

warning level: **THREAT**

DESERT LOCUST BULLETIN

FAO Emergency Centre for Locust Operations



No. 413



General Situation during February 2013
Forecast until mid-April 2013

(4 Mar 2013)

The Desert Locust situation remained worrisome during February in the winter breeding areas along both sides of the Red Sea where locust infestations continued to increase. Adults formed groups and swarms in **Egypt, Sudan, Eritrea and Saudi Arabia**. Some of these moved into crops along the Nile River in northern Sudan, laid eggs and caused damage, while a limited number of groups and swarms moved north along the Egyptian coast where they could eventually threaten the Nile Delta. Substantial control operations were carried out by the three countries. A smaller, second generation of breeding is expected to occur along both sides of the Red Sea. Groups of adults are likely to move to the interior of Saudi Arabia where one generation of breeding can occur. Elsewhere, a few small swarms formed in the Western Sahara and moved into adjacent areas of northwest Mauritania.

Western Region. The locust situation remained generally calm in the region during February. Adult groups and a few small swarms formed in the southern part of **Western Sahara**. Some of these moved into adjacent areas of northwest **Mauritania**. Limited control operations were carried out in Morocco and Mauritania. Scattered mature adults were present in central **Algeria** and northeast **Morocco**. As temperatures warm up in March, low numbers of adults are likely to appear in Morocco south of the Atlas Mountains and in the northern and central

Sahara in **Algeria**, and breed on a small scale in areas that receive rainfall. No significant developments are expected.

Central Region. Locust numbers continued to increase significantly during February from breeding along the Red Sea coastal plains in southeast **Egypt, Sudan, Eritrea, and Saudi Arabia** where hopper bands and swarms formed. Immature groups and swarms moved from northeast Sudan to the Nile Valley in northern Sudan, laying eggs, and causing damage to crops and date palms. Immature groups and a few small swarms moved north along the Red Sea coast of Egypt, nearly reaching Suez. Infestations declined in the second half of February due to control operations and migration. Elsewhere, only isolated adults were seen on the Red Sea coast in **Yemen**. There is a moderate risk that a few small groups and swarmlets may reach cropping areas in the Nile Valley and Delta of Egypt. A smaller second generation of breeding will occur in southeast Egypt, along the Sudan/Eritrea border and on the northern Red Sea coast in Saudi Arabia. Breeding will continue along the Nile in northern Sudan where a few more swarms may appear from the northeast. Scattered adults and small groups are likely to appear in the spring breeding areas of the interior of Saudi Arabia, and breed in places that receive rainfall.

Eastern Region. No locusts were reported in the region during February. Low numbers of adults are likely to appear in parts of Baluchistan in western **Pakistan** and southeast **Iran**, and breed on a small scale in areas that receive rainfall. 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.

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



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Weather & Ecological Conditions in February 2013

Vegetation began drying out on the western side of the Red Sea during February but remained green along the coast of Saudi Arabia.

In the **Western Region**, very little rain fell in the region during February and low temperatures persisted in most areas, limiting Desert Locust migration and delaying maturation. In Mauritania, ecological conditions were generally unfavourable for breeding but there were small areas of green vegetation in Dakhlet Nouadhibou, Inchiri, Adrar and Tiris Zemmour. In Morocco, ecological conditions remained favourable for breeding in the southern part of the Western Sahara but were drying out further north as well as along the southern side of the Atlas Mountains in the Draa and Ziz-Ghris valleys. In Algeria, ecological conditions were favourable for breeding near Bechar, Adrar and Tamanrasset.

In the **Central Region**, light rain fell at times during February in some areas on both sides of the Red Sea. In Sudan, vegetation progressively dried out during the month in coastal and subcoastal areas of the northeast but ecological conditions remained favourable on the southern coast between Tokar and the Eritrean border. Conditions were also favourable in adjacent areas of Eritrea on the northern coast. In Egypt, vegetation started to dry out on the southern coastal plains of the Red Sea south of Shalatyn from the second week of February onwards but remained green near Berenice and Abraq. Ecological conditions were not favourable for breeding in coastal and subcoastal areas north of Marsa Alam. In Saudi Arabia, ecological conditions remained favourable for breeding along the northern Red Sea coastal plains between Rabigh and Umm Lajj, and on the central coast between Lith and Qunfidah. In Yemen, light rain fell at times in a few places on the Red Sea coastal plains but mainly dry conditions persisted there as well as on the Gulf of Aden coastal plains. Light to moderate rain fell in northern Oman in early February but vegetation remained generally dry.

In the **Eastern Region**, light rain fell at times during February in parts of the spring breeding areas in



Area Treated

During February, control operations treated more than 90,000 ha, compared to 58,000 ha in January.

