

warning level: **THREAT** (C. & E. Regions)

# DESERT LOCUST BULLETIN

FAO Emergency Centre for Locust Operations



No. 345

(3 July 2007)



## General Situation during June 2007 Forecast until mid-August 2007

The Desert Locust situation continues to be extremely serious in the interior of Yemen where good rains fell again during June in areas where locusts were breeding, increasing in number and forming hopper bands. FAO is organizing aerial control operations that will commence in July. Several swarms moved from eastern Ethiopia and northwest Somalia to northeast Somalia at the end of June. These swarms are expected to cross the Indian Ocean and reach Pakistan and India in early July. Two tropical cyclones in the Indian Ocean caused heavy rains extending from Oman and Iran to Pakistan and western India, which will give rise to unusually favourable breeding conditions during the summer. All efforts should be made to monitor the developing and potentially dangerous situation closely and carefully, and to undertake control as necessary. Elsewhere, control operations ended in the interior of Saudi Arabia. The situation remained calm in the Sahel of West Africa and Sudan where the seasonal rains have yet to commence.

**Western Region.** The situation remained calm in the region during June. Low numbers of solitary adults were present in a few places in Morocco and southern Algeria. Limited breeding occurred in northwest Algeria where ground control operations were carried out against groups of hoppers and adults. Small-scale breeding will commence with the onset of the seasonal rains in southern Mauritania, northern

Mali and Niger, and in eastern Chad, causing locust numbers to increase slightly during July and August.

**Central Region.** Aerial and ground control operations ended in mid-June against hopper bands in the spring breeding areas in the interior of Saudi Arabia. Substantial breeding occurred within a large portion of the interior of Yemen where egg-laying, hatching and band formation was reported throughout the month. More hatching and band formation are expected during July and August, and new swarms are likely to start forming by the end of July. Immature swarms formed in eastern Ethiopia and northwest Somalia in early June and, by the end of the month, most of them had moved further east, damaging orchards in the Bosaso area. Although some adults are likely to remain in northern Somalia, mature and eventually lay eggs, most of the populations are expected to migrate to southwest Asia. Ground control operations treated a few hopper bands in northern Sudan and southern Egypt where small-scale breeding occurred. Breeding may occur in areas of recent rainfall in Oman.

**Eastern Region.** Control operations against groups of adults ended on the southeast coast of Iran in early June. Locust numbers declined in western Pakistan due to control operations and adult movement to the summer breeding areas along the Indo-Pakistan border. Locust numbers increased on both sides of the border and laying occurred in parts of Rajasthan, India. There is a strong possibility of several swarms arriving on the coast of Pakistan and in Gujarat and Rajasthan from northeastern Somalia during the first week of July. If so, the adults are likely to mature quickly and lay eggs. Consequently, locust numbers will increase and small hopper bands could form during the forecast period. Breeding could also occur in areas of recent rainfall on the coast in western Pakistan.

The FAO Desert Bulletin is issued monthly, supplemented by Updates during periods of increased Desert Locust activity, and is distributed by e-mail, FAO pouch and airmail by the Locusts and Other Migratory Pests Group, AGP Division, FAO, 00153 Rome, Italy. It is also available on the Internet.

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### Weather & Ecological Conditions in June 2007

**Two tropical cyclones caused unusually heavy rains and flooding in parts of Oman, southern Iran and Pakistan and in western India. Ecological conditions remained favourable for breeding in the interior of Yemen and along the border of Ethiopia and northern Somalia, and improved along the Indo-Pakistan border.**

In the **Western Region**, mainly dry conditions persisted during June. The Inter-Tropical Convergence Zone (ITCZ) remained south of the summer breeding area in the Sahel, oscillating between 12N and 15N, with occasional northward surges to 20N over Mali and Niger. Consequently, light rains may have fallen in southern Mauritania between Kiffa and Tamchaket, in the Adrar des Iforas in northern Mali and in Niger near Tanout and on the southeastern side of the Air Mountains. Light rains may also have occurred at mid-month in south-central Libya and in the Tibesti region in northern Chad. Ecological conditions remained dry in most places except perhaps in parts of the Adrar des Iforas in northern Mali and in the Air Mountains of Niger where limited amounts of green vegetation may have been present to allow low numbers of locusts to survive. In Northwest Africa, dry conditions prevailed in the Western Sahara, in central and southern Algeria, and along the southern side of the Atlas Mountains in Morocco except for a few small areas of green vegetation in parts of the Draa, Ziz and Ghris valleys.

