



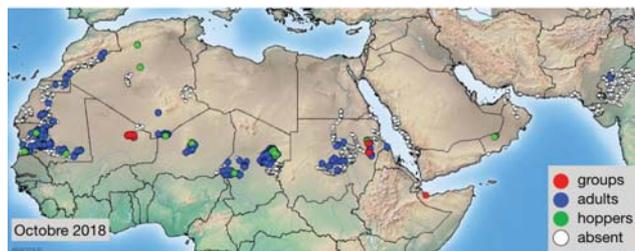
# Desert Locust Bulletin

## General situation during October 2018 Forecast until mid-December 2018

### WESTERN REGION: CALM

**SITUATION.** Small-scale breeding occurred in **Mauritania, Niger** and **Chad**. There were unconfirmed reports of locusts and groups in northern **Mali**. Limited control operations were carried out in central **Algeria**.

**FORECAST.** Breeding will continue in northwest **Mauritania** and northern **Mali** where locusts will concentrate and maybe form small groups. Locusts will decline in **Niger** and **Chad**. Local breeding may continue in central **Algeria**. Additional adults may appear in northern Mauritania and **Western Sahara**.



**The Desert Locust situation continued to remain calm during October**

### CENTRAL REGION: CALM

**SITUATION.** Scattered adults were present and breeding in **Sudan** and **Oman**. Scattered adults were also present on the Red Sea coast in **Eritrea**. Limited control operations were carried in northwest **Somalia**.

**FORECAST.** Scattered adults will appear in winter breeding areas along both sides of the Red Sea in southeast **Egypt, Sudan, Eritrea, Yemen** and **Saudi Arabia**, and in northwest **Somalia** where small-scale breeding will occur in areas that receive rainfall or runoff. No significant developments are likely.

Although seasonal rains ended in the northern Sahel between Mauritania and Sudan and vegetation was drying out, a second generation of breeding took place in Chad and small-scale breeding occurred in northern Niger and southern Algeria. There were unconfirmed reports of adult groups and breeding in northern Mali. In Mauritania, locusts moved from the south and concentrated in western areas to form a few small groups. Some of the adults may have moved further north to northern Mauritania, Morocco and western Algeria during periods of southerly winds. Local breeding continued in central Algeria where 180 ha were treated. Scattered adults persisted in the interior of Sudan and began moving towards winter breeding areas along the Red Sea coast where early rains fell in some places. Cyclone Luban brought heavy rains to eastern Yemen and southern Oman. Ecological conditions remained favourable in southern Oman and northwest Somalia from earlier cyclones Mekunu and Sagar in May, respectively. Local breeding was in progress in both areas and 70 ha of very small hopper and adult groups were treated with biopesticides on the northwest coast of Somalia. The situation remained calm in southwest Asia. During the forecast period, small-scale breeding is expected in northwest Mauritania where groups could form, and along both sides of the Red Sea.

### EASTERN REGION: CALM

**SITUATION.** Isolated adults were present in **Pakistan**.

**FORECAST.** No significant developments are likely.

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. Products are distributed by e-mail and Internet.

**Telephone:** +39 06 570 52420 (7 days/week, 24 hr)

**Facsimile:** +39 06 570 55271

**E-mail:** ecllo@fao.org

**Internet:** [www.fao.org/ag/locusts](http://www.fao.org/ag/locusts)

**Facebook:** [www.facebook.com/faolocust](https://www.facebook.com/faolocust)

**Twitter:** [twitter.com/faolocust](https://twitter.com/faolocust)



## Weather & Ecological Conditions in October 2018

**Vegetation dried out in the summer breeding areas of the Sahel in West Africa and Sudan but was green in western Mauritania. Rains began in the winter breeding areas along both sides of the Red Sea. Cyclone Luban brought heavy rains to eastern Yemen and southern Oman.**

### WESTERN REGION

The Inter-Tropical Convergence Zone (ITCZ) remained up to 125 km further north than usual over Niger and Chad during the first decade of October. Thereafter, it continued its seasonal movement southwards and out of the summer breeding area. Consequently, vegetation began to dry out in parts of the northern Sahel but remained green in western Mauritania and in eastern Chad near Fada and east and south of Arada. In Northwest Africa, light rain fell during the first decade in western Algeria while moderate rains fell in central and southwest Libya. Rains continued during the second decade in western Libya near Ghat, Ghadames and Al Hamada Al Hamra, and extended to the Hoggar Mountains in eastern Algeria.

