



Desert Locust Bulletin

General situation during January 2018 Forecast until mid-March 2018

WESTERN REGION: CALM

SITUATION. No significant rain fell and ecological conditions were mainly dry. No locusts were reported.
FORECAST. The situation is expected to remain calm. Isolated adults may appear by the end of the forecast period in parts of the spring breeding areas along the southern side of the Atlas Mountains in **Morocco**. No significant developments are likely.

CENTRAL REGION: CALM

SITUATION. No significant rain fell and ecological conditions were mainly dry excepts in coastal areas of **Sudan** and **Yemen** where low numbers of solitary adults were present in a few places.
FORECAST. The situation is likely to remain calm. Small-scale breeding may occur on the Red Sea coast of **Sudan** and **Yemen** and, if more rains fall, in **Saudi Arabia** and **Eritrea**. No significant developments are likely.

EASTERN REGION: CALM

SITUATION. No locusts reported.
FORECAST. Low numbers of solitary adults may start to appear in spring breeding areas of southwest **Pakistan** and southeast **Iran** by mid-March and breed if rains fall. No significant developments are likely.



The Desert Locust situation continued to remain calm during January

No significant rain fell for the second consecutive month in the winter breeding areas along both sides of the Red Sea during January. Consequently, ecological conditions remained unusually dry and unfavourable for breeding in most areas. Only localized breeding on a small scale is likely to occur in some coastal areas of Sudan and Yemen where low numbers of solitary adults were present in January. Small-scale breeding could also take place on the coast of Eritrea, Saudi Arabia and northern Somalia if additional rains fall during February. Dry conditions prevailed elsewhere in the recession area and no locusts were reported. During the forecast period, locust numbers will remain low and no significant development are likely. By mid-March, isolated adults may start to appear in the spring breeding areas in Northwest Africa and Southwest Asia.

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 January 2018

No significant rain fell during January. For the second consecutive month, ecological conditions continued to be dry and unfavourable for breeding except for some coastal areas on both sides of the Red Sea.

WESTERN REGION

No significant rain fell during January. Light rain may have fallen during the second decade in parts of the Hoggar Mountains in southeast Algeria extending to the eastern side of the Air Mountains in northern Niger. Ecological conditions remained mostly dry in the region except in the Ziz-Ghris Valley along the southern side of the Atlas Mountains in Morocco and near irrigated areas in the Adrar Valley of the central Sahara in Algeria. Low temperatures prevailed in Northwest Africa and light snow was present in some places south of the Atlas Mountains. Dry conditions prevailed in the northern Sahel of West Africa. Small localized areas of green vegetation persisted in northern Mali and Niger.

CENTRAL REGION

Very little rain fell during January in the winter breeding areas along both sides of the Red Sea. Light showers fell on the southern portion of the Red Sea coast in Sudan and Yemen during the first decade. Green vegetation prevailed in a few places on the central Red Sea coast of Sudan, Eritrea and Yemen while dry conditions persisted elsewhere in the winter breeding areas along both sides of the Red Sea and Gulf of Oman. Light rain fell in northern Oman during the first decade where vegetation was green in some places.

EASTERN REGION

No significant rain fell in the region during January. Ecological conditions remained unfavourable for breeding in all areas although vegetation was starting to become green on the southeast coast of Iran near Jask.



Area Treated

No control operations were reported during January.



Desert Locust Situation and Forecast

WESTERN REGION

MAURITANIA

• SITUATION

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

• FORECAST

Low numbers of adults are likely to be present in parts of southwest Adrar and Tiris-Zemmour where small-scale breeding could occur once temperatures warm up and if additional rains fall.

MALI

• SITUATION

During January, there were unconfirmed reports of isolated immature and mature solitary adults from three places in the north near Ti-n-kar (1926N/0022W).

• FORECAST

Low numbers of adults may be present and could persist in parts of the Adrar des Iforas.

NIGER

• SITUATION

No locust activity was reported during January.

• FORECAST

Low numbers of adults are likely to be present and will persist in a few places in the Air Mountains.

CHAD

• SITUATION

No locust activity was reported during January.

• FORECAST

No significant developments are likely.

SENEGAL

• SITUATION

No locust activity was reported during January.

• 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

No locusts were seen in the Adrar Valley (2753N/0017W) of the central Sahara and near Tamanrasset (2250N/0528E) in the south during January.

• FORECAST

Scattered adults may persist in the extreme south near the Mali and Niger borders while others could remain near irrigated cropping areas in the Adrar Valley.

MOROCCO

• SITUATION

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

• FORECAST

Isolated adults may appear by the end of the forecast period along the southern side of the Atlas Mountains.

LIBYA

• SITUATION

No reports were received in January.

• FORECAST

No significant developments are likely.

TUNISIA

• SITUATION

No locust activity was reported during January.

• FORECAST

No significant developments are likely.

CENTRAL REGION

SUDAN

• SITUATION

In early January, isolated immature and mature solitary adults at densities up to 125 adults/ha continued to be present on the Red Sea coast in the Tokar Delta (1827N/3741E) while isolated mature adults persisted near Suakin (1906N/3719E) and Aqiq (1813N/3811E). Scattered mature solitary adults were also seen in the northeast subcoastal area near Tomala (2002N/3551E) in Wadi Oko/Diib at mid-month.

• FORECAST

Small-scale breeding will occur on a limited basis along the Red Sea coast between Port Sudan and Karora as well as in subcoastal areas of the northeast in Wadi Oko/Diib, causing locust numbers to increase slightly but remain below threatening levels. Breeding is expected to finish by mid-March.

ERITREA

• SITUATION

No locusts were seen during surveys carried out on the central Red Sea coastal plains between Massawa (1537N/3928E) and Sheib (1551N/3903E) in mid-January.

• FORECAST

Small-scale breeding may occur in areas on the Red Sea coastal plains that receive rainfall.

ETHIOPIA

• SITUATION

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

• FORECAST

Isolated adults may be present along the railway area where small-scale breeding could occur if rains fall.

DJIBOUTI

• SITUATION

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

• FORECAST

No significant developments are likely.

SOMALIA

• SITUATION

No reports were received in January.

• FORECAST

Low numbers of adults may be present on the northwest coast and could breed on a small scale in any areas that receive rainfall. No significant developments are likely.

EGYPT

• SITUATION

During January, no locusts were seen on the Red Sea coast and subcoastal areas between Marsa Alam (2504N/3454E) and the Sudanese border, and in the interior near Lake Nasser between Abu Simbel (2219N/3138E) and Tushka (2247N/3126E).

• FORECAST

Isolated adults may be present on the southeastern coastal plains of the Red Sea where small-scale breeding may occur if rains fall.

SAUDI ARABIA

• SITUATION

No locusts were seen during surveys carried out along the Red Sea coastal plains near Mecca (2125N/3949E), and between Qunfidah (1909N/4107E) and the Yemeni border on 9–17 January.

• FORECAST

Low numbers of adults are likely to be present in winter breeding areas on the Red Sea coast and breed on a small scale in any areas that receive rainfall.

YEMEN

• SITUATION

Scattered immature and mature solitary adults were present on the central Red Sea coastal plains between Bajil (1458N/4314E) and Zabid (1410N/4318E) in early January.

• FORECAST

Small-scale breeding may take place on a limited basis in parts of the Red Sea and Gulf of Aden coastal plains where rainfall occurs.

OMAN

• SITUATION

No locusts were seen during surveys carried out in a few places of the Musandam Peninsula, the Batinah coast, the northern interior, and in the south near Thumrait (1736N/5401E) in January.

• 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 January, no locusts were seen during surveys carried out on the southeast coast near Jask (2540N/5746E).

• FORECAST

Low numbers of solitary adults may start to appear on the southeast coast by the end of the forecast period and breed if rains fall.

PAKISTAN

• SITUATION

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

• FORECAST

Low numbers of solitary adults may start to appear in coastal areas of Baluchistan by the end of the forecast period and breed if rains fall.

INDIA

• SITUATION

No locusts were seen during survey carried out in Rajasthan and Gujarat in January.

• 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/ECLC Desert Locust Information Service (eclc@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

Recent additions to the Locust Watch site (www.fao.org/ag/locusts) are:

- **WMO/FAO Weather and Desert Locusts booklet.**
Publications – Documents

Calendar

The following activities are scheduled or planned:

- **CLCPRO.** Regional Desert Locust Information Officer workshop, Algiers (9–12 April)
- **CRC/SWAC.** Interregional Desert Locust Information Officer workshop, Cairo (5–8 May)
- **CLCPRO.** Regional Workshop on Monitoring and Evaluation System, Agadir, Morocco (7–11 May)
- **CLCPRO.** Joint meeting of the 9th session and 13th Executive Committee, N'Djamena (18–22 June)
- **DLCC.** 41st session, Tunisia (October) 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 km²
- band: 1–25 m²

Small

- swarm: 1–10 km²
- band: 25–2,500 m²

Medium

- swarm: 10–100 km²
- band: 2,500 m² – 10 ha

Large

- swarm: 100–500 km²
- band: 10–50 ha

Very large

- swarm: 500+ km²
- 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

IRI Greenness maps. Dynamic maps of green vegetation evolution every decade
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

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>

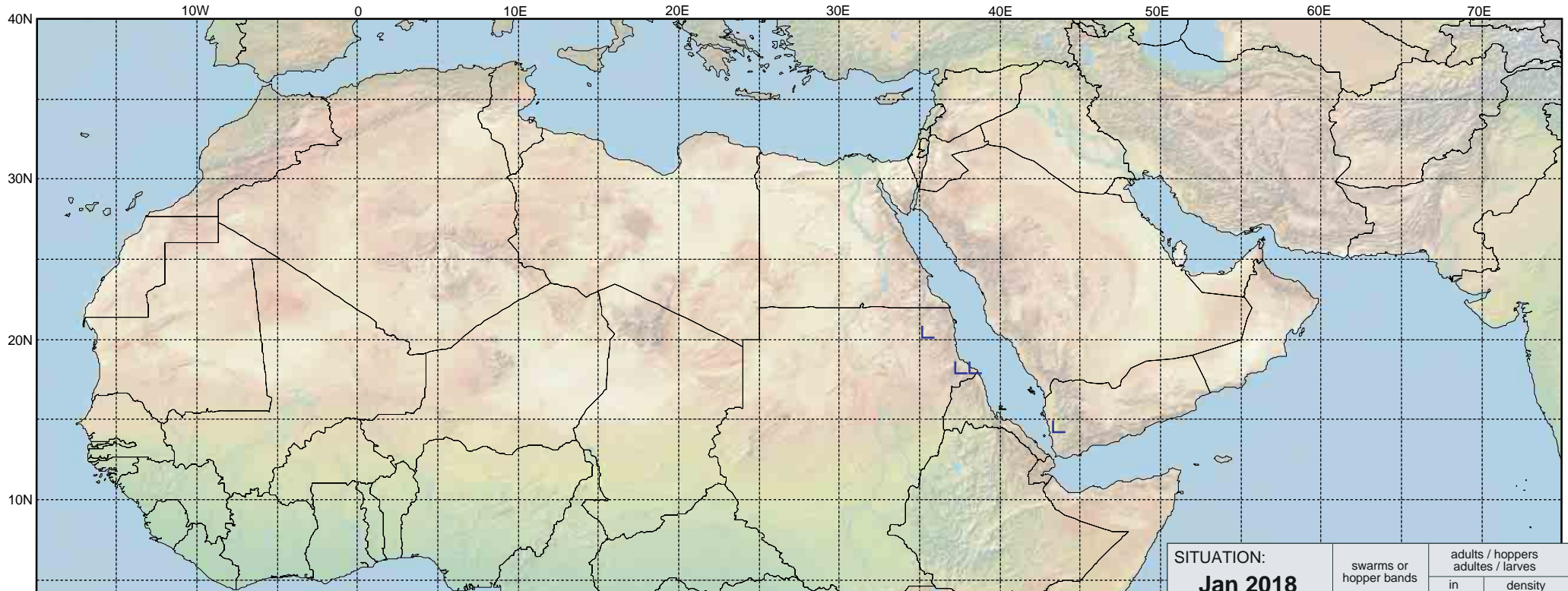
FAOLocust Slideshare. Locust presentations and photos
<http://www.slideshare.net/faolocust>

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:	LIKELY PROBABLE	POSSIBLE POSSIBLE
15.03.18 15.03.18		
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: Jan 2018 jan 2018	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)			



Desert Locust Bulletin

General situation during February 2018 Forecast until mid-April 2018

WESTERN REGION: CALM

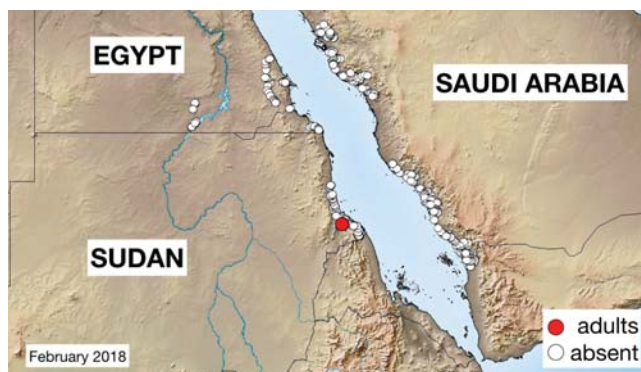
SITUATION. No significant rain fell and ecological conditions were mainly dry. No locusts were reported.
FORECAST. The situation is expected to remain calm. Isolated adults may appear during the forecast period in parts of the spring breeding areas along the southern side of the Atlas Mountains in **Morocco**. No significant developments are likely.

CENTRAL REGION: CALM

SITUATION. No significant rain fell and ecological conditions were drying out in coastal areas of **Sudan** and **Saudi Arabia**. Isolated solitary adults were present in a few places of Tokar Delta in Sudan.
FORECAST. The situation is likely to remain calm. Low numbers of adults may appear in the interior of **Saudi Arabia** and breed on a small scale if rainfall occurs. Scattered adults are likely to be present on the Red Sea coastal plains in **Yemen** where small-scale breeding could occur. No significant developments are likely.

EASTERN REGION: CALM

SITUATION. No locusts reported.
FORECAST. Low numbers of solitary adults may appear in the spring breeding areas of southwest **Pakistan** and southeast **Iran** and breed on a small scale if rains fall. No significant developments are likely.



The Desert Locust situation continued to remain calm during February

No significant rain fell for the third consecutive month in the winter breeding areas along both sides of the Red Sea during February. Consequently, unusually dry and unfavourable breeding conditions persisted in most areas. No locusts were reported except for scattered solitary adults at two places on the Red Sea coast of Sudan. The poor rainfall this year has kept locust numbers very low in the traditional winter breeding areas at the time of year when locusts generally increase in number. Low temperatures and poor rainfall so far in the spring breeding areas suggest that breeding is likely to be limited and on a very small scale this year in Northwest Africa, the interior of Saudi Arabia and in southeast Iran and southwest Pakistan during the spring. Unless unusually heavy rainfall occurs followed by substantial breeding, it can be anticipated that only very low numbers of locusts will be present at the beginning of the summer in the Sahel of West Africa and Sudan, and along the Indo-Pakistan border.

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No significant rain fell during February for the third consecutive month and vegetation started to dry out in winter breeding areas along both sides of the Red Sea.

WESTERN REGION

Very little rain fell during February. Showers may have fallen in parts of northern Mauritania (Nouadhibou, Inchiri, southwest Adrar and northeast Tiris-Zemmour) and in adjacent areas of southwestern Western Sahara. Light to moderate rain fell in northwest Libya. Dry and unfavourable breeding conditions persisted throughout the region except near irrigated parameters in the Adrar Valley of the central Sahara in Algeria, in parts of the Draa and Ziz-Ghris Valleys along the southern side of the Atlas Mountains in Morocco and in parts of central Western Sahara between Guelta Zemmour and W. Sakia El Hamra. Low temperatures prevailed throughout most of Northwest Africa.

CENTRAL REGION

No significant rain fell during February in the winter breeding areas along both sides of the Red Sea. Consequently, vegetation was dry or drying out in most places except for a few spots along the northern and southern coastal plains in Saudi Arabia, and on the central coast of Sudan. In general, very little rain fell this year in the winter breeding areas with the last significant rainfall occurring in November on the coast of Saudi Arabia. This has contributed to poor breeding conditions and hence only low and insignificant numbers of solitarious locusts present during this winter. In the spring breeding areas, light rain may have fallen in the interior of Saudi Arabia between Gassim and Hail during the last week of the month. Elsewhere, light rains fell at times in parts of northern Oman where temperatures were unusually warm, causing mostly vegetation to remain dry.

EASTERN REGION

Very little rain fell in the region during February except for some showers at mid-month in the Jaz Murian Basin in the interior of southeastern Iran, and vegetation continued to become green in adjacent areas along the southeastern coastal plains. Dry and unfavourable breeding conditions prevailed elsewhere in the region.



Area Treated

No control operations were reported during February.



WESTERN REGION

MAURITANIA

• SITUATION

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

• FORECAST

Low numbers of adults may be present in parts of southwest Adrar and Tiris-Zemmour where small-scale breeding could occur once temperatures warm up and if more rains fall.

MALI

• SITUATION

No locust activity was reported during February.

• FORECAST

Low numbers of adults may be present and could persist in parts of the Adrar des Iforas.

NIGER

• SITUATION

No locust activity was reported during February.

• FORECAST

Low numbers of adults are likely to be present and will persist in a few places in the Air Mountains.

CHAD

• SITUATION

No locust activity was reported during February.

• FORECAST

No significant developments are likely.

SENEGAL

• SITUATION

No locust activity was reported during February.

• 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

No locusts were seen in the Adrar Valley (2753N/0017W) of the central Sahara and west of Tamanrasset (2250N/0528E) in the south during February.

• FORECAST

As temperatures warm up, low numbers of adults may appear near irrigated cropping areas in the Adrar Valley and start to breed on a small scale. No significant developments are likely.

MOROCCO

• SITUATION

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

• FORECAST

Isolated adults may appear along the southern side of the Atlas Mountains and breed on a small scale if rains fall.

LIBYA

• SITUATION

No locust activity was reported during January and February.

• FORECAST

No significant developments are likely.

TUNISIA

• SITUATION

No locust activity was reported during February.

• FORECAST

No significant developments are likely.

CENTRAL REGION

SUDAN

• SITUATION

During February, no locusts were seen on the Red Sea coast from north of Port Sudan (1938N/3713E) to the Eritrean border except for a few scattered mature solitary adults at two places in the Tokar Delta (1827N/3741E).

• FORECAST

Small-scale breeding will occur on a limited basis along the Red Sea coast between Port Sudan and Karora as well as in subcoastal areas of the northeast in Wadi Oko/Diib, causing locust numbers to increase slightly but remain below threatening levels. Breeding is expected to finish by mid-March.

ERITREA

• SITUATION

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

• FORECAST

Isolated adults may be present in a few places on the central and northern Red Sea coastal plains but, unless further rains fall, breeding is not expected and no significant developments are likely.

ETHIOPIA

• SITUATION

No reports were received in February.

• FORECAST

Isolated adults may be present along the railway area where small-scale breeding could occur if rains fall.

DJIBOUTI

• SITUATION

No reports were received in February.

• FORECAST

No significant developments are likely.

SOMALIA

• SITUATION

No reports were received in February.

• FORECAST

Low numbers of adults may be present on the northwest coast and could breed on a small scale in any areas that receive rainfall. No significant developments are likely.

