

warning level: **CAUTION**

DESERT LOCUST BULLETIN

FAO Emergency Centre for Locust Operations



No. 385



**General Situation during October 2010
Forecast until mid-December 2010**

(4 Nov 2010)

There was a significant increase in Desert Locust activity during October. As vegetation dried out in the summer breeding areas, locusts concentrated and formed small groups in several countries that required control. National ground teams treated hopper bands along both sides of the Indo-Pakistan border. A few hopper bands and a swarm formed in northern Sudan and control was in progress. Hoppers formed groups in northern Niger, and national teams treated an increasing number of locusts in western Mauritania. During the forecast period, there is a high risk that more groups will form that could lead to small hopper bands and swarms. Breeding will occur in northwest Mauritania and in the winter breeding areas along both sides of the Red Sea. Vigilant monitoring is required on a regular basis and the necessary control measures should be taken.

Western Region. Seasonal rains declined in the summer breeding areas of the northern Sahel during October. In **Mauritania**, adults moved from the southeast towards the west where unusually good rains fell during the second decade. Locust numbers increased there and hoppers concentrated and increased in density. Ground teams treated 24 ha. In **Niger**, hoppers concentrated and formed small groups in central Tamesna. Locust numbers remained low in eastern **Chad**. In Northwest Africa, a few locusts were present in southern **Algeria** and southwest **Libya**. During the forecast period, locusts will increase rapidly in northwest Mauritania as more breeding occurs in

areas of recent rainfall. Small groups could form in some places. All efforts should continue to monitor the situation carefully.

Central Region. There was a sudden increase in locust numbers in northern **Sudan** that led to the formation of small hopper bands and a swarm in the Baiyuda Desert during October. Although control operations started, no details have been forthcoming. Adults also started appearing on the western side of the Red Sea Hills and on the coast in Tokar Delta. All efforts should continue to monitor the situation carefully and take the necessary control measures. In **Yemen**, scattered adults were present on the Red Sea coast and Gulf of Aden, and small-scale breeding occurred on the northern Tihama. Isolated adults were seen in southern **Egypt** and eastern **Ethiopia**. During the forecast period, locusts will shift to the winter breeding areas along both sides of the Red Sea and breed on a small scale in areas that receive rainfall.

Eastern Region. Locust numbers suddenly increased along both sides of the Indo-Pakistan border, causing **India** and **Pakistan** to mobilize control teams in early October. As vegetation dried out, locusts concentrated and formed small groups and hopper bands. Ground teams treated more than 4,000 ha in India and 3,500 ha in Pakistan. There is a moderate risk that a few small adult groups and swarms could move west to the spring breeding areas in western Pakistan 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 October 2010

Seasonal rains declined and vegetation dried out in the summer breeding areas of the Sahel in West Africa and Sudan, and along the Indo-Pakistan border. Unusually good rains fell in western Mauritania that should allow ecological conditions to remain favourable for breeding for several months.

In the **Western Region**, seasonal rains declined in the northern Sahel from Mauritania to Chad during October, causing vegetation to dry out in most areas. During the first decade, good rains fell in south and southeast Mauritania between Nema and Kiffa, and in eastern Chad between Abeche and Arada. During the second decade, unusually good rains fell over a substantial area of western Mauritania from Kiffa to Zouerate, extending to the coast. Rainfall was heaviest in the Aguilal Faye and Inchiri areas. Good rains also fell in the Adrar des Iforas in northern Mali near Kidal and in the Air Mountains in Niger near Iferouane. No rain fell during the last decade of October. In northwest Mauritania, ecological conditions are expected to remain favourable for breeding for several months in the Aguilal Faye area as well as in Inchiri and southwest Adrar. In Niger, vegetation was drying out in the central Tamesna except in the interdunal areas near In Ontolog. In Northwest Africa, generally dry conditions prevailed. Light rains may have fallen during the second decade in southwest Libya near Ghat. In southern Algeria, green vegetation was present in several wadis west of Tamanrasset.

In the **Central Region**, seasonal rains declined in the summer breeding areas of Sudan, first in the north and then further south as the month progressed. Consequently, only light rains fell near Ed Dueim in the first decade of October and El Obeid in the second. By the third decade of the month, rainfall had ceased in the Desert Locust areas. Good rains fell on the Red Sea coast from Qunfidah, Saudi Arabia to Bab Al Mendab, Yemen during the first decade. Ecological conditions were favourable for breeding in Yemen on the Tihama and, to a lesser extent, on the

Gulf of Aden coast near Aden. Light rains also fell in a few places on the plateau in northern Somalia in early October but ecological conditions remained dry and generally unfavourable for breeding.

