



Desert Locust Bulletin

General situation during June 2021
Forecast until mid-August 2021

WESTERN REGION: CALM

SITUATION. Local breeding in central **Algeria** (351 ha treated) and isolated adults in northeast **Morocco**.

FORECAST. Small-scale breeding in the Sahel of **Mauritania**, **Mali**, **Niger**, and **Chad** as summer rains arrive further north.

CENTRAL REGION: THREAT

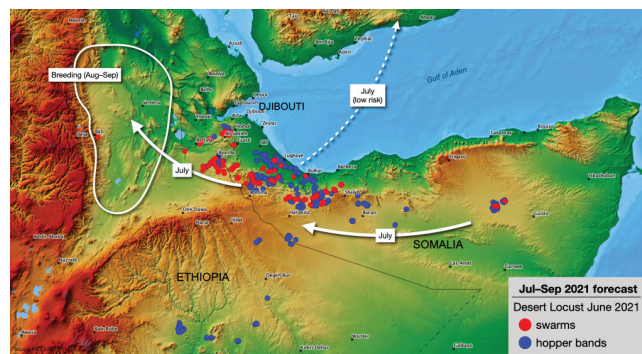
SITUATION. More bands form and fledge, giving rise to increasing numbers of immature swarms mainly in northwest **Somalia** (80 330 ha treated) but also in eastern **Ethiopia** (6 436 ha) and southeast **Djibouti** (10 ha); one immature swarm reaches Afar. Breeding ends in northern **Saudi Arabia** (2 235 ha) but immature groups move south, and a few immature swarms arrive in the **Yemen** (5 ha) highlands while scattered adults increase in the interior. Local breeding near the Nile in **Sudan** (330 ha) and scattered adults appear in nearby summer breeding areas. Adults persist in southeast **Egypt**.

FORECAST. Limited swarm migration from eastern **Ethiopia**, northwest **Somalia**, and **Djibouti** to northeast Ethiopia and perhaps Sudan. Swarms will mature and lay with the onset of the rains in Afar region, causing hopper bands to form in August. A few swarms may migrate from northern Somalia to the interior of Yemen, and from the Yemen Highlands to northeast Ethiopia. Small-scale breeding in the interior of Yemen, **Sudan**, and western **Eritrea**.

EASTERN REGION: CALM

SITUATION. No locusts present.

FORECAST. Low numbers of adults will appear along both sides of the Indo-Pakistan border where small-scale breeding will commence with the monsoon in July.



New swarms form in the Horn of Africa

Numerous hopper bands continued to form and develop mainly in northwest Somalia but also in eastern Ethiopia and southern Djibouti during June. Intensive aerial control operations in Somalia used insect growth regulators against the hopper bands to limit the number and size of immature swarms that began forming at mid-month. At the end of the month, at least one swarm reached the Afar region in northeast Ethiopia as swarms declined in Somalia. During July, low numbers of small swarms are likely to appear in Afar where they will mature and lay eggs with the onset of the rains, causing a new generation of hopper bands to form in August. A few stray swarms may also arrive from Yemen and some swarms might continue to the highlands of northern Ethiopia and the summer breeding areas in Sudan. However, the scale of migration and breeding will be substantially less than one year ago. Smaller-scale breeding is also expected to occur this summer in the interior of Yemen. Breeding ended in northern Saudi Arabia, but some groups of adults moved to the southwest and a few swarms appeared in northern Yemen. The situation returned to calm in Lebanon, Syria, Jordan, and Iraq. Despite predictions of above-average rainfall this summer, only small-scale breeding is expected to occur, and no significant developments are likely in the northern Sahel of West Africa, Sudan, and western Eritrea, and along 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 June 2021

Early rains began to fall in parts of the summer breeding areas in the Sahel of West Africa and Sudan and along the Indo-Pakistan border.

WESTERN REGION

In the Sahel of West Africa, the Inter-Tropical Convergence Zone (ITCZ) continued its seasonal movement northwards during June. It remained south of its normal position in Mauritania but improved during the second decade over Mali, Niger, and Chad where it was up to 125 km further north than usual, reaching the southern Adrar des Iforas in Mali, southern Tamesna Plains in Niger, and Arada in eastern Chad. Consequently, light rains began to fall during the second decade in the pasture areas of central Niger and in parts of central Chad, and during the third decade in southeast Mauritania and the southern Tamesna Plains of Mali and Niger. Nevertheless, dry conditions prevailed in the summer breeding areas from Mauritania to Chad. Although, light rains fell at times in a few places south of the Atlas Mountains in Algeria and Morocco, ecological conditions remained dry and unfavourable for breeding except on the edges of irrigated perimeters in the central Sahara of Algeria.