In the **Central Region**, tropical cyclone Gonu brought heavy rains (up to 300 mm in a single day) and floods to northern Oman and the Musandam Peninsula on 4-9 June. A second cyclone, Yemyin, caused further heavy rains to fall on 22-25 June in the interior of Yemen from Al Abr to Hayma in central Oman. Rainfall was heaviest in southern Oman. Consequently, breeding conditions remained favourable over a large portion of the interior of Yemen between Al Abr and Shehan as well as in the interior of Dhofar region in Oman and further north along the coast and interior between Sur and Musandam. Breeding conditions were improving in Shabwah and Marib regions in the interior of Yemen.

Light to moderate rains fell on the Red Sea coast from Qunfidah, Saudi Arabia to Bab El Mandeb in Yemen. Ecological conditions remained favourable on the plateau in northern Somalia between Boroma and Burao as well as in adjacent areas of eastern Ethiopia where light showers fell at times during the month. In Sudan, the ITCZ reached the southern part of the summer breeding areas in Darfur and Kordofan but dry conditions prevailed except in cropping areas along the Nile. Light rains fell on the southern portion of the western lowlands in Eritrea near Teseney.

In the **Eastern Region**, two tropical cyclones, Gonu and Yemyin, occurred at the beginning and end of June, respectively. Gonu caused heavy rains and flooding on the southern coast of Iran between Bandar Abbas and Chabahar on 6-9 June, extending to adjacent areas in Pakistan (Turbat 45 mm, Jiwani 42 mm, Panjgur 23 mm, Pasni 16 mm). Yemyin with winds up to 130 km/h brought heavy rains and floods to southern Sindh province in Pakistan and adjacent areas of Rajasthan, India on 23 June as well as to coastal areas in western Pakistan between Karachi and Gwadar on the 26<sup>th</sup>. Although ecological conditions had started to dry out in the spring breeding areas of Baluchistan in Pakistan and Iran, these storms are likely to cause breeding conditions to remain favourable for another month or two. Ecological conditions were mainly dry in the summer breeding areas along the Indo-Pakistan border but after the cyclones will now improve and become favourable for breeding, especially in Tharparkar and southern Rajasthan.



### Area Treated

Algeria	360 ha (June)
Egypt	45 ha (June)
Ethiopia	116 ha (June)
Iran	60 ha (2 June)
Pakistan	94 ha (1-15 June)
Saudi Arabia	3,709 ha (1-15 June)
Sudan	157 ha (June)



### Desert Locust Situation and Forecast

( see also the summary on page 1 )

#### WESTERN REGION

##### **Mauritania**

##### • SITUATION

No surveys were carried out and no locusts were reported during June.

• **FORECAST**

*Small-scale breeding will occur in the south, probably initially in the two Hodhs, with the onset of the seasonal rains, causing locust numbers to increase slightly.*

**Mali**

• **SITUATION**

No surveys were carried out and no locusts were reported during June.

• **FORECAST**

*Small-scale breeding will occur in the northeast (Tilemsi Valley, Adrar des Iforas and Tamesna) with the onset of the seasonal rains, causing locust numbers to increase slightly.*

**Niger**

• **SITUATION**

No reports were received in June.

• **FORECAST**

*Small-scale breeding will occur in Tamesna and perhaps in southeastern Air with the onset of the seasonal rains, causing locust numbers to increase slightly.*

**Chad**

• **SITUATION**

No locusts were reported during the second half of May.

• **FORECAST**

*No significant developments are likely.*

**Senegal**

• **SITUATION**

No locusts were reported during June.

