

warning level: **CALM**

DESERT LOCUST BULLETIN

FAO Emergency Centre for Locust Operations



No. 464



**General Situation during May 2017
Forecast until mid-July 2017**

(2.6.2017)

The Desert Locust situation continued to remain calm during May. Preventive control measures were undertaken in Morocco and Algeria against a few small hopper groups. Unusual rains fell along both sides of the Red Sea, good rains fell in the Horn of Africa and the interior of Yemen, and early pre-season rains occurred in some of the summer breeding areas in the Sahel of West Africa and along the Indo-Pakistan border. During the forecast period, summer breeding will commence on a small scale in the northern Sahel between Mauritania and western Eritrea and along the Indo-Pakistan border. Breeding may also occur in the interior of Yemen and there is a potential and unusual risk of limited breeding on the Red Sea coast in Yemen, Saudi Arabia and Eritrea.

Western Region. The situation remained calm in the region during May. Small hopper groups were treated in the spring breeding areas south of the Atlas Mountains in Morocco (443 ha) and Algeria (267 ha) as part of preventive control. Early rains fell in parts of northern Mali and Niger. During the forecast period, seasonal rains are expected to commence in the summer breeding areas of southern Mauritania, northern Mali and Niger and central Chad. Consequently, initially low numbers of locusts are likely to breed on a small-scale in those areas that receive rainfall. Regular surveys should commence and continue throughout the summer.

Central Region. The locust situation remained calm as no locusts were reported in the region during May. Good rains fell in the spring and summer breeding areas in the interior of Yemen and early rains fell in parts of the summer breeding areas in North Kordofan and in the east of Sudan. Small-scale breeding is likely to occur in both countries during the forecast period, causing locust numbers to increase slightly. Good rains also fell on the plateau in northern Somalia and eastern Ethiopia where there is a low risk of scattered adults and limited breeding. Unusually good rains fell in some Red Sea coastal areas during May at a time when rain normally does not occur. The rains may be particularly important in Saudi Arabia (Qunfidah-Jizan), Yemen and Eritrea where follow up surveys should be conducted to monitor the situation.

Eastern Region. Isolated adults persisted during May in southeast Iran where small-scale breeding was in progress in one area of the interior. Pre-monsoon rains fell along both sides of the Indo-Pakistan border where small-scale breeding is likely to commence in July with the onset of the monsoon rains, causing a slight increase in locust numbers.

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

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Weather & Ecological Conditions in May 2017

Unusually good rains fell along both sides of the Red Sea. Early rains fell in parts of the summer breeding areas in the Sahel of West Africa, in the interior of Yemen, the Horn of Africa, and on along the Indo-Pakistan border.

In the **Western Region**, the Inter-Tropical Convergence Zone (ITCZ) moved progressively northwards during May and reached the southern edge of the Desert Locust breeding area in the northern Sahel of West Africa. By the end of the month, the ITCZ had reached Niore, Gourma and Menaka in Mali and Abalak in Niger. In Mali, its position was about 150km further north than normal. This caused some above-normal rains in the Sahel, mainly between Menaka and Abalak. Light showers fell at times in parts of the Adrar des Iforas in northern Mali, extending to southern Algeria, and in the southern part of Tamesna and the Air Mountains in Niger and, to a lesser extent, in the extreme southeast of Mauritania. Dry vegetation prevailed in the summer breeding areas of the northern Sahel except in a few localities in wadis and near oases in central Mauritania and northern Mali and Niger. In Northwest Africa, light rain fell in the Adrar area of the central Sahara in Algeria. Annual vegetation continued to dry out in the spring breeding areas south of the Atlas Mountains but remained green near irrigated farms in the central Sahara of Algeria.

In the **Central Region**, unusually good rains fell at times during the first two decades of May in some places on the Red Sea coast from Massawa, Eritrea to Halaib, Egypt and from the southern Tihama in Yemen to nearly Qunfidah, Saudi Arabia. Nevertheless, vegetation was mainly dry in most areas. Good rains fell in the spring and summer breeding areas of the interior in Yemen along the edge of Ramlat Sabatyn between Marib and Ataq, in Wadi Hadhramaut and in some places along the plateau north and east of Hadhramaut. Some flooding occurred in Yemen. In Sudan, early rains fell in North Kordofan between Sodiri and the Nile Valley as well as east of the Nile to the Red Sea Hills. In the Horn of Africa, good rains fell on the escarpment and plateau in northern Somalia, extending to eastern Ethiopia. As a result of these

rains, annual vegetation is likely to become green and breeding conditions will improve.

