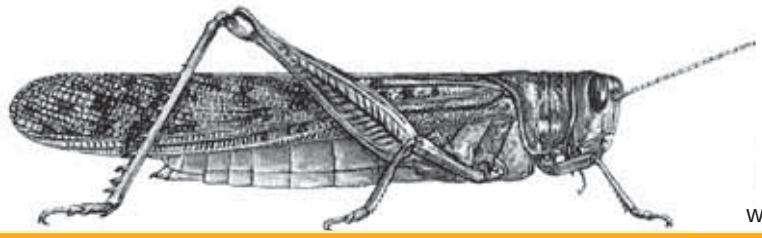

warning level: **THREAT**

DESERT LOCUST BULLETIN

FAO Emergency Centre for Locust Operations

No. 409

(5 Nov 2012)

General Situation during October 2012
Forecast until mid-December 2012

The Desert Locust situation remained serious during October as second-generation hoppers formed bands in Niger and Chad, and adults formed small swarms in Chad. A similar situation is likely in northern Mali but could not be confirmed due to insecurity. Although control operations undertaken in Niger and Chad have reduced locust numbers, there remains a high risk that additional adult groups and small swarms will form in November and migrate to Northwest Africa and northwest Mauritania. A decline in swarm reports in Chad at the end of October suggests that migration may have already commenced in a few places. Local breeding caused locust numbers to increase in western Mauritania where small groups of hoppers and adults were treated. In the Central Region, control operations were carried out against hopper bands in central Sudan. Winter breeding is expected to commence on a limited scale along both sides of the Red Sea during the forecast period.

Western Region. A second generation of breeding continued during October in northern **Niger** and **Chad**, causing locust numbers to increase further in both countries. National teams treated nearly 1,800 ha of hopper bands and swarms in Chad, and more than 7,500 ha of hopper bands and groups of hoppers and adults in Niger. The locust situation in northern **Mali** is probably similar to that in Niger and Chad but it remains unclear because survey and control teams cannot access the area due to insecurity. During November, more adult groups and small swarms are expected to form in the three countries and migrate northwards to **Libya** and **Algeria**, as well as west towards northwest **Mauritania** where small-scale breeding is already in progress and nearly 3,000 ha of hopper and adult groups were treated in October. There is a moderate risk that some locusts could reach the **Western Sahara** where local breeding is underway and western Algeria. Elsewhere, low numbers of adults were present in central, southern and southeastern Algeria and in northeast **Morocco**.

Central Region. Small-scale breeding continued during October in the interior of **Sudan** where control operations were carried out against small hopper bands and groups of hoppers and adults. Low numbers of adults moved from the summer breeding areas in Sudan to the winter breeding areas in the northeast and along the Red Sea coast of the country. Isolated adults were present in southern **Egypt** and on the Red Sea coast of **Yemen**. During the forecast period, small-scale breeding will commence on the coastal plains along both sides of the Red Sea, primarily in Sudan and, to a lesser extent, in Egypt, **Eritrea**, **Saudi Arabia** and Yemen in those areas that receive rainfall. No locusts were reported elsewhere in the region.

Eastern Region. Low numbers of solitarious adults persisted along the Indian border in **Pakistan** and in a few places in Rajasthan, **India** during October. 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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No. 409

DESERT LOCUST BULLETIN

Weather & Ecological Conditions in October 2012

Although seasonal rains ended and vegetation started to dry out in the Sahel of West Africa and Sudan, ecological conditions remained favourable in many areas during October.

In the **Western Region**, the Inter-Tropical Convergence Zone (ITCZ) continued its southern retreat during October, reaching about 15N over Mauritania and Mali, and 13N over Niger and Chad by the end of the month. Consequently, only light shower fell in a few places of the summer breeding areas during the first two decades of the month, mainly in southeastern Mauritania between Aioun El Atrous and Nema, in northeast Mali between Gao, Menaka and Tin Essako, in northern Niger on the Tazerzait Plateau and the northern Tamesna Plains, and in southern Algeria along the border with Mali near Bir Bou Mokhtar. Ecological conditions remained favourable for breeding in northern Mali, Niger and Chad but annual vegetation started to dry out in many places as the month progressed. No rain fell in the last decade but vegetation was still green in parts of southeastern Mauritania east of Nema, in the Adrar des Iforas in northern Mali and adjacent areas in southern Algeria, on the Tamesna Plains in Mali and Niger, in the Air Mountains in Niger, and near Fada in northeastern Chad. Breeding conditions improved in central and northwest Mauritania between Tidjikja and Akjoujt and in the Western Sahara.

