

warning level: **CAUTION**

DESERT LOCUST BULLETIN

FAO Emergency Centre for Locust Operations



No. 388



**General Situation during January 2011
Forecast until mid-March 2011**

(2 Feb 2011)

Desert Locust infestations increased during January in Sudan, Saudi Arabia and Mauritania as a result of continued breeding. Control operations were in progress against hopper groups and bands along the Red Sea coast in Sudan and Saudi Arabia, and a limited number of swarms were reported in both countries. In northwest Mauritania, control operations increased against locust groups and some infestations appeared in southern Morocco. During the forecast period, locust populations are expected to increase further and move to the spring breeding areas. If current infestations in Sudan and Saudi Arabia are not controlled, new adult groups and small swarms could form on the Red Sea coast and move to the interior of Saudi Arabia. Similarly, adults and small groups in northwest Mauritania and southern Morocco could move to the southern side of the Atlas Mountains in Morocco and Algeria. Breeding would occur in both areas once temperatures increase and spring rains commence. Therefore, all efforts should be made to control current infestations in order to reduce migration to the spring breeding areas.

Western Region. Small-scale breeding continued for a fourth consecutive month in northwest Mauritania, causing locusts to increase in number and form small groups. Ground control operations intensified, treating more than 14,000 ha during the first two decades of January. Some of the infestations extended into the southern portion of the Western Sahara in Morocco where limited control (55 ha) was

undertaken. Low numbers of adults were present in parts of the Sahara in Algeria. During the forecast period, small-scale breeding will continue in northwest Mauritania and is expected to extend to the north as well as to adjacent areas of southern Morocco. There is a moderate risk that some adults will move north to the spring breeding areas along the southern side of the Atlas Mountains in Morocco and Algeria and lay eggs with the onset of the spring rains. In West Africa, dry conditions prevailed in the northern Sahel of Mali, Niger and Chad where the situation is expected to remain calm.

Central Region. Hatching and band formation occurred in the winter breeding areas along the Red Sea coast in Sudan and Saudi Arabia during January. Several swarms were also reported in the same area. More than 7,000 ha were treated in Sudan, partially by air, and nearly 2,800 ha in Saudi Arabia. A small swarm and breeding were reported in adjacent areas of southeast Egypt where teams treated nearly 400 ha. In Yemen, small-scale breeding occurred on the Red Sea coast but locust numbers remained low and control was not required. During the forecast period, locust numbers will increase in Sudan and Saudi Arabia as hatching continues. Small groups and hopper bands are expected to form during February. This could lead to the formation of small adult groups and swarms in March that, if not controlled, are likely to move into the spring breeding areas in the interior of Saudi Arabia.

Eastern Region. Locust populations continued to decline in the summer breeding areas along both sides of the Indo-Pakistan border during January, and the situation had returned to normal. Very few adults were reported from the spring breeding areas in western Pakistan, indicating that control operations were successful in the summer breeding areas. During the forecast period, small-scale breeding is

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expected to occur in parts of Baluchistan, Pakistan and in adjacent areas of southeast **Iran** once spring rains commence. Locust numbers will increase slightly but remain below threatening levels.



Weather & Ecological Conditions in January 2011

Very little rain fell in the recession area during January. Nevertheless, ecological conditions remained favourable for breeding in northwest Mauritania and along both sides of the Red Sea.

In the **Western Region**, no significant rain fell during January. In Mauritania, ecological conditions remained favourable for locust survival and breeding in central and northern areas, primarily in the wadis in Adrar, Inchiri and Dakhlet Nouadhibou. By the end of the month, vegetation was starting to dry out in some places in Adrar. In Morocco, vegetation was drying out in the Western Sahara except for a few low-lying areas and wadis where ecological conditions remained favourable for breeding. Small areas of green vegetation also persisted south of the Atlas Mountains near the Algerian border in the Draa and Ziz-Ghris valleys. In Algeria, ecological conditions were favourable in the central Sahara near Bechar and on the edge of irrigated areas near Adrar, while vegetation was drying out in the western Sahara near Tindouf, in the south near Tamanrasset and in the east near Illizi. Mainly dry conditions persisted in the northern Sahel except in parts of northern Mali (Adrar des Iforas, Tamesna and Timetrine) and Niger (central Tamesna and southeastern Air Mountains) where vegetation is likely to be green in some wadis and low-lying areas.

