

warning level: **CAUTION**

DESERT LOCUST BULLETIN

FAO Emergency Centre for Locust Operations



No. 460



**General Situation during January 2017
Forecast until mid-March 2017**

(2.2.2017)

A Desert Locust outbreak developed on the Red Sea coast of Saudi Arabia in early January. Ground and aerial control operations were carried out against hopper bands and adult groups in order to prevent another generation of breeding and the spread of infestations to the northern coast and to spring breeding areas in the interior. In the Western Region, limited control operations were conducted against declining infestations in southern Morocco and northwest Mauritania. As temperatures warm up, adults and groups are likely to move to spring breeding areas in Northwest Africa.

Western Region. Locust activity appeared to decline in **Mauritania** during January perhaps due to low temperatures. Nevertheless, breeding continued in the northwest where a few small hopper groups formed. As vegetation dried out in adjacent areas of Western Sahara in southern **Morocco**, a few adult groups formed and were seen moving south at the end of the month. Limited control operations were carried out in both countries. As temperatures warm up, adults and groups are likely to move to the spring breeding areas along the southern side of the Atlas Mountains in Morocco and lay eggs. This may be supplemented by infestations that are probably present within a relatively large area of green vegetation in inaccessible parts of central **Western Sahara**. Breeding may also occur in northern Mauritania. Elsewhere, small-scale breeding continued in a few places in northern **Niger**.

Central Region. An outbreak developed on the Red Sea coast of **Saudi Arabia** by early January as a result of good rains from last July to mid-September that allowed two generations of breeding to occur. A third generation of breeding is likely in February on the coast between Lith and Jizan where ground and aerial control operations treated 4,200 ha of hopper groups and bands in January. By the end of the month, immature adults were forming groups and there is a possibility that small swarms could form and move north along the coast or eventually to spring breeding areas in the interior. Hopper groups and at least one band formed from local breeding on the northern coast of **Eritrea** and control operations were carried out. The breeding extended to adjacent coastal areas in **Sudan** where a hopper band was treated. Immature adult groups are likely to form along the border from late February onwards. The situation remains unknown in **Yemen** where surveys could not be carried out.

Eastern Region. No locusts were reported and the situation remained calm in the region during January. Good rains that fell in southeast **Iran** and on the coast of Baluchistan, **Pakistan** will allow conditions to become favourable for spring breeding, which should commence during the forecast period.

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 January 2017

Although little rain fell for a third consecutive month in January, breeding conditions remained favourable in parts of Northwest Africa and along both sides of the Red Sea. Heavy rains fell in northern Oman and southeast Iran.

In the **Western Region**, very little rain fell during January in West and Northwest Africa except for light to moderate showers in parts of the northern Sahara in Algeria. Light rains may have also fallen in the Hoggar Mountains in southeast Algeria. Vegetation started to dry out in the extreme southern part of Morocco and Western Sahara but ecological conditions remained favourable for breeding in southwest Adrar of Mauritania, in northwest Tiris Zemmour and in adjacent areas of Western Sahara where there was a large swath of vegetation nearly 300 km long between Bir Anzarane and Mijek north to Guelta Zemmour. Green vegetation was also present along Wadi As Saquia Al Hamra and on the southern side of the Atlas Mountains of Morocco in the Draa, Ziz and Ghri valleys. In the northern Sahel of West Africa, green vegetation persisted in some wadis of the Adrar des Iforas in northern Mali and in a few places of Tamesna in northern Niger.

In the **Central Region**, light rains fell in winter breeding areas along the Red Sea coast in Sudan and Saudi Arabia at times during January. Consequently, breeding conditions remained favourable between Port Sudan and Karora, extending to Mehimet in Eritrea and, in Saudi Arabia, between Lith and Qunfidah as well as further south towards Jizan and on the northern coast near Umm Lajj. Breeding conditions were less favourable on the Red Sea coast of Yemen, Egypt and the Akbanazouf Plain in Eritrea where vegetation was drying out. During the last week of the month, moderate to heavy showers fell in northern Oman from Musandam to Sharqiya, causing flash floods. Many areas received more rainfall in two days than the long-term average for the entire month.

In the **Eastern Region**, good rains fell in spring breeding areas along the southeastern coast of Iran



Area Treated

Eritrea	276 ha (January)
Mauritania	185 ha (January)
Morocco	126 ha (January)
Saudi Arabia	4,242 ha (January)
Sudan	100 ha (January)

WESTERN REGION



Desert Locust Situation and Forecast

(see also the summary on page 1)

Mauritania

• SITUATION

During January, locust activity declined in the northwest and northern regions of Inchiri, Dakhlet Nouadhibou, Adrar and Tiris Zemmour. This may be partially due to low temperatures that also slowed down locust maturation. Small-scale breeding continued between Akjoujt (1945N/1421W) and Oujeft (2003N/1301W) where scattered solitarious and *transiens* hoppers and maturing adults as well as a few groups of immature and mature *transiens* adults at densities of up to 3,600 adults/ha were present. Low numbers of immature solitarious adults were present in western Inchiri and Dakhlet Nouadhibou between Tijirat (1929N/1557W) and the Moroccan border, including one small immature adult group, and in Tiris Zemmour between Zouerate (2244N/1221W) and Bir Moghreïn (2510N/1135W). Ground teams treated 185 ha in January.

