

warning level: **THREAT (Central Region)**

# DESERT LOCUST BULLETIN

FAO Emergency Centre for Locust Operations



No. 347

(3 September 2007)



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

The Desert Locust situation worsened during August in Yemen as immature swarms formed in the interior and moved into the central highlands. Some swarms remained in the interior where another generation of breeding is likely to occur while a few others moved to southern Oman. The swarms in the highlands are expected to reach the Red Sea and Gulf of Aden coast where they will mature and lay eggs. A few swarms could also reach coastal areas in Saudi Arabia, Eritrea, Sudan and northern Somalia where good rains fell during August. There is also a slight risk that a few swarms could reach the Indo-Pakistan border during the first half of September. Elsewhere, heavy rains and flooding occurred in the interior of Sudan and Eritrea where locust numbers are expected to increase.

**Western Region.** The situation continued to remain calm during August. Small-scale breeding has probably started in parts of the northern Sahel in Mauritania, Mali, Niger and Chad where good rains fell and ecological conditions were favourable during the month. Surveys were halted in northeast Mali due to insecurity. Locust numbers will gradually increase during the forecast period as breeding continues in these countries. Local breeding may also take place in southern Algeria. No locusts were reported and no significant developments are expected elsewhere in Northwest Africa.

**Central Region.** Breeding occurred in the interior of Sudan and in the western lowlands in Eritrea during August. Locust numbers increased on the Red Sea coastal plains in Sudan, Eritrea and Yemen where breeding is likely to start earlier than usual. At the end of the month, there were unconfirmed reports of locusts on the Red Sea coast near Jizan, Saudi Arabia. These events, combined with the deteriorating situation in the interior of Yemen, could lead to a significant increase in locusts in the Region during the coming months, first in the summer breeding areas, then in the winter breeding areas on the Red Sea coast. Countries should take immediate steps to monitor these areas and carry out control operations as required. Some of these activities may need additional assistance from the international community. Elsewhere, a few swarms from eastern Yemen invaded southern Oman and adults moved to northeast Oman where local breeding was in progress.

**Eastern Region.** Locust numbers increased slightly along both sides of the Indo-Pakistan border because of small-scale breeding that occurred during August. Breeding is expected to continue during the forecast period between Tharparkar and Cholistan in Pakistan and in Rajasthan, India. There is a very low possibility that a few small swarms could arrive in either country from Yemen via Oman during the first half of September. Thereafter, this threat should pass. Limited control was carried out against adults that persisted and were breeding on the southeastern coast of Iran.

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 August 2007

**Good rains fell and ecological conditions were favourable for breeding in the northern Sahel of West Africa. Floods occurred in Sudan and Eritrea, and breeding conditions improved on the Red Sea coast. Vegetation was drying in the interior of Yemen. Breeding conditions were favourable along the Indo-Pakistan border.**

In the **Western Region**, the position of the Inter-Tropical Convergence Zone (ITCZ) was normal during August compared to the long-term average, oscillating around 20N over the Sahel with occasional northward surges to 26N over the Algerian Sahara. Consequently, good rains fell in most of the summer breeding areas throughout the month, although they were generally heaviest in the first and last decades of the month. In Mauritania, showers fell south of 19N, mainly in the two Hodhs and to a lesser extent in other areas. In the northwest, light rainfall occurred in parts of Inchiri and southwest Adrar during the second week. Vegetation was green south of the Tagant Plateau but was dry in the Aftout Fai. In Mali, good rains fell in the west along the Mauritania border and in the Tamesna east of Gao. Lighter rains fell and ecological conditions were improving in the north between Araouane and Ti-n-kar and from Kidal to the Niger border. In Niger, good rains fell in the Air Mountains, in Tamesna and along the Chad border. Vegetation was green in southern Tamesna and it was becoming green further north as well as in western Air. In Chad, rainfall reached 18N but was heaviest in Kanem, Batha, Ouaddai and Biltine provinces. In Northwest Africa, light to moderate showers fell along the southern side of the Atlas Mountains from Guelmim, Morocco to El Oued, Algeria. Rains were heaviest in Morocco between Tata and Zag, and extended to areas east of Smara. Light rains fell at times in the Algerian Sahara near Adrar, Tamarrasset and along the Malian border.