In the **Eastern Region**, light rains fell in parts of southeast Iran and southwest Pakistan at times during May but vegetation remained mostly dry. Good pre-monsoon rains fell along both sides of the Indo-Pakistan border in Nara and Cholistan, Pakistan and in West Rajasthan, India. The annual southwestern monsoon wind flow became established over the Horn of Africa and the Arabian Sea by mid-month, causing the monsoon to arrive in Kerala, southern India on 30 May. During June, it will move progressively north and should reach Rajasthan by the end of June and Cholistan, Pakistan by mid-July, which is about normal.



Area Treated

Algeria	37 ha (April, revised) 267 ha (1–29 May)
Morocco	443 ha (May)



Desert Locust Situation and Forecast

(see also the summary on page 1)

WESTERN REGION

Mauritania

• SITUATION

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

• FORECAST

Low numbers of adults are likely to start appearing in the summer breeding areas of the south by the end of June and small-scale breeding will occur in areas that receive rainfall.

Mali

• SITUATION

No locust activity was reported during May.

• FORECAST

Low numbers of adults may be present and will persist in parts of the Adrar des Iforas and Tamesna where small-scale breeding will commence with the summer rains.

Niger

• SITUATION

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

- **FORECAST**

Low numbers of adults may be present in the Air Mountains and west of Agadez. Small-scale breeding will commence on the Tamesna Plains and in central pasture areas with the summer rains.

Chad

- **SITUATION**

No locust activity was reported during May.

- **FORECAST**

Low numbers of adults may start to appear at the end of the forecast period in areas of the northern Sahel that receive rainfall.

Senegal

- **SITUATION**

No reports received.

- **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, mature solitary adults were present in the central Sahara near irrigated farms in the Adrar (2753N/0017W) valley, between Adrar and In Salah (2712N/0229E), and near In Salah, where egg-laying occurred until mid-month. Mainly second instar solitary and *transiens* hoppers as well as a few third to fifth instar hoppers were present at densities up to 20 hoppers/m² and a few small hopper groups formed east of In Salah. The infestations originated from egg-laying that occurred primarily during April with subsequent hatching from the last decade of April onwards. Ground teams treated 267 ha on 1–29 May.

- **FORECAST**

Small groups of adults are likely to form near Adrar and In Salah early in the forecast period but as vegetation dries out, locust numbers will decline and adults are expected to move south towards summer breeding areas in the southern Sahara and northern Sahel.

Morocco

- **SITUATION**

During May, second to fifth instar solitary and *transiens* hoppers were seen south of the Atlas Mountains in the Fask (2859N/0950W) area near Guelmim (2859N/1003W) where they were forming a few small hopper groups. Fledging occurred and at least one immature adult group formed. The

infestations are likely to have originated from adults that moved north from W. Sakia El Hamra to Fask where they laid eggs from late March onwards that hatched during April and early May. Ground teams treated 443 ha.

- **FORECAST**

As vegetation dries out further, locust infestations will decline in the Fask area but there is a risk that a few very small adult groups could form and move towards summer breeding areas in the northern Sahel.

Libya

- **SITUATION**

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

- **FORECAST**

Low numbers of adults are likely to appear and breed on a small scale in areas of pre-seasonal rains in North Kordofan and east of the Nile Valley.

Eritrea

- **SITUATION**

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

- **FORECAST**

Low numbers of adults may appear in areas of recent rainfall in both the western lowlands as well as on the Red Sea coastal plains between Massawa and Mehimet.

Ethiopia

- **SITUATION**

No reports were received during May.



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• FORECAST

Isolated adults may be present in areas of recent rainfall near Dire Dawa and Jijiga where small-scale breeding could occur.

Djibouti

• SITUATION

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

• FORECAST

No significant developments are likely.

Somalia

• SITUATION

During May, no locusts were seen during surveys carried out in the northeast between Las Anod (0828N/4721E) and Bosaso (1118N/4910E). In the northwest, there were unconfirmed reports of hopper groups on the northwest coast south of Zeylac (1121N/4328E) and of hopper groups and solitarious adults on the plateau near Hargeisa (0931N/4402E).

• FORECAST

No significant developments are likely.

Egypt

• SITUATION

During May, no locusts were seen during surveys in the Lake Nasser area near Abu Simbel (2219N/3138E) and Tushka (2247N/3126E).

• FORECAST

No significant developments are likely.

Saudi Arabia

• SITUATION

During May, no locusts were seen during surveys carried out in winter breeding areas along the northern Red Sea coast north of Yenbo (2405N/3802E), and in the spring breeding areas of the interior near Medinah (2430N/3935E), Bisha (2000N/4236E), Wadi Dawasir (2028N/4747E), in the east near Al Hofuf (2519N/4937E), between Hail (2731N/4141E) and Tabuk (2823N/3635E), and between Gassim (2621N/4358E) and Riyadh (2439N/4642E).