CENTRAL REGION

In the Horn of Africa, very little rain fell except for light showers at times near Jijiga in eastern Ethiopia and in southern areas of Afar region. Consequently, vegetation began to dry out on the coastal plains of northwest Somalia at the end of the month but remained green along the escarpment and on the plateau as well as in adjacent areas of eastern Ethiopia. While southwesterly winds prevailed over the region, local winds often changed during the day in northwest Somalia, shifting from southwesterly in the morning to northeasterly in the afternoon. In Yemen, light rain fell in parts of the interior west and northwest of Wadi Hadhramaut, near Ataq and northwest of Al Ghaydah in the east on 24–25 June. Breeding conditions were favourable along the southern edges of the Ramlat Sabatyn, in Wadi Hadhramaut and in the wadis on the plateau to the north. Conditions were dry in Saudi Arabia and Oman. In Sudan, the Inter-Tropical Convergence Zone (ITCZ) continued its seasonal movement northwards over the summer breeding areas of the interior. During the second decade, it was 100–250 km further north than usual, reaching Khartoum, and bringing the first rains of the year to the summer breeding areas. Light showers fell as far north as El Fasher (North Darfur), Sodiri (North Kordofan), Khartoum, and north of Kassala. Light rain also fell in the southern portion of the western lowlands in Eritrea. Although mainly dry conditions prevailed, vegetation was becoming green in a few places.

EASTERN REGION

In the spring breeding areas, dry conditions prevailed despite light rainfall during the first decade in the interior of Baluchistan in southwest Pakistan. In the summer breeding areas, pre-monsoon rains fell along both sides of the Indo-Pakistan border from Cholistan to Tharparkar in Pakistan and in Rajasthan and Gujarat in India during the first two decades of June. Nevertheless, ecological conditions remained dry and unfavourable for breeding.



Area Treated

Control operations treated 89 697 ha in June compared to 52 515 ha in May.

Algeria	351 ha
Djibouti	10 ha
Ethiopia	6 436 ha
Saudi Arabia	2 235 ha
Somalia	80 330 ha
Sudan	330 ha
Yemen	5 ha



Desert Locust Situation and Forecast

WESTERN REGION

MAURITANIA

• SITUATION

No locusts were reported during June.

• FORECAST

Low numbers of adults are likely to appear in the southeast and breed on a small scale with the onset of the summer rains.

MALI

• SITUATION

No locusts were reported during June.

• FORECAST

Small-scale breeding is expected to occur with the onset of the summer rains in the Adrar des Iforas, Tilemsi Valley, Timetrine and Tamesna.

NIGER

• SITUATION

No locusts were reported during June.

• FORECAST

Low numbers of adults are likely to appear in the central pasture areas and on the Tamesna Plains where small-scale breeding is expected to occur with the onset of the summer rains.

CHAD

• SITUATION

No locusts were reported during June.

• FORECAST

Low numbers of adults are likely to appear in central and northern areas and breed on a small scale with the onset of the seasonal rains.

SENEGAL

• SITUATION

No locusts were reported during June.

• 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 June, local breeding occurred in the central Sahara near El Golea (3034N/0252E) and to the southwest where fourth and fifth instar solitarious hoppers formed a few small groups on the edges of the irrigated perimeters. As a result of May breeding, immature and mature solitarious adults formed a few small groups in the Adrar Valley (2753N/0017W) and scattered solitarious adults were maturing between Reggane (2643N/0010E) and In Salah (2712N/0229E). Ground teams treated 351 ha.

• FORECAST

Scattered adults may remain in the Adrar Valley where limited breeding could persist on the edges of irrigated fields.

MOROCCO

• SITUATION

During the third decade of June, scattered mature solitarious adults were seen east of Errachidia (3154N/0425W) along the southern side of the Atlas Mountains in the northeast.

• FORECAST

No significant developments are likely.

LIBYA

• SITUATION

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

• FORECAST

No significant developments are likely.

