

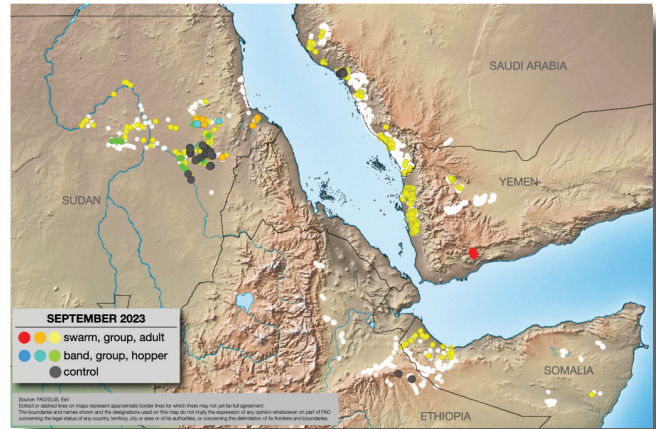
Desert Locust Bulletin

General situation during September 2023 Forecast until mid-November 2023

WESTERN REGION: CALM

SITUATION. Mainly isolated mature solitary adults in the northern Sahel of **Mauritania**, especially in the west and northwest, **Niger**, and **Chad** as well as northeast **Morocco**. Some hoppers in Mauritania and Chad.

FORECAST. Above-normal rainfall is expected in October and parts of November. Consequently, locusts should increase with small-scale breeding in northwest **Mauritania**, northeast **Mali**, and **Niger**. Locusts will decline in **Chad** once vegetation dries out in November. Low numbers of adults may appear in southern **Western Sahara** and perhaps breed. Some locusts may be in southern Sahara of **Algeria**.



CENTRAL REGION: CALM

SITUATION. Some hopper groups, small bands and groups and swarms in the interior of eastern **Sudan** (1 477 ha treated). A small immature swarm in eastern **Ethiopia** (286 ha). In **Yemen**, immature adults, and a swarm in the interior while more locusts appeared in the Red Sea coast. A few groups of hoppers and adults in the Red Sea coast of **Saudi Arabia** (105 ha) and the eastern coast of **Oman** (60 ha). Isolated adults in northwest **Somalia** and the southeastern Red Sea coast of **Egypt**.

FORECAST. Locusts from the interior of **Sudan** and **Yemen** will continue to move to the Red Sea coast in October and November where above-normal rains are expected there as well as in **Saudi Arabia**. Small-scale breeding could also occur in parts of the Red Sea coast in southeastern **Egypt** and **Eritrea** as well as the Gulf of Aden in southern Yemen and northwest **Somalia**.

SUMMER BREEDING

The Desert Locust situation was calm during September. Summer breeding occurred in Sudan, Saudi Arabia, Oman, Mauritania, and Chad. A few small groups, bands and swarms occurred in the interior of Sudan, a couple of swarms in Yemen and Ethiopia, and some control in Sudan, Saudi Arabia, Ethiopia, and Oman. Isolated adults were in Niger, Morocco, Egypt, Somalia, and Pakistan. The southwest monsoon withdrew in Indo-Pakistan, and the summer seasons ended because of deficient rainfall. During the forecast, this year's summer season is expected to continue longer than usual in a few places of the northern Sahel near northwest Mauritania, Mali, Niger, and Sudan due to above-normal rains predicted in October and November. During the winter season, locusts from the interior of Sudan and Yemen will move to the Red Sea coast where above-normal rains are anticipated during the last dekad of October. As a result, the first generation of breeding will start, especially in Sudan where there may be groups of hoppers and adults, as well as in Saudi Arabia, Yemen and northwest Somalia, and continue until about March.

EASTERN REGION: CALM

SITUATION. Low numbers of adults in Cholistan desert of **Pakistan**.

FORECAST. 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 September 2023

Good rains fell in the northern Sahel Mauritania to Eritrea as well as part of the Red Sea coast in Yemen and Saudi Arabia.

