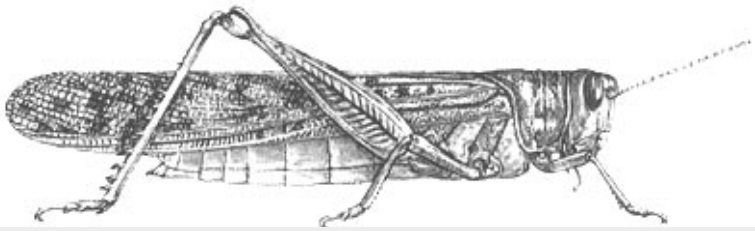


DESERT LOCUST BULLETIN

FAO Emergency Centre for Locust Operations

No. 223
(2 April 1997)

General Situation during March 1997
Forecast until mid-May 1997

Large scale aerial and ground control operations are in progress against Desert Locust hopper bands on the Red Sea coastal plains of Saudi Arabia. As the infestations are widespread, there is a risk that some may escape and form new swarms which could threaten adjacent countries. Breeding continued to be reported from one area on the coastal plains of Sudan where small scale control operations are in progress. Scattered adults are present in Baluchistan of western Pakistan where egg laying is likely in areas of recent rainfall. No significant infestations were reported from North-West Africa or West Africa.

Central Region

In **Saudi Arabia**, large scale control operations have been mounted against an increasing number of hopper bands on the Red Sea coastal plains. At least 30 ground teams and two aircraft sprayed more than 25,000 ha during March. The size of the campaign suggests that earlier breeding may have been on a much larger scale than previously estimated and may have been supplemented by a few in-coming swarms. Given the widespread nature of the infestations, it is possible that some will go undetected or uncontrolled which may lead to swarm formation after mid-April. If so, swarms are most likely to move toward areas of recent rainfall in the south-western interior of Saudi Arabia and adjacent areas of Yemen. Others could move toward the central interior of Saudi Arabia or west across the Red Sea towards Egypt and Sudan. On the western coastal plains of the Red Sea, breeding is in progress in **Sudan** in one area north of Port Sudan where control operations have treated about 600 ha of hopper infestations. However, conditions are generally unfavourable as a result of no rainfall since January and the likelihood of large infestations developing is low. No significant infestations were reported from **Yemen** or **Egypt**.

Eastern Region

Scattered adults are present in coastal and interior areas of Baluchistan in western **Pakistan**. As rains have recently fallen in many areas, small scale breeding is expected to occur in the coming months.

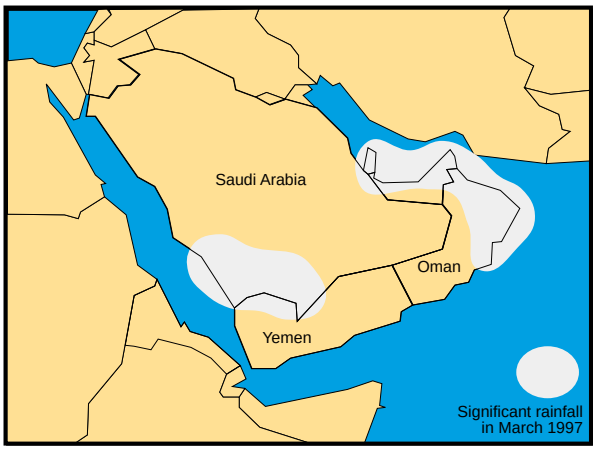
Western Region

Breeding conditions continue to remain unfavourable in most of the spring breeding areas of North-West Africa due to a lack of rainfall. Only isolated solitary adults were reported in a few places in **Algeria**, **Morocco** and northern **Mauritania**. Consequently, if further rainfall does not occur, significant breeding is unlikely and the threat to the Sahel of West Africa will be greatly diminished this summer.

