

warning level: **THREAT (East Africa)**

DESERT LOCUST BULLETIN

FAO Emergency Centre for Locust Operations



No. 352

(4 February 2008)



General Situation during January 2008 Forecast until mid-March 2008

The Desert Locust situation remained serious in eastern Africa during January. Despite aerial and ground control operations, immature swarms formed in eastern Ethiopia and moved towards the centre of the country. There is a risk that some of these swarms could move to the coast in southern Eritrea, Yemen, northern Somalia or reinvade eastern Ethiopia, mature and lay eggs with the onset of the rains. Control operations were undertaken against hopper bands that formed in central Oman and on the Red Sea coast in Sudan. Locusts that escape control in Sudan could form a few small groups and swarms that may cross the Red Sea to Saudi Arabia while those in Oman could move to the spring breeding areas along the Iran/Pakistan border where unusually good rains fell in January. All of the above-mentioned countries should remain on high alert. The situation was calm in the Western Region where no significant developments are expected.

Western Region. The situation continued to remain calm during January. Local breeding continued in northwest Mauritania but locust numbers remained low and insignificant. Scattered adults were present in the Sahara in Algeria and in northeast Mali. Low numbers of locusts are expected to persist in these countries and small-scale breeding could occur in areas of recent rainfall. No significant developments are likely during the forecast period.

Central Region. Immature swarms formed in eastern Ethiopia in early January and moved west into the Rift Valley and the Harar Highlands where aerial and ground control operations treated more than 3,000 ha. Swarms are expected to eventually mature and lay eggs with the onset of the long rains or move towards the Red Sea and Gulf of Aden coasts. Ecological conditions were less favourable than usual in the winter breeding areas along both sides of the Red Sea. Most of the locusts were concentrated in the Tokar Delta in Sudan while only scattered adults were present on the coast in Eritrea, Yemen and Saudi Arabia as well as in northwest Somalia and the interior of southeast Egypt. In central Oman, ground teams treated nearly 6,000 ha of hopper bands and groups of immature adults. No locusts were reported in Kenya although there is a low to moderate risk that a few swarms could appear in the northwest in February.

Eastern Region. Scattered adults were present on the coast in southeastern Iran during January. Similar populations may be present in western Pakistan. There is a low risk that adults and perhaps a small group or swarm could appear on the coast from Oman. As unusually good rains fell in the spring breeding areas in both countries, locust numbers are expected to increase from egg laying and hatching that occurs during the forecast period.

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 January 2008

Unusually heavy rains fell in the Persian Gulf and in the spring breeding areas along the Iran/Pakistan border in January. Very little rain fell for the third consecutive month along either side of the Red Sea where ecological conditions were favourable for breeding mainly in the Tokar Delta in Sudan.

In the **Western Region**, no significant rains fell in the Sahel in West Africa where dry conditions prevailed during January. Traces of rain fell in parts of eastern Algeria, southern Tunisia and western Libya. Ecological conditions were favourable for limited breeding in some of these areas and were improving in parts of the Western Sahara from earlier rainfall. Although rains did not fall in northwest Mauritania, vegetation remained green in parts of Trarza and southwest Adrar.

In the **Central Region**, vegetation remained mostly dry in the winter breeding areas along both sides of the Red Sea where only light showers fell near Jeddah and Jizan in Saudi Arabia and near Hodeidah in Yemen. Breeding conditions were favourable in the Tokar Delta in Sudan and to a lesser extent on the southern coastal plains near the Eritrean border. Light rains fell in central Ethiopia near Dire Dawa and in the Rift Valley as well as on parts of the northwest coast of Somalia where vegetation was becoming green. Conditions were dry on the Somali plateau and had dried out in most of the Ogaden in eastern Ethiopia, extending to northeast Kenya. Light rains fell along the Mediterranean coast in Egypt and in parts of the Western Desert. The rains turned into snowfall over northern Saudi Arabia while over the Persian Gulf, they were unusually heavy and record-breaking amounts (100+ mm) fell in the UAE and the Musandam Peninsula in northern Oman. However, this is expected to have little impact on Desert Locusts. During the last week of January, heavy rains fell in the Western Desert of Egypt and light to moderate rains fell on the southeastern coast of the Red Sea. In Oman, light rain fell near the central eastern coast, which may be sufficient for limited breeding.

