

warning level: **THREAT**

DESERT LOCUST BULLETIN

FAO Emergency Centre for Locust Operations



No. 411



**General Situation during December 2012
Forecast until mid-February 2013**

(4 Jan 2013)

The Desert Locust situation improved in the Sahel of West Africa as locust numbers declined during December due to control operations in Niger and Mauritania and drying conditions. On the other hand, the situation remained serious in winter breeding areas along both sides of the Red Sea where adult groups and small swarms laid eggs, giving rise to hopper bands in Egypt, Sudan and Saudi Arabia. Although control operations were undertaken, more breeding is expected and small hopper bands and swarms are likely to form during the forecast period. In Northwest Africa, small-scale breeding and low temperatures will cause locust numbers to increase slowly in Western Sahara, northwest Mauritania and southern Algeria where small groups and hopper bands may form. All efforts are required to monitor the situation and undertake the necessary control operations.

Western Region. Small groups of hoppers and adults continued to form in early December in Niger and northwest Mauritania but infestations declined during the remainder of the month as a result of control operations and drying vegetation. There was no indication of a large-scale migration from West Africa to Northwest Africa. Instead, a few small groups appeared in southern Algeria and laid eggs, groups of immature and mature adults were present in Western Sahara where small-scale breeding was in progress, and solitary adults were scattered along

the southern side of the Atlas Mountains in Morocco. Control operations were undertaken in Algeria and Morocco. During the forecast period, small-scale breeding will cause locust numbers to increase slightly in the Sahara of Algeria and in Western Sahara but low temperatures will delay locust maturation. Small groups may persist in Mauritania while groups may form in Algeria and small bands could form in Western Sahara.

Central Region. Infestations declined during December in the summer breeding areas in the interior of Sudan as adult groups and swarms appeared on the Red Sea coast in southeast Egypt and northeast Sudan and laid eggs that hatched, causing small hopper bands to form. Breeding also took place in Saudi Arabia where hopper groups and bands formed on the Red Sea coast north of Jeddah. Although control operations were undertaken in the three countries, more breeding is expected during the forecast period that could give rise to hopper bands and swarms. Isolated adults were present on the Red Sea and Gulf of Aden coastal plains in Yemen. If rains fall, small-scale breeding will occur on the Red Sea coast in Eritrea and Yemen.

Eastern Region. No locusts were reported in the region during December. Low numbers of adults may appear at the end of the forecast period in a few areas on the coast of Baluchistan in western Pakistan and southeast Iran. 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



No. 411

DESERT LOCUST BULLETIN



Weather & Ecological Conditions in December 2012

Although little rain fell during December, ecological conditions were favourable in the winter breeding areas along both sides of the Red Sea in Egypt, Sudan and parts of Saudi Arabia. Conditions were also favourable in parts of Mauritania, Western Sahara and Algeria.

In the **Western Region**, no significant rain fell in the Sahel of West Africa during December except for a few local showers on the eastern side of the Air Mountains in Niger. In Northwest Africa, good rains fell at times during the first decade in western Libya. Consequently, vegetation continued to dry out in the northern Sahel except in northwest and central Mauritania, Western Sahara, and in central and southern Algeria where ecological conditions remained favourable for locust breeding and survival. Temperatures declined in the region, which will delay locust maturation and limit migration.

In the **Central Region**, very little rain fell in the winter breeding areas along both sides of the Red Sea during December except for moderate showers between Qunfidah and Mecca in Saudi Arabia at mid-month and light rains on the coast in Sudan. Nevertheless, ecological conditions were favourable for breeding on the Red Sea coast in southeast Egypt, in coastal and subcoastal areas of northeast Sudan, and on the coast between Rabigh and Umm Lajj in Saudi Arabia from rainfall during November. Breeding conditions were also favourable in the Tokar Delta, Sudan. Elsewhere, dry conditions prevailed in the region.

