

warning level: **CAUTION**

DESERT LOCUST BULLETIN

FAO Emergency Centre for Locust Operations



No. 374

(2 Dec 2009)



General Situation during November 2009 Forecast until mid-January 2010

The Desert Locust outbreak in western Mauritania continued during November. However, by the end of the month, the situation had improved as a result of intensive ground control operations undertaken by national teams, a lack of significant rainfall and a northerly movement of scattered adults to the Western Sahara and Morocco. The situation is expected to improve further unless unusually heavy and widespread rains fall but this is unlikely. Limited control operations were undertaken in southern Morocco and central Algeria where local breeding occurred. In the winter breeding areas along both sides of the Red Sea, conditions remained generally dry and unfavourable except for northeast Sudan where egg laying took place. Small-scale breeding during the forecast period will cause locust numbers to increase slightly but remain below threatening levels in those places along both sides of the Red Sea that receive rainfall. No significant developments are likely.

Western Region. A potentially dangerous outbreak developed in western Mauritania in late September has been nearly controlled. Since mid-September, national ground teams have treated nearly 14,000 ha, of which more than 9,500 ha were in November. During November, egg laying continued in some areas, and hoppers and adults formed small groups. At mid-month, scattered adults moved northwards on warm winds to the Western Sahara and Morocco. Limited control was undertaken in southern Morocco

against small groups of hoppers. By the last week of the month, locust densities began to decline in Mauritania, there were fewer groups and infestations were smaller. In central Algeria, ground teams treated 225 ha of locally bred hoppers and adults. Low numbers of locusts were reported in other parts of the Sahara in Algeria and southwest Libya. During the forecast period, low numbers of locusts are expected to persist in all of the above-mentioned areas. Small-scale breeding could occur if rains fall and temperatures remain warm. There is a moderate risk that scattered adults will move further north towards the Atlas Mountains during periods of warm winds.

Central Region. Although some rain fell along the Red Sea coast in November, ecological conditions remained generally dry and unfavourable in the winter breeding areas except in northeast Sudan near the Egyptian border. Low numbers of adults were present in a few areas along the coast in Sudan. Breeding was in progress in the northeast and is expected to occur in the Tokar Delta once rains fall. During the forecast period, small-scale breeding is also likely to take place along the Red Sea coast in Eritrea, Saudi Arabia and Yemen in areas that receive rainfall or runoff. This will cause locust numbers to increase slightly but remain below threatening levels. Regular surveys are recommended throughout the period. No locusts were reported elsewhere in the region.

Eastern Region. Dry conditions prevailed throughout the region during November and no locusts were reported. During the forecast period, isolated adults may start to appear in the spring breeding areas along the coast of western Pakistan and southeastern Iran.

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 made 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

DLIS: www.fao.org/ag/locusts



No. 374

DESERT LOCUST BULLETIN



Weather & Ecological Conditions in November 2009

Very little rain fell in the Desert Locust recession area during November except for parts of western Mauritania and the Red Sea coast. Consequently, vegetation was green or becoming green in these places but remained mainly dry elsewhere.

In the **Western Region**, light rain fell on 2 November in the Western Sahara between Aousserd and Agwanit, extending into adjacent parts of northwest and northern Mauritania from Akjoujt and Zouerate to the Ouarane sand sea. Light rain also fell on the 18th in a few places of central Mauritania. Ecological conditions remained favourable in western and central Mauritania for locust survival and limited breeding. Conditions are likely to improve in the southern part of the Western Sahara where a few patches of green vegetation were present near Aousserd and Tichla. The rains in November should allow limited breeding during the forecast period in both countries. In Morocco, vegetation was becoming green south of the Atlas Mountains in the Ziz-Ghris Valley and near Bouarfa. Warm (Chergui) winds during the second decade of the month favoured a northerly movement of locusts over the Western Sahara and southern Morocco. In Algeria, green vegetation was present in the extreme south near Bir Bou Mokhtar and the Malian border, in the east between Illizi and Djanet and in parts of the central Sahara west and northwest of Tamanrasset. Vegetation was drying out near In Guezzam and the Niger border. Elsewhere in the northern Sahel, vegetation continued to dry out in the absence of any significant rainfall.