In the **Central Region**, heavy rains fell throughout the summer breeding areas in the interior of Sudan and in western Eritrea. In Sudan, some of the showers reached as far north as 18N in North Darfur and 19N in Nile State. Rains also fell in the Red Sea Hills

between Haiya and Gebeit. Good rains since mid-June have caused flash floods with the worst affected areas being Kassala State where the River Gash flooded and washed away crops, Khartoum and North Kordofan. In Eritrea, heavy rains delayed crop planting and washed away bridges in the western lowlands. Ecological conditions were favourable in non-flooded areas and will become favourable in other areas once the waters recede. On the Red Sea coast, vegetation was green along many wadis between Massawa, Eritrea and Port Sudan because of previous rainfall and runoff. Breeding conditions continued to be favourable along the coast in Saudi Arabia from Qunfidah to Bab El Mandeb in Yemen where rains fell for the third consecutive month. Rainfall declined in the summer breeding areas in the interior of Yemen. Vegetation was drying out quickly on the plateau from Minwakh to the Oman border but remained green in the Shabwah and Marib Governorates where light rains fell at times. Mainly dry conditions prevailed in Oman. Elsewhere, light to moderate rains fell at times between Dire Dawa, Ethiopia and Berbera, northern Somalia.

In the **Eastern Region**, good rains associated with the monsoon fell in early August along both sides of the Indo-Pakistan border. Heavy rains generated by a low-pressure system over Rajasthan occurred during the second week in Rajasthan and Gujarat in India, and in Sindh and coastal areas of Baluchistan in Pakistan. Thereafter, little rain fell except for a few days during the last decade of the month. Nevertheless, ecological conditions were favourable for breeding in Tharparkar, Khairpur and Cholistan deserts in Pakistan and in Rajasthan.



### Area Treated

|       |                      |
|-------|----------------------|
| Iran  | 50 ha (10-12 August) |
| Oman  | 947 ha (August)      |
| Yemen | 12,664 ha (August)   |



### Desert Locust Situation and Forecast

*( see also the summary on page 1 )*

#### WESTERN REGION

##### **Mauritania**

##### • SITUATION

During August, isolated mature solitarious adults persisted in a few places in the southeast, mainly in Hodh Ech Chargui between Nema (1636N/0715W) and Oualata (1717N/0701W) and, to a lesser

extent, in Hodh El Gharbi near Aioun El Atrous (1639N/0936W). No locusts were seen elsewhere in the summer breeding areas.

• **FORECAST**

*Small-scale breeding is likely to be in progress and will continue in the south and cause locust numbers to increase slightly. Scattered locusts are likely to appear in the northwest and breed on a small-scale if rainfall occurs.*

**Mali**

• **SITUATION**

No locusts were seen during surveys that commenced on 13 August northeast of Tombouctou (1649N/0259W), in the Timetrine near Ti-n-kar (1926N/0022W), and in the Adrar des Iforas near Tessalit (2011N/0102E), Aguelhoc (1927N/0052E) and between Kidal (1827N/0125E) and Tin Essako (1826N/0229E). All surveys were halted on the 26<sup>th</sup> after one team was attacked north of Gao.

• **FORECAST**

*Scattered adults are likely to be present and breeding north of Tombouctou and in parts of the northeast (Timetrine, Tilemsi Valley, Adrar des Iforas and Tamesna). Small-scale breed will continue in these areas and cause locust numbers to increase slightly.*

**Niger**

• **SITUATION**

During August, isolated solitary fourth instar hoppers and immature adults were seen in the southeast at two places about 200 km northeast of Zinder (1346N/0858E). No surveys were carried out and no locusts were reported in Tamesna or Air.

