



Desert Locust Bulletin

General situation during November 2019
Forecast until mid-January 2020

WESTERN REGION: CALM

SITUATION. Small-scale breeding continued in **Mauritania, Mali, Niger, Chad and Algeria** (272 ha treated). Groups formed in Niger.

FORECAST. A few small groups may form in northwest **Mauritania** and northern **Niger**. Small-scale breeding will cause locust numbers to increase slightly in northwest **Mauritania**.

CENTRAL REGION: THREAT

SITUATION. Swarms formed in **Ethiopia** (10 822 ha treated) and moved north to **Eritrea** (6 060 ha treated) and **Saudi Arabia**, while other swarms came from **Yemen** (5 760 ha treated). Hopper bands formed in the Ogaden of Ethiopia. Bands and swarms formed in northern **Somalia**. Groups, bands and swarms formed in summer areas of **Sudan** (27 165 ha treated) and groups appeared on the coast. A few swarms from Indo-Pakistan arrived in northern **Oman** (116 ha treated) and laid.

FORECAST. Breeding will occur on the Red Sea coast of **Yemen, Saudi Arabia, Eritrea, Sudan and Egypt**. Swarms will form in **Ethiopia** and northern **Somalia** that could move to **Djibouti** and northeast **Kenya**. Some swarms may reach Eritrea. Hopper bands are likely to form in the Ogaden of Ethiopia from second-generation breeding and in northern **Oman** where a few swarms may arrive from the Indo-Pakistan area in December.

EASTERN REGION: THREAT

SITUATION. Control operations against groups, bands and swarms declined in **India** (34 070 ha) and increased in **Pakistan** (60 970 ha). Control operations in **Iran** treated 1 511 ha of adult groups from Indo-Pakistan arrived in Iran (1 511 ha treated).

FORECAST. As vegetation dries, numerous swarms are likely to migrate from both sides of the Indo-Pakistan border to areas of recent rains in southwest **Pakistan** and southern **Iran** where they will disperse and slowly mature in areas of recent rainfall.



Situation deteriorates as swarms increase

The current situation is extremely serious in the Eastern and Central regions. Despite intensive control operations, hopper bands and swarms continued to form along both sides of the Indo-Pakistan border where an unprecedented third generation of breeding started. Some swarms began their seasonal migration westwards with a few swarms crossing the Arabian Sea to northern Oman while groups appeared in southeast Iran. Swarm migration is likely to continue during December to southwest Pakistan, southern Iran and northern Oman, and decline thereafter. Countries should remain alert and be prepared. Subsequent breeding could be delayed in some areas by winter temperatures. In the Horn of Africa, swarms formed in Ethiopia and moved northwards, reaching the Red Sea coast of Eritrea where breeding was underway and at least one swarm crossed the Red Sea to Saudi Arabia. Other swarms in Ethiopia moved east towards the Ogaden, supplemented by additional swarms from adjacent areas of northern Somalia where hopper bands formed. More swarms are expected to form and move to Djibouti, the Ogaden, southern Somalia and perhaps northeast Kenya. A few swarms formed on the Red Sea coast in Yemen and moved north to Saudi Arabia. Groups and a swarm formed in the summer breeding areas of Sudan and adult groups appeared on the Sudanese Red Sea coast. Winter breeding along both sides of the Red Sea will cause locust numbers to increase further and hopper bands could form in some places. The situation remained calm in the Western Region where small-scale breeding occurred in parts of the northern Sahel.

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 November 2019

Good rains fell in the winter breeding areas along both sides of the Red Sea, in the Horn of Africa and in southern Iran. Vegetation continued to dry out in summer breeding areas.

WESTERN REGION

No significant rain fell in the region during November. Consequently, vegetation was drying out in the summer breeding areas of the northern Sahel in West Africa. Nevertheless, ecological conditions remained favourable for locust survival and breeding in limited areas of northwest Mauritania, and in a few places in northern Mali, northern Niger, and eastern Chad. In Algeria, breeding conditions remained favourable along the edges of the Hoggar Mountains in the east and south, along the Mali and Niger border adjacent to the Adrar des Iforas in Mali and the Tamesna Plains in Niger, and near irrigated areas in the central Sahara. Vegetation was mainly dry in Morocco south of the Atlas Mountains and in the Western Sahara.