In the **Central Region**, light rain fell at times in a few of the winter breeding areas along both sides of the Red Sea. In Saudi Arabia, light to moderate showers fell at times on the coast between Jeddah and Rabigh and near Lith. Heavy rains fell on the 26th in the Jeddah area, causing floods, and in the interior between Buraydah and Jubail. In Yemen, showers were reported on the northern coast near Suq Abs on the 19th. In Sudan, light rain fell on the central coast on the 7th and in the Tokar Delta on the 27th. Although

rainfall was poorer than usual, ecological conditions were favourable for small-scale breeding in the above-mentioned areas. Ecological conditions were also favourable in Wadi Oko/Diib and the coast in northeast Sudan and in adjacent areas of southeastern Egypt from December rains. Elsewhere in the Region, primarily dry conditions prevailed.

In the **Eastern Region**, no significant rain fell during January in the summer or spring breeding areas. Consequently, ecological conditions were not favourable for breeding.



Area Treated

Egypt	382 ha (9-19 January)
Mauritania	4,970 ha (December, revised) 14,045 ha (1-20 January)
Morocco	55 ha (January)
Saudi Arabia	2,795 ha (January)
Sudan	7,058 ha (January)
Yemen	1,450 ha (December, revised)



Desert Locust Situation and Forecast

(see also the summary on page 1)

WESTERN REGION

Mauritania

• SITUATION

During January, locusts continued to increase in the northwest between the coast, Chinguetti (2027N/1221W) and the Moroccan border. Most of the infestations consisted of groups of immature and mature solitary and *transiens* adults mixed with hopper concentrations of all instars. Up to 4 hoppers/m² and 11,000 adults/ha were reported, and infested areas ranged from a few hectares up to 400 ha. Laying, hatching and fledging were in progress. Scattered immature and mature solitary adults were seen further north in Tiris-Zemmour between Zouerate (2244N/1221W) and Bir Moghreïn (2510N/1135W). Ground teams treated 14,045 ha on 1-20 January.

• FORECAST

Small-scale breeding will continue in parts of Inchiri, Adrar and Dakhlet Nouadhibou and is expected to be in progress in Tiris-Zemmour, causing locust numbers to increase further. Hoppers and adults are expected to concentrate in areas that remain green and form small groups. As temperatures increase, there is a moderate risk that some adults and small groups could move further north.

Mali

• SITUATION

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

• FORECAST

Low numbers of adults are likely to be present and will persist in parts of Tamesna, the Adrar des Iforas and Timetrine.

Niger

• SITUATION

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

• Forecast

Low numbers of adults are likely to be present in the central Tamesna but will decline as conditions dry out further and they move towards the Air Mountains.

Chad

• SITUATION

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

• FORECAST

No significant developments are likely.

Senegal

• SITUATION

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

• 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 January, isolated immature and mature solitary adults increased slightly in the southern Sahara west of Tamanrasset (2250N/0528E), and persisted in the east near Djanet (2434N/0930E) and in the central Sahara near In Salah (2712N/0229E). Isolated mature adults were also seen at one place in the western Sahara east of Tindouf (2741N/0811W).

• FORECAST

Low numbers of locusts are likely to persist in parts of southern, central and eastern Sahara. Small-scale breeding could occur in some areas, causing locust numbers to increase slightly. Adults and small groups may appear in the spring breeding areas along the southern side of the Atlas Mountains in the west and lay eggs with the onset of the spring rains.