### CENTRAL REGION

The Inter-Tropical Convergence Zone (ITCZ) was up to 250 km further south than usual over the interior of Sudan during the first decade of October. Thereafter, it moved north towards its usual position during the second decade before continuing its seasonal retreat southwards out of the summer breeding area by the end of the month. As a result, no significant rain fell in Sudan and vegetation was drying out in North Kordofan but remained green in the Nile Valley, Wadi Muqaddam and in some places west of the Red Sea Hills. In the winter breeding areas, light to moderate rain fell in Wadi Diib in northeast Sudan and on the Red Sea coast from Suakin, Sudan to Massawa, Eritrea. Rains were heaviest on the northern coast of Eritrea and adjacent plains of Sudan. Heavy rains fell at the end of the month on the Red Sea coast in southeast Egypt between Shalaty and Halaib, causing floods. Good rains also fell on the Red Sea coast of Yemen, along parts of the coast in Saudi Arabia, and on the plateau and coast in northwest Somalia. Cyclone Luban formed in the Indian Ocean and made landfall on the eastern coast of Yemen near Al Ghaydah on 14 October and then moved inland towards the Empty Quarter where it dissipated. As a result, heavy rains and floods occurred mainly in coastal areas, but also extended to the interior of Yemen east of Thamud and adjacent areas of southern Oman. In Oman, 157mm of rain fell on the coast at Dhalkut on the Yemen/Oman border, 90mm on the central Dhofar coast at Sadah, 40mm in the Dhofar Hills, and 16mm at Thumrait on the interior plateau. Breeding

conditions remained favourable in southern Oman and northwest Somalia from May cyclones Mekunu and Sagar, respectively.

### EASTERN REGION

Vegetation remained mostly green in the summer breeding areas of Rajasthan and Gujarat in India because of the monsoon withdrawing some two to three weeks later than usual this year at the end of September. Dry conditions prevailed on the southeast coast of Iran.



### Area Treated

Algeria 180 ha (October)  
Somalia 70 ha (October)



### Desert Locust Situation and Forecast

### WESTERN REGION

#### MAURITANIA

##### • SITUATION

During October, immature and mature solitary adults moved from the southeast and south towards central and western areas where they concentrated mainly near Moudjeria (1752N/1219W), Oujeft (2003N/1301W) and, to a lesser extent, Rkiz (1658N/1514W) in the southwest. Adult densities increased from 200 to 1,300 adults/ha. Small-scale egg-laying occurred in these areas and mainly solitary first to third instar hoppers were present. In the north, solitary mature adults were seen near Zouerate (2244N/1221W) and Bir Moghreïn (2510N/1135W) during the second half of the month. At the end of October, a few very small first instar hopper groups were reported east of Oujeft.

##### • FORECAST

*Locust numbers will decline further in the southeast and south as vegetation dries out and remaining adults move westwards. Small-scale breeding will continue in the northwest between Akjoujt, Oujeft and Atar where additional small groups of hoppers and adults are likely to form.*

#### MALI

##### • SITUATION

No surveys were carried out in October; however, there were unconfirmed reports of scattered immature and mature adults, groups and copulating at several places in the north between Aguelhoc (1927N/0052E) and Ti-n-kar (1926N/0022W) during the first decade.

• FORECAST

*Small-scale breeding will continue during November in parts of the Adrar des Iforas and Timetrine; thereafter, a few small groups could form as vegetation dries out and breeding comes to an end.*

## NIGER

• SITUATION

During October, scattered immature and mature solitarious adults persisted in the southeast Air Mountains between Agadez (1658N/0759E) and Timia (1809N/0846E). Small-scale breeding occurred at two places where mid to late instar solitarious hoppers were seen.

