

Food and Agriculture Organization of the United Nations



No. 541 2 November 2023

## **Desert Locust Bulletin**

#### General situation during October 2023 Forecast until mid-December 2023

#### **WESTERN REGION: CALM**

SITUATION. Mainly isolated and some scattered hoppers and adults in the northern Sahel of **Mauritania**, **Niger**, and **Chad**. Isolated adults in southern **Algeria** and southern **Western Sahara**.

**FORECAST.** Locust will decrease in **Niger** and **Chad** as vegetation continues to become dry. Low numbers of hoppers and adults may remain in northwest and north **Mauritania** and parts of southern **Western Sahara** in November. Thereafter, only a few adults will persist unless more rain falls which is not predicted.



#### **CENTRAL REGION: CALM**

**SITUATION.** Some hopper and adult groups, small bands, and swarms in the interior of eastern **Sudan** (3 403 ha treated) while scattered adults appeared in the winter breeding areas of the Red Sea coast and subcoastal areas. In **Saud Arabia**, small hopper groups, bands, and adult groups at two areas on the Red Sea coast (1 170 ha). In **Yemen**, breeding started on the Gulf of Aden (2 ha) with hopper groups and adults while scattered hoppers and adults occurred on the Red Sea coast. A cyclone reached eastern Yemen. Isolated adults in northwest **Somalia** and the southeastern Red Sea coast of **Egypt**.

FORECAST. Above-normal rains are expected along both sides of the Red Sea and Gulf of Aden during November and December. Locusts from the interior of **Sudan** will continue to move to the Red Sea coast in November. Winter breeding will start in Sudan, **Eritrea**, southeast **Egypt**, **Saudi Arabia**, **Yemen**, and northwest **Somalia** where locusts will increase and perhaps some groups. A second generation of breeding could start in early 2024.

#### **EASTERN REGION: CALM**

SITUATION. No locusts present. FORECAST. No significant developments are likely.

#### **BEGINNING OF WINTER SEASON**

The Desert Locust situation was mainly calm during October. Summer breeding continued where small hopper and adult groups, bands and swarms occurred in the interior of Sudan while adults appeared on the Red Sea coast. In Saudi Arabia, hopper groups, bands, and adult groups were seen in two areas on the Red Sea coast while adults were seen on the coast of Yemen. Isolated hoppers and adults were present in Mauritania, Niger, and Chad. Cyclone Tej brought heavy rains to eastern Yemen where it moved inland to the Empty Quarter similar to May and October 2018. Winter breeding started in the Gulf of Aden and the Red Sea coast of Yemen. During the forecast, above-normal rains are expected along both sides of the Red Sea and Gulf of Aden during November and December. The first generation of the winter breeding will occur now with a second generation starting at the beginning of January 2024 and continuing until about March or April if more rain falls. Locusts will increase with some small groups developing. Some control is expected in Sudan, Saudi Arabia, Yemen and perhaps in Eritrea, Egypt, and northwest Somalia. In the Western Region, locusts will decrease and only a few adults are likely to persist in northwest and north Mauritania and southern Western Sahara.

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 October 2023**

Good rains fell on both sides of the Red Sea coast during the last days of October when winter breeding started early this year.

#### WESTERN REGION

During October, the position of the seasonal movement of the Inter-Tropical Convergence Zone (ITCZ) during the first dekad was some 140 km further north than normal from Mauritania to central Mali, and some 190 km further north than normal in central and east Chad. The ITCZ was well south of the breeding areas in Niger in the first dekad and in all other places in the northern Sahel during the second dekad. Consequently, the summer season had finished this year. Very light rain fell except for a few small places in southwest Mauritania, Tamesna in eastern Mali, and northwest Niger during the first dekad which continued in Mauritania during the second dekad. In Algeria, a few light rains fell in the southern Sahara near Tamanrasset during the first dekad and in the central Sahara east of In Salah during the second dekad. Vegetation continued to dry out in the northern Sahel except in northwest Mauritania, northeast Chad, and southern and central Algeria where it was still green.