Morocco

• SITUATION

During January, a 200 m² group of mature adults at a density of 10 adults/m² was seen copulating on the Mauritanian border southeast of Bir Gandouz (2136N/1628W) on the 13th. Ground teams treated 5 ha on the 17th. Scattered immature solitary adults at densities up to 1,000 adults/ha were maturing near Tichla (2137N/1453W), and ground teams treated 50 ha at Guelbeddine (2155N/1441W) to the northeast of Tichla. On the southern side of the Atlas Mountains, mature solitary adults were present at El Foussi (2920N/0817W) and a few immature adults were seen in the Draa Valley south of Zagora (3019N/0550W) and Erfoud (3128N/0410W) near the Algerian border.

• FORECAST

Small-scale breeding in the southern part of the Western Sahara will cause locust numbers to increase. As vegetation dries out, locusts are likely to concentrate and may form small groups. Low numbers of adults may appear in the Draa Valley and breed on a small scale once temperatures warm up and rains occur. Adults and small groups arriving from Mauritania may augment locust numbers in these areas.

Libyan Arab Jamahiriya

• SITUATION

A late report indicated that no locusts were seen during surveys carried out in December near Nalut (3152N/1058E), Ghadames (3010N/0930E), Mizda (3127N/1259E) and Ghat (2459N/1011E).

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

• 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 January.

• FORECAST

No significant developments are likely.



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CENTRAL REGION

Sudan

• SITUATION

During the first week of January in the northeast, adult groups laid eggs in Wadi Diib. Hatching and band formation continued throughout the month and hopper bands of all instars were present in W. Oko/Diib and on the northern coast near Bir Salalah (2034N/3701E). Immature and mature solitarious adults were also present in W. Oko/Diib as well as on the coast between Fodukwan (2145N/3644E) and the Egyptian border.

On the central coast, there were reports of a mature swarm laying eggs between Suakin (1906N/3719E) and Port Sudan (1938N/3713E) on 1, 16 and 18 January, and on the 7th near Eit (2009N/3706E).

Groups of immature and mature adults at densities up to 2,500 adults/ha were also present and egg laying occurred during the first half of the month. Solitarious hoppers, hopper groups and bands of all instars were also reported.

In the Tokar Delta, groups of late instar hoppers, fledglings and immature and mature solitarious and *transiens* adults were present at densities of up to 1,000 adults/ha. One hopper band was also reported. On the southern coast between Tokar Delta and the Eritrean border, scattered mature solitarious adults were seen at two places near Aiterba (1753N/3819E). Control teams treated 7,058 ha during January, of which 3,420 ha were by air.

• FORECAST

Locust numbers will increase on the central coast as hatching continues during the first week of February, leading to the formation of hopper groups and bands. Adults are expected to form small groups and a few swarms throughout the forecast period, mainly on the central coast and to a lesser extent in W. Oko/Diib and the Tokar Delta. Breeding may also continue in the Tokar Delta.

Eritrea

• SITUATION

A late report indicated that a few solitarious adults were seen near Afabet (1612N/3841E) and west of Tio (1441N/4057E) during surveys carried out on the Red Sea coast between Assab (1301N/4247E) and Nakfa (1640N/3828E).

No reports were received during January.

• FORECAST

Low numbers of adults are likely to be present along parts of the Red Sea coastal plains between Sheib and Karora. Small-scale breeding may occur in areas that receive rainfall or runoff, causing locust numbers to increase slightly but remain below threatening levels.

Ethiopia

• SITUATION

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

• FORECAST

No significant developments are likely.

Djibouti

• SITUATION

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

• FORECAST

No significant developments are likely.

Somalia

• SITUATION

Late reports indicated that surveys were not carried out and no locusts were reported in November and December.

No reports were received during January.

• FORECAST

Low numbers of adults are likely to appear in the northwest on the coast and breed on a small scale in areas that receive rainfall.

