

DESERT LOCUST BULLETIN

FAO Emergency Centre for Locust Operations



No. 337

(2 November 2006)



General Situation during October 2006 Forecast until mid-December 2006

A local Desert Locust outbreak developed in northwest Mauritania in early October and by mid-month small hopper groups and bands had formed. The outbreak is currently confined to Mauritania and ground control teams treated 1,450 ha during the month. Small-scale breeding continued in Niger where a few small hopper groups have formed and may be in progress in northern Mali. Scattered adults were present in Western Sahara. Breeding will continue in northwest Mauritania, causing some groups and perhaps a few swarms to form by December, and a few small groups may form in Niger as vegetation dries out. Intensive survey efforts should be maintained in both countries as well as in Western Sahara and Algeria. In the Central Region, scattered locusts were present in the interior of Sudan and on the Red Sea coast in Yemen. Small-scale breeding is expected to commence along the Red Sea coast during the forecast period. In the Eastern Region, scattered adults were present along both sides of the Indo-Pakistan border where small-scale breeding could still take place in areas that were flooded during August.

Western Region. As a result of widespread summer breeding over a relatively large area of southern and central Mauritania during the past few months, a local outbreak developed in the Inchiri region of northwest Mauritania in early October. Although control operations were immediately mounted against mature adults and a swarm, laying

occurred and small hopper groups and bands formed by mid-month. Only scattered adults were found in adjacent areas of **Western Sahara** and northern Mauritania, suggesting that the outbreak is limited to Inchiri. During the forecast period, a few small adult groups and swarms could form and move north into Western Sahara and northern Mauritania. If temperatures remain warm and good rains fall, a second generation of laying and hatching could occur by mid December. Elsewhere, solitary and *transiens* hoppers and adults are likely to continue to form a few small groups as they concentrate in vegetation that remains green on the Tamesna Plains in **Niger**. Isolated adults were present near Tombouctou, **Mali** and may also be present and breeding in the northeast.

Central Region. Isolated solitary adults were present in a few places in northeast **Sudan** and on the Red Sea coast in **Yemen**. As good rains fell in the winter breeding areas on both sides of the Red Sea, small-scale breeding is expected to occur in some places along the coastal plains of **Eritrea**, Sudan, southeast **Egypt**, **Saudi Arabia** and Yemen causing locust numbers to increase slightly. Consequently, all efforts should be made to monitor these areas closely and regularly throughout the forecast period.

Eastern Region. Low numbers of solitary adults were present in a few places along both sides of the **Indo-Pakistan** border during October. Although monsoon rains have ended, ecological conditions remained favourable in those areas that received unusually heavy rain in August, which may allow small-scale breeding to occur during the forecast period.

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, 00100 Rome, Italy. It is also available on the Internet.

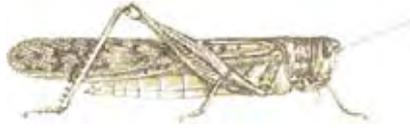
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Weather & Ecological Conditions in October 2006

Seasonal rains continued to decline and vegetation was drying out in the summer breeding areas of the Sahel in October. Good rains fell along parts of the Red Sea coast mainly between Eritrea and Egypt. Vegetation remained green along both sides of the Indo-Pakistan border.

In the **Western Region**, the Inter-Tropical Convergence Zone (ITCZ) continued to retreat southwards, oscillating between 10N and 15N. During the first decade, only light showers fell in the summer breeding areas in southwest and southeast Mauritania but good rains fell in the Adrar des Iforas in Mali and the Air Mountains in Niger while less rain fell on the Tamesna Plains in both countries. Good rains also fell in eastern Algeria and western Libya (in the Al Hamada Al Hamra region in the northwest while flooding was reported in the southwest near Ghat). During the second decade, light showers fell in the Tamesna and occasionally in the southern and eastern Sahara in Algeria. Vegetation started to dry out in the many of the summer breeding areas in the Sahel while ecological conditions remained favourable in parts of central and southern Algeria. Light showers fell sporadically during the month in northwest and northern Mauritania and in adjacent areas of Western Sahara. Vegetation was green in the southern part of Western Sahara where good rains fell during the first and third decades of September. At the end of the month, moderate to heavy rain associated with an eastward-moving Mediterranean depression fell along the southern side of the Atlas Mountains in parts of Morocco and Algeria on 25-27 October.

