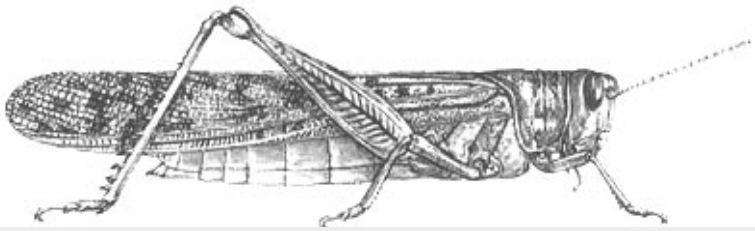


DESERT LOCUST BULLETIN

FAO Emergency Centre for Locust Operations

No. 225
(3 June 1997)

General Situation during May 1997
Forecast until mid-July 1997

Large-scale control operations continued during May on the Red Sea coastal plains of Saudi Arabia against Desert Locust hoppers and adults. It is believed that these operations have prevented the formation of significant swarms and greatly reduced the threat of migration to other countries in the Region. Nevertheless, there is a chance that moderate numbers of solitary adults and perhaps a few small groups will move west across the Red Sea to the interior of Sudan and perhaps continue towards West Africa if they find dry conditions enroute. Other adults may move east into the interior of Saudi Arabia but the threat of their continuation towards the Indo-Pakistan summer breeding areas is considered to be low. There were no significant infestations reported from other countries.

Central Region

In **Saudi Arabia**, more than 140,000 ha of hopper groups, small bands, fledglings and immature adults were treated by at least 70 ground teams and four aircraft during May. This was a significant increase compared to the previous month. By the end of May, vegetation was drying up on the coastal plains and some areas had become clear of significant infestations. Consequently, control operations were declining. There are indications that low numbers of locusts have moved off the coastal plains eastwards into the foothills and further east into the interior of Saudi Arabia. It is believed that higher numbers may have moved west across the Red Sea around mid-month when **Sudan** reported a few small swarms on their Red Sea coast which later dispersed. There was also an unconfirmed report of a swarm in the northern interior of Sudan. Small numbers of isolated adults were reported on the Red Sea coastal plains of **Eritrea** and **Egypt**. All of these are expected to continue west to the summer breeding areas of central and western Sudan and the western lowlands of Eritrea.

Eastern Region

Locust numbers declined in the spring breeding areas of Baluchistan in **Iran** and **Pakistan** as a result of drying conditions. Low numbers of adults will appear in the Indo-Pakistan summer breeding areas during the forecast period and lay with the onset of the monsoon rains in Pakistan, and in Rajasthan, **India**.

Western Region

Dry conditions persisted in North-West Africa. Seasonal rains have yet to commence in the Sahel of West Africa. Only isolated adults were reported from Mauritania. There were unconfirmed reports of locusts from **Mali** and **Niger**. There is a low risk that adults and perhaps a few small groups may traverse the Sahel from east to west from the Red Sea area and reach Mauritania during the forecast period. However, numbers are expected to be low.