CENTRAL REGION

In the summer breeding areas, a few showers lingered during the first decade of November in eastern Sudan near Kassala. Consequently, vegetation was drying out in all areas. In the winter breeding areas, good rains fell along the Red Sea coast in Sudan and southeast Egypt during the first two decades of the month and on the central coastal plains in Eritrea and central and southern coast in Saudi Arabia during the second and third decades. Good rains fell on the northwest coast of Somalia during the last decade. As a result, vegetation was green or becoming green and breeding conditions were favourable in all of these areas. In the Horn of Africa, seasonal rains continued longer than normal and good rains fell during the first and last decades of the month in northern and eastern Ethiopia, including the Ogaden, and on the plateau in northern Somalia. Breeding conditions remained favourable in all of these areas. In Oman, good rains fell on the northern coast and parts of the interior during the first two decades of the month. Vegetation was green or becoming green in these areas as well as on the east coast near Ras Al Hadd and Duqm, and ecological conditions were favourable for breeding.

EASTERN REGION

Vegetation remained greener than usual in the summer breeding areas along both sides of the Indo-Pakistan border as a result of the late withdrawal of the monsoon. This was supplemented by heavy rains during the second decade in Rajasthan, India. In the spring breeding areas, good rains fell on the southern coast of Iran in Hormozgan province during the first decade, followed by heavy showers along

the coast from Bushehr to Bandar Abbas during the second decade. Good rains fell in Jaz Murian during the last two decades and on the southeast coast near Chabahar in the last decade. Less rain fell in adjacent areas of southwest Pakistan where light to moderate showers occurred in a few coastal areas near Gwadar and Pasni and in the interior near Turbat and south of Panjgur. Consequently, breeding conditions were improving in most of these areas in both countries, but low temperatures may delay locust maturation.



Area Treated

Control operations increased in November (154 440 ha) compared to October (121 843 ha).

Algeria	272 ha
Eritrea	6 060 ha
Ethiopia	10 822 ha
India	34 074 ha
Iran	1 511 ha
Oman	116 ha
Pakistan	60 970 ha
Saudi Arabia	7 770 ha
Sudan	27 165 ha
Yemen	5 760 ha



Desert Locust Situation and Forecast

WESTERN REGION

MAURITANIA

• SITUATION

During November, isolated immature and mature solitarious adults were present in parts of northeast Brakna and east Trarza to the north of Magta Lahjar (1730N/1305W), in Nouadhibou, Inchiri and southwest Adrar. Small-scale breeding occurred from mainly south of Akjoujt (1945N/1421W) to Oujf (2003N/1301W) as well as in a few places north of Magta Lahjar where low numbers of solitarious hoppers of all instars were present.

• FORECAST

Small-scale breeding is likely to continue in the northwest in areas that remain favourable, which could cause a few small groups to form.

MALI

• SITUATION

During November, scattered immature and mature solitarious adults at densities up to 500 adults/ha,

mixed with a few *transiens* adults, were present on the western side of the Adrar des Iforas, in Tilemsi Valley and Timetrine between Aguelhoc (1927N/0052E) and Ti-n-kar (1926N/0022W). Small-scale breeding occurred and fifth instar hoppers were seen at one place. No locusts were seen in the west near Kayes (1426N/1128W).

• FORECAST

Small-scale breeding may continue in areas that remain favourable in the Adrar des Iforas, Tilemsi Valley and Tamesna, however, low temperatures will delay locust maturation.

NIGER

• SITUATION

During November, scattered immature and mature solitary adults at densities up to 300 adults/ha were present on the northern Tamesna Plains from north of Tassara (1650N/0550E) to the Algerian border and in the northern and eastern Air Mountains. Small-scale breeding was in progress in both areas where second to fifth instar solitary hoppers were seen as well as a few groups of adults on the Tamesna Plains.

• FORECAST

As vegetation continues to dry out, adults may concentrate and form a few small groups that are likely to move towards the Air Mountains where they are expected to persist.

CHAD

• SITUATION

During November, isolated immature and mature solitary adults were present in the centre between Salal (1448N/1712E) and Arada (1501N/2040E), in the northeast to Fada (1714N/2132E), and in the east near the Sudan border between Abeche (1349N/2049E), Adre (1328N/2212E) and Goz Beida (1242N/2125E). Small-scale breeding occurred in the east where low numbers of late instar solitary hoppers were present from September laying.

• FORECAST

Locust numbers will decline, and no significant developments are likely.

BURKINA FASO

• SITUATION

No reports were received during November.

• FORECAST

No significant developments are likely.

SENEGAL

• SITUATION

No locust activity was reported during November.

• 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.