TUNISIA

• SITUATION

No locusts were reported during June.

• FORECAST

No significant developments are likely.

CENTRAL REGION

SUDAN

• SITUATION

During June, scattered adults were maturing in the Nile Valley between Khartoum (1533N/3235E) and Dongola (1910N/3027E), along the Atbara River from Ed Debba (1803N/3057E) to Kassala (1527N/3623E), east of the Nile and Atbara rivers to the Red Sea Hills, in Wadi Muqaddam northwest of Khartoum, and in North Kordofan between Umm Saiyala (1426N/3112E) and Abu Uruq (1554N/3027E). Some adults formed groups and laying was seen during the third week in the Nile Valley near Merowe (1830N/3149E) and along Wadi Muqaddam. During the last decade, a group of third to fifth instar hoppers from laying and hatching in May was present on a farm northwest of Khartoum. Ground teams treated 330 ha.

• FORECAST

Hatching by early July is likely to cause a few small hopper groups to form in the Nile Valley and Wadi Muqaddam that could fledge by mid-August. During July, small-scale breeding could take place over a relatively large area from North Darfur to the Red Sea Hills as the summer rains commence, causing locust numbers to increase further.

ERITREA

• SITUATION

A late report indicated that surveys were not conducted, and no locusts were present during May. No locusts were reported in June.

• FORECAST

Low numbers of adults are likely to appear in the western lowlands and breed on a small scale with the onset of the summer rains.

ETHIOPIA

• SITUATION

During June, hopper bands continued to form and develop in eastern Bale zone of Oromia region and in Nogob, Jarar and Fafan zones of western Somali region. Numerous hopper band infestations were present in the railway area of Siti zone near Ayasha (1045N/4234E) and the Somalia border where several immature swarms were seen on 20–29 June. In Afar region, isolated immature and mature solitarious adults were seen on the 1st west of Semera (1148N/4100E). On the 30th, an immature swarm was reported on the eastern escarpment of Amhara region near and Bati (1111N/4010E), suggesting that swarms may have started to move towards Afar. No locusts were seen in eastern Somali region or elsewhere in Oromia. Control operations treated 6 436 ha of which 953 ha were by air.

• FORECAST

More small immature swarms are likely to form in the railway area and, to a lesser extent, elsewhere in the Somali and eastern Oromia regions as fledging should be complete by mid-July. Low numbers of small swarms are expected to migrate to the Afar region, supplemented by other swarms from Somalia, Djibouti and perhaps a few from Yemen. Some swarms might continue to the northern highlands and the summer breeding areas in Sudan. Swarm maturation and egg-laying are expected to occur with the onset of the rains in Afar from late July onwards, causing hopper bands to form in August.

DJIBOUTI

• SITUATION

During June, more small hopper bands of first to fifth instar hoppers were detected to the east of Grand Barra in the hills north of Ali Sabieh (1109N/4242E), suggesting that breeding was more widespread than originally thought, and undetected egg-laying and hatching occurred in May and the first half of June. On 11 June, a maturing swarm was seen southwest of Holhol (1118N/4255E). Several immature swarms and a few groups were seen in the southeast from Holhol to As-Eyla (1100N/4206E) and the Ethiopia border on the 25–28th, probably arriving from adjacent areas of Ethiopia and northwest Somalia as well as from local breeding. Ground teams treated 10 ha.

• FORECAST

Hopper bands in the Ali Sabieh region will continue to fledge, causing small immature groups and swarms to form during July. This is likely to be supplemented by other immature swarms and cross-border movements from adjacent areas of Ethiopia and northwest Somalia. If sufficient rain occurs in the south, there is a risk that some adults could persist, mature, and eventually breed.

SOMALIA

• SITUATION

During June, an increasing number of hopper bands formed and continued to develop on the coast, escarpment, and plateau of the northwest (Somaliland) between Boroma (0956N/4313E) and Burco (0931N/4533E) and, to a lesser extent, further east to northwest of Gardo (0930N/4905E) in Puntland. Fledging first commenced on the coast on the 13th; thereafter, an increasing number of small immature swarms formed. No further hopper bands were reported after the 26th. By the end of the month, coastal areas were nearly clear as the newly formed swarms had moved inland up the escarpment towards the plateau with a few continuing to adjacent areas of Ethiopia and Djibouti. Control operations treated 80 330 ha of which 61 420 ha were by air, involving insect growth regulators that helped reduce swarm formation.

