

warning level: **CAUTION**

DESERT LOCUST BULLETIN

FAO Emergency Centre for Locust Operations



No. 433



**General Situation during October 2014
Forecast until mid-December 2014**

(4.11.2014)

An outbreak developed during October in Sudan where intensive aerial and ground control operations were mounted against hopper bands and adult groups. Some adults moved to winter breeding areas along the Red Sea coast where they laid eggs. A few adult groups appeared in southern Egypt and limited control operations were carried out along the Nile. Breeding commenced on the coast of Eritrea and southern Yemen while scattered adults were present along the Red Sea coast in Saudi Arabia and Yemen. Ground teams treated a few hopper bands and swarmlets that persisted in northeast Ethiopia. Although the situation was calm in the Western Region where small-scale breeding occurred in Mauritania, Niger and Chad, locust numbers may be increasing in western Mauritania. In South-West Asia, a few locusts persisted in the summer breeding areas along both sides of the Indo-Pakistan border. During the forecast period, strict vigilance is required along both sides of the Red Sea where locust numbers will increase in Egypt, Sudan, Eritrea, Saudi Arabia and Yemen.

Western Region. The situation remained calm in October. Although small-scale breeding occurred in western Mauritania, central Niger and in Chad, locust numbers remained low except in western Mauritania where they started to increase at the end of the month. In Northwest Africa, a few adults were seen in Morocco and central Algeria. During the forecast period, locust numbers will increase in west and

northwest Mauritania as a result of local breeding that could lead to the formation of small groups of hoppers and adults. Low numbers of adults will persist in parts of northern Mali, Niger and northeast Chad.

Central Region. A small outbreak developed during October in Sudan where hopper bands and adult groups formed in the summer breeding areas from north of Khartoum to the Red Sea Hills. Populations were starting to shift to the winter breeding areas where adults appeared in the northeast and on the Red Sea coast where they laid eggs. Ground and aerial teams were mobilized and treated 20,000 ha. Immature adult groups also appeared in southern Egypt and limited control operations were undertaken near Abu Simbel. More groups and perhaps a few small swarms are likely to form in November and move to the Red Sea coastal plains and subcoastal areas in Sudan and southeast Egypt where breeding will occur. Small-scale breeding started on the Red Sea coast in Eritrea where limited control operations were carried out. In northeast Ethiopia, control teams treated a few late instar hopper bands and small swarmlets that formed in areas of previous breeding. Low numbers of adults were present along parts of the Red Sea coast in Saudi Arabia and Yemen, and small-scale breeding was in progress on the Gulf of Aden coast. During the forecast period, breeding will cause locust numbers to increase along both sides of the Red Sea in Egypt, Sudan, Eritrea, Saudi Arabia and Yemen.

Eastern Region. The situation remained calm in October. Locust numbers declined along both sides of the Indo-Pakistan border as vegetation continued to dry out. No significant developments are likely.

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

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Weather & Ecological Conditions in October 2014

Rainfall ended at mid-month in the summer breeding areas of the Sahel in West Africa but continued in Sudan. Good rains fell along parts of the Red Sea coast where ecological conditions became favourable for breeding.

In the **Western Region**, the Inter-Tropical Convergence Zone (ITCZ) continued its seasonal retreat southwards in the Sahel of West Africa and, after mid-month, it had moved well south of the summer breeding area. Consequently, rainfall declined throughout these areas from early October onwards and vegetation began to dry out rapidly. Nevertheless, ecological conditions remained favourable for breeding in a few limited areas, such as in parts of central and western Mauritania, and in southern Algerian along the Malian border near Timeiaouine.

In the **Central Region**, the Inter-Tropical Convergence Zone (ITCZ) remained stationary over central and northern Sudan and was located north of Sodiri and Khartoum, some 150-200 km further north than usual, during the first two decades of October. As a result, sporadic rains fell in parts of North Kordofan, River Nile and Kassala states. This slowed down the drying out of annual vegetation and allowed conditions to remain favourable for breeding. In the winter breeding areas, light rains began falling in early October on the Red Sea coast in southeast Egypt and on the plains from Port Sudan to Massawa, Eritrea. Rains continued during the second decade in southeast Egypt and extended to Wadi Diib in northeast Sudan. Light showers fell near the Sudan/Eritrea border while heavier rain occurred north of Massawa. Consequently, vegetation was becoming green and breeding conditions were favourable in many areas. On the eastern side of the Red Sea, moderate to heavy rains fell along the coast from north of Jizan in Saudi Arabia to the Gulf of Aden coast in southern Yemen during the first decade. Vegetation was already green along the Red Sea and Gulf of Aden coastal plains in Yemen from earlier rainfall during September and conditions were favourable for breeding.