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. 225

DESERT LOCUST BULLETIN

Weather & Ecological Conditions during May 1997

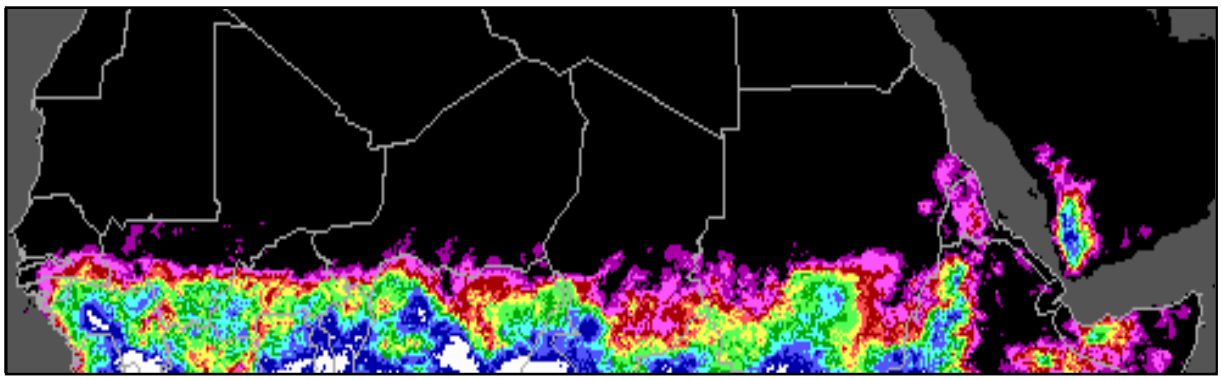
Seasonal rains have yet to commence in the Sahel of West Africa but have started in the western lowlands of Eritrea and in some parts of Sudan. Conditions are rapidly drying up on the Red Sea coastal plains and in Baluchistan of Iran and Pakistan. The south-west monsoon airflow has set in over Arabian Sea

In **West Africa**, the Inter Tropical Convergence Zone (ITCZ) has moved northward from a position between 10-15N at the beginning of May to 15-20N in the last dekad. The winds north of the ITCZ were generally easterly over Chad, Niger and Mali, becoming north-easterly or northerly over Mauritania. The ecological conditions in this part of the region are generally too dry to be favourable for breeding. Seasonal rains have started in some parts of the region south of the ITCZ. For example Zinder (Niger) received 27mm, Nioro du Sahel (Mali) 34mm, Aioun (Mauritania) 30mm, and in the Senegal river valley, Kaedi received 47mm at the end of the second and in the third dekad. The prevailing winds in this part of the region were westerly and the ecological conditions are improving. Temperatures in the entire region generally ranged between 16-45 C.

In **North-West Africa**, the prevailing winds over Libya were easterly, becoming north-easterly over southern Algeria. Morocco had primarily northerly winds along the coast until 22 May, when a depression coming from the North-Atlantic Ocean started to change the winds to westerly directions. This depression lasted until the end of the month. Only light rains fell south of the Atlas mountains in the second and third dekad over Morocco, northern Algeria and Tunisia. Consequently, the soil and vegetation are expected to be drying with temperatures ranging from 15-40 C.

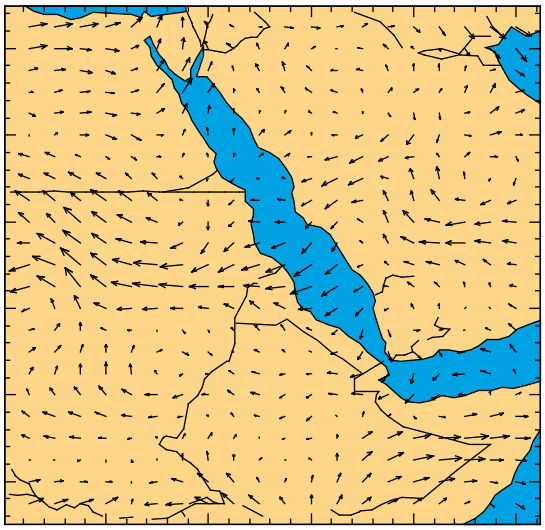
In **East Africa**, the wind over the interior of Egypt was northerly, veering to easterly over the northern part of the interior of Sudan. The Red Sea coastal areas of Egypt and northern Sudan had variable winds which were sometimes quite strong at higher levels and suitable for locust movement from the east. Heavy rains fell in a few places in the Red Sea hills on the 26th. Localised rain fell in the interior of Sudan at En Nahud (13mm) in northern Kordofan. The ecological conditions are generally dry but may be improving locally after recent rains. The coastal areas of Eritrea had onshore winds, extending into Ethiopia. Although the convergence zone over 13N/37E in Ethiopia still persists, it is noted that the RSCZ which was present during the past few months has been absent during May. Ecological conditions are improving in the Western Lowlands of Eritrea and adjoining areas of Sudan, where the summer rains have started. Temperatures on the Red Sea coast ranged between 15-20 C during the night and 35-40 C during the day. The maximum temperature in the interior of Sudan was above 45 C. The prevailing wind over the northern coast of Somalia was north easterly, coming from the Gulf of Aden. The ecological conditions in Somalia are reported to be dry on the coastal plains but green in the interior after recent localised moderate rains.