• FORECAST

Small swarms are expected to move along the escarpment and plateau in the northwest where some could persist until vegetation dries out while others are likely to move into adjacent areas of Ethiopia and Djibouti. Any swarms in the northeast are likely to move west along the northern plateau. By the end of the forecast period, few locusts may be present, and the situation could become calm.

KENYA

• SITUATION

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

• FORECAST

Local breeding may have occurred in a few places of the north by any remnant populations that could give rise to small groups of adults during July. No significant developments are likely.

EGYPT

• SITUATION

During June, isolated immature solitarious adults persisted on the Red Sea coast in the southeast between Abu Ramad (2224N/3624E) and the Sudan border and in subcoastal areas near El Sheikh El Shazly (2412N/3438E). Isolated mature solitarious adults were seen at one place near Lake Nasser and Tushka (2247N/3126E).

• FORECAST

No significant developments are likely.

SAUDI ARABIA

• SITUATION

During June, a half dozen third to fifth hopper bands were present in the far north near Qurayyat (3119N/3721E) and the Jordan border in the first half of the month. Scattered immature adults were present on the northern Red Sea coast near Yenbo (2405N/3802E) early in the month. On the 12–13th, a few immature swarms were seen between Tabuk (2823N/3635E) and the Jordan border. Several groups of immature adults appeared in the Hijaz Mountains near Medina and further south in the Asir Mountains near Taif (2115N/4021E), Bisha (2000N/4236E), Khamis Mushait (1819N/4245E), Abha (1813N/4230E), and close to the Yemen border up to 22 June. Ground teams treated 2 235 ha.

• FORECAST

A few groups and perhaps a few small immature swarms may persist in the Asir Mountains and move to Yemen in early July. Thereafter, no significant developments are likely.

YEMEN

• SITUATION

During June, intensive surveys were carried out in the interior where low numbers of solitarious adults were seen maturing between Ataq (1435N/4649E) and

Bayhan (1452N/4545E), west of Al Abr (1608N/4714E), near Shabwah (1522N/4700E), in several wadis on the plateau north of Wadi Hadhramaut between Minwakh (1650N/4812E) and Thamud (1717N/4955E), and in the east near Hat (1719N/5205E) and the Oman border. On the 19th, an immature swarm was seen near Al Hazm (1610N/4446E) and on the following day near Sana'a (1521N/4412E), which may have come from earlier breeding in the Euphrates Valley close to the Iraq/Syria border. On the 26th, an immature swarm crossed into Saada Governorate from adjacent areas of Saudi Arabia. A few swarms were reported near Sada'a (1656N/4345E) during the following days. Ground teams treated 5 ha on the 19th.

• FORECAST

Small-scale breeding is likely to occur in areas of recent rainfall in the interior between Marib, Ataq and Thamud. This may be supplemented by immature groups and small swarms arriving from Saudi Arabia, the Yemen highlands, or the Horn of Africa in early July.

OMAN

• SITUATION

During June, no locusts were seen in the northern interior between Ibra (2243N/5831E) and Nizwa (2255N/5731E), near Buraimi (2415N/5547E), on the northern coast between Jamma (2333N/5733E) and Sohar (2421N/5644E), and on the Musandam Peninsula.

• FORECAST

No significant developments are likely.

IRAQ

• SITUATION

No locusts were reported during June.

• FORECAST

No significant developments are likely.

JORDAN

• SITUATION

During the first week of June, small fourth instar hopper bands were scattered near farms in Zarqa Governorate south of Azraq (3150N/3649E) and close to the Saudi Arabia border. Thereafter, no further locusts were seen, and the situation remained calm.

• FORECAST

No significant developments are likely.

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

• FORECAST

No significant developments are likely.

EASTERN REGION

IRAN

• SITUATION

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

• FORECAST

Low numbers of solitarious adults are likely to appear in Cholistan, Nara and Tharparkar during July where small-scale breeding is expected once the monsoon commences. No significant developments are likely.

INDIA

• SITUATION

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

• FORECAST

Low numbers of solitarious adults are likely to appear in Rajasthan and Gujarat where small-scale breeding is expected once the monsoon commences. No significant developments are likely.

AFGHANISTAN

• SITUATION

No locust reports were received during May.

