

DESERT LOCUST BULLETIN

Emergency Centre for Locust Operations



No. 215



General Situation during July 1996 Forecast until mid-September 1996

Desert Locust adults continued to appear during July in the summer breeding areas of West Africa where there were several reports of small swarms. Previously undetected breeding was discovered in Yemen. Infestations also increased along the Indo-Pakistan border where summer breeding has commenced. Control operations continued against immature swarms in Algeria. Additional adults and perhaps a few swarms are likely to arrive in the Sahel from North-West Africa in August. Breeding is expected to occur in the Sahel and in the Indo-Pakistan area throughout the forecast period.

Control operations continued in the central Sahara of **Algeria** during the month, albeit on a decreasing scale compared to last month. Nevertheless, some infestations have escaped detection and control, resulting in swarm formation and movement south towards the summer breeding areas of the Sahel in West Africa. During the second half of July, there were several reports, many from nomads and locals, of swarms moving south in southern Algeria, northern **Mali** and central **Mauritania**. There was also an unconfirmed report of a swarm in western **Sudan** near the Chad border.

So far, most of the current infestations in the summer breeding areas of West Africa consist of low numbers of solitary adults in southern Mauritania and to a lesser extent in northern Mali. Reports are awaited from Niger and Chad. Surveys are in progress or are commencing in most countries.

In the Central Region, breeding was in progress on the Gulf of Aden coastal plains in **Yemen** where hopper behaviour was changing from solitary to gregarious. Control operations were immediately initiated. Due to unusually good rains from mid June to mid July, there is a strong possibility of additional infestations present along the southern coast and in the interior.

In South-West Asia, control operations were carried out against several small immature swarms in northern Baluchistan of **Pakistan**. Solitary adult locust numbers increased throughout the month in the summer breeding areas of Rajasthan in **India** and adjacent desert areas of Pakistan where conditions are favourable for breeding in the coming months.



Weather & Ecological Conditions during July 1996

During July, rainfall was sporadic in most of the summer breeding areas of West Africa and Sudan during the first half of the month but improved after mid month. Nevertheless, the total amount received was less than last year at this time. Above average rains continued to fall over the south-western Arabian Peninsula until mid July. Moderate rains associated with the monsoon were reported in the Indo-Pakistan summer breeding areas.

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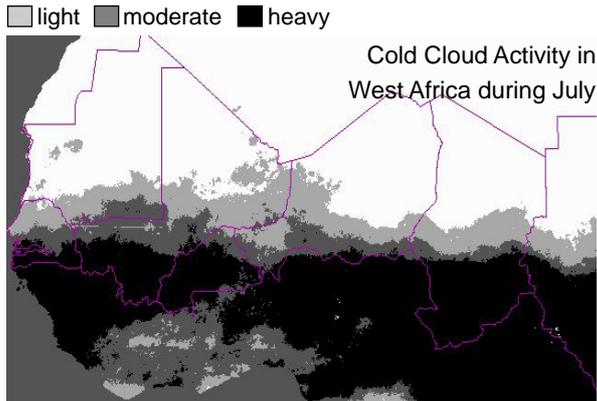
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In the spring breeding areas of North-West Africa, green annual vegetation persisted in the Hoggar and Tassili regions of the central Sahara in **Algeria** even though temperatures remained high and very little rain fell during the month.

In West Africa, the ITCZ fluctuated between about 14-21N. It was generally located further north over Mali and Niger and further south over south-western Mauritania. Consequently, cold cloud activity was sporadic throughout the month in most areas. In **Mauritania**, high temperatures prevailed and very little rain fell during the first half of the month. However, good rains were reported during the second half in eastern Assaba and in the two Hodhs from Kiffa east to the Mali border and as far north as Tamchekket and Oualata. South-western Mauritania remained mostly dry except for along the Senegal River Valley. Unusual rains fell in southern Adrar where Chinguetti reported 35 mm on the 25th. Small localized areas of green vegetation were present in south-western Brakna and conditions were improving near R'Kiz, Aioun El Atrous and Nema. In **Senegal**, light to moderate rains fell in the Senegal River Valley and in other northern areas where conditions are improving. In northern **Mali**, light rains fell in parts of the Adrar des Iforas as well as near Gao and Tombouctou. Green vegetation and good breeding conditions were present in some of the wadis in the Adrar des Iforas, especially near Kidal, but remained dry in Tamesna. Light to moderate rains fell in Tamesna of **Niger** and in Ouadaii and Biltine of **Chad** where breeding conditions are expected to be improving.

