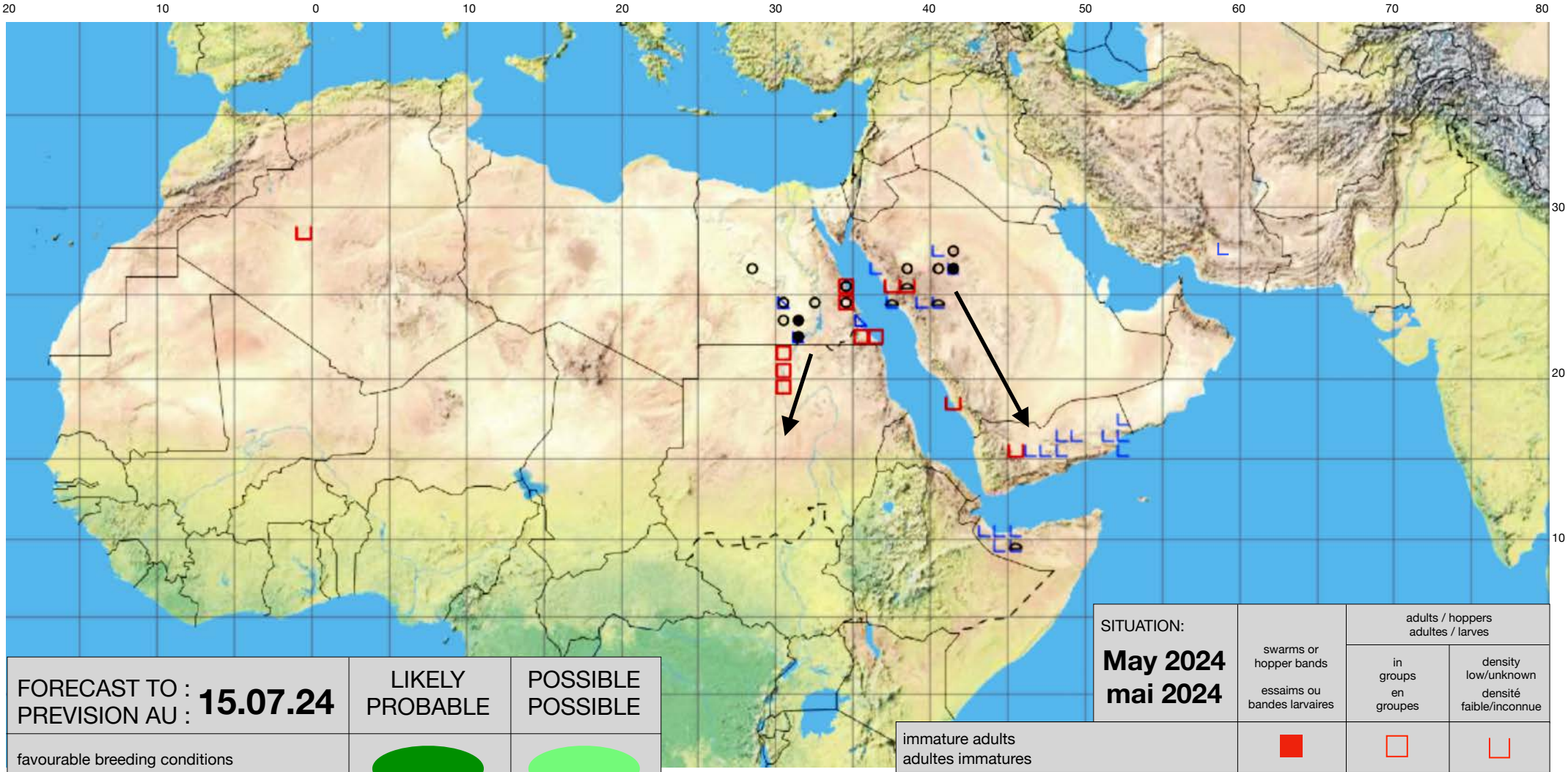

FORECAST TO : PREVISION AU : **15.07.24**	LIKELY PROBABLE	POSSIBLE POSSIBLE
favourable breeding conditions conditions favourables à la reproduction		
major swarm(s) essaim(s) important(s)		
minor swarms(s) essaim(s) limité(s)		
non swarming adults adults non essaimant		

SITUATION: **May 2024 mai 2024**	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)	◘	◙	◒