• **FORECAST**

*No significant developments are likely.*

**Benin, Burkina Faso, Cameroon, Cape Verde, Côte d'Ivoire, Gambia, Ghana, Guinea Bissau, Guinea, Liberia, Nigeria, Sierra Leone and Togo**

• **FORECAST**

*No significant developments are likely.*

**Algeria**

• **SITUATION**

During the first week of June, *transiens* fourth and fifth instar hoppers and immature and mature adults, at densities of up to 150 adults/bush, were present in one part of W. Saoura between Beni Abbes (3011N/0214W) and Adrar (2753N/0017W). Ground control operations treated 360 ha. *Transiens* mature adults were also seen in irrigated crops near Adrar. Local breeding occurred in both areas during May. During the last week of June, scattered mature solitary adults were seen at one place southwest of

Tamanrasset (2250N/0528E). No locusts were seen during surveys in June north of Beni Abbes, west of Djanet (2434N/0930E) and along the Malian border near Bir Bou Mokhtar (2120N/0056E).

• **FORECAST**

*Locusts should decline in W. Saoura but scattered adults and perhaps small groups may persist near Adrar. Low numbers of solitary adults are likely to persist in the south and eventually breed on a small scale if rainfall occurs.*

**Morocco**

• **SITUATION**

During June, isolated immature solitary adults were seen south of the Atlas Mountains near Merzouga (3105N/0400W) and in the Draa Valley at Ksar Chair (2908N/0759W) on the 19-25<sup>th</sup>. No locusts were seen near Guelmim (2859N/1003W).

• **FORECAST**

*No significant developments are likely.*

**Libyan Arab Jamahiriya**

• **SITUATION**

No surveys were carried out and no locusts were reported during June.

• **FORECAST**

*No significant developments are likely.*

**Tunisia**

• **SITUATION**

No surveys were carried out and no locusts were reported during June.

• **FORECAST**

*No significant developments are likely.*

**CENTRAL REGION**

**Sudan**

• **SITUATION**

During the second decade of June, hopper bands of all instars, at densities of up to 13 hoppers/m<sup>2</sup>, were present in the Northern State in a few cropping areas south of the Nile Rive and Merowe (1830N/3149E). Ground control operations treated 157 ha. No surveys were carried out and no locusts were reported elsewhere in the summer breeding areas.

• **Forecast**

*Small residual populations may persist in cropping areas near the Nile River in Northern State. Small-scale breeding will occur in parts of Kassala, Nile,*



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*Northern, Khartoum, White Nile, North Kordofan and North Darfur with the onset of the summer rains and cause locust numbers to increase slightly.*

### Eritrea

#### • SITUATION

A late report stated that a few individual locusts were seen in Asmara and perhaps in other towns in May. No locusts were seen during surveys carried out in the western lowlands on 26-30 June.

#### • FORECAST

*Scattered adults and perhaps a few small groups may be present in the highlands. These populations are expected to move to the western lowlands and breed on small scale once the seasonal rains commence.*

### Ethiopia

#### • SITUATION

During the first week of June, a few late instar hopper bands, at densities up to 110 hoppers/m<sup>2</sup> and 2.5 ha in size, were still present in the Harawa (0953N/3836E) area near Dire Dawa from breeding that occurred during May. Fledging continued until about mid-month, and adults formed a few very small immature groups and swarms, up to 27 ha in size, that were seen to the east of Dire Dawa (0935N/4150E) and Harar (0919N/4206E). Ground control operations treated 116 ha. No locusts were seen after the 16<sup>th</sup> between Dire Dawa and the border of northern Somalia.

#### • FORECAST

*Small residual adult populations may be present between Dire Dawa and northern Somalia. If conditions remain favourable, these adults are likely to mature and lay eggs that could hatch by the end of the forecast period.*

### Djibouti

#### • SITUATION

No locusts were reported during June.

