

warning level: **CAUTION**

DESERT LOCUST BULLETIN

FAO Emergency Centre for Locust Operations



No. 375

(4 Jan 2010)



General Situation during December 2009 Forecast until mid-February 2010

The Desert Locust outbreak in western Mauritania came to an end in December and only small residual populations remain. Locusts concentrated in vegetation that remained green in northern Niger and formed small groups that were controlled by national ground teams. Local breeding occurred in one area of the central Sahara in Algeria and control was undertaken. In the winter breeding areas along both sides of the Red Sea, limited breeding was reported in Egypt and Eritrea while low numbers of adults were present in coastal areas of Sudan, Saudi Arabia, Yemen and northwest Somalia. During the forecast period, small-scale breeding will occur on both sides of the Red Sea, especially if more rains fall, while low numbers of adults are expected to persist in parts of Mauritania, Western Sahara, Mali, Niger, Algeria and Morocco. No significant developments are likely.

Western Region. Locust infestations continued to decline during December in Mauritania due to control operations and little rainfall. By mid-month, no further control operations were required and the outbreak that developed in late September had ended. Nevertheless, a few adults moved north into southern parts of Morocco, Western Sahara and western Algeria. Ground teams treated 15 ha in the central Sahara of Algeria where local breeding occurred. In Niger, ground teams treated 1,600 ha of late instar hoppers and immature adults that were forming small groups in vegetation that was drying out in Tamesna.

Similar infestations may be present in adjacent areas of Tamesna in eastern Mali but surveys are difficult due to insecurity. Some of the adults probably moved north into southern Algeria where they were seen during surveys. During the forecast period, low numbers of solitary adults are likely to persist in the above countries. If temperatures remain warm, small-scale breeding could occur on a limited scale in areas where conditions stay favourable. During periods of warm southerly winds, scattered adults may move further north towards the central Sahara and the Atlas Mountains.

Central Region. Local breeding commenced during December in the winter breeding areas along the western side of the Red Sea on the coast of Egypt and Eritrea. Low numbers of mature adults were reported on the coastal plains in Sudan, Saudi Arabia and Yemen. Isolated adults were also present on the coast in northwest Somalia. During the forecast period, small-scale breeding will occur on both sides of the Red Sea and in northwestern Somalia if more rains fall but locust numbers are expected to remain below threatening levels in all countries. In Oman, good rains fell in the north that could lead to local breeding in some areas.

Eastern Region. No locusts were reported in the region during December. Light rains fell in the spring breeding areas of western Pakistan that may allow conditions to become favourable for small-scale breeding to commence by the end of the forecast period. Breeding could also commence in adjacent coastal areas of southeast 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. 375

DESERT LOCUST BULLETIN



Weather & Ecological Conditions in December 2009

Very little rain fell in the Desert Locust recession area during December except for parts of the winter breeding areas along the western side of the Red Sea. Consequently, breeding conditions were improving in these areas but remained generally unfavourable elsewhere.

In the **Western Region**, very little rain fell during December. In Mauritania, ecological conditions were favourable for locust survival and breeding in parts of Inchiri, Adrar and Tiris-Zemmour but were becoming unfavourable in the western and central areas as vegetation was drying out. In northern Mali, small areas of green vegetation were present in the Kidal region. In Niger, ecological conditions were favourable in the Tamesna south of the Azaouak Valley, especially in the In Afer, Iguidi and Tamaya areas, where green vegetation was present in between the dunes. Conditions were dry and not favourable further north to the Algerian border. In Morocco, light rain fell near the western end of the Draa Valley while heavier showers fell further north, reaching the Souss Valley. Vegetation continued to become green south of the Atlas Mountains in the Ziz-Ghris Valley. Green vegetation persisted in a few southern areas of the Western Sahara near Tichla. In Algeria, vegetation was green in parts of the central and southern Sahara but remained dry in western areas near Tindouf.

In the **Central Region**, light showers fell at times in a few places in the winter breeding areas along the western side of the Red Sea, causing ecological conditions to improve slightly for breeding. In Sudan, light showers fell along parts of the southern coastal plains of the Red Sea between Port Sudan and the Eritrean border. Moderate to heavy rains fell during the second half of the month further north in coastal and subcoastal areas near the Egyptian border. In Eritrea, light showers fell at times along parts of the central and northern coast of the Red Sea. In both countries, breeding conditions were improving. In Saudi Arabia, vegetation was becoming green on the Red Sea coast between Jeddah and Masturah from good rains in November. Vegetation was also green near Qunfidah and Jizan but remained generally dry elsewhere

along the coast. No significant rainfall occurred along the Red Sea coast in Yemen and, consequently, ecological conditions were not very favourable for breeding. In northern Somalia, vegetation remained mainly dry along the northwest coast except for a few places near Silil and Lughaye. In northern Oman, good rains fell in the interior regions of Buraimi, Dakhliya, and Sharqiya on 11-13 December. Some places received between 40 mm and 70 mm in three days.

