

warning level: CAUTION (NW Africa, Yemen)

DESERT LOCUST BULLETIN

FAO Emergency Centre for Locust Operations



No. 362

(1 December 2008)



General Situation during November 2008 Forecast until mid-January 2009

The Desert Locust situation continued to remain calm in November. In the Western Region, small-scale breeding caused locust numbers to increase slightly in northwest Mauritania and in southern Algeria while scattered adults persisted in northeast Chad. In the Central Region, scattered adults were present in the winter breeding areas along both sides of the Red Sea and egg-laying occurred in Eritrea. In the Eastern Region, hoppers and adults persisted in the summer breeding areas in Pakistan near the Indian border. During the forecast period, small-scale breeding will occur along both sides of the Red Sea and continue in northwest Mauritania, causing locust numbers to increase slightly in both areas but not threaten crops. Nevertheless, caution is required because breeding could also take place in areas of previous rainfall and flooding in Western Sahara, western Algeria and eastern Yemen. Locusts may appear on the coast in northwest Somalia, southeast Iran and western Pakistan and eventually breed. Regular surveys should be carried out in all of these areas.

Western Region. Small-scale breeding continued in northwest Mauritania during November and limited control operations were undertaken against small groups of hoppers. Solitary adults and local breeding occurred in areas that received heavy rains in September in Western Sahara and a few adults were seen in Morocco. Small-scale breeding occurred in southern Algeria near Mali and scattered adults persisted in northeast Chad. Surveys were still not

possible in northeast Mali and northern Niger where scattered adults were probably present and breeding. During the forecast period, breeding will continue in northwest Mauritania and could occur in the north as well as in adjacent areas of Western Sahara and western Algeria if temperatures remain warm. The scale of the breeding will be much smaller than in 2003 because fewer adults are present this year. Low numbers of adults are likely to persist in northeast Mali and northern Niger.

Central Region. Low numbers of solitary adults persisted during November in the winter breeding areas along the Red Sea and Gulf of Aden in Yemen. Adults were also seen on the Red Sea coast in Saudi Arabia and were laying eggs in Eritrea but locusts were not detected in Sudan or Egypt. Elsewhere, small groups of solitary immature adults were present near Lake Nasser in Egypt. During the forecast period, small-scale breeding will occur along both sides of the Red Sea, on the Gulf of Aden coast in southwest Yemen and perhaps in previously flooded areas in eastern Yemen. Consequently, locust numbers will increase slightly but remain below threatening levels. In northern Somalia, scattered adults may appear on the northwest coast and eventually breed.

Eastern Region. The locust situation remained calm in the Region during November. Scattered solitary hoppers and adults persisted in the Cholistan Desert in Pakistan along the Indian border. No locusts were reported elsewhere in the region. A few adults could appear by the end of the forecast period in coastal areas of Baluchistan in southeast Iran and western Pakistan. Early breeding may occur if rains fall and temperatures remain warm.

The FAO Desert Bulletin is issued monthly, supplemented by Updates during periods of increased Desert Locust activity, and is distributed by e-mail, FAO pouch and airmail by the Locusts and Other Migratory Pests Group, AGP Division, FAO, 00153 Rome, Italy. It is also available on the Internet.

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Weather & Ecological Conditions in November 2008

Very little rain fell in the recession area during November except during the first week in the winter breeding areas along the Red Sea coast in Eritrea, Saudi Arabia and Yemen and at the end of the month in northwest Mauritania. Consequently, ecological conditions were favourable for breeding in these places as well as in Western Sahara while other areas remained dry.

In the **Western Region**, very little rain fell during November except for light to moderate showers towards the end of the month in northwest Mauritania. Nevertheless, ecological conditions remained favourable for breeding in northwest and northern Mauritania and in adjacent areas in Western Sahara from heavy rains that fell in late September and October. There was probably sufficient green vegetation in the wadis in the Adrar des Iforas in northern Mali and in the Air Mountains in Niger to allow low numbers of locusts to survive and breed. In northeast Chad, vegetation was drying out or already dry. In Algeria, vegetation was green in the southern Sahara near Tamanrasset and along the Malian border where breeding conditions were favourable, while vegetation was becoming green in the west near Tindouf.