In Eastern Africa, rains started falling in Northern Kordofan of **Sudan** by the end of the month. Breeding conditions were improving in the Kutum and El

Geneina areas of Northern Darfur and in some areas of Northern Kordofan north of El Obeid. Dry conditions were reported on the Red Sea coastal plains of **Egypt**. In northern **Somalia**, rainfall associated with the Haga season (June to September) has been higher than normal. For example, Hargeisa received a total of 172 mm during the first two dekads of July. Consequently, breeding conditions are expected to be favourable in some parts of the coastal plains and in adjacent interior areas.

In the Arabian Peninsula, conditions were favourable for breeding in **Yemen** along the Aden coastal plains and in the interior from Wadi Hadhramaut to Marib as a result of good rains during most of July. In **Saudi Arabia**, green vegetation was present on the southern Red Sea coastal plains near Jizan and on the western edge of the Empty Quarter near Wadi Najran. In the Dhofar region of southern **Oman**, the monsoon season continued with light rainfall nearly everyday in Salalah.

In South-West Asia, light to moderate rains fell throughout Rajasthan of **India** and in adjacent areas of Cholistan and Tharparkar of **Pakistan** during July. Conditions were expected to be favourable for breeding in the above areas, in particular Rajasthan as a result of unusually heavy rains during June.



Area Treated

| | | |
|----------|------------|-------------|
| Algeria | 2,451 ha | (1-15 July) |
| Pakistan | no details | (July) |
| Yemen | no details | (July) |



Desert Locust Situation and Forecast

WEST AFRICA

Mauritania

• SITUATION

Locust numbers increased during the first half of July in the south-west and south-east where solitary adults were present west of Aleg (1702N/1358W) and east of Nema (1632N/0712W). Most of the infestations consisted either of individual adults or scattered adults at densities of less than 50 per ha covering from 20-100 ha. There was one location where densities were as high as 120 adults per ha. On the 11th, nomads saw a small low density group of adults heading south-east near Aioun El Atrous (1639N/0937W) and a mature swarm was seen near Nema on the 15th.

During the second half of the month, infestations persisted in the above areas. On 21-25 July, there were a total of seven reports of low density swarms moving south in Inchiri north of Nouakchott (1809N/

1558W) and near Akjoujt (1944N/1420W), in southern Adrar, in south-western Trarza near Lac R'Kiz, and near Tidjikja (1829N/1131W).

• **FORECAST**

Additional adults and perhaps a few small swarms are likely to appear in central and southern areas early in the forecast period. Breeding is expected to be in progress in some areas of the south, especially in the two Hodhs where recent rainfall has been the heaviest and to a lesser extent in southern Trarza. Breeding will continue and probably extend to other central and southern areas. Low numbers of hoppers are likely to appear from early August onwards and fledge by the end of the forecast period.

Senegal

• **SITUATION**

Very low densities of immature adults, up to 10 adults per ha, were seen on 21 July in the Senegal River Valley at two locations near Thikite (1608N/1358W) within 500 ha and 800 ha respectively.

• **FORECAST**

Throughout the forecast period, low numbers of adults are expected to move back and forth across the border in the Senegal River Valley. Additional adults that arrive in the north are expected to lay and low numbers of hoppers should appear during August.

Mali

• **SITUATION**

A late report indicated that hopper infestations were present in Wadi Tinkar (1927N/0026W) in late June and early July. Adults were seen at several locations in the northern Adrar des Iforas from Aguelhoc (1927N/0051E) to the Algerian border during the first dekad of July. Swarms were said to be present on the other side of the border from Ti-n-Zaouatene (1956N/0258E). In late July, adults continued to appear in the north from North-West Africa and there was an unconfirmed report of a mature swarm east of Gao near I-N-Telli (1622N/0251E).

• **FORECAST**

Breeding will continue in the north, mainly in the Adrar des Iforas, and is likely to extend to other areas such as southern Tamesna and near Tombouctou where recent rains have fallen. This is likely to be augmented by adults that come from the north in early August and lay. Consequently, low to moderate numbers of hoppers and new adults will appear throughout the forecast period that could form small bands and swarms.

Niger

• **FORECAST**

Low to moderate numbers of maturing adults and perhaps a few small swarms are expected to be

present in parts of Tamesna and to a lesser extent in the Air. Some of these may already be breeding while others are expected to continue to mature and lay. Current infestations are likely to be augmented by adults that come from the north in early August and lay. Consequently, hoppers and new adults will appear during the forecast period that could form small bands and swarms.