ALGERIA

• SITUATION

During November, low numbers of immature and mature solitary and *transiens* adults persisted in the central Sahara between Adrar (2753N/0017W) and In Salah (2712N/0229E), in the east between Illizi (2630N/0825E) and Djanet (2434N/0930E), in the southern Sahara west of Tamanrasset (2250N/0528E), and along the Niger border near In Guezzam (1937N/0552E). Small-scale breeding occurred near In Guezzam where isolated second to fifth instar solitary hoppers were present. Ground teams treated 272 ha. No locusts were seen on the Mali border between Bordj Badji Mokhtar (2119N/0057E) and Tin Zaouatene (1957N/0258E).

• FORECAST

Low numbers of locusts are likely to persist along the edge of the Hoggar Mountains near Illizi, Djanet and Tamanrasset, and near agricultural areas in the central Sahara. No significant developments are likely.

MOROCCO

• SITUATION

During November, no locusts were seen during surveys south of the Atlas Mountains and in the Western Sahara except for a mature solitary adults in the Draa Valley south of Tata (2944N/0758W) near the Algerian border.

• FORECAST

Low numbers of adults may appear in the Adrar Souttoug of the extreme south and breed if rainfall occurs.

LIBYA

• SITUATION

No reports were received during November.

• FORECAST

Low numbers of adults may be and could persist in the southwest near Ghat.

TUNISIA

• SITUATION

No locusts were reported during November.

• FORECAST

No significant developments are likely.

CENTRAL REGION

SUDAN

• SITUATION

During November, summer-bred hoppers formed groups and bands while adults formed immature and mature groups and at least one mature swarm in the Baiyuda

Desert between Abu Uruq (1554N/3027E) and Berber (1801N/3400E). Scattered mature solitarious adults were present in a few places in the east between Kassala (1527N/3623E) and Derudeb (1731N/3607E). On the Red Sea coast, adult groups were laying on the northern coast between Mohamed Qol (2054N/3709E) and the Egyptian border while solitarious adults were laying in the Tokar Delta. Scattered mature solitarious adults were present along the coast between Tokar and Mohamed Qol, and in subcoastal areas of Wadi Oko/Diib in the northeast. Immature solitarious adults were seen on the southern coast near Karora (1745N/3820E) and the Eritrean border. Control operations treated 27 165 ha of which 19 600 ha were by air.

• **FORECAST**

As vegetation continues to dry out, a few more groups will form in the interior and move to the Red Sea coast during December. Small-scale breeding will cause locust numbers to increase on the coast and in subcoastal areas. Hopper groups are likely to form on the northern coast. There is a possibility that a few small swarms could appear from the south on the southern coast near the Eritrean border and breed.

ERITREA

• **SITUATION**

During November, breeding continued on the Red Sea coastal plains between Foro (1515N/3937E), Wekiro (1548N/3918E) and Sheib (1551N/3903E) where scattered second to fifth instar hoppers, groups, fledglings and laying solitarious adults were present from earlier breeding that started in September. During the last week of November, immature groups and swarms appeared west of Massawa (1537N/3928E) reportedly coming from Ethiopia. One mature swarm was seen south of Foro on the 30th. Ground teams treated 6 060 ha.

• **FORECAST**

A second generation of laying is expected to start about mid-December on the Red Sea coast near Massawa and extend to the Sudan border with hatching from the end of the month onwards. This will be augmented by the maturation and laying of swarms originating from Ethiopia. Consequently, locust numbers could increase significantly with groups, bands and perhaps small swarms forming.

ETHIOPIA

• **SITUATION**

During November, numerous immature groups and swarms formed from earlier breeding in eastern Amhara region and moved northwards in eastern Tigray. Crop and pasture losses were reported on a localized basis and some farmers were harvesting early to avoid additional losses. New hatching occurred in the Afar region. Hopper bands were present and fledging in the Somali region near Dire Dawa (0935N/4150E), causing immature swarms to form.

Numerous immature swarms were also reported between Ayasha (1045N/4234E) and Jijiga (0922N/4250E), some of which were said to come from adjacent areas of northern Somalia. In the Ogaden, hatching continued and second to fifth instar hopper groups and bands were present from about 150 km northeast of Warder (0658N/4520E) and south towards K'efalo (0537N/4408E). Control operations treated 10 822 ha of which 8 295 were by air.

• **FORECAST**

Additional swarms are likely to move north in Tigray and continue to Eritrea. Swarms will continue to form in the Somali region and adjacent areas of Somalia and move to the Ogaden where they will mature and second-generation laying could start by the end of December, giving rise to hopper bands and a substantial increase in locust numbers in January. There remains a high risk of a further movement to southern regions and towards Kenya during the forecast period.

