

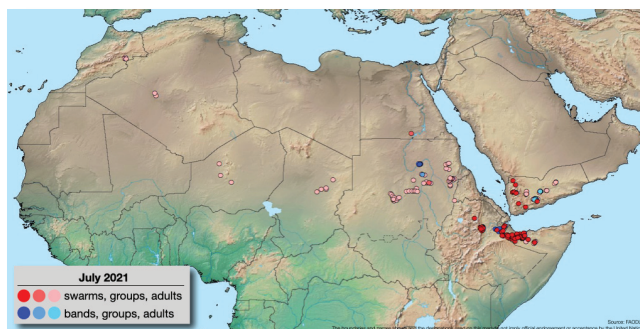


Desert Locust Bulletin

General situation during July 2021
Forecast until mid-September 2021

WESTERN REGION: CALM

SITUATION. Scattered adults in **Morocco** (30 ha treated); isolated adults in central **Algeria** and **Niger**.
FORECAST. Small-scale breeding in the northern Sahel of **Mauritania**, **Mali**, **Niger**, and **Chad**.



CENTRAL REGION: THREAT

SITUATION. Control declines against last remaining hopper bands and immature swarms in northwest **Somalia** (27 162 ha treated), eastern **Ethiopia** (3 788 ha) and southeast **Djibouti** (55 ha); limited movement of swarms to northeast Ethiopia where rains allowed maturation, but few swarms seen. A few immature swarms in **Yemen** highlands move to interior where small-scale breeding is in progress. Bands and adult groups form from local breeding in northern Nile Valley of **Sudan** (525 ha). Immature adult group in southern **Egypt** (50 ha).

FORECAST. Laying, hatching, and band formation expected in northeast **Ethiopia** and southern **Djibouti**. A few immature swarms likely to persist in northwest **Somalia**. Scattered small-scale breeding in **Sudan** and western **Eritrea**. Breeding expected to increase in **Yemen** interior with possibility of small bands forming.

Summer breeding imminent in NE Ethiopia & elsewhere

Spring breeding has ended in eastern Ethiopia and northwest Somalia where control operations continue to decline as they reduce the number and size of the spring-bred immature swarms. As anticipated, at least several swarms migrated to northeast Ethiopia where above-average rains since mid-July allowed them to mature and probably lay eggs in the Afar Region and southern Djibouti. Although this could not be confirmed and very few swarms have been seen recently due to difficulties in accessing the breeding areas, hatching and hopper band formation should be expected from early August onwards that could give rise to new swarms after late September. A few swarms may have also continued to the highlands in northern Ethiopia where they could reappear in adjacent areas of Sudan and Eritrea for breeding. In Yemen, a few swarms moved through the highlands and at least one swarm reached the interior where good rains that fell during July will allow at least one generation of summer breeding and the formation of small hopper bands. So far, local breeding is already in progress. Widespread, good rains also fell throughout the summer breeding areas in the northern Sahel between Mauritania and western Eritrea as well as along the Indo-Pakistan border. As few locust infestations are present in these areas, breeding will be on a small scale and locust numbers will only increase slightly.

EASTERN REGION: CALM

SITUATION. No locusts present.

FORECAST. Small-scale breeding along both sides of the **Indo-Pakistan** border.

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 July 2021

Good rains fell throughout the summer breeding areas where conditions are improving. Above-normal rains in northeast Ethiopia.

WESTERN REGION

In the Sahel of West Africa, the Inter-Tropical Convergence Zone (ITCZ) continued its seasonal movement northwards during July, reaching some 225 km further north than usual over northern Chad, north of Faya, in the second decade. During the first decade, light to moderate rains fell in northeast Mali (Adrar des Iforas, Tamesna), northern Niger (Tamesna), and northeast Chad while light rains fell in southeast Mauritania. During the remainder of the month, rainfall increased in these areas and moderate to heavy rains fell throughout the northern Sahel of Chad and in southern Tamesna of Mali and Niger. Rainfall was less widespread in Mauritania where moderate rains fell near Tidjikja and Aioun El Atrous, and light rains occurred near Kiffa and Nema. In southern Algeria, light to moderate rains fell near Tamanrasset and along the Mali border near Timeiaouine. Consequently, annual vegetation was becoming green and breeding conditions were improving in southern Tamesna of Mali and Niger, the central pasture areas in Niger, central and eastern Chad (southern Bahr el Gazel, southern Batha, Wadi Fira), and on a limited basis in southeast Mauritania near Timbedra.

