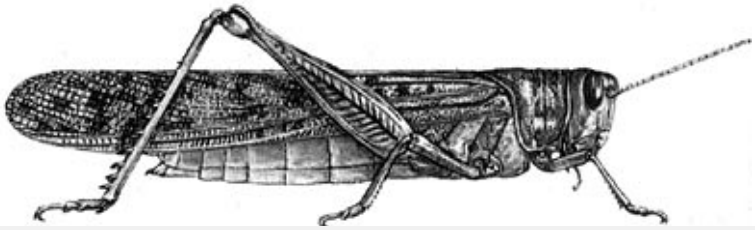


DESERT LOCUST BULLETIN

FAO Emergency Centre for Locust Operations **No. 304**

(4 February 2004)

General Situation during January 2004 Forecast until mid-March 2004

Despite intensive control efforts during January, the Desert Locust situation continued to deteriorate in Mauritania and Saudi Arabia. Large numbers of hopper bands were present and new swarms were beginning to form in both countries. Control operations continued in adjacent areas in southwestern Morocco and against smaller infestations in Algeria, Libya and Niger. During the forecast period, swarms are expected to move north into the spring breeding areas in Morocco and Algeria. A few hopper bands were reported on the coasts of Sudan and Eritrea. Some swarms may move from the Red Sea coastal plains in Saudi Arabia to spring breeding areas in the Saudi interior. There is a low risk that a few swarms may continue to Jordan, Iraq, Kuwait and Iran.

Western Region. The situation remains extremely critical in **Mauritania** where hopper bands were present within a large area of the northwest and north. Considerable damage to crops was reported in some areas. New swarms began forming from early January onwards, some of which were seen moving northwards. Groups of hoppers and adults were present in adjacent areas in southwestern **Morocco**. Aerial and ground control operations were underway in both countries. Small-scale breeding continued along the common border between **Algeria** and **Libya** during the first half of January and control was carried out in both countries. Locust numbers declined in Tamesna, **Niger** but breeding continued in the Air Mountains. The situation is less clear in northern **Mali** where a few small bands and swarms may be present. During the forecast period, swarms are expected to start moving towards the spring breeding areas south of the Atlas Mountains in Morocco and Algeria. Another generation of breeding could also occur in Mauritania if conditions remain favourable.

Central Region. Ground and aerial control continued against numerous hopper bands on the northern Red Sea coast of **Saudi Arabia** where new swarms are expected to form shortly. Although most of the swarms should remain on the coast where they will mature and breed, some may move into the spring breeding areas in northern and central Saudi Arabia. There is a low risk that a few swarms could continue to **Jordan**, **Iraq** and **Kuwait**. Control operations were underway in **Sudan** against hopper bands on the northern coast where infestations may be more widespread than previously reported, and in the Tokar Delta. Hopper bands were also reported on the northern coast of **Eritrea** near the Sudanese border. A few groups and swarms may form from the infestations in Sudan and Eritrea. Elsewhere, scattered adults were present on the Red Sea coasts of **Egypt** and **Yemen**, and on the coast of northwestern **Somalia**.

Eastern Region. No locusts were reported in the Region. Good rains fell in the spring breeding areas in western **Pakistan** where solitary adults are expected to appear and lay eggs in the coming weeks. There is a low risk that a few swarms may appear in western **Iran** from Saudi Arabia.

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.
Telephone: +39 06 570 52420 (7 days/week, 24 hr)
Facsimile: +39 06 570 55271
E-mail: eclo@fao.org
Internet: www.fao.org
DLIS: www.fao.org/news/global/locusts/locuhome.htm

No. 304

DESERT LOCUST BULLETIN

Weather & Ecological Conditions in January 2004

Good rains fell in the spring breeding areas in the interior of Saudi Arabia and in western Pakistan. Vegetation was unusually green in Mauritania and southwestern Morocco but was drying out in Mali, Niger and Algeria. Although little rain fell along both sides of the Red Sea, conditions remained favourable on the northern coast of Saudi Arabia.