WESTERN REGION

During September, the position of the seasonal movement of the Inter-Tropical Convergence Zone (ITCZ) during the first dekad was further north than normal from Mauritania to Chad up to 170 km. Although the ITCZ began its seasonal retreat southwards during the second dekad, it still remained north than normal up to some 230 km in some places. Good rains fell during the first two dekad throughout the north Sahel as well as in the southwestern Sahara. However, during the third dekad, only rain fell in southern areas of Mauritania and Niger but continued in parts of the Air Mountains in Niger and in northeast Chad. In Algeria, some rains fell during the first dekad in parts of central and southern Sahara and in the third dekad in the Hoggar Mountain. In Morocco, good rains fell during the second dekad in the northeast. Vegetation remained green in the north Sahel from Mauritania to Chad but started to dry out during the last week of the month in some places.

CENTRAL REGION

During September, the position of the seasonal movement of the Inter-Tropical Convergence Zone (ITCZ) in Sudan was about 125 km further north than normal during the first dekad. This continued during the second dekad in which it was some 220 km further north than normal in West Darfur and about 110 km further north in the Nile Valley. After that, the ITCZ began its seasonal retreat southwards. Good rains fell from West Darfur in Sudan to the western lowlands of Eritrea throughout most of the month, including the Nile Valley to the Red Sea Hills during the first two dekad. In Ethiopia, light rain fell at times in the Rift Valley as well as the lowland areas in the Afar and the plateau of the northern Somali regions, southern Djibouti, and northwest Somaliland. In the Arabian Peninsula, light to moderate rains fell on the Red Sea coast in Yemen and parts of the southern and central coast in Saudi Arabia. Annual vegetation continued to remain green in Sudan and the Red Sea coast of Yemen as well as parts of Ethiopia and the southeastern Red Sea coast of Egypt. In Saudi Arabia, vegetation was green near Lith and Jizan in the central and southern coast of the Red Sea but was dry in the other areas as well as Oman.

EASTERN REGION

Light rains fell during the second dekad of September in a few places along both sides of the Indo-Pakistan summer breeding area. On the 25th of September, the withdrawal of the southwest monsoon started in west Rajasthan, India close to Jaisalmer which was one week later than normal this year. As a result, vegetation started to dry out in both countries during the last week as the summer season was coming to an end.



Area Treated

Control operations increased in September to 1 928 ha compared to 1 590 ha in August.

Eritrea	0 ha (revised, August)
Ethiopia	286 ha
India	836 ha (revised, August)
Oman	60 ha
Saudi Arabia	105 ha
Sudan	1 477 ha



Desert Locust Situation and Forecast

WESTERN REGION

According to the subseasonal models, above-normal rains are expected to continue in most of the northern Sahel in October and parts of November. As a result, small solitarious breeding with hatching, hoppers and fledglings will continue longer than normal this season, probably until the end of November.

ALGERIA

• SITUATION

During September, no locusts were seen in the central Sahara from Adrar (2753N/0017W) to Reggane (2643N/0010E) and in the south near Bordj Badji Mokhtar (2119N/0057E) and the border of Mali.

• FORECAST

Low numbers of adults may be present in a few areas of the southern Sahara near Tamanrasset and along the border of Mali and Niger.

BURKINA FASO

• SITUATION

No locusts were reported during September.

• FORECAST

No significant developments are likely.

CHAD

• SITUATION

During September, immature solitarious adults were present in the west near Nokou (1435N/1446E) and Ziguey (1443N/1547E) in Kanem, in the northwest of Batha, and in the northeast between Kalait (1550N/2054E) and Fada (1714N/2132E) while mature solitarious adults were seen in Wadi Fira near Arada (1501N/2040E) and south of Amdjarass (1604N/2250E). Isolated mid-late instar hoppers were present near Ziguey and in the Fada area where laying commenced in early August, hatching started at mid-month and fledging began during the last dekad of September. No locusts were seen in the Bahr El Ghazal region.

- forecast

Low numbers of solitary hoppers and fledglings will continue during October in the northern Sahel, especially in the northeast. After that, vegetation will become dry and locust adults will decline.

LIBYA

- SITUATION

No locusts were reported during September.

- FORECAST

No significant developments are likely.

MALI

- SITUATION

No locusts were reported during September.

- FORECAST

Rain is likely to persist in October and November in the northern Sahel between Timetrine, Tilemsi Valley, Adrar des Iforas, and Tamesna where low numbers of locusts will continue with perhaps a small second generation of breeding.

