

DESERT LOCUST BULLETIN

FAO Emergency Centre for Locust Operations



No. 300

(3 October 2003)



General Situation during September 2003 Forecast until mid-November 2003

There was a significant increase in Desert Locust activity in Niger during September that may develop into a localized outbreak. Small-scale breeding continued in Mauritania, Mali and Sudan where low numbers of solitary adults and hoppers were reported. Isolated adults were present along the Indo-Pakistan border. During the forecast period, locust numbers will increase in the Sahel as new adults appear from current breeding. As vegetation dries out, further concentration and gregarization will occur in Niger, leading to the formation of small bands and perhaps a few small swarms. Some of these may move towards the north and west. All efforts should be made to monitor the developing situation carefully.

Western Region. The situation deteriorated in Niger as more infestations were found during September in Tamesna because of unusually good ecological conditions and breeding. In those areas where vegetation was drying out, hoppers were concentrating in the remaining green vegetation and starting to gregarize, forming small groups and a few bands. Similar populations may be present in the Air where adults and hoppers were seen in August. As locusts increase and gregarize further, a potentially dangerous situation could develop and lead to an

outbreak. New adults will appear and may form a few small swarms. Some of these may move north and west towards northeastern Mali and southern Algeria. Limited control operations may be required during the forecast period. Elsewhere, small-scale breeding continued in southern Mauritania and northern Mali where conditions remain favourable. A single locust was seen in northern Senegal.

Central Region. Locust numbers increased slightly in Sudan where small-scale breeding continued in the Northern Darfur and is probably in progress in Northern Kordofan, White Nile and in the east near the Eritrean border. A similar situation is expected to be occurring in western Eritrea. During the forecast period, locusts are likely to appear in the east along the Gash and Atbara Rivers in Sudan where additional breeding could occur, and a few adults may appear on the Red Sea coastal plains. In Eritrea, isolated adults were seen in one area on the coastal plains and more adults could appear during the forecast period. No locusts were reported elsewhere in the region although good rains fell along the Red Sea coast in Yemen where small-scale breeding may occur.

Eastern Region. Isolated adults persisted in the summer breeding areas in Pakistan and are almost certainly present in adjacent areas in Rajasthan, India. Although vegetation remains unusually green, locust numbers will decline as the monsoon ends and vegetation dries out. No significant developments are expected.

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 September 2003

Conditions continued to be unusually favourable for breeding over a widespread area extending from Mauritania to western Eritrea for a third month in a row. By the end of September, rainfall continued in most places but was declining in some and vegetation was starting to dry out.

In the **Western Region**, the Inter-Tropical Convergence Zone (ITCZ) fluctuated between 15 and 20N during September with periodic surges over northern Mauritania and Mali to 24N. Consequently, rainfall continued in many places throughout the Sahel, mainly during the first two decades of the month. In Mauritania, good rains fell throughout the south, particularly in the southwest (Trarza and Brakna) and to a lesser extent in other regions (Tagant and the two Hodhs) where favourable breeding conditions prevailed over a widespread area. By the end of the month, some vegetation started to dry out in the southeast. Good rains fell during the first and third decades in Inchiri that should be sufficient for breeding. Light rain was reported in the north (Adrar, Dakhlet, Tiris Zemmour) where the vegetation is still dry. Light rain fell during the first two decades in the Adrar des Iforas, Mali and in the Air and Tamesna, Niger where green vegetation persisted. By the end of the month, some places were starting to dry out in Niger due to high temperatures and persistent hot winds. In northeastern Chad, light rains may have fallen during the first decade between Biltine and Fada where green vegetation is present. In Morocco, a few areas were green south of the Atlas Mountains where it rained in August. Dry conditions prevailed in Algeria. Satellite imagery suggests several remote areas where there may be green vegetation in central Mauritania (Tidjikja to Tichit; Aoukar), northern Mali (between Timetrine and Tombouctou; Tamesna up to 1730N) and Niger (Tin Amzi and south of the Lazaouak Valley in Tamesna; western Air).