• 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)



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>

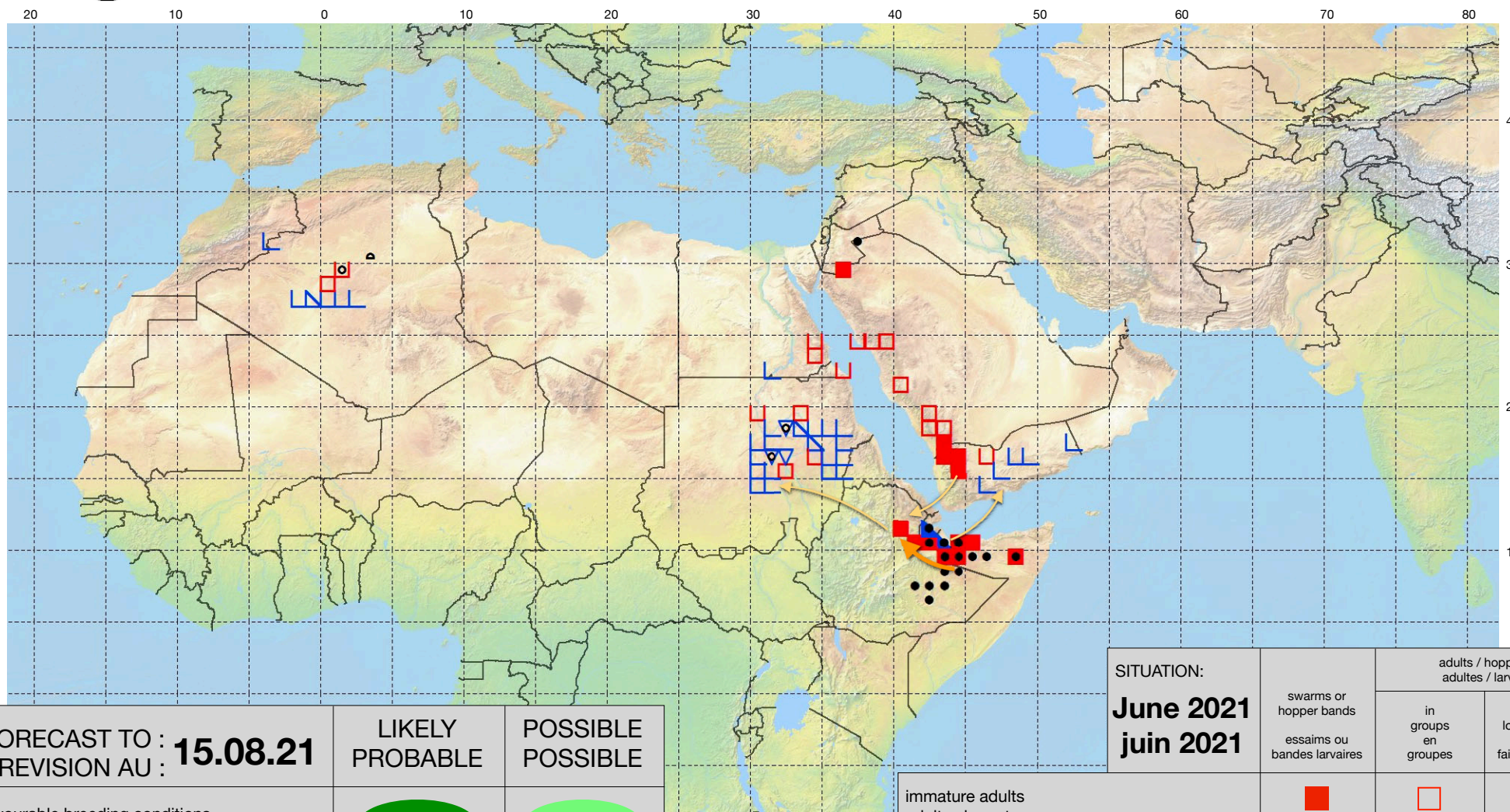
eLERT. Online database of resources and technical specifications for locust emergencies
<http://sites.google.com/site/elertsite>




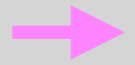





















Desert Locust Summary

Criquet pèlerin – Situation résumée

513 



FORECAST TO : PREVISION AU : 15.08.21	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: June 2021 juin 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)	