EGYPT

• SITUATION

During February, no locusts were seen on the Red Sea coast and subcoastal areas between Marsa Alam (2504N/3454E) and the Sudanese border, and in the interior near Lake Nasser between Abu Simbel (2219N/3138E) and Tushka (2247N/3126E).

• FORECAST

No significant developments are likely.

SAUDI ARABIA

• SITUATION

During February, no locusts were seen during surveys carried out along the Red Sea coastal plains from the north near Al Wajh (2615N/3627E) to the south near the Yemeni border.

• FORECAST

Low numbers of adults may appear in the spring breeding areas of the interior between Gassim and Tabuk where small-scale breeding may occur once temperatures increase in any areas that receive rainfall.

YEMEN

• SITUATION

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

• FORECAST

Small-scale breeding may take place on a limited basis in parts of the Red Sea and Gulf of Aden coastal plains where rainfall occurs.

OMAN

• SITUATION

No locusts were seen during surveys carried out on the Musandam Peninsula, the Batinah coast and in the northern interior during February.

• FORECAST

Isolated adults may appear on the Batinah coast and in parts of the northern interior where small breeding could occur in areas that receive rainfall. 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 February, no locusts were seen during surveys carried out on the southeast coast near Jask (2540N/5746E) and Chabahar (2517N/6036E).

• FORECAST

Low numbers of solitary adults may appear on the southeast coast and in Jaz Murian, and breed on a small scale if rains fall.

PAKISTAN

• SITUATION

No locusts were seen during surveys carried out in the Uthal (2548N/6637E) in the last week of February.

• FORECAST

Low numbers of solitary adults may initially appear in coastal areas of Baluchistan, followed by interior areas. Small-scale breeding could occur in both areas if rains fall.

INDIA

• SITUATION

No locusts were seen during survey carried out in Rajasthan and Gujarat in February.

• 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/ECLC Desert Locust Information Service (eclc@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

Recent additions to the Locust Watch site (www.fao.org/ag/locusts) are:

- **WMO/FAO Weather and Desert Locusts booklet.** Publications – Documents

Calendar

The following activities are scheduled or planned:

- **CLCPRO.** Regional Desert Locust Information Officer workshop, Algiers (9–12 April)
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- **CLCPRO.** Regional Workshop on Monitoring and Evaluation System, Agadir, Morocco (7–11 May)
- **CLCPRO.** Joint meeting of the 9th session and 13th Executive Committee, N'Djamena (18–22 June)
- **DLCC.** 41st session, Tunisia (October) 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 km² • band: 1–25 m²

Small

- swarm: 1–10 km² • band: 25–2,500 m²

Medium

- swarm: 10–100 km² • band: 2,500 m² – 10 ha

Large

- swarm: 100–500 km² • band: 10–50 ha

Very large

- swarm: 500+ km² • 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.



Useful tools and resources

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FAO Desert Locust regional commissions. Western Region (CLCPRO), Central Region (CRC), South-West Asia (SWAC)
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IRI Greenness maps. Dynamic maps of green vegetation evolution every decade
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

Windy. Real time rainfall, winds and temperatures for locust migration
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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>

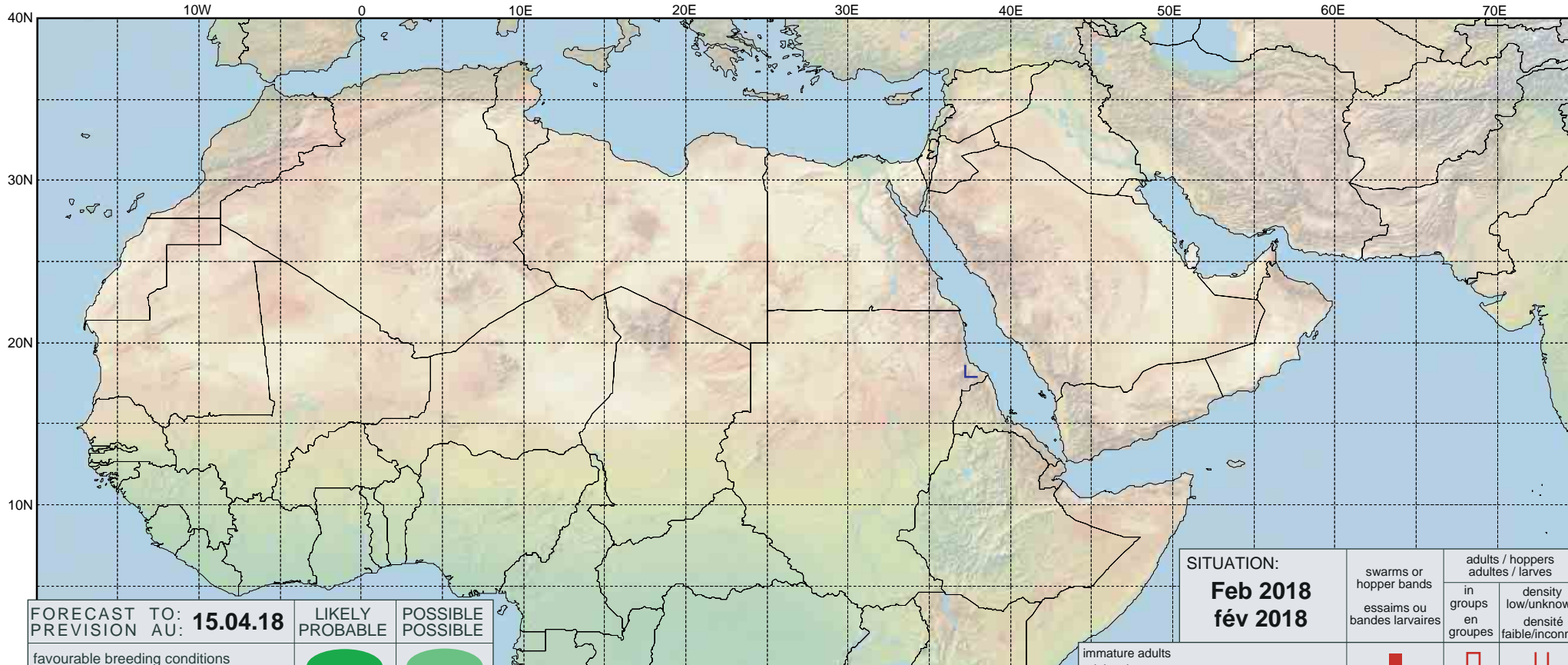
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Desert Locust Summary

Criquet pèlerin - Situation résumée



FORECAST TO:
PREVISION AU: **15.04.18**

LIKELY PROBABLE POSSIBLE

favourable breeding conditions
conditions favorables à la reproduction



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



minor swarm(s)
essaim(s) limité(s)



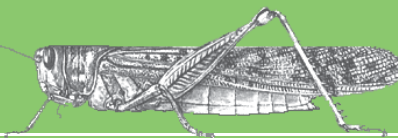
non swarming adults
adultes non essaimant



SITUATION:
Feb 2018
fév 2018

swarms or hopper bands essaims ou bandes larvaires	adults / hoppers adultes / larves	
	in groups en groupes	density low/unknown faible/inconn

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)	◻	◼	◻



Desert Locust Bulletin

General situation during March 2018
Forecast until mid-May 2018

WESTERN REGION: CALM

SITUATION. No locusts reported except for isolated adults in one place in central **Algeria**.

FORECAST. If rains fall, small-scale breeding may occur along the southern side of the Atlas Mountains in **Morocco** and in parts of the central Sahara in **Algeria**. No significant developments are likely.



CENTRAL REGION: CALM

SITUATION. No locusts reported except for isolated adults in one place on the southern coast of **Yemen**.

FORECAST. Small-scale breeding may occur in areas of recent rain in the interior of **Saudi Arabia**. No significant developments are likely.

The Desert Locust situation continued to remain calm during March

No significant rain fell during March in the winter breeding areas along both sides of the Red Sea for the fourth consecutive month. As a result, unusually dry and unfavourable breeding conditions prevailed and locust populations did not increase this year during the winter. Consequently, locust numbers are very low in all areas and this is expected to continue during the spring and summer unless good rains fall. No locusts were reported in March except for isolated solitarious adults at one location in the central Sahara of Algeria and in one area on the southern coast of Yemen. Light rains commenced in parts of the spring breeding areas in the interior of Saudi Arabia and along both sides of the Iran-Pakistan border. If more rains fall during the forecast period in these areas and along the southern side of the Atlas Mountains in Morocco and Algeria, then small-scale breeding could occur but locust populations will remain low and no significant developments are likely.

EASTERN REGION: CALM

SITUATION. No locusts reported.

FORECAST. Small-scale breeding is likely to occur in areas of recent rain in southwest **Pakistan** and southeast **Iran**. 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: eclo@fao.org

Internet: www.fao.org/ag/locusts

Facebook: www.facebook.com/faolocust

Twitter: twitter.com/faolocust



Weather & Ecological Conditions in March 2018

Light showers fell in parts of the spring breeding areas in the interior of Saudi Arabia and in southwest Asia. Ecological conditions remained unfavourable in the winter breeding areas due to poor rains along both sides of the Red Sea.

WESTERN REGION

Very little rain fell during March and dry conditions persisted in all areas except in parts of the Draa and Ziz-Ghris Valleys along the southern side of the Atlas Mountains in Morocco and near irrigated perimeters in the Adrar Valley of the central Sahara in Algeria. During the last week of the month, light showers fell northeast of the Air Mountains in northern Niger. Localized patches of green vegetation may be present in northern (near Bir Moghreïn and Tamreiket) and northwest (near Oujeft) Mauritania, in a few wadis of the Adrar des Iforas in northern Mali and in parts of the Air Mountains.

CENTRAL REGION

Poor rains and dry conditions persisted during March throughout most of the winter breeding areas along both sides of the Red Sea except for light showers that may have fallen on the northern coast of the Red Sea in Yemen during the first decade. Consequently, ecological conditions continued to remain unfavourable for breeding. In northern Somalia, light rainfall may have occurred during the first decade on the plateau and escarpment north of Boroma that could have run off onto parts of the northwest coastal plains. In the spring breeding areas, light rains fell in the central interior of Saudi Arabia near Gassim and heavier rains fell in the Empty Quarter from Wadi Dawasir to western UAE. Traces of rain fell on the northern coast of Oman and parts of the interior.

EASTERN REGION

Light to moderate rains fell during the first decade of March in coastal and interior spring breeding area of Baluchistan in western Pakistan between Jiwani and Khuzdar. Scattered showers fell in adjacent areas of southeast Iran. Nevertheless, dry and unfavourable breeding conditions prevailed in the region.



Area Treated

No control operations were reported during March.



Desert Locust Situation and Forecast

WESTERN REGION

MAURITANIA

• SITUATION

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

• FORECAST

No significant developments are likely.

MALI

• SITUATION

No locust activity was reported during March.

• FORECAST

Low numbers of adults may be present and could persist in parts of the Adrar des Iforas.

NIGER

• SITUATION

No locust activity was reported during March.

• FORECAST

Low numbers of adults are likely to be present and will persist in a few places in the Air Mountains.

CHAD

• SITUATION

No locust activity was reported during March.

• FORECAST

No significant developments are likely.

SENEGAL

• SITUATION

No locust activity was reported during March.

• 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 March, isolated mature solitary adults were seen at one place near irrigated cropping areas in the Adrar Valley (2753N/0017W) of the central Sahara. No locusts were seen elsewhere in the valley or in the east near Illizi (2630N/0825E) and in the south near Tamanrasset (2250N/0528E).

• FORECAST

Small-scale breeding may occur near irrigated cropping areas in the Adrar Valley and in runoff areas of the south and east if rains fall. No significant developments are likely.

MOROCCO

• SITUATION

During March, no locusts were seen in the Draa Valley between Fom Zguid (3005N/0652W) and Fom El Hassan (2901N/0853W).

• FORECAST

Isolated adults may be present in some places along the Draa Valley where small-scale breeding could occur if rains fall.

LIBYA

• SITUATION

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

• FORECAST

No significant developments are likely.

TUNISIA

• SITUATION

No locust activity was reported during March.

• FORECAST

No significant developments are likely.

CENTRAL REGION

SUDAN

• SITUATION

No locusts were seen on the Red Sea coast between Port Sudan (1938N/3713E) and the Eritrean border.

• FORECAST

No significant developments are likely.

ERITREA

• SITUATION

No locusts were seen during a survey carried out on the Akbanazouf Plain (1555N/3910E) along the central Red Sea coastal northwest of Massawa (1537N/3928E) on 2 March.

• FORECAST

No significant developments are likely.

ETHIOPIA

• SITUATION

No reports were received in March.

• FORECAST

Isolated adults may be present along the railway area where small-scale breeding could occur if rains fall.

DJIBOUTI

• SITUATION

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

• FORECAST

No significant developments are likely.

SOMALIA

• SITUATION

No reports were received in March.

• FORECAST

Low numbers of adults may be present on the northwest coast or escarpment where they could breed on a small scale in areas of recent rainfall or runoff. No significant developments are likely.

EGYPT

• SITUATION

During March, no locusts were seen on the Red Sea coast and subcoastal areas between Marsa Alam (2504N/3454E) and the Sudanese border, and in the interior near Lake Nasser between Abu Simbel (2219N/3138E) and Tushka (2247N/3126E).

• FORECAST

No significant developments are likely.

SAUDI ARABIA

• SITUATION

During March, no locusts were seen in the winter breeding areas along the Red Sea coast north of Jeddah (2130N/3910E) and on the southern coast near Jizan (1656N/4233E), or in the spring breeding areas of the interior between Wadi Dawasir (2028N/4747E), Gassim (2621N/4358E), Hail (2731N/4141E) and Tabuk (2823N/3635E).

• FORECAST

Low numbers of adults may be present in the spring breeding areas of the interior between Wadi Dawasir and Tabuk where small-scale breeding could occur in any areas that receive rainfall.

YEMEN

• SITUATION

Isolated immature solitary adults were seen at one place on the southern coast northeast of Aden (1250N/4503E) in late March. No surveys were carried out and no locusts were reported on the Red Sea coast.

• FORECAST

Low numbers of adults may be present in a few areas along the Red Sea coast where small-scale breeding could occur if additional rains fall.

OMAN

• SITUATION

During March, no locusts were seen during surveys carried out on the Musandam Peninsula, along the Batinah coast, in the northern interior near Buraimi (2415N/5547E) and Adam (2223N/5731E), and in the southern interior to the north of Thumrait (1736N/5401E).

• FORECAST

Isolated adults may appear on the Batinah coast and in parts of the northern interior where small breeding

could occur in areas that receive rainfall. 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

No locusts were seen during a survey carried out on the southeast coast near Jask (2540N/5746E) on 22 March.

• FORECAST

Low numbers of solitary adults may appear on the southeast coast and in Jaz Murian, and breed on a small scale in areas of recent rainfall.

PAKISTAN

• SITUATION

During March, no locusts were seen during surveys carried out in the Uthal (2548N/6637E) and Khuzdar (2749N/6639E) areas of Baluchistan.

• FORECAST

Small-scale breeding may occur in coastal and interior areas of Baluchistan that received rainfall in early March. No significant developments are likely.

INDIA

• SITUATION

No locusts were seen during surveys carried out in Rajasthan and Gujarat in March.

• FORECAST

No significant developments are likely.

AFGHANISTAN

• SITUATION

No reports received.

• FORECAST

No significant developments are likely.



Announcements

Locust warning levels

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FAOLocust Twitter. The very latest updates posted as tweets
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FAOLocust Facebook. Information exchange using social media
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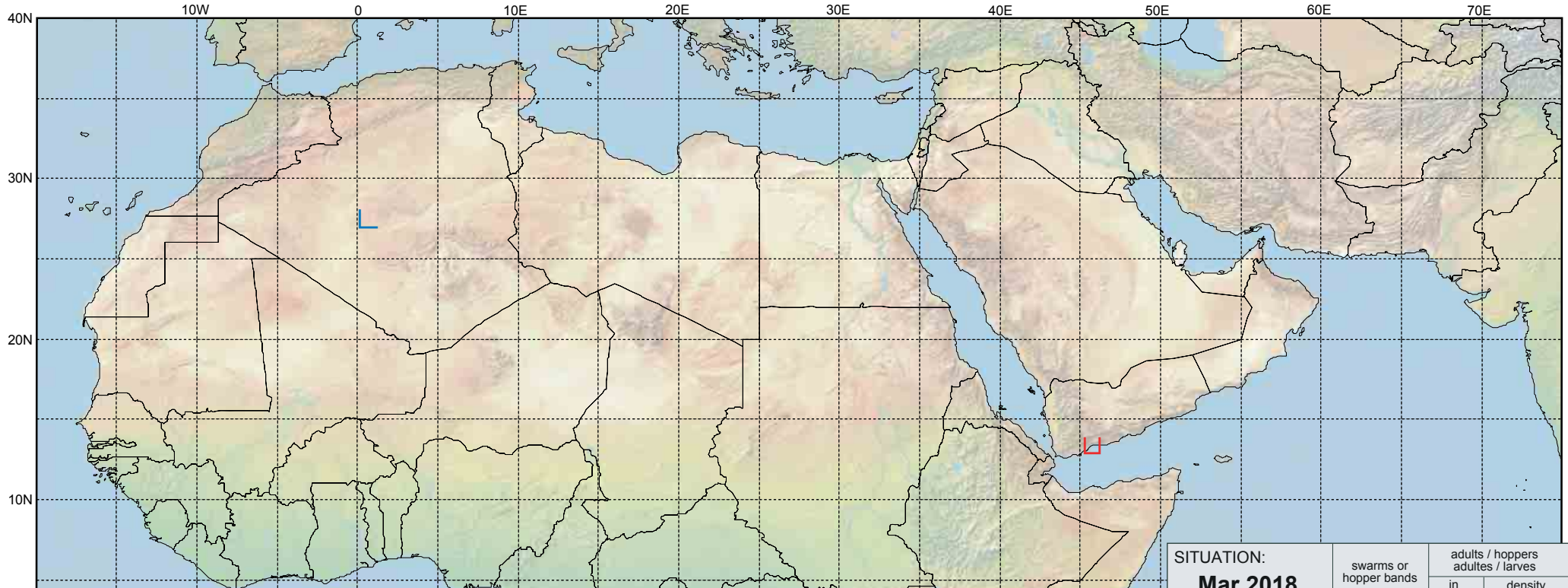
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Desert Locust Summary

Criquet pèlerin - Situation résumée



FORECAST TO: PREVISION AU:	15.05.18	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: Mar 2018 mars 2018	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)			



Desert Locust Bulletin

General situation during April 2018
Forecast until mid-June 2018

WESTERN REGION: CALM

SITUATION. A few more isolated adults reported in central **Algeria** compared to March, some of which were laying eggs.

FORECAST. Small-scale hatching will occur in central **Algeria**. No significant developments are likely.



CENTRAL REGION: CALM

SITUATION. No locusts reported.

FORECAST. Small-scale breeding may occur in areas of recent rainfall on the Red Sea coast in Yemen and in the interior of Saudi Arabia.