In the **Near East**, prevailing winds over Yemen were from south to south-east, veering towards westerly over Oman and UAE. In Yemen, ecological conditions are dry on the coastal plains of the Gulf of Aden and on the Tihama (Red Sea coast) with temperatures ranging from 15-35 C. Temperatures over Oman and UAE are higher, up to 40 C during the day. The southern part of the Arabian peninsula stayed dry during May. Saudi Arabia had variable winds. Occasionally the winds over the Red Sea coastal areas would have allowed locusts



Cold-Cloud image for May 1997 indicating rainfall remains south of the Desert Locust breeding areas in the Sahel of West Africa and Sudan.

light heavy



Estimated medium-level (850 mB) winds on 15 May at 0600GMT indicating easterly winds over the Red Sea.

to move 250-300 km across the sea to Sudan and northern Eritrea; for example on the 15 May. At other times, winds were favourable for eastern movement of locusts to the interior of Saudi Arabia. Light rains were produced primarily in the second dekad by a cloud band extending from the northern part of Sudan to the northern part of Saudi Arabia and in the third dekad by a cloud band extending from Jeddah in Saudi Arabia to Kuwait. Unusual rains fell on the southern Red Sea coast of Saudi Arabia where Jizan reported 49mm in mid May. Temperatures on the Red Sea coast near Jeddah, ranged generally between 15-35 C. The vegetation in this area is nearly completely dry except for some small patches. Temperatures in the interior of the country and on the eastern Gulf coast were between 20-40 C.

In **South-West Asia**, the prevailing wind over Baluchistan of eastern Iran and western Pakistan were from the south-west, veering to west in western India. Rains were produced by depressions, mostly connected with troughs in the upper air. Karachi received 40mm of rain in the first fortnight of May, and Pasni on the south western coast received 13mm where the averaged temperatures were between 17-20 C at night to 30-35 C during the day. Moderate rains fell in Rajasthan, India in the last dekad (Jodhpur: 22mm; Jaisalmer: 17mm; Bikaner: 19mm) where daytime temperatures were 40-45 C. Ecological conditions are reported to be favourable in the spring breeding areas of Baluchistan of eastern Pakistan and in western India, and are probably improving along the Indo-Pakistan border. The south westerly wind flow from the Horn of Africa and associated with the monsoon commenced by mid month.

Area Treated

Saudi Arabia 140,833 ha (May)

Desert Locust Situation and Forecast

WEST AFRICA

Mauritania

• **SITUATION**

No locusts were seen during surveys carried out in the north throughout May except for an isolated adult near Atar (2032N/1308W). On the 8th, a group of adults was reported in the south near the Malian border at 1540N/0919W. No other locusts were seen during surveys in the south.

• **FORECAST**

Locust numbers are expected to increase in the south as adults appear from the north. These may be supplemented by other adults and perhaps a few small groups coming from the Red Sea area. However, the number of incoming adults is expected to be low and insignificant. Small scale laying could occur with the onset of the seasonal rains.

Mali

• **SITUATION**

There were unconfirmed reports of small groups of maturing adults in the Timetrine near Tinkar (1927N/0022W) during the second dekad of May.

• **FORECAST**

Low numbers of solitary adults may be present and concentrating in some parts of the Adrar des Iforas and Timetrine. These are expected to persist and may be supplemented by other adults and perhaps a few small groups coming from the Red Sea area. However, numbers are likely to remain low. Small scale laying could occur with the onset of the seasonal rains.

Niger

• **SITUATION**

There was an unconfirmed report of isolated solitary adults in Tamesna during May.