In the **Central Region**, vegetation continued to dry out in the summer breeding areas in the interior of Sudan during October as the ITCZ retreated southwards and only sporadic rains fell. In the winter breeding areas along the Red Sea coast, good rains fell at times along the Red Sea coast between Massawa, Eritrea and Abu Ramad, Egypt. Rainfall was primarily concentrated near the Sudan/Eritrea border and on the coast between Port Sudan and the Egyptian border. On the 28-29th, widespread rains fell on the Eritrean (Shieb, 57 mm) and Sudanese coast

(Port Sudan, 24 mm), extending across the Red Sea to the central and southern Tihama of Saudi Arabia (Yenbo, 45 mm). Rains also fell on the western side of the Red Sea Hills in eastern Sudan. Consequently, breeding conditions are expected to improve in these areas. In Yemen, ecological conditions remained favourable for breeding on the Red Sea coast and, to a lesser extent, on the Gulf of Aden coastal plains. At the end of the month, light rain fell along the coast and escarpment in northwest Somalia. A few scattered showers fell in parts of Oman.

In the **Eastern Region**, only a few light showers fell at mid-month in Rajasthan, India while other areas along both sides of the Indo-Pakistan border remained dry. Nevertheless, vegetation remained green in many areas in Barmer and Jaisalmer districts in India and in Tharparkar, Pakistan where unusually heavy rains and flooding occurred in August.



Area Treated

Mauritania 1,445 ha (6-31 October)



Desert Locust Situation and Forecast

(see also the summary on page 1)

WESTERN REGION

Mauritania

• SITUATION

A small outbreak developed in the northwest region of Inchiri during the first week of October when small groups of mature yellow adults varying in size from 2 to 50 ha with densities up to 8 adults/m² were seen laying eggs near Bennichab (1932N/1512W). A 50 ha mature swarm with a density of 20-30 adults/m² was seen copulating on the 9th at 1916N/1605W. Hatching started on the 5th and solitary and *transiens* hoppers formed small groups. By the 16th, a few small bands about 150-500 m² in size at densities of 10-20 first and second instar hoppers/m² were reported. At the end of the month, some hoppers had reached the third and fourth instar and densities had increased to 90 hoppers/m². Only scattered mature adults were seen near the Western Sahara border and in the north between Ouadane (2056N/1137W) and north of Zouerate (2244N/1221W) to 24N. A few second to fifth instar solitary hoppers were present near the Western Sahara border in Inchiri and north of Zouerate. Ground control operations treated 1,445 ha from 6 to 31 October.

In the summer breeding areas in the south, locusts declined during October as vegetation dried out and adults moved towards the northwest. Only a few solitary hoppers were reported near Rkiz (1658N/1514W) and Aioun El Atrous (1639N/0936W). Consequently, solitary adults increased slightly in the Aftout Faye region (ca. 18N/14W) of northern Trarza between Nouakchott and Moudjeria (1752N/1219W) where small-scale breeding was in progress. By the end of the month, a few very small hopper groups and bands of all instars had formed and fledging was underway.

• **FORECAST**

Breeding will continue in the northwest and is likely to extend further north if good rains fall. Hoppers will continue to form a few groups and small bands. Fledging will start during the first week of November and continue until the end of the month. During this period, there is a risk that immature adults will form a few small groups and swarms. Most of these should remain in the northwest but a few could move north to Tiris-Zemmour and Western Sahara. If temperatures remain warm and additional rains occur, a second generation of laying and hatching could start by mid December in Inchiri and Aftout Faye, and breeding could take place in Tiris-Zemmour.

Mali

• **SITUATION**

During October, a few immature solitary adults were seen on the 20th and 23rd near Tombouctou at Essakane (1646N/0338W) and Aguiabar (1632N/0350W). Elsewhere, no locusts were seen during surveys between Niore (1512N/0935W) and Hombori (1516N/0140W).

• **FORECAST**

Scattered adults are almost certainly present and breeding on a small scale in parts of Timetrine, Tilemsi Valley, Adrar des Iforas and Tamesna. Unless additional rainfall occurs, breeding should decline during the forecast period as vegetation dries out. Similarly, locust numbers will increase between Tombouctou and the Mauritanian border.

Niger

• **SITUATION**

During October, scattered immature and mature solitary adults, at densities of less than 150 adults/ha, were present in about 100 places on the Tamesna Plains from 5E to the Air Mountains and in the central Air Mountains between Arlit (1843N/0721E) and Timia (1809N/0846E). Small-scale breeding continued in parts of the Tamesna, mainly in the In Abangharit (1754N/0559E) area. By the end of the month, low numbers of solitary hoppers of all instars and fledglings, mixed with a few *transiens* hoppers and

adults, were present in about a dozen places in Tamesna. Up to 3 hoppers/m² were present and small hopper groups were forming at two places near In Abangharit. In the Sahel, isolated solitary immature and mature adults with a few fourth instar hoppers were reported at mid-month in three places between Tanout (1505N/0850E) and Gouré (1359N/1015E).

