

warning level: **THREAT**

DESERT LOCUST BULLETIN

FAO Emergency Centre for Locust Operations



No. 408



**General Situation during September 2012
Forecast until mid-November 2012**

(2 Oct 2012)

The Desert Locust situation remained serious during September as a second generation of breeding commenced in northern Mali, Niger and Chad. This will cause locust numbers to increase further. As vegetation dries out, hopper bands and swarms are likely to form. From mid-October onwards, there is an increasing risk that adult groups and small swarms will move out of the Sahel and into Northwest Africa and, to a lesser extent, into cropping areas in Mali and Niger. The situation is further compounded by insecurity in northern Mali and in parts of northern Niger. Surveys should be maintained in all affected countries and control operations carried out when appropriate in order to reduce locust numbers and the potential threat to crops and pastures. All countries in the region should remain on high alert. Elsewhere, locusts were concentrating in parts of Sudan while monsoon rains ended along the Indo-Pakistan border where the situation remains calm.

Western Region. A second generation of breeding commenced in early September in northern Mali, Niger and Chad. Hoppers and adults formed small groups in northeast Mali, groups of adults were present in central Niger, and small hopper bands formed in northeast Chad. Control teams treated 626 ha in Chad. Small-scale breeding occurred in southeast Mauritania and started in the west. Relatively large numbers of locusts are thought to be

scattered throughout a large portion of the northern Sahel. During the forecast period, locust numbers will increase further as breeding continues. As vegetation dries out, the scattered locusts will concentrate, hoppers will form small groups and bands while adults will form groups and small swarms that are likely to migrate from late October onwards towards southwest and central Libya, southern and central Algeria and northwest Mauritania. Some locusts could reach areas of recent rainfall in the Western Sahara and western Algeria while others could move into cropping areas in Mali and Niger.

Central Region. Small-scale breeding during September caused locust numbers to increase in the summer breeding areas of the interior of Sudan where they were scattered over a large area between Darfur and the Red Sea Hills. By the end of the month, small groups and one small swarm formed to the northwest of Khartoum, and control teams treated 41 ha. As vegetation dries out during the forecast period, locusts will continue to concentrate and are likely to form additional groups. Therefore, intensive surveys should be maintained in all areas. No locusts were reported elsewhere in the Region, except for a few adults on a farm in the interior of Saudi Arabia.

Eastern Region. Low numbers of solitary adults persisted in a few places along both sides of the border in Rajasthan, India and in adjacent areas in Pakistan during September where small-scale breeding occurred. As the monsoon rains ended in mid-September, locust numbers will decline as vegetation dries 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 September 2012

Good rains continued to fall in much of the summer breeding areas of the Sahel from Mauritania to Eritrea where conditions remained favourable for breeding. The monsoon rains came to an end along the Indo-Pakistan border at mid-month.

In the **Western Region**, the Inter-Tropical Convergence Zone (ITCZ) began its southern retreat in early September but then pushed anomalously northward again during the second decade of the month, up to 300 km further north than usual, before moving southwards again in the last decade. Strong southerly winds were associated with the northward movement, resulting in late and above-average rains across Mauritania, central and northern Mali, and in parts of Niger and Chad during the first three weeks of the month. Thereafter, very little rain fell except in southeast Mauritania. Consequently, ecological conditions remained extremely favourable for breeding throughout southern and central Mauritania, in northern Mali (Adrar des Iforas, Tamesna), northern and central Niger (Tamesna, Air, pasture areas), and in central and eastern Chad (Kanem, Batha, Biltine). Unusually favourable conditions developed in northeast Chad along the southern side of the Ennedi Plateau and in parts of the Mourdi Depression. Vegetation started to dry out in a few places of southeastern Mauritania after mid-month but was becoming green in the west (Trarza). In Northwest Africa, widespread light to moderate showers, associated with Tropical Storm Nadine located west of the Canary Islands, fell over Western Morocco and southern Morocco on 22-24 September, extending to north and northwest Mauritania. The heaviest rainfall occurred in the central Western Sahara. Good rains also fell in western Algeria and near the Niger border at In Guezzam (45 mm).

In the **Central Region**, good rains continued to fall during September in the summer breeding areas of the interior in Sudan south of 15N. The rains extended to 18N over eastern Sudan and the western lowlands in Eritrea. Consequently, ecological conditions remained favourable for breeding in Northern Darfur,

Northern Kordofan, River Nile, Northern and Kassala States in Sudan, and in western Eritrea. Vegetation was becoming green in Khartoum State. Light to moderate rains fell on the Red Sea coast in Yemen as well as in eastern Ethiopia, extending to the plateau in northern Somalia.