In the **Eastern Region**, unusually heavy rains fell in the spring breeding areas of Baluchistan in southeast Iran and in western Pakistan in mid-January. Most of the rain occurred in coastal areas between Chabahar (32 mm) and Pasni (87 mm), in the interior between Iranshahr (128 mm) and Saravan (82 mm) and south of the Afghanistan border from Zahedan (54 mm), Iran to Nokkundi (28 mm) and Dalbandin (69 mm) in Pakistan. Some of the rains were five times more than the long-term average for January. Consequently, ecological conditions will improve and become favourable for breeding in these areas. In India, light rains fell near Jaisalmer in Rajasthan but vegetation remained dry.



Area Treated

Ethiopia	869 ha (18-31 December, updated) 4,346 ha (January)
Kenya	1,254 ha (December)
Oman	5,880 ha (January)
Sudan	790 ha (January)



Desert Locust Situation and Forecast

(see also the summary on page 1)

WESTERN REGION

Mauritania

• SITUATION

During January, small-scale breeding continued between Akjoujt (1945N/1421W) and Chinguetti (2027N/1221W) where scattered second to fifth instar solitary hoppers were present mixed with isolated fledglings and immature and mature solitary adults. Some of the adults were seen copulating and laying eggs south of Oujeft (2003N/1301W) during the last decade of the month. Isolated mature adults were seen east of Aguilal Faye (1827N/1444W). No locusts were seen elsewhere during surveys in Trarza and southwest Adrar.

• FORECAST

Scattered hoppers will fledge and adults will continue to mature and persist between Akjoujt and Chinguetti. New hatching may occur during the second half of February south of Oujeft, causing locust numbers to increase slightly. Some adults could move north to Tiris-Zemmour during periods of warm southerly winds and breed on a small-scale if rainfall occurs.

Mali

• SITUATION

Although regular surveys could not be undertaken in the north during January, scattered immature solitary adults were reported on the 6th at four places in the northeastern Tamesna about 100 km southeast of Tin Essako (1826N/0229E).

• FORECAST

Scattered locusts are likely to be present and will persist in parts of the Adrar des Iforas and Tamesna.

Niger

• SITUATION

No reports were received during January.

• FORECAST

Low numbers of locusts are likely to be present and will persist in parts of the Air Mountains. Limited breeding could take place if conditions become favourable.

Chad

• SITUATION

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

• FORECAST

No significant developments are likely.

Senegal

• SITUATION

No reports were received during January.

• FORECAST

No significant developments are likely.

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

• FORECAST

No significant developments are likely.

Algeria

• SITUATION

During January, very low densities of scattered immature and mature solitary adults were present in the Sahara near Adrar (2753N/0017W) and, to a lesser extent, near In Salah (2712N/0229E), Tamanrasset (2250N/0528E) and Djanet (2434N/0930E). No locusts were seen during surveys carried out in the extreme south near the Mali/Niger border and in the west near the Moroccan border northeast of Tindouf (2741N/0811W).

• FORECAST

Small infestations will persist in parts of the Sahara. Small-scale breeding could occur in areas of recent rainfall in the central and eastern Sahara.

Morocco

• SITUATION

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

• FORECAST

Scattered adults are likely to appear in Western Sahara and breed on a small-scale in areas of recent rainfall.

Libyan Arab Jamahiriya

• SITUATION

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

• FORECAST

Scattered adults may be present in the southwest near Ghat and could breed on a limited scale if rains fall.

Tunisia

• SITUATION

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

• FORECAST

No significant developments are likely.

CENTRAL REGION

Sudan

• SITUATION

During January, numerous small hopper bands were present in the Tokar Delta (1827N/3741E) at densities up to 300 hoppers/m². By the end of the month, many of the hoppers had reached the fifth instar stage. Scattered immature and mature solitary and gregarious adults were also present at densities up to 500 adults/ha. Small hopper bands of all instars were also present on the coast south of Tokar near Adobana (1810N/3816E). Ground control teams treated 790 ha during the month.

In the northeast, first to fourth instar hopper bands at densities of up to 300 hoppers/m² were present during the first week on 30 ha in Wadi Diib northwest of Sufiya (2119N/3613E). Scattered immature and mature solitary and gregarious adults were also present. Adults were seen laying eggs on the 3rd.