Egypt	12,378 ha (February)
Eritrea	200 ha (February)
Mauritania	2,740 ha (February)
Morocco	2,291 ha (February)
Saudi Arabia	14,470 ha (February)
Sudan	60,979 ha (February)



Desert Locust Situation and Forecast

(see also the summary on page 1)

WESTERN REGION

Mauritania

• SITUATION

Seven small immature swarms, 180-600 ha in size at densities up to 16 adults/m², appeared in the northwest up to 90 km east of Nouadhibou (2056N/1702W) from adjacent areas in Western Sahara on 4-18 February. A few groups of immature *transiens* adults at densities up to 5,000 adults/ha were present in the same area. Ground teams treated 2,740 ha in February.

• FORECAST

Isolated adults may persist in parts of Dakhlet Nouadhibou. Small-scale breeding could occur in parts of Tiris-Zemmour if rain falls during the forecast period.

Mali

• SITUATION

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

• FORECAST

Low numbers of adults are likely to be present and will persist in a few areas of the Adrar des Iforas. No significant developments are likely.

Niger

• SITUATION

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

- **FORECAST**

Low numbers of locusts are likely to be present and will persist in parts of the Air Mountains. No significant developments are likely.

Chad

- **SITUATION**

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

- **FORECAST**

No significant developments are likely.

Senegal

- **SITUATION**

No surveys were carried out and no locusts were 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**

During February, isolated mature solitary adults were present in the central Sahara near In Salah (2712N/0229E). No locusts were seen near Djanet (2434N/0930E), Tamanrasset (2250N/0528E), Adrar (2753N/0017W), and between Beni Abbas (3011N/0214W) and Tindouf (2741N/0811W).

- **FORECAST**

As temperatures warm up in March, an increasing number of adults are likely to appear in the northern and central Sahara and breed on a small scale if rainfall occurs.

Morocco

- **SITUATION**

During February, late instar hoppers, fledglings and groups were present in the Adrar Settouf area of southern Western Sahara near Ma'Tallah (2223N/1502W) and further north near the coast of Boujdour (2607N/1429W). Immature adults and groups at densities up to 8,000 adults/ha were seen along the coast near Boujdour and between Dakhla (2342N/1555W) and the Mauritanian border. Some of the adults were maturing. A few small immature swarms up to 300 ha in size at densities up to 100 adults/m² formed at mid-month near Ma'Tallah. At the end of the month, a small immature swarm was seen near Bir Anzarane (2353N/1431W) and near Ma'Tallah. Ground teams treated 2,291 ha during February. In northeast Morocco, isolated

mature solitary adults persisted near Figuig (3207N/0113W) and Bouarfa (3232N/0159W).

- **FORECAST**

A limited number of adult groups may continue to form in the Adrar Settouf, slowly mature and lay eggs that could hatch and give rise to small hopper groups by the end of the forecast period. As temperatures warm up in March, an increasing number of adults are likely to appear along the southern side of the Atlas Mountains and breed on a small scale if rainfall occurs.

Libya

- **SITUATION**

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

- **FORECAST**

Scattered adults are likely to be present in the southwest where they will breed on a small scale if rainfall occurs.

Tunisia

- **SITUATION**

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

- **FORECAST**

No significant developments are likely.

CENTRAL REGION

Sudan

- **SITUATION**

The situation worsened in February as breeding continued in coastal and subcoastal areas of the northeast and on the southern coastal plains near the Eritrean border where hopper groups, bands, adult groups and swarms formed. Mature adult groups and swarms were seen from the 10th onwards. The infestations in the northeast were concentrated in Wadi Diib and on the coast between Mohamed Qol (2054N/3709E) and the Egyptian border; those in the south were between Adobana (1810N/3816E) and Karora (1745N/3820E) where more egg-laying occurred late in the month. A number of immature swarms moved from the northeast to crops along the Nile River, reaching Abu Hamed (1932N/3320E) on the 13th and Dongola (1910N/3027E) by the 23rd. Some of the swarms were maturing and laying eggs. Damage occurred to seasonal crops and date palms.



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One swarm was seen as far south as Ed Damer (1734N/3358E). Control teams treated 60,979 ha, including 39,570 ha by air, in February.

• **FORECAST**

Small groups and swarms are likely to move from the northeast towards the Nile River and the southern coastal plains of the Red Sea. Breeding will cause locust numbers to increase in both areas with hatching and the formation of hopper groups and bands in March. All efforts are required to monitor and control the infestations.