#### • FORECAST

*No significant developments are likely.*

### Somalia

#### • SITUATION

During the first week of June, small but dense late instar hopper bands persisted on the plateau between

Boroma (0956N/4313E) and Hargeisa (0931N/4402E) and Shiikh Abdaal (0957N/4441E) where breeding had occurred during May. Fledging and swarm formation were in progress. Crop damage was reported in some areas. Groups of mature adults were present on the coast near Berbera (1028N/4502E). At mid-month, there were several reports of immature swarms over Hargeisa (0931N/4402E), followed by reports of swarms passing east of Erigavo (1040N/4720E) through the Gebi Valley and Golis Mountains in eastern Sanaag region, and reaching the Bari region near Bosaso (1118N/4910E) on the 23<sup>rd</sup>. Damage occurred to fruit trees in the Bosaso area. By the end of the month, only scattered immature adults were present on the coast and escarpment near Berbera (1028N/4502E).

#### • FORECAST

*Although there is a good possibility that many of the adults moved east along the plateau to the Bari region and beyond, small adult infestations are likely to remain between Boroma and Erigavo, mature and lay eggs that could hatch by the end of the forecast period. All efforts should be made to monitor the situation carefully.*

### Egypt

#### • SITUATION

During the second decade of June, hatchlings and medium density first to fourth instar hopper bands were present near Lake Nasser between Abu Simbel (2219N/3138E) and Tushka (2247N/3126E) as well as in the Wadi Allaqi area (ca. 23N/31E) where local breeding occurred in May. Low to medium densities of solitary and *transiens* immature and mature adults were present. Some of the adults were copulating and laying eggs near Tushka. Ground control operations treated 45 ha. No locusts were seen in the Western Desert near Sh. Oweinat or in the Red Sea coast.

#### • FORECAST

*In early July, hatching will occur near Tushka and fledging will take place near Allaqi and Abu Simbel. Consequently, small groups of adults could form during July. Some of the adults are likely to stay in areas where green vegetation is present near Lake Nasser while others could move south towards the summer breeding areas in Sudan.*

### Saudi Arabia

#### • SITUATION

During the first half of June, numerous hopper bands of all instars, at densities up to 150 hoppers/m<sup>2</sup>, persisted in areas of previous breeding in the interior near Khaybar (2542N/3917E), south of Buraydah (2621N/4358E) and north of Wadi Dawasir (2028N/4447E). Ground and aerial operations treated 3,709 ha. No locusts were reported east of Buraydah



and Riyadh (2439N/4646E) during the second half of the month.

• **FORECAST**

*Locust numbers will continue to decline in the spring breeding areas in the interior. Any hopper band infestations that are not detected or controlled could form a few small swarms in early July and, by mid-month, these swarms may move south into the interior of Yemen or west across the Red Sea towards the summer breeding areas in Sudan. Thereafter, the situation should remain calm.*

**Yemen**

• **SITUATION**

During June, significant breeding occurred within most of the summer breeding areas in the interior between Marib (1527N/4519E) and Thamud (1717N/4955E). On the 6<sup>th</sup>, two immature swarms were seen northeast of Bayhan (1452N/4545E) that may have arrived from previous breeding on the coast near Seyhut (1512N/5115E). Solitarious and *transiens* adults were laying eggs in parts of Al-Jawf, Marib and Shabwah (1522N/4700E) regions. However, most of the egg laying occurred between Al Abr (1608N/4714E) and Thamud, mainly near Zamakh (ca. 1631N/4738E), Minwakh (1647N/4807E), W. Hazar (1744N/4901E) and W. Qirad (ca. 1650N/4919E). During the second half of the month, there was an increasing number of reports of hatching and hoppers forming bands at densities up to 250 hoppers/m<sup>2</sup>. By the end of the month, egg laying and hatching were still in progress, and some hoppers had reached the fourth instar. Lower numbers of *transiens* hoppers and mature adults were present east of Thamud to Remah (1727N/5034E), and scattered solitarious adults were seen on the coast near Al Ghaydah (1612N/5210E).

