



warning level: **CALM**

# DESERT LOCUST BULLETIN

FAO Emergency Centre for Locust Operations



No. 468

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## General Situation during September 2017 Forecast until mid-November 2017

The Desert Locust situation continued to remain calm during September. Despite good rainfall and favourable breeding conditions, very few locusts were detected during surveys in the summer breeding areas of the northern Sahel in West Africa and Sudan, and along both sides of the Indo-Pakistan border. In Mauritania, low numbers of adults shifted from the south to the west where small-scale breeding will increase during the forecast period that could extend to areas in Western Sahara where good rains fell after mid-September. Low numbers of adults will move from the interior of Sudan to the winter breeding areas on the Red Sea coast in Sudan where small-scale breeding will occur there as well as on the coasts of Yemen, Saudi Arabia, Eritrea and perhaps southeast Egypt during the forecast period.

**Western Region.** The situation remained calm during September. Small-scale breeding occurred in northern Niger, western Mauritania and near irrigated farms in the central Sahara of Algeria where preventive control operations treated 34 ha. Isolated adults were seen at more places in western Mauritania compared to August, suggesting that adults were leaving the summer breeding areas in the south of the country as vegetation started to dry out. No locusts were seen in western Mali, and surveys were not undertaken in Chad. During the forecast period, locust numbers will decline further in the summer breeding areas of the northern Sahel. As vegetation dries out,

low numbers of adults are likely to concentrate in western Mauritania and extend to the **Western Sahara** where good rains fell in the second half of September. Small-scale breeding is likely to occur in both areas as well as in parts of southern Algeria. Smaller populations may persist in parts of northern Mali and Niger that remain green.

**Central Region.** The locust situation remained calm in the region during September where very few locusts were reported. Only low numbers of solitary adults persisted in the interior of Sudan where it appears that very little breeding occurred this summer despite good rainfall. During the forecast period, low numbers of adults will move from the interior of Sudan to the winter breeding areas along the Red Sea coast in Sudan and breed on a small scale in any areas that receive rainfall. Similar breeding will occur on the Red Sea coast in Yemen where good rains fell throughout September, and to a lesser extent on the Red Sea coast in Saudi Arabia and Eritrea, and perhaps southeast Egypt. Low numbers of adults may also appear on the Gulf of Aden coastal plains in southern Yemen and northwest Somalia and breed on a small scale.

**Eastern Region.** The locust situation continued to remain calm in the region during September. Only low numbers of locusts persisted in the summer breeding areas of Pakistan near the border with India. No locusts were seen during regular surveys in India. As the monsoon had completely withdrawn from both countries by the end of September, no significant developments are expected during the forecast period. In southeast Iran, scattered mature adults were copulating at one location in the interior but no significant developments are likely.

The FAO Desert Locust Bulletin is issued every month by the Desert Locust Information Service, AGP Division (Rome, Italy). It is supplemented by Alerts and Updates during periods of increased Desert Locust activity. All products are distributed by e-mail and are available on the Internet.

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### Weather & Ecological Conditions in September 2017

**Rainfall declined and vegetation started to dry out in the summer breeding areas of the northern Sahel in West Africa and Sudan with the retreat of the ITCZ. A similar situation occurred along the Indo-Pakistan border with the withdrawal of the monsoon. Good rains fell in winter breeding areas along the Red Sea coastal plains in Yemen. Good rains also fell in Western Sahara and in parts of northwest and northern Mauritania.**

In the **Western Region**, the Inter-Tropical Convergence Zone (ITCZ) started to retreat southward over the northern Sahel in West Africa during September. Its mean position was nearly normal for this time of year. As a result, good rains continued to fall in the summer breeding areas in southern Mauritania, northern Mali and Niger, and central and eastern Chad. However, the rainfall declined as the month progressed and very little rain fell during the last decade. Nevertheless, vegetation was mainly green but was starting to dry out in some places. During the last decade of the month, light rain fell in southern Algeria between Tamanrasset and the Mali border, and in parts of northwest and northern Mauritania. In Morocco, heavier rains fell in the Western Sahara during a few days in the second half of September. Vegetation remained green in Algeria near Tamanrasset and in the Adrar Valley.

In the **Central Region**, the Inter-Tropical Convergence Zone (ITCZ) was located slightly further south than normal over the interior of Sudan during September. By the end of the month, it began retreating southwards. Consequently, good rains fell mainly during the first two decades. Vegetation remained green in most areas but was starting to dry out at the end of the month. In the winter breeding areas, good rains fell along the Red Sea coastal plains in Yemen throughout the entire month, and light to moderate rains fell at times on the coast in Saudi Arabia near Qunfidah and Jizan. Rain also fell in the highlands of Eritrea that could runoff onto the central Red Sea coast. Despite the rains, vegetation remained dry on the Saudi Arabian coast. On the contrary,

ecological conditions are likely to be favourable for breeding on the Tihama in Yemen. In the Horn of Africa, good rains fell in eastern Ethiopia and on the plateau in northern Somalia.

