

DESERT LOCUST BULLETIN

FAO Emergency Centre for Locust Operations



No. 237
(3 July 1998)



General Situation during June 1998 Forecast until mid-August 1998

Low numbers of Desert Locust were reported from a few countries during June. These are remnants of breeding that occurred during the spring. Most of the populations are thought to be in the process of moving to the summer breeding areas. Some adults had already appeared by mid month along the Indo-Pakistan border where they are expected to lay in areas of recent rainfall. In the Sahel of West Africa and Sudan, only very limited breeding is expected due to the poor rainfall so far and the few locusts currently reported.

Eastern Region. Minor control operations continued into early June against small groups of hoppers and adults in the spring breeding areas of Baluchistan in western Pakistan and eastern Iran. Low numbers of adults started appearing in desert areas along the Indo-Pakistan border at mid month. These may be supplemented by more adults and perhaps a few small groups that may have escaped from earlier control operations. As pre-monsoon rains fell in early June and the monsoon had commenced by the end of the month, laying is expected along the common border of Pakistan and India.

Central Region. Small groups of adults were seen moving through the highlands in northern Yemen. These have most likely escaped from previous control operations on the Red Sea coastal plains near the Saudi-Yemeni border. Isolated adults were present in a few places in southern Yemen and northern Somalia. Seasonal rains have started in parts of the summer breeding areas of Sudan where scattered adults are present. Small scale breeding is likely to occur there and in western Eritrea.

Western Region. Isolated adults were present in northern Mali where there was an unconfirmed report of a small swarm. Small scale breeding is expected to commence with the onset of the summer rains, which appear to be late this year, in southern Mauritania, northern Mali and Niger.

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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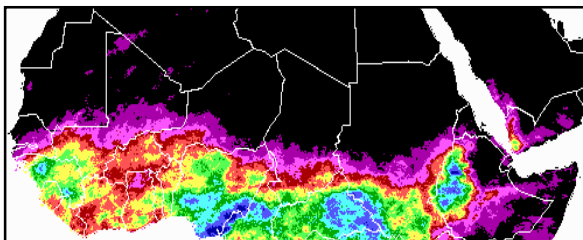


Weather & Ecological Conditions in June 1998

Dry conditions prevailed in most of the Desert Locust breeding areas. Pre-monsoon rains fell along the Indo-Pakistan border and, by the end of the month, the monsoon had commenced in Rajasthan. Summer rains have yet to commence in the Sahel of West Africa where only sporadic and poor rainfall has been reported so far.

In the **Near East**, light rain fell in parts of southern Yemen where ecological conditions were generally dry and unfavourable for breeding except in a few limited areas of Shabwa. In Oman, the seasonal monsoon started on the Salalah coastal plains and Dhofar Mountains where light rains were reported nearly every day from the 24th onwards. No significant rainfall was reported from Saudi Arabia where conditions are thought to be mostly dry along the coastal plains. In the interior near Najran and Wadi Dawasir, heavy rainfall occurred in May and the vegetation may be greener.

In **Eastern Africa**, rains began falling in the summer breeding areas of Sudan in early June. In the eastern province, light rains fell in the Kassala area while heavier showers were reported further south near Gedaref. In the central provinces, heavy rain was reported from Khartoum (70 mm, 2 June) and El Obeid (72 mm, 17 June) while lighter rains fell near En Nahud. In northern Sudan, heavy rain (60 mm) was reported from Abu Hamad on the 20th. Most of these showers were sporadic and isolated. Consequently, breeding conditions are expected improve in parts of these areas. Light rains fell at times in the Railway



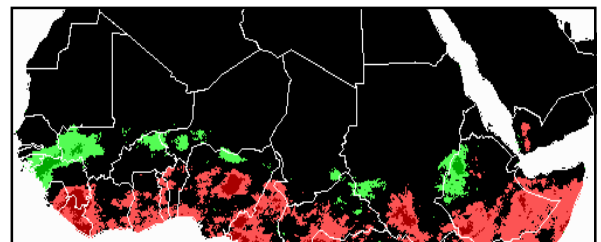
The northern extent and amount of cold clouds during June over West Africa and Sudan were below normal for this time of year. Most clouds remained south of the Desert Locust breeding areas.

light  heavy


Area near Dire Dawa, Ethiopia and on the northern Somali plateau near Hargeisa. Analysis of cold cloud imagery suggests that the distribution and quantity of rainfall so far this season is below average and late compared to previous years.

