



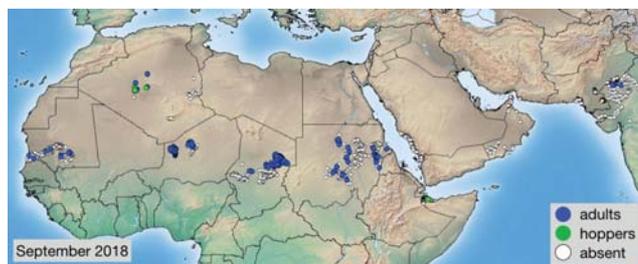
## Desert Locust Bulletin

General situation during September 2018  
Forecast until mid-November 2018

### WESTERN REGION: CALM

**SITUATION.** Small-scale breeding was underway in **Mauritania**, **Niger** and **Chad**, and probably northern **Mali**. Local breeding continued in central **Algeria** where limited control operations were carried out.

**FORECAST.** Small-scale breeding will continue during October in the northern Sahel between **Mauritania** and **Chad**, and in central **Algeria**. Locusts may concentrate in western Mauritania as conditions dry out. Isolated adults may appear in northern Mauritania and **Western Sahara**. No significant developments are likely.



### The Desert Locust situation continued to remain calm during September

Small-scale breeding occurred throughout the month in parts of the northern Sahel between Mauritania and western Eritrea, but it was very difficult to detect during surveys as locust numbers remained extremely low and insignificant. As good rains continued to fall in most places, summer breeding is likely to continue during October while thereafter vegetation will probably start to dry out. This may cause locusts to concentrate in a few areas such as western Mauritania and eastern Sudan. Isolated adults may also appear in areas of recent rainfall in Western Sahara, northern Mauritania and southeast Egypt. In northwest Africa, local breeding continued in central Algeria where 406 ha were treated. Good rains fell on the Red Sea coastal plains in Saudi Arabia, Yemen and, to a lesser extent, in Eritrea. Small-scale winter breeding may commence early in these areas. Limited breeding occurred on the northwest coast of Somalia. In South-West Asia, locust numbers remained low where the monsoon withdrew from the Indo-Pakistan summer breeding areas at the end of September.

### CENTRAL REGION: CALM

**SITUATION.** Scattered adults were present in **Sudan** and local breeding occurred on the northwest coast of **Somalia**.

**FORECAST.** As breeding ends in the interior of Sudan, locusts could concentrate in a few places before they appear in winter breeding areas along the Red Sea coast. Small-scale winter breeding may commence early this year on the Red Sea coast in **Eritrea**, **Sudan**, **Yemen** and **Saudi Arabia**. No significant developments are likely.

### EASTERN REGION: CALM

**SITUATION.** Isolated adults persisted at a few places on both sides of the **Indo-Pakistan border**.

**FORECAST.** Locust numbers will decline along both sides of the **Indo-Pakistan border**. 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.

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## Weather & Ecological Conditions in September 2018

Good rains and ecological conditions prevailed in the summer breeding areas of West Africa but declined in Sudan and along the Indo-Pakistan border. Good rains fell in northwest Africa and along the Red Sea coasts.

### WESTERN REGION

Although the Inter-Tropical Convergence Zone (ITCZ) remained about 150 km further north than usual over Mauritania and Mali during September, it continued its seasonal movement southward, reaching Tidjikja, Mauritania and Anefis, Mali by the end of the month. In Niger and Chad, its position was normal for this time of year, reaching Tanout, Niger and Abeche, Chad by the end of September. Consequently, good rains continued to fall throughout the summer breeding areas except during the last decade in Niger and Chad. Ecological conditions remained favourable for breeding in all areas. Good rains fell in central Western Sahara, northern Mauritania (Inchiri, southwest Adrar, and the northeast), western Algeria near Tindouf, and along the Malian border in southern Algeria during the second decade, and in central Algeria during the last decade. Ecological conditions are likely to improve in these areas.