The Desert Locust situation continued to remain calm during April

No locusts were reported during April except for isolated solitary adults in central Algeria and southeast Iran. Good rains fell during the month in the interior of Saudi Arabia but annual vegetation was slow to respond and breeding conditions remained generally unfavourable similar to other spring breeding areas in Northwest Africa and South-West Asia. Good rains also fell on the Red Sea coast of Yemen and Eritrea. No locusts were seen during extensive surveys in Saudi Arabia, Pakistan and India, and other surveys carried out in Algeria, Egypt, Oman and Yemen. During the forecast period, small-scale breeding may occur in central Algeria and the Jaz Murian Basin in southeast Iran, and perhaps in areas of recent rainfall in the interior of Saudi Arabia and on the Red Sea coast in Yemen. However, no significant developments are likely because of the poor rainfall and very low numbers of locusts this year in the spring breeding areas, and the summer rains are not expected to commence in the Sahel of West Africa and Sudan and along the Indo-Pakistan border until after the current forecast period.

EASTERN REGION: CALM

SITUATION. Isolated mature solitary adults present in a few coastal and interior areas of southeast **Iran**.

FORECAST. Small-scale breeding may occur in southwest **Pakistan** and southeast **Iran** if rains fall during May. No significant developments are likely.

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Weather & Ecological Conditions in April 2018

Although good rains fell in the interior of Saudi Arabia, ecological conditions remained unfavourable for breeding. Ecological conditions also remained dry in the spring breeding areas of Northwest Africa and South-West Asia.

WESTERN REGION

Very little rain fell during April except for light showers at times in parts of central Algeria. Consequently, dry conditions continued to persist in all areas except in parts of the Draa and Ziz-Ghris Valleys along the southern side of the Atlas Mountains in Morocco and near irrigated perimeters in the Adrar Valley of the central Sahara in Algeria. In West Africa, the Inter-Tropical Convergence Zone (ITCZ) began its seasonal movement northward from the Gulf of Guinea, but remained well south of the summer breeding areas where dry conditions prevailed.

CENTRAL REGION

During April, good rains fell in the spring breeding areas in the interior of Saudi Arabia accompanied by strong winds and dust storms. Ecological conditions were improving and may be sufficient for small-scale breeding to occur near Tabuk and Wadi Dawasir, and perhaps to a lesser extent between Hail and Gassim if more rains fall. Although good rains fell at times on the northern and central Red Sea coastal plains in Eritrea, mainly near Karora and Ghelaelo, their impact on locusts is likely to be minimal due to high temperatures and the end of the seasonal rainy period on the coast. In Yemen, light to moderate rains fell at times during the second half of April along the Red Sea coastal plains and in parts of the interior between Marib and Wadi Hadhramaut. No rains fell for the fourth consecutive month along the Gulf of Aden coastal plains in southern Yemen where annual vegetation remained dry. In northern Oman, good rains fell during the first decade in Sharqiya followed by lighter rains in the second decade. However, vegetation remained mostly dry due to increasing temperatures. In the Horn of Africa, good rains fell in eastern Ethiopia and northern Somalia. Annual vegetation became green on the Somali plateau between Hargeisa and Jijiga, Ethiopia.

EASTERN REGION

Light rains fell during the second decade of April along the eastern side of the spring breeding areas in Baluchistan of western Pakistan between Lasbela and Khuzdar, causing annual vegetation to become green. Elsewhere, dry and unfavourable conditions prevailed throughout the spring breeding areas in southeast Iran and southwest Pakistan.



Area Treated

No control operations were reported during April.



Desert Locust Situation and Forecast

WESTERN REGION

MAURITANIA

• SITUATION

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

• FORECAST

No significant developments are likely.

MALI

• SITUATION

No locust activity was reported during April.

• FORECAST

Low numbers of adults may be present and could persist in parts of the Adrar des Iforas.

NIGER

• SITUATION

No locust activity was reported during April.

• FORECAST

Low numbers of adults are likely to be present and will persist in a few places in the Air Mountains.

CHAD

• SITUATION

No reports were received in April.

• FORECAST

No significant developments are likely.

SENEGAL

• SITUATION

No locust activity was reported during April.

• 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 April, isolated immature and mature solitary adults were seen at a few more places than in March, mainly near

irrigated cropping areas in the Adrar Valley (2753N/0017W) of the central Sahara. Some of the adults were copulating. No locusts were seen in the centre near Timimoun (2916N/0014E) and Reggane (2643N/0010E), east near Illizi (2630N/0825E) and in the south near Tamanrasset (2250N/0528E).

• FORECAST

Small-scale hatching will occur near irrigated cropping areas in the Adrar Valley. Isolated adults may move towards the south as conditions dry out in the central Sahara. No significant developments are likely.

MOROCCO

• SITUATION

No locusts were seen in the Draa Valley near Foug Zguid (3005N/0652W) in early April.

• FORECAST

Isolated adults may be present in some places along the Draa Valley where breeding is unlikely to occur unless additional rains fall in May.

LIBYA

• SITUATION

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

• FORECAST

No significant developments are likely.

TUNISIA

• SITUATION

No locust activity was reported during April.

• FORECAST

No significant developments are likely.

CENTRAL REGION

SUDAN

• SITUATION

No reports were received in April.

• FORECAST

No significant developments are likely.

ERITREA

• SITUATION

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

• FORECAST

No significant developments are likely.

ETHIOPIA

• SITUATION

No reports were received in April.

• FORECAST

Isolated adults may be present along the railway area where small-scale breeding could occur if rains fall.

DJIBOUTI

• SITUATION

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

• FORECAST

No significant developments are likely.

SOMALIA

• SITUATION

No reports were received in April.

• FORECAST

Low numbers of adults may be present on the northwest coast or escarpment where they could breed on a small scale in areas of recent rainfall or runoff. No significant developments are likely.

EGYPT

• SITUATION

No locusts were seen during surveys carried out in April along the shore of Lake Nasser near Abu Simbel (2219N/3138E) and Tushka (2247N/3126E).

• FORECAST

No significant developments are likely.

SAUDI ARABIA

• SITUATION

During April, no locusts were seen on the northern Red Sea coast near Bader (2346N/3847E) and in the spring breeding areas of the interior near Wadi Dawasir, (2028N/4747E), Tabuk (2823N/3635E), between Khaybar (2542N/3917E) and Gassim (2621N/4358E), northwest of Zalim (2248N/4210E), and in the east near Al Hofuf (2523N/4935E).

• FORECAST

Isolated adults may be present in the spring breeding areas of the interior between Gassim and Hail where small-scale breeding could occur if more rains fall in May. No significant developments are likely.

YEMEN

• SITUATION

During April, no locusts were seen during surveys carried out along the Gulf of Aden coastal plains between Zinjibar (1306N/4523E) and Bir Ali (1401N/4820E) in the first week of the month.

• FORECAST

Low numbers of adults may be present in a few areas along the Red Sea coast where small-scale breeding could occur in areas of recent rainfall.

OMAN

• SITUATION

During April, no locusts were seen during surveys carried out on the Musandam Peninsula, along the Batinah coast, and in the northern interior near Buraimi (2415N/5547E).

• FORECAST

Isolated adults may appear on the Batinah coast and in parts of the northern interior where small breeding could occur in areas that receive rainfall. 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 April, isolated mature adults were seen at one place on the southeastern coast near Chabahar (2517N/6036E) and at two places in the Jaz Murian Basin in the interior west of Iranshahr (2712N/6042E) and Dalgan (2728N/5926E).

• FORECAST

Small-scale breeding may occur along parts of the southeastern coast and in the Jaz Murian Basin if more rains fall in May. No significant developments are likely.

PAKISTAN

• SITUATION

No locusts were seen during surveys carried out in coastal and interior areas of Baluchistan during April.

• FORECAST

Isolated adults may be present near Khuzdar where small-scale breeding may occur in areas of recent rainfall. No significant developments are likely.

INDIA

• SITUATION

No locusts were seen during surveys carried out in Rajasthan and Gujarat in April.

• 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/ECLC Desert Locust Information Service (eclc@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.

Clive Elliott (1945–2018)

It is with deep regret that we announce the death of Clive Elliott on 18 April in the U.K. Mr. Elliott was an ornithologist and expert on *Quelea* birds in Africa. He joined FAO in 1975 and was Senior Officer of the Locust Group from 2004 until his retirement in 2006. We would like to express our sincere condolences to his family and his government.

Calendar

The following activities are scheduled or planned:

- **CLCPRO.** Regional Workshop on Monitoring and Evaluation System, Agadir, Morocco (7–11 May)
- **CLCPRO.** Joint meeting of the 9th session and 13th Executive Committee, N'Djamena, Chad (18–22 June)
- **CLCPRO.** Regional Desert Locust Information Officer workshop, Algiers, Algeria (1–4 July)
- **CRC/SWAC.** Interregional Desert Locust Information Officer workshop, Cairo, Egypt (15–19 July)
- **DLCC.** 41st session, Tunis, Tunisia (22–25 October)



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 km²
- band: 1–25 m²

Small

- swarm: 1–10 km²
- band: 25–2,500 m²

Medium

- swarm: 10–100 km²
- band: 2,500 m² – 10 ha

Large

- swarm: 100–500 km²
- band: 10–50 ha

Very large

- swarm: 500+ km²
- 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

IRI Greenness maps. Dynamic maps of green vegetation evolution every decade
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

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>

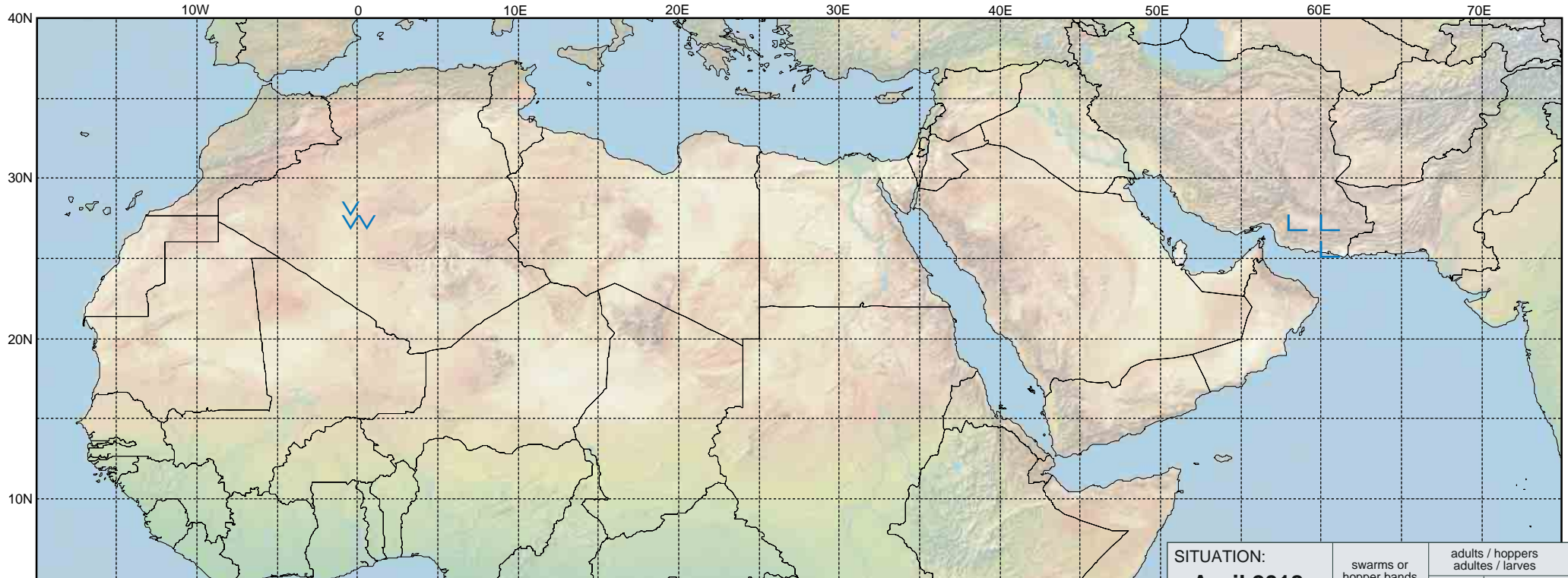
FAOLocust Slideshare. Locust presentations and photos
<http://www.slideshare.net/faolocust>

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: 15.06.18	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: April 2018 avril 2018	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)			



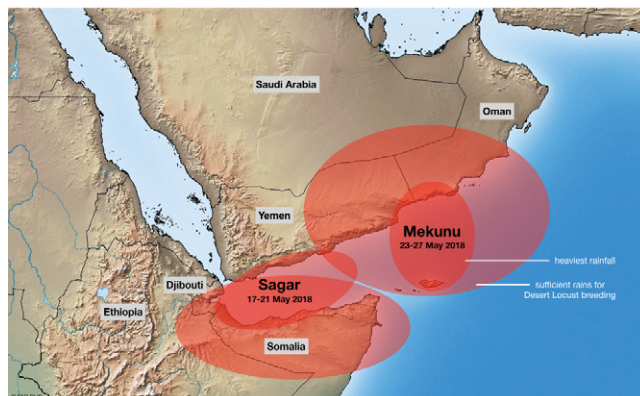
Desert Locust Bulletin

General situation during May 2018 Forecast until mid-July 2018

WESTERN REGION: CALM

SITUATION. Small-scale breeding occurred in central **Algeria**.

FORECAST. Small-scale breeding should commence about mid-July with the onset of seasonal rains in the northern Sahel of **Mauritania, Mali and Niger**. No significant developments are likely.



CENTRAL REGION: CALM

SITUATION. A few scattered adults were reported at one place on the southern coast of **Yemen**.

FORECAST. Breeding may occur in parts of southern **Yemen** and **Oman**, the Empty Quarter, northern **Somalia** and eastern **Ethiopia** where heavy rains fell from cyclones Sagar and Mekunu. Small-scale breeding will commence with the onset of seasonal rains in the interior of **Sudan**. No significant developments are likely.

The Desert Locust situation continued to remain calm during May

No locusts were reported during May except for local breeding in central Algeria and a few scattered adults on the southern coast of Yemen and Iran. Two unusually powerful tropical cyclones formed in the southern Arabian Sea during the second half of the month. Sagar was the strongest cyclone to ever make landfall in northwest Somalia after traversing the entire Gulf of Aden, bringing heavy rains and floods to Socotra, the southern coast of Yemen, Djibouti, coastal and plateau areas of northern Somalia and parts of eastern Ethiopia. Mekunu was the most intense cyclone on record to make landfall on the Arabian Peninsula, bringing three years of rain to Salalah, Oman and heavy showers fell in interior and adjacent areas of eastern Yemen and the Empty Quarter of Saudi Arabia. As a result, regular monitoring will be required in all areas that received good rains to detect any breeding that could occur in the next three months or more. Elsewhere, the scale of locust movement from spring to summer breeding areas this year will be extremely limited because very little breeding occurred during the past winter and spring. Consequently, only low numbers of adults are likely to appear in the northern Sahel between Mauritania and western Eritrea and along the Indo-Pakistan border. Small-scale breeding will commence with the onset of the seasonal rains from about mid-July onwards.

EASTERN REGION: CALM

SITUATION. Isolated adults were reported at one place on the southeast coast of **Iran**.

FORECAST. Low numbers of adults are likely to appear along the **Indo-Pakistan border** where small-scale breeding will commence with the onset of the monsoon rains in about mid-July. No significant developments are likely.

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Twitter: twitter.com/faolocust



Weather & Ecological Conditions in May 2018

Two cyclones brought unusually heavy rains and floods to southern Arabia and the Horn of Africa. Ecological conditions remained dry in the spring breeding areas of Northwest Africa and Southwest Asia.

WESTERN REGION

Very little rain fell during May except for light showers in northwest Libya during the second decade. Consequently, dry conditions persisted in all areas except in parts of the Draa and Ziz-Ghris Valleys along the southern side of the Atlas Mountains in Morocco and near irrigated perimeters in the central Sahara of Algeria. In West Africa, the Inter-Tropical Convergence Zone (ITCZ) continued its seasonal movement northward from the Gulf of Guinea. By the end of May, it had reached the southern portion of the summer breeding areas in Mali (Nara to Menaka) and Niger (Abalak to Tanout) but remained south of the summer breeding areas in Mauritania and Chad, which is about normal for this time of year. As a result, ecological conditions remained dry in the summer breeding areas of the northern Sahel.

CENTRAL REGION

Warm temperatures in the southern Arabian Sea caused two cyclones to develop during the second half of May that caused heavy rains, flooding, damage and loss of life. On 16 May, Cyclone Sagar formed off the coast of the Horn of Africa and moved west across the entire Gulf of Aden, making landfall on the northwest Somalia coast near Lughaye on the 19th. Thereafter, Sagar weakened over eastern Ethiopia by the 21st. Heavy rains fell along the southern coast of Yemen from Aden to the Oman border, coastal and plateau areas of northern Somalia, and parts of the Somali plateau, the railway area and Harar Highlands in eastern Ethiopia. A year's worth of rain fell in one day in Socotra island (200 mm) and Djibouti (110 mm). On 22 May, Cyclone Mekunu formed and moved north to Socotra on the 24th, making landfall at Salalah, Oman on the 25th and subsequently weakening as it moved inland over southern Oman and eastern Yemen where it dissipated by the 31st. Heavy rains extended along the coast from Al Ghaydah, eastern Yemen to Ash Shuwaymiyyah, southern Oman. Three years' worth of rain fell in Salalah (348 mm), heavy rains were reported in the Dhofar hills (291 mm) and interior at Thumrait (73 mm) and Marmul (86 mm), and moderate showers fell in the Empty Quarter of Saudi Arabia near the Yemen border at Al Kharkhir (1851N/5107E) and Umm Al Melh (1906N/5007E), and near the Omani border at Thabhloten (1942N/5357E), causing lakes to appear. Elsewhere, the Inter-Tropical Convergence Zone (ITCZ) continued its seasonal movement north over Sudan towards the summer breeding areas of the interior, reaching El

Fasher, Sodiri and Khartoum by the end of May. However, ecological conditions remained dry and unfavourable for breeding.

EASTERN REGION

Light rains fell during the second decade of May in some parts of the spring breeding areas in southeast Iran and Baluchistan, Pakistan but ecological conditions remained mostly dry. Pre-monsoon rains fell at times throughout the month along both sides of the Indo-Pakistan border in Cholistan, Pakistan and Rajasthan, India where temperatures were high and vegetation was dry.



Area Treated

Algeria 228 ha (May)



Desert Locust Situation and Forecast

WESTERN REGION

MAURITANIA

• SITUATION

No locust activity was reported during May.

• FORECAST

Low numbers of adults may start to appear in the southeast where small-scale breeding is likely to commence with the onset of the summer rains.

MALI

• SITUATION

No locust activity was reported during May.

• FORECAST

Low numbers of adults may start to appear in the northeast where small-scale breeding is likely to commence with the onset of the summer rains.

NIGER

• SITUATION

No locust activity was reported during May.

• FORECAST

Low numbers of adults may start to appear in the Tahoua area and on the Tamesna Plains where small-scale breeding is likely to commence with the onset of the summer rains.

CHAD

• SITUATION

No locust activity was reported during May.

• FORECAST

No significant developments are likely.

SENEGAL

• SITUATION

No locust activity was reported during May.

• 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 May, solitary hoppers of all instars, at densities up to 4 hoppers/m², and mainly scattered immature solitary adults were seen at several places in the Amguiden area between Timimoun (2916N/0014E) and El Golea (3034N/0252E) as a result of small-scale breeding during April. Ground teams treated 228 ha. Elsewhere in the central Sahara, solitary adults were seen laying near Adrar, and late instar hoppers and immature solitary adults were present at one place northwest of In Salah (2712N/0229E). In the south, immature solitary adults were seen at one place southwest of Tamanrasset (2250N/0528E). No locusts were seen in the east near Illizi (2630N/0825E).