Area Treated

Egypt	82 ha (October)
Eritrea	8 ha (October)
Ethiopia	63 ha (October)
Sudan	20,072 ha (October)



Desert Locust Situation and Forecast

(see also the summary on page 1)

WESTERN REGION

Mauritania

• SITUATION

During October, isolated solitarious adults were maturing in the south between Aioun El Atrous (1639N/0936W) and northeast of Tamchekket (1714N/1040W) and in the west between Boutilimit (1732N/1441W) and Akjoujt (1945N/1421W) and west of Tidjikja (1833N/1126W). Small-scale breeding was in progress in the Aguilal Faye (1827N/1444W) area where adults were seen laying eggs and a few isolated mid-instar solitarious hoppers were present. Locust numbers were increasing at the end of the month at one place in Aguilal Faye where up to 1,600 hoppers/ha were seen.

• FORECAST

Locust numbers are expected to increase in the west and northwest as the remainder of the adults arrive from the south and breed, especially if more rains fall. This could lead to the formation of small groups of hoppers and adults in parts of Trarza, Inchiri and southwest Adrar.

Mali

• SITUATION

No surveys were conducted during October. However, reports continued to be received from local scouts that scattered mature solitarious adults mixed with hoppers of all instars were present in W. Tahalt in the Tilemsi Valley northwest of Kidal (1827N/0125E) and in the far northwest of the country south of Taoudenni (2240N/0358W) in the Marcouba area. Due to insecurity, surveys could not be conducted in either area to confirm these reports.

- **FORECAST**

Low numbers of adults are likely to persist in parts of Timetrine, Tilemsi Valley and the Adrar des Iforas.

Niger

- **SITUATION**

During October, small-scale breeding occurred in central areas between Tanout (1458N/0852E) and Termit Massif (1600N/1120E) where scattered solitary hoppers of all instars and immature and mature solitary adults were present. Small-scale breeding may have occurred in southern Tamesna but this could not be confirmed due to a lack of surveys. No locusts were seen in the southwest near Filingué (1421N/0319E).

- **FORECAST**

As vegetation dries, a few small groups may form during November in areas of previous breeding. Thereafter, locust numbers will decline.

Chad

- **SITUATION**

During October, low numbers of immature and mature solitary adults were scattered between Salal (1448N/1712E) in Kanem and Fada (1714N/2132E) in the northeast. Small-scale breeding occurred in a few places northeast of Beurkia (1523N/1800E) and near Fada where a few mid-instar hoppers were present.

- **FORECAST**

As vegetation dries, a few small groups may form in areas of previous breeding in November. Thereafter, locust numbers will decline.

Senegal

- **SITUATION**

No reports were received during 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, scattered immature solitary adults were present near irrigated areas in the Adrar (2753N/0017W) area in the Central Sahara. No locusts were seen in the south near Tamanrasset (2250N/0528E) and along the border of Mali near Timeiaouine (2026N/0148E).

- **FORECAST**

Low numbers of locusts may persist near irrigated areas of Adrar. Scattered adults may be present and could persist in the extreme south along the border with Mali.

Morocco

- **SITUATION**

During October, no locusts were seen in the Draa Valley between Tata (2944N/0758W) and Tantan (2826N/1106W) except for an isolated mature solitary adult near the Algerian border at Ksar Chair (2908N/0758W).

- **FORECAST**

Low numbers of adults may appear in the extreme south of the Western Sahara and breed on a small scale if rainfall occurs.

Libya

- **SITUATION**

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

- **FORECAST**

No significant developments are likely.

Tunisia

- **SITUATION**

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

- **FORECAST**

No significant developments are likely.

CENTRAL REGION

Sudan

- **SITUATION**

During October, scattered immature and mature adults persisted parts of North Kordofan and White Nile states between Sodiri (1423N/2906E) and the Nile at Ed Dueim (1400N/3220E) and Khartoum (1533N/3235E), in the Baiyuda Desert, in the north near Dongola (1910N/3027E), along the Atbara River and in the east between Kassala (1527N/3623E) and Derudeb (1731N/3607E). Hopper bands of various instars formed in the Baiyuda Desert, along the Atbara River and near Haiya (1820N/3621E) while immature and mature adults formed groups near Kassala and, to a lesser extent in the Baiyuda Desert and near Abu Hamed (1932N/3320E). In the winter breeding areas, local breeding commenced in Wadi Oko/Diib



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north of Tomala (2002N/3551E) where second to fourth instar hoppers and an increasing number of immature and mature adults were present during the last week. At least one mature adult group appeared on the Red Sea coast and laid eggs south of Suakin (1906N/3719E). Control operations increased throughout the month, treating 20,072 ha of which 10,100 ha were by air. The mature swarm reported in Bulletin 432 (September) was confirmed to be a mistaken report of an adult group.