In the **Central Region**, good rains continued to fall in the summer breeding areas in Sudan although there was a noticeable decline during the month. During the first decade, rains were particularly heavy

near Kassala and in adjacent areas of western Eritrea. Conditions remain favourable for breeding over large areas of Northern Darfur, Northern Kordofan, White Nile and Eastern States. Satellite imagery suggests that vegetation may also be unusually green in the Teiga Plateau (N. Darfur) and north of Kassala (the Gash River and northwest of Derudeb). Significant cloud activity was seen over the Red Sea coastal plains of southern Eritrea and Yemen. Light to moderate rainfall was reported on the Yemen side and green vegetation was present. Along the Gulf of Aden coast, heavier rains fell east of Aden while conditions had become dry in the interior of Shabwah near Ataq. In Djibouti, green vegetation was present on the northern coastal plains between Tadjourah and Obock. In northern Somalia, vegetation was dry along the coast west of Berbera due to high temperatures but was green on the escarpment. Light to moderate rains fell near Dire Dawa and Jijiga during first half of September.

In the **Eastern Region**, favourable breeding conditions prevailed along most of the Indo-Pakistan border except for parts of Rajasthan, India (southwest of Jaisalmer) and the Khairpur Desert, Pakistan. Rainfall declined in both countries and only light rain fell in a few places in Rajasthan during the first half of September, suggesting that the monsoon is ending.



Area Treated

No control operations were reported during September.



Desert Locust Situation and Forecast

(see also the summary on page 1)

WESTERN REGION

Mauritania

• SITUATION

During the first decade of September, scattered hoppers and adults continued to mature in the south between Aioun El Atrous (1702N/0941W) and Nema (1632N/0712W), north of Kiffa (1638N/1124W), southwest of Tidjikja (1829N/1131W) and east of Nouakchott. During the second decade, breeding continued southwest of Tidjikja where adult densities increased to 2000 per ha. Isolated hoppers and adults were also reported northeast of Kiffa and in Aoukar between Boutilimit (1740N/1446E) and Akjoujt (1945N/1421W).

• **FORECAST**

Locust numbers will continue to increase as breeding continues throughout the south. As vegetation dries out, adults are likely to concentrate in the southwest and in Inchiri and laying may occur in areas of recent rainfall. There is a slight possibility of a few adults moving further north into Tiris Zemmour, especially if additional rainfall occurs there.

Mali

• **SITUATION**

During September, scattered adults were reported in several wadis in the Adrar des Iforas near Aguelhoc (1927N/0052E) and Kidal (1827N/0125E). Although most of the hoppers that were present in these areas in August had fledged, first to third instar hoppers were seen further west in the Timetrine near Tinkar in W. Admar (1930N/0035W) in mid September. Isolated immature adults were also reported on the plains east of Gao.

• **FORECAST**

Locust numbers will continue to increase as breeding continues in those areas that remain green in the Adrar des Iforas and, to a lesser extent, in the Tilemsi Valley and Timetrine. Additional infestations are almost certainly present in Tamesna where small-scale breeding is likely. As vegetation dries out, locusts may concentrate and form a few small groups. There is a possibility that a few adult groups or small swarms may appear from Niger from the end of October onwards. Surveys are recommended in all these areas.

Niger

• **SITUATION**

As a result of good breeding during August and early September, there was a considerable increase in locust numbers and density in Tamesna. Solitary hoppers (mainly second instar mixed with all other instars), fledglings, immature and mature adults were present during September between Agadez (1700N/0756E) and In Abangharit (1754N/0559E) at densities of 10-500 per ha with a few places reporting as high as 1000 locusts per ha. Copulation was in progress. From the 18th onwards, many of the hoppers were becoming transiens and forming groups at densities of 20-100 hoppers per bush. This is typical behaviour during the early stages of the gregarization process. Solitary mature adults, at densities of 1000-1500 per ha, were forming groups at two places near In Abangharit on a total of 400 ha. By the end of the month, small late instar bands were seen at four places with densities of 5-150 hoppers per sq. m.

Elsewhere, scattered immature adults were seen near Tillaberi (1428N/0127E) in early September. Scattered hoppers and immature and mature

solitary adults were seen during grasshopper control operations in Zinder near Tanout (1505N/0850E) during the last week of September.

Although no reports were received, there is a strong possibility that locust numbers are increasing in the western and central Air where small-scale breeding was reported in August.