Chad

• **SITUATION**

A late report stated that no locusts were present during June.

• **FORECAST**

Low to moderate numbers of adults may be present in Tibesti, southern Ennedi and Biltine and breeding in areas where rains may have recently fallen. Consequently, hoppers and new adults will appear during the period.

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

• **FORECAST**

No significant developments are likely.

NORTH-WEST AFRICA

Algeria

• **SITUATION**

During the first half of July, control operations continued against newly formed immature swarms albeit on a much smaller scale than in June. The size of the swarms were generally less than 100 ha, although there were a few up to 190 ha. Swarm densities varied from 10-50 adults per sq. metre with a few up to 200 adults per sq. m. Most of the infestations were concentrated in the Tamanrasset (2250N/0528E) area and to a lesser extent near Illizi (2630N/0830E), with a few near Djanet (2434N/0930E). There were also reports of swarms south of Tamanrasset between Silet (2240N/0434E) and the Malian border. Scattered adults persisted at several places north-west of Tamanrasset near Adrar (2751N/0019W). A total of 2,451 ha were treated during the period.

• **FORECAST**

Infestations will continue to decline due to control operations. Those that escape detection and control will move south towards the Sahel early in the forecast period. Consequently, adult numbers may increase in



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the extreme south adjacent to the borders of Mali and Niger.

Morocco

• SITUATION

No locusts were reported during July.

• FORECAST

No significant developments are likely.

Libya

• FORECAST

Low to moderate numbers of late instar hoppers and new adults may be present in the west near the Algerian border as a result of previous breeding. If so, these infestations will decline during the forecast period as adults move south towards the Sahel.

Tunisia

• FORECAST

No significant developments are likely.

EASTERN AFRICA

Sudan

• SITUATION

A late report stated that solitary immature adults at densities of 10-15 adults per ha were seen in the Eastern Region near Umm Shadida (1627N/3425E) during surveys carried out on 21-24 June. Small scattered infestations of mature solitary adults were seen near the Chad border in Northern Darfur at a few places west of Abu Laha (1438N/2349E) on the 29th. No locusts were seen west of Khartoum on 27-29 June.

During July, there was an unconfirmed report of swarm near the Chad border in Northern Darfur flying towards the north-east on the 5th at Um Dura (1503N/2344E). Mature solitary adults mixed with Tree Locust were seen in the Central Region at Umm Rimta (1450N/3202E) on 2 ha at a density of 100 adults per ha on the 16th. No locusts were seen near Kosti, in the W. Milk and Bara areas of Northern Kordofan and near El Geneina in Northern Darfur during early July.

• FORECAST

Locusts will persist in the Eastern Region and are expected to increase there and in Northern Darfur and Northern Kordofan as a result of any adults that appear from the west and from breeding in areas of recent rainfall. Consequently, low numbers of hoppers

are likely to appear during the forecast period.

Somalia

• FORECAST

Low numbers of hoppers and new adults may appear during the forecast period as a result of small scale breeding in areas along the north-west coast and interior that have received recent rainfall. Breeding may also occur further east along the coastal plains near Las Koreh.

Eritrea

• FORECAST

Low numbers of hoppers and new adults may appear during the forecast period as a result of small scale breeding in parts of the western lowlands that have received recent rainfall.

Ethiopia

• FORECAST

Low numbers of adults may be present near Dire Dawa and lay in areas of recent rains. Consequently, hoppers are likely to appear during the forecast period.

Djibouti, Kenya, Tanzania and Uganda

• FORECAST

No significant developments are likely.

NEAR EAST

Saudi Arabia

• SITUATION

No locusts were reported up to 29 July.

• FORECAST

Scattered adults may be present on the southern Red Sea coastal plains near Jizan and breeding in areas of recent rainfall. If so, a few hoppers could appear during the forecast period. There is a possibility of adults present in the south-western portion of the Empty Quarter and near Wadi Najran.

Yemen

• SITUATION

Moderate to high densities of hoppers were reported at a few locations on the coastal plains near Lahej (1301N/4454E) north-west of Aden on 16-17 July. Infestations consisted of first to fifth instar hoppers at densities up to 10 hoppers per sq. m. Fledging had already commenced and new adults were reported but at much lower densities. Many hoppers were becoming gregarious. About 100 sq. km were estimated to be infested. Control operations were underway. Nomads and locals reported other infestations from the interior near Shabwah (1522N/4700E) to the coast at Ahwar (1333N/4644E). Solitary adults were also present west of Shabwah near Ash-

Shubaykhah (1439N/4647E), Bayhan Al-Qisab (1452N/4545E) and Nisab (1431N/4630E) in July.

