

warning level: **CALM**

DESERT LOCUST BULLETIN

FAO Emergency Centre for Locust Operations



No. 394



**General Situation during July 2011
Forecast until mid-September 2011**

(3 August 2011)

Low numbers of solitary Desert Locust adults appeared in the summer breeding areas of the northern Sahel in Mauritania, Niger and Sudan during July. Similar numbers are likely to be present in northern Mali. Unfortunately, surveys cannot be carried out in many parts of the Sahel due to persistent insecurity. In Northwest Africa, *transiens* hopper and adult infestations were treated in Western Sahara, Morocco and Algeria. In Southwest Asia, locust infestations declined in the spring breeding areas in western Pakistan but increased along both sides of the Indo-Pakistan border as solitary adults appeared mainly in Cholistan, Pakistan. Ecological conditions improved in much of the summer breeding areas in the Sahel and along the Indo-Pakistan border. Consequently, small-scale breeding will occur during the forecast period and cause locust numbers to increase in all areas.

Western Region. Ground control operations were carried out against locally bred hopper and adult groups that persisted during July in the central Sahara of **Algeria** (70 ha), northeastern **Morocco** (672 ha), and in the **Western Sahara** (3,756 ha). Low numbers of mature solitary adults began to appear in the summer breeding areas in the Sahel in West Africa. Isolated adults were seen in parts of central and southern **Mauritania** and in western and northern **Niger**. Ground surveys remain problematic in many areas due to insecurity. During the forecast period, small-scale breeding will occur in the northern Sahel

between Mauritania and Chad, and cause locust numbers to increase.

Central Region. Slightly lower than normal rains fell in the summer breeding areas in northern **Sudan** during July. Consequently, only low numbers of solitary adults were seen in some areas. Although surveys were not conducted in **Eritrea**, scattered adults are likely to be present in the Western Lowlands. Surveys could not be undertaken in the summer breeding areas in the interior of **Yemen** where good rains fell in July. Scattered adults are likely to be present north of Wadi Hadhramaut. No locusts were seen in the spring breeding areas in the interior of **Saudi Arabia**. In the Horn of Africa, drought conditions prevailed in **Djibouti**, **Somalia** and southern and eastern **Ethiopia**. During the forecast period, small-scale breeding will cause locust numbers to increase in the interior of Sudan, western Eritrea and probably in the interior of Yemen.

Eastern Region. Ground teams treated 210 ha of hopper and adult groups in northern Baluchistan, **Pakistan** in early July but it was uncertain if these infestations were Desert Locust. Locust numbers declined elsewhere in Baluchistan while they increased in the summer breeding areas along the Indo-Pakistan border, primarily in Cholistan, Pakistan and to a lesser extent in Rajasthan, **India**. Small-scale breeding will cause locust numbers to increase further along both sides of the Indo-Pakistan border during the forecast period

The FAO Desert Locust Bulletin is issued every month by the Desert Locust Information Service, AGP Division (Rome, Italy). It is supplemented by Alerts and Updates during periods of increased Desert Locust activity. All products are distributed by e-mail and made available on the Internet.

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Weather & Ecological Conditions in July 2011

Seasonal rains continued in the summer breeding areas between Mauritania and Eritrea, reaching the northern Sahel, as well as along parts of the Indo-Pakistan border. As a result, ecological conditions improved sufficiently to allow small-scale breeding.