In the **Eastern Region**, light to moderate rains associated with the seasonal monsoon fell over most parts of Rajasthan, India and in adjacent areas of Tharparkar, Khairpur and Cholistan deserts in Pakistan during the first half of September. Thereafter, the monsoon withdrew towards the southeast and no significant rain fell. Nevertheless, vegetation remained green and ecological conditions were favourable for small-scale breeding in both countries.



Area Treated

Chad	626 ha (September)
Sudan	41 ha (September)



Desert Locust Situation and Forecast

(see also the summary on page 1)

WESTERN REGION

Mauritania

• SITUATION

During September, small-scale breeding continued in the southeast from north of Aioun El Atrous (1639N/0936W) to east of Nema (1636N/0715W) where low numbers of solitary hoppers of mainly late instars and immature and mature adults were present. Further west, locust numbers increased slightly as adults appeared in Kiffa, western Tagant, northern Brakna and eastern Trarza. Solitary hoppers of all instars were present near Tidjikja (1833N/1126W) and Moudjeria (1752N/1219W) where small-scale laying occurred during the second half of August and early September. Breeding was reported southeast of Aguilal Faye (1827N/1444W) in the Aouker of Trarza at mid-month and at the end of the month in Inchiri, southeast of Akjoujt (1945N/1421W), and in southwest Adrar.

• FORECAST

Locust numbers will decline in the southeast but increase in the west (Trarza, northern Brakna, western Tagant) and northwest (Inchiri, Dakhlet Nouadhibou, southwest Adrar) as adults arrive from the southeast and small-scale breeding occurs. There is an increasing risk of small groups and swarms arriving in these areas from northern Mali after mid-October.

Mali

• SITUATION

During September, solitary adults were maturing in the northeast between Kidal (1827N/0125E) and Tin Essako (1826N/0229E) in the southern Adrar des Iforas and on the Tamesna Plains between Tin Essako and the Niger border. Adult densities increased from 400 adults/ha during the first decade of the month to 5,000 adults/ha in the second decade, and an increasing number of infestations were found in the Tamesna where a second generation of egg-laying had commenced earlier in the month. First generation solitary and *transiens* hoppers of all instars and maturing adults formed small groups in at least one location in the Tamesna by mid-month. No locusts were seen during surveys in central and western areas near Mopti (1430N/0415W), Nara (1510N/0717W), Niore (1512N/0935W) and Kayes (1426N/1128W).

• FORECAST

A second generation of breeding will continue in Tamesna and probably in parts of the Adrar des Iforas, causing locust numbers to increase. Hoppers will be present during October with fledging likely to commence after mid-month and continue into November. As vegetation dries out, hoppers will concentrate and form small groups and bands while adults will form groups and small swarms that are likely to migrate mainly towards the north and northwest while a few could move to central and western Mali.

Niger

• SITUATION

During September, first generation solitary adults continued to mature between Tanout (1458N/0852E) and Agadez (1700N/0756E), between Tahoua (1457N/0519E) and Filingué (1421N/0319E), and north of Diffa (1318N/1236E) near the Chad border. A second generation of breeding commenced early in the month south of Agadez and In Gall (1651N/0701E). By mid-month, egg-laying was reported west of Tahoua where groups of immature and mature adults were present. No locusts were seen south of Tahoua and Filingué or near Zinder (1346N/0858E). No surveys were carried out during the last decade of the month.

• FORECAST

A second generation of breeding will continue in central pasture areas, on the Tamesna Plains and perhaps in parts of the Air Mountains, causing locust numbers to increase. Hoppers will be present during October with fledging likely to commence after mid-month and continue into November. As vegetation dries out, hoppers will concentrate and form small groups and bands while adults will form groups and

small swarms that are likely to migrate mainly towards the north and northwest while a few could move south towards cropping areas. Surveys should resume in all areas.

Chad

• SITUATION

During September, first generation solitary hopper of all instars and adults continued to mature mainly between Arada (1501N/2040E) and Fada (1714N/2132E) in Biltine and eastern BET and, to a lesser extent in northeast Kanem, northwest Batha and southern BET from Salal (1448N/1712E) to north of Beurkia (1523N/1800E). Locals reported seeing small mature swarms northeast of Beurkia near Kouba Oulanga (1545N/1818E) and north of Fada on the southwestern edge of the Mourdi Depression during the first week. At the same time, a second generation of breeding commenced and solitary adults and groups of *transiens* adults laid eggs that started hatching by the 20th. From mid-month onwards, there were an increasing number of small hopper bands, at densities up to nearly 200 hoppers/m², seen in the Fada area.

