



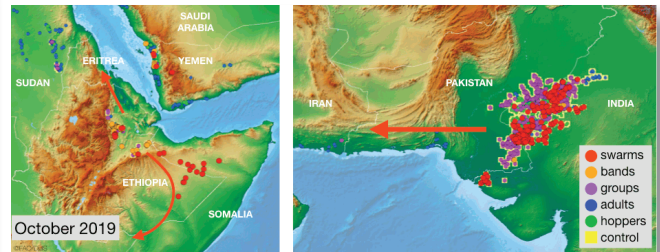
## Desert Locust Bulletin

General situation during October 2019  
Forecast until mid-December 2019

### WESTERN REGION: CALM

**SITUATION.** Small-scale breeding occurred in **Mauritania** and **Niger** (29 ha), extending to southern **Algeria** (15 ha). Groups formed in Niger. Isolated adults were present in **Morocco** and **Libya**.

**FORECAST.** A few small groups may form in summer breeding areas of **Mauritania** and **Niger** as vegetation dries out. Small-scale breeding will cause locust numbers to increase in northwest **Mauritania**. Local breeding may occur in **Algeria**.



### Serious situation continues in eastern and central regions

The current situation remains serious and threatening along the Indo-Pakistan border and in the Horn of Africa. An increasing number of swarms formed during October in India and Pakistan where intensive control operations continued for a sixth consecutive month. It appears that some swarms have started to move west towards southwest Pakistan and southeast Iran where recent rains should allow them to survive until the spring. A few swarms may also reach northeast Oman on winds associated with Cyclone Kyarr in the first days of November. Ground and aerial operations were in progress in northeast Ethiopia where swarms formed. A few groups moved north towards Eritrea while some swarms moved southeast to northern Somalia and eastern Ethiopia where they laid eggs that began hatching at the end of the month. There remains a moderate risk that a few swarms could reach northeast Kenya. A few hopper bands and small swarms formed in breeding areas on the Red Sea coast in Yemen and adjacent areas in Saudi Arabia, and control was undertaken. Breeding will continue along both sides of the Red Sea, which could be supplemented by the arrival of a few small swarms on the Eritrean coast from Ethiopia, causing a further increase in locust numbers. In the Western Region, small-scale breeding occurred in Mauritania, Niger and southern Algeria, and isolated adults were present in Morocco and Libya. A few groups formed in northern Niger and limited control was carried out there and in Algeria. Locusts are expected to increase slightly in northwest Mauritania due to small-scale breeding.

### CENTRAL REGION: THREAT

**SITUATION.** Swarms formed in **Ethiopia** (4 064 ha treated) and moved to east to lay eggs that hatched near northern **Somalia** where mature swarms were seen. A few groups formed from summer breeding in **Sudan** (3 025 ha treated). Breeding continued on the Red Sea coast in **Yemen** (32 ha treated) and **Saudi Arabia** (1 805 ha treated). Isolated adults were present in northern **Oman**.

**FORECAST.** Breeding will continue on the Red Sea coast of **Yemen**, **Saudi Arabia** and **Eritrea**, and extend to **Sudan**. Small swarms may arrive in Eritrea and northern **Somalia** from Ethiopia and continue to southern Ethiopia and northeast **Kenya**. Breeding will cause hopper bands to form in some areas. A few small swarms could arrive in northeast **Oman** from Indo-Pakistan breeding areas during the first week of November.

### EASTERN REGION: THREAT

**SITUATION.** Control operations continued in **India** (82 944 ha) and **Pakistan** (22 650 ha) against second-generation groups, bands and swarms. Isolated adults persisted in southern **Iran**.

**FORECAST.** As vegetation dries, adult groups and small swarms will form along both sides of the Indo-Pakistan border and migrate to southwest **Pakistan** and southeast **Iran** where they are likely to remain and slowly mature in areas of recent rainfall.