• **FORECAST**

*Scattered adults are likely to be present and breeding in parts of Tamesna and the Air Mountains. Small-scale breeding will continue in these areas and cause locust numbers to increase slightly.*

**Chad**

• **SITUATION**

A late report indicated that no surveys were carried out and no locusts were reported during July.

During August, no locusts were seen during surveys carried out in Kanem west of Salal (1448N/1712E) and in Biltine south of Arada (1501N/2040E) on the 5-8<sup>th</sup>. There was an unconfirmed report of a few locusts in Ouaddai near Goz Beida (1242N/2125E) on the 26<sup>th</sup>.

• **FORECAST**

*Scattered adults are likely to be present and breeding in parts of the centre and northeast. Small-scale breeding will continue in these areas and cause locust numbers to increase slightly.*

**Senegal**

• **SITUATION**

A late report indicated that no locusts were seen during surveys carried out on 17-26 July. In August, no locusts were seen during surveys carried out during the last week of the month.

• **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**

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

• **FORECAST**

*Isolated adults could appear in the south near Tamanrasset and Bir Bou Mokhtar and breed on a small scale in areas of recent rainfall.*

**Morocco**

• **SITUATION**

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

• **FORECAST**

*No significant developments are likely.*

**Libyan Arab Jamahiriya**

• **SITUATION**

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

• **FORECAST**

*No significant developments are likely.*

**Tunisia**

• **SITUATION**

No reports were received during August.

• **FORECAST**

*No significant developments are likely.*

**CENTRAL REGION**

**Sudan**

• **SITUATION**

Surveys carried out during the last week of August indicated that breeding was in progress in River Nile



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and Khartoum States. First to fourth instar hopper bands were seen in the Baiyuda Desert west of Atbara (1742N/3400E) as well as mature gregarious adults, some of which were laying eggs. Further south, isolated hoppers and groups of maturing adults were present west of Shendi (1641N/3322E). Groups of immature and mature gregarious adults were seen in the Red Sea Hills near Khor Baraka and the Eritrean border at 1726N/3742E and on the Red Sea coast in the Tokar Delta.

- **Forecast**

*Scattered hoppers and adults are almost certainly present in West and North Darfur, North Kordofan, White Nile and Kassala States. Small to moderate scale breeding will continue during the forecast period, causing locust numbers to increase further and perhaps gregarize. Locusts are also likely to be present on the Red Sea coastal plains south of Port Sudan where there is a risk that a few swarms may arrive from Yemen. Locust numbers will increase on the coast as breeding occurs in areas of recent rainfall and runoff. Efforts should be made to monitor the situation carefully in all areas.*

### Eritrea

- **SITUATION**

During August, small scale breeding occurred in the western lowlands where solitary hoppers of all instars, at densities of up to 5 hoppers/m<sup>2</sup>, mixed with scattered immature and mature adults were seen at few places along W. Barka near Kerkebet (1618N/3724E). On the northern Red Sea coast, there was an increase in the number of scattered solitary immature and mature adults at several places between Mehimet (1723N/3833E) and the Sudanese border as well as at few places further south near Gheleb Sagla (1707N/3853E) Mersa Gulbub (1633N/3908E).

- **FORECAST**

*Small-scale breeding will cause locust numbers to increase in the western lowlands and on the northern Red Sea coast between Massawa and Karora. There is a risk that a few swarms may arrive from Yemen.*

### Ethiopia

- **SITUATION**

No locusts were seen during surveys carried out between Jijiga (0922N/4250E) and the northern

Somalia border on 12 August.

- **FORECAST**

*Scattered adults may be present between Dire Dawa and northern Somalia and breed on a small scale in areas of recent rainfall.*

### Djibouti

- **SITUATION**

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

- **FORECAST**

*No significant developments are likely.*

### Somalia

- **SITUATION**

No surveys were carried out during August but there were unconfirmed reports of isolated mature adults present on the plateau between Boroma (0956N/4313E) and Burao (0931N/4533E).