#### **CENTRAL REGION**

During October, the position of the seasonal movement of the Inter-Tropical Convergence Zone (ITCZ) in Sudan was about 250 km further north than normal during the first dekad west of the Nile Valley and about 70 km further north during the second dekad in West Darfur but less than normal east of the Nile Valley. Light rain during the second dekad east of the Nile Valley to the Red Sea Hills in the summer season, and vegetation remained green but was starting to become dry in some places. In the Arabian Peninsula, light rain fell on the Red Sea coast near northern Yemen and close to Qunfidah in Saudi Arabia during the first dekad, which increased slightly during the second dekad from central Yemen near Hodeidah to Qunfidah. Good rains fell during the last few days of the month in Eritrea, Sudan, southeast Egypt, Saudi Arabia, and Yemen. Vegetation was green near Lith, Qunfidah and Jizan in Saudi Arabia as well as Yemen near the central and northern Red Sea coast and near Aden in the Gulf of Aden. A tropical depression formed in the Arabian Sea of the Indian Ocean on 17 October, where it moved west and then northwest towards the southern coast of Yemen and Oman. On the 23rd, heavy rains began to fall just after midnight on the coast from AI Ghaydah in eastern Yemen to Salalah in southern Oman. The cyclone, Tej, made landfall south of Al Ghaydah near Haswayn in the afternoon and then inland. On the 24th, heavy rain in the eastern coast from Qishn east to the Oman border and in the subcoastal area while light and moderate fell on the coast further west towards Mukalla. In the interior, light to moderate rains fell east of the Hadhramaut Valley, on the plateau near Sanaw and the Oman border at Shehan as well as the coastal

area of Salalah, Oman. Although the cyclone dispersed, light and moderate rain fell on the 25th in the plateau from Thamud to Shehan as well as further north to the Empty Quarter of Saudi Arabia near the border between Markaz al 'Atfayn and Al Khiran. The next day, light rain fell further north in the Empty Quarter about 275 km east of Wadi Dawasir near Raydh and south of Al-Obailah.

#### EASTERN REGION

During October, there was no rain during the first dekad while light to moderate rain fell during the second dekad in Lasbela and Uthal west of Karachi in Pakistan and in Rajasthan, India between Sam to Jodhpur. Vegetation is drying out in west Rajasthan but is still green in central and east areas.



Control operations increased in October to 4 575 ha compared to 1 928 ha in September.

1 170 ha
3 403 ha
2 ha



# Desert Locust Situation and Forecast

#### WESTERN REGION

Scattered hoppers and adults in northwest Mauritania and perhaps southern Western Sahara will persist in November but more rain would be needed after that which is not predicted.

#### **A**LGERIA

#### SITUATION

During October, a few isolated mature solitarious adults were seen west of Tamanrasset (2250N/0528E) in the south. No locusts were seen further south near Timeiaouine (2026N/0148E) close to Mali and near In Guezzam (1934N/0546E) close to Niger as well as further north in the central Sahara near Adrar (2753N/0017W).

FORECAST

No significant developments are likely.

#### **BURKINA FASO**

SITUATION

No locust reports were received in October.

FORECAST

No significant developments are likely.

#### CHAD

#### SITUATION

During October, isolated second and third-instar hoppers were seen in the first week near Kalait (1550N/2054E) in the east while fledglings were observed in a few places northwest of Fada (1714N/2132E) in the second week. Elsewhere, isolated maturing and mature solitarious adults were seen in the west near Nokou (1435N/1446E) and Ziguey (1443N/1547E) in Kanem, in the northwest of Batha south of Beurkia (1523N/1800E), and in the northeast between Arada (1501N/2040E) and Fada.

#### FORECAST

As vegetation continues to become dry, locust adults will decline.

#### Libya

• SITUATION

No locusts were reported during October.

• FORECAST

No significant developments are likely.

#### Mali

• SITUATION

No locusts were reported during October.

• FORECAST

Low numbers of solitarious locusts are likely to be present in parts of the Adrar des Iforas but a small second generation of breeding is not likely unless more rain falls which is not predicted.

#### MAURITANIA

#### SITUATION

During October, mainly isolated and a few scattered immature solitarious adults were present in Trarza as well as mature adults there and further east towards Tidjikja (1833N/1126W), northwest in Inchiri, north towards Zouerate (2244N/1221W) in Tiris-Zemmour, and southeast of Oujeft (2003N/1301W) in Adrar. A few isolated first to fifth solitarious hoppers were seen near Aguilal Faye (1827N/1444W) and west of Akjoujt (1945N/1421W) in the northwest. The laying started from the first week of September with hatching during the last dekad of the month. Fledgling started during the last week of October.