In the **Central Region**, light to moderate showers fell during the first decade of November in the winter breeding areas along the Red Sea coast in Eritrea, Sudan (Karora to Port Sudan) and between Hodeidah, Yemen and Jeddah, Saudi Arabia. Rains also fell in the interior of Saudi Arabia, mainly between Hail, Riyadh and the Kuwaiti border. On the Eritrean coast, Sheib reported 96 mm and Mehimet 65 mm during the first week. As a result of these showers and rainfall in October, ecological conditions improved in the above-mentioned areas and were suitable for breeding. In the interior of eastern Yemen, vegetation became green in parts of Hadhramaut and Mahara that were affected by heavy rains and floods in October. Vegetation was becoming green on the northern coast of Sudan and in adjacent subcoastal areas in Wadi Diib but dry conditions persisted on the southeast coast of Egypt near Abu Ramad. In northern Somalia,

vegetation remained green on the plateau near Burao and along the escarpment but was drying out between Boroma and Jijiga, Ethiopia. In Oman, green vegetation was present in the central interior near Marmul from October rainfall but was dry along the Yemeni border.

In the **Eastern Region**, no significant rains fell during November but green vegetation persisted in the summer breeding areas south of Bahawalpur, Pakistan near the Indian border. Ecological conditions were dry and unfavourable for breeding along the southeastern coast in Iran.



Area Treated

Mauritania 185 ha (1-20 November)



Desert Locust Situation and Forecast

(see also the summary on page 1)

WESTERN REGION

Mauritania

• SITUATION

During November, most of the infestations remained in the Aouker north of Boutilimit (1732N/1441W) where small-scale breeding continued and solitary hoppers and adults were present. By mid-month, some of the late instar hoppers formed small groups at densities of 1-3 hoppers/m² and adult densities reached 800 adults/ha in a few places. Ground control teams treated 185 ha. Immature and mature solitary adults appeared in Adrar near Guelb er Richat (2107N/1124W) and in Inchiri, and limited breeding occurred in both regions. Low numbers of solitary adults were present south of Zouerate (2244N/1221W) but no adults were seen further north to Bir Moghreïn (2510N/1135W) and only a few adults were reported in central areas near Tidjikja (1833N/1126W) and N'Beika (1758N/1215W).

• FORECAST

Small-scale breeding will continue in the Aouker, Inchiri and Adrar, causing locust numbers to increase slightly and form a few small groups. Small-scale breeding is likely to occur in Tiris Zemmour where rains fell in September and October. If low temperatures occur, hopper and adult maturity will be delayed. Regular surveys are recommended in the north.

Mali

• SITUATION

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

• FORECAST

Scattered locusts are likely to be present and are expected to persist in the main wadis of the Adrar des Iforas. Breeding is unlikely to occur unless there is rainfall during the forecast period.

Niger

• SITUATION

No reports were received in November.

• FORECAST

Scattered locusts are likely to be present and are expected to persist in parts of the Air Mountains and breed on a small-scale if rains fall during the forecast period.

Chad

• SITUATION

During November, scattered mature solitary adults were present in the northeast between Arada (1501N/2040E) and Fada (1714N/2132E). No locusts were seen northeast of N'Djamena (1206N/1504E).

• FORECAST

Low numbers of adults are likely to concentrate and persist in areas that remain green.

Senegal

• SITUATION

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

• 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, small-scale breeding occurred along the Malian border near Bir Bou Mokhtar (2120N/0056E) where solitary hoppers were present. Isolated immature solitary adults were seen in the southern Sahara northwest of In Guezzam (1937N/0552E). No locusts were seen during surveys carried out near Tamanrasset (2250N/0528E) and Tindouf (2741N/0811W).

• FORECAST

Low numbers of solitary adults are expected to persist in the extreme south along the Malian border

between Bir Bou Mokhtar and Tin Zaouatene. Small-scale breeding could occur near Tindouf.

Morocco

• SITUATION

Isolated immature and mature solitary adults were seen in Western Sahara from 29 October to 10 November near Ma'Tallah (2223N/1502W), Guelta Zemmur (2508N/1222W), and east of Smara (2644N/1140W) as well as in the Draa Valley southeast of Foug El Hassan (2901N/0853W) near the Algerian border. Local breeding occurred near Smara where a fifth instar hopper was seen on 8 October.

• FORECAST

Locust numbers will increase slightly in Western Sahara as small-scale breeding continues in areas where rains fell in September and October. Isolated adults will persist in the Draa Valley. Surveys should be maintained to monitor the situation on a regular basis.

Libyan Arab Jamahiriya

• SITUATION

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

• FORECAST

No significant developments are likely.

Tunisia

• SITUATION

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

• FORECAST

No significant developments are likely.

CENTRAL REGION

Sudan

• SITUATION

During the first half of November, no locusts were seen during surveys carried out in the winter breeding areas along the Red Sea coast and in Wadi Diib between Tomala (2002N/3551E) and the Egyptian border.