In the **Central Region**, very little rain fell during November in the winter breeding areas along both sides of the Red Sea except for northeast Sudan and the central Red Sea coast in Saudi Arabia. In Sudan, moderate showers fell on 10 November in Wadi Diib near the Egyptian border where it had rained two weeks earlier. Consequently, ecological conditions remained favourable for breeding. In Saudi Arabia, unusually heavy rains fell on the 25th near Jeddah where 70 mm was reported, more than the amount of rain that normally falls in an entire year. Ecological conditions are likely to improve but within a limited

area near Jeddah. In Yemen, ecological conditions were favourable for breeding along parts of the Red Sea coastal plains. Elsewhere in the winter breeding area and throughout the region, conditions remained generally dry and unfavourable for breeding.

In the **Eastern Region**, no significant rain fell in the summer and spring breeding areas during November. Consequently, vegetation continued to dry out during the month and ecological conditions were not favourable for breeding.



Area Treated

Algeria	225 ha (November)
Mauritania	4,214 ha (October, updated) 9,554 ha (November)
Morocco	0.04 ha (November)



Desert Locust Situation and Forecast

(see also the summary on page 1)

WESTERN REGION

Mauritania

• SITUATION

During the first half of November, ground control operations increased as second generation mid to late instar hoppers continued to form small groups within a remote area between Nouakchott, Moudjeria (1752N/1219W), and Oujeft (2003N/1301W). Hopper densities reached 80 hoppers/m² near Nouakchott. Some of the immature and mature adults also formed groups, mainly near Moudjeria and Nouakchott while egg-laying continued in a few areas between Aguilal Faye (1827N/1444W) and Akjoujt (1945N/1421W). Further north, scattered mature solitary adults were present near Zouerate (2244N/1221W).

During the second half of the month, the situation improved as a result of the control operations, a lack of significant rainfall and as scattered immature adults moved north to Zouerate. By the last week, locust densities began to decline, there were fewer groups and infestations were smaller. Although most of the hoppers had fledged, hatching occurred near Nouakchott and a few adults were copulating near Atar (2032N/1308W). In the north, isolated mature solitary adults were seen near Bir Moghreïn (2510N/1135W). In the southeast, scattered immature solitary adults were present west of Nema (1636N/0715W). Ground control teams treated some 9,554 ha during November.

- **FORECAST**

Locust numbers are expected to decline east of Nouakchott and only low numbers of scattered hoppers and adults are likely to persist. If temperatures remain warm, the adults will mature and could breed on a limited scale in areas where conditions stay favourable. During periods of warm southerly winds, scattered adults may move north to Inchiri and Tiris Zemmour. Unless unusually widespread and heavy rains fall which is unlikely, the situation is expected to remain under control.

Mali

- **SITUATION**

During November, isolated mature solitary adults were seen near the Niger River southeast of Gao near the Niger border. No locusts were seen in the west between Kayes (1426N/1128W) and Nara (1510N/0717W) or in the centre between Hombori (1516N/0140W), Gourma (1653N/0155W) and west of Tombouctou (1649N/0259W).

- **FORECAST**

Low numbers of adults are likely to persist in parts of the Adrar des Iforas.

Niger

- **SITUATION**

Although no surveys were undertaken in November, there were unconfirmed reports from travelers of hopper bands in the Tamesna near In Abangharit (1754N/0559E). A survey will be organized to verify the situation.

- **Forecast**

Low numbers of hoppers and adults are likely to present in parts of the Tamesna where they could concentrate in those areas that remain green. A few adults may appear in parts of the Air Mountains where they are expected to persist during the forecast period.