- **FORECAST**

*Scattered adults may be present and breeding on the plateau between Boroma and Burao in areas of recent rainfall. There is a risk that a few swarms could arrive on the coast or the escarpment from Yemen during periods of strong northerly winds. If so, the adults are likely to mature and lay eggs in favourable areas.*

### Egypt

- **SITUATION**

No locusts were seen during surveys carried out in mid-August on the Red Sea coast between Abu Ramad (2224N/3624E) and the Sudanese border, and in nearby W. Diib.

- **FORECAST**

*No significant developments are likely.*

### Saudi Arabia

- **SITUATION**

During August, no locusts were seen during surveys in the interior and on the Red Sea coast near Rabigh (2247N/3901E) and Qunfidah (1909N/4107E). On the 30<sup>th</sup>, there were unconfirmed reports of locusts in many places on the Red Sea coast south of Jizan (1656N/4233E).

- **FORECAST**

*Scattered adults are likely to appear on the southern coast of the Red Sea between Qunfidah and Jizan, and breed on a small scale in areas of recent rainfall. There is a risk that a few swarms could arrive in these areas from Yemen.*

### Yemen

- **SITUATION**

During August, hatching and band formation continued in the summer breeding areas of the



interior, mainly reported in the Hadhramaut region and, to a lesser extent, in Al-Mahara, Shabwah and Marib regions. Light to moderate crop damage was reported in some areas. By mid-month, most of the hatching had ended, the majority of hoppers had fledged and an increasing number of gregarious immature adults were forming groups and small swarms up to 5 km<sup>2</sup> in size. As vegetation dried out on the Hadhramaut plateau between Al Abr (1608N/4714E) and Shehan (1746N/5229E), swarms moved during the second half of the month west towards Shabwah, Abyan, Marib and Al-Jawf regions and reached the central highlands near Sana'a, Dhamar (1433N/4424E), Ibb (1358N/4411E), Ad Dali (1341N/4443E) and Al Baydha (1405N/4542E), and the Aden coast near Lahij (1303N/4453E). One swarm reportedly reached Al-Mahwait (1529N/4334E) in the mountains west of Sana'a. A few swarms also moved east into southern Oman.

At the end of August, hopper groups and bands as well as small immature swarms continued to be reported in the Hadhramaut region, groups of late instar hoppers and scattered adults were present in Al-Mahara, immature and mature swarms were seen in Shabwah, and adults were present in Al-Jawf region. Some adults were reported to be copulating near Wadi Hadhramaut. Control teams treated 12,664 ha in August of which 3,080 ha were by air. Control operations were halted for a week due to insecurity and tensions with beekeepers in Hadhramaut.

On the Red Sea coast, scattered immature and mature solitary adults were present in the north near Midi (1619N/4248E) and on the central coast near Bajil (1458N/4314E). Adults were reported to be copulating near Bajil.

• **FORECAST**

*More swarms will form in Hadhramaut and Al-Mahara in September and move towards Shabwah, Marib and Al-Jawf where they will mature and lay eggs. Hatching is expected to occur by the end of September and hoppers will form bands in October. Some swarms may continue to the central highlands and eventually reach the Red Sea coastal plains and the coast near Aden. If so, they will mature and lay eggs that should hatch and cause hoppers to form bands from October onwards. Consequently, locust numbers will increase on the Red Sea coast because of local breeding by current populations, supplemented by locusts that arrive from the interior and breed.*

**Oman**

• **SITUATION**

In early August, small-scale breeding occurred in the south along the Yemeni border near Maziuna (1750N/5239E) where solitary and *transiens*

hoppers and adults were present in several places. On the 15<sup>th</sup>, a small immature swarm with about 10 locusts/m<sup>2</sup> arrived near Maziuna from adjacent areas in Yemen. During the next few days, the same swarm was seen further north near Qabat Al Nasr (1810N/5311E) and there were other reports of small swarms flying from the southwest to the northeast in the same area. During the last week of August, groups of low to medium densities of immature gregarious adults mixed with a few mature gregarious adults were present in the south. Ground control teams treated 947 ha during August.