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 2019

**Rainfall declined in the summer breeding areas of West Africa, Sudan and along the Indo-Pakistan border but vegetation remained green. Good rains fell in parts of the winter breeding areas along the Red Sea coast. Light rains fell in the spring breeding areas of Iran and Pakistan. Good rains fell over the Horn of Africa. Light to moderate showers fell in eastern Oman from Cyclone Kyarr.**

### WESTERN REGION

The Inter-Tropical Convergence Zone (ITCZ) continued its seasonal movement southwards but was generally about 200–300 km further north than usual during the first two decades of October. By the last decade, the ITCZ had moved south of the summer breeding areas in the Sahel of West Africa. As a result, good rains fell mainly during the first decade in southern Mauritania, southern Tamesna, the Air Mountains and central pasture areas in Niger, and in central and northeast Chad. Thereafter, no significant rain fell in the summer breeding areas of the northern Sahel. Although vegetation remained green, it was starting to dry out in parts of southern Mauritania and northern Niger. During the second decade, light to moderate rains fell in northwest Mauritania where conditions are expected to remain favourable for breeding during the forecast period. In Northwest Africa, very little rain fell except for some possible light showers about mid-month over the Hoggar Mountains in southeast Algeria extending to southwest Libya. Nevertheless, vegetation remained green in central, eastern and southern Algeria, including along the borders of Mali and Niger.

### CENTRAL REGION

Similar to the Western Region, the Inter-Tropical Convergence Zone (ITCZ) continued its seasonal movement southwards but was generally about 200–300 km further north than usual during the first two decades of October over the interior of Sudan. By the last decade, the ITCZ had moved south of the summer breeding areas in Sudan. As a result, light to moderate rains fell primarily during the first decade and less so during the second decade in the summer breeding areas of West and North Darfur, North Kordofan, White Nile states, the Baiyuda Desert and near Kassala extending to the western lowlands in Eritrea. Light rain fell in a few places along the western side of the Red Sea Hills, including parts of Wadi Oko/Diib. Light to moderate showers fell at times during the first two decades in eastern Ethiopia, including the Ogaden and adjacent areas of northwest and central Somalia. Rainfall declined in the Afar region and northern Ethiopia. Heavy rains and flash floods occurred in central Somalia. In the winter breeding

areas, light rains fell on the Red Sea coast in Eritrea, Yemen and Saudi Arabia as far north as Badr. Rainfall was particularly heavy during the second decade. Good rains fell on the southern coast of Yemen near Aden where breeding conditions were favourable in the wadis. Unusually heavy rains may have fallen on the northwest coast and escarpment of Somalia on the 1<sup>st</sup> and 8<sup>th</sup>. In Oman, moderate showers fell in the north during the first half of the month. Cyclone Kyarr developed in the Indian Ocean at the end of the month and moved in a southwesterly direction along the eastern coast of Oman, causing light to moderate rain to fall in some areas between Sur and Duqm. Vegetation was already green near Duqm and in other areas of Al Wusta governorate from rains associated with Cyclone Hikka in September.

### EASTERN REGION

The monsoon withdrew from the Indo-Pakistan breeding areas on 11 October, which is nearly one month later than normal. Consequently, good rains continued to fall during the first week of the month and ecological conditions remained favourable for breeding and locust survival along both sides of the Indo-Pakistan border in Cholistan, Nara and Tharparkar deserts in Pakistan and in Rajasthan, India. In the spring breeding areas, light to moderate rains fell at times during the first week along the coast and interior of southern Sistan-Baluchistan, Iran and in adjacent areas of Baluchistan in southwest Pakistan. This may allow natural vegetation to become sufficiently green for Desert Locust survival but low temperatures are likely to delay maturation.



### Area Treated

Control operations declined slightly in October (118 000 ha) compared to (125 000 ha).

Algeria	15 ha (October)
Ethiopia	4 064 ha (October)
India	82 944 ha (October)
Niger	29 ha (October)
Pakistan	29 930 ha (October)
Saudi Arabia	720 ha (29–30 September)
	1 805 ha (October)
Sudan	3 025 ha (October)
Yemen	32 ha (October)



## Desert Locust Situation and Forecast

### WESTERN REGION

#### MAURITANIA

##### • SITUATION

During October, isolated immature and mature solitary adults persisted in the summer breeding areas of the south between Oualata (1717N/0701W), Kiffa (1638N/1124W) and Tidjikja (1833N/1126W). Adults were also seen in the southwest near Rkiz (1658N/1514W) and persisted in the west between Nouakchott (1809N/1558W) and Atar (2032N/1308W). Small-scale breeding was detected near Tidjikja, Rkiz and Nouakchott where first to third instar solitary hoppers were present, and solitary adults were copulating north of Aguilal Faye (1827N/1444W).