In the **Central Region**, the ITCZ continued to move south over the summer breeding areas in the interior of Sudan during October. By the end of the month it had reached South Darfur and Southern Kordofan. Light rain fell early in the month in West Darfur and in central areas between Umm Saiyala, Ed Dueim, Khartoum and the Atbara River. Vegetation was drying out in most places except for northwest of Khartoum. In the winter breeding areas, vegetation was becoming green in the Tokar Delta, Sudan and near Jizan, Saudi Arabia but remained dry elsewhere along both sides of the Red Sea. In the Horn of Africa, heavy rains fell at the end of the month on the northwest coast of Somalia between Berbera and Lughaye. Good rains also fell in the Ogaden of eastern Ethiopia between Warder and the Somali border.

In the **Eastern Region**, no significant rain fell in the summer breeding areas along both sides of the Indo-Pakistan during October. Light showers fell during the second decade of the month in the spring breeding areas of Baluchistan in western Pakistan between Turbat and Panjgur, extending to the Zaboli Valley in southeast Iran. Nevertheless, ecological conditions remained unfavourable for breeding.

Area Treated

Chad	1,777 ha (October)
Mauritania	2,905 ha (5-24 October)
Niger	7,574 ha (October)
Sudan	1,804 ha (1-21 October)

Desert Locust Situation and Forecast

(see also the summary on page 1)

WESTERN REGION

Mauritania

• **SITUATION**

During October, locust numbers declined in the south and southeast as breeding ended in most areas except near Oualata (1717N/0701W) and Tamchekket (1714N/1040W) where hoppers and adults formed small groups, and as adults moved to the centre and northwest. Consequently, locust numbers increased in Tagant, northern Brakna, Trarza, southwest Adrar and southern Inchiri where small-scale breeding was underway and solitarious hoppers of all instars were present and forming groups in a few places. Mature adults also formed small groups and were laying eggs near Tidjikja (1833N/1126W), south of Akjoujt (1945N/1421W) in the northern Aouker, and on the coast south of Nouakchott (1809N/1558W). Ground teams treated 2,905 ha from 5 to 24 October.

• **FORECAST**

Small-scale breeding will cause locust numbers to continue to increase in Trarza, northern Brakna, western Tagant, Inchiri, Dakhlet Nouadhibou and southwest Adrar. Small groups of hoppers and adults may form in some areas. Infestations could also extend further north in Inchiri and Tiris-Zemmour. There is a high risk of small groups and swarms arriving in these areas from the northern Sahel during November.

Mali

• **Situation**

During October, no locusts were seen during surveys in western and central areas between Kayes (1426N/1128W) and Mopti (1430N/0415W), except for isolated immature solitarious adults near Mopti. The situation in the north remains unclear because surveys could not be carried out due to insecurity.

• **Forecast**

Groups of adults and small swarms are likely to form in the Adrar des Iforas and Tamesna during November as vegetation continues to dry out. Most of the adults are expected to migrate to the northwest, north and northeast while a few residual populations could persist in those areas that remain green in the northeast.

Niger

• **Situation**

A second generation of egg-laying and hatching occurred during October in the Air Mountains, the Tamesna Plains and, to a lesser extent, north of Tahoua (1457N/0519E), in the pasture areas between Tanout (1458N/0852E) and Agadez (1700N/0756E), in the southern Ténéré near Fachi (1806N/1134E), and in the southeast near Ngourti (1519N/1312E) and the Chad border. This caused locust numbers to increase and, as vegetation dried out, hoppers and adults formed small groups. A few hopper bands formed near Tanout and Arlit (1843N/0721E), and in the western Air Mountains. Ground teams treated 7,574 ha during October.