In the **Eastern Region**, light rains fell in the spring breeding areas of the interior of Baluchistan, Pakistan between Turbat and Dalbandin during the first half of December. Nevertheless, ecological conditions remained dry and unfavourable for breeding. In Iran, vegetation was green in a few places on the southeastern coast near Jask but dry elsewhere along the coast to the west.



Area Treated

Algeria	15 ha (December)
Mauritania	75 ha (December)
Niger	1,605 ha (December)



Desert Locust Situation and Forecast

(see also the summary on page 1)

WESTERN REGION

Mauritania

• SITUATION

During December, locust numbers continued to decline in the west and centre of the country. A few small groups of hoppers were present at densities up to 4 hoppers/m² near Nouakchott and between Akjoujt (1945N/1421W) and Oujeft (2003N/1301W). A few small groups of mature adults were also seen near Nouakchott. Egg laying was reported at one place south of Akjoujt. Residual populations of isolated and scattered solitary hoppers and immature and mature adults persisted in the outbreak area west of Moudjeria (1752N/1219W). Elsewhere, scattered immature and mature solitary adults were present in the northwest north of Tijirat (1929N/1557W), in the north near Zouerate (2244N/1221W) and Bir Moghreïn (2510N/1135W), in Adrar near Tidjikja (1833N/1126W), and in Hodh El Gharbi north of Aioun El Atrous (1639N/0936W) and Tamchekket (1714N/1040W). Ground control teams treated 75 ha during the first

decade of December; thereafter, no further control was undertaken.

- **FORECAST**

Locust infestations will decline further and only low numbers of solitary adults are expected to persist in parts of the north and west of the country. If temperatures remain warm, small-scale breeding could occur on a limited scale in areas where conditions stay favourable. During periods of warm southerly winds, scattered adults may move towards the north.

Mali

- **SITUATION**

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

- **FORECAST**

Low numbers of adults are likely to be present in Tamesna and parts of the Adrar des Iforas. As vegetation dries out in the Tamesna, adults are likely to concentrate and move into the Adrar des Iforas where they will persist during the forecast period.

Niger

- **SITUATION**

During the first three weeks of December, numerous small groups of late instar *transiens* hoppers, fledglings and immature adults were present in the Tamesna between In Abangharit (1754N/0559E) and the Malian border. Densities in some areas reached more than 3,000 adults/ha. The heaviest concentrations were near In Afer (1748N/0541E). Ground control teams treated 1,605 ha on 10-21 December.

- **Forecast**

Any adults that escaped control operations are likely to concentrate in the remaining green vegetation in the Tamesna, form small groups and move north towards southern and central Algeria during periods of warm southerly winds, and east towards the Air Mountains.

Chad

- **SITUATION**

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

- **FORECAST**

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, ground teams treated 15 ha of hoppers that were present at densities of 20-30 hoppers/bush at one place (2513N/0230E) in the central Sahara between Tamanrasset (2250N/0528E) and In Salah (2712N/0229E). Isolated mature adults were seen in the south between Tamanrasset and the Niger border, and immature adults were present west near the Mauritanian border southeast of Tindouf (2741N/0811W). No locusts were seen in the east near Djanet (2434N/0930E) or in the northwest between Beni Abbes (3011N/0214W) and the Moroccan border.

- **FORECAST**

Low numbers of locusts are likely to persist and could increase slightly near Tindouf, In Salah, Adrar, and between Tamanrasset and the Niger border, especially during periods of warm southerly winds that could carry adults from the northern Sahel.

Morocco

- **SITUATION**

During December, isolated immature and mature solitary adults were present in the extreme south of the Western Sahara near Tichla (2137N/1453W). No locusts were seen elsewhere in the Western Sahara near Bir Anzarane (2353N/1431W) and Laayoune (2709N/1311W), or in the northeast near Bouarfa (3232N/0159W).

- **FORECAST**

Low numbers of adults are likely to persist in parts of the Western Sahara, mainly near Tichla. 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 winds. If rains fall and temperatures remain warm, small-scale breeding could commence by the end of the forecast period along the southern side of the Atlas Mountains in the Draa and Ziz-Ghris valleys.