• **FORECAST**

Hoppers will continue to mature on the coastal plains of Aden and possibly form several groups or small swarms of immature adults. Due to recent rains and green vegetation, these are expected to persist in the area, mature and lay by the end of the forecast period. There is a high probability of other infestations present along the coastal plains towards Oman and in the interior from Marib to Wadi Hadhramaut.

Kuwait

• **SITUATION**

No locusts were reported during June.

• **FORECAST**

No significant developments are likely.

Egypt

• **SITUATION**

Isolated mature adults were present at several locations along the Red Sea coastal plains between Halaib (2212N/3635E) and Shalatein (2308N/3535E) in late June. Scattered mature adults at densities of 5-10 adults per ha were seen in several cropping areas along the Nile River Valley south of Aswan (2405N/3256E) on 10 July.

• **FORECAST**

Low numbers of adults are likely to persist in a few southern oases and in cropping areas in the Nile River Valley south of Aswan while declining on the Red Sea coastal plains.

Iraq

• **SITUATION**

A late report stated that no locusts were present during May in the Al Basrah (3015N/4745E) area.

• **FORECAST**

No significant developments are likely.

Bahrain, Israel, Jordan, Oman, Qatar, Syria, Turkey and UAE

• **FORECAST**

No significant developments are likely.

SOUTH-WEST ASIA

Pakistan

• **SITUATION**

A late report stated that isolated solitary adults first appeared this year in the summer breeding areas from 9 June onwards. Adults, up to 12 per location, were reported from 24 locations extending from Tharparkar to Cholistan during the first half of June and 28 locations during the second half of the month.

During the first half of July, several small immature swarms and low density adult groups continued to

appear in Kharan and Chagai Districts of northern Baluchistan where control operations were in progress. Infestations varied in size from 0.5-2 sq. km. In the summer breeding areas, locust numbers increased to 3,000 adults per sq. km. (about 40 adults per location).

• **FORECAST**

Breeding is almost certainly in progress and will continue in the summer areas from Tharparkar to Cholistan. As a result, low to moderate numbers of hoppers are expected to appear and could form groups or a few bands. By the end of the forecast period, fledging will commence and new adults may form small groups and perhaps a few swarms.

India

• **SITUATION**

During the second half of June, isolated adults at densities up to 3 per site were present at 14 locations of Rajasthan, mostly in Bikaner district and to a lesser extent in Jodhpur and Barmer districts. Higher numbers of adults, up to 1,500 per sq. km, were present at 7 locations in Jaisalmer district. A few third to fifth instar solitary hoppers were seen at Lordia (2603N/7223E) of Jodhpur district on the 27th.

During the first half of July, adult numbers significantly increased as well as the number of infested locations. A total of 66 locations reported solitary adults at densities of 30-7,500 adults per sq. km. Most of the infestations were concentrated in Jaisalmer and Barmer districts, and to a lesser extent in Jodhpur and Jalore. There was also one report from Gujarat State, to the south of Rajasthan.

• **FORECAST**

As a result of unusually favourable breeding conditions over most of Rajasthan and Gujarat, breeding will continue throughout the forecast period. Consequently, moderate numbers of hoppers are expected to appear which could form small groups. By the end of the forecast period, fledging will commence and new adults may form small groups and perhaps a few swarms.

Afghanistan and Iran

• **FORECAST**

No significant developments are likely.



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Announcements

The Locust Group is pleased to present the monthly Desert Locust Bulletin in a new format which is based on the results of an earlier questionnaire sent to affected countries and donors. While its content remains much the same, the appearance and presentation of information have been modified. Text appears in two columns for easier reading. The locust situation and forecast for each country have been incorporated into the same section since these are very much related to each other. The front page header has been changed to clearly indicate at a glance that it is a Desert Locust Bulletin. Additional maps are planned for the near future to highlight important national and regional locust developments.

This version of the Bulletin can be found on the InterNet through the FAO Home Page (www.fao.org) in the Global Watch section. The Bulletin is also being distributed via email as a PDF (portable document format) attachment which includes all of the text, graphics and maps. The PDF file can be saved to the recipient's computer for viewing, zooming, searching and printing using the freeware Adobe Acrobat Reader (available on the InterNet at www.adobe.com) regardless of the type of operating system (Windows, Mac, UNIX).

