

DESERT LOCUST BULLETIN

FAO Emergency Centre for Locust Operations



No. 254
(7 December 1999)



General Situation during November 1999 Forecast until mid-January 2000

A potentially serious situation exists in the Western Region where Desert Locust numbers increased during summer breeding. Gregarisation occurred during November in Mauritania and Mali and a scattered population developed in Niger. The small numbers of locusts already present in Morocco and Algeria could breed. The numbers of locusts in these areas are likely to increase as summer populations possibly including groups and a few small swarms arrive throughout the forecast period. These immigrants are unlikely to breed. Winter breeding has begun in Inchiri and could extend further north in Mauritania and southern Morocco. Elsewhere numbers remained low. Isolated mature adults were reported in the winter breeding areas of Sudan, Eritrea, Yemen and Somalia and small-scale breeding may have begun.

Western Region. Groups of fledglings continued to form during November in central-southern Mauritania. A northward movement of adult groups is expected as the vegetation is drying out. As a result of an early winter breeding, hopper bands were detected in Inchiri during the second fortnight of the month. Control operations were carried out in both areas. Numerous hopper infestations were reported from Mali during surveys carried out in central-eastern

Timetrine where control started on 20 November. Adults groups which will form will probably move northwards. Other teams began to survey western and northern Timetrine during the third dekad. Low to moderate numbers of hoppers and adults were reported from Tamesna, in Niger. Immature adults are expected to concentrate in patches of green vegetation. A few adults were found in the extreme-south and south-west of Algeria. Isolated adults were reported in Morocco, east of Atlas Mountains and in the south-west. These populations already present in Algeria and Morocco could breed. Some groups and small swarms that have escaped control in the summer breeding areas could reach south-central and south-western Algeria, northern Mauritania and Morocco.

Central Region. A few mature adults were present on the Red Sea coasts of the Sudan, Eritrea and Yemen and are expected to breed. No locusts were reported in Saudi Arabia. Breeding on the Red Sea coastal plains is likely to be on a small-scale except in the Sudan where numbers are expected to increase following heavy rains and flooding in mid-November. Scattered hoppers and adults were again controlled in crops in southern Egypt. None was seen there or in southeastern Egypt in later surveys. No locusts were reported from eastern Ethiopia. Isolated mature adults were present in north-western Somalia.

Eastern Region. Locust numbers continued to decrease in the summer breeding areas in Pakistan and India was free of locusts during November. Small numbers of locusts may be present in the winter-spring breeding areas. No locusts were reported in Iran.

The FAO Desert Bulletin is issued monthly, supplemented by Updates during periods of increased Desert Locust activity, and is distributed by fax, 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.

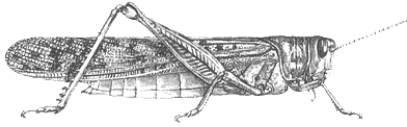
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Weather & Ecological Conditions in November 1999

Summer rains has stopped and vegetation is drying out in most parts of the Sahel in West Africa and Sudan. New patches of vegetation appeared in November in the winter-breeding area of north-western Mauritania. Conditions are reported to be suitable for Desert Locust survival in southern Algeria and southern Morocco. Vegetation is still restricted to the wadis on the Red Sea coastal plains. Dry conditions prevailed in the winter breeding areas of Pakistan and Iran

In **West Africa**, the ITCZ was consistently located near 10N throughout November. Only light rain was recorded in Mauritania at Atar (2mm on 24.11). Satellite imagery of mid-November suggests that vegetation was well developed in the central-south Mauritania and that new patches of green vegetation had appeared in Inchiri and western Adrar. At the same time, nomads reported that vegetation was present in parts of Inchiri and Tiris Zemmour. The latter was not visible on the imagery. The satellite imagery of north-eastern Mali indicates less vegetation during the second dekad of November than in October but green patches were still present in Adrar and western Timetrine up to the Algerian border. The ground teams reported that the ecological conditions in Timetrine were suitable for the development and the survival of Desert Locusts. The satellite imagery presents the same pattern for northern Niger with green vegetation persisting in the mountainous areas and drying out in the plains (Tamesna area).