• **FORECAST**

Unless further rainfall occurs, breeding will decline in the Tamesna as vegetation dries out. Consequently, hoppers and adults are expected to concentrate in the few areas that remain green where they could form a few small groups.

Chad

• **SITUATION**

Late reports indicated that isolated solitary adults were present in a few places in the east near Kalait (1550N/2054E) and Fada (1714N/2132E) from 11 to 30 September.

No reports were received during October.

• **FORECAST**

Small-scale breeding may have taken place near Kalait and Fada where low numbers of locusts are likely to be present. Unless additional rainfall occurs, locust numbers will decline as vegetation dries out.

Senegal

• **SITUATION**

No locusts were seen during surveys carried out on 18-20 October in the northwest between Saint Louis (1601N/1629W) and Richard Toll (1626N/1541W).

• **FORECAST**

No significant developments are likely.

Benin, Burkina Faso, Cameroon, Cape Verde, Côte d'Ivoire, Gambia, Ghana, Guinea Bissau, Guinea, Liberia, Nigeria, Sierra Leone and Togo

• **FORECAST**

No significant developments are likely.

Algeria

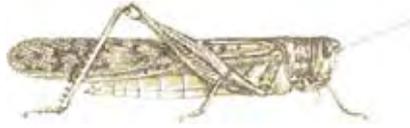
• **SITUATION**

During October, no locusts were seen during surveys carried out in the west near Tindouf (2741N/0811W), in the central Sahara near Adrar (2753N/0017W), in the south near Tamanrasset, in the east near Djanet (2434N/0930E) and Illizi, and in the extreme south near the borders of Mali and Niger.



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• FORECAST

Low numbers of adults could appear in the west and in the south during periods of warm southerly winds.

Morocco

• SITUATION

During October, scattered solitary and *transiens* mature adults were seen in the southern region of Western Sahara west of Awssard (2240N/1410W) on the 18th. A few solitary adults were also reported north of Awssard. On the 30th, scattered mature solitary adults were seen near Laayoune (2708N/1313W). No locusts were seen elsewhere between the Mauritanian border in the south and Bir Anzarane (2353N/1431W) as well as near Guelta Zemmur (2508N/1223W).

Isolated adults were seen in the northeast near Bouarfa (3232N/0159W) on 30 October.

• FORECAST

Small-scale breeding is expected to occur between Tichla and Guelta Zemmur. From mid-November onwards, there is a risk that immature adults and perhaps a few small groups could appear during periods of warm southerly winds from adjacent areas of northwest Mauritania. Consequently, locust numbers are likely to increase during the forecast period. There is a low risk of a few adults and perhaps small groups appearing in the Draa Valley during periods of warm southerly winds from mid November onwards.

Libyan Arab Jamahiriya

• SITUATION

A late report indicated that no locusts were seen during a survey in the southeast near Jebel Arkenu (2215N/2445E) and Jebel Uweinat (2154N/2458E) on 14-15 September.

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

• FORECAST

Scattered adults may be present in parts of the Al Hamada Al Hamra and near Ghat where small-scale breeding could occur in areas of recent rainfall and cause locust numbers to increase slightly.

Tunisia

• SITUATION

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

• FORECAST

No significant developments are likely.

CENTRAL REGION

Sudan

• SITUATION

During October, isolated mature adults were seen on the 20th at two places in the northeast along the Atbara River southeast of Ed Damer (1734N/3358E). No locusts were seen to the west in the Baiyuda Desert or south to Shendi (1641N/3322E).

• FORECAST

Scattered adults may be present in Wadi Oko/Diib and the Red Sea Hills and are likely to appear on the coastal plains. Small-scale breeding will occur in those areas that receive rainfall.

Eritrea

• SITUATION

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

• FORECAST

Scattered adults are likely to appear on the Red Sea coast between Tio and the Sudanese border during the forecast period and breed in areas of recent rainfall or runoff.

Ethiopia

• SITUATION

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

• FORECAST

No significant developments are likely.

Djibouti

• SITUATION

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

• FORECAST

No significant developments are likely.

Somalia

• SITUATION

No locusts were seen on the northwest coast, escarpment and plateau during a survey on 7-11 October between Hargeisa (0931N/4402E) and the Djibouti border.

• FORECAST

No significant developments are likely.

Egypt

• SITUATION

No locusts were seen during surveys carried out on 9 October near Qena (2610N/3243E).