In the **Western Region**, light rain fell during January in parts of southern and eastern Algeria, in central Mauritania, in places along the coast in southwestern Morocco, and in northwestern Libya. Heavier rains occurred in southern Tunisia. As a result of rainfall in December, large areas of green vegetation were present in Mauritania in the northwest (Inchiri), centre (northern Trarza and Brakna, southwest Adrar) and north (Tiris Zemmour to 9W) where conditions were favourable for breeding. Similarly, green vegetation was present in southwestern Morocco from the Mauritanian border to Laayoune, about 700 km. In Algeria, vegetation was green in the east near Illizi, in the Sahara northwest of Tamanrasset and in the west south of Tindouf. Vegetation was reported to be dry north of Tindouf along the Moroccan border and drying out in northern Mali and Niger where only a few areas remained green. Conditions were improving in the Al Hamada Al Hamra region of northwestern Libya. Low temperatures at night prevailed throughout the Algerian Sahara.

In the **Central Region**, good rain fell throughout the spring breeding areas in the interior of Saudi Arabia where temperatures remained low and ecological conditions were starting to improve. Some of these showers extended to Kuwait, Bahrain and the United Arab Emirates. In Oman, heavy rain fell along the Batinah coast in the north and lighter showers were reported in many other areas during the second half of January. Despite unusually low temperatures, vegetation was starting to become green in some places. Isolated showers were reported on the northern Red Sea coast near Yenbo, Saudi Arabia. Heavier rain fell at mid month on the southern coastal plains from Jizan, along the Yemeni/Saudi border to Suq Abs, Yemen, and flooding occurred in some places. Breeding conditions remained favourable on the coastal plains north of Jeddah. Conditions continued to improve on the southeastern coast in Egypt where green vegetation was present in many of the wadis between Shalatyn and Halaib. In Sudan, no rain was reported on the coastal plains except for light showers in the Tokar Delta on 13 January. Consequently, natural vegetation was green in only a few places on the northern coast. In Eritrea, breeding conditions were improving on the northern coast. In Yemen, conditions were dry on the northern coast but greener in central areas near Hodeidah. Conditions were also dry along the Gulf of Aden coast. Good rains fell in mid January in eastern Ethiopia and at the end of the month in Djibouti. In Northern Somalia, vegetation was reported to be green on the coastal plains west of Berbera and dry to the east. Elsewhere, light rain fell in the Western Desert of Egypt at Siwa and Bahariya on the 21st.

In the **Eastern Region**, light to moderate rain fell in the spring breeding areas in Baluchistan, western Pakistan during the second half of January. Rainfall was heavier along the coast (Turbat 51 mm, Jiwani 48 mm, Gwadar 33 mm, Pasni 23 mm) than in the interior (Nushki 34 mm, Dalbandin 7 mm, Panjgur 5 mm). Consequently, ecological conditions will improve throughout most of Baluchistan. Conditions remained dry along the coastal plains and in the interior in southeastern Iran. Isolated showers were reported at times along both sides of the Indo-Pakistan border where vegetation is dry.

Area Treated

Since October, nearly 420,000 ha have been treated. Of this, control teams treated 242,200 ha in late December and during January as follows:

Algeria	348 ha	(26-28 December)
	59 ha	(7-12 January)
Libya	800 ha	(1-10 January)
Mauritania *	134,201 ha	(1-31 January)
Morocco	24,847 ha	(1-31 January)
Niger	615 ha	(28-29 December)
	1 ha	(3 January)
Saudi Arabia	80,787 ha	(1-28 January)
Sudan	542 ha	(1-28 January)

* includes barrier treatments protecting 52,127 ha

Desert Locust Situation and Forecast

(see also the summary on page 1)

WESTERN REGION

Mauritania

• **Situation**

Despite intensive control efforts, the situation continued to deteriorate throughout the country during January. Numerous hopper bands were present in several different areas: near Nouakchott, west of Bennichab (1932N/1512W) in southwestern Inchiri, between Akjoujt (1945N/1421W) and Atar (2032N/1308W), near Ouadane (2056N/1137W), in the north between Zouerate (2244N/1221W) and Bir Moghrein (2510N/1135W), and east of Bir Moghrein. Some of the bands were in agricultural areas and caused considerable damage to crops including fruit-bearing date palms. As the month progressed, hoppers continued to form bands at densities up to 1,300 hoppers/m^2, slowly matured and fledged. New immature adults formed an increasing number of swarms at densities up to 300 adults/m^2. During the second half of the month, some swarms were seen flying towards the north while others had become mature. Breeding continued in parts of Adrar where hatching was seen near Ouadane and in Tiris Zemmour where mature groups and swarms were reported. Elsewhere, groups of hoppers and adults were scattered south of the main infestations in southwestern Adrar, and border guards reported a swarm about mid month coming from the east along the Malian border some 200 km northeast of Nema (1632N/0712W).