MAURITANIA

- SITUATION

During September, mainly isolated and some scattered mature solitary adults moved from the southeast of Hodh Ech Chargui to the southwest near Magta Lahjar (1730N/1305W), Rkiz (1658N/1514W) and Aguilal Faye (1827N/1444W) of Trarza and northwest near Akjoujt (1945N/1421W) and Atar (2032N/1308W) of Inchiri and Adrar. The mature solitary adults in the central area continued from Kiffa (1638N/1124W) to Tidjikja (1833N/1126W). A few isolated first and second solitary hoppers were seen south of Tidjikja during the last dekad where copulating took place during the first dekad with hatching after mid-month. Isolated copulating solitary adults were seen during the last dekad at one place west of Aguilal Faye.

- FORECAST

Locusts should decrease in the southern areas but are likely to increase in the northwest where small-scale breeding is expected from above-normal rains in October and November in Inchiri and southwest Adrar.

MOROCCO

- SITUATION

During September, isolated immature and mature solitary adults were seen in a few places in the northeast near Bouarfa (3232N/0159W). No locusts were seen in the southern Western Sahara.

- FORECAST

Low numbers of adults might appear in the southern Western Sahara and perhaps eventually breed on a small scale.

NIGER

- SITUATION

During September, isolated immature solitary adults were seen on the Tamesna Plains near In Abangharit (1754N/0559E) where a few were getting mature.

- FORECAST

Rain is likely to persist in October and November on the Tamesna Plains in the northern Sahel where low numbers of locusts will continue with perhaps a small second generation of breeding.

SENEGAL

- SITUATION

No locusts were reported during September.

- FORECAST

No significant developments are likely.

TUNISIA

- SITUATION

No locusts were reported during September.

- 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

Locusts from the interior of Sudan and Yemen will move to the Red Sea coast where above-normal rains are expected to start during the last dekad of October. The first generation of the winter breeding will occur and continue until about March.

DJIBOUTI

- SITUATION

No locust reports were received in September.

- FORECAST

No significant developments are likely.

EGYPT

- SITUATION

During September, a few isolated immature solitary adults were seen in the subcoastal area of the southeastern coast west of Abu Ramad (2224N/3624E) and south of El Sheikh El Shazly (2412N/3438E). No locusts were seen in the southern Nile Valley near Tushka (2247N/3126E), Sh. Oweinat (2219N/2845E), the Western Desert near Abu Mingar (2630N/2740E), the northwest near Siwa (2912N/2531E), and the coast near Salum (3131N/2509E).

- FORECAST

Low numbers of adults on the Red Sea coast in the southeast will continue as the winter season should start in early

November with rainfall and small-scale breeding.

ERITREA

• SITUATION

During August, the data was revised and there were no surveys or treatments done in the northern highlands that month.

No locusts were reported during September.

• FORECAST

Any locusts in the western lowland will decline. In the eastern lowlands, low numbers of locusts may appear on the Red Sea coast where rainfall and small-scale winter breeding could start in early November.

ETHIOPIA

• SITUATION

During September, a small immature swarm was seen in the plateau east of Jijiga (0922N/4250E) in the Somali region during the first two days of the month. Control operations treated 286 ha of which 180 ha were by air. No locusts were seen else in Dire Dawa (0935N/4150E), Ayasha (1045N/4234E), the Rift Valley and the lowland areas in the Afar region near Chifra (1136N/4001E), and in the escarpment near Mekele (1329N/3928E) in Tigray during the first half of the month.

• FORECAST

There is a low possibility that a few small groups of immature adults from the northern Somali region will migrate into northwest Somalia.

OMAN

• SITUATION

During September, a few small groups of mid-late instar hoppers were present on the eastern coast about 100 km south of Ras Al Hadd (2230N/5947) and 60 ha were treated. A few scattered mature solitary adults were seen in the northern interior near Adam (2223N/5731E). No locusts were seen in the Musandam Peninsula, north along the Batinah coast, and in the interior from Buraimi (2415N/5547E) to Nizwa (2255N/5731E).

• FORECAST

Adults will decrease and no significant developments are likely.