In the **Eastern Region**, light to moderate rains fell in mid-December along parts of the Baluchistan coast in southeast Iran and western Pakistan. Ecological conditions were improving slightly in the spring breeding areas of Iran but remained mainly dry and unfavourable in Pakistan. Temperatures declined in the interior of both countries.



Area Treated

During December, control operations treated 32,000 ha, compared to 90,000 ha in November.

Algeria	292 ha (December)
Egypt	6,894 ha (December)
Mauritania	16,406 ha (November, revised) 4,922 ha (December)
Morocco	2,582 ha (December)
Niger	42,891 ha (November, revised) 12,875 ha (December)
Saudi Arabia	1,363 ha (December)
Sudan	26,689 ha (November, revised) 5,665 ha (December)



Desert Locust Situation and Forecast

(see also the summary on page 1)

WESTERN REGION

Mauritania

• SITUATION

During December, several dozen groups of hoppers mixed with immature and mature solitarious and *transiens* mature adults continued to be present in Tagant, Trarza, Inchiri and southwest Adrar. Locust densities declined throughout the month from up to 15 hoppers/m² and 40,000 adults/ha during the first week to isolated hoppers and 2,100 adults/ha at the end of the month. Scattered immature and mature solitarious adults appeared in the north near Zouerate (2244N/1221W) and Bir Moghreïn (2510N/1135W). In the south, scattered immature adults persisted north of Aioun El Atrous (1639N/0936W). Ground teams treated 4,922 ha in December.

• FORECAST

Unless further rains fall, breeding and locust numbers will decline in the centre, northwest and the north. Nevertheless, low numbers of locusts will persist and could concentrate in a few areas to form small groups. The risk of adults arriving from the northern Sahel will diminish during the forecast period.

Mali

• SITUATION

Although surveys were not carried out in December, there was an unconfirmed report of mature adults in the central part of the Adrar des Iforas on the 12th.

• FORECAST

Scattered adults and perhaps a few small groups may remain in parts of the Adrar des Iforas and Tamesna. Low temperatures will delay locust maturation and limit migration. Nevertheless, a few

small groups could move northwards during periods of warm southerly winds.

Niger

• SITUATION

During December, solitary and *transiens* hoppers and immature and mature adults continued to form small groups, at up to 20 hoppers/m² and 50,000 adults/ha, in vegetation that remained green in Tamensa, the Air Mountains, and an immature swarm was reported in the southeast near Ngourti (1519N/1312E) and the Chad border. However, locust densities declined throughout the month and, by the end of December, only scattered hoppers and adults up to 2,100 adults/ha were reported. Scattered immature and mature solitary adults were present in the pasture areas between Filingué (1421N/0319E) and Abalak (1522N/0621E). Ground teams treated 12,875 ha in December.

• FORECAST

Locust numbers will continue to decline in Tamesna, the Air Mountains, central areas, and in the southeast. Nevertheless, low numbers of locusts will persist and could form a few small groups in the Air Mountains and, to a lesser extent, in Tamesna. A few small groups could move northwards during periods of warm southerly winds.

Chad

• SITUATION

Locust numbers declined in the north and northeast during December. Scattered mature solitary and gregarious adults persisted between Arada (1501N/2040E), Faya (1756N/1907E), Gouro (1932N/1933E) and Fada (1714N/2132E). No locusts were reported at the end of the month.

• FORECAST

Locust infestations will continue to decline. No significant developments are likely.

Senegal

• SITUATION

No reports were received during December.

• FORECAST

No significant developments are likely.

Benin, Burkina Faso, Cameroon, Cape Verde, Côte d'Ivoire, Gambia, Ghana, Guinea, Guinea Bissau, Liberia, Nigeria, Sierra Leone and Togo

• FORECAST

No significant developments are likely.