In the **Eastern Region**, except for a few showers during the last decade of October, no rain fell in the summer breeding areas along both sides of the Indo-Pakistan border. Consequently, vegetation progressively dried out in most areas and ecological conditions were not suitable for further breeding.



Area Treated

| | |
|------------|-------------------------|
| India | 4,330 ha (4-31 October) |
| Mauritania | 24 ha (23-31 October) |
| Pakistan | 3,500 ha (1-15 October) |
| Sudan | awaiting details |



Desert Locust Situation and Forecast

(see also the summary on page 1)

WESTERN REGION

Mauritania

• SITUATION

During October, isolated immature solitary adults were present at a few places in the south and southeast between Timbedra (1614N/0809W) and Kiffa (1638N/1124W). Most of these adults moved towards the west of the country where small-scale breeding increased between Tidjikja (1833N/1126W) and Nouakchott (1809N/1558W) and solitary hoppers were present in many places. After mid-month, solitary hoppers started to concentrate at densities of 2-4 hoppers/bush and up to 6,000 hoppers/ha in small areas of less than 15 ha near Agane (1818N/1231W). Ground teams treated 24 ha during the last decade. Egg laying occurred further north towards Akjoujt (1945N/1421W), Atar (2032N/1308W) and Chinguetti (2027N/1221W) and, by the end of the month, hatching was commencing.

• FORECAST

There is a high probability that locust numbers will continue to increase rapidly in the northwest as more hatching occurs in areas of recent rainfall. Small groups could form in some places. All efforts should continue to monitor the situation carefully.

Mali

• SITUATION

On 3 October, there was an unconfirmed report of a group of solitary adults moving southwest near the Algerian border and Bir Bou Mokhtar (2119N/0057E).

• FORECAST

Low numbers of adults are likely to persist in the Adrar des Iforas between Gao and the Algerian border.

Niger

• SITUATION

During October, scattered solitary hoppers and immature and mature solitary adults were present in the central Tamesna between In Abangharit (1754N/0559E) and Tassara (1650N/0550E). Small groups were seen at two places in the interdunes near In Ontolog (1738N/0545E). Solitary and *transiens* hoppers at densities of 5-10 hoppers/m² were also seen during the survey. Elsewhere, scattered hoppers and adults were present at few places southeast of Agadez (1700N/0756E) and east of Tanout (1505N/0850E).

• Forecast

As vegetation dries out in central Tamesna, there is an increased risk that hoppers and adults will form additional small groups. All efforts should continue to monitor the situation carefully.

Chad

• SITUATION

During October, locust numbers remained low even though small-scale breeding continued in the northeast. Isolated solitary hoppers were seen at five places near Fada (1714N/2132E) and at one place near Kalait (1550N/2054E). Egg laying was reported north of Fada on the 19th. Mainly isolated mature solitary adults were present between Arada (1501N/2040E) in Biltine to Fada and, to a lesser extent, in parts of Kanem and Batha.

• FORECAST

Locust numbers will decline as conditions dry out and no significant developments are likely.

Senegal

• SITUATION

No reports were received during October.

• 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 October, isolated mature solitary adults were seen at one place west of Tamanrasset (2250N/0528E) in Wadi Amded (2250N/0424E). No locusts were seen elsewhere nearby or in the Adrar (2753N/0017W) area of the central Sahara.

• FORECAST

Low numbers of solitary adults could persist in parts of the extreme south. No significant developments are likely.

Morocco

• SITUATION

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

• FORECAST

Low numbers of solitary adults may appear in the southern portion of Western Sahara.

Libyan Arab Jamahiriya

• SITUATION

During October, scattered solitary adults were seen at one place in the southwest near Ghat (2459N/1011E). No locusts were seen during surveys carried in the centre south of Sabha (2704N/1425E) and in the southeast near Jebel Uweinat (2154N/2458E).

• FORECAST

A few solitary adults could persist near Ghat. No significant developments are likely.

Tunisia

• SITUATION

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

• FORECAST

No significant developments are likely.