CENTRAL REGION

In the Horn of Africa, above-normal rains fell in the Afar region of northeast Ethiopia, extending to the railway area north of Dire Dawa, Djibouti, northwest Somalia, and southern Eritrea. Annual vegetation was becoming green and breeding conditions were improving in southern Afar while green vegetation persisted on the plateau in northwest Somalia where temperatures declined, and strong winds prevailed. In the Arabian Peninsula, light to moderate rains fell along the Red Sea coast of Yemen during the first decade. Widespread moderate rains fell during the second decade throughout southern Saudi Arabia and the interior and Gulf of Aden coast of Yemen. Rainfall declined during the third decade but remained heavy in Yemen and southwest Saudi Arabia. Breeding conditions remain favourable in the interior of Yemen and may improve on the Red Sea coast near Jizan, Saudi Arabia and further south. In Sudan, the Inter-Tropical Convergence Zone (ITCZ) continued its seasonal movement northwards over the summer breeding areas of the interior, reaching north of Karima in the northern Nile Valley, some 250 km further north than usual, during the second decade. During the first decade, moderate rains fell in Darfur and light rains fell in southern North Kordofan. Rains improved during the second

decade when moderate to heavy rains fell throughout North Kordofan and White Nile as well as the Bayuda Desert. Lighter rains continued during the third decade, extending to the Red Sea Hills south of Haiya. Good rains fell throughout the western lowlands in Eritrea. Consequently, annual vegetation was becoming green and breeding conditions improved in Darfur (west of El Fasher), in North Kordofan (central areas), north of Kassala, and in the western lowlands of Eritrea north of Teseney.

EASTERN REGION

The monsoon reached the western edge of the Indo-Pakistan summer breeding area on 13 July, which is about one week later than normal. During the third week, moderate rains fell in Rajasthan and adjacent areas of Tharparkar, Nara and Cholistan, and heavier rains fell near Jaisalmer, India and Nagarparkar, Pakistan. Rains were lighter during the last week of the month. So far, the cumulative rainfall total is normal in Rajasthan but below normal in Gujarat. As a result, annual vegetation was becoming green and breeding conditions were improving in most areas.



Area Treated

Control operations declined in July to 31 610 ha compared to 89 722 ha in June.

Djibouti	55 ha
Egypt	50 ha
Ethiopia	3 788 ha
Morocco	30 ha
Somalia	27 162 ha
Sudan	525 ha



Desert Locust Situation and Forecast

WESTERN REGION

MAURITANIA

• SITUATION

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

• FORECAST

Small-scale breeding will cause locust numbers to increase slightly in areas of rainfall in the south and southeast.

MALI

• SITUATION

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

• **FORECAST**

Small-scale breeding will cause locust numbers to increase slightly in areas of rainfall in the Adrar des Iforas, Tilemsi Valley, Timetrine and Tamesna.

NIGER

• **SITUATION**

During the last week of July, isolated mature solitary adults were seen at two places on the western edge of the Air Mountains between Agadez (1658N/0759E) and Arlit (1843N/0721E). Isolated immature adults were seen at one location southeast of the Air Mountains.

• **FORECAST**

Small-scale breeding will cause locust numbers to increase slightly in areas of rainfall in the central pasture areas and on the Tamesna Plains.

CHAD

• **SITUATION**

During the last decade of July, isolated mature solitary adults were seen at a few places near Kalait (1550N/2054E) in the east. No locusts were seen in central and northeastern areas between Moussoro (1338N/1629E) and Fada (1714N/2132E).

• **FORECAST**

Small-scale breeding will cause locust numbers to increase slightly in central, eastern and northeastern areas.

SENEGAL

• **SITUATION**

No locusts were reported during July.

• **FORECAST**

No significant developments are likely.