• FORECAST

A second generation of breeding will continue in BET, Biltine, Kanem and Batha, causing locust numbers to increase. Hoppers will be present during October with fledging likely to commence after mid-month and continue into November. As vegetation dries out, hoppers will concentrate and form small groups and bands while adults will form groups and small swarms that are likely to migrate towards the northwest.

Senegal

• SITUATION

Isolated mature solitary adults were seen in the north between Richard Toll (1626N/1541W) and Dagana (1631N/1530W) on 14-18 September.

• 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.



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Algeria

• SITUATION

During September, immature solitary adults were seen in the extreme south near the Mali border and Timeiaouine (2026N/0148E), while both immature and mature adults were present near the Niger border and In Guezzam (1937N/0552E).

• FORECAST

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

Morocco

• SITUATION

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

• FORECAST

From late October onwards, there is a low to moderate risk that small groups of adults and swarms could arrive in areas of recent rainfall in the Western Sahara from current infestations in the northern Sahel. If more rains fall, the adults will eventually mature and breed.

Libya

• SITUATION

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

• FORECAST

From late October onwards, small groups of adults and 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 September.

• FORECAST

No significant developments are likely.

CENTRAL REGION

Sudan

• SITUATION

During September, scattered mature solitary

adults were present in Northern Kordofan between Hamrat Esh Sheikh (1438N/2756E) and Umm Saiyala (1426N/3112E), in Khartoum State, along the Nile River near Atbara (1742N/3400E), Abu Hamed (1932N/3320E), Merowe (1830N/3149E) and Dongola (1910N/3027E) in River Nile and Northern States. Small-scale breeding was detected along the Atbara River in Kassala State and in Red Sea State on the western side of the Red Sea Hills near Derudeb (1731N/3607E) and Haiya (1820N/3621E). At the end of the month, hoppers and mature adults formed small groups in Wadi Muqaddam area about 75 km northwest of Khartoum, and adults were laying eggs. One small mature swarm was seen nearby in Qoz Abu Dulu. Control teams treated 41 ha.

• FORECAST

Small-scale breeding will cause locust numbers to increase in parts of West and North Darfur, Northern Kordofan, River Nile, Northern and Kassala states. Fledging will occur from mid-October onwards. As vegetation dries out, hoppers and adults are likely to form small groups.

Eritrea

• SITUATION

No reports were received during September.

• FORECAST

Small-scale breeding is expected to occur in the western lowlands, causing locust numbers to increase slightly. Surveys should be carried out to monitor the situation.

Ethiopia

• SITUATION

During September, no locusts were seen during surveys carried out in the east near Dire Dawa (0935N/4150E) and in the north.

• FORECAST

No significant developments are likely.

Djibouti

• SITUATION

No reports were received during September.

• FORECAST

No significant developments are likely.

Somalia

• SITUATION

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

• FORECAST

No significant developments are likely.

Egypt

• SITUATION

During September, no locusts were seen during

surveys on the Red Sea coast near Shalaty (2308N/3535E) and Abu Ramad (2224N/3624E).

- **FORECAST**

No significant developments are likely.

Saudi Arabia

- **SITUATION**

During September, a few immature solitary adults were seen in the interior on a farm near Sulayel (2027N/4534E) on the southwestern edge of the Empty Quarter. No locusts were seen during surveys carried out in the Asir Mountains near Al Barzah (2157N/3942E) and Khamis Mushait (1819N/4245E), and in the interior north of Riyadh (2439N/4646E).

- **FORECAST**

No significant developments are likely.

Yemen

- **SITUATION**

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

- **FORECAST**

Low numbers of adults are likely to be present in a few places along the Tihama where they could breed on a small scale in areas of recent rainfall.

Oman

- **SITUATION**

During September, no locusts were seen during surveys carried out in the southern region of Dhofar north of Thumrait (1736N/5401E), in the northern interior of Dakhliya between Adam (2223N/5731E) and 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 reports were received during September.

- **FORECAST**

No significant developments are likely.

Pakistan

- **SITUATION**

During September, low numbers of mature solitary adults were present along the Indian border in Khairpur Desert east of Rohri (2739N/6857E) and in Cholistan south of Rahimyar Khan (2822N/7020E)

and Bahawalpur (2924N/7147E). Isolated immature solitary adults were reported west of Karachi near Uthal (2548N/6637E). No locusts were seen in Tharparkar.

- **FORECAST**

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

India

- **SITUATION**

A fourth instar hopper and isolated mature solitary adults were present at one place northwest of Bikaner (2801N/7322E) near the Pakistani border on 17-19 September.