• FORECAST

Scattered adults and a few adult groups are likely to persist and mature in the northwest and north. This is likely to be supplemented by a limited number of adult groups from adjacent areas of southern Morocco and Western Sahara. As temperatures warm up, another generation of breeding is expected to occur in areas where conditions remain favourable that could eventually lead to the formation of small hopper groups.

Mali

• SITUATION

No locust activity was reported during January.

- **FORECAST**

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

Niger

- **SITUATION**

During January, small-scale breeding continued in a few places on the Tamesna Plains south of In Abangharit (1754N/0559E) and also west of Arlit (1843N/0721E) where low numbers of solitary hoppers and immature and mature solitary adults were present.

- **FORECAST**

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

Chad

- **SITUATION**

No locust activity was reported during January.

- **FORECAST**

No significant developments are likely.

Senegal

- **SITUATION**

No reports were received in 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**

During January, no locusts were seen northwest of Beni Abbes (3011N/0214W), in the central Sahara near Adrar (2753N/0017W) and in the southern Sahara to the west of Tamanrasset (2250N/0528E).

- **FORECAST**

Low numbers of adults are likely to be present and will persist in parts of the western and central Sahara. As temperatures warm up, they may be supplemented by additional adults and perhaps a few small groups appearing from adjacent areas of northern Mauritania. Small-scale breeding will occur in areas that receive rainfall.

Morocco

- **SITUATION**

During the first week of January, a group of late instar hoppers at densities up to 13 hoppers/m² was present in the extreme south near Bir Gandouz (2136N/1628W). Thereafter, immature solitary and

transiens adults including a few groups at densities of up to 5,200 adults/ha were seen west and north of Bir Gandouz near the Atlantic coast. On 22–25 January, two immature adult groups were seen south of Bir Gandouz flying towards Mauritania. Ground teams treated 126 ha up to 10 January.

- **FORECAST**

As vegetation dries out in the southern part of Western Sahara, a few small adult groups are likely to form that could move into adjacent areas of Mauritania or move northwards during periods of warm southerly winds to reach the Draa Valley where they would mature and lay eggs as temperatures increase. This could be supplemented by adults that are probably present in central Western Sahara between Bir Anzarane, Mijek and Guelta Zemmour. Scattered adults are likely to be present along the southern side of the Atlas Mountains where they will breed on a small scale at the end of the forecast period.

Libya

- **SITUATION**

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

- **FORECAST**

Low numbers of adults may appear in the southwest and breed on a small scale at the end of the forecast period if rainfall occurs.

Tunisia

- **SITUATION**

No locust activity was reported during January.

- **FORECAST**

No significant developments are likely.

CENTRAL REGION

Sudan

- **SITUATION**

During January, small-scale breeding continued on the Red Sea coast where solitary hoppers of mixed instars, fledglings and adults were present in a few places of Tokar Delta (1827N/3741E) and on the southern plains near Aiterba (1753N/3819E). On 12 January, a very small second instar hopper band was reported northeast of Karora (1745N/3820E) near the border with Eritrea that started to fledge by the end of the month when ground teams treated 100 ha. No locusts were seen elsewhere along the coast or in



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subcoastal areas of the northeast except for immature solitarious adults at one place west of Wadi Diib to the northwest of Tomala (2002N/3551E). In the Nile Valley, adult groups were copulating at a few places southwest of Abu Hamed (1932N/3320E).

- **FORECAST**

If conditions remain favourable, another generation of small-scale breeding will cause locust numbers to increase slightly on the Red Sea coastal plains, mainly between Suakin and Karora. There is a high risk that a few small groups may appear from Eritrea from late February onwards. Small-scale hatching is likely to occur during February in the Nile Valley between Abu Hamed and Merowe.

Eritrea

- **SITUATION**

During January, breeding occurred on the northern coastal plains of the Red Sea north of Mehimet (1723N/3833E) to the Sudanese border where adults were seen copulating at one location on the 1st and first and second instar hoppers, groups and at least one band were present during the remainder of the month. Ground teams treated 276 ha. No locusts were seen further south on the Akbanazouf Plain (1555N/3910E) where there was an outbreak in December.

