Food and Agriculture Organization of the United Nations

No. 547 2 May 2024

Desert Locust Bulletin

General situation during April 2024
Forecast until mid-June 2024

WESTERN REGION: CALM

SITUATION. No locusts are present.

FORECAST. No significant developments are likely.

CENTRAL REGION: CAUTION

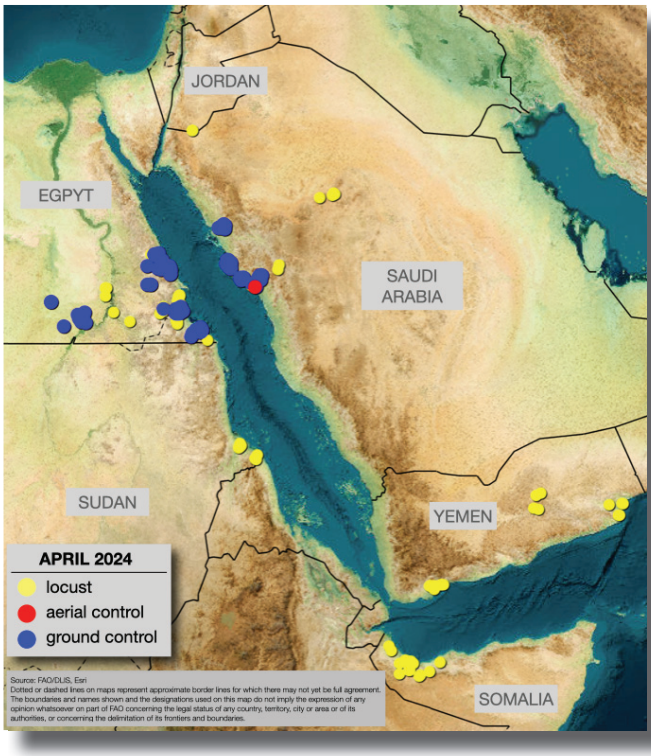
SITUATION. The second-generation hopper groups, bands, and adult groups decreased along the Red Sea coast of **Egypt** (15 441 ha treated) and **Saudi Arabia** (7 715 ha). Hatching and hopper groups occurred near the Nile Valley in southern Egypt. Scattered adults were present in a few places in the southern Red Sea coast of **Sudan**, Gulf of Aden in southern **Yemen**, northwestern **Somalia**, and the interior of Yemen, Saudi Arabia, and southern **Jordan**.

FORECAST. As a result of good rains in March and April in the Arabian Peninsula, one limited generation of spring breeding should occur in the interior and Red Sea of **Saudi Arabia**, the interior of **Yemen** and **Oman**, and perhaps parts of northern **Sudan** and the northwestern plateau of **Somalia**. There is a risk of cyclone activity along the Gulf of Aden and Arabian Sea in May and June.

EASTERN REGION: CALM

SITUATION. No locusts are present.

FORECAST. A generation of small-scale spring breeding is likely in southeast **Iran** and southwest **Pakistan** with scattered laying, hatching and hoppers. There is a risk of cyclone activity along the Arabian Sea in May and June.



OUTBREAKS DECREASED

In April, the Desert Locust outbreaks concluded in Eritrea, Somalia, and Sudan, where they had started in November, while those in Egypt and Saudi Arabia diminished due to control measures. Consequently, there was a decrease in second-generation hoppers, groups, bands, and immature adult groups along the Red Sea coast, and the vegetation dried out. Despite this, the Nile Valley in southern Egypt saw hatching, and a few adults moved to the interior of Saudi Arabia and Yemen. Strong winds and heavy rains occurred at mid-month in Oman, UAE, and the eastern Empty Quarter of Saudi Arabia. During the forecast, one generation of limited spring breeding is expected in the interior of Saudi Arabia, Yemen and Oman as well as parts of northern Sudan, northwest Somalia, southeast Iran, and southwest Pakistan. Cyclone activity poses a risk along the Gulf of Aden and the Arabian Peninsula in May and June. Weather models predict above-average rainfall in the summer, bringing favourable breeding conditions from Sudan to Indo-Pakistan border. The monsoon in India is likely to be normal this year starting in June. It is anticipated that above-average rainfall in the Western Region will be postponed until around August in the northern Sahel area from Mauritania to Chad.

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 April 2024

Good rain fell in the Arabian Peninsula and parts of southeast Iran and southwest Pakistan for the second consecutive month.

WESTERN REGION

During April, there was no rain in the northern Sahel of West Africa, throughout the Sahara, and south of the Atlas Mountains from Morocco to Tunisia. Annual vegetation continued to be dry except for a few irrigated areas in the central and southern Sahara of Algeria.