##### • FORECAST

*Small-scale breeding will cause locust numbers to increase in the northwest in areas that previously received good rains. This may lead to a few small groups forming. If conditions remain favourable, a second generation of laying could commence by the end of the forecast period.*

#### MALI

##### • SITUATION

No surveys were carried out and no locusts were reported in October.

##### • FORECAST

*Small-scale breeding is expected to be in progress and will continue in areas of recent rainfall in the Adrar des Iforas, Tilemsi Valley and Tamesna, causing locust numbers to increase slightly.*

#### NIGER

##### • SITUATION

During October, scattered immature and mature solitary adults were present on the Tamesna Plains between Tassara (1650N/0550E) and the Algerian border, in the northern Air Mountains north of Iferouane (1905N/0824E) in the southeast Air to the northeast and east of Timia (1809N/0846E), and along the southern edge of the Air. Small-scale breeding throughout these areas. From mid-month onwards, *transiens* adults and small groups of hoppers and adults, at densities up to 800 adults/ha, were seen on the Tamesna Plains, including a few groups of laying adults. Ground teams treated 29 ha.

##### • FORECAST

*Small-scale breeding may continue in those areas where conditions remain favourable. However, as vegetation dries out, small groups may form in Tamesna and move to the Air Mountains.*

#### CHAD

##### • SITUATION

No surveys were carried out and no locusts were reported in October.

##### • FORECAST

*As vegetation dries out, a few small groups may form in the northeast and move towards the Air Mountains in Niger.*

*Thereafter, locust numbers will decline, and no significant developments are likely.*

#### BURKINA FASO

##### • SITUATION

No reports were received during October.

##### • FORECAST

No significant developments are likely.

#### SENEGAL

##### • SITUATION

No locust activity was 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.*

#### ALGERIA

##### • SITUATION

During October, isolated mature solitary adults persisted in the east near 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 second and third instar solitary hoppers were present. Low numbers of immature solitary adults were seen in the central Sahara between Reggane (2643N/0010E) and In Salah (2712N/0229E) and in the south on the Malian border southeast of Bordj Badji Mokhtar (2119N/0057E). Ground teams treated 15 ha near Reggane.

##### • 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 October, isolated immature solitary adults were seen in the northern part of the Western Sahara in W. Sakia El Hamra near Haouza (2707N/1112W) and south of the Atlas Mountains in the Draa Valley near Zag (2800N/0920W) and Assa (2836N/0926W).

• FORECAST

*Low numbers of adults may appear in the Adrar Souttoug of the extreme south and breed on a small scale in areas of recent rainfall.*

## LIBYA

• SITUATION

During October, scattered gregarious appearing adults were seen at two places during a survey carried out in the southwest near Ghat (2459N/1011E) on the 16–19<sup>th</sup>.

• FORECAST

*Low numbers of adults are likely to persist and breed on a small scale in those areas near Ghat that received earlier flooding and remain green.*

## TUNISIA

• SITUATION

No reports were received during October.

• FORECAST

*No significant developments are likely.*

## CENTRAL REGION

### SUDAN

• SITUATION

During October, scattered immature and mature adults declined in North Kordofan and along the Nile Valley between Khartoum (1533N/3235E) and Dongola (1910N/3027E) but increased on the western side of the Red Sea Hills between Derudeb (1731N/3607E) and Haiya (1820N/3621E) where solitary hoppers of all instars were seen up to mid-month from local breeding. A few groups of immature and mature adults formed in near Umm Saiyala (1426N/3112E) in North Kordofan, Derudeb and near Kassala (1527N/3623E). Ground teams treated 3 025 ha. No surveys were conducted in Wadi Oko/Diib of the northeast.

• FORECAST

*As vegetation continues to dry out, a few small groups may form in the interior and move to the Red Sea coastal plains and the northeast subcoastal areas where small-scale breeding will commence with the onset of the winter rains. There is a low risk that a few small swarms could appear from the south on the southern coast near the Eritrean border.*

### ERITREA

• SITUATION

No surveys were carried out and no locusts were reported in October.