• **FORECAST**

Locust numbers will continue to increase as breeding continues in those areas that remain green in Tamesna. New adults will appear during October and may form groups and perhaps a few small swarms from mid October onwards. Most of these are expected to remain in the area, mature and lay again although some could move towards the north and west. A similar situation is expected in the western Air. Surveys are recommended in both these areas.

Chad

• **SITUATION**

No reports received.

• **FORECAST**

Scattered adults are likely to be present and breeding in the northeast between Biltine and Ennedi. Locust numbers will decrease as vegetation dries out. Surveys are recommended in these areas.

Senegal

• **SITUATION**

A single immature solitary adult was seen on 14 September in the north at Ndioum (1630N/1438W).

• **FORECAST**

There is a slight possibility that a few more adults will appear in the north along the Senegal River during the forecast period. No significant developments are expected.

Algeria

• **SITUATION**

No surveys were carried out and no locusts were reported up to 24 September.

• **FORECAST**

Low numbers of adults are likely to be present and breeding on a small-scale in the extreme south adjacent to the Malian border and the Adrar des Iforas. There is a possibility that a few adult groups or small swarms may appear from Niger from the end of October onwards. Regular surveys of these areas are strongly recommended.



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Morocco

• **SITUATION**

No locusts were reported during September.

• **FORECAST**

No significant developments are likely.

Libyan Arab Jamahiriya

• **SITUATION**

No reports received.

• **FORECAST**

No significant developments are likely.

Tunisia

• **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.

CENTRAL REGION

Sudan

• **SITUATION**

During September, isolated immature and mature adults were seen at 22 locations in Darfur between Nyala (1201N/2450E) and El Fasher (1337N/2522E). These were mixed with a few fourth and fifth instar hoppers and fledglings at seven of these places. Only isolated mature adults were seen at a few places north of El Obeid (1311N/3010E) in Northern Kordofan as well as in Khartoum. At the end of the month, immature adults at densities of 600-5000 per ha were seen in a few areas in White Nile State near Ed Dueim (1400N/3220E).

• **FORECAST**

Locust numbers will continue to increase in the coming weeks in Northern Darfur, Northern Kordofan and White Nile States. After that, vegetation is likely to dry out and low numbers of adults are expected to move towards the east where they may concentrate along the Atbara and Gash Rivers as well as on the western side of the Red Sea Hills and lay. A few adults may also appear on the Red Sea coastal plains. Regular surveys are recommended in these areas.

Eritrea

• **SITUATION**

Isolated solitary mature adults were seen on the central Red Sea coastal plains at four sites near Massawa (1537N/3928E) on 18-20 September.

• **FORECAST**

Scattered adults are almost certainly present and breeding on a small scale in the western lowlands along the Baraka River. Consequently, locust numbers are expected to increase in those areas that remain green. Additional adults are likely to appear on the Red Sea coastal plains during November and lay if rainfall occurs. Surveys are recommended in both these areas.

Somalia

• **SITUATION**

No locusts were seen during surveys carried out on the plateau and coastal plains in the northwest on 11-15 September.

• **FORECAST**

No significant developments are likely.

Ethiopia

• **SITUATION**

No locusts were seen during surveys on 18-20 September near Dire Dawa (0935N/4150E) and Jijiga (0922N/4250E).

• **FORECAST**

No significant developments are likely.

Djibouti

• **SITUATION**

No locusts were seen during surveys in the interior on 7-8 September and along the coastal plains near Tadjourah (1147N/4253E) and Obock (1157N/4317E) on the 17-18th.

• **FORECAST**

No significant developments are likely.

Egypt

• **SITUATION**

During September, a few hoppers and mature Desert Locust adults mixed with higher numbers of African Migratory Locusts and grasshoppers were treated at three farms near the Sudan border at Sh. Oweinat (2219N/2845E). No locusts were reported elsewhere in the Western Desert.

• **FORECAST**

Low numbers of locusts are likely to persist in agricultural areas near Sh. Oweinat but these do not pose a threat to neighbouring areas. No significant developments are likely.

Saudi Arabia

• SITUATION

No locusts were seen during surveys carried out on the central Red Sea coastal plains between Jeddah and Jizan on 9-24 September.

• FORECAST

Isolated adults may be present on the Red Sea coastal plains near Jizan and could breed in areas of recent rainfall. No significant developments are likely.

Yemen

• SITUATION

No locusts were seen during surveys carried out in the first three weeks of September on the Red Sea coastal plains and in the summer breeding areas of the interior near Ataq (1435N/4649E).