In the **Western Region**, the Inter-Tropical Convergence Zone (ITCZ) moved progressively northwards over West Africa during July. Its position remained further south than normal during the first decade, mainly over Mauritania. Nevertheless, good rains fell in southern Mauritania (south of Aleg – Kiffa – Aioun – Nema), northern Mali (south of Araouane and Tin Essako), in northern Niger (Tamesna) and Chad (south of Mao – Haraz-Djombo – Abeche). During the second decade, the ITCZ moved further north in all areas, especially in Niger and Chad, and was close to its average position except in Chad where it was further north than normal. Good rains fell further north in the Sahel: in central and northwest Mauritania (Tidjikja – Aguilal Faye – Tmeimichat), northern Mali (Araouane – Timetrine – Tilemsi Valley – Adrar des Iforas – Tamesna), northern Niger (Tamesna, Air Mountains) and Chad (south of Faya to south of Fada). Good rains also fell in southern Algeria near Tamanrasset. Consequently, vegetation was becoming green in southeast and central Mauritania, in southern Tamesna of Mali, in most of the runoff areas in Tamesna and the western Air Mountains in Niger, and in eastern Chad between Arada and Iriba. In Northwest Africa, vegetation remained green in the northeastern part of Western Sahara while vegetation was drying out along the southern side of the Atlas Mountains in Morocco.

In the **Central Region**, the ITCZ remained further south than normal over Sudan during the first two decades of July. Consequently, good rains fell south of El Fasher, El Obeid and Kassala. During the second decade, good rains fell slightly further north of these locations. Moderate to heavy rains fell locally in parts of Darfur. Consequently, vegetation was becoming green in many areas. In Yemen, good rains fell in the summer breeding areas of the interior between

Shabwah and Thamud, including the plateau north of Wadi Hadhramaut and the southern coast near Mukalla during the first decade. Light rains fell at times along parts of the Red Sea coast. Vegetation was becoming green along the central Red Sea coast and in parts of the plateau north of Wadi Hadhramaut. Light rains also fell near Dire Dawa and the railway area in eastern Ethiopia.

In the **Eastern Region**, good rains associated with the monsoon fell along both sides of the Indo-Pakistan border during July. Rainfall was heaviest during the first decade. As a result, ecological conditions improved sufficiently for small-scale breeding to occur primarily north of Jaisalmer and west of the Rajasthan Canal in India and in adjacent areas in Cholistan, Pakistan.



Area Treated

Algeria	70 ha (July)
Morocco	4,428 ha (July)
Pakistan	201 ha (1-15 July)



Desert Locust Situation and Forecast

(see also the summary on page 1)

WESTERN REGION

Mauritania

• SITUATION

During July, isolated mature solitary adults were present at nearly a dozen places in Trarza and Tagant between Aguilal Faye (1827N/1444W) and Tidjikja (1833N/1126W), and Hodh El Gharbi near Aioun El Atrous (1639N/0936W).

• FORECAST

Small-scale breeding will cause locust numbers to increase in Trarza and Tagant between Aguilal Faye and Tidjikja, and, if more rain falls, in Brakna, Assaba and the two Hohds.

Mali

• SITUATION

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

• FORECAST

Low numbers of adults are almost certainly present in parts of the north. Small-scale breeding will cause locust numbers to increase in the Tilemsi Valley, Adrar des Iforas, Tamesna and Timetrine.

Niger

• SITUATION

During July, two immature solitary adults were seen in Agadez (1700N/0756E). At mid-month, scattered adults were seen copulating at two places about 250 km north of Niamey.

• FORECAST

Small-scale breeding will cause locust numbers to increase in Tamesna, the western Air Mountains and the northern Sahel.

Chad

• SITUATION

No reports were received during July.

• FORECAST

Small-scale breeding will cause locust numbers to increase in the northern parts of Kanem, Batha and Biltine as well as in parts of BET in areas of recent rainfall.

Senegal

• SITUATION

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

• FORECAST

No significant developments are likely.

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

• FORECAST

No significant developments are likely.

Algeria

• SITUATION

During July, locust numbers continued to decline in the central Sahara. Scattered mature solitary adults were present between Beni Abbes (3011N/0214W) and Ain Sefra (3245N/0035W). In the Adrar area (2753N/0017W), a few solitary hoppers and groups of immature adults persisted near irrigated crops. Control teams treated 70 ha.

• FORECAST

Low numbers of adults are likely to appear in the southern Sahara and breed on a small scale in areas of recent rainfall.

Morocco

• SITUATION

During July, locust infestations declined further in the northeast and 672 ha of immature *transiens* adult groups were treated between Bouarfa (3232N/0159W) and Figuig (3207N/0113W).