• **FORECAST**

*Locust numbers are likely to increase dramatically as a second generation of breeding continues in the interior between Marib and Thamud. Hatching and hopper band formation will continue during July. Fledging is expected to commence about mid-July and new swarms will form by the end of the month and continue during August. Although the swarms may move within the larger summer breeding area, they are expected to remain between Marib and Thamud where they will mature. Another generation of egg laying could start by the end of August with hatching and band formation in September.*

**Oman**

• **SITUATION**

During June, isolated hoppers were present on the 11<sup>th</sup> in the interior of Dhofar region near Maziuna (1750N/5239E) and the Yemen border.

• **FORECAST**

*Low to moderate numbers of locusts may be present in the interior of Dhofar near the Yemen border as well as on the Batinah coast. As both areas received heavy rains in June, small-scale breeding could occur during the forecast period. There is a high probability of a few swarms landing on the coast during the first week of July as they migrate from northern Somalia to Pakistan and India.*

**Bahrain, Iraq, Israel, Jordan, Kenya, Kuwait, Lebanon, Palestine, Qatar, Syria, Tanzania, Turkey, UAE and Uganda**

• **FORECAST**

*No significant developments are likely.*

**EASTERN REGION**

**Iran**

• **SITUATION**

On 2 June, ground control operations treated 60 ha of groups of immature and mature *transiens* adults, at densities of 1 adult/2m<sup>2</sup>, at three places on the southeast coast near Chabahar (2517N/6036E).

• **FORECAST**

*Adults may remain on the southeastern coast between Jask and Chabahar, mature and lay eggs in areas affected by cyclones Gonu and Yemyin. If so, locust numbers will increase during the forecast period. There is a slight risk of similar infestations in the interior between Kahnuj and Saravan. Regular surveys should be maintained to monitor the situation.*

**Pakistan**

• **SITUATION**

During the first half of June, locust numbers declined in the spring breeding areas in Baluchistan. Scattered groups of immature and mature adults, at densities up to 900 adults/ha, were reported from several places on the coast between Ormara (2512N/6438E) and Uthal (2548N/6637E). Scattered mature adults were also present at one place in the interior northeast of Panjgur (2658N/6406E). During the first week, some adults moved into the Indus Valley northwest of Mirpurkhas (2533N/6905E) and by the second week, scattered mature adults were seen in Cholistan between Rahimyar Khan (2822N/7020E) and the India border. Control operations treated 94 ha near Uthal.



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### • FORECAST

*Low to moderate numbers of locusts may remain on the coast between Gwadar and Uthal, mature and lay eggs in areas affected by cyclones Gonu and Yemyin. If so, locust numbers will increase during the forecast period. Regular surveys should be maintained to monitor the situation. In the summer breeding areas, locust numbers will increase as breeding occurs in Tharparkar and Cholistan. There is high probability that several swarms could arrive on the coast of Sindh and perhaps Baluchistan by early July from the Horn of Africa and lay eggs shortly thereafter which could give rise to hopper bands.*

### India

#### • SITUATION

During June, scattered immature and mature adults appeared in several districts (Jaisalmer, Barmer and Jodhpur) of Rajasthan. Egg laying occurred between Jodhpur (2618N/7308E) and Phalodi (2706N/7222E) on the 6<sup>th</sup> and north of Jaisalmer (2652N/7055E) on the 17<sup>th</sup>.

#### • FORECAST

*Small-scale breeding will cause locust numbers to increase in Rajasthan and hatching will occur during the forecast period. There is high probability that several swarms could arrive by early July from the Horn of Africa and lay eggs shortly thereafter which could give rise to hopper bands.*

### Afghanistan

#### • SITUATION

No reports received.

#### • FORECAST

*No significant developments are likely.*



## Announcements

**Locust reporting.** During recession periods, countries should report at least once/month and send RAMSES data with a brief interpretation. During caution (yellow) periods, locust outbreaks, upsurges and plagues, RAMSES output files with a brief interpretation should be sent twice/week and affected countries are encouraged to prepare decadal bulletins summarizing the situation. All information should be sent by e-mail to the FAO/ECLO Desert Locust

Information Service (ecl@fao.org). Information received by the end of the month will be included in the FAO Desert Locust 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.