Ground and aerial control operations treated 82,074 ha (full cover) and 52,127 ha (barrier) during January.

• **Forecast**

More swarms will continue to form in the north (Tiris Zemmour), northwest (Inchiri, Dakhlet Nouadhibou) and west (Adrar, Trarza) as the remaining hopper bands mature and fledge. Some of these swarms are likely to stay and slowly mature while others will move north towards the spring breeding areas on the southern side of the Atlas Mountains. Another generation of breeding is expected to occur in many of the areas currently infested as well elsewhere where conditions are favourable. Although low temperatures may initially delay hatching, the resulting hoppers are expected to start forming bands by March. There is a risk that additional swarms may arrive from northern Mali.

Mali

• **Situation**

The current situation is not very clear in the north and northeast because survey and control operations finished on 31 December 2003. Thereafter, no further operations were conducted and no locusts were reported.

• **Forecast**

Small groups of hoppers and adults, and perhaps a few bands and swarms, are almost certainly present in limited parts of Tamesna, the Adrar des Iforas and the Tilemsi Valley where vegetation remains green. As vegetation continues to dries out, low numbers of groups and perhaps a few swarms are likely to move towards northern Mauritania and to the spring breeding areas on the southern side of the Atlas Mountains in Morocco and Algeria.

Niger

• **Situation**

During January, groups of hoppers of all instars and immature adults were scattered in southeastern Air where hatching was still in progress. One small fifth instar hopper band was seen on 3 January in the Tafidet area (1817N/0923E). Ground control operations treated 616 ha in late December and early January.

There was a significant decline in locust populations in the Tezerzait area (ca. 1825N/0500E) in northwestern Tamesna where only small residual populations of solitarious and transiens hoppers and scattered adults were seen.

• **Forecast**

As vegetation dries out, adults will concentrate in areas that remain green in southeastern Air and form several small groups and perhaps a few swarms. While some of these may persist, most of locusts are expected to move to the spring breeding areas in Algeria and Morocco.

Chad

• **Situation**

No reports received.

• **Forecast**

No significant developments are likely.

Senegal

• **Situation**

No locusts were reported during December and January.

• **Forecast**

No significant developments are likely.

Algeria

• **Situation**

In early January, various stages of hoppers were slowly developing west of Tamanrasset (2250N/0528E) at densities up to 500 hoppers/bush and west of Illizi (2630N0825E) at densities up to 200 hoppers/bush. Scattered maturing adults were also present near Tamanrasset. Ground control operations treated 407 ha from 26 December to 12 January. In the west, isolated mature adults were present north of Tindouf (2742N/0810W) and southwest of Beni Abbes (3011N/014W) during the first week of January.

• **Forecast**

Locust numbers will increase near Tindouf where hatching is likely to occur once temperatures increase. Local populations may be supplemented by adult groups and swarms from neighbouring areas of northern Mauritania and Mali. In the east, hoppers will slowly mature near Illizi and Djanet where groups may eventually form. There is a risk that several adult groups and swarms may appear in the south during periods of warm southerly winds from Mali and Niger.

Morocco

• **Situation**

During January, small groups of hoppers of all instars mixed with immature and mature adults persisted within a large area of the southwest from the Mauritanian border to Guelta Zemmur (2508N/1223W). These were supplemented by mature adults coming from adjacent areas in Mauritania. Infestations varied from 3-1,000 ha in size with densities up to 70 locusts/m^2. Copulating adults were seen in some places. Similar infestations were also found near Oued Draa southwest of Guelmim (2859N/1003W). On the 28th, third and fourth instar hoppers at densities of 250/m^2 were seen near the Algerian border at Fydat Albagra (2957N/0628W). Ground and aerial control operations treated 24,847 ha during January.

• **Forecast**

Hoppers and adults will continue to develop in currently infested areas and are expected to form small bands and swarms. Adults are likely to move further north towards Oued Draa and the spring breeding areas south of the Atlas Mountains. If temperatures are warm enough and conditions are favourable, laying could start by the end of the forecast period. There is a risk that additional adult groups and swarms will arrive from northern Mauritania and Mali.

Libyan Arab Jamahiriya

• **Situation**

During January, groups of third to fifth instar hoppers and fledglings continued to develop northwest of Ghat (2459N/1011E). Most of the hoppers were fifth instar at densities up to 50 hoppers/m^2. Control operations treated 800 ha during the first decade of January.