In the northeast, immature solitary adults were seen in the Sharqiya region on the 22<sup>nd</sup> in the Wahiba Sands (ca. 2144N/5852E) and near the coast southwest of Ras Al Hadd (2232N/5947E) on the 27<sup>th</sup>. Local breeding occurred in a few places affected by Cyclone Gonu in June where solitary and *transiens* hoppers were present.

• **FORECAST**

*There remains a slight risk that a few more swarms could appear in the south from adjacent areas in eastern Yemen during September and move north towards Sharqiya. A few small groups of hoppers and adults may form from local breeding in Sharqiya.*

**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**

During August, medium to high densities of solitary and *transiens* immature and mature adults were seen at 8 places on the southeastern coast near Chabahar (2517N/6036E) on the 10-12<sup>th</sup>. Some of the adults were copulating. Ground control operations treated 50 ha.

• **FORECAST**

*Low numbers of locusts could persist in a few places near Chabahar and breed on a small-scale in those areas that remain favourable.*



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### Pakistan

#### • SITUATION

During the second half of July, scattered mature adults persisted in the Khairpur and Cholistan desert between the Indus River Valley and the Indian border as well as in the Lasbela (2614N/6619E) area west of Karachi.

During the first half of August, limited hatching occurred at two places near the Indian border southeast of Rahimyar Khan (2822N/7020E). Scattered mature adults persisted in Khairpur and Cholistan.

#### • FORECAST

*Small-scale breeding will continue in Cholistan and Khairpur with further hatching, causing locust numbers to increase slightly. Fledglings and immature adults will appear from early September onwards. Similar breeding is probably underway and will continue in Tharparkar. There is a very low possibility that a few small swarms could arrive from Yemen via Oman during the first half of September. Thereafter, this threat should pass.*

### India

#### • SITUATION

During August, small-scale breeding occurred in Bikaner district where scattered solitarious second to fourth instar hoppers were seen north of Phalodi (2706N/7222E). Isolated and scattered immature and mature solitarious adults persisted in Bikaner, Jaisalmer and Jodhpur districts of Rajasthan, and in Bhuj district of Gujarat. Some adults were laying eggs near Jaisalmer (2652N/7055E).

#### • FORECAST

*Small-scale breeding will continue in Rajasthan with further hatching, causing locust numbers to increase slightly. Fledglings and immature adults will appear from early September onwards. There is a very low possibility that a few small swarms could arrive from Yemen via Oman during the first half of September. Thereafter, this threat should pass.*

### 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/ECLD Desert Locust Information Service (eclod@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 eLocust2 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/](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:

- **Locust situation.** Several updates during August (home page and in Archives section)
- **Pesticide Referee Group.** 1<sup>st</sup> to 9<sup>th</sup> session reports, 1989-2004 (Publications section)
- **SW Asia Commission.** 1<sup>st</sup> to 25<sup>th</sup> session reports, 1964-2006 (Publications section)
- **Outbreaks and upsurges.** New format (Archives section)

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

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

- **EMPRES/CR.** 4<sup>th</sup> Desert Locust Emergency Prevention meeting (9-11 September), Cairo (Egypt)
- **CLCPRO.** 4<sup>th</sup> Executive Committee (18-19 October) and 4<sup>th</sup> Session (22-26 October), Bamako (Mali)
- **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



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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.