**eLocust2.** FAO has developed a new version of eLocust in collaboration with affected countries and the French Space Agency (CNES/Novacom) that allows field officers to enter survey and control data directly in the field and transmit it in real time via satellite to their national locust centre. Data can also be downloaded to a PC and visualized on GoogleEarth. The software is in both English and French. FAO DLIS has distributed units to nearly all of the frontline countries. Photos and more information are available at: [www.fao.org/ag/locusts/en/activ/DLIS/index.html](http://www.fao.org/ag/locusts/en/activ/DLIS/index.html)

**Desert Locust warning levels.** A colour-coded scheme indicates the seriousness of the current Desert Locust situation: green for *calm*, yellow for *caution*, orange for *threat* and red for *danger*. The scheme is applied to the Locust Watch web page and to the monthly bulletin's header. The levels indicate the perceived risk or threat of current Desert Locust infestations to crops and appropriate actions are suggested for each level.

**EMPRES/CRC website.** Detailed information on EMPRES/CR and the FAO Central Region Commission as well as member country profiles can be found on the new EMPRES/CRC website at: [www.crc-empres.org](http://www.crc-empres.org).

**MODIS imagery.** Columbia University's International Research Institute for Climate and Society (IRI) has started to provide 16-day 250-metre resolution MODIS imagery for monitoring ecological conditions in the Desert Locust recession area, in addition to the daily rainfall estimates already available. These products can be downloaded in different formats suitable for GIS at: [http://iridl.ideo.columbia.edu/maproom/.Food\\_Security/.Locusts/index.html](http://iridl.ideo.columbia.edu/maproom/.Food_Security/.Locusts/index.html). Comments and questions can be addressed to Pietro Ceccato (pceccato@iri.columbia.edu).

**New information on Locust Watch.** DLIS launched a new initiative in October called *Desert Locust e-info news* as a means of keeping everyone informed on a weekly basis of new information on the Locust Group's web page, Locust Watch ([www.fao.org/ag/locusts](http://www.fao.org/ag/locusts)). The latest additions are:

- **Yemen outbreak.** Recent photos of rains and locust infestations in the interior of Yemen.
- **DLCC session reports.** Archived reports of all the sessions from 1955 to the present.
- **Locust situation.** Several updates during June
- **Iran/Pakistan Joint Border survey.** Report of survey carried out in April 2007 (English)

Links to the above information can be found in the new *Latest Additions* section on Locust Watch.

**Desert Locust diploma course.** The Graduate College of the University of Khartoum (Sudan) is offering a one-year post-graduate diploma course in Desert Locust management, starting 1 August 2007. The application deadline is 15 July. Please contact [Munir.Butrous@fao.org](mailto:Munir.Butrous@fao.org) for more information.

**2007 events.** The following meetings are scheduled:

- **CLCPRO.** 4<sup>th</sup> sessions of the Executive Committee and CLCPRO, Bamako (Mali), postponed
- **EMPRES/WR.** 6<sup>th</sup> Liaison Officers Meeting (26-30 November) and 3<sup>rd</sup> Steering Committee (3-4 December), Agadir (Morocco)



## 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<sup>2</sup>      • band: 1 - 25 m<sup>2</sup>

#### **SMALL**

- swarm: 1 - 10 km<sup>2</sup>              • band: 25 - 2,500 m<sup>2</sup>

#### **MEDIUM**

- swarm: 10 - 100 km<sup>2</sup>          • band: 2,500 m<sup>2</sup> - 10 ha

#### **LARGE**

- swarm: 100 - 500 km<sup>2</sup>        • band: 10 - 50 ha

#### **VERY LARGE**

- swarm: 500+ km<sup>2</sup>              • 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.



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### **WARNING LEVELS**

#### **GREEN**

- Calm. No threat to crops. Maintain regular surveys and monitoring.