• **Forecast**

A few small adult groups may form near Ghat where they will persist if conditions remain green. Otherwise, they could move further north into the Al Hamada Al Hamra, mature and eventually lay where good rains fell in January.

Tunisia

• **Situation**

No reports received.

• **Forecast**

A few adults may appear in the south during periods of warm southerly winds and breed in areas of recent rainfall. Low temperatures are likely to delay locust maturity and limit migration.

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

• **Forecast**

No significant developments are likely.

CENTRAL REGION

Sudan

• **Situation**

By the end of December, control operations had finished in the Atbara River area and no further locusts were reported from there.

During January, locust numbers increased on the Red Sea coastal plains, primarily in the Tokar Delta and on the northern plains between Port Sudan and Mohamed Qol (2054N/3709E) and near Oseif (2146N/3651E). In the Tokar Delta, immature and mature gregarious adults were present in millet and sorghum at densities of 3-7 adults/m^2 mixed with solitarious and transiens hoppers of all instars at densities up to 15/m^2. At mid month, one band had reportedly formed and many of the hoppers were fledging. By the end of the month, adult densities declined slightly. Ground control operations treated 465 ha on 1-28 January.

On the northern coast, first to third instar solitarious hoppers were present on 11 January at several places along the coast between Port Sudan and Mohamed Qol, and scattered mature adults were seen near the Egyptian border in Wadi Gabaneit (2156N/3650E). On the 24th, control operations treated 77 ha of late instar

gregarious hoppers at densities of 5000/ha and two small bands south of Mohamed Qol and near Oseif. Another dozen or so hopper groups and bands were seen in the same area up until 26 January suggesting that infestations may be more widespread than initially reported.

• **Forecast**

Unless further rains fall, breeding will decline on the northern coastal plains and in the Tokar Delta. Small hopper groups and bands are likely to continue to form in these places. Once hoppers fledge, adults are expected to form groups and perhaps a few small swarms, especially on the northern coast, that could move along the coast north towards Egypt, south towards Eritrea or across the Red Sea to Saudi Arabia.

Eritrea

• **Situation**

Scattered solitarious adults were seen at two places on the northern Red Sea coastal plains on 12-16 January. First to fourth instar hopper bands, mixed with adults, were present near the Sudanese border at Meleet (17230N/3847E) in about 5,000 ha of millet crops at densities of 20-25 hoppers/plant.

• **Forecast**

Locust numbers will increase on the Red Sea coastal plains between Massawa and the Sudanese border as small-scale breeding continues in favourable areas. Some populations could concentrate and start to gregarize, mainly in those places where green vegetation is limited, and form groups and perhaps a small swarm. There is a moderate risk of adult groups and perhaps a few small swarms arriving from the Sudanese coastal plains.

Somalia

• **Situation**

Isolated mature adults were seen on the northwestern coast at Awer Qalad (1050N/4327E) during surveys carried out on 13-19 January. No locusts were seen elsewhere along the coast or on the escarpment.

• **Forecast**

Locust numbers are likely to increase along the escarpment and coastal plains west of Berbera where small-scale breeding will occur in areas of recent rainfall.

Ethiopia

• **Situation**

No locusts were seen during surveys in the southeast near Harar (0919N/4206E) during January.

• **Forecast**

No significant developments are likely.

Djibouti

• **Situation**

No reports received during January.

• **Forecast**

A few locusts may appear in areas of recent rainfall along the northern and eastern coastal plains. No significant developments are likely.

Egypt

• **Situation**

During January, scattered mature adults at densities up to 1,000/ha were present at two places on the Red Sea coastal plains near Halaib (2212N/3635E). Locust populations decreased along the Lake Nasser shoreline where only scattered mature solitarious adults, at densities up to 200/ha, persisted at five places.

• **Forecast**

Locust numbers will continue to decline along the shores of Lake Nasser but are likely to increase on southeastern coastal plains of the Red Sea between Shalatyn and Abu Ramad due to small-scale breeding in areas of recent rainfall. There is a moderate risk of adult groups and perhaps a few small swarms arriving from the Sudanese coastal plains.

Saudi Arabia

• **Situation**

During January, numerous hopper bands continued to be present on the Red Sea coastal plains between Jeddah and Umm Lajj (2501N/3716E). Most of the infestations consisted of small bands of late instar hoppers at densities up to 100 hoppers/m^2. Several of these were found in the hills adjacent to the coastal plains. Fledging commenced on 5 January and, by the end of the month, groups of immature adults were starting to form swarms. One small immature swarm was seen flying near Al Barzah (2157N/3942E) from the coastal plains into the hills on the 17th. Aerial and ground control operations treated 80,787 ha during January.