In **South-West Asia**, pre-monsoon rains fell in parts of the summer breeding areas along the Indo-Pakistan border during the second week of the month. Most of this rainfall was associated with a low pressure system on the 10th. In Pakistan, Bahawalapur received 10 mm and Chor 6 mm; in India, Bikaner 25 mm, Jaisalmer 26 mm, and Jodhpur 112 mm. Heavy and widespread rain was reported in Gujarat and Rajasthan during the last week of June, indicating the start of the monsoon season. Jaisalmer reported 21 mm and Jodhpur 25 mm. Consequently, breeding conditions are very favourable in Rajasthan earlier than normal and to a lesser extent in adjacent areas of Pakistan. The spring breeding areas of Baluchistan in eastern Iran and western Pakistan have dried out.

In **West Africa**, cold cloud imagery indicates that there was an increase in cloud cover over south-west Mali, south-west Niger and southern Chad during the first dekad of June. This was associated with the northward progression of the Inter-Tropical Convergence Zone (ITCZ) over the Region. However, it was much less compared to last year at this time and remained for the most part south of the Desert Locust summer breeding areas. During the remainder of the month, cloud cover did not increase as expected but stayed the same or decreased except for over a few places of southern Mauritania and Tahoua, Niger. Consequently, rains that were reported during the month were low, poorly distributed and infrequent. In Mauritania, light rains fell near Atar, Nouakchott, Aioun and Tidjikja. In Mali, rains were reported from Kidal (20 mm), Tombouctou (20 mm), Nioro (30 mm), and Hombori (24 mm). In Niger, rains fell near Tahoua (54 mm), Bilma (5 mm) and Agadez (4 mm). As a result, breeding conditions are expected to be improving in a few limited parts of southern Mauritania, in the southern Adrar des Iforas and near Tombouctou, Mali, and in the southern Tamesna of Niger.



Compared to May, cold clouds decreased in many areas during June except for western Mali and parts of western Niger.

 decrease  increase

In **North-West Africa**, only isolated showers fell at times in a few places south of the Atlas Mountains in Morocco and Algeria except for Bechar, Algeria which reported 95 mm. Light rains also fell in parts of southern Tunisia, southern and eastern Algeria, and western Libya. Unless additional rains fall, these alone are probably not sufficient to allow breeding.



Area Treated

| | <u>currently reported</u> | <u>since Jan 1998</u> |
|----------|----------------------------|-----------------------|
| Iran | 12,930 ha (21 Apr – 6 Jun) | 15,590 ha |
| Pakistan | 250 ha (May) | |
| | 1,000 ha (2-6 June) | 1,250 ha |



Desert Locust Situation and Forecast

(see also the summary on the first page)

WEST AFRICA

Mauritania

- **SITUATION**

No locusts were seen from mid May to mid June.

- **FORECAST**

Locust numbers will increase in the summer breeding areas of the south and centre. Laying on a small scale is expected to occur with the onset of the seasonal rains and scattered solitary hoppers may appear.

Mali

- **SITUATION**

In early June, isolated adults were present in the Adrar des Iforas, the Tilemsi Valley and in part of Timetrine. There was a report of a 3 sq. km swarm near Gao at Amastaouas (1720N/0152E) but this could not be confirmed.

- **FORECAST**

Low numbers of solitary adults will persist in a few of the major wadis in the Adrar des Iforas, the Tilemsi Valley and in Timetrine. Numbers will increase as small scale laying occurs with the onset of the seasonal rains. Consequently, low numbers of solitary hoppers may appear by the end of the forecast period.

Niger

- **SITUATION**

No reports received.