• Forecast

Low numbers of locusts are likely to be present on the Red Sea coast and breed on a small scale, primarily between Aqiq and Karora and in Wadi Diib north of Sufiya. Breeding may also occur in the Tokar



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Delta and other areas that receive rainfall during the forecast period.

Eritrea

• SITUATION

Isolated mature solitary adults laid eggs in mid-November on the Red Sea coast near Sheib (1551N/3903E) and Mehimet (1723N/3833E). No locusts were seen elsewhere on the coast during surveys carried out between Tio (1441N/4057E) and the Sudanese border.

• FORECAST

Hatching will occur near Sheib and Mehimet at the beginning of December and the hoppers are expected to fledge by the end of the forecast period. Small-scale breeding is also likely to occur in other areas along the Red Sea coast between Massawa and Karora, which will cause locust numbers to increase slightly.

Ethiopia

• SITUATION

No locusts were seen during surveys carried out on 2 November between Jijiga (0922N/4250E) and the Somali border.

• 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

A late report indicated that no surveys were carried out and no locusts were reported in October. No locusts were seen during surveys on the plateau and escarpment between Boroma (0956N/4313E) and Burao (0931N/4533E) on 10-14 November.

• FORECAST

Scattered adults may be present on the plateau between Boroma and Burao and breed on a small scale. A few adults could appear on the northwest coast by the end of the forecast period.

Egypt

• SITUATION

During November, two ha were infested with small groups of immature solitary adults between Abu Simbel (2219N/3138E) and Tushka (2247N/3126E) on the 22nd. No locusts were seen during surveys in the Allaqi area east of Lake Nasser and on the Red Sea coast south of Shalatyn (2308N/3535E).

• FORECAST

Isolated adults are likely to persist near Lake Nasser. Low numbers of adults could appear on the southern coast of the Red Sea near Abu Ramad and breed if rainfall occurs.

Saudi Arabia

• SITUATION

During November, isolated immature solitary adults were present on the Red Sea coast north of Jeddah (2130N/3910E). No locusts were seen elsewhere on the coast between Jizan (1656N/4233E) and Yenbo (2405N/3802E) or in the interior between Medinah (2430N/3935E) and Buraydah (2621N/4358E).

• FORECAST

Small-scale breeding is likely to occur in areas of recent rainfall on the Red Sea coast, causing locust numbers to increase slightly.

Yemen

• SITUATION

Scattered immature and mature solitary adults were seen during surveys carried out in November along the Red Sea coastal plains between Hodeidah (1450N/4258E) and the Saudi Arabian border. Similar populations were present, but on a lesser scale, on the Gulf of Aden coast northwest of Aden (1250N/4503E).

• FORECAST

Small-scale breeding is likely to occur on the Red Sea coastal plains and Gulf of Aden coast near Aden. There is a low risk that adults may appear and breed in areas of Hadhramaut and Mahara that were flooded in October. All efforts should be made to conduct surveys on a regular basis in all of these areas.

Oman

• SITUATION

No locusts were seen during surveys carried out in central and southern regions during November.

• FORECAST

There is a low risk that adults may appear in areas of recent rainfall in the centre and south, and perhaps breed on a small-scale. Efforts should continue to conduct surveys on a regular basis in these areas.

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 carried out on the southeast coast from 23 October to 26 November.

• **FORECAST**

Low numbers of adults could appear on the southeast coast between Jask and the Pakistani border and breed on a small-scale if rainfall occurs and temperatures remain warm.

Pakistan

• **SITUATION**

During the first half of November, immature and mature solitarious adults at densities up to 200 adults/ha were seen at 35 places in the summer breeding areas in the Cholistan Desert south of Bahawalpur (2924N/7147E) near the Indian border. Low numbers of solitarious hoppers of all instars were seen at a few places.

• **FORECAST**

Locust numbers will decline in Cholistan as vegetation dries out. No significant developments are likely. Low numbers of adults could appear on the Baluchistan coast and breed on a small-scale if rainfall occurs and temperatures remain warm.

India

• **SITUATION**

No locusts were seen during extensive surveys in Rajasthan and Gujarat in the second half of October and first half of November.

• **FORECAST**

No significant developments are likely.

Afghanistan

• **SITUATION**

No reports received.

• **FORECAST**

No significant developments are likely.

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.

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.

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 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 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. Comments and questions can be addressed to Pietro Ceccato (pceccato@iri.columbia.edu).