Algeria

• SITUATION

During December, locust numbers increased slightly in the central and southern Sahara. Control

teams treated 6 ha of scattered immature and mature solitary adults that were laying eggs near irrigated crops in the Adrar (2753N/0017W) area. In the south, teams treated 286 ha of hopper and egg-laying adult groups near the Niger border southwest of In Guezzam (1937N/0552E) and mature adult groups on the Mali border near Tin Zaouatene (1957N/0258E). Scattered mature adults were present in the southeast near Djanet (2434N/0930E). No locusts were seen in the west near Tindouf (2741N/0811W).

• FORECAST

Small-scale breeding will cause locust numbers to increase slightly in central and southern Sahara but low temperatures will delay locust maturation. During periods of warm southerly winds, there is a moderate risk of a few small groups of adults arriving from infestations that remain in the northern Sahel.

Morocco

• SITUATION

During December, small groups of *transiens* adults, up to 5,000 adults/ha, laid eggs that hatched in the Adrar Settouf area of southern Western Sahara near Ma'Tallah (2223N/1502W) where small groups of hoppers and immature adults were reported. Control teams treated 2,582 ha in December. Scattered solitary hoppers and adults were seen further north near Guelta Zemmur (2508N/1222W), and a few mature solitary adults were present in northeast Western Sahara near Smara (2644N/1140W). Scattered solitary adults persisted and continued to mature south of the Atlas Mountains in Oued Draa from Tan-tan (2826N/1106W) to east of Tata (2944N/0758W) and along the Algerian border between Zagora (3019N/0550W) and Figuig (3207N/0113W) in the northeast.

• FORECAST

Small-scale breeding will cause locust numbers to increase in the Western Sahara where small hopper groups and bands could form, giving rise to adult groups. Low temperatures will delay locust maturation along the southern side of the Atlas Mountains and in Oued Draa. The risk of small groups and swarms arriving from the northern Sahel will decline during the forecast period.



No. 411

DESERT LOCUST BULLETIN



No. 411

DESERT LOCUST BULLETIN

Libya

• SITUATION

During December, scattered immature solitary adults were present in the southwest at the Barjoug Agricultural Project (2601N/1258E) and persisted at several places northwest of Ghat (2459N/1011E).

• FORECAST

Low numbers of adults will slowly mature in the southwest and eventually breed in areas of recent rainfall. During periods of warm southerly winds, a few groups of adults and small swarms could arrive in western and central areas from infestations that remain in the northern Sahel.

Tunisia

• SITUATION

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

• FORECAST

No significant developments are likely.

CENTRAL REGION

Sudan

• SITUATION

By the second week of December, locust numbers had declined in the summer breeding areas of the interior where only 100 ha of immature groups of gregarious adults were treated near Shendi (1641N/3322E). In the winter breeding areas, adult groups and small swarms laid eggs throughout the month in the northeast in Wadi Oko/Diib north of Tomala (2002N/3551E) and on the Red Sea coastal plains north of Mohamed Qol (2054N/3709E) to the Egyptian border. Hatching occurred and early instar hopper bands formed in all areas. Control teams treated 5,565 ha in December. Elsewhere, scattered immature and mature solitary adults were seen along the coast between Port Sudan (1938N/3713E) and Suakin (1906N/3719E), and near Karora (1745N/3820E) and the Eritrean border. Adult groups were laying eggs near Tokar Delta (1827N/3741E).

• FORECAST

Moderate-scale breeding will cause locust numbers to increase on the northern Red Sea coast and in subcoastal areas where hopper bands and small swarms will form. Breeding will also occur along the central and southern coastal plains where small groups could form.

Eritrea

• SITUATION

A late report indicated that no surveys were carried out and no locusts were reported during November. No reports were received in December.

• FORECAST

Scattered adults are likely to appear along the Red Sea coast between the Sudanese border and Massawa, and breed on a small scale in areas that receive rainfall or runoff during the forecast period.

Ethiopia

• SITUATION

No locusts were seen during surveys carried out in the east (Somali region) during December.