CENTRAL REGION

During April, light to moderate rain fell during a few days in the first half of the month in the interior of Saudi Arabia south of Gassim as well as the Hijaz and Asir mountains, the Red Sea coast near Lith, and the eastern coast near Qatar. Good rains fell in Yemen in the highland while heavy rain and floods occurred during the second half of the month in the interior areas of Shabwah, Hadhramaut, and Al Maharah provinces. Light to moderate rain fell in the northern part of Wadi Hadhramaut and the plateau. High winds and heavy rain started on 14 April in northern Oman, the eastern Empty Quarter on the 15th and the intensity continued during the 16th where more than 250 mm of rain fell in less than 24 hours in the UAE, which is two times its typical annual rainfall. It was the heaviest downpour since records began in 1949. Light to moderate rain fell at the end of the month along the central Red Sea coast and interior of Saudi Arabia. Annual vegetation dried out along both side of the Red Sea except for a few places in northern and southern Red Sea coast of Saudi Arabia and southeast coast of Egypt where it was still somewhat green. New vegetation appeared in the interior of Saudi Arabia near Tabuk, Hail, and southeast of Medinah as well as Yemen in the interior near Wadi Hadhramaut and the southwest coast. In the Horn of Africa, light rain fell at the beginning of April in northwest Somalia and the Somali region in the plateau of eastern Ethiopia, which continued during the last dekad were moderate rain fell on both sides of the border between Hargeisa and Jijiga. Vegetation was green along parts of the plateau in both countries.

EASTERN REGION

During April, moderate to heavy rain occurred in Iran on the 16th along the central and southeast coast and interior near Jaz Murian, followed by rain in southwest Pakistan the next day. Very little rain fell after that. Annual vegetation continued to become green in southeast Iran.

Area Treated

Control operations decreased in April to 23 156 ha compared to 40 689 ha in March.

Egypt	15 441 ha
Saudi Arabia	7 715 ha

Desert Locust Situation and Forecast

WESTERN REGION

No significant developments are expected.

Algeria

• **SITUATION**

During April, no locusts were in the central Sahara near Adrar (2753N/0017W).

• **FORECAST**

No significant developments are likely.

Burkina Faso

• **SITUATION**

No locusts were reported during April.

• **FORECAST**

No significant developments are likely.

Chad

• **SITUATION**

No locusts were reported during April.

• **FORECAST**

No significant developments are likely.

Libya

• **SITUATION**

No locusts were reported during April.

• **FORECAST**

No significant developments are likely.

Mali

• **SITUATION**

No locusts were reported during April.

• **FORECAST**

No significant developments are likely.

Mauritania

• **SITUATION**

No locust reports were received in April.

• **FORECAST**

No significant developments are likely.

Morocco

• **SITUATION**

No locusts were reported during April.

• **FORECAST**

No significant developments are likely.

Niger

• **SITUATION**

No locusts were reported during April.

• **FORECAST**

No significant developments are likely.

Senegal

• **SITUATION**

No locusts were reported during April.

• **FORECAST**

No significant developments are likely.

Tunisia

• **SITUATION**

No locusts were reported during April.

• **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

One lmited generation of spring breeding is likely in the Arabian Peninsula interior and perhaps northern Sudan and parts of the Red Sea coast of Saudi Arabia. There is a risk of cyclone activity along the Gulf of Aden and Arabian Sea in May and June. Above-normal rain and favourable breeding conditions are expected this summer in Sudan, Eritrea, and Yemen.

Djibouti

• **SITUATION**

No locust reports were received in April.

• **FORECAST**

No significant developments are likely.

Egypt

• **SITUATION**

During April, the second-generation late instar hoppers, groups, few small bands, and some immature and mature adults and groups were slowly declining on the southeast Red Sea coast from 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). A very small mature swarm was seen on the 16th west of Shalatyn and an immature swarm on the 27th southwest of Marsa Alam. In the interior near the Nile Valley, there were scattered maturing solitarious adults south of Aswan (2405N/3256E) and immature adults east of Garf Husein (2317N/3252E) and Wadi Allaqi. Further south near Tushka (2247N/3126E) and the Western Desert southeast of Darb Al-Arbain (2357N/3018E), hatching occurred in the beginning of April and hopper groups had become 4th instar at the end of the month near irrigated areas. Control operations treated 15 441 ha.

• **FORECAST**

Locusts will continue to decrease along the southeastern Red Sea coast and subcoastal areas due to control operations and drying vegetation. In the southern Nile Valley and Western Desert, hoppers will fledge in the second dekad of May and some of the immature adults and perhaps a few small groups can stay while others will move south to the Nile Valley in northern Sudan.

Eritrea

• **SITUATION**

No locusts were reported during April.

• **FORECAST**

No significant developments are likely.

Ethiopia

• **SITUATION**

During April, no locusts were seen along the Somali region from west of Dire Dawa (0935N/4150E) to Ayasha (1045N/4234E) near the Djibouti border and east of Jijiga (0922N/4250E) near the northwestern Somalia border.