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, Other Migratory Pests and Emergency Operations Group, AGP Division, FAO, 00100 Rome, Italy.
It is also available on the Internet.
Telephone: (39-6) 522-52420 (7 days/week, 24 hr)
Facsimile: (39-6) 522-55271
E-mail: eclo@fao.org
Telex: 610181 FAO 1
Internet: http://www.fao.org/NEWS/GLOBAL/locusts/locuhome.HTM
[for text only: gopher://gopher.fao.org]

No. 223

DESERT LOCUST BULLETIN



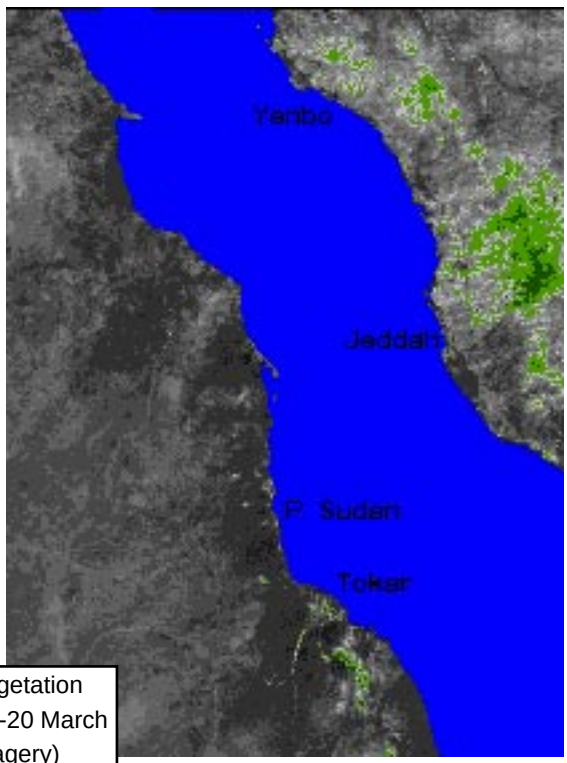
Weather & Ecological Conditions during March 1997

Breeding conditions remain favourable along the Red Sea coastal plains of Saudi Arabia and good rains fell in the south-western interior and adjacent areas of Yemen. Ecological conditions are improving in Baluchistan, western Pakistan and in northern Oman but continued to remain dry in North-West and West Africa.

In the first two dekads of March northerly winds prevailed in **North-West Africa** over the interior of Libya extending to Chad, and were from the north-east to east over southern Algeria. The winds were more variable in the northern part of the region due to a number of depressions passing over the Mediterranean which produced rainfall in Tunisia (Medinine: 30mm, Sidi Bouzid: 15mm) and Libya. Morocco reported rains in the last dekad (Sidi Ifni: 11mm; Ouarzazate: 22mm). Breeding conditions continue to be unfavourable in the Saharan region in Algeria due to dry weather. Temperatures were from 24-32°C during the day and 11-17°C at night. Temperatures were a bit lower in western Algeria near Tindouf.

In **West Africa**, the winds were generally from the north to north-east over Chad, veering to the east between Niger and Mauritania. The Inter Tropical Convergence Zone (ITCZ) was mainly located over 5-10N in the first two dekads of March, but on the 23rd the eastern side of the ITCZ started to move northward and its location on the 25th was from 7N on the coast of Sierra Leone to 15N over Niger and 20N over Chad. This disrupted the general wind pattern with westerly winds over the entire region until the 27th. The position of the ITCZ in the last dekad of the month was 10-15N. Localised rains may have fallen from cloud bands over southern areas of Mauritania, Mali and Niger and perhaps Chad on occasions. Some rain may have also been associated with the northerly position of the ITCZ in the last dekad. However dry conditions continued to persist in the summer breeding areas of the Sahel. Dry conditions were also reported in northern Mauritania near Atar and Zouerate.