Chad

- **SITUATION**

During November, no locusts were seen in Biltine near Arada (1501N/2040E).

- **FORECAST**

No significant developments are likely.

Senegal

- **SITUATION**

A late report indicated that no locusts were reported from July to October.

During November, no locusts were seen during surveys carried out in the north.

- **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 November, ground teams treated 225 ha of first to third instar *transiens* hoppers and isolated immature solitary adults at five places (ca. 2453N/0342E) in the central Sahara between Tamanrasset (2250N/0528E) and In Salah (2712N/0229E). Isolated mature solitary adults were seen between Djanet (2434N/0930E) and Illizi (2630N/0825E), and isolated immature and mature adults were present near In Guezzam (1937N/0552E) and the Niger border. No locusts were seen near Bir Bou Mokhtar (2120N/0056E) and the Mali border.

- **FORECAST**

Low numbers of locusts are likely to persist in parts of the central, southern and eastern Sahara. Small-scale breeding may occur in central and eastern areas that received rainfall during the autumn.

Morocco

- **SITUATION**

During November, immature and mature solitary adults increased slightly in the extreme south of the Western Sahara between Tichla (2137N/1453W) and Bir Anzarane (2353N/1431W). Near Tichla, second instar hoppers were concentrating and forming small groups at densities up to 60 hoppers/m² while a few adults were seen copulating. During the second week, low numbers of maturing solitary adults moved progressively north through the Western Sahara and reached the Souss Valley on the 16th. Ground teams treated 400 m² near Tichla.

In the northeast, scattered solitary adults were maturing near the Algerian border between Erfoud (3128N/0410W) and Figuig (3207N/0113W).

- **FORECAST**

Low numbers of hoppers and adults are expected to persist in parts of the Western Sahara, primarily between Tichla and Aousserd. Scattered adults could appear in southern Morocco and the Western Sahara from the south and move further north towards the Atlas Mountains during periods of warm southerly



No. 374



No. 374

DESERT LOCUST BULLETIN

winds. If further rains fall and temperatures remain warm, small-scale breeding could occur in some places of the extreme south as well as southwest and southeast of the Atlas Mountains.

Libyan Arab Jamahiriya

- SITUATION

During November, scattered solitary adults were seen at two places in the southwest near Ghat (2459N/1011E) and the Algerian border.

- FORECAST

Low numbers of locusts will persist in the southwest near Ghat and could breed on a small scale if rains fall and temperatures remain warm.

Tunisia

- SITUATION

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

- FORECAST

No significant developments are likely.

CENTRAL REGION

Sudan

- SITUATION

In mid-November, isolated mature solitary adults were seen in the interior of the northern Red Sea coast on 5 ha northwest of Sufiya (2119N/3613E) in Wadi Diib and on the coast near the Egyptian border. Some adults were laying eggs in W. Diib. On the southern coast, scattered mature solitary adults at densities up to 200 adults/ha were present at three places in the Tokar Delta. No locusts were seen elsewhere along the coast or in Wadi Diib/Okko.

- FORECAST

Limited hatching will occur during December in Wadi Diib. Small-scale breeding will take place in the Tokar Delta and nearby coastal plains if more rains fall. Consequently, locust numbers will increase gradually but remain below threatening levels on the coast and in subcoastal areas.

Eritrea

- SITUATION

No reports were received during November.

- FORECAST

Low numbers of locust adults are expected to appear on the Red Sea coastal plains between

Massawa and the Sudanese border, and breed on a small scale in areas that receive rainfall or runoff.

Ethiopia

- SITUATION

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

- FORECAST

No significant developments are likely.

Djibouti

- SITUATION

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

- FORECAST

No significant developments are likely.

Somalia

- SITUATION

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

- FORECAST

No significant developments are likely.