• **Forecast**

Groups of adults and small swarms are likely to form during November in Tamesna, the Air Mountains and, to a lesser extent, near Tahoua and Tanout as vegetation continues to dry out. Most of the adults are expected to migrate to the northwest, north and northeast while a few residual populations could persist in those areas that remain green in Tamesna and Air.

Chad

• **Situation**

During October, second-generation hoppers and adults formed groups, hopper bands and immature swarms in southern BET and northeast Kanem near Beurkia (1523N/1800E) and in northeastern BET near Fada (1714N/2132E). Hopper band densities reached 150 hoppers/m^2 and swarms up to 9 km^2 in size were reported. Some of the swarms near Fada were maturing after mid-month and, by the end of the month, fewer and fewer swarms were reported, perhaps indicating that migration had commenced. Ground teams treated 1,777 ha during October.

No locusts were seen in Kanem southeast of Mao (1406N/1511E).

• **Forecast**

Locust infestations will decline as vegetation dries out and adults form small groups and swarms that will migrate towards the northwest in the coming weeks. Thereafter, only a few residual populations may persist in those areas that remain green in the northeast.

Senegal

• **Situation**

No surveys were carried out and no locusts were reported in 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 and mature solitarious adults were present in the extreme south near the Mali border and Timeiaouine (2026N/0148E), in the central Sahara between In Salah (2712N/0229E) and Adrar (2753N/0017W), and south of the Tassili Ajjer Mountains near Djanet (2434N/0930E) in the southeast.

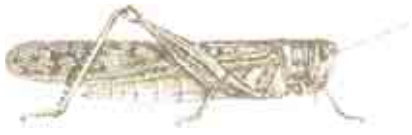
• **Forecast**

During November, groups of adults and small swarms are likely to arrive in the southern and central Sahara from current infestations in the northern Sahel. There is a moderate risk that some adults could reach areas of recent rainfall in the west of the country.

Morocco

• **Situation**

During October, scattered immature and mature solitarious adults were present in southern and central Western Sahara from Bir Gandouz (2136N/1628W) and Tichla (2137N/1453W) to Bir Anzarane (2353N/1431W), as well as in the northeast near Haouza (2707N/1112W). Small-scale breeding occurred in the south and near Guelta Zemmur (2508N/1222W) where late instar hoppers were present. Isolated immature and mature solitarious



adults were present south of the Atlas Mountains in the northeast near the Algerian border between Figuig (3207N/0113W) and Erfoud (3128N/0410W).

• **Forecast**

During November, there is a moderate risk that groups of adults and small swarms could arrive in areas of earlier rainfall in the Western Sahara from current infestations in the northern Sahel. If more rains fall, the adults will mature and breed.

Libya

• **Situation**

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

• **Forecast**

During November, groups of adults and small swarms are likely to arrive in the southwest and perhaps in central areas from current infestations in the northern Sahel.

Tunisia

• **Situation**

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

• **Forecast**

No significant developments are likely.

CENTRAL REGION

Sudan

• **Situation**

During October, small-scale breeding was detected in Northern Kordofan near Abu Uruq (1554N/3027E) where hoppers and adults were forming groups, and in the Baiyuda Desert northwest of Shendi (1641N/3322E). Breeding continued northwest of Khartoum near Wadi Muqaddam where groups of adults were laying eggs and hoppers were forming small groups and bands. Control teams treated 1,804 ha from 1 to 21 October. Scattered mature solitarious adults persisted in Northern Kordofan near Sodiri (1423N/2906E) and Umm Saiyala (1426N/3112E) and in the Northern State near Dongola (1910N/3027E). From mid-month onwards, an increasing number of mature solitarious adults appeared on the western side of the Red Sea Hills near Haiya (1820N/3621E) as well as in the winter breeding areas in the northeast near Tomala (2002N/3551E) and Wadi Oko, and in the Tokar Delta on the Red Sea coast.

• **Forecast**

Small groups of adults are likely to form in parts of the summer breeding area and move to the winter breeding areas in the northeast and along the Red Sea coast. Upon arrival, the adults will mature and lay eggs in those areas that receive rainfall. Consequently, small-scale hatching is expected to cause locust numbers to increase slightly in the winter breeding areas during the forecast period.