In **East Africa**, the general weather pattern was similar to last month. Winds over the interior of Egypt and Sudan were generally from the north and extended to northern Ethiopia in the first two dekads of March. Ecological conditions on the coastal plains of Sudan are dry and not favourable for breeding in most areas as no rain has fallen since January. A convergence zone was located near 13N/37E over the interior of Ethiopia which sometimes merged with the Red Sea Convergence Zone further north over the coast of Eritrea and Sudan, generally between 15-20N. In the latter area, northerly winds along the Sudanese, southern Egyptian and western Saudi Arabian coasts met the south-easterly winds from the southern Red Sea. Ethiopia reported moderate rainfall during the month (Dire Dawa: 28mm) which was produced by high bands of clouds moving eastward. The northern coast of Somalia was affected by easterly winds and



possible areas of green vegetation
Red Sea coastal plains, 11-20 March
(NOAA 1 km resolution imagery)

temperatures ranging from 14-17°C at night to 22-29°C during the day. Although there was an indication that the Long Rains had started in some places, ecological conditions were reported to be generally dry.

In the **Near East**, high clouds coming from East Africa produced a significant amount of rainfall in the Asir Mountains of south-western Saudi Arabia (Al Asha: 58mm; Al Baha: 31mm; Khamis Mushait: 95mm) which extended to the interior (Najran: 47mm; Sharurah: 71mm) and adjacent areas of Yemen (Marib and Al Jawf). Heavy rains fell in the United Arab Emirates (Dubai: >110mm), northern Oman (Khassab: >170mm; Seeb: >220mm; Sur: >120mm) and Qatar. The prevailing surface winds over the southern Arabian coast were north-easterly, veering to south-east over the interior of Saudi Arabia. The winds were variable in the northern part of Saudi Arabia. Temperatures on the Red Sea coastal plains north of Jeddah were between 23-27°C during the day and 10-15°C at night. Breeding conditions are favourable on the coastal plains near Jeddah, the interior near Madinah and in Oman on the Batinah coast due to recent rains.

In **South West Asia**, widespread rains were reported in coastal and interior areas of Baluchistan in western Pakistan (Panjgur: > 20mm; Pasni and Turbat) and some localised rains fell in Rajasthan of India. Temperatures during the day in Baluchistan were between 23-28°C and 10-13°C at night with variable winds and favourable breeding conditions. In the Chabahar area on the south-eastern coast of Iran, breeding conditions were not favourable in the first half of the month. However, some rain may have fallen later in the month that was associated with clouds which produced rains in the Near East.

Area Treated

Saudi Arabia	25,224 ha	(March)
Sudan	618 ha	(March)

Desert Locust Situation and Forecast

WEST AFRICA

Mauritania

• **SITUATION**

Isolated solitary adults were slowly maturing at a few places east of Akjoujt (1944N/1420W) and south of Atar (2031N/1303W) during the first two dekads of March. A sinlge solitary adult was seen north of Zouerate (2244N/1221W) on the 11th.

• **FORECAST**

Low numbers of adults will continue to mature in parts of Adrar, Inchiri and Tiris-Zemmour. These may be supplemented by a few adults moving from the north towards the south where they may start to appear by the end of the forecast period. However, any movement is expected to be on a very small and insignificant scale.

Mali

• **FORECAST**

Isolated adults may appear from the north by the end of the forecast period to supplement the few adults that may already be present in some parts of the Adrar des Iforas.

Niger

• **FORECAST**

Isolated adults may appear from the north by the end of the forecast period to supplement the few adults that may already be present in some parts of Tamesna.

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

• **FORECAST**

No significant developments are likely.

NORTH-WEST AFRICA

Algeria

• **SITUATION**

Isolated solitary adults were present and maturing at a few places near the Moroccan border between Tindouf (2742N/0810W) and Bechar (3135N/0217W) and at one location north-west of the Hoggar Mountains in the Adrar N'Ahnet during the first half of March.