• **Forecast**

Low numbers of solitary adults may be present in parts of the Tamesna. These are expected to persist and may be supplemented by other adults and perhaps a few small groups coming from the Red Sea area. However, numbers are likely to remain low. Small scale laying could occur with the onset of the seasonal rains; otherwise, any incoming adults are likely to continue moving westwards.

Chad

• **Situation**

There was an unconfirmed report of locusts coming from the east in late May; no further details could be obtained.

• **Forecast**

Low numbers of adults and perhaps a few small groups may appear in the north coming from the Red Sea area and continue moving towards the west if rainfall does not occur and areas continue to remain dry.

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

• **Forecast**

No significant developments are likely.

NORTH-WEST AFRICA

Algeria

• **Situation**

No locusts were seen during surveys carried out in April. No reports were received for May.

• **Forecast**

Insignificant numbers of adults may be present in a few locations between Bechar and El Oued. If so, numbers will decline as conditions dry out and adults move south towards the Sahel.

Morocco

• **Situation**

No locusts were seen during surveys carried out in May.

• **Forecast**

No significant developments are likely.

Tunisia

• **Situation**

No locusts were seen in March and April.

• **Forecast**

No significant developments are likely.

Libya

• **Forecast**

No significant developments are likely.

EASTERN AFRICA

Sudan

• **Situation**

Two medium density immature swarms were reported to be flying from east to west on 15 May over the central Red Sea coast near Suakin (1845N/3724E). A third swarm was also seen moving to the west on the same day. The swarms covered an area of about 2,250 ha. The swarms apparently dispersed into the Red Sea Hills. There was an unconfirmed report of an immature swarm in the Baiyuda Desert of the northern region near Farus (1706N/3230E) flying from the north-east to the south-west on the 31st.

• **Forecast**

Locust numbers will increase in the summer breeding areas of Northern, Kordofan and Darfur regions. These may be supplemented by adults and a few small groups coming from the Red Sea area. Small scale laying could occur in areas of recent rainfall.

Eritrea

• **Situation**

Individual solitary adults were seen flying in Asmara on 16-18 May. Isolated solitary adults were seen at five locations during a survey carried out on the Red Sea coastal plains on the 27-30th between Wonfobo (1500N/3947E) and Wekiro (1559N/3914E). No locusts were seen further north on the coast near Mersa Gulbub.

• **Forecast**

Locust numbers will decline on the Red Sea coastal plains due to drying conditions. Low numbers of solitary adults and perhaps a few small groups may appear in the northern highlands and western lowlands from the Red Sea area early in the forecast period. Small scale breeding could occur in areas of recent rainfall in the western lowlands.

Somalia

• **Situation**

Scattered immature adults were seen during surveys on the central northern coast near Maydh (1100N/4707E) and Ras Surud (1111N/4732E) on 16-18 May.

• **Forecast**

Small scale breeding is expected to occur in a few places along the northern coastal plains and in adjacent subcoastal areas where recent rains have fallen.

Djibouti, Ethiopia, Kenya, Tanzania and Uganda

• **Forecast**

No significant developments are likely.

NEAR EAST

Saudi Arabia

• **Situation**

Large scale aerial and ground control operations continued against hopper groups and low density bands, fledglings and immature solitary and transiens adults. The infestations were scattered over a 900 km stretch of the central and northern Red Sea coastal plains from Al-Lith (2017N/4020E) to Duba (2725N/3550E). The heaviest infestations were present near Khulais (2217N/3920E), Rabigh (2242N/3910E), Masturah (2315N/3850E) and further north near Umm Lajj (2515N/3720E). Reports of immature adults in the foothills east of Khulais at Al-Kamel (2220N/3945E) and near Taif (2226N/4051E) suggest that adults started moving off the coastal plains in early May as vegetation began to dry up. There were also reports of low density solitary adults in the interior at two locations in the Hail (2732N/4142E) region on the 3rd and 24th which almost certainly arrived from the Red Sea coast. There have been no reports of swarms nor any evidence suggesting that swarms have formed.