• Forecast

Small adult groups and perhaps a few small swarms could form during February in Tokar Delta and on the southern coast. In the northeast, small groups of adults may form in Wadi Diib and limited hatching



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could give rise to small groups of hoppers. Unless further rains fall, breeding will end on the coast by March.

Eritrea

• SITUATION

During January, scattered mature solitary adults were present in a few places on the northern coastal plains of the Red Sea near Karora (1745N/3820E).

• FORECAST

Scattered adults are likely to be present in some areas along the Red Sea coastal plains between Massawa and Karora. If more rains fall, small-scale breeding could occur during the forecast period. There is a low risk that a few swarms may appear on the southern coast from Ethiopia.

Ethiopia

• SITUATION

During the first week of January, late instar hopper bands and fledglings were present in crops along the Shebele River near Gode (0557N/4333E) and formed immature swarms near Gode. Control operations treated 1,400 ha, of which 800 ha were by air. Similar infestations were reported in the Ogaden near Kebri Dehar (0644N/4416E). During the second week, swarms were seen flying west towards the Harar Highlands where a 20 km² swarm was reported near Abu Beker (0722N/4013E) on the 12th and other immature swarms continued to be seen in the highlands south of Dire Dawa (0935N/4150E) during the remainder of the month. In the southwest, some ten districts reported immature swarms near Konso (0520N/3726E) and Teltele (0504N/3723E) from 14-24 January. Some of the swarms were extremely dense. Several swarms reached Turmi (0458N/3629E) near the Omo Valley and the Kenyan border. Although control operations were hampered by rough mountainous terrain in the southwest and in the Harar Highlands, they treated 3,141 ha, of which 2,641 ha were by air.

• FORECAST

Swarms are likely to remain in the Harar Highlands and the Rift Valley where they could mature and eventually lay eggs there or move toward the Ogaden and breed with the onset of the long rains, north along the railway or northwest towards the Danakil. There is a low to moderate risk that some swarms could move

southwest along the highlands and the Rift Valley to northwest Kenya.

Djibouti

• SITUATION

No reports were received during January.

• FORECAST

There is a low to moderate risk that a few swarms may appear from Ethiopia and continue to the coast.

Somalia

• SITUATION

During January, scattered mature solitary adults were present on the coastal plains near Bulhar (1023N/4425E) and at a few places on the escarpment north of Hargeisa (0931N/4402E).

• FORECAST

Small-scale breeding is likely to occur on the northwest coastal plains between Berbera and Djibouti. There is a low to moderate risk that a few swarms may appear on the plateau from Ethiopia and continue down the escarpment to the coast.

Kenya

• SITUATION

No locusts were reported during January.

• FORECAST

There is a low to moderate risk that a few swarms may appear in the Turkana District from adjacent areas in southwest Ethiopia during February. If so, the adults could mature and lay eggs; otherwise, the situation will become calm and no significant developments are likely.

Uganda

• SITUATION

No reports were received during January.

• FORECAST

There is a low risk that a few immature swarms may appear in the northeast from Kenya and Ethiopia.

Egypt

• SITUATION

During January, scattered immature solitary adults were present at densities of less than 100 adults/ha at a few places on the western side of Lake Nasser near Tushka (2247N/3126E), in the Red Sea Hills west of Berenice (2359N/3524E) and in Wadi Diib near the Red Sea coast and Abu Ramad (2224N/3624E). No locusts were seen during surveys carried out northeast of Aswan (2405N/3256E).

• FORECAST

Scattered adults will persist in parts of the Western Desert, along the Lake Nasser shoreline and on the Red Sea coastal plains south of Marsa Alam. Small-scale breeding could occur in areas of recent rainfall.

Saudi Arabia

• SITUATION

During January, isolated immature solitarious adults were seen at a few places on the northern Red Sea coast near Bader (2346N/3847E). No locusts were reported elsewhere on the coast in Mecca and Asir regions, or in the spring breeding areas near Buraydah (2621N/4358E).

• FORECAST

Scattered adults may be present along parts of the Red Sea coastal plains. Small-scale breeding could occur in areas of recent rainfall or runoff near Jeddah and Jizan as well as in other areas if more rains fall during the forecast period. As temperatures increase, scattered adults may appear in the spring breeding areas in the interior. There is a low moderate risk that a few adult groups or small swarms may appear on the coast from Sudan.