#### **YELLOW**

- Caution. Potential threat to crops. Increased vigilance is required; control operations may be needed.

#### **RED**

- Danger. Significant threat to crops. Intensive survey and control operations must be undertaken.

### **REGIONS**

#### **WESTERN**

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

#### **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.

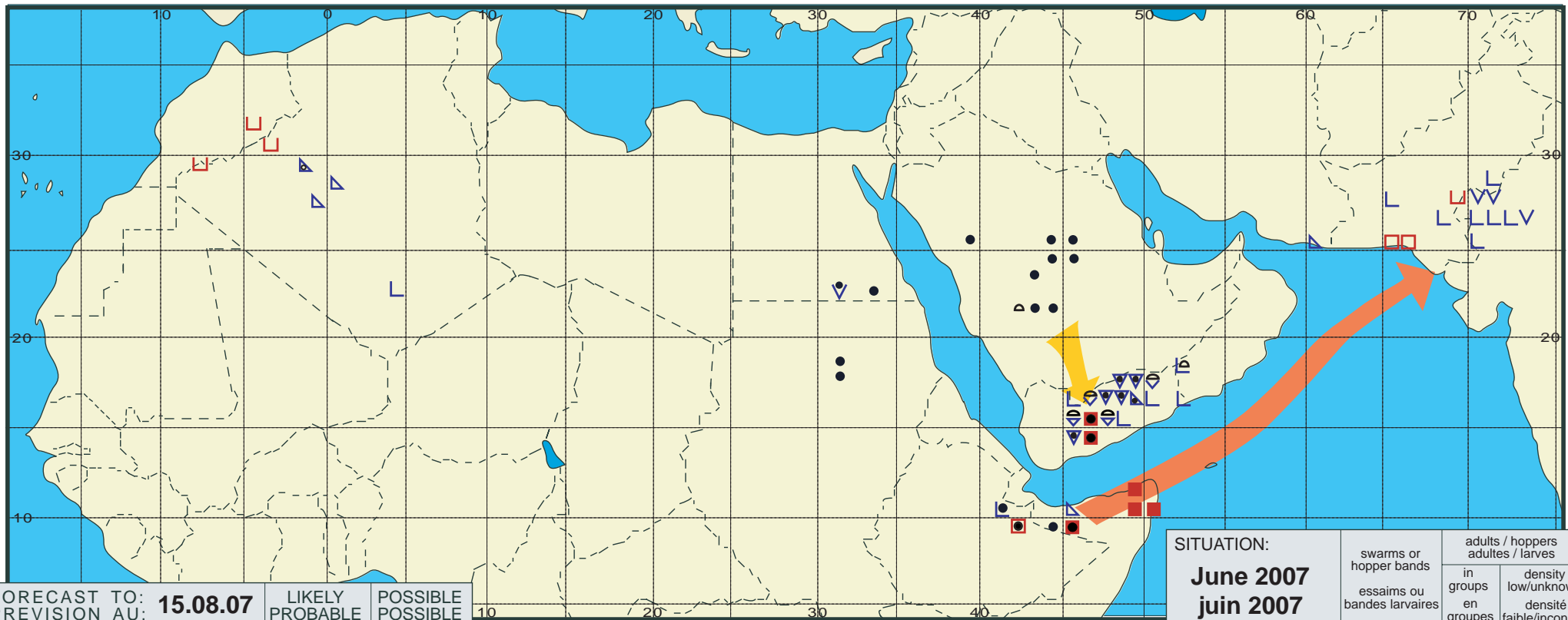




# Desert Locust Summary

## Criquet pèlerin - Situation résumée

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FORECAST TO: PREVISION AU: <b>15.08.07</b>	LIKELY PROBABLE	POSSIBLE POSSIBLE
favourable breeding conditions conditions favorables à la reproduction		
major swarm(s) essaim(s) important(s)		
minor swarm(s) essaim(s) limité(s)		
non swarming adults adultes non essaimant		

<b>SITUATION:</b> <b>June 2007</b> <b>juin 2007</b>	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)			