• FORECAST

No significant developments are likely.

Djibouti

• SITUATION

No reports were received during December.

• FORECAST

No significant developments are likely.

Somalia

• SITUATION

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

• FORECAST

Isolated adults may appear in areas of recent rainfall on the northwest coast and breed on a small scale if more rains occur.

Egypt

• SITUATION

During the first week of December, groups of immature *transiens* and gregarious adults moved north in the Western Desert, appearing in Dakhla (2530N/2900E), Abu Mingar (2630N/2740E) and Farafra (2710N/2818E) oases. Scattered immature adults were present near Abu Simbel (2219N/3138E) and Tushka (2247N/3126E). Low to high-density mature adult groups and more than a dozen small mature swarms laid eggs on the Red Sea coastal plains from north of Berenice (2359N/3524E) to the Sudanese border. High-density adult groups were seen laying eggs in the Red Sea Hills west of Berenice. Hatching and band formation commenced during the second week and, by the end of the month, hoppers had reached third instar. Ground teams treated 6,894 ha in December.

• FORECAST

Moderate-scale breeding will cause locust numbers to increase on the Red Sea coast from south of Marsa Alam to the Sudanese border where hopper bands and small swarms will form.

Saudi Arabia

• SITUATION

During December, locust numbers increased on the northern Red Sea coast between Rabigh (2247N/3901E) and Bader (2346N/3847E) as a result of egg laying and hatching that occurred in late November and early December. Consequently, dozens of first to fourth instar hopper groups and very small bands, up to 1,500 m² in size, formed in December. Scattered immature and mature solitary, *transiens* and gregarious adults and a few small groups were also reported. Control teams treated 1,363 ha of which 1,000 ha were sprayed by air. Elsewhere, scattered immature and mature solitary adults were seen near Yenbo (2405N/3802E) and on the central coast near Lith (2008N/4016E). No locusts were seen in the interior.

• FORECAST

Moderate-scale breeding will cause locust numbers to increase further on the northern Red Sea coast where groups, hopper bands and small swarms will form. Breeding and infestations are expected to extend to central and southern coastal areas.

Yemen

• SITUATION

During the last week of December, isolated immature solitary adults were present on the Red Sea coast near Midi (1619N/4248E) in the north and near Bayt Al Faqih (1430N/4317E) in the centre. Isolated immature adults were also seen on the Gulf of Aden coastal plains northwest of Aden (1250N/4503E).

• FORECAST

Low numbers of adults will persist in the winter breeding areas on the Red Sea and Gulf of Aden coast and breed on a small scale in areas that receive rainfall.

Oman

• SITUATION

During December, no locusts were seen during surveys carried out on the Musandam Peninsula.

• FORECAST

No significant developments are likely.

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

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

No locusts were seen during surveys on the southeastern coast near Jask (2540N/5746E) and west of Chabahar (2517N/6036E) during December.

• FORECAST

Low numbers of adults may appear in a few areas on the southeastern coastal plains at the end of the forecast period. No significant developments are likely.

Pakistan

• SITUATION

No locusts were reported during December.

• Forecast

Low numbers of adults may appear in a few areas on the coast of Baluchistan at the end of the forecast period. No significant developments are likely.

India

• SITUATION

No locusts were seen during surveys carried out in December.

• 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.



No. 411

DESERT LOCUST BULLETIN



No. 411

DESERT LOCUST BULLETIN

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.

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://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>)
- **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>)

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
- **Sahel crisis.** Information Section
- **28th session of SWAC final report.** Publications Section – Reports

2013 events. The following activities are scheduled or planned:

- **EMPRES/WR.** 11th Liaison Officer Meeting, Dakar, Senegal (21-25 January)
- **EMPRES/WR.** 8th Steering Committee Meeting, Dakar, Senegal (28-29 January)
- **CLCPRO/EMPRES-RO.** Western Region Locust information officers workshop, Agadir, Morocco (11-14 March)
- **CRC/SWAC.** Inter-regional Locust information officers workshop, Cairo, Egypt (22-25 April)



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.