BENIN, BURKINA FASO, CAMEROON, CAPE VERDE, CÔTE D'IVOIRE, GAMBIA, GHANA, GUINEA, GUINEA BISSAU, LIBERIA, NIGERIA, SIERRA LEONE, AND TOGO

• **FORECAST**

No significant developments are likely.

ALGERIA

• **SITUATION**

During July, low numbers of immature and mature solitary adults were present near irrigated perimeters in the Adrar Valley (2753N/0017W) of the central Sahara.

• **FORECAST**

Scattered adults may remain in the Adrar Valley where limited breeding could occur on the edges of irrigated fields. Small-scale may occur in areas of recent rainfall in the extreme south near Tamanrasset and borders of Mali and Niger.

MOROCCO

• **SITUATION**

During 1–4 July, mature solitary adults seen at densities

up to 800 adults/ha in irrigated palm farms east of Errachidia (3154N/0425W) along the southern side of the Atlas Mountains. Ground teams treated 30 ha.

• **FORECAST**

No significant developments are likely.

LIBYA

• **SITUATION**

No locusts were reported during July.

• **FORECAST**

No significant developments are likely.

TUNISIA

• **SITUATION**

No reports were received during July.

• **FORECAST**

No significant developments are likely.

CENTRAL REGION

SUDAN

• **SITUATION**

During July, local breeding occurred in the northern Nile Valley near Karima (1832N/3148E) where a few second to fifth instar hopper bands and groups of hoppers and immature and mature adults formed in the second week. Mature solitary adults were scattered throughout North Kordofan from Sodiri (1423N/2906E) to Khartoum Province, the Bayuda Desert, in the Nile Valley near Shendi (1641N/3322E), and along the western side of the Red Sea Hills from Kassala (1527N/3623E) and to north of Haiya (1820N/3621E). At the end of the month, an immature adult group was seen near Shendi. Ground teams treated 525 ha.

• **FORECAST**

Fledging will continue in the northern Nile Valley until about mid-August and few small adult groups could form. Small-scale breeding will cause locust numbers to increase within a large area between North Darfur and the Red Sea Hills.

ERITREA

• **SITUATION**

On 30 July, isolated mature solitary adults were seen at one place in the southern part of the western lowlands about 10 km north of the Ethiopia border.

• **FORECAST**

Small-scale breeding will cause locust numbers to increase slightly in areas of rainfall in the western lowlands. A few small swarms from adjacent areas of northeast Ethiopia may appear in recent areas of rainfall on the southern coast.

ETHIOPIA

• **SITUATION**

During July, a few fifth instar hopper bands remained west of Ayasha (1045N/4234E) and south of Djibouti on the 1st. Several small immature swarms traversed west across the northern Rift Valley and began appearing along the

eastern escarpment of the Amhara Highlands on the 1st near Kombolcha (1105N/3944E) and continued to mid-month. Most of the swarms were concentrated in the foothills within an area of about 70 x 50 km and some had matured. One immature swarm was seen on the 1st in the Amhara Highlands about 150 km northwest of Kombolcha in North Wollo zone and near Ayasha on the 12th. There were also unconfirmed reports of a few swarms in southeast Tigray and near Gonder in northwest Amhara. Control operations treated 3 788 ha of which 3 538 ha were by air. No operations were conducted after 16 July.

• **FORECAST**

Swarm breeding is expected to occur on a small scale in Afar and west of the railway area south of Djibouti. Hatching and the formation of small hopper bands is likely to commence in early August and continue during September. There is a lower risk of limited breeding occurring in parts of the highlands in Amhara and Tigray.

DJIBOUTI

• **SITUATION**

During the first week of July, a few small hopper bands were present in the southwest near As-Eyla (1100N/4206E) and to the east of Grand Barra in the hills north of Ali Sabieh (1109N/4242E) where breeding took place in June. There were also a few reports of immature swarms north of Ali Sabieh, probably from local breeding and adjacent areas of northwest Somalia. Ground teams treated 55 ha. No surveys were conducted after the first week of July.

• **FORECAST**

Small-scale breeding may occur in areas of recent rainfall in the south that could lead to hatching and hopper band formation from early August onwards.