Yemen

• SITUATION

During the last week of January, isolated immature solitarious adults were seen on the central Red Sea coastal plains near Al Qutai (1454N/4312E) and in the north near Suq Abs (1600N/4312E). On the Gulf of Aden coast, mainly isolated immature solitarious adults mixed with a few mature adults were present on the plains northwest of Aden (1250N/4503E).

• FORECAST

Small-scale breeding could occur on the Red Sea coast in areas of recent rainfall. Breeding is less likely to occur on the Gulf of Aden coast unless more rains fall during the forecast period. There is a low risk that a few swarms may appear on the coast near Bab El Mandeb from Ethiopia.

Oman

• SITUATION

During January, hoppers formed small patches and groups in several wadis in the central interior north of Marmul (1808N/5516E) from undetected hatching that occurred in December. By mid-month, late instar hopper bands had formed, and medium density groups of fledglings and gregarious adults were present. At the end of the month, there was an unconfirmed report of a swarm near Maqshan (1935N/5453E). In nearby coastal areas, groups of late instar hoppers and immature adults had formed from eggs that were laid and hatched in December near Al Jazer (1835N/5635E). Ground control teams treated 5,880 ha. Elsewhere, no locusts were seen during surveys in the northern interior.

• FORECAST

Small groups and perhaps few small swarms are likely to form near Marmul and Al Jazer. Although some adults may persist and eventually lay eggs in

areas of recent rainfall, most adults are expected to move north towards Jebel Akhdar between Al Dhahera and Al Sharqiya where they may eventually mature and lay eggs if conditions are favourable. There is a low risk that some adults could reach the Batinah coastal plains.

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

• FORECAST

No significant developments are likely.

EASTERN REGION

Iran

• SITUATION

During January, scattered mature solitarious adults were present on the southeastern coastal plains near Chabahar (2517N/6036E) at densities up to about 120 adults/ha. No locusts were seen during surveys carried out on the southern coast near Bander-e Lengheh (2634N/5452E).

• FORECAST

There is a low risk that adults and perhaps a small group or swarm could appear on the southeast coast from Oman. Small-scale breeding will occur in areas of recent rainfall in Sistan-Baluchistan and to a lesser extent in southern Hormozgan and Kerman. Hatching is likely to start from mid-February onwards with hoppers present during March. Consequently, locust numbers will increase in coastal and interior areas near Chabahar, Jask, Iranshahr, and perhaps near Kahnuj and Saravan. Surveys should be conducted in all areas on a regular basis.

Pakistan

• SITUATION

No reports were received during the second half of December. No locusts were reported during the first half of January.

• FORECAST

There is a low risk that adults and perhaps a small group or swarm could appear on the Baluchistan coast from Oman. Small-scale breeding will occur in areas of recent rainfall in Baluchistan, causing locust numbers to increase in coastal and interior areas. Hatching will start near the coast and in the Turbat area from mid-February onwards with hoppers present during March. Hatching may also occur in the north



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near Dalbandin and Nokkundi once temperatures increase. Surveys should be conducted in all areas on a regular basis.

India

• SITUATION

No locusts were seen during surveys carried out in Rajasthan during the first half of January.

• FORECAST

No significant developments are likely.

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) and threat (orange) periods, locust outbreaks, upsurges and plagues, RAMSES output files with a brief interpretation should be sent at least twice/week within 48 hours of the last 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 (ecl@fao.org). Information received by the end of the month will be included in the FAO Desert Locust Bulletin for the current month; otherwise, it will not appear until the following month. Reports should be sent even if no locusts were found or if no surveys were conducted.

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 websites. Detailed information on the EMPRES programme and the FAO regional locust commissions is available on the Internet for the Central Region (www.crc-empres.org) and the Western Region (www.clcpro-empres.org).

Google group. FAO DLIS has established a Google group for national locust information officers to exchange opinions and share experiences regarding data management and analysis, GIS, eLocust2 and satellite imagery. Interested information officers should contact DLIS (ecl@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. Comments and questions can be addressed to Pietro Ceccato (pceccato@iri.columbia.edu).

New information on Locust Watch. The latest additions to the web site are:

- **Locust situation.** Several updates during January (home page and in Archives section)
- **FAO Technical Series No. 35.** Preparedness to prevent Desert Locust plagues in the Central Region: an historical overview by J. Magor et al (Publications section – Documents)

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

2008 events. The following activities are scheduled:

- **Joint Survey.** Iran/Pakistan joint border survey (1-30 April)
- **DLCC.** 39th Session (late November), Rome



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.