• FORECAST

Isolated adults could start to appear on the Red Sea coastal plains between Shalaty and the Sudanese border during the forecast period.

Saudi Arabia

• SITUATION

No reports were received during October.

• FORECAST

Scattered adults may appear along parts of the Red Sea coastal plains between Rabigh and Jizan where they could breed on a small-scale in areas of recent rainfall, causing locust numbers to increase slightly during the forecast period. All efforts should be made to monitor the situation closely.

Yemen

• SITUATION

In mid-October, isolated immature solitary adults were seen at one place on the northern Red Sea coast southwest of Suq Abs (1600N/4312E), and immature and mature adults were present on the southern part of the Tihama near Bayt Al Faqih (1430N/4317E). No locusts were seen during surveys carried out on the Gulf of Aden coast on 8-9 October.

• FORECAST

Low numbers of locusts are expected to persist on the Red Sea coastal plains and breed on a small-scale. Consequently, locust numbers will increase slightly during the forecast period. All efforts should be made to monitor the situation closely.

Oman

• SITUATION

No locusts were seen during surveys carried out on the Musandam Peninsula and on the northern Batinah coast during October. No locusts were reported in other regions of the country.

• FORECAST

No significant developments are likely.

Bahrain, Iraq, Israel, Jordan, Kenya, Kuwait, Lebanon, Palestine, Qatar, Syria, Tanzania, Turkey, UAE and Uganda

• FORECAST

No significant developments are likely.

EASTERN REGION

Iran

• SITUATION

No reports were received during October.

• FORECAST

No significant developments are likely.

Pakistan

• SITUATION

No reports were received during the second half of September.

During October, scattered immature and mature solitary adults at densities of up to 50 adults/ha were reported in about a dozen places in the Cholistan and Nara deserts near the Indian border.

• FORECAST

Locust numbers will decline in the summer breeding areas in Cholistan, Nara and Khipro deserts but there is a risk that small-scale breeding could occur in Tharparkar where unusually heavy rain fell in August.

India

• SITUATION

During October, no locusts were seen during surveys in Rajasthan except for scattered mature solitary adults at one location west of Jaisalmer (2652N/7055E) on the 16th.

• FORECAST

Low numbers of locusts are likely to persist in the area between Barmer and Jaisalmer where the unusually heavy rain that fell in August could allow small-scale breeding during the forecast period.

Afghanistan

• SITUATION

No reports received.

• FORECAST

No significant developments are likely.



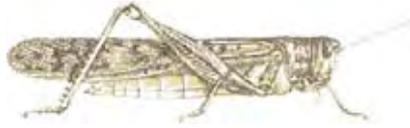
Announcements

Locust reporting. During recession periods, countries should report at least once/month and send RAMSES data with a brief interpretation. During locust outbreaks, upsurges and plagues, RAMSES output files with a brief interpretation should be sent twice/week and affected countries are encouraged to prepare decadal bulletins summarizing the situation. All information should be sent by e-mail to the FAO/ECLO Desert Locust Information Service (ecl@fao.org). Information received by the end of the month will



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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.

eLocust2. FAO has developed a new version of eLocust in collaboration with affected countries and the French Space Agency (CNES/Novacom) that allows field officers to enter survey and control data directly in the field and transmit it in real time via satellite to their national locust centre. Data can also be downloaded to a PC and visualized on GoogleEarth. The software is in both English and French. FAO DLIS has distributed units to nearly all of the frontline countries. Photos and more information are available at: www.fao.org/ag/locusts/en/activ/DLIS/index.html

Desert Locust warning levels. A colour-coded scheme has been established to indicate the seriousness of the current Desert Locust situation: green for *calm*, yellow for *caution* 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. Your feedback on the usefulness of this scheme and any suggested improvements is welcome.

EMPRES/CRC website. Detailed information on EMPRES/CR and the FAO Central Region Commission as well as member country profiles can be found on the new EMPRES/CRC website at: www.crc-empres.org.

New information on Locust Watch. DLIS launched a new initiative in October called *Desert Locust e-info news* as a means of keeping everyone informed on a weekly basis of new information on the Locust Group's web page, Locust Watch (www.fao.org/ag/locusts).

National Desert Locust Centre in Mali. The Government of Mali has recently approved the establishment of a National Desert Locust Centre (Centre National de Lutte contre le Criquet pèlerin) in Bamako attached to the Ministry of Agriculture.