In the Western Sahara, late instar *transiens* hoppers and immature *transiens* adults that arose from May breeding continued to develop in July and formed

groups at densities up to 30 hoppers/m² and 6,000 adults/ha in several places in Wadi Saguia Al Hamra northeast of Smara (2644N/1140W). Ground teams treated 3,756 ha.

• FORECAST

Locust numbers will decline in the Western Sahara. No significant developments are likely.

Libyan Arab Jamahiriya

• SITUATION

No reports were received during July.

• FORECAST

A few solitary adults may be present and could persist near Ghat. No significant developments are likely.

Tunisia

• SITUATION

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

• FORECAST

No significant developments are likely.

CENTRAL REGION

Sudan

• SITUATION

Scattered mature solitary adults were seen during surveys carried out in the last week of July between Umm Saiyala (1426N/3112E) and Ed Dueim (1400N/3220E), near Khartoum (1533N/3235E) and Merowe (1830N/3149E), and on the western side of the Red Sea Hills between Haiya (1820N/3621E) and Kassala (1527N/3623E).

• FORECAST

Small-scale breeding will occur and low numbers of hoppers will present in parts of North Darfur, North Kordofan, White Nile, River Nile, Northern, Kassala and Red Sea states. Consequently, locust numbers will increase in these areas.

Eritrea

• SITUATION

No locusts were seen during a survey on 29-30 June in the southern part of the western lowlands. No reports were received during July.

• FORECAST

Small-scale breeding is expected to occur in areas of recent rainfall in the western lowlands, causing



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locust numbers to increase along Khor Baraka. Regular surveys should be carried out until the autumn.

Ethiopia

• SITUATION

No locusts were seen during surveys carried out in Amhara and Tigray regions.

• FORECAST

No significant developments are likely.

Djibouti

• SITUATION

No reports were received during July.

• FORECAST

No significant developments are likely.

Somalia

• SITUATION

No locusts were seen during a survey on 6-11 July on the plateau between Hargeisa (0931N/4402E), Burao (0931N/4533E) and the Ethiopian border.

• FORECAST

No significant developments are likely.

Egypt

• SITUATION

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

• FORECAST

No significant developments are likely.

Saudi Arabia

• SITUATION

No locusts were seen during surveys carried out in the spring breeding areas of the interior in July.

• FORECAST

No significant developments are likely.

Yemen

• SITUATION

Locust surveys could not be carried out during July and no locusts were reported.

• FORECAST

Low numbers of locusts may present in the interior between Marib and Thamud where small-scale breeding is likely to occur in areas of recent rainfall in the plateau north of Wadi Hadhramaut between

Minwakh and Thamud. Scattered adults may be present in areas of recent rainfall on the Red Sea coast.

Oman

• SITUATION

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

• FORECAST

No significant developments are likely.

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

• FORECAST

No significant developments are likely.

EASTERN REGION

Iran

• SITUATION

No locusts were seen in July during surveys carried out on the southeastern coast near Jask (2540N/5746E) and from Chabahar (2517N/6036E) to the Pakistani border.

• FORECAST

No significant developments are likely.

Pakistan

• SITUATION

In the spring breeding areas, a few immature adults persisted in northern Baluchistan near Nushki (2933N/6601E) during the first half of July. On 1-4 July, ground teams treated 210 ha of fifth instar gregarious hoppers, fledglings and groups of immature adults at a half dozen places in Qila Saifullah and Pishin districts northeast of Quetta (3015N/6700E). It could not be confirmed if these infestations were Desert Locust.

In the summer breeding areas, mature solitary adults continued to be present along the Indian border south of Rahimyar Khan (2822N/7020E) and southeast of Bahawalpur (2924N/7147E).

• Forecast

Small-scale breeding will cause locust numbers to increase along the Indian border in Cholistan, Khaipur and Tharparkar deserts.

India

• SITUATION

The hopper groups reported in Bulletin 394 (June) near Jaisalmer were apparently not Desert Locust.