• FORECAST

*Breeding is almost certainly in progress and will continue on the Red Sea coastal plains, causing locust numbers to increase between Mersa Fatma and the Sudanese border. Small groups of hoppers and adults are likely to form. There is a moderate risk of a few groups and small swarms from*

*northeast Ethiopia appearing in the highlands on their way to the coast.*

## ETHIOPIA

• SITUATION

During October, hopper groups and bands continued to form in previously infested areas on the western edge of the Awash Valley north of Bati (1111N/4001E) in the Afar region and in the railway area in the east between Dire Dawa (0935N/4150E) and Ayasha (1045N/4234E). Fledging in Afar caused an increasing number of immature adult groups and swarms to form after mid-month. By the end of the month, some swarms had moved southeast towards Dire Dawa and the Harar Highlands in Oromiya region while a few immature groups moved north towards Mekele (1329N/3928E) in southern Tigray region with one group reaching Ganta Afeshum zone east of Axum (1407N/3843E) near Eritrea. On 14–16<sup>th</sup>, several mature swarms appeared in the northern Ogaden between Degeh Bur (0813N/4333E) and Warder (0658N/4520E), and some swarms continued south to Kebri Dehar (0644N/4416E). The swarms laid eggs that began hatching at the end of the month. Control operations treated 4 064 ha of which 1 150 ha were by air.

• FORECAST

*Small swarms will continue to form in Afar in November and move north to Tigray where they are likely to continue to Eritrea. A few swarms will form along the railway area and move to the Ogaden and Oromiya. Hatching and band formation will occur in the Ogaden during November.*

## DJIBOUTI

• SITUATION

No reports were received during October.

• FORECAST

*No significant developments are likely.*

## SOMALIA

• SITUATION

There were unconfirmed reports from locals by radio of swarms arriving on the northwest plateau between Gebiley (0942N/4337E) and Las Anod (0828N/4721E) on 8–13 October. These are likely to have originated from earlier infestations in northeast Somalia, perhaps supplemented by a few swarms from Yemen and adjacent areas of eastern Ethiopia.

• FORECAST

*A few adult groups and small swarms from adjacent infestations in Ethiopia may appear on the northern plateau south of Hargeisa, Burao and Las Anod, and in central areas between Garowe and Galkayo. Small-scale breeding could occur in some areas that might give rise to hopper groups and small bands. Breeding in areas of recent heavy rains on the northwest coast may cause hopper and adult groups to form.*

## EGYPT

### • SITUATION

During October, isolated mature solitary adults were seen in the southeast on the Red Sea coastal plains near Abu Ramad (2224N/3624E).

### • FORECAST

*Low numbers of adults may appear on the Red Sea coastal plains in the southeast where small-scale breeding will occur in areas that receive rainfall.*

## SAUDI ARABIA

### • SITUATION

During October, a small immature swarm was seen on the Red Sea coast plains south of Jizan (1656N/4233E) near the Yemen border on the 6<sup>th</sup>. Breeding continued in the Jizan area where a few late instar hopper groups and bands were present mixed with solitary hoppers of all instars, and immature and mature solitary adults. Ground teams treated 1 805 ha. On the central coast, scattered immature and mature solitary adults were present near Lith (2008N/4016E).

### • FORECAST

*Locust numbers will continue to increase on the southern coastal plains of the Red Sea mainly near Jizan where hopper and adult groups and perhaps a few small bands are likely to form. A second generation of breeding will occur in November. Breeding will also extend to other areas of recent rainfall between Jizan and Badr.*

## YEMEN

### • SITUATION

During October, breeding continued on the northern Red Sea coast between Al Zuhrah (1541N/4300E) and Suq Abs (1600N/4312E) where late instar hopper groups and bands fledged, giving rise to groups of immature and mature adults. Hatching was seen at mid-month as well as one swarm laying eggs. Scattered immature and mature solitary adults were present on the central Tihama between Bajil (1458N/4314E) and Zabid (1410N/4318E). Ground teams treated 32 ha. On the southern coast, small-scale breeding occurred near Lahij (1303N/4453E) and solitary hoppers were present, egg-laying was seen near Ahwar (1333N/4644E) and scattered immature solitary adults were present between Am Rija (1302N/4434E) and Ahwar. In the interior, low numbers of immature and mature solitary adults were seen near Bayhan (1452N/4545E) in Shabwah and near Hawra (1542N/4817E) in W. Hadhramaut. An immature swarm was seen flying in the highlands near Sana'a (1521N/4412E) on the 30<sup>th</sup>. No locusts were seen elsewhere during surveys in the interior.