- **FORECAST**

Low numbers of solitary adults may be present in a few places of Tamesna. These are expected to lay eggs with the onset of the summer rains with low num-

bers of solitary hoppers appearing by the end of the forecast period.

Chad

- **SITUATION**

No reports received.

- **FORECAST**

Low numbers of solitary adults may be present in a few places of Biltine and southern BET. These are expected to lay eggs with the onset of the summer rains and low numbers of solitary hoppers may appear by the end of the forecast period.

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**

No locusts were seen during May and June

- **FORECAST**

A few isolated adults may be present in the extreme southern or eastern areas of the Sahara where small scale laying could occur if further rains fall.

Morocco

- **SITUATION**

No locusts were seen during May and June

- **FORECAST**

No significant developments are likely.

Tunisia

- **SITUATION**

No locusts were seen in May.

- **FORECAST**

No significant developments are likely.

Libya

- **SITUATION**

No reports received.



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- **FORECAST**

No significant developments are likely.

EASTERN AFRICA

Sudan

- **SITUATION**

In May, isolated solitarious adults were present in the Eastern Region near Suakin (1908N/3717E), Sinkat (1855N/3648E) and Derudeb (1731N/3607E), and in Northern Darfur. No further details are available.

- **FORECAST**

Locust numbers are expected to increase in the summer breeding areas of the west, centre and north where scattered adults may already be present. Small scale laying will occur in areas of recent rainfall such as El Obeid and Abu Hamad, extending to other areas with the onset of the summer rains. Consequently, low numbers of hoppers could appear during the forecast period.

Eritrea

- **SITUATION**

No reports received.

- **FORECAST**

Low numbers of locusts may be present in the western lowlands. These are expected to lay on a small scale with the onset of the summer rains. Consequently, low numbers of hoppers could appear during the forecast period.

Somalia

- **SITUATION**

Isolated mature adults were seen on the north-western escarpment near Weeraar (1015N/4315E) on 6 June. There was no trace of a swarm reported but not confirmed in the area (Bulletin 236). During surveys in the north-east on the 9-15th, isolated adults sometimes mixed with grasshoppers, Tree Locusts and African Migratory Locusts were seen at Sheikh Abdal (0957N/4442E), Gabobe (0829N/4812E) and Qardho (0930N/4905E).

- **FORECAST**

Low numbers of solitarious adults will persist on the escarpment. Small scale breeding may occur in favourable areas resulting in low numbers of hoppers.

Djibouti

- **SITUATION**

No reports received.

- **FORECAST**

No significant developments are likely.

Ethiopia

- **SITUATION**

No locusts were seen during surveys in the eastern region near Dire Dawa, Jijiga and Degahbur on 8-12 June. Solitary adults were present north-west of Dire Dawa at Asbuli (0958N/4110E) on the 13-14th.

- **FORECAST**

Low numbers of adults may persist and breed on a small scale in those areas that remain green near Dire Dawa and the Somali border.

Kenya, Tanzania and Uganda

- **FORECAST**

No significant developments are likely.

NEAR EAST

Saudi Arabia

- **SITUATION**

No reports received.

- **FORECAST**

Low numbers of locusts may persist on the southern Tihama near Jizan and in the interior near Najran, and breed if additional rains fall.

Yemen

- **SITUATION**

Scattered mature adults were present at a few locations in the interior of Shabwa Governorate between Ataq (1433N/4649E) and Uqlah (1521N/4651E) on 23 June. There were also reports of scattered immature and mature transiens adults as well as some groups from Sa'ada (1657N/4346E) and Sana'a (1517N/4411E) on the 26th. These are probably escapees of control operations conducted during May on the Red Sea plains near the Saudi Arabian/Yemeni border.

- **FORECAST**

Early in the forecast period, a few small groups may move through the highlands towards the summer breeding areas of the interior in the Eastern Region. Low numbers of adults will probably persist in a few areas of this region between Bayhan and Hadhramaut. Small scale breeding may occur if additional rain falls.