• FORECAST

Fledging will continue during the first part of June in the central Sahara and, as conditions dry out, low numbers of adults are likely to move towards the south where they could mature and eventually breed if rains occur by the end of the forecast period.

MOROCCO

• SITUATION

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

• FORECAST

Isolated adults may be present in some places along the Draa Valley and in the northeast but breeding is unlikely to occur.

LIBYA

• SITUATION

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

• FORECAST

No significant developments are likely.

TUNISIA

• SITUATION

No locust activity was reported during May.

• FORECAST

No significant developments are likely.

CENTRAL REGION

SUDAN

• SITUATION

No reports were received in May.

• FORECAST

Low numbers of adults may start to appear in Darfur and Kordofan where small-scale breeding is likely to commence with the onset of the summer rains.

ERITREA

• SITUATION

No reports were received in May.

• FORECAST

Low numbers of adults may start to appear in the western lowlands where small-scale breeding is likely to commence with the onset of the summer rains.

ETHIOPIA

• SITUATION

No reports were received in May.

• FORECAST

There is a moderate risk that small-scale breeding could occur in areas that received rains from Cyclone Sagar in the railway area of Dire Dawa and on the plateau near Jijiga.

DJIBOUTI

• SITUATION

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

• FORECAST

No significant developments are likely.

SOMALIA

• SITUATION

During May, no locusts were seen during surveys carried out in on the northwest plateau, escarpment and coast between Hargeisa (0931N/4402E) and Silil (1058N/4326E), and on the plateau in the northeast near Garowe (0824N/4829E).

• FORECAST

There is a moderate risk that small-scale breeding could occur in areas that received heavy rains associated with Cyclone Sagar.

EGYPT

• SITUATION

No locusts were seen during surveys carried out in May along the shore of Lake Nasser near Tushka (2247N/3126E).

• FORECAST

No significant developments are likely.

SAUDI ARABIA

• SITUATION

During May, no locusts were seen on the central and northern Red Sea coast and subcoastal areas near

Masturah (2309N/3851E), Medinah (2430N/3935E) and Al Wajh (2615N/3627E), and in the interior between Khaybar (2542N/3917E) and Hail (2731N/4141E), and near Wadi Dawasir (2028N/4747E).

• FORECAST

Scattered adults may appear and breed in Yemen and Oman border areas of the Empty Quarter (Umm Al Melh to Thabhtoten) that received rains from Cyclone Mekunu.

YEMEN

• SITUATION

At the end of May, scattered immature solitarious adults were seen at one place on the southern coast between Ahwar (1333N/4644E) and Bir Ali (1401N/4820E).

• FORECAST

Small-scale breeding may occur in areas along the southern coast that received heavy rains from cyclones Sagar and Mekunu. Breeding could also take place in the eastern interior on the northeastern plateau from Thamud and the Oman border to the Empty Quarter as well as in recent areas of rainfall along the Red Sea coastal plains.

OMAN

• SITUATION

During May, no locusts were seen during surveys carried out on the Musandam Peninsula, along the Batinah coast, and in the northern interior near Buraimi (2415N/5547E), Nizwa (2255N/5731E) and Adam (2223N/5731E).

• FORECAST

Low numbers of adults may appear and breed in coastal and interior areas of Dhofar and Al Wusta that received heavy rains 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 May, isolated mature solitarious locusts were present at one place on the southeast coast near Jask (2540N/5746E).

• FORECAST

No significant developments are likely.

PAKISTAN

• SITUATION

No locusts were seen during surveys carried out in May near Uthal (2548N/6637E) and Khuzdar (2749N/6639E) in Baluchistan.

• FORECAST

Low number of adults are likely to appear by the end of the forecast period in parts of the summer breeding areas between Cholistan and Tharparkar where small-scale breeding is expected to occur with the onset of the monsoon rains.

INDIA

• SITUATION

No locusts were seen during surveys carried out in Rajasthan and Gujarat in May.

• FORECAST

Low number of adults are likely to appear by the end of the forecast period in parts of the summer breeding areas of Rajasthan and Gujarat where small-scale breeding is expected to occur with the onset of the monsoon rains.

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/ECLD Desert Locust Information Service (eclod@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:

- **CLCPRO.** Joint meeting of the 9th session and 13th Executive Committee, N'Djamena, Chad (18–22 June)
- **CLCPRO.** Regional Desert Locust Information Officer workshop, Algiers, Algeria (1–4 July)
- **CRC/SWAC.** Interregional Desert Locust Information Officer workshop, Cairo, Egypt (15–19 July)
- **CRC.** Simulation of Desert Locust contingency planning, Hurgada, Egypt (30 September – 4 October)
- **CRC.** Regional workshop on use of *Metarhizium acridum* in Desert Locust control, Hurgada, Egypt (7–9 October)
- **DLCC.** 41st session, Tunis, Tunisia (22–25 October)



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 km²
- band: 1–25 m²

Small

- swarm: 1–10 km²
- band: 25–2,500 m²

Medium

- swarm: 10–100 km²
- band: 2,500 m² – 10 ha

Large

- swarm: 100–500 km²
- band: 10–50 ha

Very large

- swarm: 500+ km²
- 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.



Useful tools and resources

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<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

IRI Greenness maps. Dynamic maps of green vegetation evolution every decade
http://iridl.ideo.columbia.edu/maproom/Food_Security/Locusts/Regional/greenness.html

IRI MODIS. Vegetation imagery every 16 days
http://iridl.ideo.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>

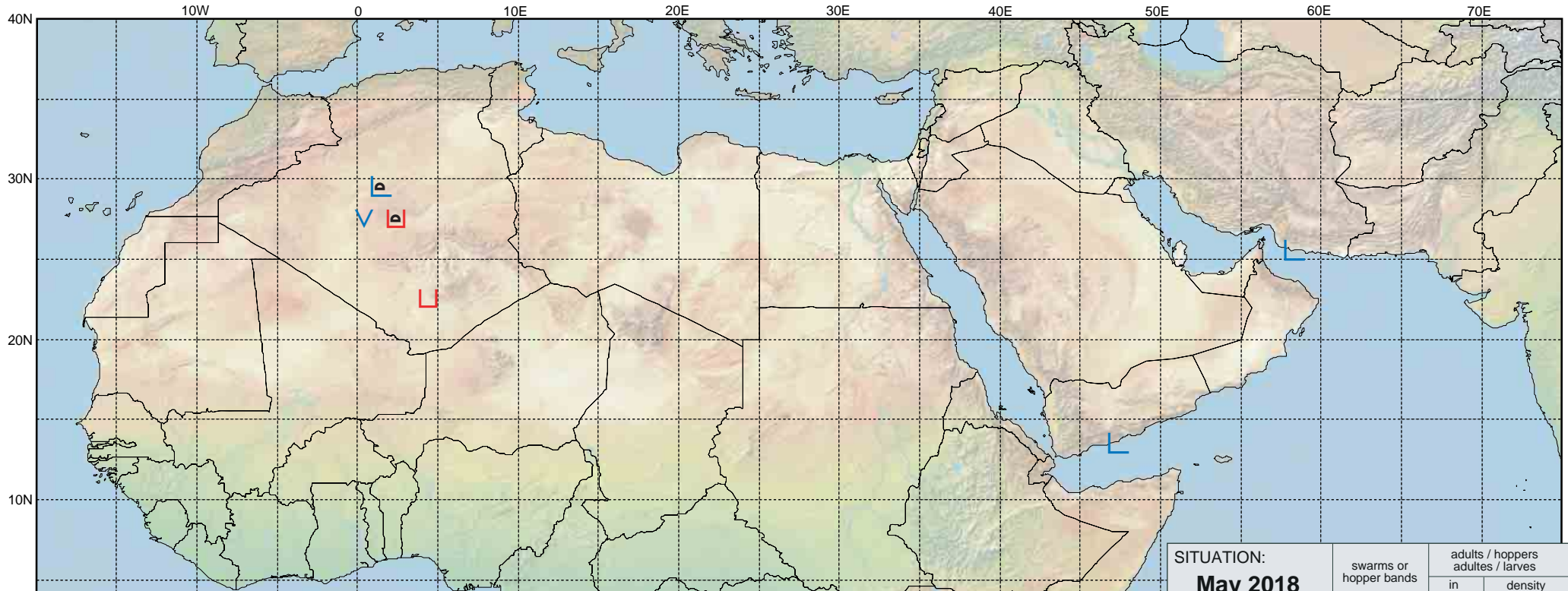
FAOLocust Slideshare. Locust presentations and photos
<http://www.slideshare.net/faolocust>

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



Desert Locust Summary

Criquet pèlerin - Situation résumée



FORECAST TO: PREVISION AU:	LIKELY PROBABLE	POSSIBLE POSSIBLE
15.07.18 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: May 2018 mai 2018	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)			



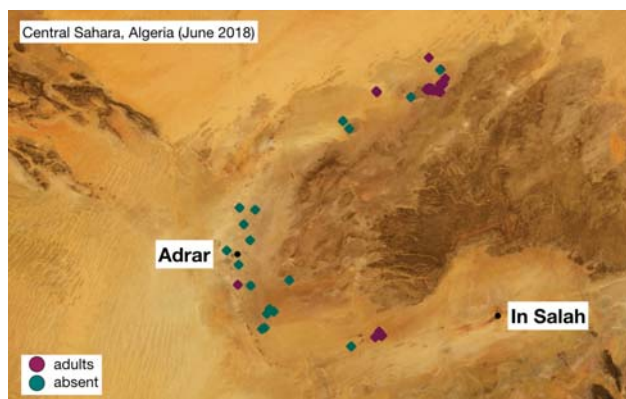
Desert Locust Bulletin

General situation during June 2018 Forecast until mid-August 2018

WESTERN REGION: CALM

SITUATION. Small-scale breeding continued in central **Algeria** and 581 ha were treated.

FORECAST. Small-scale breeding will commence in areas that receive seasonal rains in the northern Sahel of **Mauritania, Mali, Niger, Chad** and southern **Algeria** with low numbers of hoppers appearing. No significant developments are likely.



CENTRAL REGION: CALM

SITUATION. No locusts were reported.

FORECAST. Breeding may occur in parts of southern **Yemen** and **Oman**, the Empty Quarter in eastern **Saudi Arabia**, northern **Somalia** and eastern **Ethiopia** where heavy rains fell from cyclones Sagar and Mekunu. Small-scale breeding will commence in areas of seasonal rains in the interior of **Sudan** and western **Eritrea** with low numbers of hoppers appearing. No significant developments are likely.

The Desert Locust situation continued to remain calm during June

Local breeding continued on a small scale in central Algeria where ground teams treated 581 ha of solitary hoppers and adults near irrigated farms in June. In southwest Asia, isolated adults appeared in the summer breeding areas near the Indian border in Cholistan, Pakistan. No locusts were reported in other countries. During the forecast period, small-scale breeding will commence in the summer breeding areas of the northern Sahel between Mauritania and western Eritrea, initially in those places that have already received rainfall. As a result of very poor breeding during the past spring and winter, current locust numbers are extremely low throughout the recession area. A significant increase in locust populations will not occur unless there a several months of good rains and at least two generations of breeding. Nevertheless, regular surveys should be undertaken in all areas in order to detect the first signs of breeding and monitor progress. In the Central Region, there remains a possibility of breeding in areas that received unusually heavy rains from cyclones Sagar and Mekunu in May, primarily in southern and eastern Yemen, southern Oman, eastern Saudi Arabia, northwest Somalia and eastern Ethiopia. Regular monitoring during the next few months is recommended.

EASTERN REGION: CALM

SITUATION. Isolated adults were reported at one place in the summer breeding areas in Cholistan, **Pakistan**.

FORECAST. Small-scale breeding will occur in areas that receive the seasonal monsoon rains along both sides of the **Indo-Pakistan border** with low numbers of hoppers appearing. 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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Twitter: twitter.com/faolocust



Weather & Ecological Conditions in June 2018

Good rains started to fall in parts of the summer breeding areas in the northern Sahel of West Africa and Sudan. The southwest monsoon commenced at the end of the month in Rajasthan, India.

WESTERN REGION

The Inter-Tropical Convergence Zone (ITCZ) continued its seasonal movement northward in West Africa, reaching Tamcheppet in southern Mauritania, Kidal in northern Mali, In Abangharit in northern Niger, and nearly Fada in northeast Chad by the end of the month, at least 200 km further north than usual. During the last two decades, light rains began to fall in southern Mauritania and on the southern Tamesna Plains in Mali and Niger. Rainfall was particularly good in Chad because of the unusually northerly position of the ITCZ for both decades. As a result, ecological conditions were improving in the summer breeding areas in central and northeast Mali, Tamesna and the central pastoral areas of Niger, and in central and eastern areas of Chad. In Northwest Africa, dry conditions prevailed except for small areas of green vegetation in the Ziz and Ghris valleys south of the Atlas Mountains in Morocco.

CENTRAL REGION

The Inter-Tropical Convergence Zone (ITCZ) continued its seasonal movement northward in the interior of Sudan from South Darfur and Kordofan and reached the summer breeding areas. During the second and third decades, its position was more than 200 km further north than usual, reaching Abu Uruq and Atbara by the end of the month. Consequently, moderate rains fell from En Nahud and El Obeid to Gedaref while light showers occurred further north to Sodiri and Khartoum. Annual vegetation began emerging in some areas. Light rain also fell near Atbara and Derudeb in the east. In western Eritrea, light rains fell in the lowlands north of Teseney. In Yemen, light to moderate rains fell during the first decade in Red Sea and Gulf of Aden coastal areas as well as in parts of the interior near Al Hazm and along the edge of Ramlat Sabatyn from Marib to Shabwah. In the Horn of Africa, light to moderate showers fell in the Harar Highlands and surrounding areas of eastern Ethiopia. As a result of Cyclone Mekunu in May, small areas of green vegetation developed in eastern portions of the Empty Quarter in Saudi Arabia along the border of Yemen and Oman, and adjacent areas of Dhofar in southern Oman. Similarly, green vegetation developed from Cyclone Sagar on the plateau in northeast Somalia, on the northwest coastal plains near Siilil and adjacent areas of eastern Ethiopia near the railway.

EASTERN REGION

The southwest monsoon entered Rajasthan, India on 27 June, bringing light to moderate rainfall over scattered places in southern and eastern districts. Nevertheless, ecological conditions remained mainly dry and unfavourable for breeding except near Barmer. Dry conditions prevailed elsewhere in the region.



Area Treated

Algeria 581 ha (June)



Desert Locust Situation and Forecast

WESTERN REGION

MAURITANIA

• SITUATION

No locust activity was reported during June.

• FORECAST

Low numbers of adults will appear in the south and southeast and breed on a small scale in areas that receive rainfall.

MALI

• SITUATION

No locust activity was reported during June.

• FORECAST

Low numbers of adults will appear in the northeast and breed on a small scale in areas that receive rainfall.

NIGER

• SITUATION

No locust activity was reported during June.

• FORECAST

Low numbers of adults will appear in the Tahoua area and on the Tamesna Plains and breed on a small scale in areas that receive rainfall.

CHAD

• SITUATION

No locust activity was reported during June.

• FORECAST

Low numbers of adults will appear in central and eastern areas and breed on a small scale in areas that receive rainfall.

SENEGAL

• SITUATION

No locust activity was reported during June.

• 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 June, solitary hoppers of all instars, at densities up to 4 hoppers/m², and immature and mature solitary adults at densities up to 700 adults/ha were seen at several places in the central Sahara near Adrar, between Timimoun (2916N/0014E) and El Golea (3034N/0252E), and west of In Salah (2712N/0229E) as a result of small-scale breeding during April and May. Ground teams treated 581 ha. No locusts were seen in the east near Illizi (2630N/0825E) or in the south near Tamanrasset (2250N/0528E).

• FORECAST

Low numbers of adults may remain near irrigated perimeters in the central Sahara, but as natural vegetation dries out, most of the adults will move towards the south where small-scale breeding could occur near the borders of Mali and Niger in areas that receive rainfall.

MOROCCO

• SITUATION

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

• FORECAST

No significant developments are likely.

LIBYA

• SITUATION

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

• FORECAST

No significant developments are likely.

TUNISIA

• SITUATION

No locust activity was reported during June.

• FORECAST

No significant developments are likely.

CENTRAL REGION

SUDAN

• SITUATION

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

• FORECAST

Low numbers of adults will appear in parts of the summer breeding areas in North Darfur, North Kordofan, White Nile, Khartoum, River Nile and Kassala states and breed on a small scale in areas of rainfall.

ERITREA

• SITUATION

No locusts were seen during surveys on 4-10 May along the central Red Sea coastal plains between Sheib (1551N/3903E) and the Sudanese border. No surveys were carried out and no locusts were reported in June.

• FORECAST

Low numbers of adults are likely to appear in the western lowlands and breed on a small-scale in areas that receive summer rains, causing locust numbers to increase slightly.

ETHIOPIA

• SITUATION

No reports were received in June.

• FORECAST

There is a moderate risk that small-scale breeding could occur in areas that received rains from Cyclone Sagar in the railway area of Dire Dawa and on the plateau near Jijiga.

DJIBOUTI

• SITUATION

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

• FORECAST

No significant developments are likely.

SOMALIA

• SITUATION

During the first decade of June, no locusts were seen during surveys carried out on the plateau in the northeast near Garowe (0824N/4829E).

• FORECAST

There is a moderate risk that small-scale breeding could occur in areas that received heavy rains associated with Cyclone Sagar.

EGYPT

• SITUATION

No locusts were seen during surveys carried out in June along the shore of Lake Nasser near Tushka (2247N/3126E).

• FORECAST

No significant developments are likely.

SAUDI ARABIA

• SITUATION

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

• FORECAST

Scattered adults may appear and breed in Yemen and Oman border areas of the Empty Quarter (Umm Al Melh to Thabhloten) that received rains from Cyclone Mekunu.

YEMEN

• SITUATION

The situation remains unclear as it was not possible to undertake surveys during June because of continued insecurity.

• FORECAST

Small-scale breeding may occur in areas along the southern coast that received heavy rains from cyclones Sagar and Mekunu. Breeding could also take place in the interior along the edge of the Ramlat Sabatyn, extending to Wadi Hadhramaut and the Thamud plateau. Small-scale breeding is likely in recent areas of rainfall along the Red Sea coastal plains.

OMAN

• SITUATION

During June, no locusts were seen during surveys carried out on the Musandam Peninsula, along the Batinah coast, near Sur (2234N/5930E), in the northern interior near Buraimi (2415N/5547E) and Nizwa (2255N/5731E) and in interior areas of the southern province of Dhofar.

• FORECAST

Low numbers of adults may appear and breed in coastal and interior areas of Dhofar and Al Wusta that received heavy rains 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 June, no locusts were seen on the southeast coast near Jask (2540N/5746E).

• FORECAST

No significant developments are likely.

PAKISTAN

• SITUATION

During June, no locusts were seen during surveys carried out near Uthal (2548N/6637E) in Baluchistan. Isolated mature solitary adults were seen at one location in the summer breeding areas in the Cholistan Desert south of Bahawalpur (2924N/7147E) near the Indian border on 25 June.

• FORECAST

Low number of adults are likely to appear in parts of the

summer breeding areas between Cholistan and Tharparkar where small-scale breeding will occur areas that receive monsoon rains.