• FORECAST

Isolated adults may be present on the Red Sea coastal plains where small-scale breeding could occur in areas of recent rainfall. A few adults may also be present on the Gulf of Aden coast east of Aden. Regular surveys should be carried out to monitor the situation.

Oman

• SITUATION

No locusts were reported during September on the Musandam Peninsula and in the northern interior.

• FORECAST

No significant developments are likely.

Bahrain, Iraq, Israel, Jordan, Kenya, Kuwait, Qatar, Syria Arab Republic, Tanzania, Turkey, UAE and Uganda

• FORECAST

No significant developments are likely.

EASTERN REGION

Iran

• SITUATION

During September, no locusts were reported during surveys carried out near Jask, Kahnoj and Saravan in Hormozgan, Kerman and Sistan-Baluchistan provinces respectively.

• FORECAST

No significant developments are likely.

Pakistan

• SITUATION

During the second half of August, individual immature and mature adults continued to persist in 17 places near the Indian border in the Cholistan Desert and three places west of Karachi in Lasbela Valley. No locusts were reported in the Tharparkar Desert.

During the first half of September, there was a slight decrease in reports from Cholistan while a few adults

were seen in northern Tharparkar. There was no change in the situation in Lasbela.

• FORECAST

Locust numbers will decline along the Indo-Pakistan border as the monsoon rains end and vegetation dries out. A few adults may move west towards the spring breeding areas in Baluchistan.

India

• SITUATION

No locusts were reported in Rajasthan during the second half of August and first half of September.

• FORECAST

Low numbers of locusts are likely to be present and breeding on a small-scale in Rajasthan west of Jodhpur between Barmer, Jaisalmer and Bikaner. Once the monsoon rains end and vegetation dries out, locust numbers will decline.

Afghanistan

• SITUATION

No reports received.

• FORECAST

No significant developments are likely.



Announcements

Locust reporting. Affected countries are kindly reminded to make sure that all locust situation reports are sent to FAO HQ by the 28th 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.

Reporting by e-mail. After each survey or control operation, affected countries should send completed *FAO Desert Locust Survey and Control Forms* with a brief interpretation of the results by e-mail to eclo@fao.org.

eLocust. Updated details of a new system for recording and transmitting locust survey and control data collected in the field can be found on the Internet at: www.fao.org/news/global/locusts/elocust.htm



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Glossary of terms

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

Publications on the Internet. New FAO publications and forms are available for downloading at www.fao.org/news/global/locusts/pubslst.htm:

- *Desert Locust Spray Monitoring Form* and instructions (French)
- *Desert Locust Guidelines* (English, French – details below)

Desert Locust Guidelines. The French version of the *Desert Locust Guidelines* is now available as well as the English version of *Volume VI. Safety and Environmental Precautions* and an updated index. These can be downloaded from the Internet at: www.fao.org/news/global/locusts/pubs1.htm. The Arabic version will be released in the coming weeks. Please contact the Locust Group if you would like to receive hard copies.

Desert Locust research award. The FAO Commission for Controlling the Desert Locust in the Central Region (CRC) is pleased to announce a cash award for outstanding research on Desert Locust. For more details, please contact the CRC Office in Cairo (munir.butrous@fao.org).

2003 events. The following are provisionally scheduled:

- **EMPRES/CR.** 11th Liaison Officers meeting, Djibouti, 19-23 October
- **FAO/CRC/EMPRES/DLCO-EA.** 3rd meeting on the Harmonization of activities, Addis Ababa (Ethiopia), 17-21 November
- **EMPRES/WR.** 2nd Liaison Officers meeting, Agadir (Morocco), 8-13 December
- **Pesticide Referee Group.** 8th meeting, Rome, December (tba)

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.

REGIONS

WESTERN

- locust-affected countries in West and North-West Africa: Algeria, Chad, Libya, Mali, Mauritania, Morocco, Senegal, Tunisia; during plagues only: Burkino Faso, Cape Verde, Gambia, Guidea Bissau and Guinea Conakry.

CENTRAL

- locust-affected countries along the Red Sea: Djibouti, Egypt, Eritrea, Ethiopia, Oman, Saudi Arabia, Somalia, Sudan, Yemen; during plagues only: Bahrain, Iraq, Israel, Jordan, Kenya, Kuwait, Qatar, Syria, Tanzania, Turkey, UAE and Uganda.