Eritrea

• **SITUATION**

During February, hopper bands of all instars were present on the northern coastal plains near the Sudanese border. Fledging occurred during the first week. There were indications of swarm activity on both sides of the border, and three immature and mature swarms were reported up to the 18th. A few swarms were seen coming from the border on the 22nd. No other locusts were present on the coastal plains except for isolated mature solitary adults south of Mehimet (1723N/3833E).

• **FORECAST**

Small groups and swarms will form on the northern coastal plains of the Red Sea, supplemented by similar populations from adjacent areas of Sudan. A second generation of breeding will occur near the border, giving rise to hopper groups and bands. All efforts are required to monitor and control the infestations.

Ethiopia

• **SITUATION**

No locusts were seen in the eastern region near Ayasha (1045N/4234E) and Dire Dawa (0935N/4150E) on 24-25 February.

• **FORECAST**

No significant developments are likely.

Djibouti

• **SITUATION**

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

• **FORECAST**

No significant developments are likely.

Somalia

• **SITUATION**

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

• **FORECAST**

No significant developments are likely.

Egypt

• **SITUATION**

During February, breeding continued along the southern coast and subcoastal areas of the Red Sea from the Sudanese border to Berenice (2359N/3524E) where numerous hopper groups and bands formed. In the Nile Valley, hopper groups were seen at one place north of Aswan near Kom Ombo (2428N/3257E). Hopper infestations declined after the first week as immature adult groups formed and began maturing. As vegetation dried out, immature adult groups and a few small swarms moved north along the coast and the Red Sea Hills, reaching Marsa Alam (2504N/3454E) on the 8th, west of Hurgada (2717N/3347E) on the 16th, and Zafaranah (2906N/3239E) on the 26th. During the last week, a second generation of breeding started in the Abraaq area west of Shalatyn (2308N/3535E) where adult groups were laying eggs. Ground teams treated 12,378 ha in February.

• **FORECAST**

There is a moderate risk that a few small groups and swarmlets may reach cropping areas in the Nile Valley and Delta in March. On the southern coast and subcoastal areas of the Red Sea, a limited second generation of breeding will occur in areas that remain favourable between Berenice and the Sudanese border where hatchlings are expected to form small groups and bands.

Saudi Arabia

• **SITUATION**

During the first half of February, breeding continued on the northern Red Sea coastal plains between Rabigh (2247N/3901E) and Bader (2346N/3847E) and, to a lesser extent, on the central coast near Lith (2008N/4016E) where adult groups laid eggs, and hopper groups and bands were present. Immature and mature adult groups and swarms were present on the northern coast while only adult groups were seen near Lith in the first week. During the second half of February, infestations declined in all areas due to control operations and as a few small mature adult groups and a swarm moved north towards Duba (2719N/3546E) on 23 February. Control operations treated 14,470 ha, including 1,516 ha by air, in February.

• **FORECAST**

A limited second generation of breeding will occur in areas that remain favourable on the northern coast

between Rabigh and Umm Lajj where hatchlings are expected to form small groups and bands. Scattered adults and small adult groups, supplemented by a small groups and swarms from the western side of the Red Sea, are likely to appear in the spring breeding areas of the interior, mature and breed on a small scale in places that receive rainfall.

Yemen

- **SITUATION**

During February, isolated immature and mature solitary adults were present at a few places along the Red Sea coast near Midi (1619N/4248E), Suq Abs (1600N/4312E), south of Hodeidah (1450N/4258E), and on the Gulf of Aden coast west of Aden (1250N/4503E).

- **FORECAST**

Low numbers of adults are likely to persist in a few places along the Red Sea coast and breed on a small scale if rainfall occurs.

Oman

- **SITUATION**

During February, no locusts were seen during surveys carried out in the interior of the north between Adam (2223N/5731E) and Buraimi (2415N/5547E), and of the extreme south near Maziuna (1750N/5239E) and the Yemeni border.

- **FORECAST**

Low numbers of adults may appear on the Batinah coast and breed on a small-scale if rainfall occurs.

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

- **FORECAST**

No significant developments are likely.

EASTERN REGION

Iran

- **SITUATION**

During February, no locusts were seen on the southeast coast near Chabahar (2517N/6036E) and near Ghale Ganj (2731N/5752E) in the western Jaz Murian Basin of the interior.

- **FORECAST**

Low numbers of adults are expected to appear in a few areas on the southeastern coastal plains and in the Jaz Murian Basin. Small-scale breeding will occur in areas that receive rainfall.

Pakistan

- **SITUATION**

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

- **Forecast**

Low numbers of adults are expected to appear in a few areas on the coast and interior of Baluchistan. Small-scale breeding will occur in areas that receive rainfall.

India

- **SITUATION**

No locusts were seen during surveys carried out during February.

- **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.