Low numbers of solitarious hoppers and adults will remain in the northwest. Hatching should finish at the beginning of November while fledging will finish about the first dekad of December. Thereafter, only a few adults will persist unless more rain falls which is not predicted.

#### Могоссо

#### SITUATION

During October, isolated maturing solitarious adults were seen in a few places in the south near Bir Gandouz (2136N/1628W). No locusts were seen also in the Western Sahara.

#### • FORECAST

Only a few adults will persist in the southern Western Sahara unless more rain falls which is not predicted.

#### NIGER

#### SITUATION

During October, isolated breeding occurred in the central pasture north of Tasker (1507N/1041E) where laying took place at the end of August and early September with hatching in the middle of September and fledging during the last dekad of October. Similarly, breeding started about two weeks later in a few areas along the eastern Air Mountains near Timia (1809N/0846E). Isolated immature solitarious adults were seen in both places. No surveys were done along the Tamesna Plains.

#### • FORECAST

Low numbers of solitarious locusts are likely to be present in parts of the Tamesna Plains and Air Mountains but a small second generation of breeding is not likely unless more rain falls which is not predicted.

#### SENEGAL

SITUATION

No locusts were reported during October.

• FORECAST

No significant developments are likely.

#### TUNISIA

SITUATION

No locusts were reported during October.

• 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**

Above-normal rains have started on the Red Sea coast of Sudan, Eritrea, southeast Egypt, Saudi Arabia, Yemen, and northwest Somalia and will continue during November and December. The first generation of the winter breeding will occur now with a second generation starting at the beginning of January 2024 and continuing until about March or April.

#### DJIBOUTI

SITUATION

No locust reports were received in October.

• FORECAST

No significant developments are likely.

#### EGYPT

#### SITUATION

During October, isolated immature adults were seen in a few places along the southeast Red Sea coast near Berenice (2359N/3524E) and Abu Ramad (2224N/3624E) to Halaib (2213N/3638E). No locusts were seen elsewhere on the coast, subcoastal area, and in the interior near Tushka (2247N/3126E).

#### • FORECAST

Low numbers of adults will continue on the southeastern Red Sea coast as the winter season should start in early November with rainfall and small-scale breeding.

#### ERITREA

SITUATION

No locusts were reported during October.

• FORECAST

Low numbers of locusts are likely to appear on the central and northern Red Sea coast where rainfall is expected to start in November followed by small-scale winter breeding.

#### **Ε**ΤΗΙΟΡΙΑ

#### SITUATION

During October, no locusts were seen in the Afar region between Chifra (1136N/4001E) and Semera (1148N/4100E) as well as in the Somali region between Degeh Bur (0813N/4333E) and Warder (0658N/4520E).

• FORECAST

No significant developments are likely.

#### ΟΜΑΝ

#### SITUATION

During October, no locusts were seen in the Musandam Peninsula, north along the Batinah coast, in the interior near Nizwa (2255N/5731E), and in the southern interior from Thumrait (1736N/5401E) to Marmul (1808N/5516E).

• FORECAST

No significant developments are likely.

#### SAUDI ARABIA

#### SITUATION

During October, a few small low density hopper groups and bands were seen of the central coast near Qunfidah (1909N/4107E) in an area of about 20 km by 15 km during the first dekad as well as some copulating. There were some groups of immature adults south of Lith (2008N/4016E) in the first week and a few groups of early instar hoppers to the north in the last week. Scattered immature and mature solitarious adults were present between Qunfidah and Mecca (2125N/3949E), scattered immature adults further south near Jizan (1656N/4233E). Control operations treated 1 170 ha.

#### • FORECAST

As the winter seasons started early this year, breeding will continue on the coast as more rain are expected and locusts will increase. A second generation of breeding could start at the end of the year with some locust groups.

#### Somalia

#### • SITUATION

During October, isolated mature solitarious adults were seen in a few places along the northwest coast and subcoastal areas from Silil (1058N/4326E) to east of Berbera (1028N/4502E). No locusts were seen in the escarpment and plateau, coast and interior areas of Puntland, and further south towards Galkayo (0646N/4725E).

#### • FORECAST

Low numbers of solitarious, transiens, and gregarious mature adults are likely to be along some of the northwest coast where rainfall started during the last week of October and is expected to continue during November and December. Small-scale winter breeding will begin with hatching and new solitarious hoppers from mid-November onwards.