• FORECAST

Low numbers of adults may appear in areas of recent rainfall in the southwest interior near Najran and on the southern coastal plains of the Red Sea between

Qunfidah and Jizan where small-scale breeding may occur in areas that continue to receive rainfall.

Yemen

• SITUATION

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

• FORECAST

Low numbers of adults are likely to be present and breeding in the interior on the edge of Ramlat Sabatyn between Marib and Ataq, in Wadi Hadhramaut and perhaps on the plateau and in the wadis of the north and east between Thamud and Hat where good rains fell recently.

Oman

• SITUATION

During May, no locusts were seen during surveys carried out on the Musandam Peninsula, Madha and in the northern interior of Dhahirah near Buraimi (2415N/5547E).

• FORECAST

No significant developments are likely.

Bahrain, Iraq, Israel, Jordan, Kenya, Kuwait, Lebanon, Palestine, Qatar, Syria, Tanzania, Turkey, UAE and Uganda

• FORECAST

No significant developments are likely.

EASTERN REGION

Iran

• SITUATION

During May, isolated mature solitarious adults persisted on the southeast coastal plains near Chabahar (2517N/6036E) and in the Jaz Murian Basin east of Ghale Ganj (2731N/5752E). Some adults were seen copulating in the Jaz Murian Basin on the 10th.

• FORECAST

Limited hatching may occur by early June in the Jaz Murian Basin; however, no significant developments are likely.

Pakistan

• SITUATION

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

• FORECAST

Low numbers of adults are likely to appear in parts of Tharparkar, Nara and Cholistan. Small-scale breeding will occur in areas of recent rainfall and in places that receive monsoon rains.

India

• SITUATION

No locusts were seen during May in Rajasthan and Gujarat.

• FORECAST

Low numbers of adults are likely to appear in parts of Rajasthan and Gujarat. Small-scale breeding will occur in areas of recent rainfall and in places that receive monsoon rains.

Afghanistan

• SITUATION

No reports received.

• FORECAST

No significant developments are likely.



Announcements

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

Locust reporting. During calm (green) periods, countries should report at least once/month and send RAMSES data with a brief interpretation. During caution (yellow), threat (orange) and danger (red) periods, often associated with locust outbreaks, upsurges and plagues, RAMSES output files with a brief interpretation should be sent at least twice/week within 48 hours of the latest survey. Affected countries are also encouraged to prepare decadal bulletins summarizing the situation. All information should be sent by e-mail to the FAO/ECLO Desert Locust Information Service (eclo@fao.org). Information received by the end of the month will be included in the FAO Desert Locust Bulletin for the current month; otherwise, it will not appear until the following month. Reports should be sent even if no locusts were found or if no surveys were conducted.

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

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

2017 events. The following activities are scheduled or planned:

- **CLCPRO.** Extraordinary session, Bamako (3–6 July)
- **SWAC.** Desert Locust Information Officer workshop, Tehran (December) [tbc]



Glossary of terms

The following special terms are used in the Desert Locust Bulletin when reporting locusts:

NON-GREGARIOUS ADULTS AND HOPPERS

ISOLATED (FEW)

- very few present and no mutual reaction occurring;
- 0 - 1 adult/400 m foot transect (or less than 25/ha).

SCATTERED (SOME, LOW NUMBERS)

- enough present for mutual reaction to be possible but no ground or basking groups seen;
- 1 - 20 adults/400 m foot transect (or 25 - 500/ha).

GROUP

- forming ground or basking groups;
- 20+ adults/400 m foot transect (or 500+/ha).

ADULT SWARM AND HOPPER BAND SIZES

VERY SMALL

- swarm: less than 1 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 of rainfall.

MODERATE

- 21 - 50 mm of rainfall.

HEAVY

- more than 50 mm of rainfall.



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OTHER REPORTING TERMS

BREEDING

- the process of reproduction from copulation to fledging.

SUMMER RAINS AND BREEDING AREAS

- July - September/October
(Sahel of West Africa, Sudan, western Eritrea; Indo-Pakistan border)

WINTER RAINS AND BREEDING AREAS

- October - January/February
(Red Sea and Gulf of Aden coasts; northwest Mauritania, Western Sahara)

SPRING RAINS AND BREEDING AREAS

- February - June/July
(Northwest Africa, Arabian Peninsula interior, Somali plateau, Iran/Pakistan border)

RECESSION

- period without widespread and heavy infestations by swarms.

REMISSION

- period of deep recession marked by the complete absence of gregarious populations.