INDIA

• SITUATION

No locusts were seen during surveys carried out in Rajasthan and Gujarat in June.

• FORECAST

Low number of adults are likely to appear in parts of the summer breeding areas of Rajasthan and Gujarat where small-scale breeding will occur in areas that receive monsoon rains.

AFGHANISTAN

• SITUATION

No reports received.

• FORECAST

No significant developments are likely.



Announcements

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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.

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- band: 25–2,500 m²

Medium

- swarm: 10–100 km²
- band: 2,500 m² – 10 ha

Large

- swarm: 100–500 km²
- band: 10–50 ha

Very large

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- band: 50+ ha

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Light

- 1–20 mm

Moderate

- 21–50 mm

Heavy

- more than 50 mm

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- Sahel of West Africa, Sudan, western Eritrea; Indo-Pakistan border

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- October–January/February
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Spring rains and breeding areas

- February–June/July
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Other reporting terms

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- 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

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- *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.



Useful tools and resources

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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

IRI MODIS. Vegetation imagery every 16 days
http://iridl.ideo.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>

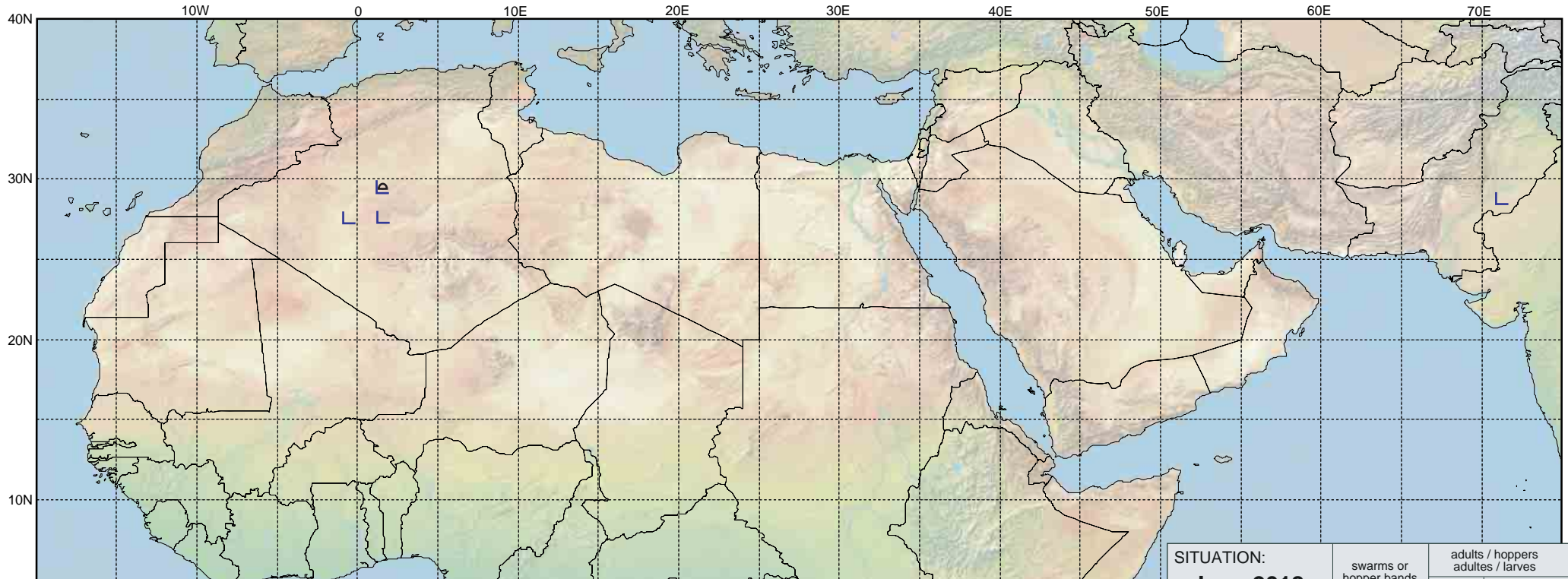
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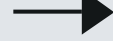
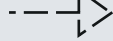
eLERT. Online database of resources and technical specifications for locust emergencies
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Desert Locust Summary

Criquet pèlerin - Situation résumée



FORECAST TO: PREVISION AU: 15.08.18	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: June 2018 juin 2018	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)			



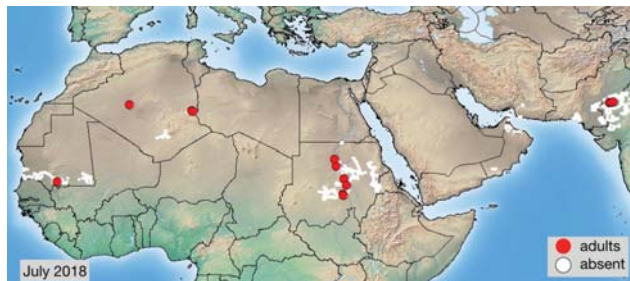
Desert Locust Bulletin

General situation during July 2018 Forecast until mid-September 2018

WESTERN REGION: CALM

SITUATION. Isolated adults were present in central and eastern **Algeria**.

FORECAST. Small-scale breeding will occur in the northern Sahel of **Mauritania, Mali, Niger, Chad** and southern **Algeria** with very low numbers of hoppers appearing. No significant developments are likely.



The Desert Locust situation continued to remain calm during July

Only isolated solitary adults were reported during July in central and eastern Algeria, southern Mauritania, Sudan and along the Indo-Pakistan border. Good rains fell during July in the summer breeding areas of the northern Sahel from Mauritania to western Eritrea and along both sides of the Indo-Pakistan border, causing ecological conditions to become favourable for breeding. However, current locust numbers are extremely low due to very poor breeding during the past spring and winter. It will take several months of good rains and at least two generations of breeding before locust numbers are likely to increase significantly. Nevertheless, regular surveys should be undertaken in all summer breeding areas to closely monitor the evolution of the situation. In the Central Region, there remains a possibility of breeding in southern and eastern Yemen, southern Oman, and eastern Saudi Arabia where unusually heavy rains from Cyclone Mekunu fell in May. There is a slight possibility of breeding in northern Somalia and eastern Ethiopia in areas that received heavy rains from Cyclone Sagar in May. Regular monitoring should be maintained in all areas for the next few months.

CENTRAL REGION: CALM

SITUATION. Isolated adults were present in the interior of **Sudan**.

FORECAST. Breeding may occur in parts of southern **Yemen** and **Oman**, and the Empty Quarter in eastern **Saudi Arabia**, where heavy rains fell from Cyclone Mekunu. Small-scale breeding will occur in the interior of **Sudan** and western **Eritrea** with very low numbers of hoppers appearing. No significant developments are likely.

EASTERN REGION: CALM

SITUATION. Isolated adults were present along the Indo-Pakistan border in Cholistan, **Pakistan**.

FORECAST. Small-scale breeding will occur along both sides of the **Indo-Pakistan border** with low numbers of hoppers appearing. 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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Facebook: www.facebook.com/faolocust

Twitter: twitter.com/faolocust



Weather & Ecological Conditions in July 2018

Ecological conditions became favourable in all summer breeding areas as a result of good rains during July.

WESTERN REGION

The Inter-Tropical Convergence Zone (ITCZ) continued its seasonal movement northward in West Africa during July. Its position was often 150–200 km further north than usual for this time of year. By the end of the month, the ITCZ had reached Ouadane in Mauritania, the Algerian border in northern Mali, southern Algeria, Bilma in northeast Niger, and Faya in northern Chad. As a result, good rains fell throughout all summer breeding areas in the northern Sahel between Mauritania and Chad, including southern Algeria where heavy downpours on 30 July caused local flooding in In Guezzam. Consequently, ecological conditions became favourable for breeding throughout most of these areas. In Northwest Africa, dry and extremely warm conditions prevailed. The highest reliable temperature ever recorded in Algeria, 51°C, occurred at Ouargla on 5 July.

CENTRAL REGION

The Inter-Tropical Convergence Zone (ITCZ) continued its seasonal movement northward over the interior of Sudan during July. During the first decade and third decades, it was nearly 100–300 km further north than usual. By the end of the month, the ITCZ had reached Dongola and Wadi Diib in northern Sudan. As a result, good rains fell in North Darfur as far north as Mellit, in North Kordofan to Sodiri, and in Kassala State. Consequently, annual vegetation became green over large areas of North Kordofan and Darfur, and breeding conditions improved. In Eritrea, light to moderate rains fell in the western lowlands, causing breeding conditions to become favourable near Teseney. In Yemen, light to moderate rains fell for a second consecutive month along the edge of Ramlat Sabatyn from Nisab to Wadi Hadhramaut. Light to moderate rains fell during the last week of July along both sides of the Red Sea in southeast Egypt, along parts of the Sudanese coast, in Eritrea and from Lith, Saudi Arabia to Zabid, Yemen. It is unusual for rain to fall along the coast during the summer. In Oman, annual vegetation became green along parts of the plains in the Dhofar interior of the south as a result of Cyclone Mekunu in May. Dry conditions prevailed in the Horn of Africa.

EASTERN REGION

Although the southwest monsoon had reached the Indo-Pakistan border area some two weeks earlier than normal this year, very little rain fell during the first decade along both sides of the border. However, rainfall improved substantially during the second decade when widespread

moderate to heavy showers fell throughout Rajasthan and Gujarat in India as well as in adjacent areas of Tharparkar, Nara and Cholistan deserts in Pakistan and in the Lasbela area west of Karachi. Higher than normal rains fell in Rajasthan near Bikaner and along the Pakistani border west of the Indira Gandhi Canal. As a result of the good rains, ecological conditions became favourable for breeding in most of these areas. Dry conditions prevailed elsewhere in the region.



Area Treated

No control operations were reported during July.



Desert Locust Situation and Forecast

WESTERN REGION

MAURITANIA

• SITUATION

During the last week of July, isolated immature solitary adults were seen at one location in Assaba southeast of Kiffa (1638N/1124W). No locusts were seen during surveys carried out in the southern regions of Trarza, Brakna, Assaba and the two Hodhs.

• FORECAST

Small-scale breeding is likely to occur in areas of recent rainfall in the south and southeast, causing locust numbers to increase slightly.

MALI

• SITUATION

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

• FORECAST

Small-scale breeding is likely to occur in areas of recent rainfall in the Adrar des Iforas and Tamesna, causing locust numbers to increase slightly.

NIGER

• SITUATION

No locust activity was reported during July.

• FORECAST

Small-scale breeding is likely to occur in areas of recent rainfall in the Tahoua area and on the Tamesna Plains, causing locust numbers to increase slightly.

CHAD

• SITUATION

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

• FORECAST

Low numbers of adults will appear in central and eastern areas and breed on a small scale in areas of recent rainfall, giving rise to hatching and low numbers of hoppers during the forecast period.

SENEGAL

• SITUATION

No locust activity was reported during July.

• 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 July, isolated immature solitary adults were present in the central Sahara south of Adrar (2753N/0017W) and isolated mature solitary adults were present in the east near Illizi (2630N/0825E). No locusts were seen in the south near Tamanrasset (2250N/0528E).

• FORECAST

Low numbers of adults may remain near irrigated perimeters in the central Sahara. Small-scale breeding is likely to occur in areas of recent rainfall of the southern Sahara near the borders of Mali and Niger.

MOROCCO

• SITUATION

No locust activity was reported during July.

• FORECAST

No significant developments are likely.

LIBYA

• SITUATION

No locust activity was reported during July.

• FORECAST

No significant developments are likely.

TUNISIA

• SITUATION

No locust activity was reported during July.

• FORECAST

No significant developments are likely.

CENTRAL REGION

SUDAN

• SITUATION

During July, isolated mature solitary adults were seen in Northern State near Dongola (1910N/3027E) in Nile Valley and northwest of Khartoum (1533N/3235E). Isolated immature solitary adults were seen in White Nile State between Ed Dueim (1400N/3220E) and Umm Saiyala (1426N/3112E). No locusts were seen during extensive surveys in Northern, River Nile, Kassala, Red Sea, Khartoum, White Nile and North Kordofan states.

• FORECAST

Small-scale breeding is likely to occur in areas of recent rainfall, causing locust numbers to increase slightly in North Darfur, North Kordofan, White Nile, Khartoum, River Nile and Kassala states.

ERITREA

• SITUATION

During July, no locusts were seen during surveys carried out in the western lowlands to the north and south of Teseney (1506N/3639E).

• FORECAST

Small-scale breeding is likely to occur in areas of recent rainfall in the western lowlands, causing locust numbers to increase slightly.

ETHIOPIA

• SITUATION

No reports were received in July.

• FORECAST

Small-scale breeding could occur in areas that received rains from Cyclone Sagar 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 July.

• FORECAST

No significant developments are likely.

SOMALIA

• SITUATION

No reports were received in July.

• FORECAST

Small-scale breeding could occur in areas that received heavy rains associated with Cyclone Sagar.

EGYPT

• SITUATION

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

• FORECAST

No significant developments are likely.

SAUDI ARABIA

• SITUATION

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

• FORECAST

Scattered adults may appear and breed in Yemen and Oman border areas of the Empty Quarter (Umm Al Melh to Thabhtoten) that received rains from Cyclone Mekunu.

YEMEN

• SITUATION

The situation remained unclear as it was not possible to undertake surveys during July because of continued insecurity.

• FORECAST

Small-scale breeding may occur in areas along the southern coast that received heavy rains from cyclones Sagar and Mekunu. Breeding could also take place in the interior along the edge of the Ramlat Sabatyn, extending to Wadi Hadhramaut and the Thamud plateau. Small-scale breeding is likely in recent areas of rainfall along the Red Sea coastal plains.

OMAN

• SITUATION

During July, no locusts were seen during surveys carried out on the Musandam Peninsula, along the Batinah coast near Sohar (2421N/5644E) and Jamma (2333N/5733E), in the northern interior near Buraimi (2415N/5547E) and Iabri (2314N/5630E), and in the southern province of Dhofar north of Thumrait (1736N/5401E).

• FORECAST

Low numbers of adults may appear and breed in coastal and interior areas of Dhofar and Al Wusta that received heavy rains 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 July, no locusts were seen on the southeast coast near Jask (2540N/5746E) and in the Jaz Murian Basin of the interior between Ghale Ganj (2731N/5752E) and Sowlan (2710N/5833E).

• FORECAST

No significant developments are likely.

PAKISTAN

• SITUATION

During July, isolated mature solitary adults were seen

along the Indian border east of Islamgarh (2751N/7048E) in Cholistan.

• FORECAST

Small-scale breeding is likely to occur in areas of recent rainfall in Cholistan, Nara and Tharparkar deserts, causing locust numbers to increase slightly.

INDIA

• SITUATION

No locusts were seen during surveys carried out in Rajasthan and Gujarat in July.

• FORECAST

Small-scale breeding is likely to occur in areas of recent rainfall in Rajasthan and Gujarat, causing locust numbers to increase slightly.

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/ECLC Desert Locust Information Service (eclc@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:

- **CLCPRO.** Workshop on the use of score cards to standardize the implementation of the list of environmental requirements, Dakar, Senegal (17–19 September)
- **CRC.** Simulation of Desert Locust contingency planning, Hurghada, Egypt (30 September – 4 October)
- **CLCPRO.** Training of trainers on survey techniques, Aioun El Atrous, Mauritania (15–22 October)
- **CRC.** Regional workshop on use of *Metarhizium acridum* in Desert Locust control, Hurghada, Egypt (7–9 October)
- **DLCC.** 41st session, Tunis, Tunisia (22–25 October) (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 km²
- band: 1–25 m²

Small

- swarm: 1–10 km²
- band: 25–2,500 m²

Medium

- swarm: 10–100 km²
- band: 2,500 m² – 10 ha

Large

- swarm: 100–500 km²
- band: 10–50 ha

Very large

- swarm: 500+ km²
- 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.



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

IRI Greenness maps. Dynamic maps of green vegetation evolution every decade
http://iridl.ideo.columbia.edu/maproom/Food_Security/Locusts/Regional/greenness.html

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

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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>

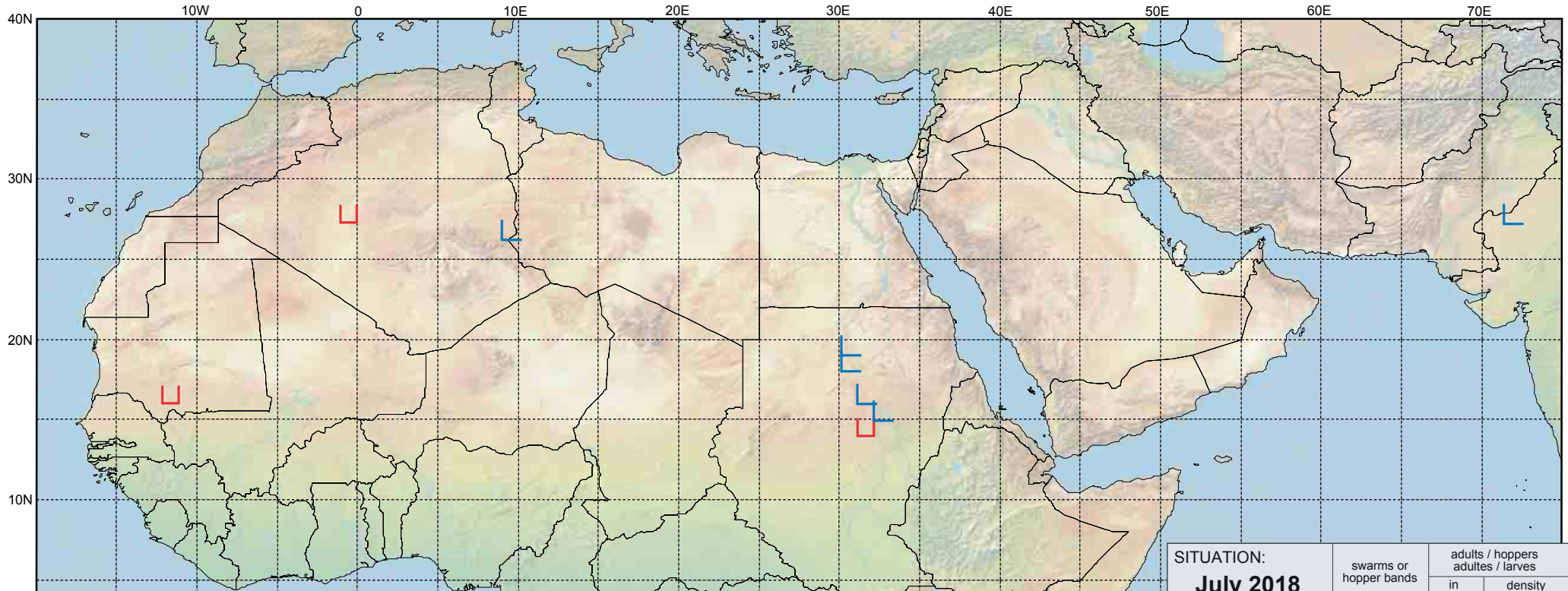
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FORECAST TO: PREVISION AU: 15.09.18	LIKELY PROBABLE	POSSIBLE POSSIBLE
favourable breeding conditions conditions favorables à la reproduction		
major swarm(s) essaim(s) important(s)		
minor swarm(s) essaim(s) limité(s)		
non swarming adults adultes non essaimant		

SITUATION: July 2018 juillet 2018	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)			



Desert Locust Bulletin

General situation during August 2018 Forecast until mid-October 2018

WESTERN REGION: CALM

SITUATION. Small-scale breeding occurred in central **Algeria** while scattered adults were present in southeast **Mauritania** and eastern **Chad**.