Egypt

- **SITUATION**

No locusts were seen during surveys in June on the south-eastern coastal plains near Shalatein or near Lake Nasser.

• **FORECAST**

Low numbers of adults may persist and breed in a few oases near Lake Nasser and in the Western Desert.

Kuwait

• **SITUATION**

No locusts were seen in May.

• **FORECAST**

No significant developments are likely.

Oman

• **SITUATION**

No reports received.

• **FORECAST**

No significant developments are likely.

UAE

• **SITUATION**

No reports received.

• **FORECAST**

No significant developments are likely.

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

• **FORECAST**

No significant developments are likely.

SOUTH-WEST ASIA

Iran

• **SITUATION**

A late report indicated that no locusts were seen during surveys in early May on the south-western coastal plains near Bushehr.

Control operations continued in the spring breeding areas on the south-eastern coastal plains near Chabahar (2518N/6038E) and in the interior near Iranshahr (2715N/6041E) in May and early June. In addition to that which was previously reported, a total of 12,930 ha of hoppers and adults were treated from 21 April to 6 June. By the last dekad of the month, only isolated immature and mature adults remained in a few places along the Chabahar plains.

• **FORECAST**

No significant developments are likely.

Pakistan

• **SITUATION**

During the second fortnight of May, scattered adults were reported from 36 places in the coastal and interior areas of Baluchistan. Breeding was in progress in the northern interior and, consequently, limited control operations were conducted against small groups of solitary first and second instar hoppers in Kharan district at Ziarat (2809N/6535E) and Shamsi (2749N/6504E) on the 27-28th. There were reports of other

infestations of third to fifth instar hoppers. In Nushki district, teams treated about 250 ha of high numbers of solitary adults at Guft (2930N/6545E) on the 30th.

During the first fortnight of June, operations treated 1,000 ha of patchy infestations of late instar hoppers and fledglings at Ziarat and Shamsi on the 2-6th.

During the second fortnight, scattered solitary adults began to appear in the summer breeding areas of Tharparkar and Cholistan. Adults were reported from Lasbela, Mirpurkhas, Sukkur Rahimyar Khan and Bahawalpur districts, with a maximum density of 26 per ha at Resham Tar (2501N/7049E) in Tharparkar on the 26th.

• **FORECAST**

Locust numbers may continue to increase in the summer breeding areas of Cholistan and Tharparkar early in the forecast period as additional adults and perhaps a few small groups appear from spring breeding areas. Small scale breeding will occur and low numbers of hoppers are expected to appear from mid July onwards.

India

• **SITUATION**

During the second fortnight of May, scattered adults at densities up to 9 per location were reported from nine places in Barmer district and one place in Bikaner, Rajasthan.

During the first fortnight of June, isolated adults at densities up to 6 per location were reported from eight places of Barmer and Bikaner districts.

During the second fortnight, isolated adults persisted in the above districts and were also reported from Nagaur and Jodhpur districts in Rajasthan. Densities increased to 24 adults per location (18/ha).

• **FORECAST**

Locust numbers will increase in the summer breeding areas of Rajasthan where early breeding may occur in some of those areas that received pre-monsoon rains. Breeding on a small scale will continue with the onset of the monsoon rains and hoppers should appear during the forecast period.

Afghanistan

• **FORECAST**

No significant developments are likely.



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sented in a straightforward manner for a wide audience that includes the general public, donors, locust workers and researchers. Comments are more than welcome! Go to:

<http://www.fao.org/news/global/locusts/locuhome.htm>



Madagascar update

Despite successful aerial control carried out during the two past months, mainly against swarms of African Migratory Locusts, a plague persists in the country. Two helicopters contracted by the European Community treated more than 100,000 ha and protected an additional 120,000 ha against hopper bands. Up to now, the main highlights of the 1997-1998 control campaign are:

- a late start of the seasonal lifecycle of the locusts (November 1997);
- the rainy season came to an early end which resulted in locusts invading the Highlands where they persisted without breeding a third time and could be effectively treated;
- the Eastern Coast was invaded up to 17°S by numerous second generation swarms;
- no fourth generation of breeding;
- a high level of gregarisation for important numbers of Migratory Locust;
- the persistence of transients and gregarious populations of Red Locust in the south.