#### SUDAN

#### SITUATION

During October, some scattered immature adult, groups, and small swarms continued in the summer breeding area from east of the Nile Valley and north of Kassala to Haiya (1820N/3621E) during the first two dekad. By the last dekad, immature adults moved further east to the Red Sea Hills near Sinkat (1855N/3648E) while scattered mature adults moved to the coast between Port Sudan (1938N/3713E) and Tokar (1827N/3741E) as well as near Tomala (2002N/3551E) in the northeastern subcoastal area. A few scattered laying adults and hoppers were seen in Tokar. Mature adults were still in the summer areas west of the Nile in the Bayuda Desert, along the Nile Valley from east of Merowe (1830N/3149E) to Atbara (1742N/3400E), and west to the Red Sea Hills. A few scattered hoppers, groups and a band were still left in the Bayuda Desert and west of Haiya. Control operations treated 3 403 ha.

#### • FORECAST

Summer seasons will finish in the interior as locusts move to the Red Sea coast and subcoastal area where winter breeding will begin. The laying and hatching of the first generation will start in November with locusts, including some groups, increasing throughout the end of the year.

#### YEMEN

#### • SITUATION

During October, breeding started on the western part of the Gulf of Aden where laying occurred during the first half of September, followed by hatching from the last week of September and the first dekad of October. A few first to fourth instar hoppers and transiens groups were seen near the foothills of the coast northeast of Lahij (1303N/4453E). Some scattered mature adults were there as well as further east towards Zinjibar (1306N/4523E). Control operations treated 2 ha. On the Red Sea coast, scattered immature and mature solitarious adults were seen in the central and northern areas from Zabid (1410N/4318E) to Suq Abs (1600N/4312E). Laying started at the end of August, hatching began in the middle of September

where a few scattered solitarious hoppers of all instars were present in October with fledging starting at the end of the month. • FORECAST

There is still a possibility of a few adult groups arriving from the interior to the Gulf of Aden and Red Sea coastal areas in the next few weeks while others could go to the Empty Quarter northwest of Thamud. Breeding will continue on the coast as more rainfalls are expected and locusts will increase slightly. A second generation of breeding could start at the end of the year.

#### 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**

During the spring breeding, seasonal models suggest slightly wetter rains may start in southeast Iran and southwest Pakistan in February.

#### **A**FGHANISTAN

SITUATION

No locust reports were received in October.

• FORECAST

No significant developments are likely.

#### INDIA

#### SITUATION

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

• FORECAST

No significant developments are likely.

#### IRAN

#### SITUATION

During October, 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

No locusts were reported during October.

#### 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 faodlislocust@gmail.com). Reports received by the first day of the new month will be included in the FAO Desert Locust Bulletin; otherwise, they will not appear until the following month. Reports should be sent even if no locusts were found or if no surveys were conducted.

#### eLocust3 digital tools

In addition to the original eLocust3 tablet, FAO has three free tools for data collection in the field:

- eLocust3m a smartphone app for survey and control data, developed with PlantVillage (Android: play.google.com; iOS: appl.apple.com; how-to-use videos: tiny.cc/eL3mVideos)
- eLocust3g a GPS app for emergencies, developed with Garmin (tiny.cc/eLocust3g)
- eLocust3w an Internet form for emergencies, developed in Kobo (tiny.cc/eLocust3w)

The geo-referenced data collected by these tools feed into FAO's global early warning system and are critical for real-time monitoring, near-instant analysis, and planning field operations in each country.

[www.fao.org/ag/locusts/en/activ/2573/eL3suite/index.html]

## **Standard Operating Procedures (SOPs)**

FAO has developed pocket-sized SOPs for use 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. Training on the use of SVDN version 3 and monitoring/ evaluation system, Bamako, Mali (27 November – 1 December)
- CRC. Desert Locust Emergency Consultative meeting for Undersecretaries / State Ministers of Agriculture of member countries, Cairo, Egypt (29–30 November)
- CLCPRO. 16<sup>th</sup> session of the Executive Committee, Nouakchott, Mauritania (11–15 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