In **North-West Africa**, isolated light showers fell in parts of the Algerian Sahara at El Golea in the north (10 mm during the second dekad and 21mm during the third one) and at Adrar in the west (10mm and 7mm in the second and third dekads respectively). Ecological conditions were reported to be very suitable for Desert Locust survival in the extreme south and south-west. In Morocco, light rains were reported over the south-eastern side of the Atlas Mountains where annual vegetation is developing as well as in the Souss Valley, the coastal areas north of the Saharan Provinces and the Wadi Draa Valley. Satellite im-

agery suggests that vegetation is also developing in the interior of Saharan Provinces between 24-26N and 13-12W.

In **Eastern Africa**, the ITCZ fluctuated between 05-15N during the first dekad of November, and around 10N for the rest of the month. Clouds were visible on many days throughout the month and coincided with rain on the Red Sea coast of the Sudan on 15 November. Light rains were reported in Sudan at Port Sudan, Suakin and Tokar in mid-November. Clouds also affected parts of the coastal plains of Eritrea in mid-November. On the Red Sea coastal plains the wadis are greening and the conditions are expected to improve in Sudan and elsewhere, if good rains fall.

In the **Near East**, clouds were generally restricted to the mountains except during mid-November when they covered the coast. The satellite imagery indicates that green vegetation is restricted to the wadis on the Red Sea coastal plains, from Qunfidah, Saudi Arabia, to Zabid, Yemen. Dry conditions prevailed on the coastal plains of the Gulf of Aden where only the wadis were green. Satellite imagery suggests that vegetation was green in parts of the interior in Oman but areas surveyed were dry.

In **South-West Asia**, no rains were reported in November in the desert areas of Pakistan and India. Dry conditions still prevailed in the winter breeding areas of Pakistan and Iran.



Area Treated

Mauritania	958.5 ha (1-30 Nov.)
Mali	426 ha (20-23 Nov.)
Egypt	110 ha (9-10 Nov)



Desert Locust Situation and Forecast

(see also the summary on the first page)

WEST AFRICA

Mauritania

• SITUATION

Hopper development continued throughout November in south-western Tagant and north-eastern Brakna where the number of fledglings progressively increased. During the third dekad, fledglings reached a maximum density of 50 000/ha and formed groups. One swarm was also observed forming in eastern Brakna (1802N/1230W). Only isolated adults were re-

ported from Aouker Aioun during the last dekad. In Inchiri, nomads reported a mature swarm in early November (19N/13W) and, as a result, winter breeding started near Benichab (19N/15W). From mid-November, small 2nd to 5th instar groups and bands from 3 to 4 800 sq m were reported in this area. A total of 918.5 ha were treated throughout the month in Brakna and Tagant and 40 ha were treated during the last dekad in Inchiri.

• **FORECAST**

As vegetation continues to dry out in the central and southern parts of the country, groups of immature adults that have escaped control will move northwards; some may breed in green areas in northern Mauritania and in the Saharan Provinces of Morocco. Others may cross into southwestern Algeria and adjacent parts of Morocco. Some groups and small swarms could possibly arrive from Mali.

Mali

• **SITUATION**

Solitarious and transiens hoppers of all instars were observed in most of the wadis during a survey from 9 to 13 November in central-eastern Timetrine (19N/0W & 0E). These infestations varied in area from 100 to 3 600 ha at densities from a few to 70 000 hoppers/ha. Patches of gregarious and solitarious hoppers were reported at densities between 100 000 to 120 000/ha over 600 ha at In Temedhe (1922N/0029W). Fledging had begun and immature adults were also present in the area at densities varying from 25 to 2 000 adults/ha. In this area, 21 000 ha were reported to be infested and 426 ha were treated from 20 to 23 November.

In addition, mainly 4th instar solitarious and transiens infestations were reported in southern Timetrine. Hoppers at densities up to 5 000/ha were found near In Koufe (1856N/0025E) and hoppers mixed with scattered immature adults were found near Aslar (1852N/0016E).

• **FORECAST**

Fledglings now present are expected to form groups and small swarms. Hopper bands will continue to form and large numbers of fledglings will appear throughout the forecast period. Those escaping control may form groups and swarmlets. As vegetation dries out, the groups and any swarms that form are expected to move northwards during periods of warm southerly winds. Some could reach south-central Algeria and others may reach northern Mauritania, south-western Algeria and Morocco

Niger

• **SITUATION**

During survey carried out in eastern Tamesna and Talak from 1 to 15 November, mixed populations of hoppers and immature adults were observed at densities varying from 50 to 1,500 locusts/ha. The maximum density was reported at Tim Merghsoï (1815N/0604E). Only very low densities of immature adults and hoppers of 2nd to 5th instars were observed in the Ighazer Valley and southern Aïr.