• FORECAST

*Low numbers of locusts are likely to persist in the Air Mountains.*

## CHAD

• SITUATION

During October, a second generation of small-scale breeding occurred in the northeast near Fada (1714N/2132E) where isolated third to fifth instar solitarious hoppers were present at a few places. Small-scale breeding also occurred at one place in the west near Mao (1406N/1511E). Scattered immature and mature solitarious adults were present in both areas as well as in parts of Lac, Kanem, and Wadi Fira regions.

• FORECAST

*As vegetation dries out, breeding will come to an end and locusts may concentrate and possibly form a few small groups near Fada.*

## SENEGAL

• SITUATION

No reports were received in October.

• FORECAST

*No significant developments are likely.*

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

• FORECAST

*No significant developments are likely.*

## ALGERIA

• SITUATION

During October, limited breeding continued in the central Sahara northeast of Timimoun (2916N/0014E) where scattered mature solitarious adults were seen laying eggs and scattered third to fourth instar solitarious hoppers were present on the 2nd. Small-scale breeding also occurred further north near El Bayadh (3341N/0102E) where 180 ha of scattered second to fourth instar solitarious hoppers were treated mixed with mature solitarious adults. In the extreme south, small-scale breeding occurred along the Niger

border where isolated solitarious hoppers of all instars and scattered immature solitarious adults were seen during the last week of the month at several places near In Guezzam (1937N/0552E). No locusts were seen in the centre near Adrar (2753N/0017W), in the east near Illizi (2630N/0825E) and Djanet (2434N/0930E) and in the south near Mali and Bordj Badji Mokhtar (2119N/0057E).

• FORECAST

*Limited breeding may continue near irrigated perimeters in the central Sahara but low temperatures will slow down locust development. Breeding is expected to end in the southern Sahara near the borders of Mali and Niger.*

## MOROCCO

• SITUATION

During the last decade of October, isolated mature solitarious adults appeared in W. Sakia El Hamra in northeastern Western Sahara east of Haouza (2707N/1112W), in W. Draa between Zag (2800N/0920W) and Foum El Hassan (2901N/0853W), and further north along the Algerian border in W. Ziz-Ghris near Erfoud (3128N/0410W).

• FORECAST

*Isolated adults may appear in Western Sahara and breed on a small scale if rainfall occurs. Low numbers of adults are likely to persist in a few places south of the Atlas Mountains along W. Draa, W. Ziz-Ghris and in the northeast.*

## LIBYA

• SITUATION

No reports were received in October.

• FORECAST

*Low numbers of adults may be present and persist in areas of recent rainfall near Ghadames and Ghat. Small-scale breeding could occur if more rains fall.*

## TUNISIA

• SITUATION

No locust activity was reported during September and October.

• FORECAST

*No significant developments are likely.*

## CENTRAL REGION

### SUDAN

• SITUATION

Scattered immature and mature solitarious adults were seen during surveys in the last decade of October in North Kordofan, along the Nile Valley near Karima, and on the western side of the Red Sea Hills from south of Derudeb (1731N/3607E) to north of Haiya (1820N/3621E). Small-scale breeding occurred in the latter area where mid to late instar solitarious hoppers were present as well as a few small groups of immature and mature adults.

• FORECAST

*As vegetation dries out, locusts may concentrate and form a few small groups in Wadi Muqaddam and west of the Red Sea Hills prior to moving to the Red Sea coast and subcoastal areas where small-scale breeding will commence in areas that receive rainfall.*

## ERITREA

• SITUATION

During October, scattered mature solitary adults were present on the Red Sea coast near Karora (1745N/3820E) in the north and near Sheib (1551N/3903E) on the central coast.