Egypt

• SITUATION

During January, isolated and scattered immature and mature solitarious adults were present on the Red Sea coast between Berenice (2359N/3524E) and the Sudanese border. A small swarm was seen copulating on the 11th on the coast between Shalatyn (2308N/3535E) and Abu Ramad (2224N/3624E). During the following week, groups of adults were copulating and laying eggs south of Shalatyn, and a few individual solitarious hoppers were also present. Ground teams treated 382 ha. No locusts were seen in Wadi Allaqi or between Abu Simbel (2219N/3138E) and Tushka (2247N/3126E).

• FORECAST

Hatching will occur during the first half of February on the Red Sea coast between Shalatyn and the Sudanese border, causing locust numbers to increase. Hoppers and adults are likely to concentrate and form small groups and perhaps a few small bands. Fledging is likely to commence by the end of February and a few small adult groups and swarms could form from early March onwards.

Saudi Arabia

• SITUATION

During January, hatching occurred on the central Red Sea coast near Lith (2008N/4016E) in the first week and again, to a lesser extent, in the last week. Hopper groups and bands formed, some at high densities, reaching the fourth instar stage by the end of January. Immature and mature adults, groups and a few swarms were seen in the same area during the second decade, and laying was reported. Further north, immature and mature adults, groups and a few swarms were seen between Thuwal (2215N/3906E) and Yenbo (2405N/3802E) from 15 to 20 January, and some laying was reported as well. Hatching occurred on the 29th near Rabigh (2247N/3901E). Ground teams treated 2,795 ha during January.

• FORECAST

Locust numbers may increase significantly on the Red Sea coast as hatching occurs near Lith and between Jeddah and Yenbo. Small groups and hopper bands will form during February. In March, small groups of adults and swarms will form that, if not controlled, are likely to move into the spring breeding areas of the interior if no further rains fall on the coast.

Yemen

• SITUATION

During January, small-scale breeding occurred on the central Red Sea coast north of Zabid (1410N/4318E) and on the northern coast between Al Zuhrah (1541N/4300E) and Suq Abs (1600N/4312E), giving rise to low numbers of solitary hoppers of all instars. Scattered immature and mature solitary adults were present in both areas as well as between Hodeidah (1450N/4258E) and Bajil (1458N/4314E) and in the north near Midi (1619N/4248E). Egg laying was seen at one place near Suq Abs on the 17th. No locusts were seen during surveys on the Gulf of Aden coast west of Aden (1250N/4503E).

• FORECAST

Small-scale breeding will continue on the Red Sea coast in areas of recent rainfall, causing locust numbers to increase gradually and form small groups.

Oman

• SITUATION

No locusts were seen during surveys carried out in the northern regions of Buraimi and Dakhliya and in the southern region of Dhofar during January.

• FORECAST

Low numbers of adults are likely to appear on the Batinah coast by the end of the forecast period and breed on a small scale if rainfall occurs.

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 during surveys carried out on the southern coast near Bander-e Lengheh (2634N/5452E) and Jask (2540N/5746E) in January.

• FORECAST

Low numbers of adults are likely to appear on the southeastern coastal plains and breed on a small scale if rainfall occurs.

Pakistan

• SITUATION

During the second half of December, isolated immature solitary adults persisted near Uthal (2548N/6637E).

No reports were received during January.

• Forecast

Low numbers of adults are likely to present in a few coastal and interior areas of Baluchistan where small-scale breeding will occur with the onset of the spring rains.

India

• SITUATION

No locusts were seen during surveys in Rajasthan in January.

• FORECAST

No significant developments are likely.

Afghanistan

• SITUATION

No reports received.

• FORECAST

No significant developments are likely.



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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/ECLC Desert Locust Information Service (eclc@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).

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
- **SWAC 27th session final report.** Publications Section – Reports
- **DLCC working papers.** Publications Section – Reports

2011 events. The following activities are scheduled or planned:

- **EMPRES/WR.** Desert Locust Information Officer workshop, Bamako, Mali (8-10 Feb)
- **DLCC.** 40th session, Cairo, Egypt (6-10 Mar)
- **SWAC.** Desert Locust joint survey in the spring breeding areas of Pakistan and Iran (1 Apr - 4 May)
- **CRC/SWAC.** Desert Locust Information Officer workshop, Cairo, Egypt (12-13 April)



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.