### CENTRAL REGION

The Inter-Tropical Convergence Zone (ITCZ) continued its seasonal movement southward over the interior of Sudan during September, reaching El Fasher, En Nahud and Ed Dueim by the end of the month, which was slightly further south than usual in North Kordofan and White Nile states. Consequently, rainfall progressively declined in the summer breeding areas and, by the last decade of September, rains were south of Sodiri and Kassala. Nevertheless, good rains fell during the first decade on the western side of the Red Sea Hills and in northeast Sudan that extended to the Wadi Allaqi area in southeast Egypt, and widespread rains fell during the first two decades in western Eritrea. In the winter breeding areas, good rains fell on the Red Sea coastal plains of Saudi Arabia, Yemen and, to a lesser extent, in Eritrea. Good rains fell at times in eastern Ethiopia and on the plateau of northwest Somalia. These rains should allow ecological conditions to improve in parts of the winter breeding areas where, so far, vegetation remained mostly dry.

### EASTERN REGION

Rainfall progressively declined in the summer breeding areas along both sides of the Indo-Pakistan border as the monsoon withdrew to the south by the end of September. Its withdrawal was some two to three weeks later than usual this year. Consequently, good rains fell in eastern Rajasthan, India during the first decade of the month.

Vegetation remained green in these areas as well as in neighbouring Cholistan and Tharparkar, Pakistan but was dry in Nara desert and in the Las Bela area west of Karachi. Dry conditions also prevailed on the southeast coast of Iran.



### Area Treated

Algeria 406 ha (September)



### Desert Locust Situation and Forecast

### WESTERN REGION

#### MAURITANIA

##### • SITUATION

During September, isolated mature solitary adults were seen at a few places in the south and centre west of N'Beika (1758N/1215W) and from Kiffa (1638N/1124W) to north of Tamchekket (1714N/1040W), while isolated immature solitary adults were present in a few places in the southwest near Rkiz (1658N/1514W) and south of Nouakchott (1809N/1558W). Although adults were seen copulating at only one location, breeding was probably in progress in most areas.

##### • FORECAST

*Small-scale breeding will continue in areas of recent rainfall in the centre and south, causing locust numbers to increase slightly. As vegetation dries out, adults are expected to concentrate and breed on a small scale in Trarza, Inchiri and southwest Adrar. Isolated adults may appear in areas of recent rainfall in the north.*

#### MALI

##### • SITUATION

No surveys were carried out and no locusts were reported in September

##### • FORECAST

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

#### NIGER

##### • SITUATION

During September, scattered mature solitary adults were present and breeding on a small scale on the Tamesna Plains between Tassara (1650N/0550E) and Tazerzait Plateau (1832N/0449E). In the Air Mountains, scattered immature and mature solitary adults were present between Timia (1809N/0846E) and Iferouane (1905N/0824E), and west to Arlit (1843N/0721E).

• FORECAST

*Small-scale breeding will continue in areas of recent rainfall on the Tamesna Plains, the central pasture areas, and perhaps in the Air Mountains, causing locust numbers to increase slightly.*

## CHAD

• SITUATION

During September, low numbers of solitarious adults matured in the northeast and were seen copulating and laying eggs near Fada (1714N/2132E), which probably is a second generation of breeding. Scattered immature and mature solitarious adults were present to the south near Kalait (1550N/2054E) while a few mature solitarious adults were seen in the centre near Salal (1448N/1712E).

• FORECAST

*Small-scale breeding will cause locust numbers to increase slightly in the northeast.*

## SENEGAL

• SITUATION

No locust activity was reported during September.

• 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 September, small-scale breeding continued in the central Sahara between Reggane (2643N/0010E) and Adrar (2753N/0017W) as well as northeast of Timimoun (2916N/0014E) and northwest of In Salah (2712N/0229E) where scattered mature solitarious adults were copulating and laying eggs near irrigated agriculture perimeters and scattered second to fourth instar hoppers were present. Ground teams treated 406 ha. No locusts were seen in the east near Illizi (2630N/0825E).

• FORECAST

*Limited hatching will continue near irrigated perimeters in the central Sahara but low temperatures towards the end of the forecast period will slow down locust development. Low numbers of adults are likely to be present and breeding on a small scale in areas of recent rainfall of the southern Sahara near the borders of Mali and Niger.*

## MOROCCO

• SITUATION

No locust activity was reported during September.