• **FORECAST**

Breeding is unlikely in the central and western Sahara unless further rainfall occurs during the forecast period. Consequently, only insignificant numbers of adults are expected to persist and slowly move south towards the Sahel.

Morocco

• **SITUATION**

A few solitary mature adults were present south of the Atlas Mountains at Fzou (3055N/0505W) on 15-23 March.

• **Forecast**

Breeding is unlikely south of the Atlas Mountains unless further rainfall occurs during the forecast period. Hence, only insignificant numbers of adults are expected to be present in a few areas and these will slowly move south towards the Sahel.

Libya and Tunisia

• **Forecast**

No significant developments are likely.

EASTERN AFRICA

Sudan

• **Situation**

Breeding continued to be reported on the Red Sea coastal plains north of Port Sudan in the Eight area (2009N/3711E) where copulating solitary adults, eggfields and first to fourth instar hoppers were seen throughout March. Control was undertaken on 437 ha, mostly against hoppers at densities of up to 10 per sq. metre. Adult densities were up to 1,200 per ha and some gregarious adults were reported. Similar infestations were found later in the month at four other areas nearby.

On the southern coastal plains, scattered adults were seen copulating within 180 ha near Adobana (1810N/3818E) on the 16th. Mature adults were present nearby on a total of 750 ha in Khors Aeit (1755N/3819E) and Balatat (1800N/3825E).

• **Forecast**

As conditions continue to dry up, further breeding on the Red Sea coastal plains is unlikely unless rainfall occurs. Consequently, hoppers are expected to concentrate and form groups in those areas that remain green. New adults will appear during the forecast period. There is a low risk that these may be supplemented by immature adults and swarms coming from eastern side of the Red Sea at the end of the forecast period.

Eritrea

• **Forecast**

Isolated adults may be present in a few places along the Red Sea coastal plains between Massawa and Karora, however breeding is unlikely unless rainfall occurs. Consequently, locust numbers will decline during the forecast period.

Somalia

• **Situation**

Isolated immature adults were seen on the northern coast near Eleye (1056N/4707E) during surveys in coastal and subcoastal areas on 3-8 March.

• **Forecast**

Low numbers of adults are expected to persist along some parts of the north-west coastal plains and adjacent areas of the interior where they will mature and lay eggs if rainfall occurs during the upcoming rainy season.

Ethiopia

• **Situation**

No locusts were seen during surveys in the Jijiga and Degahbur areas of the south from 26 February to 17 March.

• **Forecast**

No significant developments are likely.

Djibouti, Kenya, Tanzania and Uganda

• **Forecast**

No significant developments are likely.

NEAR EAST

Saudi Arabia

• **Situation**

A significant increase in locust activity reported during March suggests that the laying which occurred in late February may have been larger than originally estimated. Several swarms were reported as arriving on the Red Sea coast on the 8-9th near Thoul (2217N/3906E) and Khulais (2202N/3919E) and contributed to the breeding. There were additional reports of other swarms laying elsewhere along the coastal plains north of Jeddah (2130N/3910E). The swarms varied in size from 3-18 sq. km at densities up to 30 adults per sq. m. Consequently, hatching and band formation occurred over a widespread area of the coastal plains between Jeddah and Umm Lajj (2515N/3720E). By the end of the month, third instar hopper bands were reported in some places at densities of 5-20 hoppers per sq. m. Control operations are underway using 32 ground control teams supplemented by a helicopter and a fixed-wing aircraft. During March, they treated more than 25,000 ha, primarily against hopper bands.

• **Forecast**

Moderate numbers of hopper bands will continue to form along the central coastal plains of the Red Sea and new swarms should start to appear from the second half of April onwards. The scale of swarm formation depends on the success of control operations but there is a possibility of many small and medium-sized swarms. Some of these may move off the coastal plains to the west or east.

Yemen

• **SITUATION**

No locusts were seen during surveys carried out on the Red Sea coastal plains on 5-14 March. No locusts were reported elsewhere in the country.