Low density, solitarious immature adults were reported during a survey carried out in western Tamesna from 3 to 12 November. At one place, near Aghlan Niklen (1828N/0540E), locusts had concentrated into a 1 ha green area. Solitarious hoppers at density of 2/sq m were mixed with fledglings at densities varying from 200 to 500 adults/ha.

• **FORECAST**

Fledglings will continue to appear during the next weeks and will persist and concentrate in patches of green vegetation. Some could fly northwards during the forecast period when southerly winds occur.

Chad

• **SITUATION**

No reports received.

• **FORECAST**

Low numbers of adults may persist in the north-east near Fada and in the Ennedi.

Senegal

• **SITUATION**

No reports received.

• **FORECAST**

No significant developments are likely.

Burkina Faso, Cape Verde, Gambia, Guinea Bissau, and Guinea Conakry

• **FORECAST**

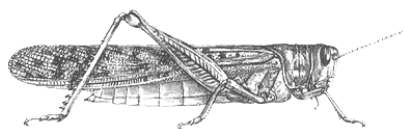
No significant developments are likely.

NORTH-WEST AFRICA

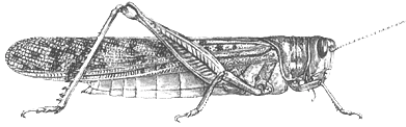
Algeria

• **SITUATION**

During November, a few adults were found in wadis in the extreme south (19 & 20N 03E) and south of Tindouf (26N 6 & 8W).



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• FORECAST

Adults that have already matured may start to breed. Locusts, possibly including groups and some small swarms, are likely to move into Algeria from Mali and Niger throughout the forecast period. Some groups and small swarms that escape control in Mauritania could also arrive in these areas. Immature immigrants are unlikely to mature and breed until temperatures rise in February.

Morocco

• SITUATION

In early November, isolated immature adults were caught in Bouarfa and Errachidia Provinces. On the 6th November, isolated mature locusts were seen at the confluence of Wadis Drâa and Tata (2908N/0759W) infesting about 20 ha at density of 2000 adults /ha. A few scattered adults were also seen in the south-west (2219N/1421W and 2151N/1619W).

• FORECAST

Locusts are likely to continue arriving from summer breeding in Mauritania, Mali and Niger. Adults that have already matured may start to breed south of the Atlas Mountains during the forecast period. Immature immigrants are unlikely to mature and breed until temperatures rise in February.

Libyan Arab Jamahiriya

• SITUATION

No reports were received.

• FORECAST

No significant developments are likely.

Tunisia

• SITUATION

No locusts were reported in September and October.

• FORECAST

No significant developments are likely.

EASTERN AFRICA

Sudan

• SITUATION

Scattered mature adults were seen between Port Sudan (1938N/3707E) and Tokar (1827N/3741E) during survey from 15 to 22 November. Flooded wadis then interrupted surveys. No information was received from summer breeding areas in the interior.

• FORECAST

Winter breeding may have started on the Red Sea Coast. Numbers are likely to rise because heavy rains suggest that conditions for hopper survival will be good. Gregarisation is unlikely in this generation but may occur if favourable conditions continue during the next generation which could start laying in February.

Eritrea

• SITUATION

Low numbers of mature adults were found in mid-November during a survey to the north and south of Massawa near Shelshela (15 55N/3908E) and Marsa Gulgub (1614N/3908E). Vegetation was green in wadis and farmland affected by floods but dry elsewhere.

• FORECAST

Small-scale breeding may begin in the wadis and, if good rains fall, may occur elsewhere on the Red Sea coastal plains.

Somalia

• SITUATION

Surveys in November of areas where rains fell in October and early November found low numbers of isolated mature locusts northwest of Boroma (10N/43E), south of Bulhar (10/44E) and to the east of Erigavo (10N/46E).

• FORECAST

Low numbers of adults will probably persist and breed in wadis between Hargeisa and Erigavo in areas that remain green from rains in October and early November.

Ethiopia

• SITUATION

No reports received.

• FORECAST

No significant developments are likely.

Djibouti

• SITUATION

No reports received.

• FORECAST

No significant developments are likely.

Kenya, Tanzania and Uganda

• FORECAST

No significant developments are likely.