### • FORECAST

*Late first-generation hatching will occur in early November on the northern Red Sea coastal plains, giving rise to small hopper bands that will fledge by the end of the forecast period. This will be supplemented by a second generation*

*of breeding with hatching from mid-November onwards. A few immature swarms from the interior are likely to move through the highlands and arrive on the Red Sea and Gulf of Aden coasts where they will mature and lay, causing hopper groups and bands to form.*

## OMAN

### • SITUATION

During October, isolated immature solitary adults were seen in a few places on the Musandam Peninsula, in the northern interior near Adam (2223N/5731E), and on the eastern coast near Duqm (1939N/5743E). There were unconfirmed reports of small groups on the eastern coast north of Duqm, in the northern interior near Nizwa (2255N/5731E) and Ibri (2314N/5630E). No locusts were seen elsewhere in the north or the southern region of Dhofar.

### • FORECAST

*Small-scale breeding may occur in coastal and interior areas of Al Wusta and Sharqiya governorates where good rains fell from cyclones Hikka and Kyarr.*

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

### • FORECAST

*No significant developments are likely.*

## EASTERN REGION

### IRAN

#### • SITUATION

During October, isolated mature solitary adults persisted in a few places along the southern coast near Bushehr (2854N/5050E), Bandar Abbas (2711N/5619E), Zarabad (2534N/5923E) and Chabahar (2517N/6036E), and in Jaz Murian of the southeast interior. At the end of the month, immature solitary adults were seen near Zarabad and Chabahar, and a group of mature *transiens* adults was reported northeast of Chabahar near the Pakistan border.

#### • FORECAST

*There is a moderate to high risk that adult groups and small swarms will arrive in Sistan-Baluchistan and Hormozgan provinces from the Indo-Pakistan summer breeding areas. The adults are likely to remain in any areas that receive rainfall and slowly mature due to low temperatures.*

### PAKISTAN

#### • SITUATION

During October, numerous second-generation hopper groups and some bands continued to develop and fledge in Tharparkar, Nara and Cholistan deserts, giving rise to an increasing number of immature adult groups that were maturing. At least one immature swarm was reported near the Indian border in Cholistan. Local infestations were likely to have been supplemented by adult groups moving

westwards from adjacent breeding areas in Rajasthan. During the last week of the month, scattered mature solitarious adults were seen further westwards near Lasbela (2614N/6619E) west of Karachi. Control operations treated 29 930 ha of which 600 ha were by air.

• FORECAST

*As conditions dry out, second-generation breeding will decline but 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.*

## INDIA

• SITUATION

During October, widespread second-generation hatching continued in west Rajasthan from Barmer (2543N/7125E) to north of Bikaner (2801N/7322E), giving rise to numerous hopper groups and some bands. Fledging caused an increasing number of immature swarms to form that were maturing. During the last decade, several mature groups and swarms moved towards the coast in the Rann of Kutch northwest of Bhuj (2312N/6954E). Ground teams treated 82 944 ha in October.

• FORECAST

*As conditions dry out, second-generation breeding will decline but 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. This movement is expected to decline after November.*

## AFGHANISTAN

• SITUATION

No reports were received during October.

• FORECAST

*There is a low risk that a few groups or small swarms from the Indo-Pakistan border may appear in southern areas by the end of the forecast period.*

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](mailto:eclo@fao.org) and [faodlislocust@gmail.com](mailto: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 Control Committee (DLCC)

The registration deadline for the 41<sup>st</sup> session of the DLCC is 10 November 2019. Thereafter, accommodation and participation in the session cannot be guaranteed. Please contact [AGP-713-DLCC@fao.org](mailto:AGP-713-DLCC@fao.org). The session will be a *green* or sustainable meeting that is designed, organized and implemented in a way that minimizes negative environmental impacts and leaves a positive impact for the host country. Digital tools will be used to save paper.