During July, isolated immature and mature solitary adults were present in Rajasthan southwest of Sam (2649N/7030E) and northeast of Jodhpur (2618N/7308E).

- **FORECAST**

More adults and perhaps a few small groups will appear in the summer breeding areas of Rajasthan and Gujarat. Small-scale breeding will cause locust numbers to increase throughout the forecast period.

Afghanistan

- **SITUATION**

No reports received.

- **FORECAST**

No significant developments are likely.



Announcements

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.

Locust reporting. During calm (green) periods, countries should report at least once/month and send RAMSES data with a brief interpretation. During caution (yellow), threat (orange) and danger (red) periods, often associated with locust outbreaks, upsurges and plagues, RAMSES output files with a brief interpretation should be sent at least twice/week within 48 hours of the latest survey. Affected countries are also encouraged to prepare decadal bulletins summarizing the situation. All information should be sent by e-mail to the FAO/ECLLO Desert Locust Information Service (ecllo@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.

Google site. FAO DLIS has created a Google site (<https://sites.google.com/site/faodlis>) for national locust information officers to share problems, solutions and tips in using new technologies (eLocust2, eLocust2Mapper, RAMSES, remote sensing) and to make available the latest files for downloading. The site replaces the FAODLIS Google group, which will no longer be maintained. Interested users should contact Keith Cressman (keith.cressman@fao.org) for details.

MODIS imagery. Columbia University's International Research Institute for Climate and

Society (IRI) provides 16-day 250-metre resolution MODIS imagery as well as daily and decadal rainfall imagery for monitoring breeding conditions in the Desert Locust recession area. These products can be downloaded in different formats suitable for GIS at: http://iridl.ldeo.columbia.edu/maproom/.Food_Security/.Locusts/index.html. The site is available in English and French. Address comments and questions to Pietro Ceccato (pceccato@iri.columbia.edu).

Greenness maps. Geo-referenced dynamic greenness maps that show the evolution of green vegetation in the Desert Locust recession area for three months can be downloaded every ten days from DevCoCast (<http://www.devcoCast.eu/user/images/dl/Form.do>). The new product was developed by the Université catholique de Louvain and the Flemish Institute for Technical Research in Belgium and funded by the Belgium Science Policy Office. The maps can be used in a GIS to help guide survey teams and in locust analysis and forecasting.

Twitter. FAO DLIS disseminates updates on the Desert Locust situation via Twitter, a social media service. The updates can be followed on some mobile phones in some countries (send an SMS to 40404: 'Follow faolocust' (no quotes) and through the Internet (<http://twitter.com/faolocust>) by searching on 'DesertLocust'.

eLERT. The Locust Group has created a dynamic and interactive online reference database that can be used to respond to assistance needs in a fast evolving locust emergency. It provides information on pesticides, equipment, suppliers, environmental monitoring, contracts, and contacts. The eLERT should help agencies to act more effectively in coping with locust threats. Visit eLert at <http://sites.google.com/site/elertsite>.

EMPRES/CRC web site. The EMPRES / Central Region Commission (CRC) web site can be found at <http://crc-empres.org>. Please note that the address in Bulletin No. 392 was incorrect.

New information on Locust Watch. Recent additions to the web site (www.fao.org/ag/locusts) are:

- **Desert Locust situation updates.** Archives Section – Briefs



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- **Desert Locust risk map.** Archives Section – Risk maps
- **Summer 2011 forecast.** Home page
- **CRC/SWAC locust information officer workshop.** Activities Section – Workshop/Inter-regional
- **Iran/Pakistan 2011 Joint survey results.** Publications Section – Reports
- **Greenness maps.** Activities Section – DLIS
- **Twitter.** Home page link
- **eLERT.** Information Section

2011 events. The following activities are scheduled or planned:

- **EMPRES/WR.** 10th Liaison Officer meeting, N'Djamena, Chad (December)
- **DLCC.** 40th session, Cairo, Egypt (to be confirmed)



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 km² • band: 1 - 25 m²

SMALL

- swarm: 1 - 10 km² • band: 25 - 2,500 m²

MEDIUM

- swarm: 10 - 100 km² • band: 2,500 m² - 10 ha

LARGE

- swarm: 100 - 500 km² • band: 10 - 50 ha

VERY LARGE

- swarm: 500+ km² • 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.