• FORECAST

*Isolated adults may appear in areas of recent rainfall in central Western Sahara and breed on a small scale if more rains occur.*

## LIBYA

• SITUATION

No reports were received in September.

• FORECAST

*No significant developments are likely.*

## TUNISIA

• SITUATION

No reports were received in September.

• FORECAST

*No significant developments are likely.*

## CENTRAL REGION

### SUDAN

• SITUATION

During September, isolated immature and mature solitarious adults were seen in a few places of North Kordofan, the Baiyuda Desert and in the northern Nile Valley near Dongola (1910N/3027E) while scattered mature solitarious adults were present west of the Red Sea Hills between Kassala (1527N/3623E) and Haiya (1820N/3621E). On the Red Sea coast, scattered mature adults persisted in one field on the edge of Tokar Delta (1827N/3741E) early in the month.

• FORECAST

*Small-scale breeding will decline in North Darfur, North Kordofan, White Nile, Khartoum, River Nile, Northern and Kassala states by the end of the forecast period. As vegetation dries out, locusts may concentrate in the Wadi Muqaddam area or west of the Red Sea Hills prior to moving towards the winter breeding areas along the Red Sea coast and subcoastal areas.*

### ERITREA

• SITUATION

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

• FORECAST

*Small-scale breeding will decline in the western lowlands by the end of the forecast period. Low numbers of adults are likely to appear in recent areas of rainfall and green vegetation on the central and northern plains of the Red Sea where small-scale breeding will eventually occur.*

### ETHIOPIA

• SITUATION

A late report indicated that the situation remained calm in July and August, and no locusts were seen during surveys carried out in the east. No locusts were reported in September.

• 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 September.

• FORECAST

*No significant developments are likely.*

## SOMALIA

• SITUATION

During September, scattered late instar solitary hoppers and immature and mature solitary adults were present at a few places along the northwest coast near Lughaye (1041N/4356E). No locusts were seen elsewhere on the coast or nearby escarpment to Boroma (0956N/4313E).

• FORECAST

*No significant developments are likely.*

## EGYPT

• SITUATION

No locusts were seen on the southern coastal plains of the Red Sea between Shalaty (2308N/3535E) and the Sudan border during September.

• FORECAST

*Low numbers of adults may appear in recent areas of rainfall in the Wadi Allaqi area.*

## SAUDI ARABIA

• SITUATION

No locusts were seen during surveys carried out on the Red Sea coastal plains between the Yemen border and Jeddah (2130N/3910E).

• FORECAST

*Low numbers of adults are likely to appear and breed on a small scale in areas of recent rainfall along parts of the Red Sea coastal plains between Jizan and Jeddah.*

## YEMEN

• SITUATION

No surveys were carried out due to insecurity and no locusts were reported in September.

• FORECAST

*Scattered locusts are almost certainly present along parts of the Red Sea coastal plains where small-scale breeding is likely in recent areas of rainfall.*

## OMAN

• SITUATION

During September, no locusts were seen during surveys carried out on the Musandam Peninsula, the central Batinah coast, in the northern interior near Buraimi (2415N/5547E) and Adam (2223N/5731E), and in the southern province

of Dhofar north of Thumrait (1736N/5401E), near Shehan (1746N/5229E) and Marmul (1808N/5516E), and on the eastern coast.

• FORECAST

*Low numbers of adults may be present in a few interior areas of Dhofar near Thumrait and the Empty Quarter where heavy rains fell from Cyclone Mekunu.*

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

• FORECAST

*No significant developments are likely.*

### PAKISTAN

• SITUATION

During the first fortnight of September, isolated mature solitary adults persisted at three places along the Indian border east of Rahimyar Khan (2822N/7020E) in Cholistan. No locusts were seen during surveys in the second fortnight of the month.