- **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



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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)
- **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>)
- **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>)

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 Crises.** Information Section

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 events. The following activities are scheduled or planned:

- **Sahel Crises.** Informal Donors Meeting, Rome (5 October)
- **CRC.** 28th Session, Jeddah, Saudi Arabia (24-28 November)
- **SWAC.** 28th Session, New Delhi, India (5-7 December)

Peter Haskell. It is with deep regret that we announce the death of Peter Haskell on 26 September 2012. In 1959, he became Deputy Director of the Anti-Locust Research Center (ALRC) in the UK (upon the retirement of Boris Uvarov) and Director in 1962. He oversaw the development of the Centre for Overseas Pest Research (COPR) from 1971 until he retired in 1983. We would like to express our sincere condolences to his family and government.

Myriam Mohamed Cherif. It is with deep regret that we announce the death of Myriam Mohamed Cherif on 24 September 2012. Myriam worked with great dedication and enthusiasm for two FAO regional locust commissions, 17 years in CLCPANO and 10 years in CLCPRO. In 2011, the Director-General of FAO presented her with a medal for 25 years of service to the Organization. We would like to express our sincere condolences to her family and government.



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.

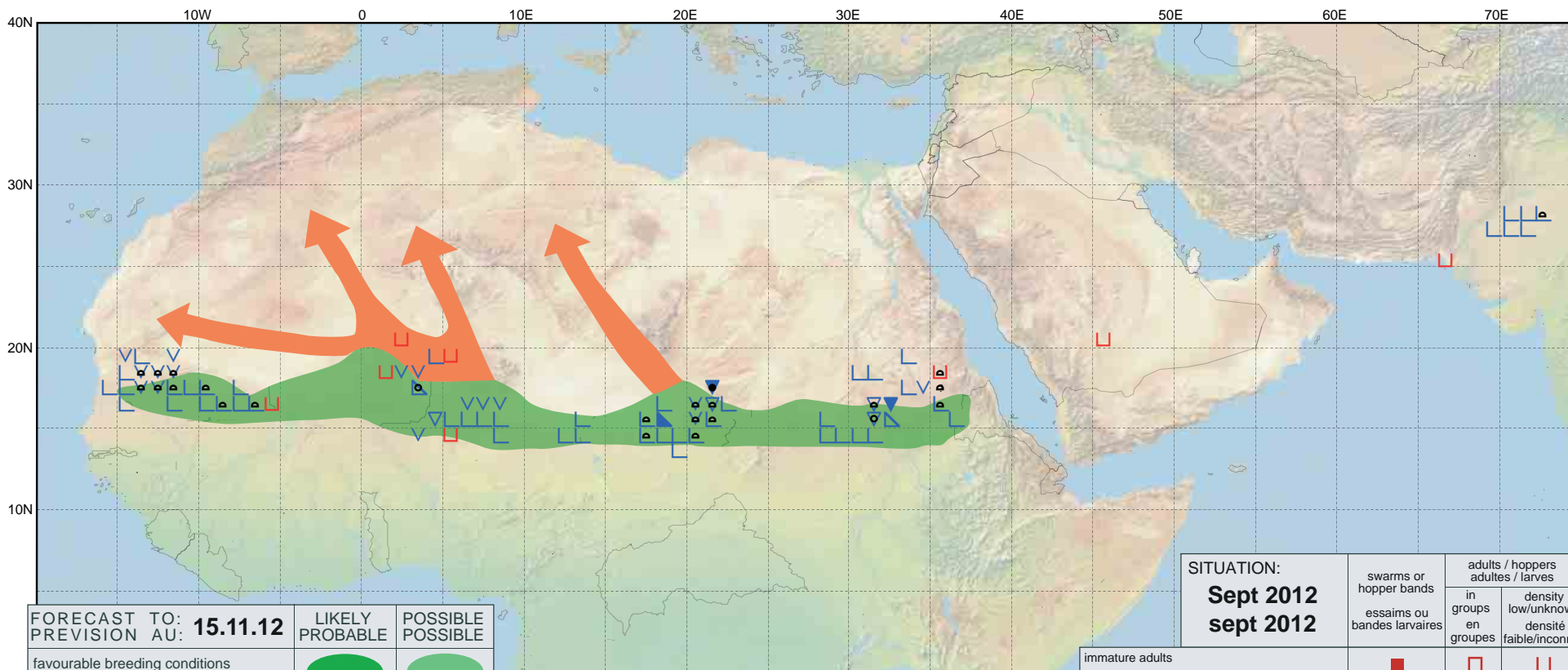


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Desert Locust Summary

Criquet pèlerin - Situation résumée



FORECAST TO: PREVISION AU:	LIKELY PROBABLE	POSSIBLE POSSIBLE
15.11.12		
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: Sept 2012 sept 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 larves			
hoppers & adults (combined symbol example) larves et adultes (exemple symboles combinés)			