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.

ORANGE

- Threat. Threat to crops. Survey and control operations must be undertaken.

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.



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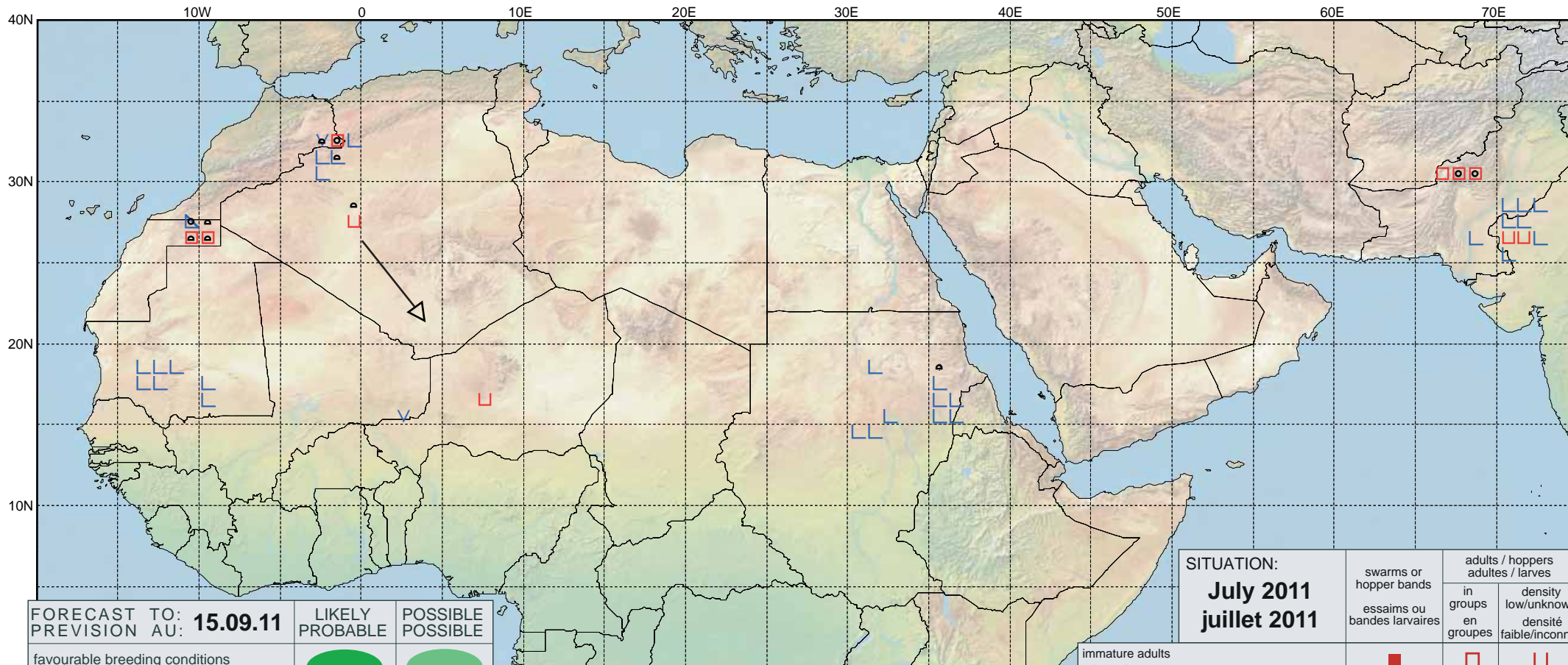
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











Desert Locust Summary

Criquet pèlerin - Situation résumée



FORECAST TO: PREVISION AU: 15.09.11	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		

SITUATION: July 2011 juillet 2011	swarms or hopper bands	adults / hoppers adultes / larves	
	essaims ou bandes larvaires	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)	