Egypt

- SITUATION

During November, no locusts were seen during surveys carried out in the Western Desert near Sh. Oweinat (2219N/2845E), Dakhla (2530N/2900E), along Lake Nasser between Abu Simbel (2219N/3138E) and Garf Husein (2317N/3252E), and on the Red Sea coast from south of Marsa Alam (2504N/3454E) to the Sudanese border.

- FORECAST

Isolated adults may appear on the southern coastal plains of the Red Sea between Shalatyn and the Sudanese border as well as in adjacent subcoastal areas. Small-scale breeding will occur in areas that receive rainfall.

Saudi Arabia

- SITUATION

No locusts were seen during surveys carried out in November on the central and southern coast of the Red Sea from Masturah (2309N/3851E) to the Yemeni border and in the interior near Buraydah (2621N/4358E).

- FORECAST

Low numbers of adults are likely to appear on the southern and central Red Sea coast and breed on a small scale in areas of recent rainfall near Jeddah as well as in other places that receive rains during the forecast period.

Yemen

• SITUATION

Although surveys could not be carried out during November, the locust situation was reported to be calm on the Red Sea coastal plains.

• FORECAST

Scattered adults are likely to be present and will persist on the Red Sea coastal plains. Small-scale breeding will cause locust numbers to increase slightly but remain below threatening levels in areas that receive rainfall. A few adults may also be present on the southern coastal plains near Aden. Regular surveys should be undertaken to monitor the situation.

Oman

• SITUATION

During November, no locusts were seen during surveys carried out in the southern region of Dhofar near Shehan (1746N/5229E) and the Yemeni border.

• 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

During November, no locusts were seen during surveys carried out on the southeast coast near Bander-e Lengheh (2634N/5452E) and Jask (2540N/5746E).

• FORECAST

Isolated adults may start to appear in the spring breeding areas along the southeast coast at the end of the forecast period.

Pakistan

• SITUATION

No locusts were reported during the second fortnight of October and first fortnight of November.

• Forecast

Isolated adults may start to appear in the spring breeding areas along the coast of Baluchistan at the end of the forecast period.

India

• SITUATION

No locusts were seen during intensive surveys carried out in November in the summer breeding areas in Rajasthan and Gujarat.

• 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/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.

Google group. FAO DLIS has established a Google group for national locust information officers to exchange opinions and share experiences regarding data management and analysis, GIS, eLocust2, eLocust2Mapper and satellite imagery. Interested information officers should contact DLIS (eclo@fao.org) for details.

MODIS imagery. Columbia University's International Research Institute for Climate and Society (IRI) provides 16-day 250-metre resolution



No. 374

DESERT LOCUST BULLETIN



No. 374

DESERT LOCUST BULLETIN

MODIS imagery as well as daily and decadal rainfall imagery for monitoring breeding conditions in the Desert Locust recession area. These products can be downloaded in different formats suitable for GIS at: http://iridl.ldeo.columbia.edu/maproom/Food_Security/Locusts/index.html. The site is available in English and French. Address comments and questions to Pietro Ceccato (pceccato@iri.columbia.edu).

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

- **Desert Locust situation updates.** Archives Section – Briefs
- **Mauritania outbreak overview.** Information Section – home page
- **Experts meeting on Mauritania outbreak report.** Publications Section – Miscellaneous reports

2009-10 events. The following activities are scheduled or planned:

- **EMPRES/WR Liaison Officers.** 8th EMPRES Liaison Officers meeting, Bamako (14-18 December)
- **EMPRES/WR Steering Committee.** 5th EMPRES Steering Committee meeting, Bamako (21-22 December)
- **EMPRES/WR Phase 2.** Planning meeting, Dakar (8-12 March)
- **SWAC/CRC Locust Information Officers.** 3rd Inter-regional workshop on the use and improvement of RAMSES and eLocust2, Cairo (18-19 April)
- **SWAC/CRC Master Trainers.** 2nd Master Trainers training course, Iran (8-13 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.