<ul> <li>swarm: less than 1 km<sup>2</sup></li> </ul>	• band: 1–25 m <sup>2</sup>
Small	
<ul> <li>swarm: 1–10 km<sup>2</sup></li> </ul>	• band: 25–2,500 m <sup>2</sup>
Medium	
<ul> <li>swarm: 10–100 km<sup>2</sup></li> </ul>	• band: 2,500 m <sup>2</sup> – 10 ha
Large	
<ul> <li>swarm: 100–500 km<sup>2</sup></li> </ul>	• band: 10–50 ha
Very large	
<ul> <li>swarm: 500+ km<sup>2</sup></li> </ul>	• band: 50+ ha

## Rainfall

Light
 1-20 mm

## Moderate

- woderale
- 21–50 mm Heavy
- more than 50 mm

## Summer rains and breeding areas

- July–September/October
- Sahel of West Africa, Sudan, western Eritrea; Indo-Pakistan border

#### Winter rains and breeding areas

- October–January/February
- Red Sea and Gulf of Aden coasts; northwest Mauritania, Western Sahara

#### Spring rains and breeding areas

- · February-June/July
- Northwest Africa, Arabian Peninsula interior, Somali plateau, Iran/Pakistan border

## Other reporting terms

#### Breeding

- The process of reproduction from copulation to fledging **Recession**
- Period without widespread and heavy infestations by swarms **Remission**
- Period of deep recession marked by the complete absence of gregarious populations

#### Outbreak

 A marked increase in locust numbers due to concentration, multiplication and gregarisation which, unless checked, can lead to the formation of hopper bands and swarms

#### Upsurge

 A period following a recession marked initially by a very large increase in locust numbers and contemporaneous outbreaks followed by the production of two or more successive seasons of transient-to- gregarious breeding in complimentary seasonal breeding areas in the same or neighbouring Desert Locust regions

#### Plague

• A period of one or more years of widespread and heavy infestations, the majority of which occur as bands or swarms.

A major plague exists when two or more regions are affected simultaneously

#### Decline

• A period characterised by breeding failure and/or successful control leading to the dissociation of swarming populations and the onset of recessions; can be regional or major

#### Regions

#### Western

 Locust-affected countries in West and North-West Africa: Algeria, Chad, Libya, Mali, Mauritania, Morocco, Niger, Senegal, Tunisia; during upsurges and plagues only: Benin, Burkina Faso, Cameroon, Cape Verde, Côte d'Ivoire, Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Nigeria, Sierre Leone and Togo

#### Central

 Locust-affected countries along the Red Sea: Djibouti, Egypt, Eritrea, Ethiopia, Oman, Saudi Arabia, Somalia, Sudan, Yemen; during upsurges and plagues only: Bahrain, D.R. Congo, Iraq, Israel, Jordan, Kenya, Kuwait, Lebanon, Palestine, Qatar, South Sudan, Syria, Tanzania, Turkey, UAE and Uganda

#### Eastern

• Locust-affected countries in South-West Asia: Afghanistan, India, Iran and Pakistan.



## Useful tools and resources

**FAO/DLIS Locust Watch.** Information, maps, activities, publications, archives, FAQs, links http://www.fao.org/ag/locusts

**IRI RFE.** Rainfall estimates every day, dekad and month http://iridl.ldeo.columbia.edu/maproom/.Food\_Security/.Locusts/index.html

**JRC Greenness maps.** Dynamic maps of green vegetation evolution every dekad https://locust.cgls.dev/s/6ddC96njJcRxZy7

**Lobelia Soil moisture maps.** Dynamic maps of soil moisture detected every dekad https://fao-locust.lobelia.earth

**NASA WORLDVIEW.** Satellite imagery in real time https://worldview.earthdata.nasa.gov

**NOAA.** HYSPLIT locust forecast trajectory model https://locusts.arl.noaa.gov

**Windy.** Real time rainfall, winds and temperatures for locust migration http://www.windy.com

**Zoom Earth.** Real time rainfall, winds and temperatures for locust migration https://zoom.earth

**eLocust3 suite.** Digital tools for data collection in the field (mobile app, web form, GPS) http://www.fao.org/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 Facebook.** Information exchange using social media http://www.facebook.com/faolocust

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

**FAOLocust Twitter.** The very latest updates posted as X/tweets http://www.twitter.com/faolocust

**FAO/ESRI Locust Hub.** Desert Locust maps and data download, and emergency response progress https://locust-hub-hqfao.hub.arcgis.com



# Desert Locust Summary Criquet pèlerin – Situation résumée