• **FORECAST**

There is a slight possibility of a few locusts appearing along the plateau of the Somali region between Dire Dawa east to the Somalia border, where small-scale breeding could occur in May.

Jordan

• **SITUATION**

On 8 April, scattered mature gregarious adults arrived in the afternoon near irrigated areas in the far southwest close to Al Mudawwara (2920N/3602E) and the Saudi Arabia border.

• **FORECAST**

No significant developments are likely.

Oman

• **SITUATION**

During April, no locusts were seen in a few places along the Musandam Peninsula, Batinah coast, and the northern interior between Buraimi (2415N/5547E) 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 where scattered laying, hatching, and hoppers could occur in May. There is also a risk of cyclone activity along the Arabian Sea in May and June.

Saudi Arabia

• **SITUATION**

During April, a few very small first and second instar bands were seen the first week near the foothills of the northern Red Sea coast southeast of Al Wajh (2615N/3627E) while 5th instar groups were seen at mid-month nearby. Further south, very small 5th instar groups and bands decreased near Umm Lajj (2501N/3716E) as well as scattered immature adults there and south towards Yenbo (2405N/3802E). By the end of the month, only a few fledgling and immature adults and groups were seen south of Umm Lajj. In the Hijaz Mountains, scattered immature solitarious adults were seen west of Medinah (2430N/3935E) at mid-month. In the interior, scattered mature solitarious adults were present in a few areas west of Hail (2731N/4141E). No locusts were seen on the coast near Mecca (2125N/3949E) and Jizan (1656N/4233E), and in the interior near Tabuk (2823N/3635E) and Gassim (2621N/4358E). Control operations treated 7 715 ha of which 1 000 were by air.

• **FORECAST**

The good rains that fell in March and a few in early April perhaps could have allowed one limited generation of spring breeding to start with hatching and hoppers about mid-April through May in a few places in the interior south of Hail and perhaps areas of the Red Sea coastal areas.

Somalia

• **SITUATION**

During April, a few isolated immature and mature solitarious adults were present on the northwest coast and escarpment between Silil (1058N/4326E) and Berbera (1028N/4502E) during the end of the month. No locusts were seen on the plateau of Somaliland, Garowe (0824N/4829E) and east of Erigavo (1040N/4720E) in Puntland, and further south near Galkayo (0646N/4725E).

• **FORECAST**

There is a possibility for a generation of limited breeding during the spring along the northwest plateau, where scattered laying, hatching, and hoppers could occur in May.

Sudan

• **SITUATION**

During April, a few scattered mature solitarious adults were present on the Red Sea coast near Tokar (1827N/3741E) in the first week and at mid-month further south from Aiterba (1753N/3819E) to Karora (1745N/3820E).

• **FORECAST**

Locusts will decrease and finish along the Red Sea coast and subcoastal area in May. Limited spring breeding is likely near irrigated areas on the northern Nile Valley from Atbara to the border of Egypt, where laying, hatching, and hoppers can occur. Scattered adults and perhaps a few groups from southern Egypt could also arrive near the Nile Valley.

Yemen

• **SITUATION**

During April, isolated immature and mature solitarious adults were present along the southern coastal area near Aden (1250N/4503E) in the southwest and near Al Ghaydah (1612N/5210E) in the southeast as well as the Hadhramaut Valley in the interior near Sayun (1559N/4844E) and further north along the plateau. The situation and surveys along the Red Sea coast continue to be unknown.

• **FORECAST**

One generation of limited spring breeding will occur in the interior between Bayhan, Al Hazm, Shabwah to Hadhramaut Valley and the northern plateau near Thamud and the Empty Quarter. As a result, scattered laying, hatching, and hoppers will occur in May and June. There is also a risk of cyclone activity along the Gulf of Aden.

Bahrain, Democratic Republic of the Congo, Iraq, Israel, 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

During the spring, one generation of small-scale breeding is likely in southeast Iran and southwest Pakistan. There is a risk of cyclone activity along the Arabian Sea. 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 April.

• **FORECAST**

No significant developments are likely.

India

• **SITUATION**

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

• **FORECAST**

May and June might see a rise in cyclone activity along the Arabian Sea.

Islamic Republic of Iran

• **SITUATION**

During April, no locusts were seen in a few places along the southeast coast west and east of Jask (2540N/5746E) and in the interior near the Jaz Murian Basis and east of Iranshahr (2712N/6042E) as well in the central interior near Shiraz (2936N/5234E) and on the southwest coast near Abadan (3021N/4817E) and Iraq border.

• **FORECAST**

One generation of limited spring breeding is likely to occur along the southeast coast and interior areas with scattered

laying, hatching, and hoppers during May. There is also a risk of cyclone activity along the Arabian Sea.