- **FORECAST**

Hopper groups and bands will continue to form on the northern coast near the Sudanese border with fledging starting by mid-February, leading to the formation of small immature groups.

Ethiopia

- **SITUATION**

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

- **FORECAST**

Low numbers of adults may appear along the railway area between Dire Dawa and Ayasha.

Djibouti

- **SITUATION**

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

- **FORECAST**

No significant developments are likely.

Somalia

- **SITUATION**

On 10 January, there was an unconfirmed report from locals of hopper infestations on the northwest coast between Bulhar (1023N/4425E) and Abdigeed (1031N/4403E).

- **FORECAST**

Locust numbers are expected to increase slightly on the northwest coast from small-scale breeding that may be in progress and will continue during the forecast period. As vegetation dries out, there is a low possibility of a few hopper and adult groups.

Egypt

- **SITUATION**

During January, no locusts were seen during surveys on the Red Sea coast between the Sudanese border and Berenice (2359N/3524E), in subcoastal areas near El Sheikh El Shazly (2412N/3438E), and near Lake Nasser in the Abu Simbel (2219N/3138E), Tushka (2247N/3126E) and northeast Garf Husein (2317N/3252E) areas.

- **FORECAST**

If rainfall occurs on the Red Sea coast south of Berenice, small-scale breeding will take place and cause locust numbers to increase slightly.

Saudi Arabia

- **SITUATION**

During January, second-generation hoppers and adults were present on the Red Sea coast near Lith (2008N/4016E), Qunfidah (1909N/4107E) and Jizan (1656N/4233E). Hoppers of all instars began forming groups and bands from the second week onwards while adults started forming immature groups during the last week. Control operations treated 4,242 ha during January of which 2,700 ha were by air.

- **FORECAST**

Second-generation adults will continue to form an increasing number of groups and probably a few small swarms on the Red Sea coast between Lith and Jizan. If conditions remain favourable, a third generation of breeding may occur in these areas with early hatching commencing in February. There is a risk that some adult groups will move north along the coast. Once temperatures warm up in the interior, adult groups and perhaps a few small swarms could appear in the spring breeding areas between Dawasir, Gassim and Tabuk.

Yemen

- **SITUATION**

The situation remained unclear during January because of a lack of surveys in winter breeding areas along the Red Sea and Gulf of Aden coastal plains.

- **FORECAST**

Another generation of breeding is likely to be underway along the Red Sea coast that should cause locust numbers to increase further and allow the formation of groups and perhaps a few small bands. Small-scale breeding may be in progress on the southern coastal plains near Aden.

Oman

- **SITUATION**

No locusts were seen during surveys carried out in interior and coastal areas of the north during January.

- **FORECAST**

Low numbers of adults are likely to appear in areas of recent rainfall in the north and breed on a small-scale.

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 January, no locusts were seen in the Jaz Murian Basin of the interior east of Ghale Ganj (2731N/5752E) and near Bampur (2711N/6028E).

- **FORECAST**

Low numbers of adults are expected to appear in areas of recent rainfall in the Jaz Murian Basin and on the southeastern coastal plains, and breed on a small scale, causing a slight increase in locust numbers.

Pakistan

- **SITUATION**

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

- **FORECAST**

Low numbers of adults may start to appear in coastal areas of Baluchistan at the end of the forecast period.

India

- **SITUATION**

No locusts were seen during January in Rajasthan and Gujarat.

- **FORECAST**

No significant developments are likely.

Afghanistan

- **SITUATION**

No reports received.

- **FORECAST**

No significant developments are likely.

Announcements

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

Locust reporting. During calm (green) periods, countries should report at least once/month and send RAMSES data with a brief interpretation. During caution (yellow), threat (orange) and danger (red) periods, often associated with locust outbreaks, upsurges and plagues, RAMSES output files with a brief interpretation should be sent at least twice/week within 48 hours of the latest survey. Affected countries are also encouraged to prepare decadal bulletins summarizing the situation. All information should be sent by e-mail to the FAO/ECLC Desert Locust Information Service (eclc@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.

Locust tools and resources. FAO has developed a number of tools that National locust information officers and other interested individuals can use for Desert Locust early warning and management:

- **MODIS.** Vegetation imagery every 16 days (http://iridl.ldeo.columbia.edu/maproom/.Food_Security/Locusts/Regional/.MODIS/index.html)
- **MODIS.** Daily rainfall imagery in real time (http://iridl.ldeo.columbia.edu/maproom/.Food_Security/Locusts/index.html)
- **RFE.** Rainfall estimates every day, decade and month (http://iridl.ldeo.columbia.edu/maproom/.Food_Security/Locusts/index.html)
- **Greenness maps.** Dynamic maps of green vegetation evolution every decade (http://iridl.ldeo.columbia.edu/maproom/Food_Security/Locusts/Regional/greenness.html)



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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.