• FORECAST

An increasing number of groups, bands and swarms are expected to form, mainly in the Baiyuda Desert and between the Nile Valley and the Red Sea Hills in November. Adult groups and perhaps a few small swarms are likely to move east and northeast, and appear in Wadi Oko/Diib and on the Red Sea coast. Hatching is expected on the coast and in Wadi Oko/Diib.

Eritrea

• SITUATION

During October, breeding commenced on the Red Sea coast near Shelshela (1553N/3906E) where scattered mature solitarious adults were seen copulating. Ground teams treated 8 ha of medium density first and second instar *transiens* and gregarious hoppers.

• FORECAST

Breeding will continue in areas of recent rainfall on the Red Sea coastal plains between Massawa and Karora, causing locust numbers to increase.

Ethiopia

• SITUATION

During October, a few late instar hopper bands up to 1,500 m² in size formed in areas of previous breeding in the northern Awash Valley near Mile (1123N/4052E). Three immature swarmlets were reported in the same area. A few hopper bands were seen in a new area about 100 km to the northwest near Gane Geb (1230N/3947E). Ground control operations treated 63 ha.

• FORECAST

Locust infestations are expected to decline further in the northern Awash Valley and no further developments are likely.

Djibouti

• SITUATION

No reports were received during October.

• FORECAST

No significant developments are likely.

Somalia

• SITUATION

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

• FORECAST

Low numbers of adults are expected to appear on the coastal plains in the northwest and breed on a small scale if rainfall occurs.

Egypt

• SITUATION

During October, several small groups of immature adults were seen on both sides of Lake Nasser near Abu Simbel (2219N/3138E). Ground teams treated 82 ha. No locusts were seen in the Garf Husein (2317N/3252E) area or on the Red Sea coastal plains between Berenice (2359N/3524E) and the Sudan border.

• FORECAST

Adult groups and perhaps a few small swarmlets from Sudan may appear on the Red Sea coast between Berenice and Halaib, mature quickly and lay eggs in areas of recent rainfall. Subsequent hatching will cause locust numbers to increase.

Saudi Arabia

• SITUATION

During October, low numbers of mature solitarious adults were present on the Red Sea coastal plains near Qunfidah (1909N/4107E). No locusts were seen elsewhere along the coast.

• FORECAST

Scattered adults may be present and breeding on a small scale in areas of recent rainfall on the Red Sea coast between Lith and Jizan. Consequently, locust numbers are expected to increase.

Yemen

• SITUATION

During October, scattered immature and mature adults were present on the northern Red Sea coast between Al Zuhrah (1541N/4300E) and Midi (1619N/4248E), and to a lesser extent on the central coast between Hodeidah (1450N/4258E) and Zabid (1410N/4318E). On the Gulf of Aden coast, scattered immature and mature adults were present and small-scale breeding was in progress near Am Rijja (1302N/4434E) and Zinjibar (1306N/4523E).

• FORECAST

Small-scale breeding will cause locust numbers to

increase on the Red Sea and Gulf of Aden coastal plains. There is a risk that a few small groups could form in some areas.

Oman

- SITUATION

During October, no locusts were seen during surveys in the northern interior near Nizwa (2255N/5731E) and Ibri (2314N/5630E) on in mountain areas west of Jamma (2333N/5733E) and on the Musandam Peninsula.

- 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 October, isolated mature solitary adults were present near Chabahar (2517N/6036E). No locusts were seen elsewhere during surveys carried out on the coast near Jask (2540N/5746E) and in the interior near Ghale Ganj (2731N/5752E) in the Jaz Murian Basin.

- FORECAST

No significant developments are likely.

Pakistan

- SITUATION

During September, scattered immature and mature solitary adults were present in Cholistan south of Bahawalpur (2924N/7147E) and along the India border.

During October, scattered mature solitary adults persisted in a few of the above-mentioned places.

- FORECAST

No significant developments are likely.

India

- SITUATION

During the first fortnight of October, isolated immature and mature solitary adults persisted at a few places to the west of Bikaner (2801N/7322E) near the Indira Gandhi Canal and the Pakistan border. No locusts were seen during the second fortnight.

- 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/ECLD Desert Locust Information Service (eclod@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)



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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

- July - September/October

WINTER RAINS AND BREEDING

- October - January/February

SPRING RAINS AND BREEDING

- February - June/July

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.