FORECAST. Small-scale breeding will cause locust numbers to increase slightly in the northern Sahel of **Mauritania, Mali, Niger, Chad** and southern **Algeria**. No significant developments are likely.



The Desert Locust situation continued to remain calm during August

Only low numbers of solitary adults were present in central Algeria, southeast Mauritania, northeast Chad, Sudan and along both sides of the Indo-Pakistan border during August. Despite good rains that fell unusually far north in the northern Sahel of West Africa and Sudan, very little breeding has been detected so far with the exception of isolated solitary hoppers in the Adrar Valley of central Algeria where limited ground control operations were carried out. During the forecast period, small-scale breeding will cause locust numbers to increase slightly in the summer breeding areas from Mauritania to western Eritrea. Limited breeding will continue along both sides of the Indo-Pakistan border, but this should conclude by the end of the forecast period. Scattered adults may appear on the Red Sea coast of Sudan, Eritrea, Yemen and southwest Saudi Arabia where early breeding could occur in those areas that received good rains in August.

CENTRAL REGION: CALM

SITUATION. Scattered adults were present in **Sudan**.

FORECAST. Small-scale breeding will cause locust numbers to increase slightly in the interior of **Sudan** and in western **Eritrea**. Breeding may occur on the Red Sea coast in **Eritrea, Sudan, Yemen** and **Saudi Arabia**. No significant developments are likely.

EASTERN REGION: CALM

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

FORECAST. Small-scale breeding will continue until the end of the forecast period along both sides of the **Indo-Pakistan border**. No significant developments are likely.

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Facebook: www.facebook.com/faolocust

Twitter: twitter.com/faolocust



Weather & Ecological Conditions in August 2018

Unusually good rains fell in the summer breeding areas of the northern Sahel between Mauritania and western Eritrea. Good rains also fell along both sides of the Indo-Pakistan border.

WESTERN REGION

The Inter-Tropical Convergence Zone (ITCZ) remained unusually far north over West Africa during August, reaching a peak during the first decade and then retreating southwards during the last two decades. Nevertheless, its position was some 200 km to 400 km further north than usual over Mali and Chad, respectively, but remained south of its normal position over southwest Mauritania. As a result, extremely good rains fell in the northern Sahel from northern Mali to northeast Chad, and ecological conditions were favourable for breeding. Rainfall extended as far north as Western Sahara, southwest (Chenachane) and central Algeria, and the Chad/Libya border. Less rain fell in Mauritania where it was mainly confined to the southeast during the first decade but thereafter it extended to most southern and central areas, including parts of the northwest.

CENTRAL REGION

The Inter-Tropical Convergence Zone (ITCZ) continued its seasonal movement northward over the interior of Sudan during August, reaching its peak during the first decade at Dongola. Thereafter, it retreated slightly southwards. Nevertheless, its position was 100–250 km further north than usual. This caused widespread good rains to fall from Darfur to the Red Sea Hills with particularly heavy rainfall in the western lowlands of Eritrea. Consequently, ecological conditions were favourable for breeding in most of these areas. Good rains also fell in the highlands of Eritrea and Yemen and in southwest Saudi Arabia that extended onto the Red Sea coastal plains in these areas. Showers also fell in eastern Ethiopia along the railway and in adjacent plateau areas of northwest Somalia. Light rains fell in the interior of Yemen between Marib and Hadhramaut. It is likely that breeding conditions will improve in some of these areas, especially if further rains fall.

EASTERN REGION

Widespread, good rains associated with the southwest monsoon fell along both sides of the Indo-Pakistan border from Tharparkar to Cholistan in Pakistan and from Bhuj to Rajasthan in India. Ecological conditions were favourable for breeding even though cumulative rainfall for the current season remained below normal in nearly all areas except for Bikaner district in India. Dry conditions prevailed elsewhere in the region.



Area Treated

Algeria 106 ha (August)



Desert Locust Situation and Forecast

WESTERN REGION

MAURITANIA

• SITUATION

During the first week of August, isolated immature and mature solitarious adults were seen at a few places in the southeast between Aioun El Atrous (1639N/0936W) and Timbedra (1614N/0809W). No locusts were seen elsewhere in the southern regions of Trarza, Brakna, Tagant, Assaba and the two Hodhs.

• FORECAST

Small-scale breeding is likely to occur in areas of recent rainfall in the centre and south, causing locust numbers to increase slightly. Adults may also appear and breed on a small scale in the Aguilal Faye and Zouerate areas.

MALI

• SITUATION

No locusts were seen during surveys carried out in the west near Kayes (1426N/1128W) and Nioro (1512N/0935W) during August.

• FORECAST

Small-scale breeding is likely to occur in areas of recent rainfall in the Adrar des Iforas and Tamesna, causing locust numbers to increase slightly.

NIGER

• SITUATION

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

• FORECAST

Small-scale breeding is likely to be in progress and will continue in areas of recent rainfall in the Tahoua area and on the Tamesna Plains and central pasture areas, causing locust numbers to increase slightly.

CHAD

• SITUATION

During the second half of August, isolated immature solitarious adults were present in the northeast near Fada (1714N/2132E) while isolated mature solitarious adults were present further south near Abeche (1349N/2049E) and Arada (1501N/2040E).

• FORECAST

Small-scale breeding will cause locust numbers to increase slightly in central and northeastern areas. Scattered adults may also be present and breed further north in the Mourdi Depression and Tibesti.

SENEGAL

• SITUATION

No locust activity was reported during August.

• 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 August, small-scale breeding was in progress in the central Sahara between Reggane (2643N/0010E) and Timimoun (2916N/0014E) where scattered mature solitary adults were copulating and laying eggs near irrigated agriculture perimeters and scattered second to fourth instar hoppers were present at one location. Ground teams treated 106 ha. No locusts were seen in the east near Illizi (2630N/0825E).

• FORECAST

Hatching will continue near irrigated perimeters in the central Sahara with fledging throughout the forecast period. Another generation of breeding could commence by October. 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. This will continue during the forecast period, causing locust numbers to increase slightly.

MOROCCO

• SITUATION

No locust activity was reported during August.

• FORECAST

No significant developments are likely.

LIBYA

• SITUATION

No reports were received in August.

• FORECAST

No significant developments are likely.

TUNISIA

• SITUATION

No locust activity was reported during August.

• FORECAST

No significant developments are likely.

CENTRAL REGION

SUDAN

• SITUATION

During August, scattered mature solitary adults persisted along Wadi Muqaddam northwest of Khartoum (1533N/3235E) as well as in the Nile Valley from Ed Debba (1803N/3057E) to north of Dongola (1910N/3027E). No locusts were seen elsewhere in the Nile Valley, the Baiyuda Desert, North Kordofan and to the west of the Red Sea Hills. However, scattered mature adults were present on 6 August in one field on the edge of Tokar Delta on the Red Sea coast where good rains fell in late May.

• FORECAST

Small-scale breeding is likely to be in progress and will continue in areas of recent rainfall, causing locust numbers to increase slightly in North Darfur, North Kordofan, White Nile, Khartoum, River Nile, Northern and Kassala states. Adults may appear in areas of recent rainfall and runoff on the Red Sea coastal plains where early breeding may occur on a small scale.

ERITREA

• SITUATION

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

• FORECAST

Small-scale breeding is likely to be in progress and will continue in areas of recent rainfall in the western lowlands, causing locust numbers to increase slightly. Adults may appear in areas of recent rainfall and runoff on the Red Sea coastal plains where early breeding may occur on a small scale.

ETHIOPIA

• SITUATION

No reports were received in August.

• FORECAST

Small-scale breeding could occur in areas that received rains from Cyclone Sagar 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 August.

• FORECAST

No significant developments are likely.

SOMALIA

• SITUATION

No reports were received in August.

• FORECAST

No significant developments are likely.

EGYPT

• SITUATION

No locusts were seen during surveys carried out on the Red Sea coastal plains in the southeast between Shalatyin (2308N/3535E) and the Sudanese border in August.

• FORECAST

No significant developments are likely.

SAUDI ARABIA

• SITUATION

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

• FORECAST

Adults may appear in areas of recent rainfall and runoff on the southern Red Sea coastal plains where early breeding may occur on a small scale.

YEMEN

• SITUATION

The situation remained unclear as it was not possible to undertake surveys during August because of continued insecurity.

• FORECAST

Small-scale breeding is likely in recent areas of rainfall along the Red Sea coastal plains.

OMAN

• SITUATION

During August, no locusts were seen during surveys carried out on the Musandam Peninsula, along the Batinah coast near Sohar (2421N/5644E) and Jamma (2333N/5733E), in the northern interior near Buraimi (2415N/5547E) and Sinaw (2230N/5802E), and in the southern province of Dhofar north of Thumrait (1736N/5401E).

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

• FORECAST

No significant developments are likely.

PAKISTAN

• SITUATION

During August, isolated mature solitary adults were seen at three places along the Indian border east of Rahimyar Khan (2822N/7020E) in Cholistan.

• FORECAST

Small-scale breeding is likely to occur in areas of recent rainfall in Cholistan, Nara and Tharparkar deserts, causing locust numbers to increase slightly.

INDIA

• SITUATION

No locusts were seen during surveys carried out in Rajasthan and Gujarat in August except for isolated mature solitary adults at one place west of Bikaner (2801N/7322E).

• FORECAST

Small-scale breeding is likely to occur in areas of recent rainfall in Rajasthan and Gujarat, causing locust numbers to increase slightly.

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/ECLD Desert Locust Information Service (eclod@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.

Peter Gruys (1936–2018)

It is with deep regret that we announce the death of Peter Gruys on 19 June. Mr. Gruys worked for many years supporting FAO and affected countries in strengthening Desert Locust preventive control. We would like to express our sincere condolences to his family and his government.

Calendar

The following activities are scheduled or planned:

- **CLCPRO**. Workshop on the use of score cards to standardize the implementation of the list of environmental requirements, Dakar, Senegal (17–19 September)
- **CRC**. Simulation of Desert Locust contingency planning, Hurgada, Egypt (30 September – 4 October)
- **CLCPRO**. Training of trainers on survey techniques, Aioun El Atrous, Mauritania (15–22 October)
- **CRC**. Regional workshop on use of *Metarhizium acridum* in Desert Locust control, Hurgada, Egypt (7–9 October)
- **DLCC**. 41st 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 km² • band: 1–25 m²

Small

- swarm: 1–10 km² • band: 25–2,500 m²

Medium

- swarm: 10–100 km² • band: 2,500 m² – 10 ha

Large

- swarm: 100–500 km² • band: 10–50 ha

Very large

- swarm: 500+ km² • 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



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

IRI Greenness maps. Dynamic maps of green vegetation evolution every decade
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>

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

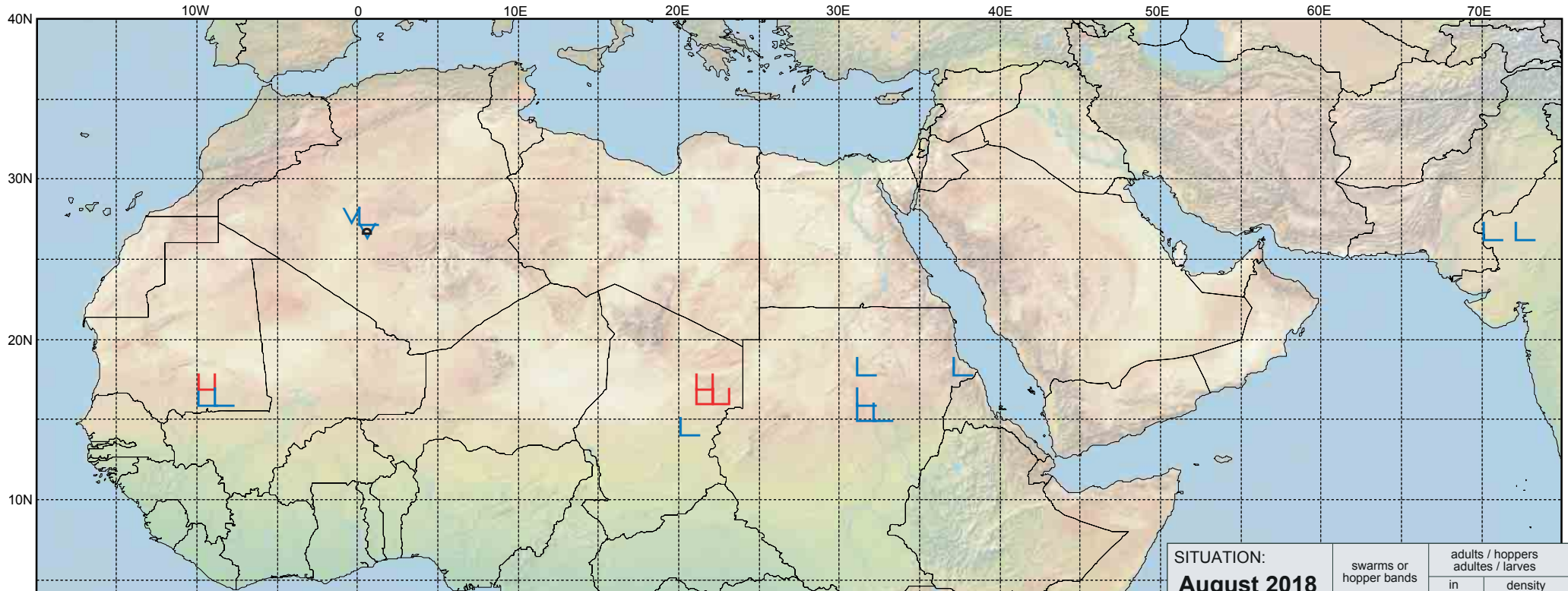
Eastern

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



Desert Locust Summary

Criquet pèlerin - Situation résumée



FORECAST TO: PREVISION AU: 15.10.18	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: August 2018 août 2018	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)			



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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Facebook: www.facebook.com/faolocust

Twitter: twitter.com/faolocust



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.** 31st session, New Delhi, India (11–13 December, to be confirmed)
- **CRC.** 31st session, Amman, Jordan (17–21 February 2019)
- **DLCC.** 41st 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 km²
- band: 1–25 m²

Small

- swarm: 1–10 km²
- band: 25–2,500 m²

Medium

- swarm: 10–100 km²
- band: 2,500 m² – 10 ha

Large

- swarm: 100–500 km²
- band: 10–50 ha

Very large

- swarm: 500+ km²
- 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

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- Period without widespread and heavy infestations by swarms

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- Period of deep recession marked by the complete absence of gregarious populations

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- 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

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- 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

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- 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

IRI Greenness maps. Dynamic maps of green vegetation evolution every decade
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>

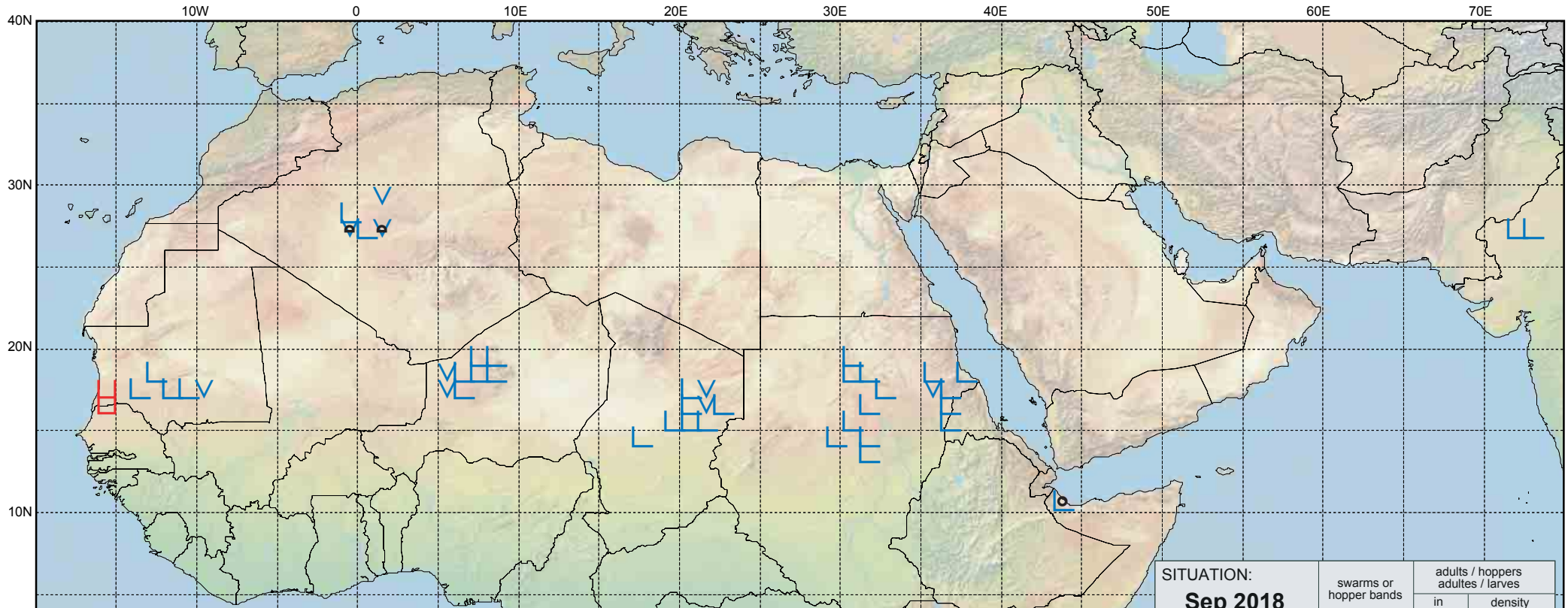
eLERT. Online database of resources and technical specifications for locust emergencies
<http://sites.google.com/site/elertsite>



Desert Locust Summary

Criquet pèlerin - Situation résumée

480



FORECAST TO: PREVISION AU: 15.11.18	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: Sep 2018 sept 2018	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)			



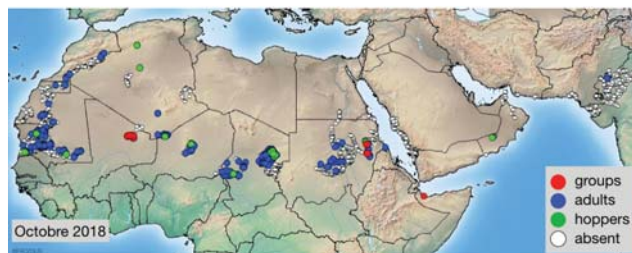
Desert Locust Bulletin

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.

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Facebook: www.facebook.com/faolocust

Twitter: 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 solitary 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 solitary 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 solitary 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 solitary 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 solitary adults were seen laying eggs and scattered third to fourth instar solitary 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 solitary hoppers were treated mixed with mature solitary adults. In the extreme south, small-scale breeding occurred along the Niger

border where isolated solitary hoppers of all instars and scattered immature solitary 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 solitary adults appeared in W. Sakia El Hamra in northeastern Western Sahara east of Haouza (2707N/1112W), in W. Draa between Zag (2800N/0920W) and Foug 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 solitary 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 solitary 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 Islamabad (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.

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Calm (green). Countries should report at least once/month and send RAMSES data with a brief interpretation.