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

- **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 updates.** Updates can be downloaded from <https://sites.google.com/site/rv4elocust3updates/home>
- **FAOLOCUSt Twitter.** The very latest updates are posted on Twitter (<http://www.twitter.com/faolocust>)
- **FAOLOCUSt Facebook.** A social means of information exchange using Facebook (<http://www.facebook.com/faolocust>)
- **Slideshare.** Locust presentations and photos available for viewing and download (<http://www.slideshare.net/faolocust>)
- **eLERT.** A dynamic and interactive online database of resources for locust emergencies (<http://sites.google.com/site/elertsite>)

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

- **Saudi Arabia outbreak.** Archives – Outbreaks 2016
- **Desert Locust situation update.** Archives – Briefs 2017
- **WMO/FAO Weather and Desert Locusts booklet.** Publications – Documents

2017 events. The following activities are scheduled or planned:

- **EMPRES/WR.** 15th Liaison Officer meeting and 12th Consultative Committee, Ouagadougou, Burkina Faso (30 January – 4 February)
- **CRC.** 50th anniversary and 30th session, Muscat, Oman (19–24 February)
- **CLCPRO.** Desert Locust Information Officer workshop, Algiers, Algeria (19–23 March)
- **CRC/SWAC.** Desert Locust Information Officer workshop, Egypt (May, tbc)

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: 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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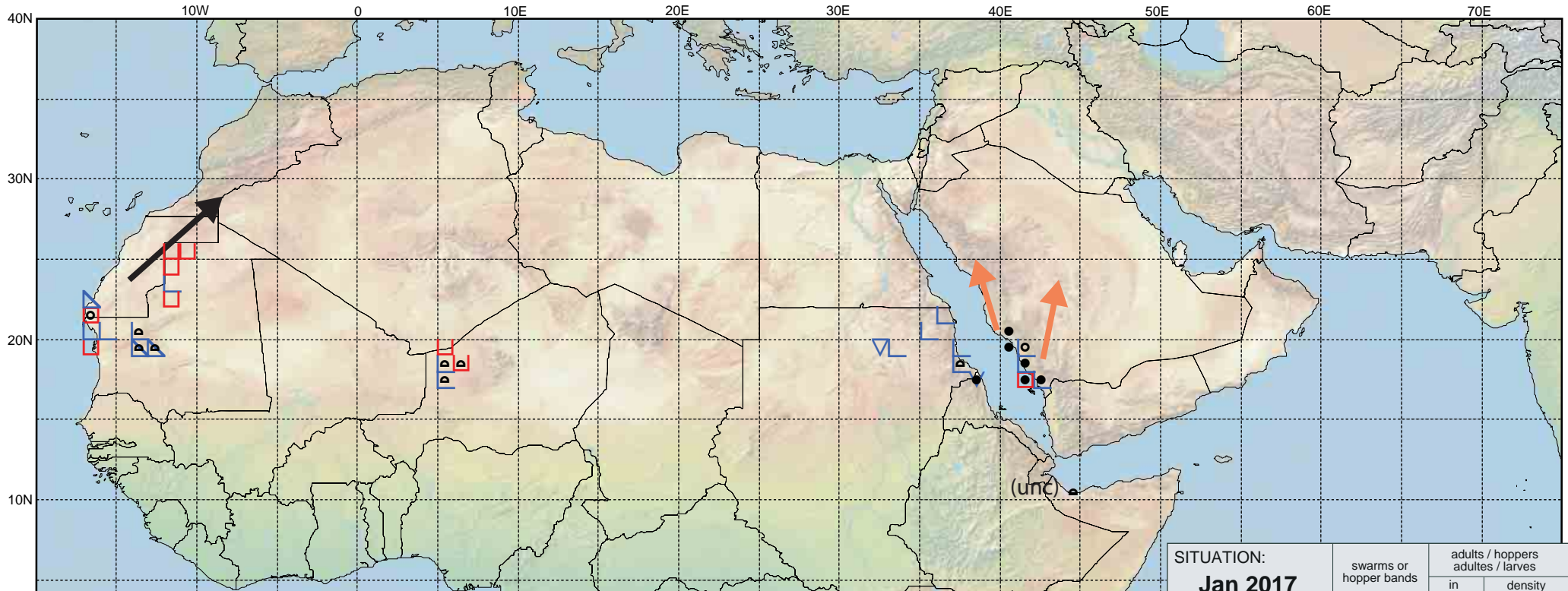
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Desert Locust Summary

Criquet pèlerin - Situation résumée

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FORECAST TO: PREVISION AU:	15.3.17	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: Jan 2017 jan 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 hoppers			
larvae larves			
hoppers & adults (combined symbol example) larves et adultes (exemple symboles combinés)			