SOMALIA

• **SITUATION**

During July, a few late instar hopper bands persisted in the northwest (Somaliland) on the escarpment between Hargeisa (0931N/4402E) and Berbera (1028N/4502E) and on the plateau near Boroma (0956N/4313E) until the 9th. The number and size of immature swarms declined steadily, remaining concentrated on the plateau near the escarpment between Boroma and Burco (0931N/4533E) with a few on the coast near Berbera and Bulhar (1023N/4425E), and one about 100 km east of Burao on the plateau. Cooler temperatures on the plateau and strong persistent winds limited swarm movement. There was a dramatic decline in control compared to June as operations using biopesticides treated 27 162 ha during July of which 26 147 ha were by air. No locusts were seen during surveys in the northeast (Puntland).

• **FORECAST**

A few small swarms are likely to persist on the plateau and concentrate in areas of recent rainfall. The swarms are expected to remain immature due to low temperatures.

KENYA

• **SITUATION**

During July, surveys continued in northern and central counties, and no locusts were reported.

• **FORECAST**

No significant developments are likely.

EGYPT

• **SITUATION**

During July, ground teams treated 50 ha of a group of immature adults near Lake Nasser and Tushka (2247N/3126E) on the 18th. No locusts were seen on the Red Sea coast in the southeast between Abu Ramad (2224N/3624E) and the Sudan border and in adjacent subcoastal areas of Wad Diib.

• **FORECAST**

No significant developments are likely.

SAUDI ARABIA

• **SITUATION**

During July, no locusts were seen in the Asir Mountains from Taif (2115N/4021E) to the Yemen border, on the Red Sea coast near Qunfidah (1909N/4107E) and Jizan (1656N/4233E), and in the southwest interior near Najran (1729N/4408E).

• **FORECAST**

Locusts could appear and breed in areas of recent rainfall along the southern coastal plains near Jizan and in the interior near Najran.

YEMEN

• **SITUATION**

During July, a few immature and mature swarms were present in the highlands between Sada'a (1656N/4345E) to Sana'a (1521N/4412E) in the first week. Thereafter, an immature swarm was seen further south near Ibb (1358N/4411E) in the second week and southwest of Al Baydha (1405N/4542E) in the third week. On the 23rd, a mature swarm reached the edge of the summer breeding areas in the interior south of Ataq (1435N/4649E). Scattered immature and mature solitarious adults were present in the interior near Marib (1527N/4519E) and in Wadi Hadhramaut and the plateau to the north. Small-scale breeding occurred near Nisab (1430N/4629E) and Shabwah (1522N/4700E), giving rise to low numbers of solitarious hoppers. No locusts were seen elsewhere in the interior, including on the plateau east of Wadi Hadhramaut to Oman.

• **FORECAST**

Locust numbers are expected to increase as small-scale breeding continues and extends in the interior from Marib and Ataq to Wadi Hadhramaut and the eastern plateau. A limited number of hopper bands could form from swarm laying.

OMAN

• SITUATION

During July, no locusts were seen in the northern interior between Adam (2223N/5731E) and Buraimi (2415N/5547E), on the Musandam Peninsula, and in the south between Salalah (1700N/5405E) and Marmul (1808N/5516E).

• FORECAST

No significant developments are likely.

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

• FORECAST

No significant developments are likely.

EASTERN REGION

IRAN

• SITUATION

During July, no locusts were seen or reported in coastal and interior areas of the south, and in the northeast.

• FORECAST

No significant developments are likely.

PAKISTAN

• SITUATION

During July, no locusts were seen or reported in coastal and interior areas of Baluchistan, and in the summer breeding areas in Tharparkar, Nara and Cholistan deserts.

• FORECAST

Small-scale breeding is expected to occur in parts of Cholistan, Nara and Tharparkar. No significant developments are likely.

INDIA

• SITUATION

During July, no locusts were seen by surveys in Rajasthan and Gujarat.

• FORECAST

Small-scale breeding is expected to occur in parts of Rajasthan and Gujarat. No significant developments are likely.

AFGHANISTAN

• SITUATION

No locust reports were received during July.

• FORECAST

No significant developments are likely.