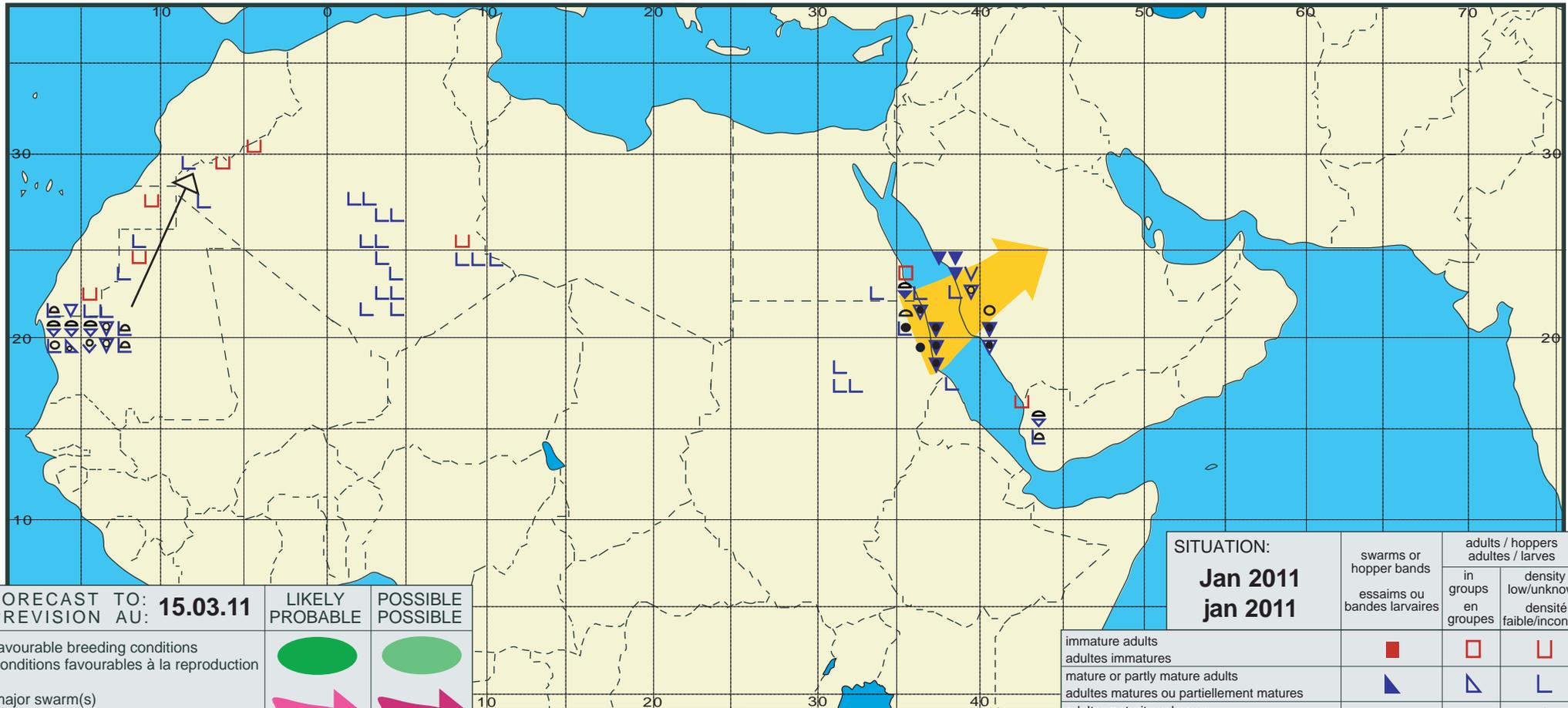
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Desert Locust Summary

Criquet pèlerin - Situation résumée

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FORECAST TO: PREVISION AU: 15.03.11	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: Jan 2011 jan 2011	swarms or hopper bands	adults / hoppers	
	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)			