CENTRAL REGION

Sudan

• SITUATION

During October, locusts increased in the Baiyuda Desert south of Merowe (1830N/3149E) from hatching that started in the second week. During the last decade of the month, small first to fourth instar hopper bands of up to 80 m² in size had formed at six places. On the 22nd, a 1.5 km² swarm was seen laying eggs east of Jebel Barkol (1738N/3201E). Control



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operations started at the end of the month but details are not forthcoming. In other nearby areas, mature solitary and gregarious adults were present, and groups of gregarious adults at densities of 500-750 adults/ha laid eggs at three places. In the River Nile State, mature gregarious groups were seen copulating in a few places between Ed Dueim (1400N/3220E) and Umm Saiyala (1426N/3112E). Scattered mature solitary adults were present in parts of North Kordofan and Khartoum states. In the Red Sea State, scattered mature solitary adults were copulating at four places on the western side of the Red Sea Hills between Derudeb (1731N/3607E) and Haiya (1820N/3621E). Mature solitary adults were also seen on the coast in the Tokar Delta.

- **FORECAST**

Hatching will continue in the Baiyuda Desert in early November and hoppers are likely to form small bands that would augment those that currently exist. Unless controlled, the bands will fledge during November and December, and new adults could form a few small swarms that are likely to move towards the Red Sea coast. Hatching is also expected on the western side of the Red Sea Hills where a few small groups could form and eventually move to the coast. All efforts should continue to monitor the situation carefully.

Eritrea

- **SITUATION**

No reports were received during October.

- **FORECAST**

Low numbers of locusts are expected to appear on the Red Sea coast between Massawa and the Sudanese border. Small-scale breeding will occur in areas that receive rainfall, causing locust numbers to increase slightly.

Ethiopia

- **SITUATION**

During October, isolated solitary adults were seen in a few places north of Dire Dawa (0935N/4150E).

- **FORECAST**

No significant developments are likely.

Djibouti

- **SITUATION**

No surveys were carried out and no locusts were

reported during October.

- **FORECAST**

No significant developments are likely.

Somalia

- **SITUATION**

No reports were received during October.

- **FORECAST**

No significant developments are likely.

Egypt

- **SITUATION**

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

During October, isolated immature solitary adults were seen at Sh. Oweinat (2219N/2845E)

- **FORECAST**

No significant developments are likely.

Saudi Arabia

- **SITUATION**

During October, no locusts were seen during surveys carried out on the Red Sea coast near Jeddah (2130N/3910E), Rabigh (2247N/3901E), Qunfidah (1909N/4107E), in the Asir Mountains near Khamis Mushait (1819N/4245E), and in the interior near Buraydah (2621N/4358E).

- **FORECAST**

Scattered adults may appear and breed on a small scale in areas of recent rainfall on the Red Sea coast. There is a low to moderate risk that a few adults groups could appear from Sudan.

Yemen

- **SITUATION**

During October, scattered immature and mature solitary adults were present at densities of less than 100 adults/ha on the northern Red Sea coastal plains between Midi (1619N/4248E) and Al Zuhrah (1541N/4300E) and on the central coast between Bajil (1458N/4314E) and Zabid (1410N/4318E). Scattered solitary hoppers of all instars were also seen on the northern plains. On the Gulf of Aden coastal plains, scattered mature solitary adults were present at five places near Am Rija (1302N/4434E).

- **FORECAST**

Locust numbers will gradually increase on the central and northern Red Sea coast as another generation of breeding occurs in areas of recent rainfall. All efforts should continue to monitor the situation on a regular basis.

Oman

- **SITUATION**

No locusts were seen during surveys in Musandam, Bureimi, Dakhliya, and Dhofar regions during October.

- **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**

During October, no locusts were seen during surveys carried out on the southern coast near Jask (2540N/5746E) and Bander-e Lengheh (2634N/5452E).

- **FORECAST**

No significant developments are likely.

Pakistan

- **SITUATION**

On 1 October, 200 ha of mature adult groups were treated in Ghotki district near Gopan Wari (2733N/6956E). During the remainder of the month, locust numbers continued to increase near the Indian border as eggs hatched mainly in Ghotki and, to a lesser extent, in Bahawalpur district. The new hoppers immediately concentrated, started to change phase, and formed small groups and bands. Scattered solitary hoppers and mature solitary adults were also present. Ground teams treated more than 3,500 ha on 1-15 October.

- **Forecast**

As vegetation dries out, locusts will continue to concentrate and form small bands and swarms in Ghotki and Bahawalpur districts. Similar populations from adjacent areas in the east could augment this. There is a moderate risk that small groups and swarms could move west towards the spring breeding areas of Baluchistan.

India

- **SITUATION**

During October, locust numbers increased along the Pakistani border in Jaisalmer and Bikaner districts of Rajasthan. Hoppers were concentrating in those areas that remained green and formed small groups and bands while adults formed only small groups. Ground teams treated 4,330 ha from 4-31 October.

- **FORECAST**

As vegetation dries out, locusts will continue to concentrate and form small bands and swarms in Jaisalmer and Bikaner districts. There is a moderate risk that small groups and swarms could move west towards the spring breeding areas of western Pakistan.