### **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.

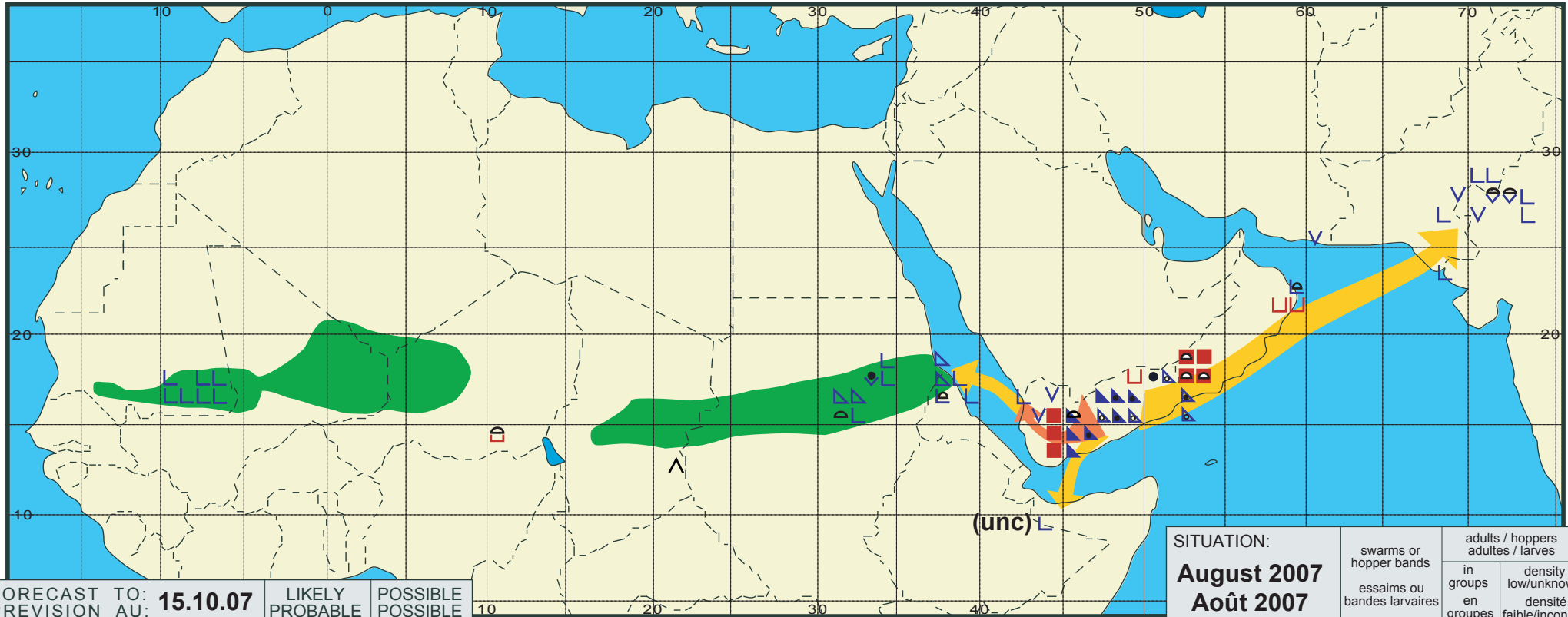




# Desert Locust Summary

## Criquet pèlerin - Situation résumée

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|   |                    |                      |
|---|--------------------|----------------------|
| FORECAST TO:<br>PREVISION AU: <b>15.10.07</b>                             | LIKELY<br>PROBABLE | POSSIBLE<br>POSSIBLE |
| favourable breeding conditions<br>conditions favorables à la reproduction |                    |                      |
| major swarm(s)<br>essaim(s) important(s)                                  |                    |                      |
| minor swarm(s)<br>essaim(s) limité(s)                                     |                    |                      |
| non swarming adults<br>adultes non essaimant                              |                    |                      |

|  |                                |                               |  |
|--|--------------------------------|-------------------------------|--|
| SITUATION:<br><b>August 2007</b><br><b>Août 2007</b> | swarms or<br>hopper bands      | adults / hoppers              |  |
|  | essaims ou<br>bandes larvaires | in<br>groups<br>en<br>groupes | density<br>low/unknown<br>densité<br>faible/inconnue |

|   |  |  |  |
|---|--|--|--|
| immature adults<br>adultes immatures  |  |  |  |
| mature or partly mature adults<br>adultes matures ou partiellement matures                  |  |  |  |
| adults, maturity unknown<br>adultes, maturité inconnue                                      |  |  |  |
| egg laying or eggs<br>pontes ou œufs  |  |  |  |
| hoppers<br>larves   |  |  |  |
| hoppers & adults (combined symbol example)<br>larves et adultes (exemple symboles combinés) |  |  |  |