• **FORECAST**

Isolated adults may be present in a few places along the Red Sea coastal plains but breeding is unlikely unless further rainfall occurs. Low to moderate numbers of adults and swarms that escape survey and control operations further north may appear from late April onwards in the interior near Marib and Al-Jawf. These may lay eggs in areas of recent rainfall by the end of the forecast period.

Egypt

• **SITUATION**

Scattered adults were present in Wadi Diib at 3555N/2205E near the Sudanese border within 30 ha of crops up to 9 March. Some yellow adults were seen copulating and hoppers of various instars were reported at densities up to 5 per sq. metre.

• **FORECAST**

Low numbers of hoppers will continue to mature on the southern Red Sea coastal plains as a result of earlier breeding. As vegetation dries out, densities may increase slightly as hoppers and young adults become concentrated in remaining green areas.

Kuwait

• **SITUATION**

No locusts were reported during February.

• **FORECAST**

No significant developments are likely.

Oman

• **SITUATION**

No locusts were seen during surveys carried out on the Batinah coastal plains north-west of Muscat and in the northern interior up to 19 March.

• **FORECAST**

Isolated adults may be present in some areas of the Batinah coast and in Sharkiya. Small scale breeding may occur in areas of recent rainfall with hoppers appearing during the end of the forecast period.

UAE

• **FORECAST**

Isolated adults may be present in some areas of the Fujayrah coast. Small scale laying may occur with hoppers appearing during the forecast period in areas of recent rainfall.

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

• **FORECAST**

No significant developments are likely.

SOUTH-WEST ASIA

Pakistan

• **SITUATION**

During the first half of March, scattered adults were well distributed throughout coastal and interior areas of Pasni, Gwadar, Turbat and Panjgur districts of Baluchistan and in Lasbela district west of Karachi. Infestations consisted of low numbers of solitary adults at densities up to 12 per location and were confined primarily to valleys and coastal plains.

• **FORECAST**

Breeding is expected to occur on a small scale in coastal and interior areas of Baluchistan with new adults appearing by the end of the forecast period.

India

• **SITUATION**

No locusts were seen during surveys carried out during the second half of February and first half of March.

• **FORECAST**

Low numbers of solitary adults may persist in a few places of Rajasthan.

Iran

• **SITUATION**

No locusts were seen during surveys carried out on the Vashnam Plains near Chabahar (2517N/6037E) up to 12 March.

• **FORECAST**

Low numbers of adults may be present in coastal and interior areas of Baluchistan. However, breeding is unlikely unless further rainfall occurs during the forecast period.

Afghanistan

• **FORECAST**

No significant developments are likely.

No. 223

DESERT LOCUST BULLETIN

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 km^2
- band: 1 - 25 m^2

SMALL

- swarm: 1 - 10 km^2
- band: 25 - 2,500 m^2

MEDIUM

- swarm: 10 - 100 km^2
- band: 2,500 m^2 - 10 ha

LARGE

- swarm: 100 - 500 km^2
- band: 10 - 50 ha

VERY LARGE

- swarm: 500+ km^2
- 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.