NEAR EAST

Saudi Arabia

• SITUATION

No locusts were reported on 1-25 November on the Red Sea coast from Makkah Region (2157N/3933E) to the Saudi-Yemeni border.

• FORECAST

Isolated adults may be present along the plains south of Qunfidah which are reported to be suitable for breeding. Small-scale breeding could occur in this area during the forecast period.

Yemen

• SITUATION

Locusts were only seen at one location (1615N/4256E) during a survey carried out on 23 November on the Red Sea coastal plains, south of the Saudi-Yemeni border.

• FORECAST

Small-scale breeding may occur on the Red Sea coastal plains.

Egypt

• SITUATION

Solitarious immature adults were present in cultivated areas in the western Desert at Sh. Oweinat (2240N/2845E).

• FORECAST

No significant developments are likely on the Red Sea coastal plains or in the interior.

Kuwait

• SITUATION

No reports received during November.

• FORECAST

No significant developments are likely.

Oman

• SITUATION

No locusts were reported from 23 October to 5 November.

• FORECAST

No significant developments are likely.

United Arab Emirates

• SITUATION

No reports received.

• FORECAST

No significant developments are likely.

Bahrain, Iraq, Israel, Jordan, Qatar, Syria Arab Republic and Turkey

• FORECAST

No significant developments are likely.

SOUTH-WEST ASIA

Iran

• SITUATION

No locusts were seen during surveys carried out in Hormozgan Province near Jask (2540N/5746E) at five locations on 1st November and at 8 locations on 13-16 November and 5 locations on 20-21 November.

• FORECAST

As poor rainfall occurred in this area, no significant developments are likely.

Pakistan

• SITUATION

During the second fortnight of October, isolated moulting and mature adults at densities up to 10/ha were reported at 15 places in the Tharparkar, Khairpur and Cholistan deserts.

No locusts were reported during November.

• FORECAST

Low numbers of locusts may be present in the winter-spring breeding areas. No significant developments are likely.

India

• SITUATION

No locusts were seen during surveys carried out in Rajasthan on 1-30 November.

• FORECAST

No significant developments are likely.

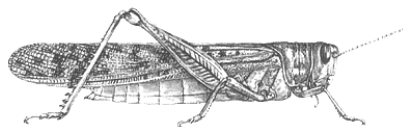
Afghanistan

• SITUATION

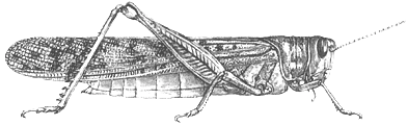
No reports received.

• FORECAST

No significant developments are likely.



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Other Migratory Pests

Malagasy Migratory Locust and Red Locust in Madagascar. The National Committee for Locust Control (CNLA) officially considered that the plague was over after surveys carried out late October in northern, western and southern parts of Madagascar by three teams. These were staffed by the CNLA, the Ministry of Agriculture and other nationals who represented donors. The CNLA indicated that the final control operations were in progress and that sufficient equipment and pesticides were available. Adults of Migratory and Red Locusts were reported to be present only in the Middle-West, near Tsiroanomandidy, and in the South-West in the areas of Vineta, Isoanala and Tsivory.

Western Region. A technical and legal consultation on the restructuring of bodies responsible for Desert Locust management in Western and North-Western Africa will be held in Rabat, Morocco, in March 2000.

EMPRES (Central Region). The planning workshop for Phase II will be held in Cairo, Egypt, on 26-30 March 2000.

LOCUSTOX publications. New publications have been added to the LOCUSTOX Webpage (<http://www.fao.org/news/global/locusts/locustox/loxhome.htm>).

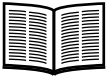


Announcements

Mohammed Abbas Mohammed ABU HASSABU. It is with great shock and sadness that we have learnt of the death, following a sudden illness, of Mr. Mohammed Abbas Mohammed ABU HASSABU, General Director of the Plant Protection Directorate at the Ministry of Agriculture in Sudan. He will be greatly missed as a calm and committed supporter of improved locust management nationally and regionally. Our sincere condolences go to his family and to his Government.

Locust reporting. Affected countries are kindly reminded to make sure that locust situation reports are sent to FAO HQ by the 25th day of the month so the information can be included in the FAO 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.

FAO Commission for Controlling the Desert Locust in the Eastern Region. The 22nd session of the Commission and the 13th session of the Executive Committee will be held in Tehran, I.R. Iran, on 16-20 January 2000.