All comments and suggestions for further improvement to the Bulletin and its distribution are most welcome. Please send these by email (eclo@fao.org) or fax (39-6-522-55271).



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 per 400 m foot transect (or less than 25 per ha).

SCATTERED (SOME, LOW NUMBERS)

- enough present for mutual reaction to be possible but no ground or basking groups seen;

- 1 - 20 adults per 400 m foot transect (or 25 - 500 per ha).

GROUP

- forming ground or basking groups;
- more than 20 adults per 400 m foot transect (or more than 500 per 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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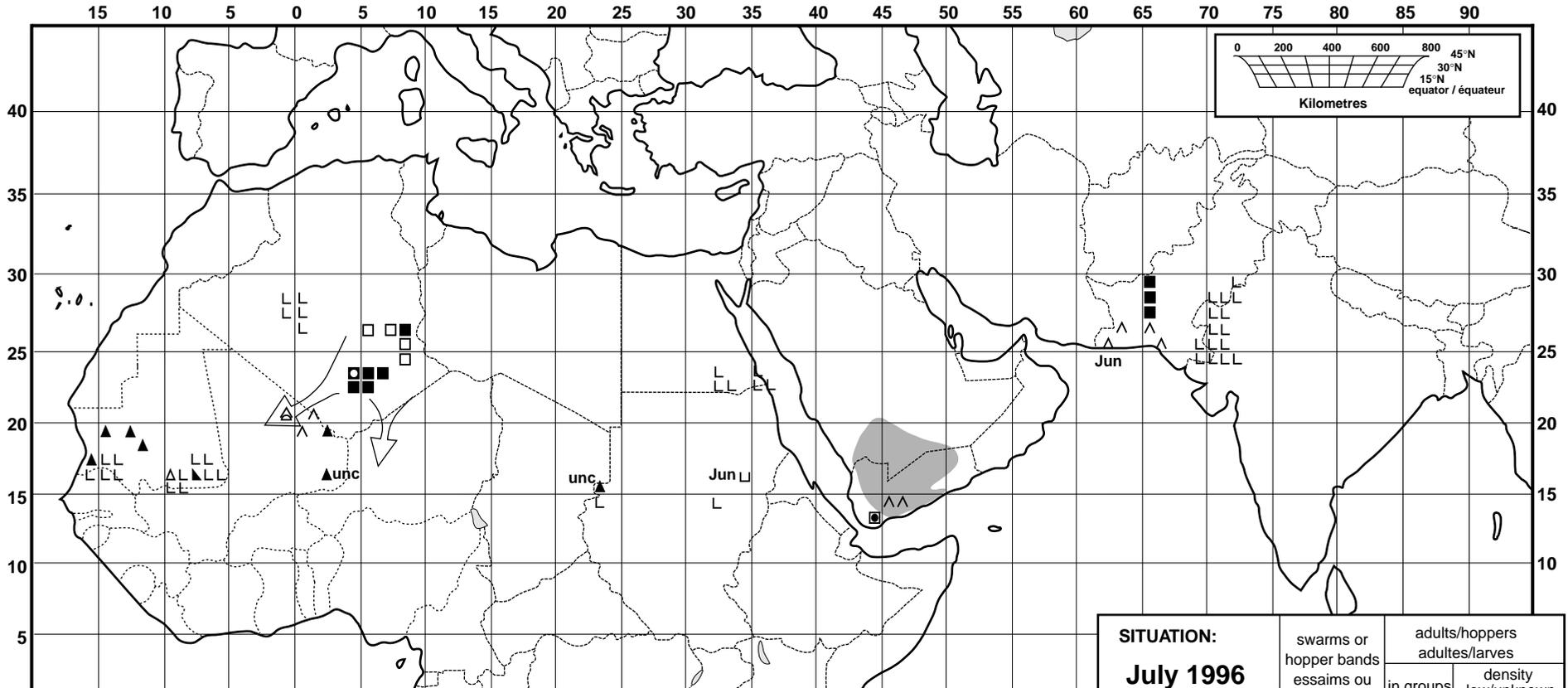
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Desert Locust summary

Criquet pèlerin situation résumée



| FORECAST TO: PREVISION AU: | 15.09.96 | 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: July 1996 juillet 1996 | 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) | | | |

20 25 30 35 40 45