By the end of the month, almost all infestations consisted of solitary fledglings and immature adults, some of which were showing transiens features and were at maximum densities of about 30 per tree (when roosting). The only remaining area of hoppers was north and east of Al-Wejh (2615N/3635E) where fourth and fifth instar groups were present at densities up to 50 per sq. m. and starting to form small bands. Control operations were declining in all areas by the 31st. A total of 140,833 were treated during the month.

• **Forecast**

Locust numbers will continue to decline on the Red Sea coastal plains as the vegetation dries out and adults move off the plains. Moderate numbers of solitary adults and perhaps a few small groups are expected to move west across the Red Sea, east towards the interior, or south along the coastal plains to Jizan, depending on the prevailing winds during June. Those that move into the interior are likely to continue east if westerly winds are present or appear in areas of green vegetation in the Hail region. If adults appear in Jizan, they are likely to mature and may lay on a small scale in areas of recent rains. Significant swarm formation and migration is not expected.

Yemen

• **Situation**

No locusts were seen during a surveys on the coastal plains from Aden to Bab Al Mandab on 18 May and on the Red Sea coastal plains north-east of Hodeidah on the 20th.

• **Forecast**

No significant developments are likely.

Egypt

• **Situation**

Scattered mature solitary adults were present in late April and early May at six locations on the south-eastern coastal plains of the Red Sea and in adjacent interior areas. A maximum of 20 adults was seen in Wadi Diib (2205N/3555E) on 24 April. No locusts were seen in oases of the Western Desert or in the Nile Valley.

• **Forecast**

Low numbers of solitary adults and perhaps a few small groups may pass over the Red Sea coastal plains moving towards the south-west early in the forecast period. Otherwise, no significant developments are expected.

UAE

• **Forecast**

Low numbers of adults may appear in northern areas from the west and continue towards the east early in the forecast period. Otherwise, no significant developments are expected.

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

• **Forecast**

No significant developments are likely.

SOUTH-WEST ASIA

Pakistan

• **Situation**

Scattered mature solitary adults were present in the interior of Baluchistan near Panjgur (2658N/6406E) and Kharan (2832N/6526E) in late April.

During the first fortnight of May, isolated maturing adults were present at 13 locations in Lasbela, Panjgur, Turbat and Pasni districts.

• **Forecast**

Locust numbers will decline in Baluchistan as conditions become dry and adults move east towards the Indo-Pakistan summer breeding areas. Low numbers of adults are expected to appear in the summer areas from Tharparkar to Cholistan during the

forecast period and lay with the onset of the monsoon rains.

India

• **SITUATION**

No locusts were seen during surveys carried out during the second half of April and during the first half of May in Rajasthan.

• **FORECAST**

Locust numbers will increase in Rajasthan as low numbers of solitary adults appear from the west. Small scale breeding is likely to commence with the onset of the monsoon rains.

Iran

• **SITUATION**

No locusts were seen during surveys carried out in April in Bushehr and Hormozgan regions. Small scale breeding occurred on the Vashnum Plains on the extreme south-east coast where isolated second and third instar solitary hoppers were present at three locations on 11 May. Scattered mature adults were seen at six locations on the coastal plains west of Chabahar (2516N/6041E) to Poshty (2529N/5927E) on the 16-18th. Scattered mature adults were also present in the interior of Baluchistan near Iranshahr (2715N/6041E) on the 12th.

• **FORECAST**

Locust numbers will decrease on the south-eastern coastal plains as vegetation dries out. Low numbers of solitary adults are expected to move towards the east to the Indo-Pakistan summer breeding areas.

Afghanistan

• **FORECAST**

No significant developments are likely.

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.