Eritrea

• **Situation**

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

• **Forecast**

Low numbers of solitarious adults may appear in the winter breeding areas along the central and northern Red Sea coast. Small-scale breeding will occur in those areas that receive rainfall during the forecast period.

Ethiopia

• **Situation**

During October, no locusts were seen during surveys carried out between Dire Dawa (0935N/4150E) and Djibouti.

• **Forecast**

No significant 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**

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

Egypt

• **Situation**

During October, scattered immature solitarious adults were seen near Tushka (2247N/3126E) and Abu Simbel (2219N/3138E). No locusts were seen during surveys on the northwest coast of the Mediterranean near Salum (3131N/2509E) or on the Red Sea coast between Shalatyn (2308N/3535E) and the Sudanese border.

• **Forecast**

Low numbers of adults may appear in the winter breeding areas on the Red Sea coast between

Shalatyn and the Sudanese border and breed on a small scale if rainfall occurs.

Saudi Arabia

• **SITUATION**

No locusts were seen in October during surveys undertaken on the northern Red Sea coast near Yenbo (2405N/3802E).

• **FORECAST**

Low numbers of adults may appear in the winter breeding areas on the Red Sea coast and breed on a small scale if rainfall occurs.

Yemen

• **SITUATION**

During October, an isolated mature adult was seen on the central Red Sea coast near Al Qutai (1454N/4312E). No locusts were seen on the northern coast between Al Zuhrah (1541N/4300E) and Suq Abs (1600N/4312E).

• **FORECAST**

Low numbers of adults may appear in the winter breeding areas on the Red Sea coast and breed on a small scale if rainfall occurs.

Oman

• **SITUATION**

During October, no locusts were seen during surveys carried out in the north near Nizwa (2255N/5731E) and 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 locusts were seen during surveys on the southeastern coastal plains between Jask (2540N/5746E) and the Pakistani border, and in the southwestern part of the Jaz Murian Basin in the interior during October.

• **FORECAST**

No significant developments are likely.

Pakistan

• **SITUATION**

During October, isolated mature adults persisted along the Indian border in the Khairpur and Cholistan deserts from east of Rohri (2739N/6857E) to southeast of Bahawalpur (2924N/7147E). No locusts were seen in Tharparkar. A few adults were also present west of Karachi near Uthal (2548N/6637E).

• Forecast

Locust numbers will decline in Cholistan and Khairpur as vegetation dries out. No significant developments are likely.

India

• **SITUATION**

During the first fortnight of October, mature solitarious adults were seen at three places near the Rajasthan Canal and the Pakistani border. Copulating adults were seen at one of these places.

No reports or data were received for the second fortnight of October.

• **FORECAST**

Locust numbers will decline in Rajasthan as vegetation dries out. No significant developments are likely.

Afghanistan

• **SITUATION**

No reports received.

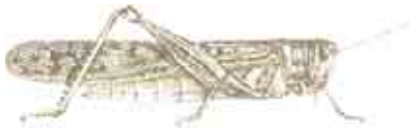
• **FORECAST**

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/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.devcocast.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
- **Photos of Sahel crisis.** Archives Section – Outbreaks

Sahel locust threat. An updated information package explains the current threat to the Sahel in West Africa by Desert Locust. It is available at: http://www.fao.org/ag/locusts/en/info/2002/index.html.

2012-13 events. The following activities are scheduled or planned:

- **CRC.** 28th Session, Jeddah, Saudi Arabia (24-28 November)
- **SWAC.** 28th Session, New Delhi, India (5-7 December)
- **EMPRES/WR.** 11th Liaison Officer Meeting, Dakar, Senegal (21-25 January)
- **EMPRES/WR.** 8th Steering Committee Meeting, Dakar, Senegal (28-29 January)

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 km^2 • band: 1 - 25 m^2

SMALL

- swarm: 1 - 10 km^2 • band: 25 - 2,500 m^2

MEDIUM

- swarm: 10 - 100 km^2 • band: 2,500 m^2 - 10 ha

LARGE

- swarm: 100 - 500 km^2 • band: 10 - 50 ha

VERY LARGE

- swarm: 500+ km^2 • 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

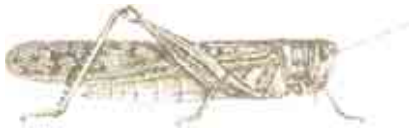
- locust-affected countries in West and North-West Africa: Algeria, Chad, Libya, Mali, Mauritania, Morocco, Niger, Senegal, Tunisia; during plagues only: Burkino Faso, Cape Verde, Gambia, Guinea and Guinea-Bissau.