SAUDI ARABIA

• SITUATION

During September, scattered immature and mature solitary adults were present along parts of the central coast of the Red Sea coast from Jeddah (2130N/3910E) to Jizan (1656N/4233E). A few small groups of mid-late instar gregarious hoppers were seen near Lith (2008N/4016E) and control operations treated 105 ha. This suggested that one generation of breeding took place in the summer this year where rain and small-scale laying occurred near the foothills and coast during the third week in August. No locusts were seen in the southwest interior near Najran (1729N/4408E).

• FORECAST

Rainfall is expected to occur on the Red Sea coast where small-scale winter breeding should start about the end of

October and locusts should increase, including some migration from Yemen.

SOMALIA

• SITUATION

During September, isolated mature solitary adults were present in the Somaliland northwest on the plateau near Boroma (0956N/4313E), in the escarpment, and near the coast near Siliil (1058N/4326E) as well as further east as isolated immature solitary adults near Bulhar (1023N/4425E) and the escarpment. In the northeast in Puntland, no locusts were seen except for isolated immature solitary adults in one place south of Gardo (0930N/4905E).

• FORECAST

Low numbers of solitary adults will persist in parts of the northwest where small-scale winter breeding will start early this year in the coastal areas about the end of October.

SUDAN

• SITUATION

During September, late instar hopper groups, small bands, and a few immature adult groups and swarms were present in the summer season from east of Atbara River to the Red Sea Hills between Derudeb (1731N/3607E) and Haiya (1820N/3621E). Scattered hoppers and immature and mature solitary adults were seen west of the Nile Valley in the Bayuda Desert, Karima (1832N/3148E) and Abu Hamed (1932N/3320E). Along the Red Sea coast, some scattered mature solitary adults and groups were seen near Tokar. A few scattered adults and groups were observed near Derudeb and Tokar. Control operations treated 1 477 ha.

• FORECAST

Summer seasons will finish in the interior during October and November as locusts move to the Red Sea coast where winter breeding will start during the second half of October. The laying and hatching of the first generation will cause locusts, including some groups, to increase in November.

YEMEN

• SITUATION

During September, immature adults were seen in the interior during the first dekad in Al Hazm (1610N/4446E) while an immature swarm was observed in the southern highland on the 7th and 30th north of Zinjibar (1306N/4523E). On the Red Sea coast, more scattered immature and mature solitary adults appeared from Zabid (1410N/4318E) in the central to Suq Abs (1600N/4312E) in the north. No locusts were seen in the highland east of Sana'a (1521N/4412E) and in the interior near Marib (1527N/4519E).

• FORECAST

Adults and a few small immature swarms will migrate from the interior and the highlands to the Red Sea coastal area. As rains are expected at the end of October on the coast, the laying and hatching of the first generation will start in November and locusts will increase.

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

The withdrawal of the southwest monsoon started one week later on 25 September. Consequently, the summer season has finished. During the spring breeding, seasonal models suggest slightly wetter rains may start in southeast Iran and southwest Pakistan in February.

AFGHANISTAN

• SITUATION

No locust reports were received in September.

• FORECAST

No significant developments are likely.

INDIA

• SITUATION

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

• FORECAST

No significant developments are likely.

IRAN

• SITUATION

During September, no locusts were seen in the interior of the southeast near the coast and the Jaz Murian Basis, the interior of the Fars region, and the southwest coast.

• FORECAST

No significant developments are likely.

PAKISTAN

• SITUATION

During September, isolated mature solitarious adults were present in the Cholistan desert northeast of Islamgarh (2751N/7048E). No locusts were seen in Nara and Tharparkar deserts.

• 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 and 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 (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 in the field on 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/)

2023 calendar

- **CLCPRO/CRC.** Interregional training course on aerial control application of Desert Locust, Agadir, Morocco (30 October – 3 November)
- **CLCPRO.** Training on the use of SVDN version 3 and monitoring/evaluation system, Bamako, Mali (27 November – 1 December)
- **CLCPRO.** 16th session of the Executive Committee, Nouakchott, Mauritania (4–8 December)
- **SWAC.** 33rd session, Rome (18–20 December)
- **SWAC.** Desert Locust Information Officer workshop, Rome (21–22 December)



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 km²
- band: 1–25 m²

Small

- swarm: 1–10 km²
- band: 25–2,500 m²

Medium

- swarm: 10–100 km²
- band: 2,500 m² – 10 ha

Large

- swarm: 100–500 km²
- band: 10–50 ha

Very large

- swarm: 500+ km²
- 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, Sierra 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