Announcements

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.

Internet FAO locust pages updated. The webpages of the Locust Group have been expanded to include information on recent Desert Locust plagues and also on training activities. The Plagues page includes maps of swarm breeding and migrations and an in-depth analysis of last year's upsurge in Saudi Arabia. The Training page has training programmes, participants and photos of trainees and activities in Yemen and Iran. The information is pre-



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.

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.

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.



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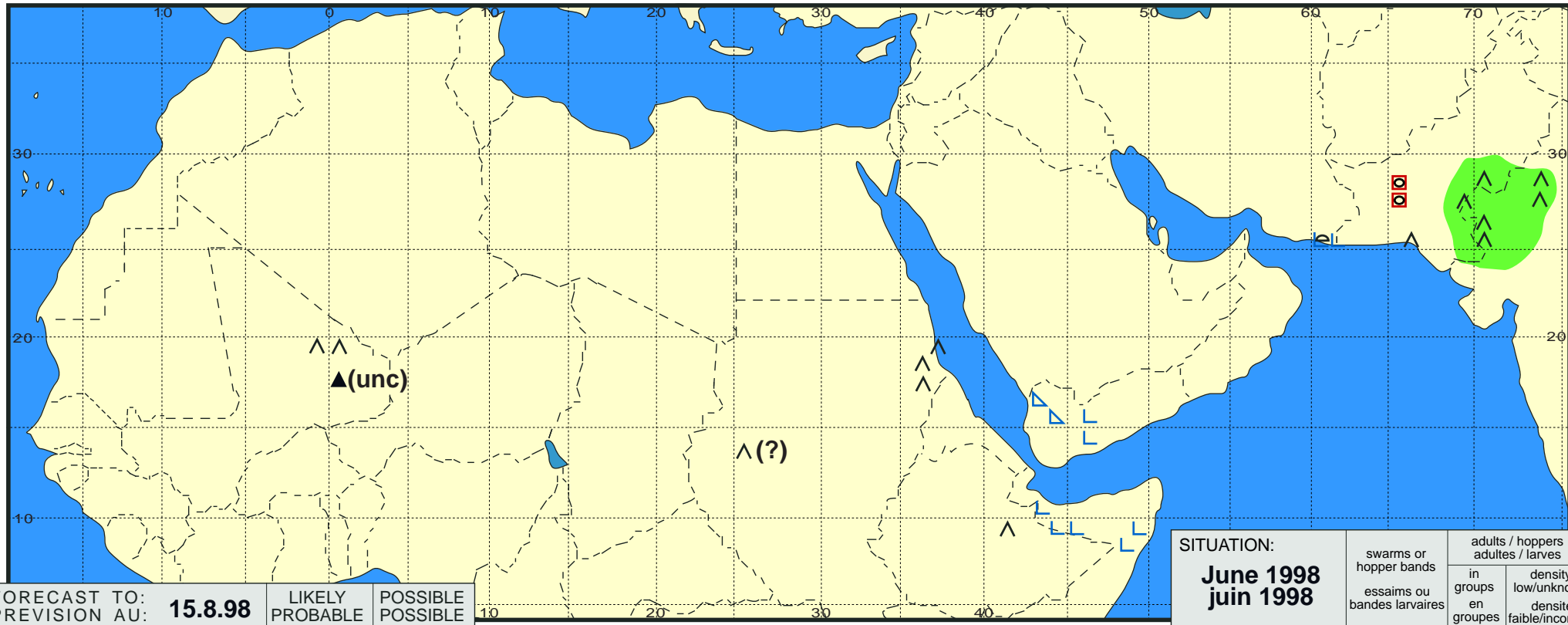
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Desert Locust Summary

Criquet pèlerin situation résumée

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| FORECAST TO: PREVISION AU: | 15.8.98 | 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: June 1998 juin 1998 | 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) | | | |