Announcements

Locust warning levels

A colour-coded scheme indicates the seriousness of the current Desert Locust situation: **green** for *calm*, **yellow** for *caution*, **orange** for *threat*, and **red** for *danger*. The scheme is applied to the Locust Watch web page and to the monthly bulletins. The levels indicate the perceived risk or threat of current Desert Locust infestations to crops and appropriate actions are suggested for each level.

Locust reporting

Calm (green) periods. Countries should report at least once/month and send RAMSES data with a brief interpretation.

Caution (yellow), threat (orange) and danger (red) periods. During locust outbreaks, upsurges and plagues, RAMSES output files with a brief interpretation should be sent regularly every three days.

Bulletins. Affected countries are encouraged to prepare decadal and monthly bulletins summarizing 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 two days 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.

Desert Locust upsurge and response

On 17 January 2020, the Director-General of FAO activated the L3 protocols, the highest emergency level in the United Nations system, in FAO to allow fast-tracking an effective response to the upsurge in the Horn of Africa.

[www.fao.org/locusts]

eLocust3 tools

FAO has developed three new free tools – a mobile app (eLocust3m), a GPS app (eLocust3g), and an Internet form (eLocust3w) – for improving survey and control reporting by field teams and communities. The data is critical for monitoring the situation and organizing control operations in each country and feeds into FAO's global early warning system.

[<http://www.fao.org/ag/locusts/en/activ/2573/eL3suite/index.html>]

Desert Locust Standard Operating Procedures (SOPs)

A new SOP on Biology as well as an updated Ground Survey SOP, including instructions on how to use eLocust3, eLocust3g and eLocust3m, are available on Locust Watch.

French and Arabic versions will be available shortly. The PDF is meant for printing pocket-sized (A5) hard copies. [<http://www.fao.org/ag/locusts/en/publicat/gl/sops/index.html>]

Desert Locust posters

FAO in collaboration with OCHA has developed six simple, easy to understand posters for communities that may be affected by locusts. The purpose is to provide basic messaging on pesticide containers, safety measures, pesticide exposure, farmer advice, Desert Locust, and following instructions. The posters can be edited.

[<http://www.fao.org/ag/locusts/en/publicat/2581/index.html>]

Desert Locust animation

FAO in collaboration with SWABO has produced a simple animation that explains the danger of Desert Locust.

[<https://www.youtube.com/watch?v=3TOhuA-v1m4>]

Locust Hub

FAO in partnership with ESRI operates a centralized hub for the latest Desert Locust data and progress on the emergency response to the Desert Locust upsurge.

[<https://locust-hub-hqfao.hub.arcgis.com>]

Hand-in-Hand geospatial platform

FAO has developed the Hand-in-Hand geospatial platform that also integrates Desert Locust data from the Locust Hub.

[<https://data.apps.fao.org>]

Calendar

- **CLCPRO.** 10th session, Algiers, Algeria (October, tbc)
- **CRC.** 32nd session, Jeddah, Saudi Arabia (14–18 November)
- **DLCC.** 42nd session, Nairobi, Kenya (8–11 March 2022, tbc)



Glossary of terms

The following special terms are used in the Desert Locust Bulletin when reporting locusts:

Non-gregarious adults and hoppers

Isolated (few)

- very few present and no mutual reaction occurring
- 0–1 adult/400 m foot transect (or less than 25/ha)

Scattered (some, low numbers)

- enough present for mutual reaction to be possible but no ground or basking groups seen
- 1–20 adults/400 m foot transect (or 25–500/ha)

Group

- forming ground or basking groups
- 20+ adults/400 m foot transect (or 500+/ha)

Adult swarm and hopper band sizes

Very small

- swarm: less than 1 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

Warning levels

Green

- *Calm.* No threat to crops; maintain regular surveys and monitoring

Yellow

- *Caution.* Potential threat to crops; increased vigilance is required; control operations may be needed

Orange

- *Threat.* Threat to crops; survey and control operations must be undertaken

Red

- *Danger.* 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, 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>