EASTERN

- locust-affected countries in South-West Asia: Afghanistan, India, Iran and Pakistan.



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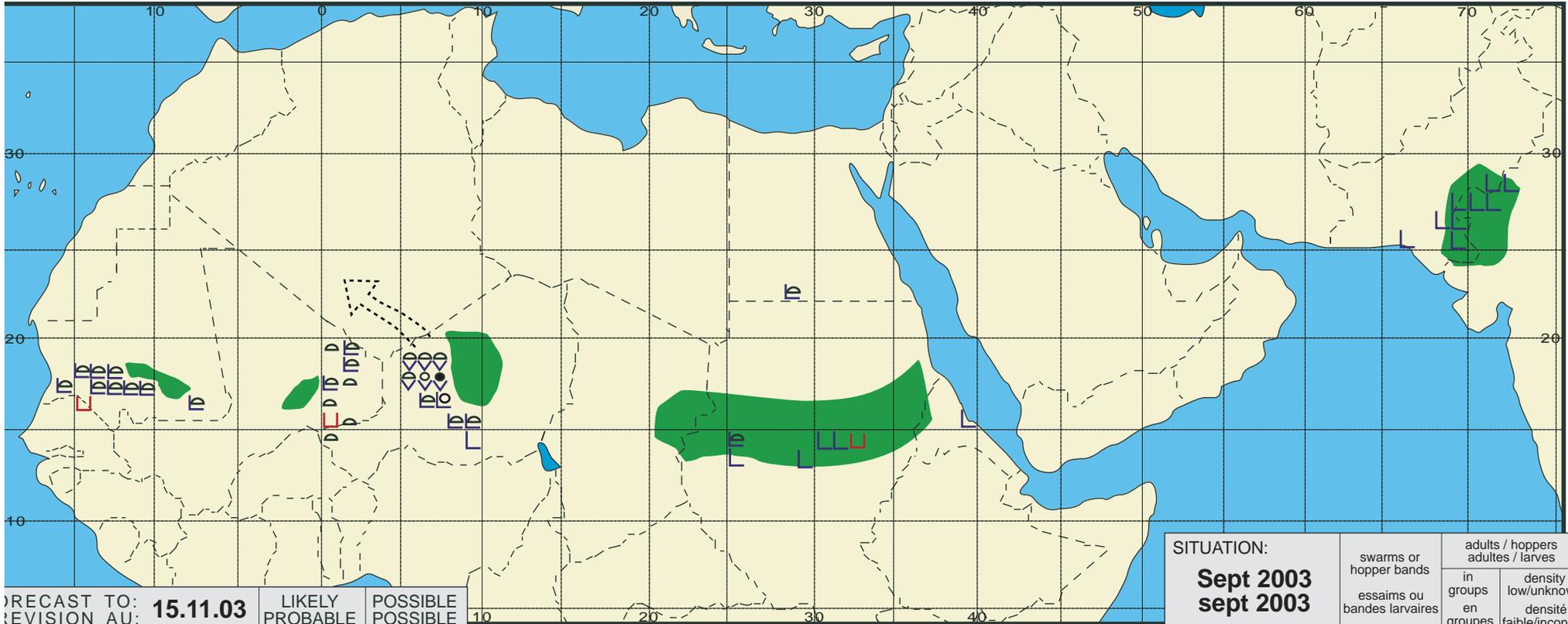
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Desert Locust Summary

Criquet pèlerin - Situation résumée

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FORECAST TO:
REVISION AU: **15.11.03**

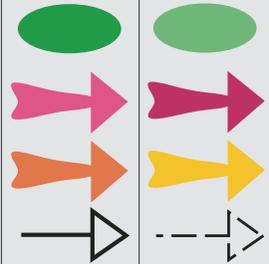
LIKELY PROBABLE
POSSIBLE POSSIBLE

favorable breeding conditions
conditions favorables à la reproduction

major swarm(s)
saim(s) important(s)

minor swarm(s)
saim(s) limité(s)

non swarming adults
adultes non essaimant



SITUATION: Sept 2003 sept 2003	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)	◼	◼	◼

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)	◼	◼	◼