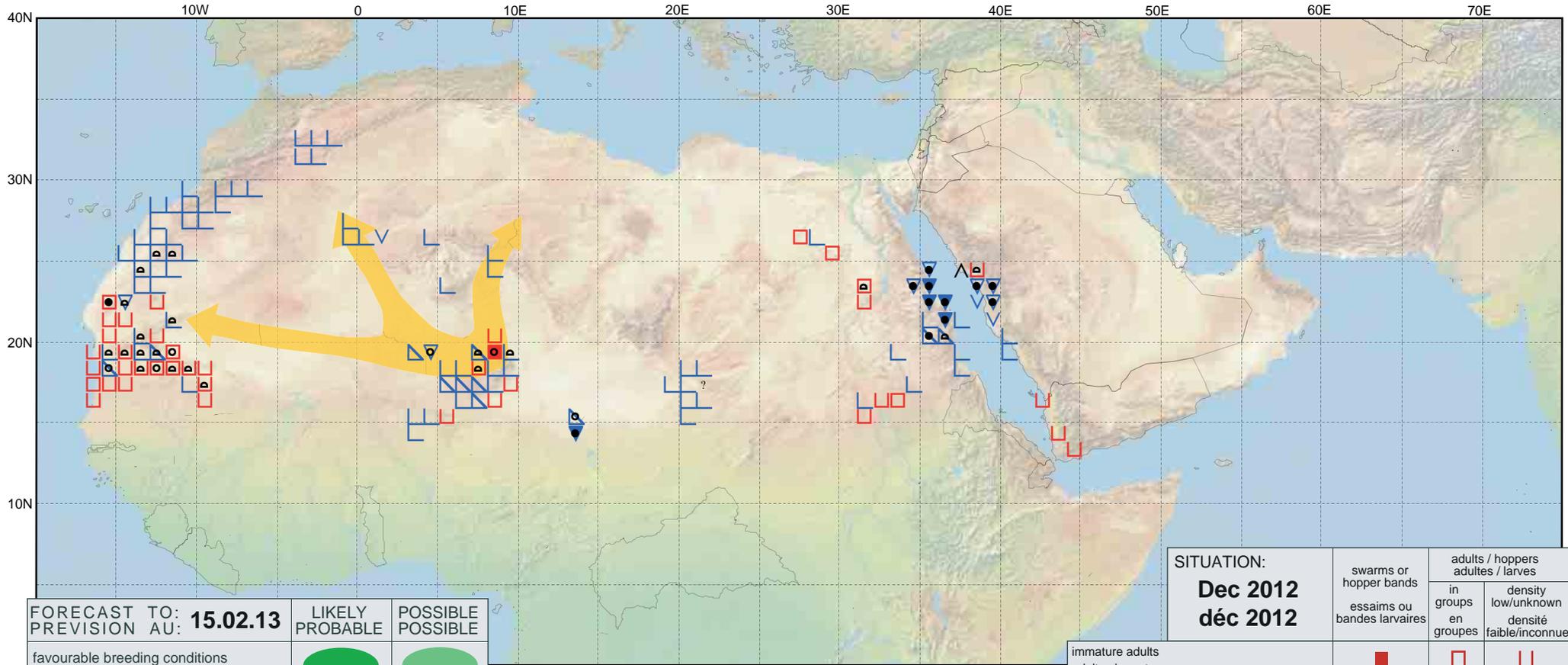
No. 411



Desert Locust Summary

Criquet pèlerin - Situation résumée

411



FORECAST TO: PREVISION AU:	15.02.13	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: Dec 2012 déc 2012	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			
larves			
hoppers & adults (combined symbol example) larves et adultes (exemple symboles combinés)			