2006-07 events. The following meetings are scheduled:

- **EMPRES/CR.** 14th Liaison Officer Meeting, Muscat (Oman), 11-14 November
- **SWAC.** 25th Session, Tehran (Iran), 20-23 November
- **EMPRES/WR.** 5th Liaison Officer Meeting, Nouakchott (Mauritania), 4-7 December
- **CLCPRO.** 3rd Executive Committee, Nouakchott (Mauritania), 8-9 December
- **EMPRES/WR.** 2nd Session of the Steering Committee, Bamako (Mali), 22-24 January



Glossary of terms

The following special terms are used in the Desert Locust Bulletin when reporting locusts:

NON-GREGARIOUS ADULTS AND HOPPERS

ISOLATED (FEW)

- very few present and no mutual reaction occurring;
- 0 - 1 adult/400 m foot transect (or less than 25/ha).

SCATTERED (SOME, LOW NUMBERS)

- enough present for mutual reaction to be possible but no ground or basking groups seen;
- 1 - 20 adults/400 m foot transect (or 25 - 500/ha).

GROUP

- forming ground or basking groups;
- 20+ adults/400 m foot transect (or 500+/ha).

ADULT SWARM AND HOPPER BAND SIZES

VERY SMALL

- swarm: less than 1 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.

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.



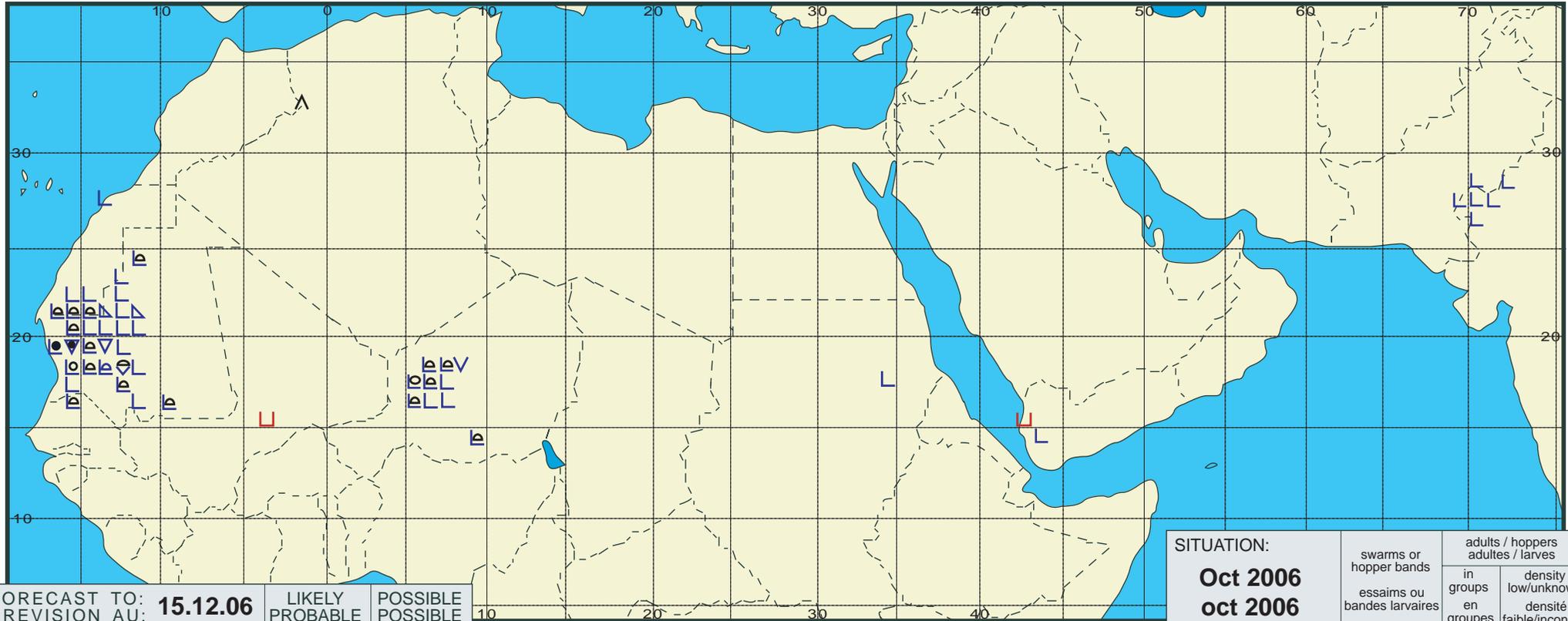
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Desert Locust Summary

Criquet pèlerin - Situation résumée

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FORECAST TO: PREVISION AU:	15.12.06	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: Oct 2006 oct 2006	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)			