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/ECLo 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.



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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).

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

- **Desert Locust situation updates.** Archives Section – Briefs
- **Desert Locust risk map update.** Archives Section – Risk maps

2010-11 events. The following activities are scheduled or planned:

- **EMPRES/WR.** 9th EMPRES Liaison Officers meeting (12-16 Dec) and 6th Steering Committee meeting (19-20 Dec), Tripoli, Libya
- **SWAC.** 27th session, Islamabad, Pakistan (14-16 Dec)
- **DLCC.** 40th session, Cairo, Egypt (6-10 Mar)



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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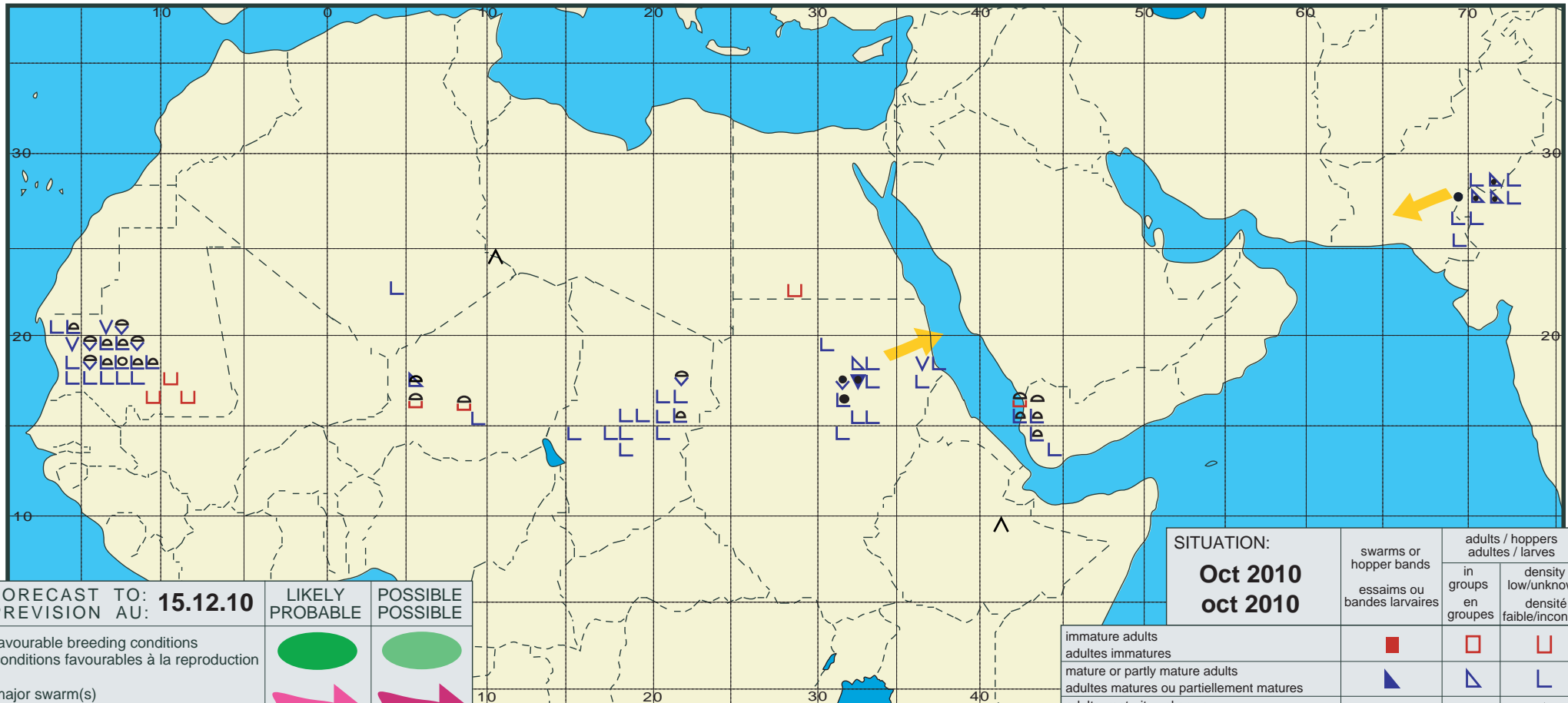
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Desert Locust Summary

Criquet pèlerin - Situation résumée

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| | | |
|---|--------------------|----------------------|
| FORECAST TO: PREVISION AU: 15.12.10 | 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: Oct 2010 oct 2010 | 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) | | | |