• FORECAST

*Locust numbers will decline in the summer breeding areas as vegetation dries out. No significant developments are likely.*

### INDIA

• SITUATION

During the first fortnight of September, isolated mature solitary adults were present at one place southwest of Bikaner (2801N/7322E). No locusts were seen elsewhere in Rajasthan and Gujarat

• FORECAST

*Locust numbers will decline in the summer breeding areas as vegetation dries out. 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:

- **CRC.** Simulation of Desert Locust contingency planning, Hurghada, Egypt (30 September – 4 October)
- **CRC.** Regional workshop on use of *Metarhizium acridum* in Desert Locust control, Hurghada, Egypt (7–9 October)
- **CRC/CLCPRO/DLIS.** Drone field trial, Jeddah, Saudi Arabia (25–29 November)
- **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, 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.



**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>

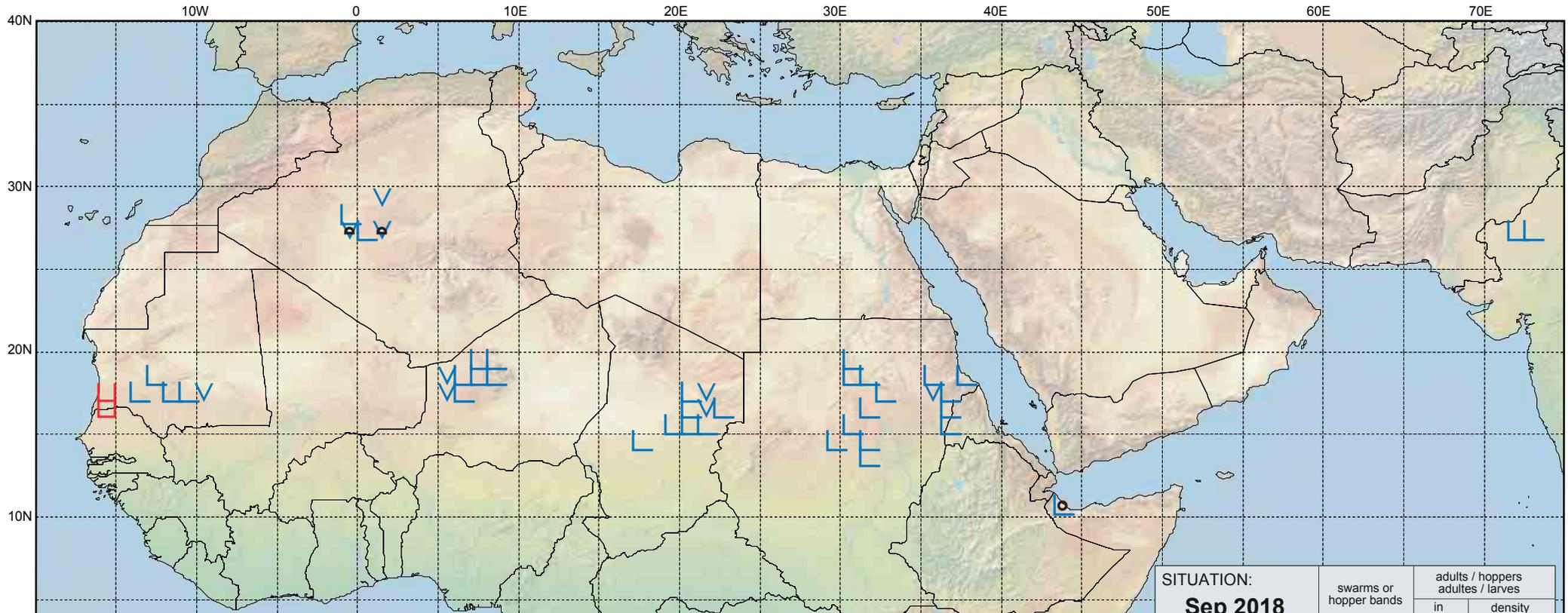
**eLERT.** Online database of resources and technical specifications for locust emergencies  
<http://sites.google.com/site/elertsite>



# Desert Locust Summary

## Criquet pèlerin - Situation résumée

480



FORECAST TO: PREVISION AU: <b>15.11.18</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>Sep 2018</b> <b>sept 2018</b>	swarms or hopper bands	adults / hoppers adultes / larves	
	essaims ou bandes larvaires	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)			