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- **DLCC.** 41st session (postponed to 2019)



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Group

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Very small

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Rainfall

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- 1–20 mm

Moderate

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- Sahel of West Africa, Sudan, western Eritrea; Indo-Pakistan border

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Breeding

- The process of reproduction from copulation to fledging

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- 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

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- 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

IRI Greenness maps. Dynamic maps of green vegetation evolution every decade
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>

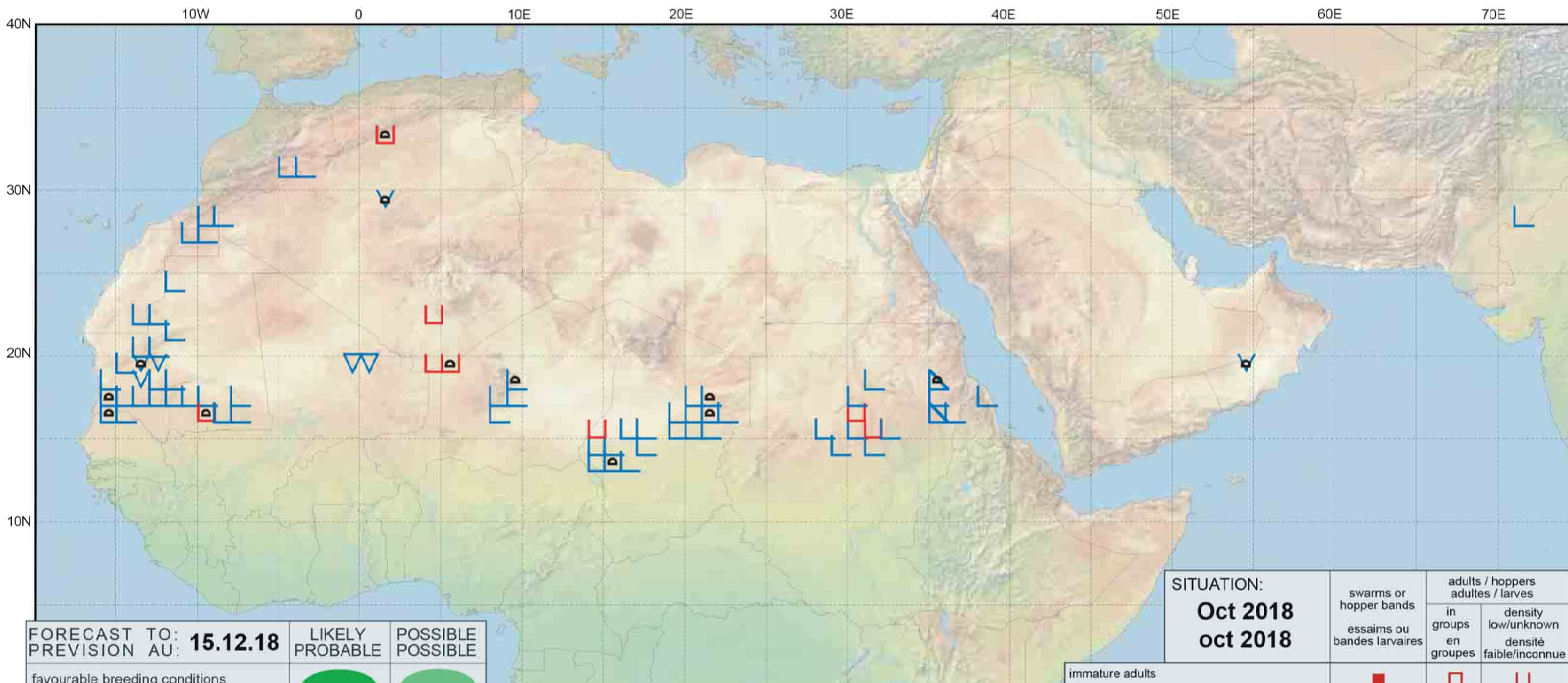
FAOLocust Slideshare. Locust presentations and photos
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eLERT. Online database of resources and technical specifications for locust emergencies
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Desert Locust Summary

Criquet pèlerin - Situation résumée



FORECAST TO: PREVISION AU: 15.12.18	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 2018 oct 2018	adults / hoppers adultes / larves	
	swarms or hopper bands essaims ou bandes larvaires	in groups en groupes

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)			



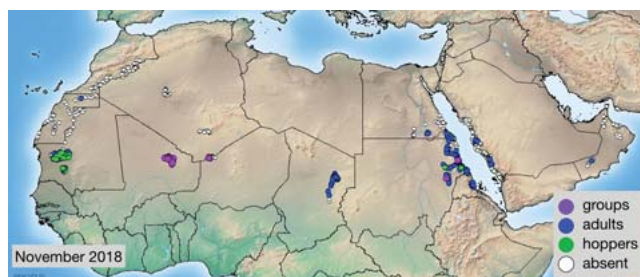
Desert Locust Bulletin

General situation during November 2018 Forecast until mid-January 2019

WESTERN REGION: CALM

SITUATION. Small-scale breeding occurred in western **Mauritania**, northern **Mali** and **Niger**, and southern **Algeria** while low numbers of adults persisted in **Chad**. Limited control operations were carried out in southern Algeria against a few groups.

FORECAST. Breeding will continue in northwest **Mauritania** where a few small groups may form. Additional adults may appear in northern Mauritania and **Western Sahara**. Low numbers of adults may persist in northern **Mali**, northern **Niger** and southern **Algeria**.



The Desert Locust situation continued to remain calm during November

CENTRAL REGION: CALM

SITUATION. Locust numbers increased along the Red Sea coast in **Sudan**, **Eritrea** and **Saudi Arabia**, and small-scale breeding commenced in Sudan. Local breeding occurred in southern **Oman** in areas that received good rain from Cyclone Luban.

FORECAST. Small-scale breeding will continue in **Sudan** and **Eritrea**, and is expected to extend to southeast **Egypt**, **Saudi Arabia** and **Yemen**, and perhaps the Gulf of Aden coast of southern Yemen and northwest **Somalia**, causing locust numbers to increase in all of these areas.

In the Central Region, adults and a few small groups moved from the summer breeding area in eastern Sudan to the Red Sea coastal plains and northeastern subcoastal areas of Sudan. Low numbers of adults were present on the coast of Eritrea and Saudi Arabia. As good rains fell along both sides of the Red Sea, small-scale breeding was already underway in Eritrea and commenced during the last week in Sudan. Local breeding also occurred along the edge of the Empty Quarter in southern Oman where good rains fell in October from Cyclone Luban. In the Western Region, small-scale breeding caused locust numbers to increase slightly in western Mauritania, northern Mali and Niger, and southern Algeria near the Niger border. Groups formed in northeast Mali and southern Algeria, and ground teams treated 130 ha in southern Algeria. A few residual summer-bred populations of solitary adults remained in northeast Chad. During the forecast period, small-scale breeding will cause locust numbers to increase on the coastal plains along both sides of the Red Sea from southeast Egypt to central Eritrea and from northern Saudi Arabia to southwest Yemen. Small-scale breeding may also occur along the Gulf of Aden coastal plains in southern Yemen and northwest Somalia if more rains fall. Limited breeding may continue in southern Oman. Small-scale breeding is also likely to continue in Mauritania and may extend to the north of the country and to adjacent areas of Western Sahara, causing locust numbers to increase.

EASTERN REGION: CALM

SITUATION. No locusts were reported.
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: ecl@fao.org

Internet: www.fao.org/ag/locusts

Facebook: www.facebook.com/faolocust

Twitter: twitter.com/faolocust



Weather & Ecological Conditions in November 2018

Ecological conditions were favourable for breeding along both sides of the Red Sea, in western Mauritania and in parts of Morocco and Algeria.

WESTERN REGION

Although no significant rains fell in the region during November, ecological conditions remained favourable for breeding in western Mauritania between Akjoujt and Chinguetti and in the north between Zouerate and Bir Moghreïn. In Morocco, breeding conditions were favourable along the southern side of the Atlas Mountains and were improving throughout the Western Sahara. Conditions remained favourable in Algeria in the Adrar Valley and near Tamanrasset but were drying out in the extreme south along the Niger border. In the Sahel, conditions continued to dry out in all areas but remained green in a few places on the Tamesna Plains of northern Niger and near Fada in northeast Chad.

CENTRAL REGION

Good rains fell at times in parts of the winter breeding areas along both sides of the Red Sea in November. In Egypt, light to moderate rains fell on the coast between Marsa Alam and the Sudanese border in early November, causing flooding in some places. Consequently, breeding conditions started to improve on the coastal plains. In Sudan, breeding conditions were favourable in most coastal areas from Port Sudan to the Eritrean border as well as in subcoastal areas of the northeast in Wadi Oko/Diib where light rains fell at times. In Eritrea, light to moderate rains fell on the central and northern coastal plains and breeding conditions were favourable. In Saudi Arabia, breeding conditions were favourable in most areas along a 1,000 km stretch of coast from the Yemeni border north to beyond Yenbo. Heavy rains fell in the Jeddah area at times. Conditions were less favourable on the Red Sea and Gulf of Aden coasts of Yemen and on the northwest coastal plains in northern Somalia due to a lack of rain during November. In Oman, breeding conditions remained favourable along the edge of the Empty Quarter in the southern province of Dhofar as a result of rains from Cyclone Luban in October.

EASTERN REGION

No significant rains fell, and dry conditions prevailed throughout the region in November.



Area Treated

Algeria 130 ha (November)



Desert Locust Situation and Forecast

WESTERN REGION

MAURITANIA

• SITUATION

During November, small-scale breeding continued in western areas to the north of Moudjeria (1752N/1219W) and between Akjoujt (1945N/1421W) and Oujeft (2003N/1301W) where solitary and *transiens* hoppers of all instars mixed with mainly mature solitary adults at densities up to 400 adults/ha. Egg-laying continued in some places during the month and hatchling density reached 60 hoppers/m² at mid-month in a few sites but declined thereafter. No locusts were seen further north between Atar (2032N/1308W) and Bir Moghreïn (2510N/1135W).

• FORECAST

Small-scale breeding will continue in the northwest between Akjoujt, Oujeft and Atar, causing locust numbers to increase slightly. There is a low risk that a few small groups may form in any areas that start to dry out. Limited breeding could occur in the north if temperatures remain warm.

MALI

• SITUATION

Scattered immature and mature solitary adults at densities of 400–700 adults/ha mixed with solitary hoppers were seen during surveys carried out from 31 October to 4 November in the northeast between Aguelhoc (1927N/0052E) and Ti-n-kar (1926N/0022W). Adults were seen copulating. Drying vegetation caused some of the hoppers and adults to concentrate and form small groups. A few days later, locals reported hopper concentrations and groups northeast of Ti-n-kar at Tacharak (1932N/0016W).

• FORECAST

Low numbers of locusts are likely to persist in Timetrine and the Adrar des Iforas.

NIGER

• SITUATION

During November, scattered solitary hoppers of all instars and immature and mature solitary adults at densities of 5–400 adults/ha were present on the Tamesna Plains near In Abangharit (1754N/0559E) and further north near the Algerian border.

• FORECAST

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

CHAD

• SITUATION

During November, isolated maturing and mature solitary adults were present in the northeast near Fada (1714N/2132E) and to a lesser extent further south towards Kalait (1550N/2054E) and Arada (1501N/2040E). Copulating adults were seen at one place west of Fada on the 20th.

• FORECAST

No significant developments are likely.

SENEGAL

• SITUATION

No locust activity was reported during November.

• 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 November, small groups of solitary and *transiens* hoppers of all instars, immature and mature solitary adults, including one group, were present in the extreme south near In Guezzam (1937N/0552E) and the Niger border where breeding had occurred in October. Copulating adults were seen at one place on the 3rd. Ground teams treated 130 ha. No locusts were seen west of Tamanrasset (2250N/0528E) and in the Adrar Valley (2753N/0017W) of the Central Sahara.

• FORECAST

Low numbers of adults may persist in a few places of the extreme south.

MOROCCO

• SITUATION

During November, no locusts were seen during surveys conducted along the southern side of the Atlas Mountains and throughout Western Sahara except for isolated mature solitary adults at one place in W. Sakia El Hamra near Haouza (2707N/1112W).

• FORECAST

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

LIBYA

• SITUATION

No locust activity was reported during October. No reports

were received in November.

• 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 November.

• FORECAST

No significant developments are likely.

CENTRAL REGION

SUDAN

• SITUATION

In early November, remnants of summer-bred mature solitary adults were present on the western side of the Red Sea Hills near Haiya (1820N/3621E) and at least one group formed southwest of Derudeb (1731N/3607E). As the month progressed, the adults moved to winter breeding areas along the Red Sea coast between Eit (2009N/3706E) and Suakin (1906N/3719E), the Tokar Delta (1827N/3741E), and the southern coast between Aiterba (1753N/3819E) and the Eritrean border as well as to subcoastal areas of Wadi Oko/Diib in the northeast. Several groups of mature adults were seen copulating on the coast near Suakin while solitary adults were laying eggs in W. Oko near Tomala (2002N/3551E), on the central coast south of Suakin and on the southern coast. Hatching commenced during the last week in Tokar Delta.

• FORECAST

Small-scale breeding will continue in Wadi Oko/Diib and along the Red Sea coast, causing locust numbers to increase.

ERITREA

• SITUATION

In early November, an increasing number of mainly isolated immature solitary adults were detected on the central Red Sea coastal plains between Wekiro (1548N/3918E) and Mersa Gulbub (1633N/3908E) where copulating adults were seen at one place. Isolated mature solitary adults were present further north between Mehimet (1723N/3833E) and the Sudanese border. By the end of the month, isolated third to fourth instar solitary hoppers were present in the north and hatching had commenced in central areas near Sheib (1551N/3903E).

• FORECAST

Small-scale breeding will increase and continue 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

November.

• 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 November.

• FORECAST

No significant developments are likely.

SOMALIA

• SITUATION

No reports were received in November.

• FORECAST

Small-scale breeding will occur on the northwest coastal plains if rains fall during the forecast period.

EGYPT

• SITUATION

During November, isolated immature and mature solitary adults were seen on the eastern side of Lake Nasser in the W. Allaqi (2236N/3318E) area, in subcoastal areas of the Red Sea along W. Diib and adjacent wadis, and on the coastal plains between Abu Ramad (2224N/3624E) and Shalatyn (2308N/3535E). No locusts were seen further north along the coast to Marsa Alam (2504N/3454E) or in cropping areas on the western side of Lake Nasser near Tushka (2247N/3126E) and Abu Simbel (2219N/3138E).

• FORECAST

Small-scale breeding will cause locust numbers to increase slightly along the Red Sea coast and adjacent subcoastal areas between Shalatyn and the Sudanese border.

SAUDI ARABIA

• SITUATION

During November, low numbers of immature and mature solitary adults were present north of Mecca (2125N/3949E) and near Qunfidah (1909N/4107E). No locusts were seen elsewhere along the Red Sea coastal plains between the Yemeni border and Umm Lajj (2501N/3716E).

• FORECAST

Small-scale breeding will occur in recent areas of rainfall on the Red Sea coastal plains, causing locust numbers to increase slightly.

YEMEN

• SITUATION

No reports were received in November.

• FORECAST

Scattered locusts are almost certainly present along parts of the Red Sea coastal plains. Small-scale breeding will occur in any areas that receive rains. Scattered adults may

be present in the eastern region where small-scale breeding could occur in areas that received good rains from Cyclone Luban.

OMAN

• SITUATION

During November, small-scale breeding continued near the edge of the Empty Quarter in the southern province of Dhofar at Marsawdad (1914N/5421E) where scattered adults were seen copulating on the 6th. This area had received good rains from Cyclone Luban in October. No locusts were seen in the northern interior, on the Batinah coast and the Musandam Peninsula.

• FORECAST

Small-scale breeding is likely to continue in a few areas of Dhofar and near the edge of the Empty Quarter that received good rains 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 November, no locusts were seen on the southeast coast near Jask (2540N/5746E).

• FORECAST

No significant developments are likely.

PAKISTAN

• SITUATION

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

• FORECAST

No significant developments are likely.

INDIA

• SITUATION

No locusts were seen in Rajasthan and Gujarat during November.

• 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.** 31st Session, New Delhi, India (11–13 December)
- **CRC.** 31st Session, Amman, Jordan (17–21 February 2019)
- **CRC/SWAC.** 11th Interregional workshop for Desert Locust Information Officers, Addis Ababa, Ethiopia (11–15 March 2019) [tbc]
- **CRC.** 6th Regional aerial training course (March 2019) [tbc]
- **DLCC.** 41st 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 km²
- band: 1–25 m²

Small

- swarm: 1–10 km²
- band: 25–2,500 m²

Medium

- swarm: 10–100 km²
- band: 2,500 m² – 10 ha

Large

- swarm: 100–500 km²
- band: 10–50 ha

Very large

- swarm: 500+ km²
- 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.



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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>

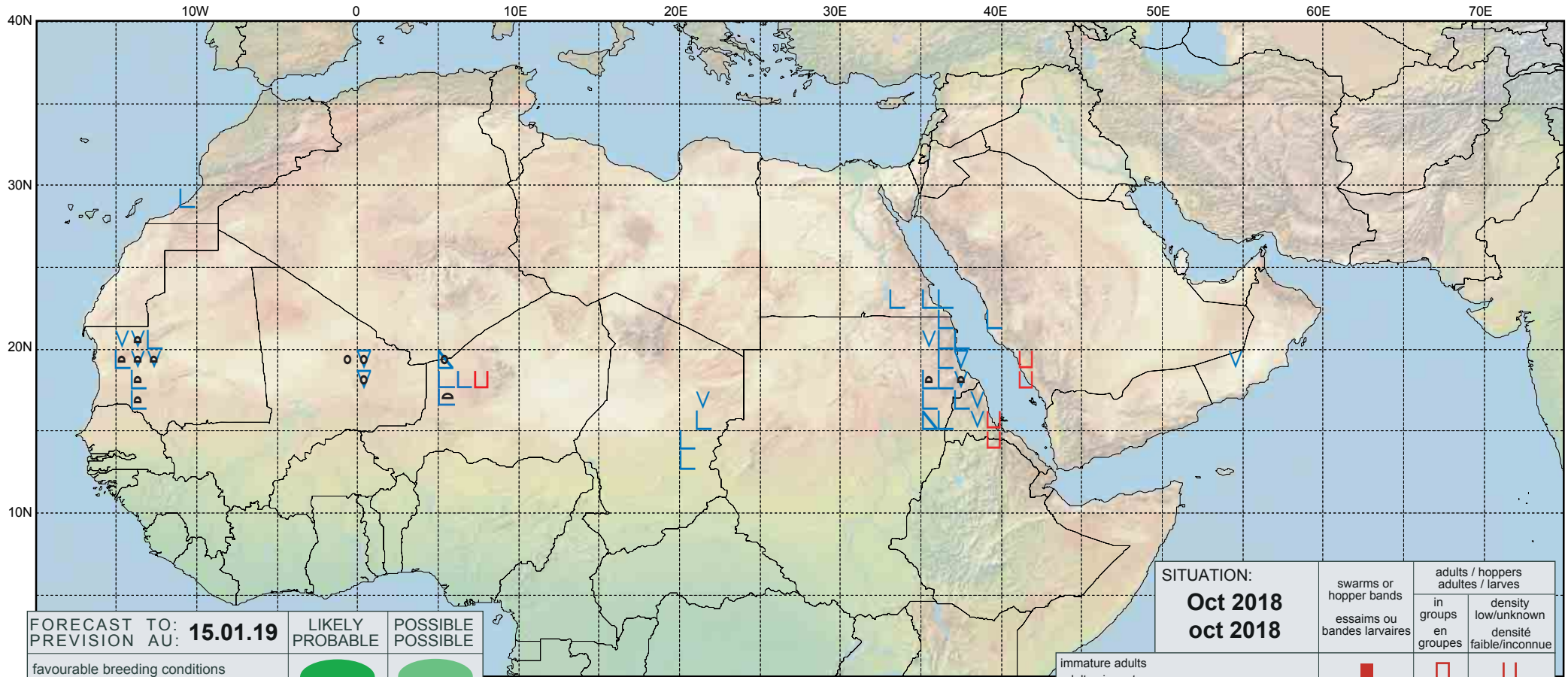
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Desert Locust Summary

Criquet pèlerin - Situation résumée



FORECAST TO:
PREVISION AU: **15.01.19**

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

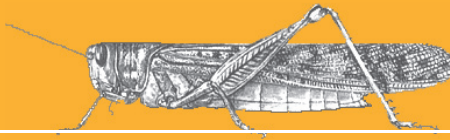


SITUATION:
Oct 2018
oct 2018

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)	◻	◻	◻



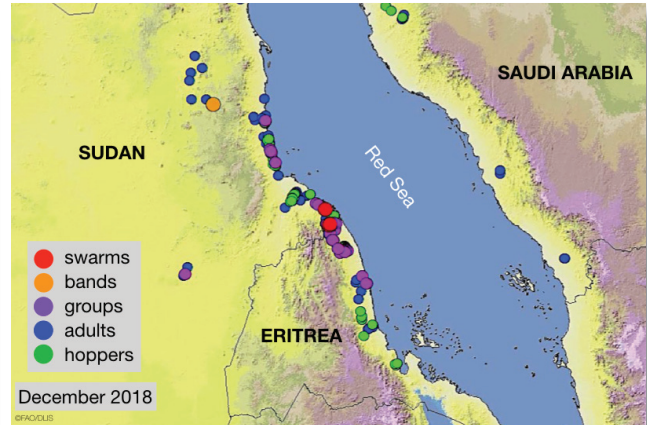
Desert Locust Bulletin

General situation during December 2018 Forecast until mid-February 2019

WESTERN REGION: CALM

SITUATION. Small-scale breeding occurred in northwest **Mauritania**, northern **Mali** and **Niger**, and southern **Algeria**. A few groups of hoppers and adults formed in northern Niger and ground teams treated 394 ha. Isolated adults were present in **Morocco**.