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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.Ideo.columbia.edu/maproom/.Food_Security/Locusts/.Regional/.MODIS/index.html)
- **MODIS.** Daily rainfall imagery in real time (http://iridl.Ideo.columbia.edu/maproom/.Food_Security/Locusts/index.html)
- **RFE.** Rainfall estimates every day, decade and month (http://iridl.Ideo.columbia.edu/maproom/.Food_Security/Locusts/index.html)
- **Greenness maps.** Dynamic maps of green vegetation evolution every decade (<http://www.devocast.eu/user/images/dl/Form.do>)
- **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>)
- **FAOLOCAST 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>)

SWAC website. The FAO Commission for Controlling the Desert Locust in South-West Asia (SWAC) website (<http://www.fao.org/ag/locusts/SWAC>) is now available in French.

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

- **Desert Locust situation updates.** Archives Section – Briefs

2013 events. The following activities are scheduled or planned:

- **CRC/SWAC.** Inter-regional Locust information officers workshop, Cairo, Egypt (22-25 April)
- **CLCPRO/EMPRES-RO.** Western Region Locust information officers workshop, Niamey, Niger (May)



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 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.



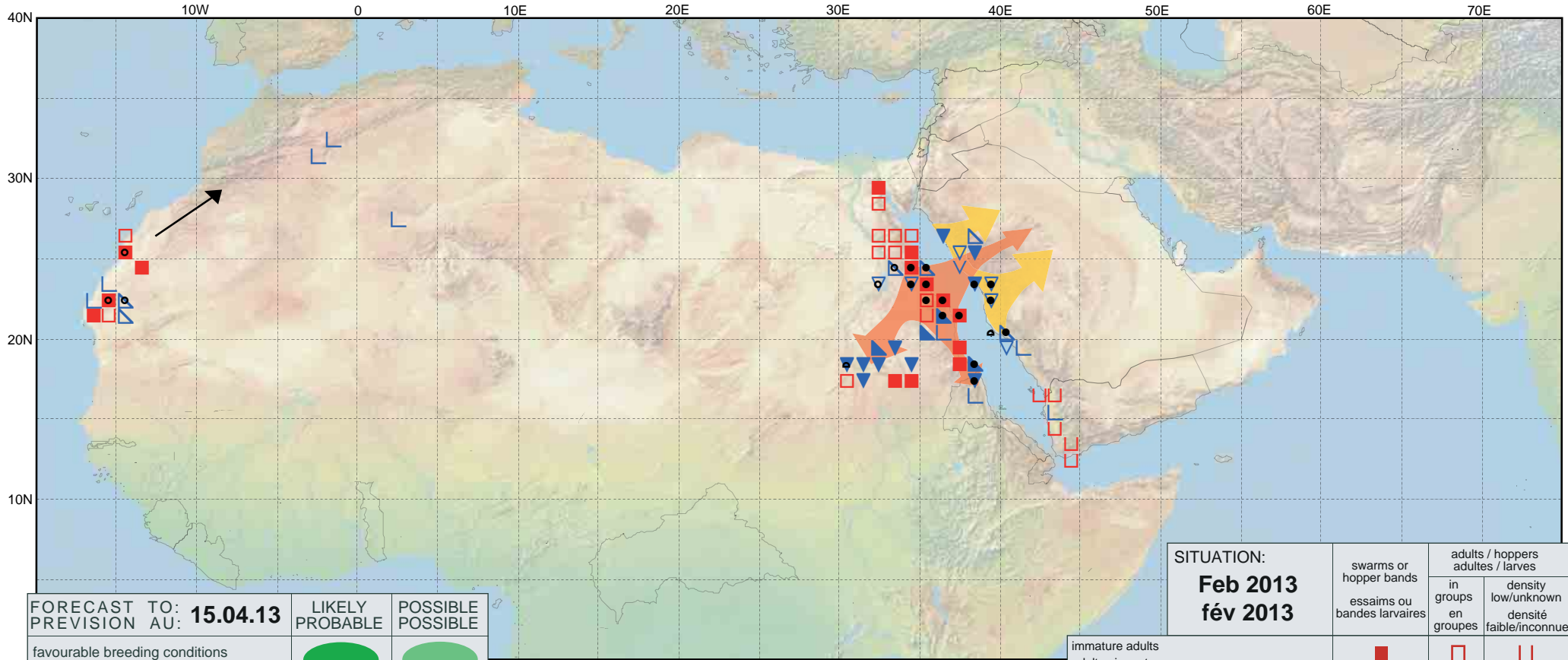
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Desert Locust Summary

Criquet pèlerin - Situation résumée

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FORECAST TO: PREVISION AU: 15.04.13	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:
Feb 2013
fév 2013

	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)			