No. 375



No. 375

DESERT LOCUST BULLETIN

Libyan Arab Jamahiriya

- SITUATION

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

- FORECAST

Low numbers of locusts are likely to be present and will persist in the southwest near Ghat. Small-scale breeding could occur if rains fall and temperatures remain warm.

Tunisia

- SITUATION

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

- FORECAST

No significant developments are likely.

CENTRAL REGION

Sudan

- SITUATION

During December, isolated mature solitary adults were present at a few places in the Tokar Delta (1827N/3741E) and in one place in the northern subcoastal areas in Wadi Oko/Diib north of Tomala (2002N/3551E). No locusts were seen elsewhere during surveys carried out along the coast between Port Sudan and the Eritrean border or in Wadi Oko/Diib.

- FORECAST

Small-scale breeding will take place in the Tokar Delta, nearby coastal plains and perhaps in Wadi Oko/Diib. Consequently, locust numbers will increase gradually but remain below threatening levels on the coast and in subcoastal areas.

Eritrea

- SITUATION

During December, isolated third instar hoppers and mature solitary adults were seen at mid-month on the central Red Sea coast near Shelshela (1553N/3906E). Some of the adults were copulating. No locusts were seen elsewhere along the coast from south of Massawa (1537N/3928E) to Embere (1628N/3856E).

- FORECAST

Low numbers of locust numbers will increase slightly as hatching occurs during January on the Red

Sea coastal plains near Shelshela and perhaps in other nearby areas that receive rainfall or runoff.

Ethiopia

- SITUATION

No reports were received during December.

- FORECAST

No significant developments are likely.

Djibouti

- SITUATION

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

- FORECAST

No significant developments are likely.

Somalia

- SITUATION

During the first week of December, isolated mature solitary adults were present on the northwest coast near Silil (1058N/4326E) and the Djibouti border. No locusts were seen elsewhere on the coast or the escarpment between Silil and Berbera (1028N/4502E).

- FORECAST

Small-scale breeding could occur on the northwest coast if rainfall occurs.

Egypt

- SITUATION

During December, isolated immature and mature solitary adults were present at one location on the southern coast of the Red Sea in Wadi Diib. Isolated third instar solitary hoppers were seen on the coast between Halaib and the Sudanese border during the last week of the month. No locusts were seen during surveys carried out in the northwest near Salum (3131N/2509E) and the Mediterranean coast, in the Western Desert near Sh. Oweinat (2219N/2845E), and along Lake Nasser.

- FORECAST

Small-scale breeding is likely to continue in areas that receive rainfall on the Red Sea coastal plains between Shalatyn and the Sudanese border. No significant developments are likely.

Saudi Arabia

- SITUATION

During December, isolated mature solitary adults were seen on the Red Sea coast north of Jeddah near Thuwal (2215N/3906E) and Rabigh (2247N/3901E). No locusts were reported elsewhere along the coast or in the interior.

- FORECAST

Small-scale breeding is expected to occur on the Red Sea coast between Jeddah and Rabigh as well

as near Qunfidah and Jizan. Local breeding could extend to other coastal areas if rainfall occurs during the forecast period.

Yemen

• SITUATION

During December, scattered immature and mature solitary adults were present in a few places along the Red Sea coast between Zabid (1410N/4318E) and Midi (1619N/4248E).

• FORECAST

Small-scale breeding will occur on the Red Sea coast if more rains fall during the forecast period; otherwise, only low numbers of solitary adults are likely to persist in a few areas. Low numbers of adults may appear on the Gulf of Aden coastal plains near Aden and Zinjibar if rainfall occurs.

Oman

• SITUATION

No locusts were seen during surveys carried out in December in Batinah, Musandam, Dhahera and Dakhliya regions.

• FORECAST

By the end of the forecast period, low numbers of adults may appear in areas of recent rainfall in Buraimi, Dakhliya and Sharqiya.

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 the first half of December, 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 appear in the spring breeding areas along the southeast coast and start to breed by the end of the forecast period.

Pakistan

• SITUATION

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

• Forecast

Isolated adults may appear in the spring breeding areas along the coast of Baluchistan and start to breed by end of the forecast period in areas of recent rainfall.

India

• SITUATION

No locusts were seen during intensive surveys carried out in December 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/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.