OUTBREAK

- a marked increase in locust numbers due to concentration, multiplication and gregarisation

- **Greenness maps.** Dynamic maps of green vegetation evolution every decade (http://iridl.ldeo.columbia.edu/maproom/Food_Security/Locusts/Regional/greenness.html)
- **eLocust3 training videos.** A set of 15 introductory training videos are available on YouTube: https://www.youtube.com/playlist?list=P LjxRk5CAwvG_0iFvjZ5C2fLByF3jvhvHOx
- **FAODLIS Google site.** A platform for sharing problems, solutions, tips and files for eLocust2, eLocust2Mapper, RAMSES and remote sensing (<https://sites.google.com/site/faodlis>)
- **FAOLOLUST 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:

- **Desert Locust situation updates.** Archives
- **Current threats.** Sudan
- **Desert Locust risk map.** 4 November 2014

2014 events. The following activities are scheduled or planned:

- **CRC.** 29th Session of the Commission, Dubai, UAE (23-27 November)
- **EMPRES/WR.** 13th EMPRES Liaison Officer Meeting, Tunis, Tunisia (1-5 December)
- **EMPRES/WR.** 10th Steering Committee Meeting, Tunis, Tunisia (8-9 December)
- **Pesticide Referee Group.** 10th meeting, Tunis, Tunisia (10-12 December)
- **SWAC.** 50th Anniversary of the Commission, Tehran, Iran (15 December)
- **SWAC.** 29th Session of the Commission, Tehran, Iran (16-18 December)

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.

RECESSION

- period without widespread and heavy infestations by swarms.

REMISSION

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

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.



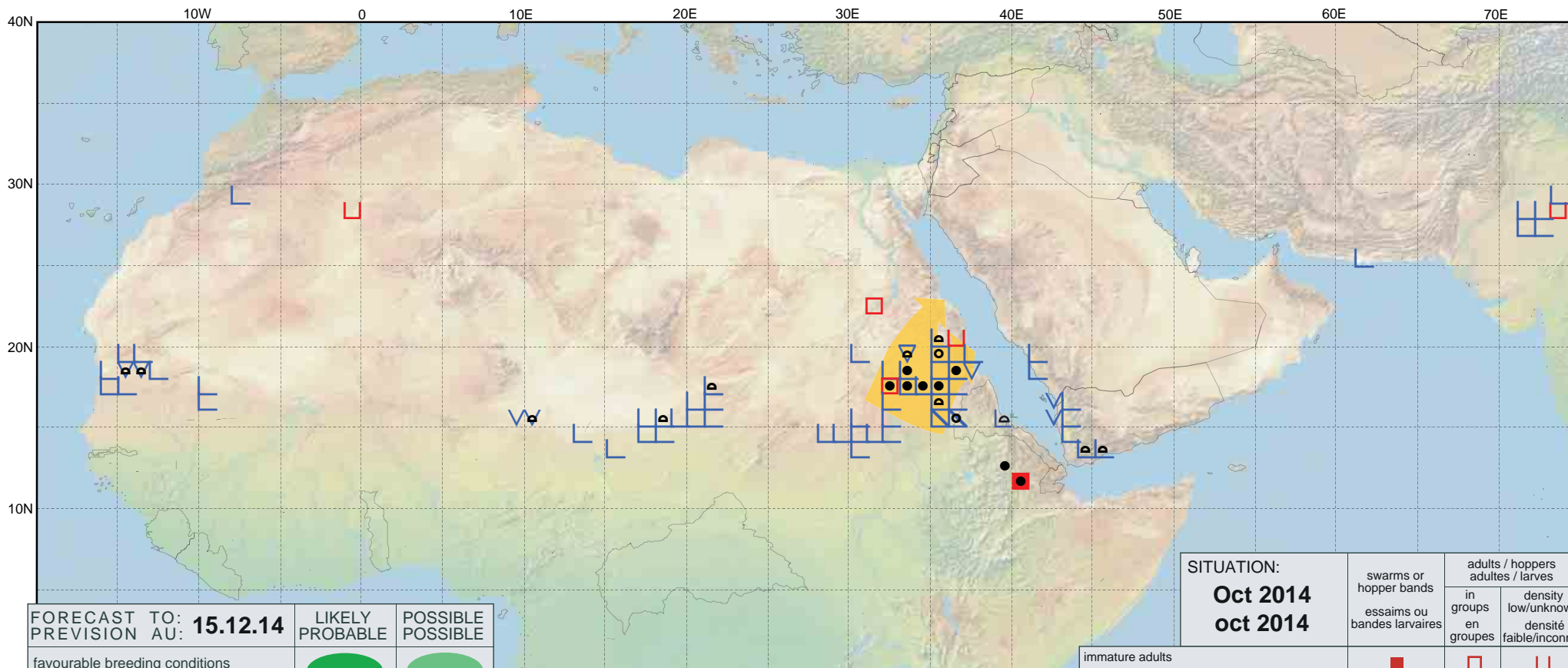
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Desert Locust Summary

Criquet pèlerin - Situation résumée

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FORECAST TO: PREVISION AU: 15.12.14	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 2014 oct 2014	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)			