New information on Locust Watch. Recent additions to the web site are:

- **Desert Locust Bulletins.** Previous FAO bulletins dating from 1979 to the present (Archives section)



Announcements

Locust reporting. During recession periods, countries should report at least once/month and send RAMSES data with a brief interpretation. During caution (yellow) and threat (orange) periods,



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- **National Locust Information Officer training.**
An overview of the 11-month programme in DLIS (Activities – DLIS section)

Links to the above information can be found in the *Latest Additions* section on Locust Watch.

2008-2009 events. The following activities are scheduled:

- **SWAC.** 26th Session, Kabul (15-17 December)
- **EMPRES/WR.** 7th Liaison Officers meeting, Niamey (15-19 December)
- **EMPRES/WR.** 4th Steering Committee meeting, Niamey (22-23 December)
- **DLCC.** 39th Session, Rome (10-13 March)



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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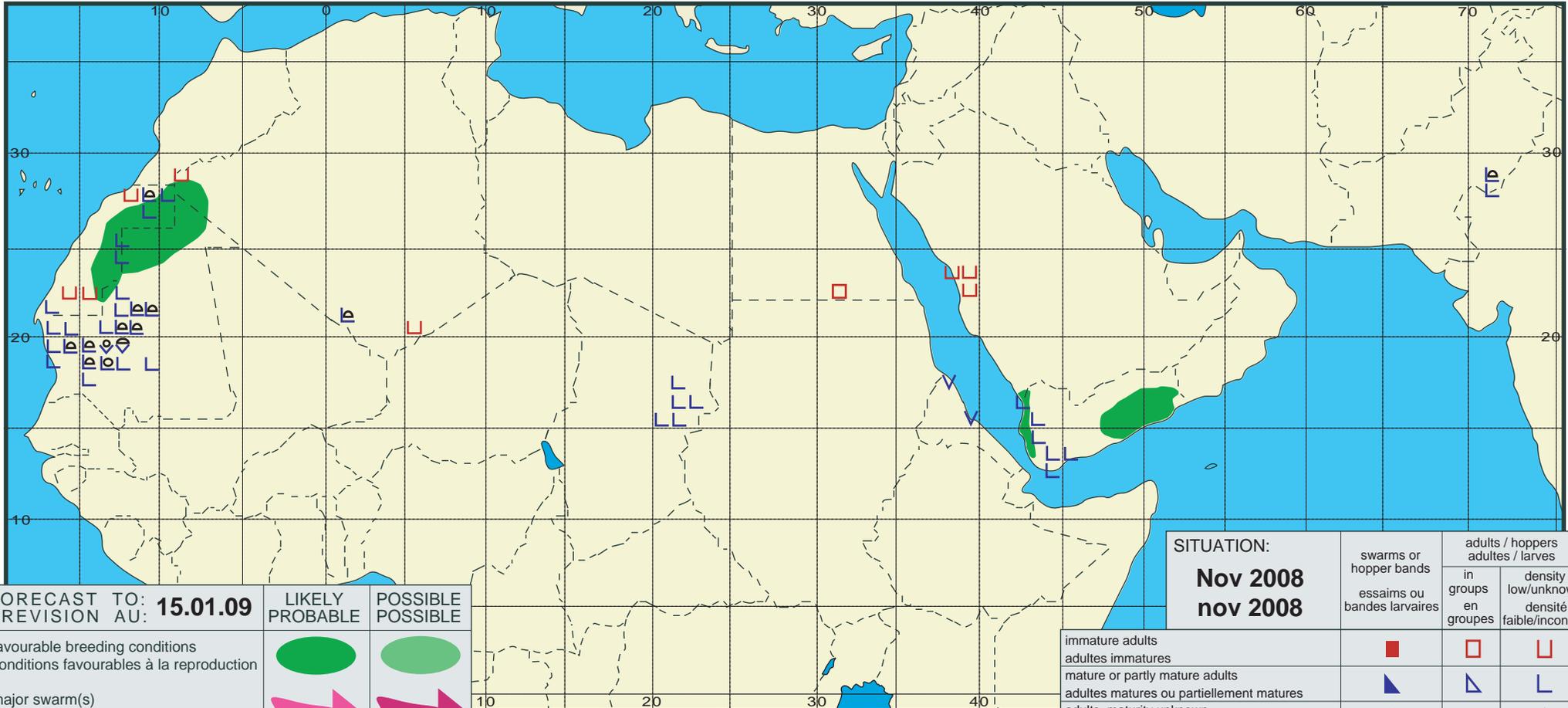
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Desert Locust Summary

Criquet pèlerin - Situation résumée

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FORECAST TO: PREVISION AU: 15.01.09	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 2008 nov 2008	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)			