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.

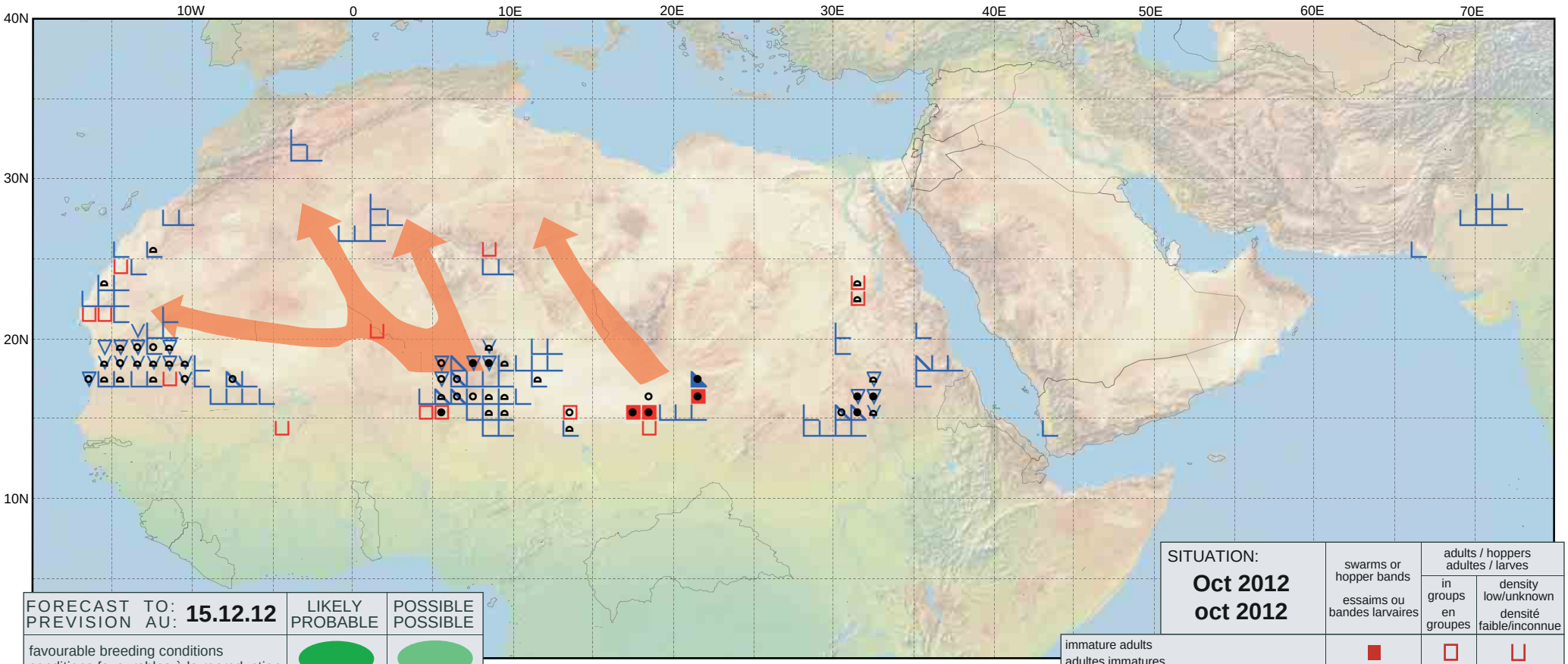
EASTERN

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



Desert Locust Summary
Criquet pèlerin - Situation résumée

409



FORECAST TO: / PREVISION AU: **15.12.12**	LIKELY PROBABLE	POSSIBLE POSSIBLE
favourable breeding conditions conditions favourables 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 2012** **oct 2012**	swarms or hopper bands essaims ou bandes larvaires	adults / hoppers adultes / larves: in groups en groupes	adults / hoppers adultes / larves: 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)	◘	◙	⌂