A few individual immature adults were seen on the southern coastal plains south of Jizan (1656N/4233E) near the Yemeni border during a joint Saudi/Yemeni survey carried out on 12-15 January.

• **Forecast**

Swarm formation will commence at the beginning of the forecast period between Jeddah and Umm Lajj.

Although most of the swarms are expected to remain on the northern Red Sea coast and mature, there is a risk that some swarms will move into the interior during February where they could lay by the end of the forecast period. Those that remain on the coast are likely to lay eggs during February, giving rise to another generation of hoppers that will form bands and start to fledge as early as mid-March. There is a moderate risk that some adult groups and perhaps a few small swarms may arrive from the Sudanese and Eritrean coastal plains.

Yemen

• **Situation**

During January, isolated immature and mature adults were present in a few places on the Red Sea coastal plains northeast of Hodeidah (1450N/4258E). No locusts were seen during surveys carried out along the Gulf of Aden coast.

• **Forecast**

Small-scale breeding is expected to occur on the Red Sea coastal plains near Hodeidah. A few adults may appear further north in the border area as vegetation becomes green. No significant developments are likely.

Oman

• **Situation**

No locusts were seen during surveys carried out in January.

• **Forecast**

A few isolated adults may appear on the Batinah coast by the end of the forecast period and breed on a small scale if conditions are favourable.

Jordan

• **Situation**

No reports received.

• **Forecast**

There is a low risk that a few swarms could appear in the south from the Red Sea coast and interior of northern Saudi Arabia. This will most likely occur during periods of warm southerly winds associated with depressions over northern Arabia.

Iraq

• **Situation**

No reports received.

• **Forecast**

There is a low risk that a few swarms could appear in the south from the Red Sea coast and interior of northern Saudi Arabia. This will most likely occur during periods of warm southwesterly and westerly winds associated with depressions over northern Arabia.

Kuwait

• **Situation**

No reports received.

• **Forecast**

There is a low risk that a few swarms could appear from the Red Sea coast and interior of northern Saudi Arabia. This will most likely occur during periods of warm southwesterly and westerly winds associated with depressions over northern Arabia.

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

• **Forecast**

No significant developments are likely.

EASTERN REGION

Iran

• **Situation**

No locusts were seen during surveys carried out in the southeast on the coast near Jask and Chabahar and in the interior near Iranshahr and Saravan during January.

• **Forecast**

There is a low risk that a few swarms could appear in coastal areas of Bushehr Province from the Red Sea coast and interior of northern Saudi Arabia. This will most likely occur during periods of warm southwesterly and westerly winds associated with depressions over northern Arabia.

Pakistan

• **Situation**

No locusts were reported during January.

• **Forecast**

Low numbers of adults are expected to appear on the coast and in the interior of Baluchistan and breed on a small scale in areas of recent rainfall.

India

• **Situation**

No locusts were reported during January.

• **Forecast**

No significant developments are likely.

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 as well as country maps can be found on the Internet at: www.fao.org/news/global/locusts/elocust.htm

Outbreak photos. Pictures of the recent outbreaks in the Western and Central Regions are available on the Internet at: www.fao.org/news/global/locusts/outbreakpix.htm

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

- *Technical Series No. 30: Population dynamics* (English)
- *Technical Series No. 31: Biogéographie du Criquet pèlerin en Mauritanie* (French)

Desert Locust Guidelines. The French and Arabic versions of the *Desert Locust Guidelines* are 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. 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).

2004 events. The following meetings are scheduled:

- **Pesticide Referee Group.** 8th meeting, Rome, postponed to later in 2004
- **Desert Locust Technical Group Workshop.** 8th meeting, Nouakchott (Mauritania), postponed (tba)
- **CRC.** 24th session of the Commission and 26th session of the Executive Committee, Jeddah (Saudi Arabia), 17-22 April
- **CLCPRO.** 1st Executive Committee, Niamey (Niger), 14-18 June
- **SW Asia Commission.** 24th session, Kabul (Afghanistan), October

Locust Group staff. Mr. Abderrahmane Hafraoui retired at the end of January 2004 after 17 years with the Group. His place as the Officer responsible for the Group has been taken by Mr. Clive Elliott with effect from 1 February 2004.