IRI Greenness maps. Dynamic maps of green vegetation evolution every decade
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>

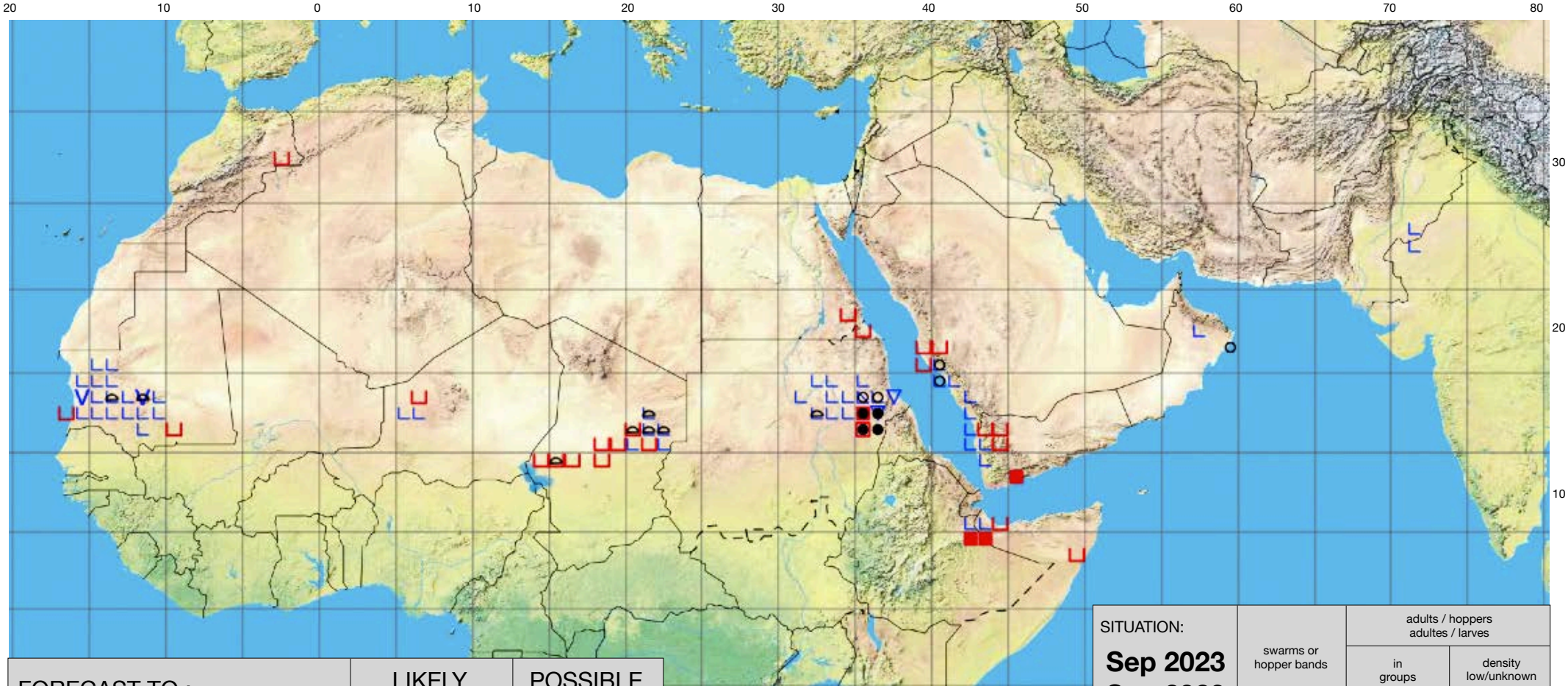
FAOLocust Slideshare. Locust presentations and photos
<http://www.slideshare.net/faolocust>

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



Desert Locust Summary

Criquet pèlerin – Situation résumée



FORECAST TO : PREVISION AU :	LIKELY PROBABLE	POSSIBLE POSSIBLE
15.11.23		
favourable breeding conditions conditions favorables à la reproduction		
major swarm(s) essaim(s) important(s)		
minor swarms(s) essaim(s) limité(s)		
non swarming adults adults non essaimant		

SITUATION: Sep 2023 Sep 2023	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)			