In the **Eastern Region**, rainfall associated with the seasonal monsoon was nearly absent along both sides of the Indo-Pakistan border during September except for light rains in northern Rajasthan, India and parts of neighbouring Cholistan, Pakistan during the second decade. Vegetation was drying out in India but remained mostly green in Pakistan. By the end of the month, the monsoon had withdrawn entirely from Rajasthan. This year's monsoon rainfall was above average in central and southern Rajasthan and Gujarat but below long-term means in northern Rajasthan and along the Pakistani border.



### Area Treated

Algeria 34 ha (Sep)



### Desert Locust Situation and Forecast

( see also the summary on page 1 )

#### WESTERN REGION

##### **Mauritania**

###### • SITUATION

During September, there was an increase of locust activity in the west where isolated mature solitarious adults were seen at more places in the Aguila Faye (1827N/1444W) area while adults declined in the summer breeding areas north of Aioun El Atrous (1639N/0936W). Small-scale breeding occurred at a few places between Aguila Faye and Tidjikja (1833N/1126W) where isolated first and second instar solitarious hoppers were present. No locusts were observed elsewhere during surveys.

###### • FORECAST

*Small-scale breeding will continue in Trarza and Tagant, causing locust numbers to increase slightly and there may be a slight risk of a few small groups forming. Initial fledging will commence in about mid-October. Low numbers of adults may appear in Inchiri and southwest Adrar and breed on a small scale in areas of recent rainfall or that receive more rain during the forecast period.*

##### **Mali**

###### • SITUATION

During September, no locusts were seen during surveys carried out in the west between Nara

(1510N/0717W) and Kayes (1426N/1128W).

- **FORECAST**

*Low numbers of adults are likely to be present and breeding on a small scale in parts of the Adrar des Iforas, Timetrine, Tilemsi Valley and Tamesna.*

### **Niger**

- **SITUATION**

During September, small-scale breeding occurred in at least one area of Tamesna south of In Abangharit (1754N/0559E) where isolated solitarious hoppers of all instars mixed immature and mature solitarious adults were seen during limited surveys undertaken at the end of the month.

- **FORECAST**

*Small-scale breeding that is almost certainly in progress in other areas of Tamesna and in the Air Mountains will cause locust numbers to increase slightly during the forecast period. Limited breeding may also be in progress in the central pasture zone. As vegetation dries out, there may be a slight risk of a few small groups forming.*

### **Chad**

- **SITUATION**

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

- **FORECAST**

*Low numbers of adults are almost certainly present in central and eastern areas where small-scale breeding will decline as vegetation dries out during the forecast period.*

### **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, scattered mature solitarious adults, of which some were copulating, mixed with second to fifth instar solitarious hoppers persisted near irrigated farms in the Adrar (2753N/0017W) valley of the central Sahara. Ground teams treated 34 ha. No locusts were seen west of Tamanrasset (2250N/0528E).

- **FORECAST**

*Small-scale breeding will continue in the Adrar Valley, and is likely to occur in the south between Tamanrasset and the Mali/Niger border, causing locust numbers to increase slightly.*

### **Morocco**

- **SITUATION**

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

- **FORECAST**

*Low numbers of adults may appear in areas of recent rainfall in the Western Sahara and breed on a small scale.*

### **Libya**

- **SITUATION**

A late report indicated no locust activity during August. Reports of locusts in the east near Jalu (2902N/2134E) in mid-September were African Migratory Locust and not Desert Locust.

- **FORECAST**

*No significant developments are likely.*

### **Tunisia**

- **SITUATION**

No locust activity was reported during September.

- **FORECAST**

*No significant developments are likely.*

## **CENTRAL REGION**

### **Sudan**

- **SITUATION**

During September, isolated immature and mature solitarious adults persisted in the summer breeding areas of North Kordofan and White Nile, in the Baiyuda Desert and in a few places to the west of the Red Sea Hills. Locust numbers declined in cropping areas of the Nile Valley where they were only present near Abu Hamed (1932N/3320E) and Shendi (1641N/3322E).

- **FORECAST**

*As vegetation continues to dry out in the summer breeding areas, there is a very low risk that a few small groups could form. Low numbers of adults will move from the interior to the winter breeding areas along the Red Sea coast and breed on a small scale in any areas that receive rainfall.*



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### Eritrea

- **SITUATION**

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

- **FORECAST**

*Small-scale breeding will occur in areas that receive rainfall or runoff on the central and northern Red Sea coast, causing locust numbers to increase slightly during the forecast period.*

### Ethiopia

- **SITUATION**

No surveys were carried out and no locusts were reported during August and September.

- **FORECAST**

*No significant developments are likely.*

### Djibouti

- **SITUATION**

No reports were received during September.