DJIBOUTI

• **SITUATION**

No reports were received during November.

• **FORECAST**

There is a high risk that immature groups and swarms will arrive in the south and east from adjacent areas of eastern Ethiopia and northwest Somalia.

SOMALIA

• **SITUATION**

During the first week of November, groups of gregarious adults were seen laying on the northwest coast and first and second instar hopper bands were present from earlier undetected laying between Bulhar (1023N/4425E) and Silil (1058N/4326E). On the plateau, mainly second instar hopper groups and at least one immature swarm were seen between Burao (0931N/4533E) and the Ethiopian border. Fledging from earlier breeding commenced after mid-month on the plateau, giving rise to immature adult groups and swarms, some of which may have moved into adjacent areas of Ethiopia. At the end of the month, late instar hopper bands were reported south of Bossaso, on the plateau south of Las Anod (0828N/4721E) near the border of Ethiopia, and further south in Galmudug near Galkayo (0646N/4725E).

• **FORECAST**

More groups and swarms are likely to form on the northwest coast and on the plateau, some of which may migrate to adjacent areas of Djibouti, eastern Ethiopia and southern Somalia while others are likely to remain in favourable areas where a second generation of breeding could occur.

KENYA

• **SITUATION**

No reports were received during November.

• **FORECAST**

There remains a high risk that swarms may arrive in the northeast from adjacent areas of Ethiopia and lay in favourable areas during the forecast period.

EGYPT

• **SITUATION**

During November, isolated mature solitarious adults increased in the southeast on the Red Sea coastal plains between Berenice (2359N/3524E) and the Sudanese border. Adults were copulating and laying southwest of Shalatyn (2308N/3535E). No locusts were seen Lake Nasser and Tushka (2247N/3126E).

• **FORECAST**

Small-scale breeding will cause locust numbers to increase on the Red Sea coastal plains in the southeast. There is a low to moderate risk that a few small groups could appear from adjacent areas in northeast Sudan.

SAUDI ARABIA

• **SITUATION**

During November, breeding started on the central Red Sea coast near Lith (2008N/4016E) giving rise to solitarious hoppers and near Qunfidah (1909N/4107E) where solitarious adults were laying. Breeding continued on the southern coast south of Jizan (1656N/4233E) where hoppers formed groups and a few bands. Immature and mature solitarious adults were scattered along the coast between Jizan and Jeddah (2130N/3910E). On the 23rd, an immature swarm arrived on the coast near Lith, probably coming from Eritrea. This was followed by several more immature swarms and one mature swarm 27-29th near Lith and Qunfidah. South of Jizan, there were several reports of immature swarms on 24-28th, probably arriving from adjacent coastal areas in Yemen. Control teams treated 7 770 ha of which 3 100 ha were by air. No locusts were seen on the northern Red Sea coast between Masturah (2309N/3851E) and Umm Lajj (2501N/3716E), and in the southwest interior between Najran (1729N/4408E) and Wadi Dawasir (2028N/4747E).

• **FORECAST**

Breeding will cause locust numbers to increase on the central and southern Red Sea coastal plains. Hatching is likely occur from mid-December onwards, giving rise to hopper groups and bands. Infestations are likely to extend to the northern Red Sea coast if more rains fall.

YEMEN

• **SITUATION**

During November, breeding continued on the northern Red Sea coast between Al Zuhrah (1541N/4300E) and Suq Abs (1600N/4312E) where numerous third to fifth instar hopper bands and groups of immature and mature adults formed. During the last week, two immature swarms were reported. Ground teams treated 5 760 ha. Other areas on the Red

Sea coast could not be surveyed or treated. On the Gulf of Aden coast, small-scale breeding continued between Lahij (1303N/4453E) and Ahwar (1333N/4644E) where solitarious hoppers and immature and mature adults were present as well as a hopper band and an immature adult group.

• **FORECAST**

A second generation of breeding will cause a further increase of locust numbers on the Red Sea coast, giving rise to hopper groups and bands. Breeding will also cause an increase in locusts on the Gulf of Aden coast but on a smaller scale. Nevertheless, small groups of hoppers and adults may form.

OMAN

• **SITUATION**

During November, hatching occurred on the east coast north of Duqm (1939N/5743E) and early instar hoppers formed several small groups and bands. On the 12th, an immature swarm was seen flying on the northern coast near Rustaq (2323N/5725E) towards the interior and a mature swarm was seen flying near Ras Al Hadd (2232N/5948E). Thereafter, mature adults, groups and swarms were seen laying near Ras Al Hadd, a mature swarm was seen on the northern Batinah coast near the UAE border, immature solitarious adults were seen in the northern interior near Ibri (2314N/5630E) and on the east coast near Duqm. Ground teams treated 116 ha. No locusts were seen elsewhere in the north or the southern region of Dhofar.