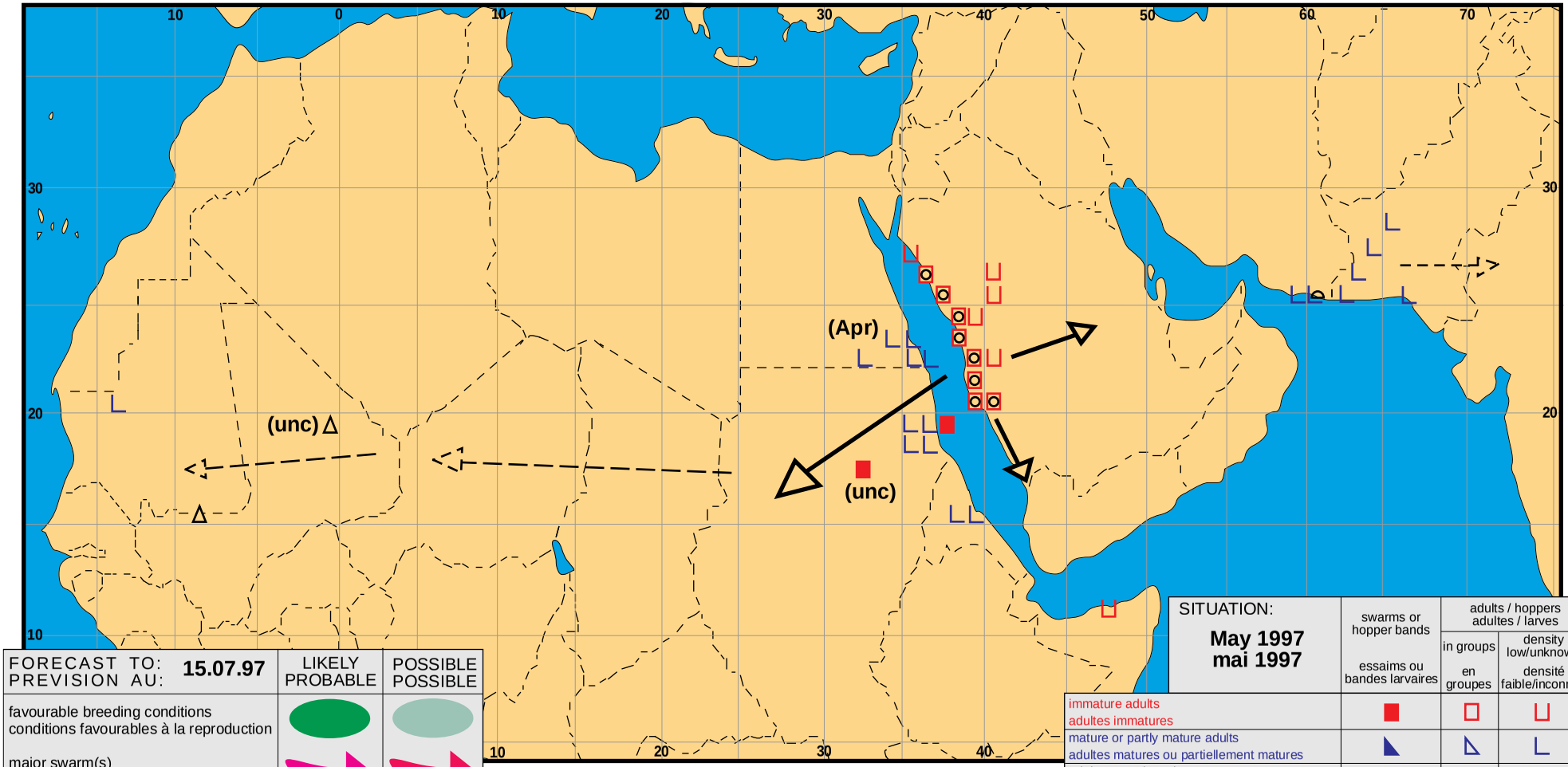
UPSURGE

- 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: 3 June1997

Desert Locust summary
Criquet pèlerin situation résumée

225



FORECAST TO: / PREVISION AU: **15.07.97**	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: **May 1997 / mai 1997**	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	◣	◺	L
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)	◘	◙	⊎