OUTBREAK

- a marked increase in locust numbers due to concentration, multiplication and gregarisation which, unless checked, can lead to the formation of hopper bands and swarms.

UPSURGE

- a period following a recession marked initially by a very large increase in locust numbers and contemporaneous outbreaks followed by the production of two or more successive seasons of transient-to- gregarious breeding in complimentary seasonal breeding areas in the same or neighbouring Desert Locust regions.

PLAGUE

- a period of one or more years of widespread and heavy infestations, the majority of which occur as 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.



Useful tools and resources

- **FAO Locust Watch.** Information, maps, activities, publications, archives, FAQs, links
<http://www.fao.org/ag/locusts>
- **IRI RFE.** Rainfall estimates every day, decade and month
http://iridl.ldeo.columbia.edu/maproom/.Food_Security/Locusts/index.html
- **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>

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: Burkino Faso, Cape Verde, Gambia, Guinea and Guinea-Bissau.

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, Qatar, Syria, Tanzania, Turkey, UAE and Uganda.

EASTERN

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



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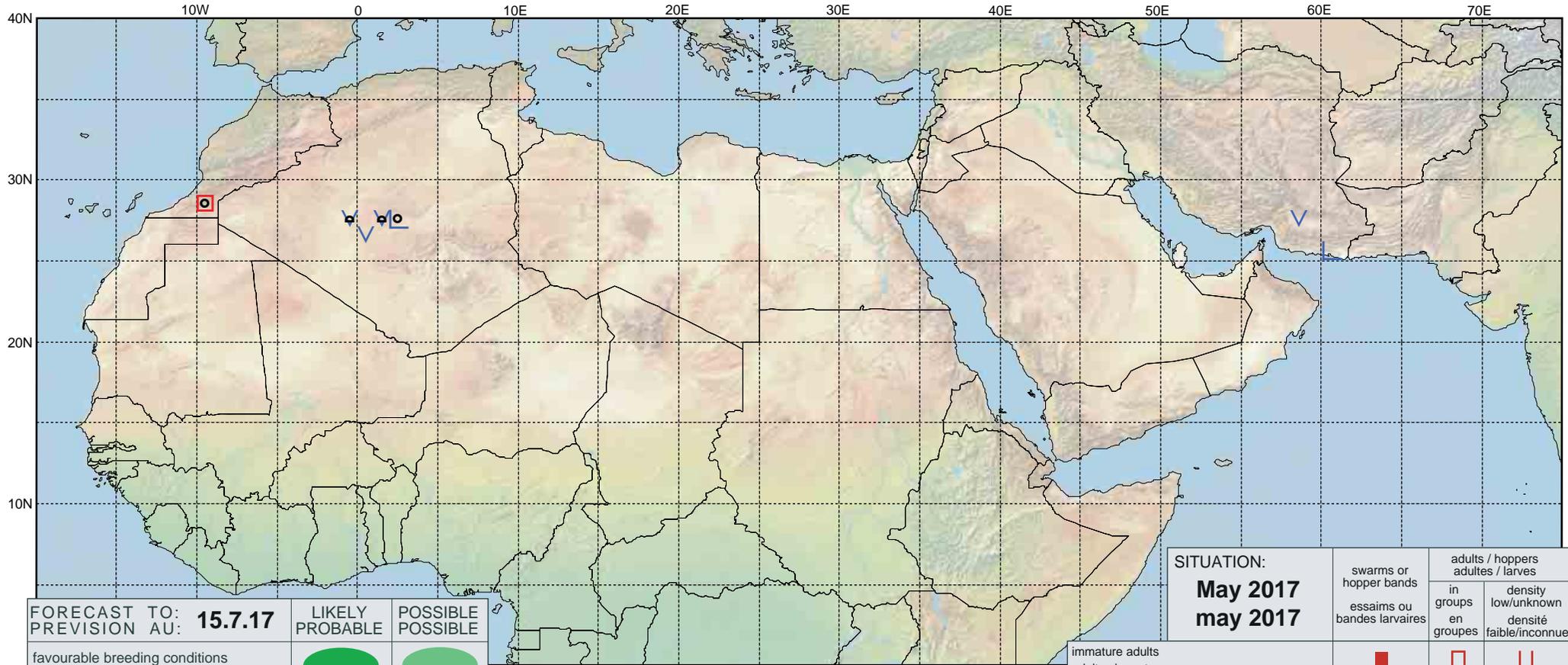
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Desert Locust Summary

Criquet pèlerin - Situation résumée

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FORECAST TO: PREVISION AU: 15.7.17	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:
May 2017
may 2017

	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)			