No. 374

DESERT LOCUST BULLETIN

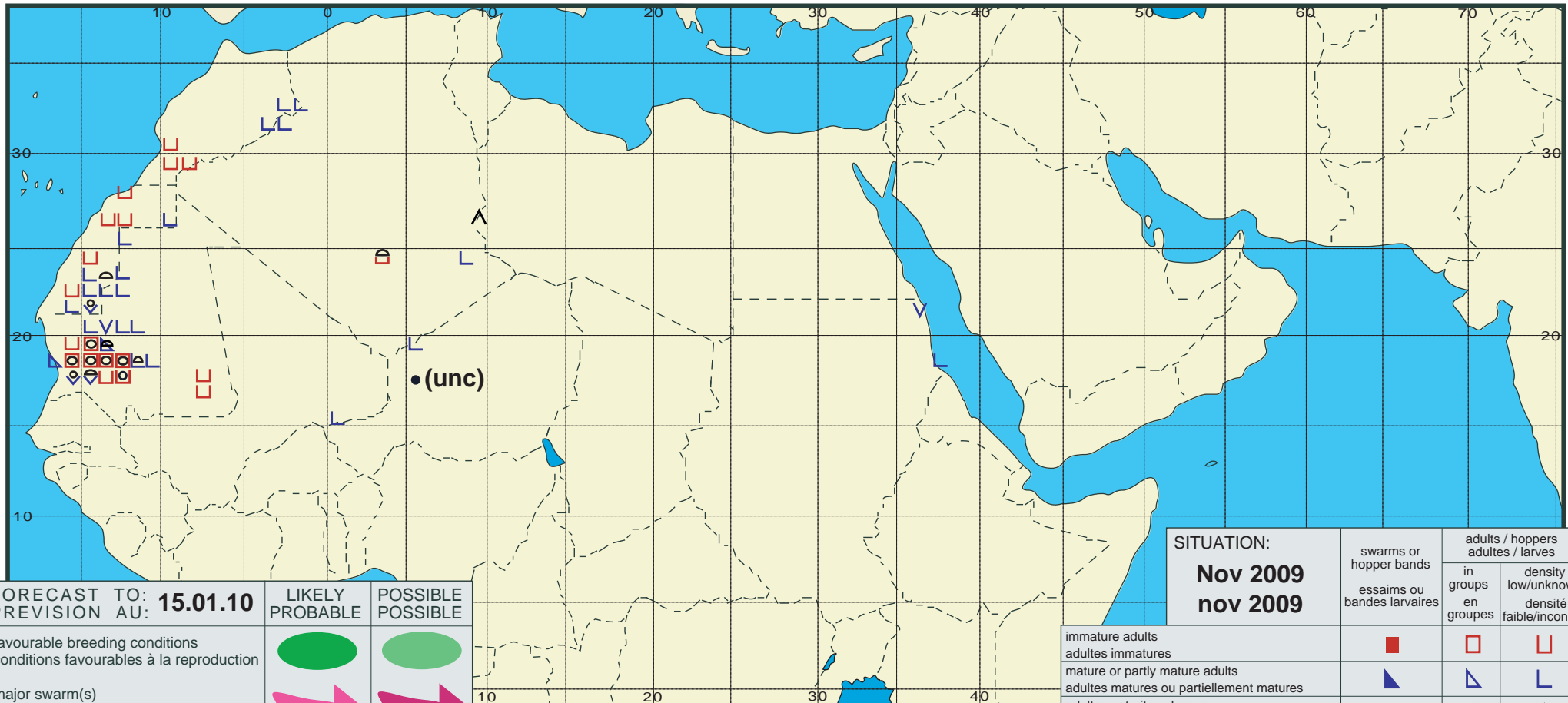
page 7 of 8



Desert Locust Summary

Criquet pèlerin - Situation résumée

374



FORECAST TO: PREVISION AU: 15.01.10	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: Nov 2009 nov 2009	swarms or hopper bands	adults / hoppers adultes / larves	
	essaims ou bandes larvaires	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)			