• FORECAST

*Small-scale breeding will occur on the central and northern coastal plains in areas of recent rainfall and runoff, causing locust numbers to increase slightly.*

## ETHIOPIA

• SITUATION

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

• FORECAST

*Low numbers of adults may be present in the railway area of Dire Dawa and perhaps on the plateau near Jijiga.*

## DJIBOUTI

• SITUATION

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

• FORECAST

*No significant developments are likely.*

## SOMALIA

• SITUATION

During the first decade of October, 70 ha of very small first and second instar hopper groups and mature *transiens* adult groups were treated with biopesticides on the northwest coast near Lughaye (1041N/4356E). Some of the adults were copulating in areas that still remained favourable from Cyclone Sagar in May.

• FORECAST

*Low numbers of hoppers and adults, and perhaps a few small groups, are likely to persist on the northwest coastal plains. Small-scale breeding will continue if additional rains fall.*

## EGYPT

• SITUATION

During October, no locusts were seen along Lake Nasser near Abu Simbel (2219N/3138E) and Tushka (2247N/3126E), and on the southern coastal plains of the Red Sea between Shalatyn (2308N/3535E) and the Sudan border during October.

• FORECAST

*Low numbers of adults are likely to appear on the Red Sea coastal plains and subcoastal areas between Berenice and Halaib where small-scale breeding will occur in areas that receive rainfall.*

## SAUDI ARABIA

• SITUATION

No locusts were seen during surveys carried out on the Red Sea coastal plains between the Yemen border and Thuwal (2215N/3906E) in October.

• FORECAST

*Low numbers of adults are likely to appear and breed on a small scale in areas of recent rainfall or areas that receive rain on the Red Sea coastal plains.*

## YEMEN

• SITUATION

During October, no surveys were carried out for the seventh consecutive month due to insecurity and finances, and no locusts were reported.

• FORECAST

*Scattered locusts are almost certainly present and breeding along parts of the Red Sea coastal plains that will cause locust numbers to increase. Scattered adults may be present in the eastern region where small-scale breeding could eventually occur in areas that received good rains from cyclone Luban.*

## OMAN

• SITUATION

During October, scattered late instar solitary hoppers were present at one place near the edge of the Empty Quarter in the southern province of Dhofar on the 2nd as a result of egg-laying shortly after mid-August in areas of good rains from cyclone Mekunu. Solitary mature adults were seen copulating in the same place on the 21st. No locusts were seen in the northern interior, on the Batinah coast and the Musandam Peninsula.

• FORECAST

*Limited hatching will occur in early November in southern Dhofar with fledging at the end of the forecast period. Low numbers of adults may also be present and breeding on a small scale in a few areas where heavy rains fell from Cyclone Luban.*

## 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, no locusts were seen on the southeast coast near Jask (2540N/5746E) and Chabahar (2517N/6036E).

#### • FORECAST

*No significant developments are likely.*

### PAKISTAN

#### • SITUATION

Isolated mature solitary adults persisted at one location east of Islamgarh (2751N/7048E) near the Indian border during October. No locusts were reported elsewhere in the summer breeding areas.

#### • FORECAST

*No significant developments are likely.*

### INDIA

#### • SITUATION

No locusts were seen in Rajasthan and Gujarat during October.

#### • FORECAST

*No significant developments are likely.*

### AFGHANISTAN

#### • SITUATION

No reports received.

#### • FORECAST

*No significant developments are likely.*



## Announcements

### Locust warning levels

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

### Locust reporting

**Calm (green).** 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). Reports received by the first two days of the new month will be included in the FAO Desert Locust Bulletin for the current month; 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 or planned:

- **SWAC.** 31<sup>st</sup> session, New Delhi, India (11–13 December, to be confirmed)
- **CRC.** 31<sup>st</sup> session, Amman, Jordan (17–21 February 2019)
- **DLCC.** 41<sup>st</sup> session (postponed to 2019)



## 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.ideo.columbia.edu/maproom/.Food\\_Security/.Locusts/index.html](http://iridl.ideo.columbia.edu/maproom/.Food_Security/.Locusts/index.html)

**IRI Greenness maps.** Dynamic maps of green vegetation evolution every decade  
[http://iridl.ideo.columbia.edu/maproom/Food\\_Security/Locusts/Regional/greenness.html](http://iridl.ideo.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>