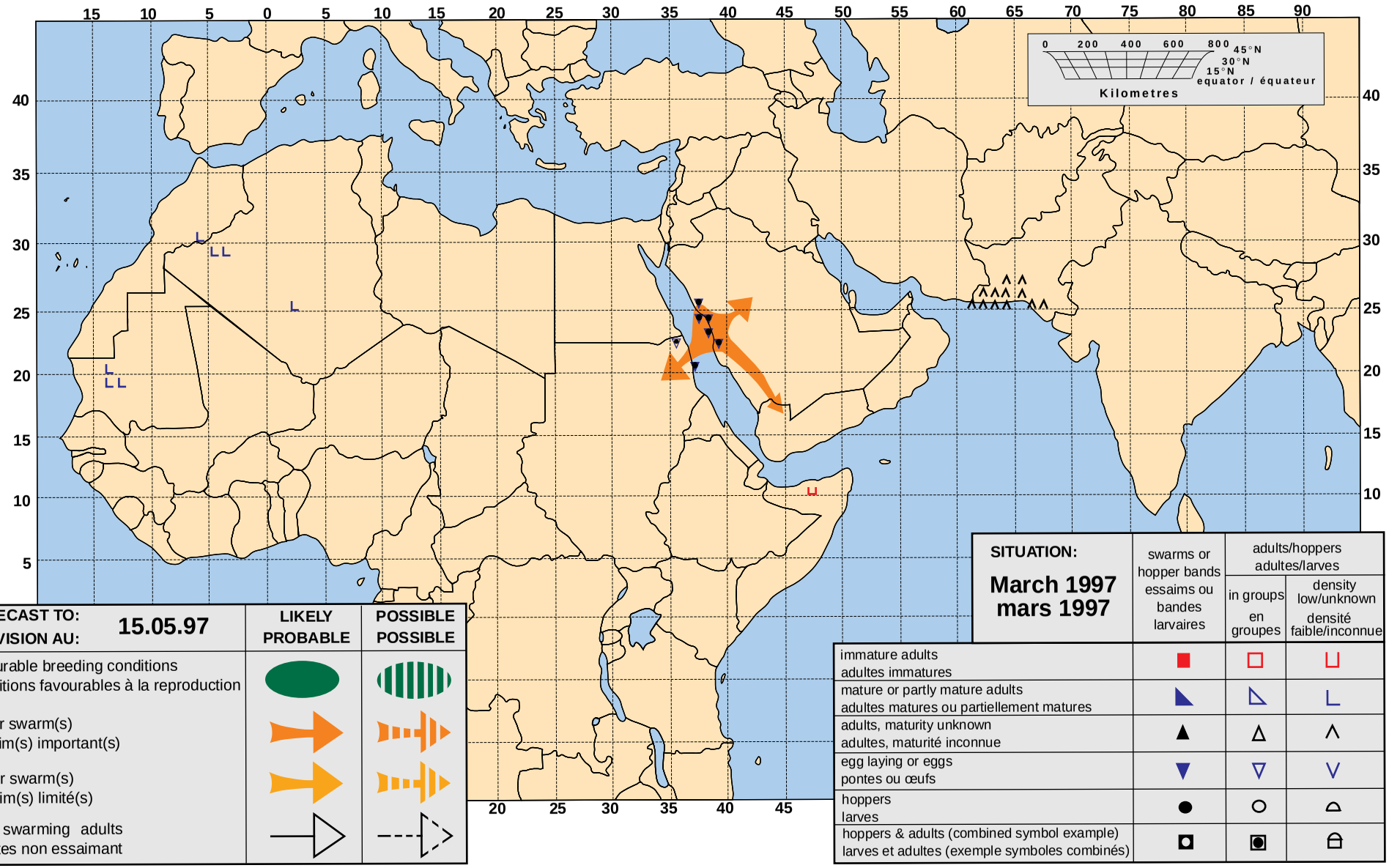
UPSURGE

- 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.

issued: 2 April 1997

Desert Locust summary
Criquet pèlerin situation résumée

223



FORECAST TO: / PREVISION AU: 15.05.97	LIKELY PROBABLE	POSSIBLE POSSIBLE
favourable breeding conditions conditions favourables à la reproduction		
major swarm(s) essaim(s) important(s)		
minor swarm(s) essaim(s) limité(s)		
non swarming adults adultes non essaimant		

SITUATION: March 1997 mars 1997	swarms or hopper bands essaims ou bandes larvaires	adults/hoppers adultes/larves: in groups en groupes	adults/hoppers adultes/larves: 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	▼	▽	V
hoppers larves	●	○	⌓
hoppers & adults (combined symbol example) larves et adultes (exemple symboles combinés)	◘	◙	⌓