• **FORECAST**

Breeding will cause locust numbers to increase on the east and northeast coast. Hatching will commence in December, causing hopper groups and bands to form. Breeding may also occur in areas of recent rains on the Batinah coast. Low numbers of adults may persist elsewhere in the northern interior. There is a risk that a few swarms may arrive in the north from the Indo-Pakistan summer breeding areas during December.

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

• **FORECAST**

No significant developments are likely.

EASTERN REGION

IRAN

• **SITUATION**

During November, at least a dozen groups of mature *transiens* adults appeared in the southeast along the coast near Zarabad (2534N/5923E), along the Pakistan border south of Pishin (2604N/6144E) and in the Jaz Murian Basin of the interior. These groups most likely originated from the Indo-Pakistan summer breeding areas. Ground teams treated 1 511 ha.

• FORECAST

There is a high risk that numerous adult groups and swarms from the Indo-Pakistan summer breeding areas will arrive in Sistan-Baluchistan and Hormozgan provinces, and perhaps move towards Bushehr. The groups and swarms are expected to disperse in areas of recent rainfall and adults will slowly mature due to low temperatures, which will limit breeding during the forecast period.

PAKISTAN

• SITUATION

During November, widespread second-generation breeding continued in Cholistan, Nara and Tharparkar deserts where numerous hopper groups and bands formed, many of which had fledged and formed immature and mature groups and swarms. A third generation of breeding occurred mainly in the Nara desert where hatching gave rise to early instar hopper groups. Adult groups and swarms moved from border areas westwards to the edge of the Indus Valley threatening crops, and one immature swarm overflowed Karachi (2450N/6702E) on the 11th, flying towards the west. Mature solitary adults were present west of Karachi in the Lasbela (2614N/6619E) area. No surveys were undertaken further west in Baluchistan. Control operations increased and treated 60 970 ha of which 1 800 ha were by air.

• FORECAST

As conditions dry out, an increasing number of immature and mature adult groups and swarms will form in Cholistan, Nara and Tharparkar deserts. Any infestations that are not detected or controlled will move west to coastal and interior areas of Baluchistan where they are likely to persist in areas that receive rainfall. These movements will be supplemented by similar populations moving west from adjacent breeding areas in Rajasthan during December.

INDIA

• SITUATION

During November, widespread second-generation fledging caused a dramatic increase in immature adult groups and swarms in West Rajasthan from Barmer (2543N/7125E) to north of Bikaner (2801N/7322E) while hopper groups and a few bands persisted in some areas. Some of the adults had matured and formed a few groups and swarms. There were reports of large bands and swarms of several tens of km in length. Hopper groups also formed in the Rann of Kutch northwest of Bhuj (2312N/6954E) where mature groups and swarms were reported last month. There were signs that a limited third generation of breeding was underway in a few places. Compared to previous months, control operations declined during November, treating 34 074 ha by ground.

• FORECAST

As conditions dry out, an increasing number of immature and mature adult groups and swarms will form in Rajasthan. Any infestations that are not detected or controlled will move towards the west on a moderate scale. Consequently, a

sharp decline in locust numbers is expected by the end of December.

AFGHANISTAN

• SITUATION

No reports were received during November.

• FORECAST

There is a low risk that a few groups or small swarms from the Indo-Pakistan border may appear in southern areas if temperatures remain warm during the end of the forecast period.



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

Caution (yellow), threat (orange) and danger (red).

During locust outbreaks, upsurges and plagues, RAMSES output files with a brief interpretation should be sent at least twice/week within 48 hours of the latest survey.

Bulletins. Affected countries are encouraged to prepare decadal and monthly bulletins summarizing the situation.

Reporting. All information should be sent by e-mail to the FAO/ECLO 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.

Calendar

The following activities are scheduled:

- **DLCC.** 41st Session, Addis Ababa, Ethiopia (10–13 December)
- **CRC.** ULV sprayer maintenance workshop, Muscat, Oman (20–23 January)
- **CLCPRO/CRC/DLIS.** Drone field trial, Mauritania (27–31 January)



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 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: Djibouti, Egypt, Eritrea, Ethiopia, Oman, Saudi Arabia, Somalia,

Sudan, Yemen; during plagues only: Bahrain, 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 Desert Locust 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 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

494 