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

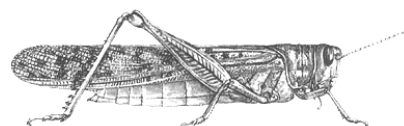
- a period of one or more years of widespread and heavy infestations, the majority of which occur as bands or swarms. A major plague exists when two or more regions are affected simultaneously.

RECESSION

- period without widespread and heavy infestations by swarms.

REMISSION

- period of deep recession marked by the complete absence of gregarious populations.



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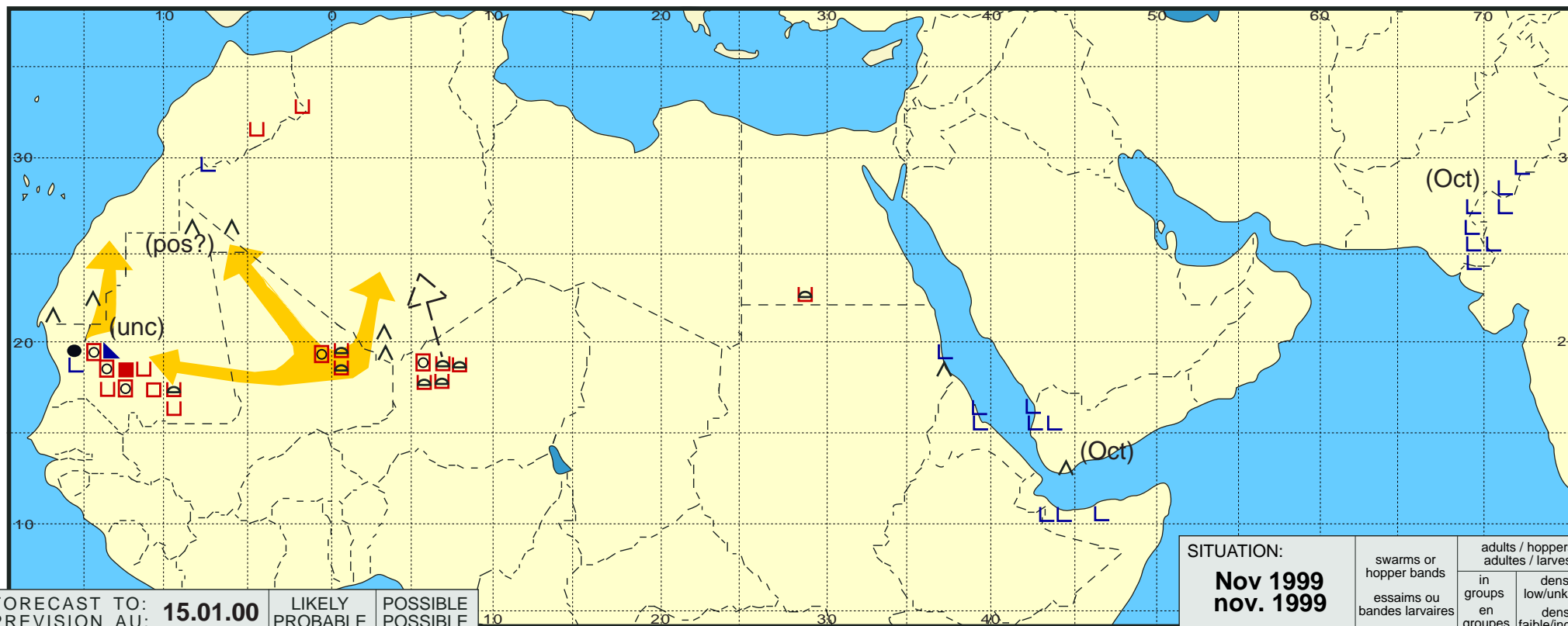
DESERT LOCUST BULLETIN



Desert Locust Summary

Criquet pèlerin - Situation résumée

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FORECAST TO: PREVISION AU: 15.01.00	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 1999 nov. 1999	swarms or hopper bands essaims ou bandes larvaires	adults / hoppers adultes / larves	
		in groups en groupes	density low/unknown densité faible/inconnue
immature adults adultes immatures			
mature or partly mature adults adultes matures ou partiellement matures			
adults, maturity unknown adultes, maturité inconnue			
egg laying or eggs pontes ou œufs			
hoppers larves			
hoppers & adults (combined symbol example) larves et adultes (exemple symboles combinés)			