Pakistan

• **SITUATION**

No locust were reported during April.

• **FORECAST**

One generation of limited spring breeding is likely to occur along the coast and interior areas of Baluchistan with scattered laying, hatching, and hoppers during May and June. There is also a risk of cyclone activity along the Arabian Sea.

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)
- **CLCPRO.** Survey training of dLocust drones, Mauritania (23 September – 4 October)
- **CLCPRO.** 11th session and 17th Executive Committee, Marrakech, Morocco (21–25 October)

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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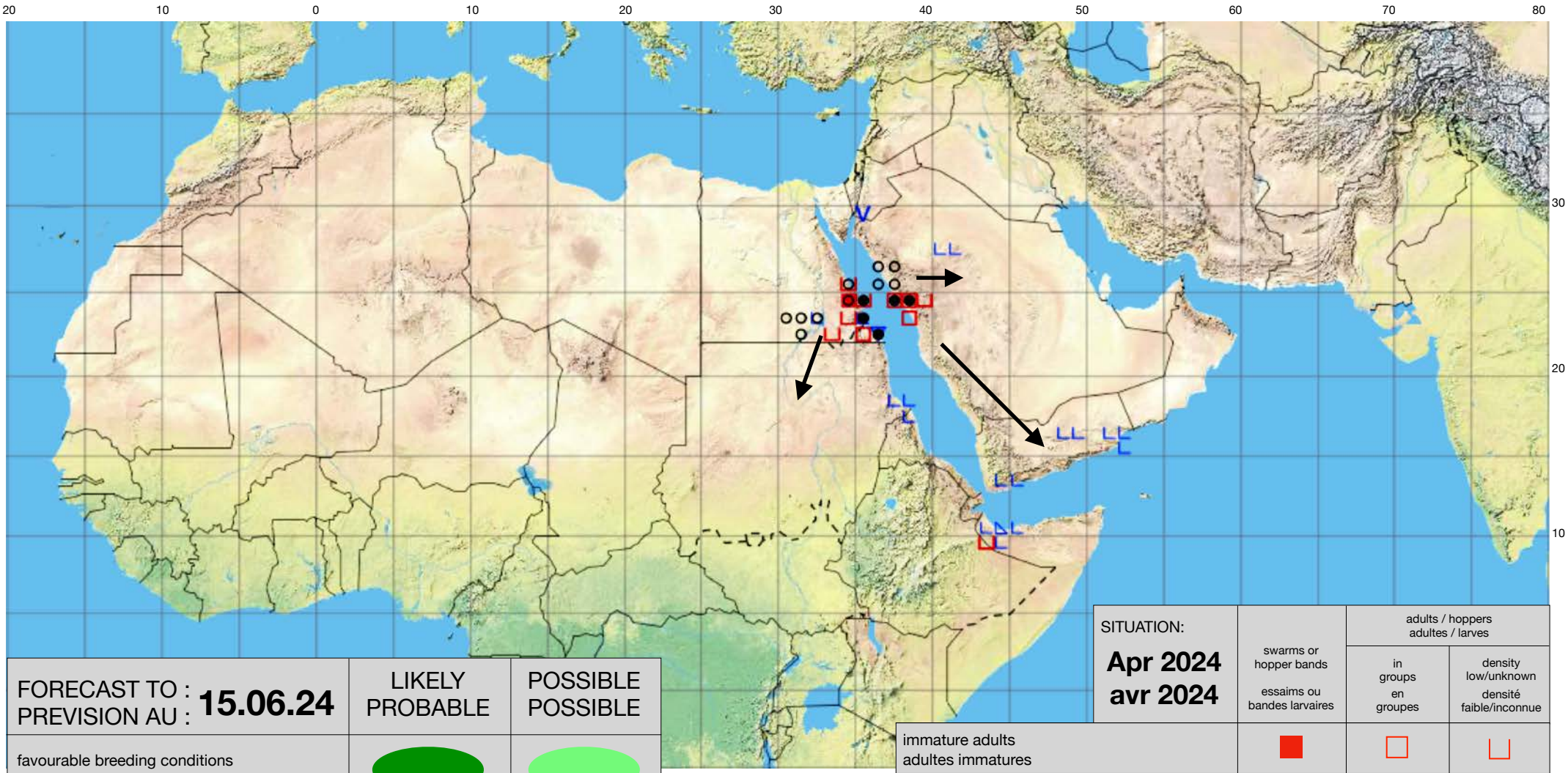

FORECAST TO : PREVISION AU : **15.06.24**	LIKELY PROBABLE	POSSIBLE POSSIBLE
favourable breeding conditions conditions favourables à la reproduction		
major swarm(s) essaim(s) important(s)		
minor swarms(s) essaim(s) limité(s)		
non swarming adults adults non essaimant		

SITUATION: **Apr 2024 avr 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)	●	○	⌓