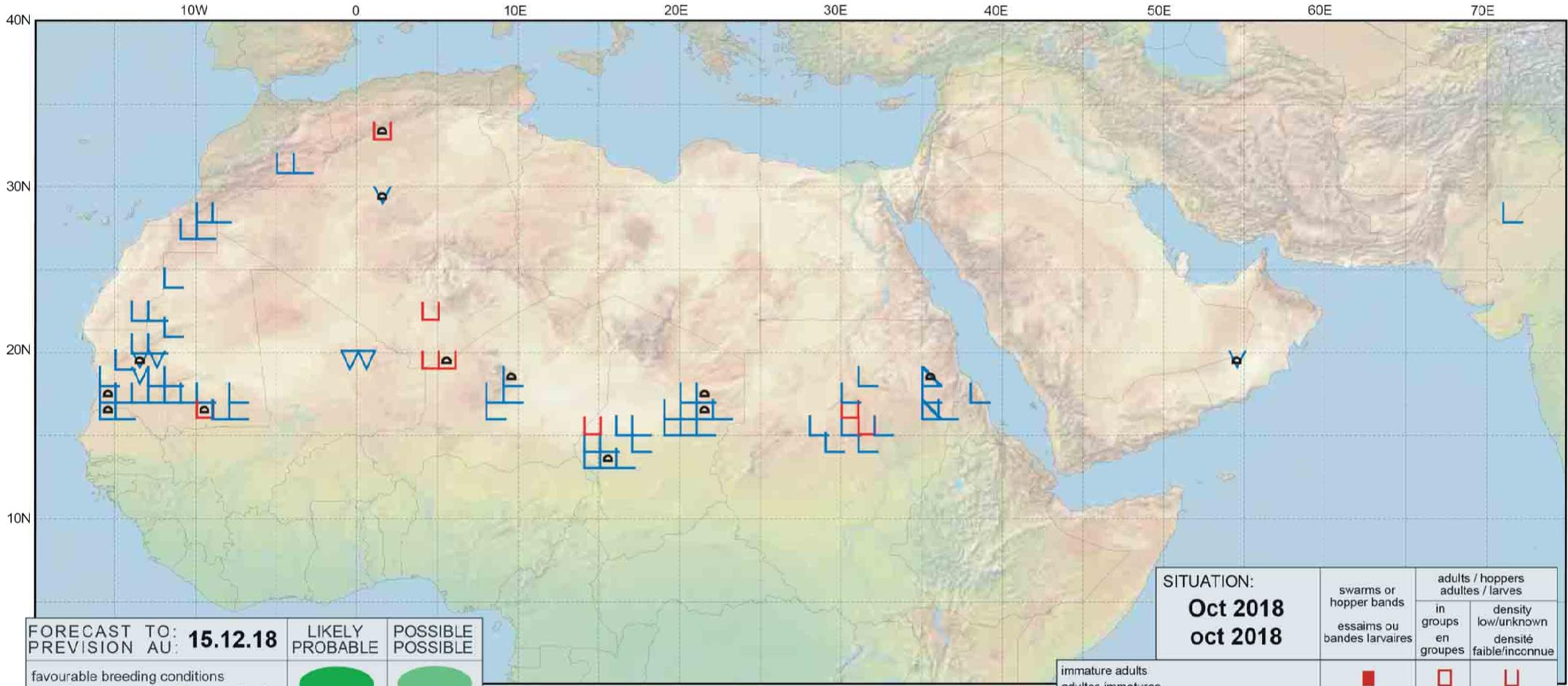
**FAOLocust Slideshare.** Locust presentations and photos  
<http://www.slideshare.net/faolocust>

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



# Desert Locust Summary

## Criquet pèlerin - Situation résumée



FORECAST TO: PREVISION AU: <b>15.12.18</b>	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: <b>Oct 2018</b> <b>oct 2018</b>	adults / hoppers adultes / larves	
	in groups en groupes	density low/unknown 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)			