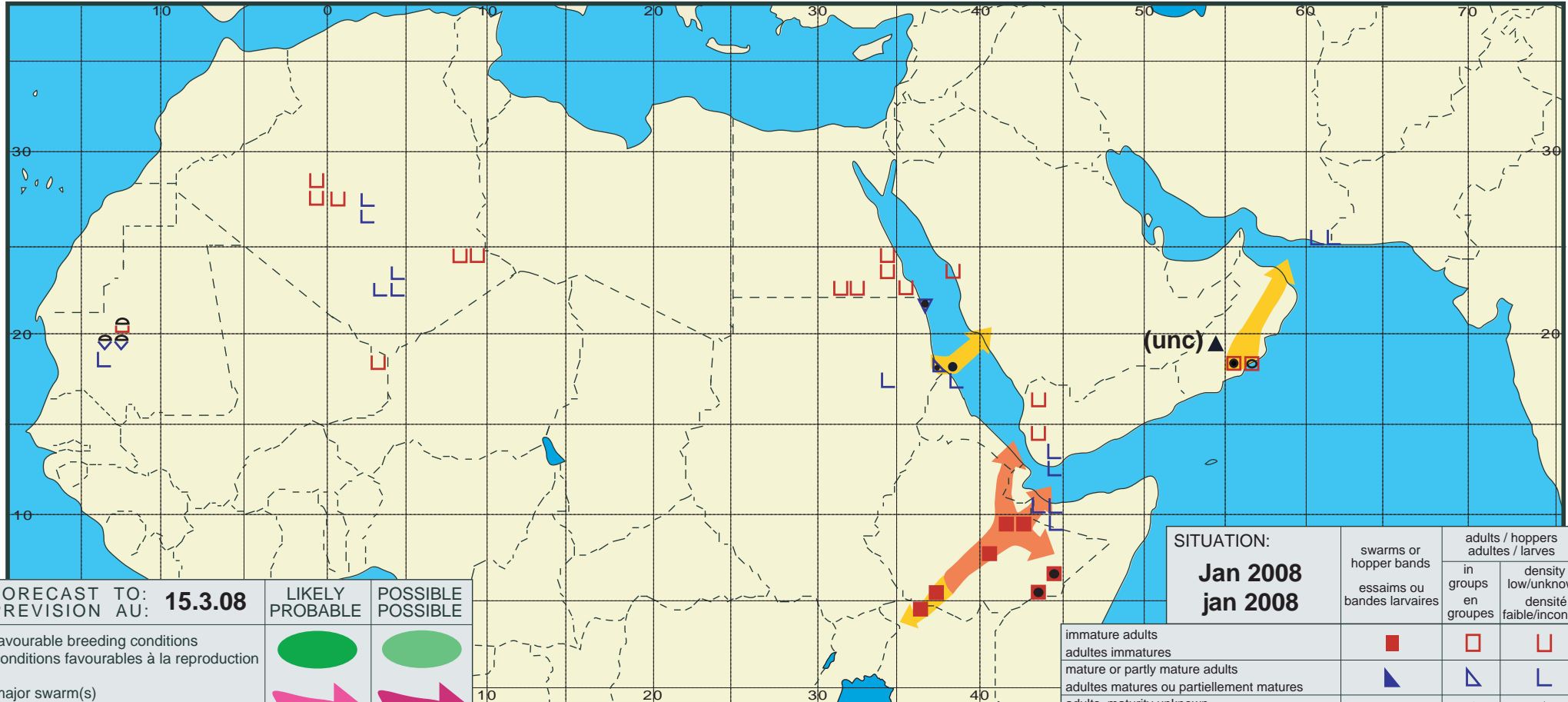
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Desert Locust Summary

Criquet pèlerin - Situation résumée

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FORECAST TO: PREVISION AU:	15.3.08	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 2008 jan 2008	swarms or hopper bands essaims ou bandes larvaires	adults / hoppers adultes / larves	
		in groups en groupes	density low/unknown densité faible/inconnue
immature adults adultes immatures			
mature or partly mature adults adultes matures ou partiellement matures			
adults, maturity unknown adultes, maturité inconnue			
egg laying or eggs pontes ou œufs			
hoppers larves			
hoppers & adults (combined symbol example) larves et adultes (exemple symboles combinés)			