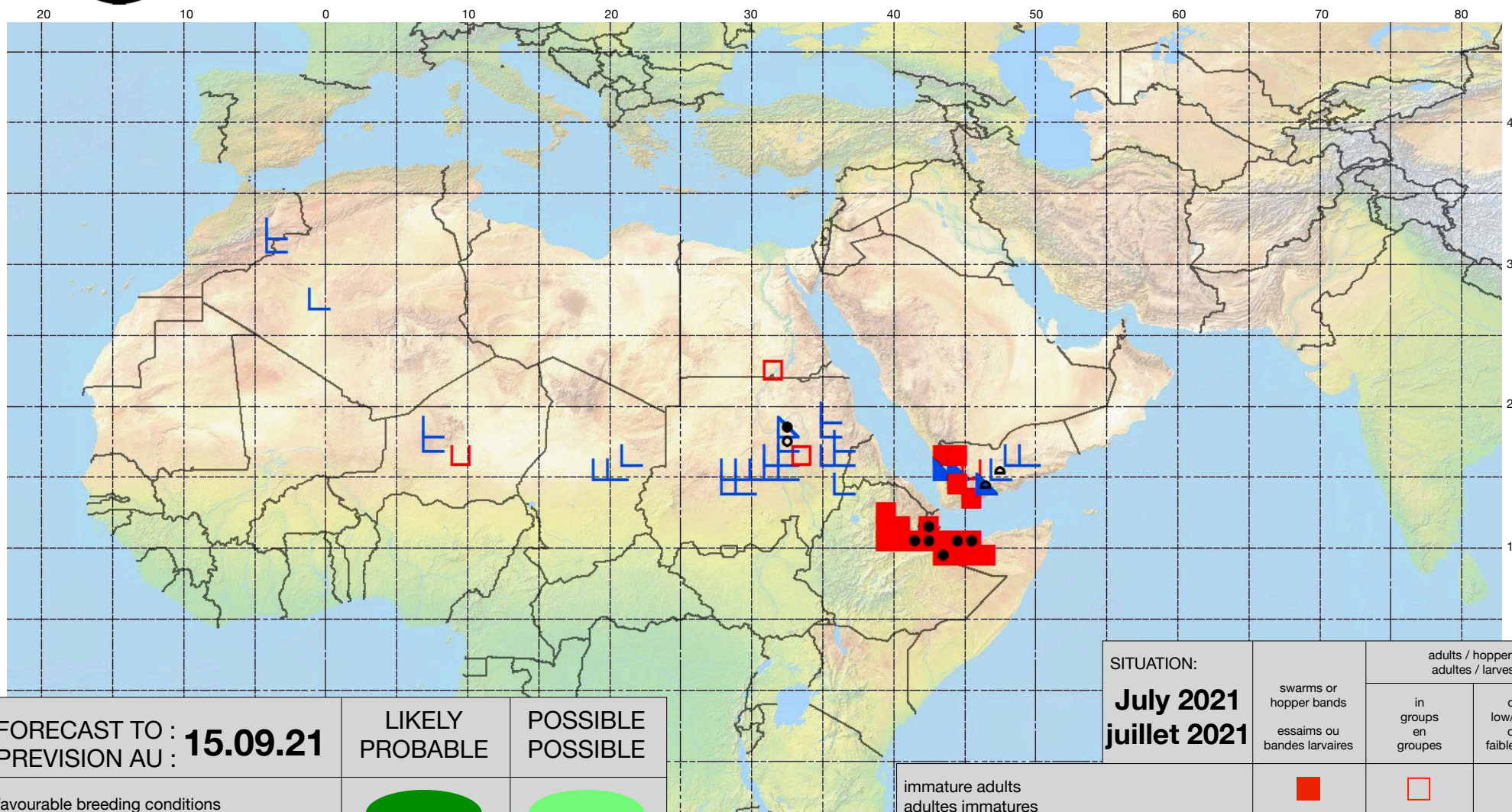
eLERT. Online database of resources and technical specifications for locust emergencies
<http://sites.google.com/site/elertsite>


























Desert Locust Summary

Criquet pèlerin – Situation résumée

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FORECAST TO : PREVISION AU : 15.09.21	LIKELY PROBABLE	POSSIBLE POSSIBLE
favourable breeding conditions conditions favorables à la reproduction		
major swarm(s) essaim(s) important(s)		
minor swarms(s) essaim(s) limité(s)		
non swarming adults adults non essaimant		

SITUATION: July 2021 juillet 2021	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)	