Iran earthquake victims. It is with great sadness that we have learnt of the deaths in the recent earthquake in Bam of two locust staff in the Plant Protection Organization: Mr. Mohammad Ali Hadizaden (technician) and his family, and Mr. Hossein Vahdati (driver). Our sincere condolences go to their families and to their Government.

Abdullahi Ould Mohammed Sidia. It is also with great sorrow that we have been informed that Mr. Abdullahi Ould Mohammed Sidia passed away on 7 January in Nouakchott, Mauritania. In the 1960s, he contributed to numerous ecological surveys that helped to improve our understanding of Desert Locust biotopes in West Africa and were published in the FAO Technical Series. In the mid 1970s, he was Director of OCLALAV. Our sincere condolences go to his family and his Government.

No. 304

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/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 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.

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

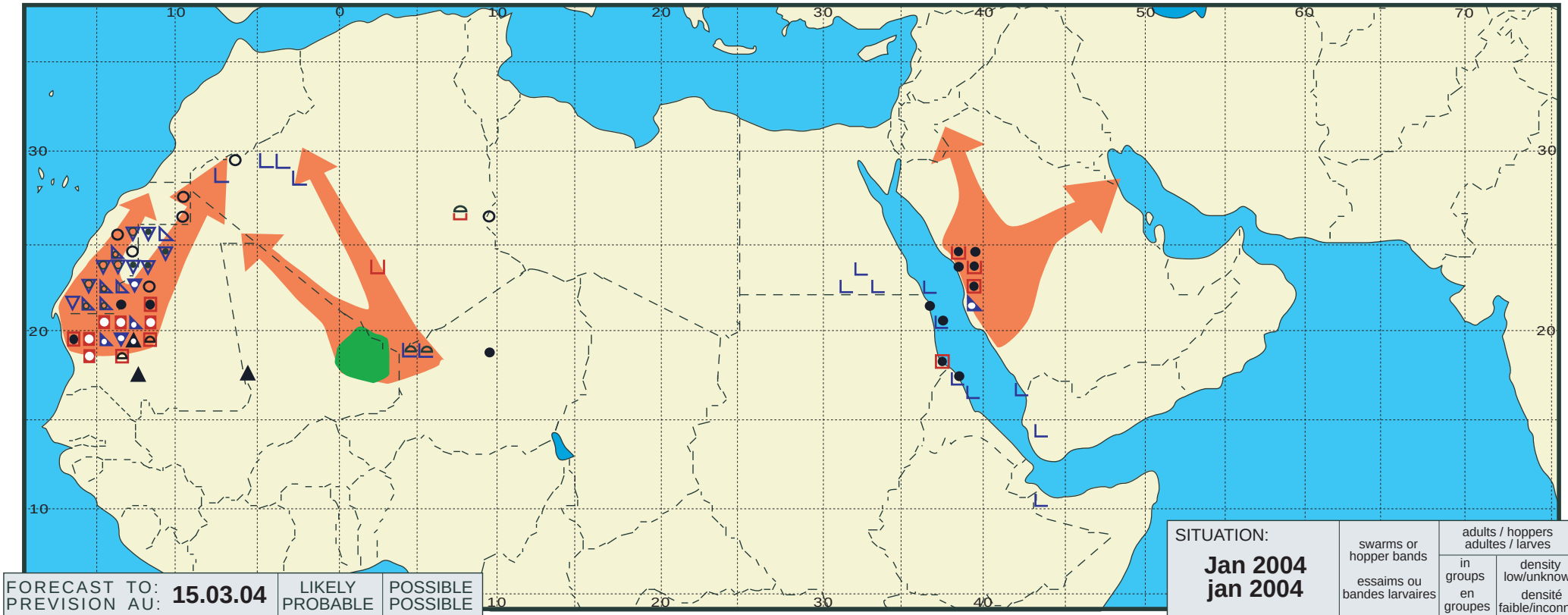
- locust-affected countries along the Red Sea: Djibouti, Egypt, Eritrea, Ethiopia, Oman, Saudi Arabia, Somalia, Sudan, Yemen; during plagues only: Bahrain, Iraq, Israel, Jordan, Kenya, Kuwait, Qatar, Syria, Tanzania, Turkey, UAE and Uganda.

EASTERN

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

Desert Locust Summary
Criquet pèlerin - Situation résumée

304



FORECAST TO: PREVISION AU: **15.03.04**	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: **Jan 2004 jan 2004**	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)	◘	◙	⊍