Google group. FAO DLIS has established a Google group for national locust information officers to exchange opinions and share experiences regarding



No. 375

DESERT LOCUST BULLETIN



No. 375

DESERT LOCUST BULLETIN

data management and analysis, GIS, eLocust2, eLocust2Mapper and satellite imagery. Interested information officers should contact DLIS (ecl@fao.org) for details.

MODIS imagery. Columbia University's International Research Institute for Climate and Society (IRI) provides 16-day 250-metre resolution 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
- **Desert Locust risk map update.** Archives Section – Risk maps
- **Mauritania outbreak overview.** Information Section – home page
- **CLCPANO session reports.** Publications Section – Regional commission reports

2010 events. The following activities are scheduled or planned:

- **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.



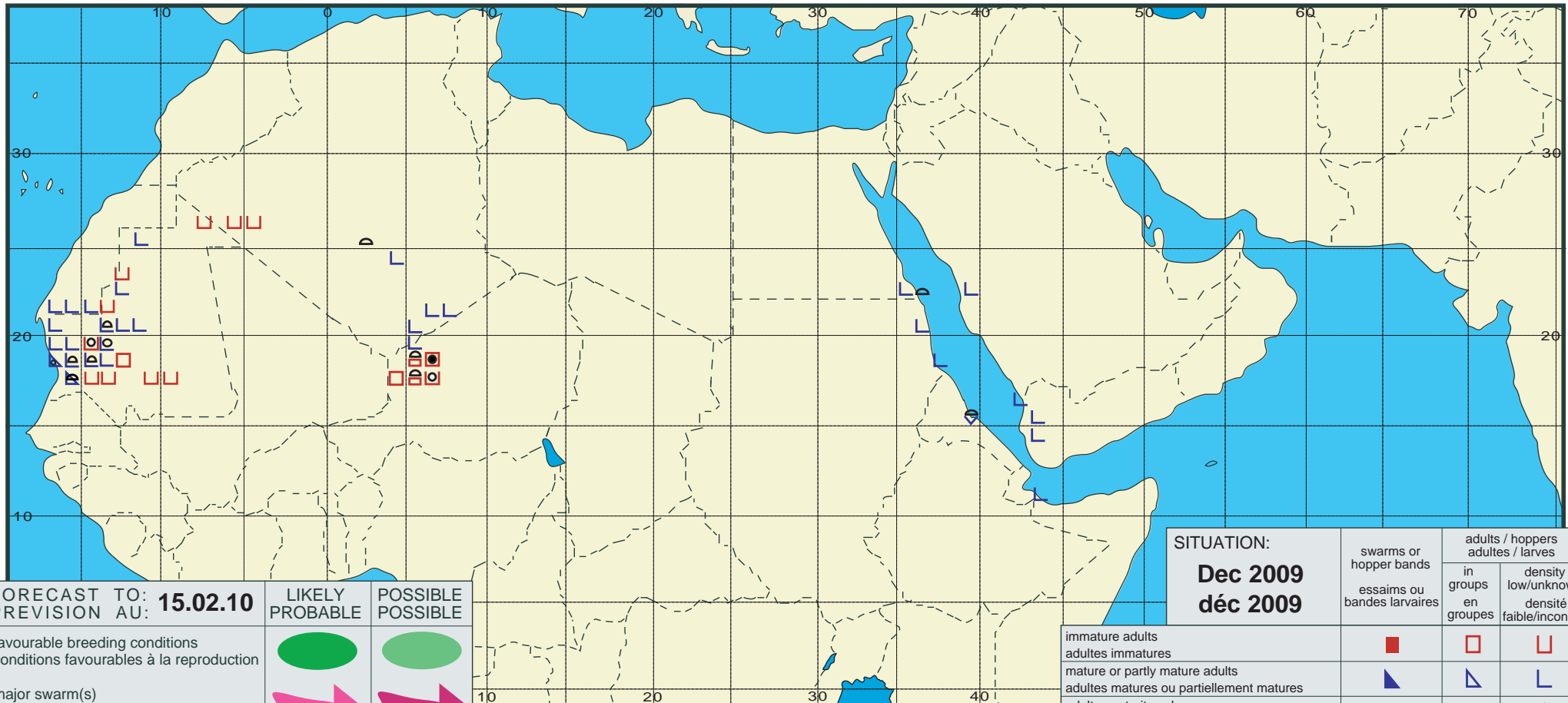
No. 375



Desert Locust Summary

Criquet pèlerin - Situation résumée

375



FORECAST TO: PREVISION AU: 15.02.10	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: Dec 2009 déc 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)			