FORECAST. Low numbers of adults may persist in northwest **Mauritania**, northern **Mali** and **Niger**, and southern **Algeria**. Small-scale breeding could commence at the end of the forecast period south of the Atlas Mountains in **Morocco** and in northern **Mauritania** once temperatures warm up.



Desert Locust outbreak develops in Sudan and Eritrea

Favourable ecological conditions and extensive breeding caused a Desert Locust outbreak to develop in the winter breeding areas along the Red Sea coast in Sudan and Eritrea during December. Although breeding commenced in mid-October and continued throughout November, it was not fully detected until December when widespread hatching occurred, groups of hoppers and adults began forming by mid-month, and adult groups moved back and forth across the Sudan/Eritrea border. By the end of December, a second generation of breeding had started as several mature swarms formed and laid eggs near the border. Ground teams treated 7,235 ha in Eritrea and 1,247 ha in Sudan during December. During the forecast period, first-generation hoppers and adults will form more groups and a few bands and swarms. This will be supplemented by second-generation hatching in January in both countries that will give rise to additional hopper groups and bands. Immature adult groups and small swarms could start to form by about mid-February. The extent of second-generation breeding will depend on rainfall and ecological conditions. Elsewhere, small-scale breeding occurred in southeast Egypt, on the Red Sea coast in Saudi Arabia, and in southern Oman. A few small groups or swarms may form in the Empty Quarter near the Yemen/Oman/Saudi Arabia border where good rains fell from Cyclone Luban. The situation remained calm in the other regions and no significant developments are likely.

CENTRAL REGION: THREAT

SITUATION. An outbreak occurred on the Red Sea coast of **Sudan** and **Eritrea** where control operations treated nearly 8,500 ha of hopper and adult groups and a few hopper bands and swarms. Small-scale breeding occurred in southeast **Egypt**, the Red Sea coast of **Saudi Arabia**, and southern **Oman**.

FORECAST. A second generation of breeding will cause more groups, bands and swarms to form on the Red Sea coast in **Sudan** and **Eritrea**. Small-scale breeding will cause locust numbers to increase in **Egypt**, **Saudi Arabia** and **Yemen**. A few groups or swarms may form along the **Yemen/Oman/Saudi Arabia** border where good rains fell from Cyclone Luban.

EASTERN REGION: CALM

SITUATION. No locusts were reported.

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.

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Light to moderate showers fell at times along both sides of the Red Sea where breeding conditions were favourable. Green vegetation persisted in a few areas in the Western Region.

WESTERN REGION

No significant rain fell during December and conditions remained generally dry throughout the region. Nevertheless, small areas of green vegetation persisted in northwest Mauritania (Akjoujt to Oujef), in the extreme south of Algeria and adjacent parts of northern Mali (Tilemsi Valley), and in northern Niger (Tazerzait Plateau, northern Tamesna, and a few places in the Air Mountains). Breeding conditions were favourable along the edges of irrigated agricultural perimeters in the Adrar Valley of central Algeria and on the southern side of the Hoggar Mountains near Tamanrasset. In Morocco, limited green vegetation persisted in a few places south of the Atlas Mountains in the Draa and Ziz-Ghris valleys.

CENTRAL REGION

Light to moderate rains fell at times during December along the Red Sea coast between Port Sudan and Foro, Eritrea as well on the on the central Red Sea coast near Jeddah, Saudi Arabia and on the eastern coast of Oman between Marmul and Duqm. Breeding conditions were favourable on the Red Sea coast in southeast Egypt, along the coastal plains from Eit, Sudan to Foro, Eritrea, along Wadi Oko/Diib in subcoastal areas of northeast Sudan, on the Red Sea coast of Saudi Arabia from Jizan to Umm Lajj, and on the Tihama in Yemen. Breeding conditions remained favourable along the edge of the Empty Quarter in the southern province of Dhofar, Oman as a result of rains from Cyclone Luban in October. These rains also caused several temporary lakes to form in between the dunes in the southeastern Empty Quarter near the borders of Yemen, Oman and Saudi Arabia.

EASTERN REGION

No significant rains fell, and dry conditions prevailed throughout the region in December.



Area Treated

Eritrea 7,235 ha (December)
Niger 394 ha (December)
Sudan 1,247 ha (December)



WESTERN REGION

MAURITANIA

• **SITUATION**

During December, scattered immature and mature solitary adults were present at one place west of Oujef (2003N/1301W) where a few adults were seen copulating at mid-month.

• **FORECAST**

Local breeding may continue in the northwest between Akjoujt, Oujef and Atar. Low numbers of adults may be present in the north where small-scale breeding could occur once temperatures warm up.

MALI

• **SITUATION**

During December, scattered immature and mature solitary adults persisted in the northeast at densities up to 700 adults/ha in the Tilemsi Valley between Aguelhoc (1927N/0052E) and Ti-n-kar (1926N/0022W). A group of immature and mature adults, two hopper groups and scattered late instar hoppers at densities up to 200 hoppers/ha were also reported within this area. No locusts were seen in the west between Kayes (1426N/1128W) and Niore (1512N/0935W), and south of Nara (1510N/0717W).

• **FORECAST**

Low numbers of locusts are likely to persist in the Tilemsi Valley as well as parts of Timetrine and the Adrar des Iforas.

NIGER

• **SITUATION**

In early December, locust densities increased to 3,000 adults/ha on the northern Tamesna Plains between Arlit (1843N/0721E), In Abangharit (1754N/0559E) and the Tazerzait Plateau (1832N/0449E) and scattered early instar solitary hoppers were present. As vegetation dried out, a few small hopper and adult groups formed at densities of up to 3 adults/m², and ground teams treated 394 ha. In the southern Air Mountains, isolated solitary hoppers and immature and mature solitary adults were present southeast of Timia (1809N/0846E).

• **FORECAST**

Low numbers of locusts are likely to persist in parts of the northern Tamesna Plains and in the Air Mountains.

CHAD

• **SITUATION**

No locust activity was reported during December.

• **FORECAST**

No significant developments are likely.

SENEGAL

• SITUATION

No locust activity was reported during December.

• 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 December, small-scale breeding occurred in the south along the Niger border near In Guezzam (1937N/0552E) and west of Tamanrasset (2250N/0528E) where isolated solitarious hoppers of all instars and immature solitarious adults were present. No locusts were seen in the Adrar Valley (2753N/0017W) of the Central Sahara and in the south along the Mali border between Bordj Badji Mokhtar (2119N/0057E) and Timeiaouine (2026N/0148E).

• FORECAST

Low numbers of adults may persist in a few places of the extreme south.

MOROCCO

• SITUATION

During December, isolated mature solitarious adults were seen south of the Atlas Mountains in the Draa Valley near Ksair Chair (2907N/0759W). No locusts were seen elsewhere along the southern side of the Atlas Mountains and in the Western Sahara.

• FORECAST

Small-scale breeding could commence at the end of the forecast period in the Draa Valley if temperatures warm up.

LIBYA

• SITUATION

No reports were received in December.

• FORECAST

No significant developments are likely.

TUNISIA

• SITUATION

No locust activity was reported during December.

• FORECAST

No significant developments are likely.

CENTRAL REGION

SUDAN

• SITUATION

There was a significant increase in locust numbers on the Red Sea coastal plains between Port Sudan (1938N/3713E)

and the Eritrean border from laying that commenced in mid-October followed by hatching in early November. During December, adults and a few groups continued to lay until about mid-month and widespread hatching occurred throughout the month, causing hopper groups to form and outbreak to develop. Fledging from earlier breeding commenced in the first week and groups of immature adults formed from mid-month onwards near the Eritrean border. By the end of the month, a second generation of breeding had started as three mature swarms were seen laying eggs near Karora (1745N/3820E) and the Eritrean border on the 26–29th. Elsewhere, mature solitarious adults were present in the northeast subcoastal areas in Wadi Oko/Diib between Tomala (2002N/3551E) and Sufiya (2119N/3613E), and on the western side of the Red Sea Hills southwest of Derudeb (1731N/3607E). A mid to late instar hopper band reported on the 27th east of Tomala suggests that additional breeding was underway. Ground teams treated 1,247 ha.

• FORECAST

First-generation hoppers and adults will form more groups and a few bands and swarms on the Red Sea coast and in Wadi Oko/Diib. A second generation of breeding will occur in January on the coast between Port Sudan and Karora with hatching from mid-month onwards, giving rise to hopper groups and bands, followed by immature groups and a few small swarms that may start to form in about mid-February.

ERITREA

• SITUATION

During December, egg-laying and hatching continued on the central Red Sea coastal plains between Wekiro (1548N/3918E) and Mersa Gulbub (1633N/3908E), on the southern plains near Foro (1515N/3937E), and on the northern coast between Mehimet (1723N/3833E) and the Sudanese border. Breeding was heaviest in the latter area where hoppers and immature adults formed groups, causing an outbreak. By the end of the month, a second generation of breeding started on the coast between Mersa Gulbub and the Sudanese border where adult groups were laying. Ground teams treated 7,235 ha.

• FORECAST

First-generation hoppers and adults will form more groups and a few bands and swarms. A second generation of breeding will occur in January on the Red Sea coast north of Massawa with hatching from mid-month onwards, giving rise to hopper groups and bands, followed by immature groups and a few small swarms that may start to form in about mid-February.

ETHIOPIA

• SITUATION

No reports were received in December.

• 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 December.

• FORECAST

No significant developments are likely.

SOMALIA

• SITUATION

No reports were received in December.

• FORECAST

Small-scale breeding will occur on the northwest coastal plains if rains fall during the forecast period.

EGYPT

• SITUATION

During December, isolated mature solitary adults were present in a few places near the Red Sea coast between Shalatyn (2308N/3535E) and the Sudan border. Small-scale breeding was detected at two locations where isolated mid-instar solitary hoppers were present. No locusts were seen in subcoastal areas to the west of Berenice (2359N/3524E), on the western side of Lake Nasser near Abu Simbel (2219N/3138E) and Tushka (2247N/3126E), and on the northwest coast near Salum (3131N/2509E).

• FORECAST

Small-scale breeding will cause locust numbers to increase slightly along the Red Sea coast and adjacent subcoastal areas between Shalatyn and the Sudanese border.

SAUDI ARABIA

• SITUATION

During December, low numbers of immature solitary adults were present on the Red Sea coast near Jizan (1656N/4233E), Qunfidah (1909N/4107E), Mecca (2125N/3949E), Yenbo (2405N/3802E), and Umm Lajj (2501N/3716E). Some of the adults were mature and small-scale breeding was in progress near Mecca where isolated solitary hoppers of all instars were seen at three places.

• FORECAST

Small-scale breeding will occur along parts of the Red Sea coastal plains, causing locust numbers to increase slightly. There is a risk that a few groups or perhaps a small swarm may appear from breeding in the southeast Empty Quarter where good rains fell from Cyclone Luban.

YEMEN

• SITUATION

During December, no surveys could be carried out due to insecurity and no locusts were reported.

• FORECAST

Scattered locusts are almost certainly present along parts of the Red Sea coastal plains. Small-scale breeding will occur in any areas that receive rains. Undetected breeding may be in progress in the eastern region where good rains fell from

Cyclone Luban. This could lead to the formation of a few groups or small swarms.

OMAN

• SITUATION

During December, small-scale breeding increased in the southern province of Dhofar where low numbers of solitary hoppers of all instars, and immature and mature solitary adults were present in three areas along about 250 km near the edge of the Empty Quarter and close to the Yemen border north and northwest of Maziuna (1750N/5239E). Several small lakes formed between the dunes as a result of good rains from Cyclone Luban. In one area, hopper groups were seen at two places. No locusts were seen in the northern interior between Ibri (2314N/5630E) and Buraimi (2415N/5547E), on the Batinah coast and the Musandam Peninsula.

• FORECAST

Small-scale breeding is likely to continue in a few areas of Dhofar and near the edge of the Empty Quarter that received good rains from Cyclone Luban. A few groups or perhaps a small swarm could appear from adjacent areas of undetected breeding.

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

• FORECAST

No significant developments are likely.

PAKISTAN

• SITUATION

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

• FORECAST

No significant developments are likely.

INDIA

• SITUATION

No locusts were seen in Rajasthan and Gujarat during December.

• 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:

- **Drones.** 2nd field trial, Oman (20–24 January 2019)
- **CLCPRO.** Preparation and validation of a new regional training plan IV (2019–2022), Oran, Algeria (4–7 February 2019)
- **CRC.** 31st Session, Amman, Jordan (17–21 February 2019)
- **CRC/SWAC.** 11th Interregional workshop for Desert Locust Information Officers, Addis Ababa, Ethiopia (11–15 March 2019) [tbc]
- **CRC.** 6th Regional aerial training course (March 2019) [tbc]
- **CLCPRO.** 9th Regional workshop on Desert Locust information management in the Western Region, Tunis, Tunisia (8–11 April 2019)
- **DLCC.** 41st Session [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 km²
- band: 1–25 m²

Small

- swarm: 1–10 km²
- band: 25–2,500 m²

Medium

- swarm: 10–100 km²
- band: 2,500 m² – 10 ha

Large

- swarm: 100–500 km²
- band: 10–50 ha

Very large

- swarm: 500+ km²
- 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

IRI Greenness maps. Dynamic maps of green vegetation evolution every decade
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>

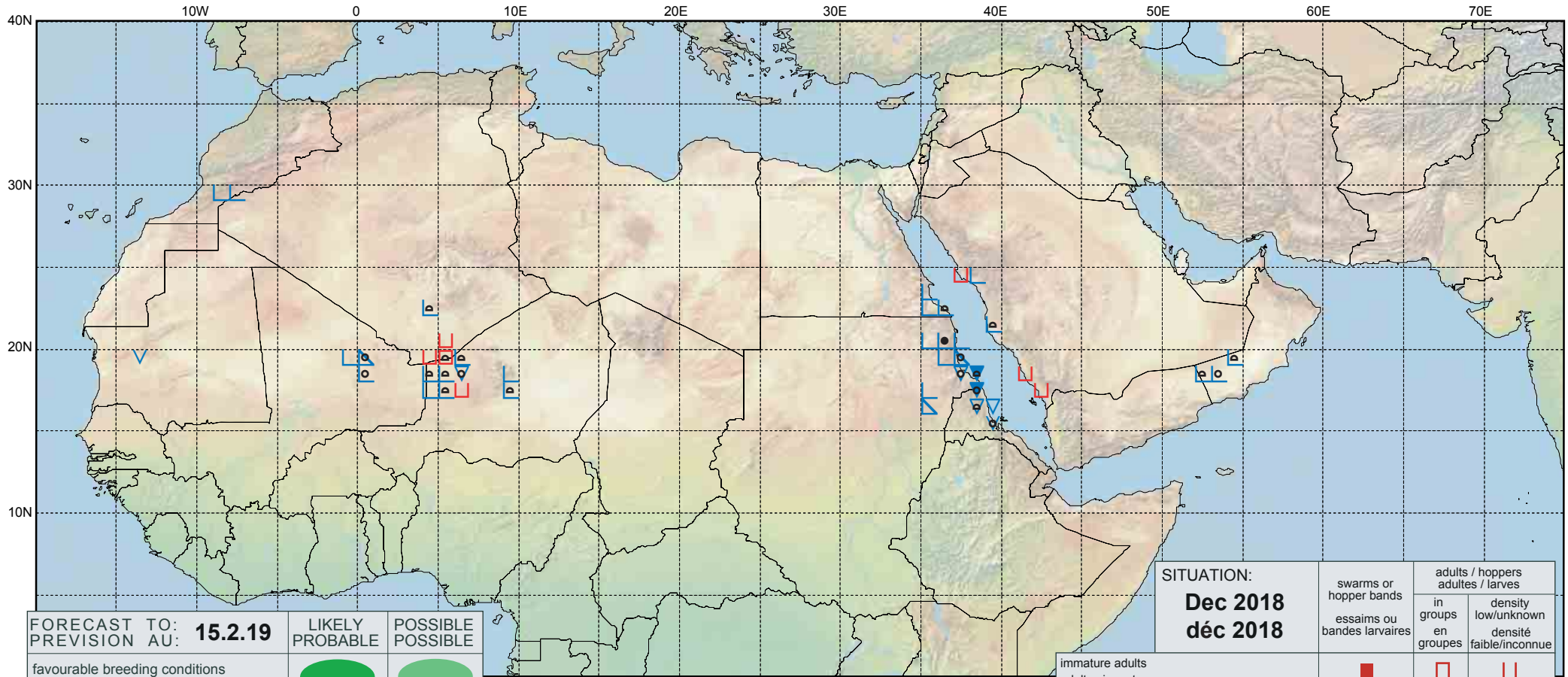
eLERT. Online database of resources and technical specifications for locust emergencies
<http://sites.google.com/site/elertsite>



Desert Locust Summary

Criquet pèlerin - Situation résumée

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FORECAST TO:
PREVISION AU: **15.2.19**

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:

Dec 2018
déc 2018

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)	◼	◼	◼