## Calendar

The following activities are scheduled:

- **CLCPRO.** Regional biological control workshop, Rabat, Morocco (26–28 November)
- **SWAC.** Regional Desert Locust Information Officer workshop, Tehran, Iran (26–28 November)
- **DLCC.** 41<sup>st</sup> 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)



## 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



## 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 km<sup>2</sup>
- band: 1–25 m<sup>2</sup>

#### Small

- swarm: 1–10 km<sup>2</sup>
- band: 25–2,500 m<sup>2</sup>

#### Medium

- swarm: 10–100 km<sup>2</sup>
- band: 2,500 m<sup>2</sup> – 10 ha

#### Large

- swarm: 100–500 km<sup>2</sup>
- band: 10–50 ha

#### Very large

- swarm: 500+ km<sup>2</sup>
- 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, Sierra 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](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](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>

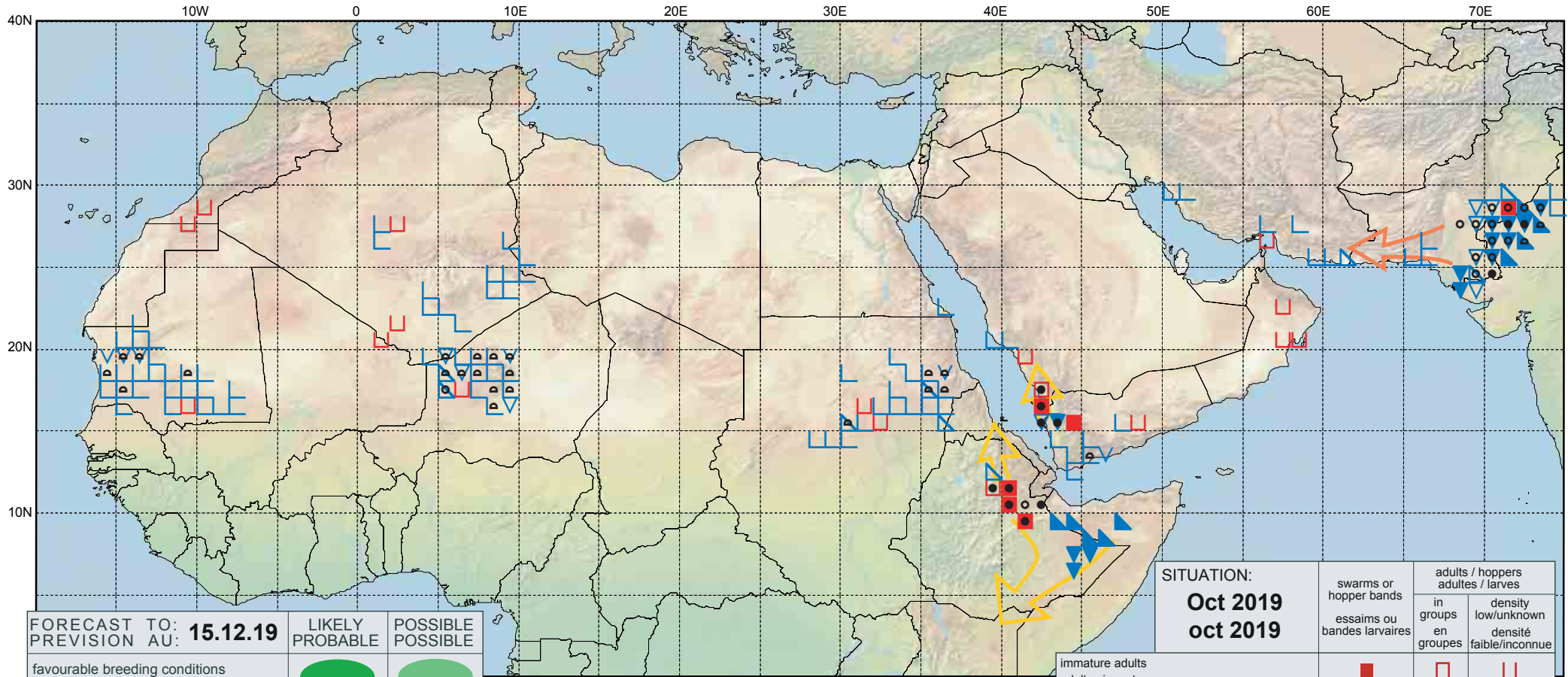




# Desert Locust Summary

## Criquet pèlerin - Situation résumée

493



FORECAST TO:  
PREVISION AU: **15.12.19**

LIKELY  
PROBABLE

POSSIBLE  
POSSIBLE

favourable breeding conditions  
conditions favorables à la reproduction



major swarm(s)  
essaim(s) important(s)



minor swarm(s)  
essaim(s) limité(s)



non swarming adults  
adultes non essaimant



SITUATION:  
**Oct 2019**  
**oct 2019**

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 partly 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 symbol example) larves et adultes (exemple symboles combinés)	◼	◻	◻