- **FORECAST**

*No significant developments are likely.*

### Somalia

- **SITUATION**

A late report indicated that no surveys were carried out and no locusts were reported during August. No reports were received in September.

- **FORECAST**

*Low numbers of adults may start to appear and breed on the northwest coast in any areas that receive rainfall. No significant developments are likely.*

### Egypt

- **SITUATION**

No locusts were seen near Lake Nasser in the Tushka (2247N/3126E) and Abu Simbel (2219N/3138E) areas during August and September. No locusts were seen on the Red Sea coast between Berenice (2359N/3524E) and the Sudanese border in September.

- **FORECAST**

*Low numbers of adults may start to appear and breed on the southeastern coastal plains of the Red Sea in any areas that receive rainfall. No significant developments are likely.*

### Saudi Arabia

- **SITUATION**

During September, no locusts were seen during surveys carried out on the Red Sea coast between Lith (2008N/4016E) and the Yemeni border.

- **FORECAST**

*Low numbers of adults may appear in winter breeding areas on the Red Sea coast and start to breed on a small scale in any areas that receive rainfall during the forecast period.*

### Yemen

- **SITUATION**

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

- **FORECAST**

*Locust numbers will decline in the interior as vegetation dries out. Any adults that are present are expected to move to the winter breeding areas along the Red Sea and Gulf of Aden coasts where small-scale breeding will occur in areas of recent rainfall, causing locust numbers to increase slightly.*

### Oman

- **SITUATION**

No locusts were seen during surveys carried out in the Musandam Peninsula, in the northern interior near Buraimi (2415N/5547E) and in the south near Thumrait (1736N/5401E) in September.

- **FORECAST**

*No significant developments are likely.*

**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, scattered mature solitary adults were seen copulating at one place in Jaz Murian northwest of Sowlan (2710N/5833E).

- **FORECAST**

*No significant developments are likely.*

### Pakistan

- **SITUATION**

During September, isolated mature solitary adults persisted in a few places of Lasbela west of Karachi (2450N/6702E) and in Cholistan near the Indian border south of Rahimyar Khan (2822N/7020E) and Islamabad (2751N/7048E).



- **FORECAST**

*Locust activity will decline in the summer breeding areas along the Indo-Pakistan border as vegetation dries out. No significant developments are likely.*

## India

- **SITUATION**

During September, no locusts were seen during survey carried out in Rajasthan and Gujarat.

- **FORECAST**

*No significant developments are likely.*

## Afghanistan

- **SITUATION**

No reports received.

- **FORECAST**

*No significant developments are likely.*



## Announcements

**Desert 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 bulletin's header. 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.** During calm (green) periods, countries should report at least once/month and send RAMSES data with a brief interpretation. During caution (yellow), threat (orange) and danger (red) periods, often associated with 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. Affected countries are also encouraged to prepare decadal bulletins summarizing the situation. 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.

**New information on Locust Watch.** Recent additions to the web site ([www.fao.org/ag/locusts](http://www.fao.org/ag/locusts)) are:

- **WMO/FAO Weather and Desert Locusts booklet.** Publications – Documents
- **CRC/SWAC Desert Locust Information Officers workshop.** Publications – Reports 2017

- **SWAC Iran/Pakistan Joint Survey results.**

Publications – Reports 2017

**RAMSES training videos.** New training videos are available on YouTube for Rv4.1 users – see Useful tools and resources section of this bulletin.

**2017 events.** The following activities are scheduled or planned:

- **CLCPRO.** Regional training in survey techniques for newly recruited scouts, Akjoujt, Mauritania (2 October – 5 November)
- **CLCPRO.** 16<sup>th</sup> EMPRES liaison officers meeting and 13<sup>th</sup> Steering Committee meeting, Agadir, Morocco (1–9 December)
- **SWAC.** Desert Locust Information Officer workshop, Tehran (December) [tbc]
- **CRC.** 10<sup>th</sup> Subregional training course on Desert Locust campaigns (December) [tbc]



## 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



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### **RAINFALL**

#### **LIGHT**

- 1–20 mm of rainfall.

#### **MODERATE**

- 21–50 mm of rainfall.

#### **HEAVY**

- more than 50 mm of rainfall.

### **OTHER REPORTING TERMS**

#### **BREEDING**

- the process of reproduction from copulation to fledging.

#### **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)

#### **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



## Useful tools and resources

**FAO Locust Watch.** Information, maps, activities, publications, archives, FAQs, links

<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)

**IRI MODIS.** Vegetation imagery every 16 days

[http://iridl.ldeo.columbia.edu/maproom/Food\\_Security/Locusts/Regional/MODIS/index.html](http://iridl.ldeo.columbia.edu/maproom/Food_Security/Locusts/Regional/MODIS/index.html)

**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>

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, Burkino 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.



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# Desert Locust Summary

## Criquet pèlerin - Situation résumée

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